

**SECTION 01 00 00**  
**GENERAL REQUIREMENTS**  
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**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 for **JAMES E. VAN ZANDT VA MEDICAL CENTER** as required by drawings and specifications.
- B. Visits to the site by Bidders may be made only by appointment with the Medical Center Engineering Officer.
- C. Offices of Paradigm Engineers and Constructors, as Architect-Engineers, will render certain technical services during construction. Such services shall be considered as advisory to the Government and shall not be construed as expressing or implying a contractual act of the Government without affirmations by Contracting Officer or his duly authorized representative.
- D. Training:
  - 1. All employees of general contractor or subcontractors shall have the 10-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. 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. AFTER AWARD OF CONTRACT, 15 sets of specifications and drawings will be furnished. These drawings and specifications will consist of those returned by prospective bidders.
- B. 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:
  - 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 subcontractors 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 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. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the Contracting Officer's Technical Representative (COTR) for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.
2. The General Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation. See Section 08 71 00, DOOR HARDWARE and coordinate.

D. 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.
3. 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.
4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.

5. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.
6. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".
7. All electronic information shall be stored in specified location following VA standards and procedures using an Engineering Document Management Software (EDMS).
  - a. Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.
  - b. "Sensitive information" including drawings and other documents may be attached to e-mail provided all VA encryption procedures are followed.

E. Motor Vehicle Restrictions

1. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies.
2. Separate permits shall be issued for General Contractor and its employees for parking in designated areas only.

**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 COTR and Facility Safety Officer 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 COTR 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 smoke-tight separations between the areas that are described in phasing requirements 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. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, ¾ hour fire/smoke rated doors with self-closing devices.
  - 2. Install fire-rated 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 firestop materials in accordance with Section 07 84 00, FIRESTOPPING.
- 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 COTR and facility Safety Officer.

- H. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to COTR and facility Safety Officer.
- 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.
- L. Sprinklers: Install, test and activate new automatic sprinklers prior to removing existing sprinklers.
- M. 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 COTR and facility Safety Officer. 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 COTR.
- N. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with COTR and facility Safety Officer.
- O. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with COTR. Obtain permits from facility Safety Officer at least 24 hours in advance contractor's responsible project-site fire prevention program manager to permit hot work.
- P. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to COTR and facility Safety Officer.
- Q. 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.
- R. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.
- S. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.

- T. If required, submit documentation to the COTR 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. 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.

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- D. Working space and space available for storing materials shall be as determined by the COTR.
- E. Workers are subject to rules of Medical Center applicable to their conduct.
- 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 COTR where required by limited working space.

1. Do not store materials and equipment in other than assigned areas.
  2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
  3. 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.
- G. Phasing (Coordinate with drawing 1.PH101): To insure such executions, Contractor shall furnish the COTR with a schedule of approximate dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, Contractor shall notify the COTR two weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such dates to insure accomplishment of this work in successive phases mutually agreeable to Medical Center Director, COTR and Contractor, as follows:

**Phase I:**

1. Replace existing non ADA accessible drinking fountains with new ADA accessible drinking fountains throughout Building 1. Any adjacent wall damage due to fountain installation shall be repaired and any additional finishes associated should be installed. This should occur at times such that there is always a fountain available on each floor.
2. Refinish bathroom 123 in Building 1.

**Phase II:**

1. Add an ADA accessible, public restroom and ADA accessible drinking fountain in the basement. Insure that at least one Unisex restroom is available on this floor.
2. Complete renovation of auditorium kitchen on second floor including utilities, fixtures, counters, shelving and finishes.
3. Line MRI/Radiology hall with wall guards and rails.
4. Provide ADA accessible counters at: 1<sup>st</sup> floor audiology, 2<sup>nd</sup> floor dental, 3<sup>rd</sup> floor specialty clinics (2 locations), and 4<sup>th</sup> floor nurses' station.
5. Refinish bathroom 123 and 124 in Building 1.
6. Refurbish bathroom 254A in Building 1.

**Phase III:** Replace existing door hardware with lever style accessible hardware. Doors are located in the basement, 2<sup>nd</sup> floor, 3<sup>rd</sup> floor, and 4<sup>th</sup> floor.

