

**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 construction operations, and furnish all labor, equipment and materials and perform work for the expansion and modification of the Sunnyvale New Office and Labs, Sunnyvale, CA as required by the drawings and specifications.
- B. Visits to the VA Sunnyvale Campus site by Bidders may be made only at pre-bid meeting.
- C. Offices of The KPA Group, 6700 Koll Center Parkway, Pleasanton, CA 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.
- D. Before placement and installation of work subject to tests by a testing laboratory approved by the COR and retained by the contractor, the Contractor shall notify the Contracting Officer's Representative and the testing laboratory in sufficient time to enable the COR and the testing laboratory personnel to be present at the site in time for proper taking and testing of specimens and field inspection. Such prior notice shall be not less than three work days unless otherwise designated by the Contracting Officer's Representative.
- E. All employees of the Contractor and subcontractors shall comply with the VA security management program and obtain permission for site entry from the VA police, be identified by project and employer, and be restricted from unauthorized access.
- F. The Contractor will continually clean-up any dust, dirt or debris caused by their jobsite Ingress/egress. The contractor will not be allowed to use the existing lobby, stairwells, and elevators for construction activities. Contractor at his own expense shall install temporary measures as required for construction office space, pathways, and transportation of personnel, materials, and equipment.
- G. Dust and fume control will be exercised during all construction operations. Workers will be careful not to operate any vehicles, gas or diesel engines, or to perform any fume or dust generating process near a building air intake system. Construction noise shall be held to a minimum - the city of Sunnyvale's Construction noise ordinance shall be adhered to at all times - Construction activity noise shall only be

permitted between the hours of seven a.m. and six p.m. daily Monday through Friday. Saturday hours shall be between eight a.m. and five p.m. There shall be no construction activity on Sunday or federal holidays when city offices are closed. See contractor normal working hours section 1.5 paragraph 3.

1.2 STATEMENT OF BID ITEM(S)

- A. ITEM I, GENERAL: Work includes general demolition of structures and site construction.
- B. SCOPE OF WORK: This two-story office addition to Building 1002 at the VA Palo Alto Health Care System (project located in Sunnyvale, CA) shall accommodate office and lab facilities. The intent of the project will provide a complete and functional office building addition as shown on the Contract Documents.

The Scope of Work includes construction of approximately 12,900 square feet of new office spaces on two levels; connection to a recently constructed lobby that is connected to an older two story office building. Contractor shall be required to operate concurrently with separate contractor(s) for other VA Sunnyvale Campus renovation project(s) separate from this contract. Site access & utilities for other VA construction projects shall not be disturbed by this project.

Selective demolition will include removal of existing topsoil and unsuitable soil materials, removal of portions of existing pavements, removal of existing building finishes and other building elements necessary for new construction.

The new addition will be a combination of concrete foundation, steel framing, metal deck with concrete fill, and metal stud partitions, and curtain wall framing. Site work will include Storm, Sewer, Domestic & Fire water, and site lighting & other misc. features.

A new fire protection sprinkler system will be extended into the new addition. New roof drains and overflow will be provided. New light fixtures will be provided. New HVAC, plumbing, electrical, data and communication outlets, and security systems will be incorporated into the work and interconnected into new and existing systems.

- i) Period of Performance (POP): the period of performance includes all preconstruction activities from date of 'Notice to Proceed' (NTP) through all construction activities till project acceptance by the Contracting Officer, but does not include days for contracting administrative close out, contractor submittal of close-out documents, LEED requirements, and other misc. activities not directly related to construction all of which are at the contractor's own expense if not completed by the date of contractor demobilization / construction site turn over to the VA.

I. Total Period of Performance: (546 days)

- a. Pre-Construction POP (126 Days) from NTP to Mobilization
1. From NTP to approval by the COR to mobilize contractor shall prepare, submit for review, make corrections as necessary till accepted by the COR in writing all product data, design, and shop drawings for the following specifications:
 2. Coordinate material procurement / fabrication with approved project schedule. Contract payment for fabrication and storage will not be authorized except for work scheduled in the approved project schedule time frame and the associated cost loaded schedule. All items fabricated and or procured and stored off-site are not subject to payment unless previous arrangements are made with the contracting officer and are IAW VAAR Clause 852.236-82.

01 00 00	General Requirements
01 32 16.15	Project Schedules
01 40 50	Contractor Coordination Drawings
01 45 29	Testing Laboratory Services
01 52 50	Safety Requirements
01 57 19	Temporary Environmental Controls
01 74 19	Construction Waste Management
02 41 00	Demolition
03 30 00	Cast-in-Place Concrete
05 12 00	Structural Steel Framing
05 12 01	Buckling Restrained Braces
05 36 00	Composite Metal Decking
05 40 00	Cold-Formed Metal Framing
05 50 00	Metal Fabrications
05 51 00	Metal Stairs
07 21 13	Thermal Insulation

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07 22 00 Roof and Deck Insulation
07 24 00 Exterior Insulation And Finish System (EIFS)
07 27 26 Fluid-Applied Membrane Air Barriers, Vapor Permeable
07 40 00 Siding Panels
07 42 00 Solid Phenolic Exterior Wall Panel System
07 54 23 Thermoplastic Polyolefin (TPO) Roofing
07 60 00 Flashing and Sheet Metal
07 84 00 Firestopping
07 92 00 Joint Sealants
07 95 13 Expansion Joint Cover Assemblies
08 11 13 Hollow Metal Frames
08 14 00 Interior Wood Doors
08 31 13 Access Doors and Frames
08 41 13 Aluminum-Framed Entrances and Storefronts
08 44 13 Glazed Aluminum Curtainwall
08 56 53 Blast Resistant Façade_LS
08 71 00 Door Hardware
08 71 13 Automatic Door Operations
08 80 00 Glazing
09 22 16 Non-Structural Metal Framing
10 75 00 Sun Shading Device
13 05 41 Seismic Restraint Requirements for Non-Structural Components
21 05 11 Common Work Results for Fire Suppression
21 08 00 Commissioning of Fire Suppression Systems
21 13 13 Wet-Pipe Sprinkler Systems
22 05 11 Common Work Results for Plumbing
22 05 23 General-Duty Valves for Plumbing Piping
22 07 11 Plumbing Insulation
22 08 00 Commissioning of Plumbing Systems
22 11 00 Facility Water Distribution
22 13 00 Facility Sanitary and Vent Piping
22 33 00 Electric Domestic Water Heaters
22 40 00 Plumbing Fixtures
23 05 10 Common Work Results for Boiler Plant
23 05 11 Common Work Results for HVAC
23 05 12 General Motor Requirements for HVAC
23 05 41 Noise and Vibration Control for HVAC Piping and Equipment
23 05 51 Noise and Vibration Control for Boiler Plant
23 05 93 Testing, Adjusting, and Balancing for HVAC
23 07 11 HVAC and Boiler Plant Insulation