- H. Building No. 1 will be occupied during performance of work; but immediate areas of alterations will be vacated.
1. 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.
2. Immediate areas of alterations not mentioned in preceding Subparagraph 1 will be temporarily vacated while alterations are performed.
  3. 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.
- I. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by COTR.
1. 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 COTR. 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. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS and 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS for additional requirements.
  2. Contractor shall submit a request to interrupt any such services to COTR, in writing, 48 hours in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.

3. 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.
  4. 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 COTR.
  5. In case of a contract construction emergency, service will be interrupted on approval of COTR. Such approval will be confirmed in writing as soon as practical.
  6. 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.
- J. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed, shall be sealed, capped or plugged. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.
- K. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:
1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles.
  2. Method and scheduling of required cutting, altering and removal of existing roads, walks and entrances must be approved by the COTR.
- L. Coordinate the work for this contract with other construction operations as directed by COTR. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

#### **1.7 INFECTION PREVENTION MEASURES**

- A. Implement the requirements of VAMC'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.
- B. 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. Prior to start of work, prepare a

plan detailing project-specific dust protection measures, including periodic status reports, and submit to COTR and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.

C. Medical center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:

1. The COTR and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.
2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.

D. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.

1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by COTR. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
2. Do not perform dust producing tasks within occupied areas without the approval of the COTR. For construction in any areas that will remain jointly occupied by the medical Center and Contractor's workers, the Contractor shall:
  - a. Provide dust proof fire-rated temporary drywall construction barriers to completely separate construction from the operational areas of the hospital in order to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. A fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be

used where dust control is the only hazard, and an agreement is reached with the COTR and Medical Center.

- b. HEPA filtration is required where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters should have ASHRAE 85 or other prefilter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the medical center.
- c. Adhesive Walk-off/Carpet Walk-off Mats, minimum 600mm x 900mm (24" x 36"), shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
- d. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum 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.
- e. The contractor shall not haul debris through patient-care areas without prior approval of the COTR and the Medical Center. 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 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.
- f. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.
- g. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up

and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.

- h. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.

E. 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. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
3. All new air ducts shall be cleaned prior to final inspection.

**1.8 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 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 where directed by COTR.
2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical
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.

- B. Whenever changes from contract drawings are made in line or grading requiring certificates, record such changes on a reproducible drawing bearing the registered land surveyor or registered civil engineer seal, and forward these drawings upon completion of work to COTR.

**1.9 AS-BUILT DRAWINGS**

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

#### **1.10 USE OF ROADWAYS**

- A. For hauling, use only established public roads and roads on Medical Center property and, when authorized by the COTR, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by

#### **1.11 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 COTR. If the equipment is not installed and maintained in accordance with the following provisions, the COTR 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.
  - 3. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.
  - 4. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze-up damage.
  - 5. The air filtering system utilized shall be that which is designed for the system when complete, and all filter elements shall be replaced at completion of construction and prior to testing and balancing of system.

6. All components of heat production and distribution system, metering equipment, condensate returns, and other auxiliary facilities used in temporary service shall be cleaned prior to use; maintained to prevent corrosion internally and externally during use; and cleaned, maintained and inspected prior to acceptance by the Government
- B. Prior to final inspection, the equipment or parts used which show wear and tear beyond normal, 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.

#### **1.12 TEMPORARY USE OF EXISTING ELEVATORS**

- A. Use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:
  1. Contractor makes all arrangements with the COTR for use of elevators. The COTR will ascertain that elevators are in proper condition. Contractor may use elevators in Building No. 1 for daily use. Personnel for operating elevators will not be provided by the Department of Veterans Affairs.
  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.
  3. Government will accept hoisting ropes of elevator and rope of each speed governor if they are worn under normal operation. However, if these ropes are damaged by action of foreign matter such as sand, lime, grit, stones, etc., during temporary use, they shall be removed and replaced by new hoisting ropes.
  4. If brake lining of elevators are excessively worn or damaged during temporary use, they shall be removed and replaced by new brake lining.
  5. All parts of main controller, starter, relay panel, selector, etc., worn or damaged during temporary use shall be removed and replaced with new parts, if recommended by elevator inspector after elevator is released by Contractor.
  6. Place elevator in condition equal, less normal wear, to that existing at time it was placed in service of Contractor as approved by Contracting Officer.