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23 09 11	Instrumentation and Control for Boiler Plant
23 09 23	Direct-digital control system for HVAC
23 21 11	Boiler Plant Piping Systems
23 21 13	Hydronic Piping
23 21 23	Hydronic Pumps
23 23 00	Refrigerant Piping
23 25 00	HVAC Water Treatment
23 31 00	HVAC Ducts and Casings
23 34 00	HVAC Fans
23 36 00	Air Terminal Units
23 37 00	Air Outlets and Inlets
23 40 00	HVAC Air Cleaning Devices
23 50 11	Boiler Plant Mechanical Equipment
23 51 00	Breechings, chimneys and stacks
23 52 25	Low pressure water heating boilers
23 52 33.19	Package Water - Tube Boiler
23 64 00	Packaged Water Chillers
23 74 13	Packaged, Outdoor, Central Station Air-Handling Units
23 81 00	Decentralized Unitary HVAC Equipment
23 82 16	Air Coils
26 05 11	Requirements for Electrical Installations
26 05 19	Low-Voltage Electrical Power Conductors and Cables
26 05 26	Grounding and Bonding for Electrical Systems
26 05 33	Raceway and Boxes for Electrical Systems
26 05 41	Underground Electrical Construction
26 05 73	Overcurrent Protective Device Coordination Study
26 08 00	Commissioning of Electrical Systems
26 09 23	Lighting Controls
26 22 00	Low-Voltage Transformers
26 24 16	Panelboards
26 27 26	Wiring Devices
26 29 21	Enclosed Switches and Circuit Breakers
26 43 13	Surge Protective Devices
26 51 00	Interior Lighting
27 05 11	Requirements for Communications Installations
27 05 26	Grounding and Bonding for Communications Systems
27 05 33	Raceways and Boxes for Communications Systems
27 10 00	Structured Cabling
27 11 00	Communications Equipment Room Fittings
27 15 00	Telecommunications Horizontal Cabling

- 27 51 16 Public Address System
 - 28 31 00 Fire Detection and Alarm
 - 31 20 00 Earthwork
 - 33 10 00 Water Utilities
 - 33 30 00 Sanitary Sewer Utilities
 - 33 40 00 Storm Sewer Utilities
- 3. Contractor shall not be authorized to mobilize for construction activities till all the listed specifications submittals in this section have been accepted in writing by the COR. Contractor may mobilize sooner than the specified 126 days dependent on COR approval of all submittals listed in this section.
 - 4. Failure of contractor to provide & receive COR acceptance for the submittals in the specified POP timeframe will be considered by the CO a contractor delay to the project and will be enforced per the liquidated damages clause of the contract if the project extends beyond the total project period of performance specified. Contractor shall allow for 15 calendar days for each submittal & resubmittal reviewed by the VA / AE team.
- II. Construction POP (420 days)- from date of Mobilization till project acceptance by the Contracting Officer. (420 days) includes (42 working days) lost due to inclement weather where work on the critical path is not possible. Critical Path shall be determined by the COR approved base line schedule required in specification 01 32 16.15. (42 working days) are not subject to request for equitable adjustment - project schedule shall use the 42 working days as float during the inclement weather months of October 1 through March 31 during the Construction project duration.
- C. DEDUCTIVE ALTERNATE NO.1 - Site Miscellaneous - Same as Base Bid Item #1 except delete the following:
- 1. Delete New Fire Hydrant extensions - Delete all labor, materials and equipment to Fire Hydrant extensions as identified on the Drawings.
 - 2. Delete Security Cameras - Delete all labor, materials and equipment to Security Cameras as identified on the Drawings.
 - 3. Delete Sounded Paging - Delete all labor, materials and equipment to Sounded Paging as identified on the Drawings.

- D. DEDUCTIVE ALTERNATE NO. 2 - Interior Office - Same as Deductive Alternate #1 except delete the following:
1. Delete Core Office Area and Millwork - Delete all labor, materials and equipment to omit room 144, 145, 146, 147, 148, 244, 245, 246, 247, 248as identified on the Drawings and Millwork (cabinetry and wood wall panels. Including lights, data, telecom, low voltage and extension of duct work).
 2. Delete Room 123, 137, 223, 237 and Millwork - Delete all labor, materials and equipment to omit Team Rooms & Conference Rooms as identified on the Drawings and Millwork (cabinetry and wood wall panels. Including lights, data, telecom, low voltage and extension of duct work).
 3. Delete Room 128, 228 and Millwork - Delete all labor, materials and equipment to omit Reprographic Rooms as identified on the Drawings and Millwork (cabinetry and wood wall panels. Including lights, data, telecom, low voltage and extension of duct work).
- E. DEDUCTIVE ALTERNATE NO. 3 - Exterior - Same as Deductive Alternate 2 except delete the following:
1. Delete Mechanical Equipment Screen on the Roof. Delete all labor, materials and equipment to omit Mechanical Equipment Screen as identified on the Drawings.
 2. Delete Roof Walkway Pads. Delete all labor, materials and equipment to omit Roof Walkway pads as identified on the Drawings.
 3. Delete Utility Fence at utility yard. Delete all labor, materials and equipment to omit Utility Fence at utility yard as identified on the Drawings.
 4. Delete Roof Ladders. Delete all labor, materials and equipment to omit Roof Ladders as identified on the Drawings.
- F. DEDUCTIVE ALTERNATE NO. 4 - Finishes - Same as Deductive Alternate #3 except delete the following:
1. Delete Whisper Clouds. Delete all labor, materials and equipment to omit Whisper Clouds as identified on the Drawings.
 2. Delete Tile (CT-4 & CT-5). Delete all labor, materials and equipment to omit Tiles as identified on the Drawings.
 3. Delete Light Boxes. Delete all labor, materials and equipment to omit Light Boxes as identified on the Drawings.