### **1.13 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.
- B. Provide where directed, (for use of all Contractor's workers) ample temporary sanitary toilet accommodations with suitable sewer and water connections;. Keep such places clean and free from flies, and all connections and appliances connected therewith are to be removed prior to completion of contract, and premises left perfectly clean.
- C. Contractor may have for use of Contractor's workers, such toilet accommodations as may be assigned to Contractor by Medical Center. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workers. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilets.
- D. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.
- E. Contractor shall install meters at Contractor's expense and furnish the Medical Center a monthly record of the Contractor's usage of electricity as hereinafter specified.
- F. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials:
  - 1. Obtain heat by connecting to Medical Center heating distribution system.
    - a. Steam is available at no cost to Contractor.
- G. Electricity (for Construction and Testing): Furnish all temporary electric services.
  - 1. Obtain electricity by connecting to the Medical Center electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices,



electrical welding devices and any electrical heating devices providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.

H. Water (for Construction and Testing):

1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.
2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at COTR's discretion) of use of water from Medical Center's system.

I. Steam: Furnish steam system for testing required in various sections of specifications.

1. Obtain steam for testing by connecting to the Medical Center steam distribution system. Steam is available at no cost to the Contractor.
2. Maintain connections, pipe, fittings and fixtures and conserve steam-use so none is wasted. Failure to stop leakage or other waste will be cause for revocation (at COTR's discretion), of use of steam from the Medical Center's system.

**1.14 TESTS**

- A. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested.
- B. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.
- C. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire complex which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a complex which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feedwater, condensate and other related components.

- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

#### **1.15 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 (four copies each) for each separate piece of equipment shall be delivered to the COTR 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. 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 COTR and shall be considered concluded only when the COTR 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 COTR, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

**1.16 GOVERNMENT-FURNISHED PROPERTY**

- A. The Government shall deliver to the Contractor, the Government-furnished property shown on the Schedule & drawings.
- B. Equipment furnished by Government to be installed by Contractor will be furnished to Contractor at the Medical Center.
- C. Storage space for equipment will be provided by the Government and the Contractor shall be prepared to unload and store such equipment therein upon its receipt at the Medical Center
- D. Notify Contracting Officer in writing, 60 days in advance, of date on which Contractor will be prepared to receive equipment furnished by Government. Arrangements will then be made by the Government for delivery of equipment.
  - 1. Immediately upon delivery of equipment, Contractor shall arrange for a joint inspection thereof with a representative of the Government. At such time the Contractor shall acknowledge receipt of equipment described, make notations, and immediately furnish the Government representative with a written statement as to its condition or shortages.
  - 2. Contractor thereafter is responsible for such equipment until such time as acceptance of contract work is made by the Government.
- E. Equipment furnished by the Government will be delivered in a partially assembled (knock down) condition in accordance with existing standard commercial practices, complete with all fittings, fastenings, and appliances necessary for connections to respective services installed under contract. All fittings and appliances (i.e., couplings, ells, tees, nipples, piping, conduits, cables, and the like) necessary to make the connection between the Government furnished equipment item and the utility stub-up shall be furnished and installed by the contractor at no additional cost to the Government.
- F. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.

- G. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

#### **1.17 RELOCATED EQUIPMENT ITEMS**

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and 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 COTR.
- 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. Contractor shall employ services of an installation engineer, who is an authorized representative of the manufacturer of this equipment to supervise assembly and installation of existing equipment, required to be relocated.
- F. 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.

#### **1.18 HISTORIC PRESERVATION**

Where the Contractor or any of the Contractor's employees, prior to, or during the construction work, are advised of or discover any possible archeological, historical and/or cultural resources, the Contractor shall immediately notify the COTR verbally, and then with a written follow up.

#### **1.19 INTERIM LIFE SAFETY MEASURES**

- A. **PURPOSE:** To identify the need for, and to institute interim life safety measures (ILSM) to temporarily compensate for the hazard posed by life safety deficiencies or due to construction activities.
- B. **POLICY:** When requirements for fire protection and/or environment and grounds safety are affected by construction or life safety code deficiencies, Facilities Service will institute and document interim life safety measures. The ILSM applies to all personnel, including construction workers, and is implemented upon project development and

continuously enforced through project completion or until the deficiency is eliminated.