4. Delete Carpet. Delete all labor, materials and equipment to omit Carpet as identified on the Drawings.
5. Delete Blinds & Shades. Delete all labor, materials and equipment to omit Blinds & Shades as identified on the Drawings.
6. Delete Computer Millwork. Delete all labor, materials and equipment to omit Computer Millwork as identified on the Drawings.
7. Delete Wood Wall Panel at Hallways. Delete all labor, materials and equipment to omit Wood Wall Panel at Hallways as identified on the Drawings.
8. Delete Terrazzo at Hallway at First Floor. Delete all labor, materials and equipment to omit Terrazzo at Hallway as identified on the Drawings.
9. Delete Acoustical Perforated ceiling panels. Delete all labor, materials and equipment to omit Acoustical Perforated ceiling panels as identified on the Drawings.

1.3 SPECIFICATIONS AND DRAWINGS

- A. After award of contract, specifications and drawings will be available for download from a link provided by the Contracting Officer's Representative
- B. The Contractor shall maintain on the job site one (1) printed set of specifications, one (1) printed set of drawings, one (1) printed copy of all RFI's and any documents that modify the original specifications and drawings.

1.4 ACCIDENT PREVENTION

- A. The Contractor shall provide and maintain work environments and procedures which will:
 1. Safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;
 2. Avoid interruptions of Government operations and delays in project completion dates;
 3. Control costs in the performance of this contract; and
 4. Maintain a safe and healthy worksite to prevent adverse impacts to Contractor and subcontractor employees.
- B. The Contractor shall:
 1. Before commencing the work, submit a written Safety Plan for implementing actions to prevent accidents. The plan shall include an analysis of significant hazards to life, limb and property inherent in contract work performance and measures for controlling these hazards and avoiding personnel exposure. Meet with the Contracting

- Officer's Representative to discuss and develop a mutual understanding relative to administration of the overall safety program and obtain approval for the Contractor's Safety Plan from the Contracting Officer's Representative before work start.
2. Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910 (OSHA); and Title 8, California Administrative Code - Construction Standards (CAL OSHA)
 3. Prior to commencing work, provide proof that an OSHA designated competent person (CP) per 29 CFR 1926.20(b)/ 1926.32(f)(2) will maintain a presence at the work site whenever the Contractor or subcontractors are present.
 4. Provide appropriate safety barricades, signs, signal lights and personal protective equipment (hard hats, goggles, protective shoes, gloves, masks or breathing apparatus, etc.).
 5. Ensure all Contractor and subcontractor employees have the 10-hour or 30-hour OSHA Construction Safety course and other relevant competency training, as determined by Contracting Officer's Representative. General Contractor shall maintain at least one person on site at all times who has completed the 30 hours OSHA Construction Safety Course (submittal of 30-hour training certificate required prior to start of work), and shall represent the contractor as the competent person / safety officer. Submit training records of all such employees for approval before the start of work.
 6. Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for accident protection and safety of personnel are taken.
- C. Whenever the Contracting Officer becomes aware of any noncompliance with safety requirements or any condition which poses a serious or imminent danger to the health or safety of personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.
- D. The Contractor shall insert the above clause with appropriate changes in the designation of the parties in subcontracts.

1.5 CONSTRUCTION SECURITY REQUIREMENTS

A. Security Plan (Submittal of Security Plan is required prior to mobilization):

1. The Security Plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
2. The 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. Contractor and subcontractor employees shall not enter the project site without an appropriate badge (where badge is required). They will be subject to inspection of their personal effects when entering or leaving the project site.
 2. The Contractor shall create an Employee Daily Log of all personnel working on the site. The Employee Daily Log shall contain the employee's (a) Full Name, (b) Employer/Company Name and (c) Occupation/Trade. The Employee Daily Log shall be submitted with the Contractor's Daily Work Report.
3. Contractor's normal working hours shall be 7am to 4pm Monday through Friday excluding federally observed holidays.

I. Contractor must observe Federal Holidays with no work allowed on such days. Refer to the OPM website www.opm.gov for the observed Federal Holidays and their dates for the applicable year.

- a. Contractor must obtain written prior approval by the COR to work outside of normal working hours and Saturdays. This notice is separate from any notices required for utility shutdown described later in this specification.
4. No photography of VA premises is allowed without written permission of the VA Public Affairs Officer.
5. The VA Police are Federal Police Officers with full authority to make arrests, investigate crimes and issue traffic citations. Citations issued require an appearance in the Federal District Court and/or payment of a fine. Speed limits and other driving and parking codes are strictly enforced. Any vehicle left unattended for more than a few minutes may be cited by the VA Police.
6. Sexual harassment is strictly prohibited. This includes deliberate or unsolicited verbal comments or gestures of a sexual nature, unwelcome sexual advances, requests for sexual favors and/or other unwelcome verbal or physical conduct of a sexual nature.

7. Possession or use of non-prescription drugs or alcohol, including beer and wine, on the Health Care System grounds is strictly prohibited. Possession of firearms, knives with blades over 4", ammunition, explosive devices and any item that may be considered an offensive weapon is strictly prohibited. This includes carrying such items in vehicles.
8. The Health Care System does not have the equipment, facilities, or personnel trained to handle serious injuries. Call 911 for emergency medical assistance and notify the Contracting Officer's Representative and the VA Police.
9. Vehicle authorization requests shall be required for any contractor vehicle entering the site and such requests 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.
10. VA reserves the right to shut down the project site and order Contractor's employees and subcontractors off the premises in the event of a national emergency or local disaster. The Contractor may return to the site only with the written approval of the Contracting Officer's Representative.

C. Guards: NOT USED

D. Key Control:

1. The Contractor shall provide duplicate keys and lock combinations to the Contracting Officer's Representative for the purpose of security inspections and emergency actions for every area of the project site including tool boxes and parked machines.
2. The Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation.

E. Document Control:

1. Before mobilization, the Contractor shall submit to and receive acceptance by the COR, an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "Sensitive Information".
2. The Contractor is responsible for safekeeping of all drawings, project manuals 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 access to

only those who will need it for the project. Return the information to the Contracting Officer's Representative upon request.

- 4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer's Representative.
- 5. All paper waste or electronic media shall be shredded, destroyed or erased in a manner acceptable to the VA.
- 6. Notify Contracting Officer's Representative 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-mails provided all VA encryption procedures are followed.