**C. RESPONSIBILITIES:**

1. **Contracting Officer's Technical Representative (COTR).** The assigned COTR will be responsible for evaluating the project concerning interim life safety measures. If measures are found to be applicable to the project, the COTR will develop procedures for enforcement and document compliance with the measure.

2. **Safety Manager** is responsible for reviewing the interim life safety measures evaluation sheet for approval.

3. **Chief, Facilities Service** is responsible for reviewing the interim life safety measures evaluation sheet for approval and for ensuring the implementation, enforcement, and documentation of the interim life safety measures.

**D. PROCEDURES:**

1. Prior to the start of any construction project, the responsible COTR will evaluate the need for interim life safety measures.

2. The responsible COTR will complete an Interim Life Safety Measures Evaluation Packet and submit it to the Safety Manager and the Chief, Facilities Service for approval. The packet includes:

(a) Attachment A, Evaluation Sheet: A list of questions to assist in determining whether interim life safety measures are necessary.

(b) Attachment B: An interim life safety measures matrix to assist in answering the questions in Attachment A.

(c) Attachment C: A page where the responsible COTR documents which interim life safety measures/procedures which will be incorporated as part of the project. The COTR, the Safety Manager, and the Chief, Facilities Service, will sign this form.

c. To complete the packet:

(1) The questions on Attachment A and the columns on Attachment B correlate. Examine the question in Attachment A and find the corresponding column on Attachment B. Any deficiencies identified on Attachment B will be considered in completing the questions on Attachment A.

(2) If, according to a column on Attachment B, the project does not create that specific deficiency the question on Attachment A will state that the ILSM was evaluated, but no action was deemed necessary.

(3) Then, using the information from Attachments A and B, complete Attachment C by listing all of the ILSMs which will be instituted during the course of the project. The COTR, the Safety Manager, and the Chief, Facilities Service, will then sign Attachment C.

d. Once necessary ILSMs are implemented, inspect the project daily and record findings in the daily log. Any identified problems with the implemented ILSMs will be abated as soon as possible.

e. All necessary documentation will be maintained in the Statement of Conditions to reflect compliance with this procedure.

f. The project will be continually evaluated for ILSM needs throughout the project as conditions change which may compromise life safety protection elements or increase the risk of fire in the hospital.

5. **REFERENCES:** Comprehensive Accreditation Manual for Hospitals, The Joint Commission.
6. **RECISSION:** Facilities Service Policy #9, Interim Life Safety Measures, dated November 2005.
7. **REISSUE DATE:** May 2010

**FOLLOW-UP RESPONSIBILITY:** Chief, Facilities Service

#### **1.20 INFECTION CONTROL AND SAFETY/HEALTH GUIDELINES FOR CONSTRUCTION AND RENOVATION**

1. **PURPOSE:** To prevent the acquisition of health care associated infections in patients/residents and to decrease the risk of exposure of employees, visitors, and contractors, to potential infections, safety, and other health hazards during renovation or construction activities at the VA medical center, Altoona, and community based outpatient clinics (CBOCs).
2. **POLICY:** All renovation or construction projects will be reviewed with the Infection Control Nurse, Privacy Officer, and the Safety Manager during all phases including design, planning, and construction.

a. The Infection Control Nurse and the Safety Manager will participate in meetings and area walk-through inspections as necessary. All walk-throughs of the construction area must be coordinated with the Facilities Service, Project Section.

b. All construction workers, including subcontractors, and Facilities Service employees, must follow all safety and infection control procedures, as described in this medical center memorandum (MCM).

3. **RESPONSIBILITIES:**

a. **Chief, Facilities**, or designee, will ensure that all project coordinators and engineers apprise the Infection Control Nurse, Privacy Officer, and Safety Manager of plans for all projects involving construction and/or renovation of clinical and non-clinical areas in the medical center. Chief, Facilities will notify the Infection Control Nurse, Privacy Officer, and Safety Manager, via email, of pertinent planning meetings related to construction and renovation projects.

b. **Infection Control Nurse** will respond to requests and provide infection prevention and control related recommendations for project development and maintenance of areas during construction and renovation projects, will coordinate infection control risk assessments, and complete infection control permits when necessary

c. **Safety Manager** will respond to requests and provide safety and health related recommendations for project development and maintenance of areas during construction and renovation projects and will coordinate a pre-construction safety risk assessment.

d. **Privacy Officer** will respond to requests, and provide recommendations for project development and maintenance of areas during construction and renovation.

4. **PROCEDURES:**

a. Design Phase:

(1) The Infection Control Nurse, Privacy Officer, and the Safety Manager will participate in project kick-off meetings.

(2) The Infection Control Nurse will be involved in the design phases for all renovation and new construction projects specific to the following major components (design):

(a) Number and placement of isolation rooms, utility rooms, and supply storage areas

(b) Air handling systems; use of adjunctive measures such as ultraviolet germicidal irradiation (UVGI) and appropriate filtration systems

(c) Number and placement of handwashing facilities

(d) Staff and patient traffic patterns for the duration of the project

(e) Relocation decisions regarding patient care areas, storage areas, etc.

- (f) Water supply and plumbing
  - (g) Construction waste containment, transport and disposal
  - (h) Selection and installation of medical equipment as it relates to infection control
  - (i) Selection of finishes and surfaces that can be effectively cleaned
- (3) The Safety Manager will be involved in the planning phases for **all** renovation and new construction projects specific to the following major components (design):

- (a) Number and placement of eye-wash, shower, hazardous chemical, or compressed gas facilities
- (b) Staff and patient traffic patterns for the duration of the project
- (c) Relocation decisions regarding patient care areas, storage areas, etc.
- (d) Water supply and plumbing
- (e) Construction waste containment, transport, and disposal
- (f) Selection of finishes and surfaces that can be effectively cleaned.

(4) The Privacy Officer will be involved in the design phases for all renovation and new construction projects, as applicable.

(5) An Infection Control Risk Assessment will be conducted by the Safety Manager; Infection Control Nurse; Project Contracting Official Technical Representative (COTR); Chief, Facilities; stakeholder(s); and others as deemed necessary (Privacy Officer, Heating, Ventilation and Air Conditioning (HVAC) technicians, pipefitter, etc.) in accordance with **Attachment A**, prior to the start of construction/ renovation.

(6) Infection prevention strategies will be considered during the design phase and construction drawings, and specifications will be adjusted accordingly in the Construction Documents Phase.

b. Operational Phase:

- (1) Medical waste:
  - (a) Environmental Management staff shall remove any medical waste, including sharps containers, from areas to be renovated or constructed **BEFORE** the start of the project.
  - (b) The Infection Control Nurse shall be notified upon discovery if unexpected medical waste is encountered.
  - (c) Environmental Management staff will do appropriate cleaning of all areas prior to the start of the project and at the completion of the project.
- (2) Barrier walls: Construction or renovation sites must be separated from patient-care areas and critical areas such as Supply Processing and Distribution (SPD) and Pharmacy by barriers that keep the dirt and dust inside the worksite.



(a) The integrity of the barrier walls must assure a complete seal of the construction area from adjacent areas.

(b) Rigid construction or plastic sheeting (4 or 6 millimeter (mil) thickness) may be used, depending on the location of the project, adjacent uses, and duration of the project.

(c) Walls will be dustproof with seals maintained at the full perimeter of the walls, which allow for minimization of dust collection and spread.

(3) Environmental control:

(a) At the discretion of the engineering staff, construction site manager, and Infection Control Risk Assessment group: Constant negative pressure within the zone must be maintained and monitored by construction personnel. Exhaust from construction air should be directed outside with no recirculation, if possible. If the exhaust must tie into a recirculated air system, a pre-filter and high efficiency filter (95%) should be used before exhaust to prevent contamination of the ducts. Fans should be turned off before opening ductwork, and necessary interruptions should be planned for to minimize risk.

(b) Demolition debris will be disposed of into non-infectious waste trash bins and removed from the construction area daily, using specified traffic patterns. Construction waste will be contained in tightly covered containers before transport, as needed. Transport receptacles or carts will be covered and the covering taped unless there is a solid lid. Construction materials are not to be disposed of in medical center waste containers.

(c) "Sticky" or walk-off mats shall be utilized outside the construction zone and elevators (beginning at the edge of the construction zone or elevator) to remove dust and soil from shoes, cart wheels, etc. as personnel exit the area. The "sticky" mat must be large enough to cover the entire exit, and contractors must change mats whenever they lose the ability to effectively trap dirt and debris.

(d) Windows will remain closed as much as feasible during the construction/renovation process.

(e) When using demolition chutes, chute opening must be closed when not in use. The chute and damper should be sprayed with water, as necessary, to maintain dust control.

(f) Control, collection, and disposal must be provided for any drain liquid or sludge encountered when demolishing plumbing.

(4) Traffic control:

(a) Designated entry and exit procedures will be defined (in conjunction with any necessary Interim Life Safety Measures) for each construction project, where applicable.

(b) All egress pathways will be free of debris.

(c) Unauthorized personnel will not be allowed to enter the construction zone.

(d) Only designated elevators will be used for construction activities during scheduled times.

(e) Construction areas will be fitted with lockable doors and will remain locked when not occupied by construction crew when drywall barriers are used.

(5) Cleaning:

(a) The construction zone and adjacent entry areas shall be maintained in a clean and sanitary manner by the contractors and will be swept and wet mopped daily or more frequently, as needed, to minimize dust generation. A High Efficiency Particulate Air (HEPA) filtered vacuum is preferred.

(b) Environmental Management staff are responsible for the routine cleaning of adjacent areas, including stairwells, and for the final cleaning of the construction zone prior to the opening of the newly renovated or constructed area. Specific responsibility will be defined in the construction contracts.

(6) Personnel requirements:

(a) Clothing shall be free of loose soil and debris upon exiting the construction zone.

(b) Personnel entering sterile and/or invasive procedure areas will be provided with a disposable jump suit or scrubs, head covering, and shoe coverings, which must be removed prior to exiting the work area.

(1) Tools and equipment must be damp-wiped with hospital approved disinfectant prior to entry and exit from sterile and invasive procedure areas. Some equipment may not be suitable to enter these areas at the discretion of the Infection Control Nurse or Chief, SPD.

(2) Tools and equipment soiled with blood and body fluids will be cleaned with a VA-approved germicide according to the directions specific to that product.

(c) Facilities Service employees shall receive Infection Control and Safety and Health training as it relates to construction. This training is available via video.

(7) Environmental monitoring:

(a) Infection Control, in conjunction with Facilities Service and, the Safety Office, will plan for environmental monitoring as appropriate for the project.

c. Completion Phase:

(a) After completion of construction, ventilation will meet specifications as mandated by regulatory bodies.

(b) The area will be thoroughly cleaned and disinfected by in-house staff before being placed into service.

(c) Safety Manager, Infection Control Nurse, and Privacy Officer will be invited to the final inspection.

(9) Compliance Monitoring:

(a) Medical center staff (Project Engineer, Safety Manager, Infection Control Nurse) and the contractor (or designee) will conduct compliance monitoring as necessary. The following parameters will be monitored:

- (1) Air quality
- (2) Integrity of barrier walls
- (3) Personnel requirements
- (4) Infection control
- (5) Noise
- (6) Traffic control
- (7) Vibration
- (8) Utility Management

5. **REFERENCES:** Bartley, Judene, APIC Infection Control and Applied Epidemiology: Principles and Practices, Ch. 104, Construction, Mosby Year Book, Inc. 1996; Bartley, Judene, APIC State-of-the-Art Report: The Role of Infection Control During Construction in Healthcare Facilities, American Journal of Infection Control, Vol. 28, No. 2; Joint Commission Comprehensive Accreditation Manuals

6. **RESCISSIONS:** Medical Center Memorandum 10F-13, Infection Control and Safety/Health Guidelines for Construction & Renovation, dated December 2006

7. **REISSUE DATE:** December 2012

8. **FOLLOW-UP RESPONSIBILITY:** Chief, Facilities Service

TONY L. BENNETT, FACHE

Distribution "I"

Attachments:

Attachment A - Infection Control Risk Assessment/Matrix of Precautions for Construction & Renovation  
Attachment B - Infection Control Construction Permit

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