1.5 FIRE SAFETY

A. Applicable Publications: Publications listed below form part of this Article.

- 1. American Society for Testing and Materials (ASTM):
 - E84-13a.....Surface Burning Characteristics of Building Materials
- 2. National Fire Protection Association (NFPA):
 - NFPA 10.....Standard for Portable Fire Extinguishers
 - NFPA 30.....Flammable and Combustible Liquids Code
 - NFPA 51.....Standard for Fire Prevention During Welding, Cutting and Other Hot Work
 - NFPA 70/NEC.....National Electrical Code
 - NFPA 241.....Standard for Safeguarding Construction, Alteration, and Demolition Operations
- 3. Occupational Safety and Health Administration (OSHA):
 - 29 CFR 1910/1926.....Safety and Health Regulations for Construction

B. Fire Safety Plan (Submittal acceptance by COR of Fire Safety Plan is required prior to mobilization):

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 Contracting Officer's Representative for review for compliance with contract requirements. Prior to any worker for the Contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the Contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VA safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VA equipment, etc. Documentation shall be provided to the Contracting Officer's Representative that individuals have undergone Contractor's safety briefings.

- C. Site and Building Access: Maintain free and unobstructed access to facility emergency services and fire, police and other emergency response forces in accordance with NFPA 241. In the event of a fire or during a fire drill, the Contractor must vacate the construction site if within the zone affected.
- 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 20 feet exposed overall length, separate by 10 feet.
- E. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- F. Means of Egress: Do not block exiting for occupied buildings including paths from exits to roads. Minimize disruptions and coordinate with Contracting Officer's Representative.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily and report findings and corrective actions weekly to Contracting Officer's Representative.
- H. Fire Extinguishers: Provide, maintain and show proof of extinguisher maintenance in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10. Provide minimum of (2) 10 pound fire extinguishers at all times.
- I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- J. Standpipes: Maintain standpipes at each floor in accordance with 29 CFR 1926 and NFPA 241. Do not charge wet standpipes subject to freezing until weather protected.
- 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 or temporarily for connections. Provide fire watch

for impairments more than 4 hours in a 24-hour period. If a Fire Alarm system or sprinkler system is out of service for more than 4 hours, then the Contractor shall implement Interim Life Safety Measures in accordance with VA Palo Alto Health Care System Memorandum SAFE 13-23. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Contracting Officer's Representative. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the Contracting Officer's Representative.

- M. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Contracting Officer's Representative.
- N. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51. Any welding, cutting metal or other burning or spark producing operations require a hot work permit. Welding and/or burning operations are allowed only during normal working hours. Coordinate with Contracting Officer's Representative to obtain permits from the Facility Safety Officer at least 24 hours in advance. Evidence of training of all personnel assigned to be a fire watch shall be provided before Hot Work Permits will be issued. A fire watch is required for all hot work unless specified differently on the permit. The fire watch shall have fire extinguishing equipment readily available and be trained in its use and be familiar with facilities for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish then otherwise sound the alarm. A fire watch shall be maintained for at least 30 minutes after completion of hot work.
- O. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with and report findings and corrective actions weekly to Contracting Officer's Representative.
- P. Smoking: Smoking is prohibited in all buildings and adjacent construction areas. Smoking is prohibited except in designated smoking areas.
- Q. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily. Waste and debris will not be disposed of on station or in VA trash containers or dumpsters. The Contractor shall provide their own bin or dumpster; however, the use and location of such must be approved in writing by the Contracting Officer's Representative. Construction waste and debris will not be accumulated in corridors or other building areas where it might cause a fire or safety hazard.

Contractor shall provide a monthly summary of construction and demolition debris diversion and disposal, quantifying all materials generated at the work site and disposed of or diverted from disposal through recycling per SECTION 01 74 19 CONSTRUCTION WASTE MANAGEMENT.

- R. Smoke/fire Barrier Penetrations: Any penetrations to smoke or fire barrier walls, ceilings or floor slabs shall be properly sealed immediately with Hilti Fire Stop 601 or 635 for walls and ceilings and Hilti Fire Stop 657 for floor penetrations or approved equal.
- S. Install one-hour temporary construction partitions as shown on drawings or as required to separate the work site from the occupied portion of the building and maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures. 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.
- S. If required, submit documentation to the Contracting Officer's Representative 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's Representative. 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's Representative 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 their expense upon completion of the work. With the written consent of the Contracting Officer's Representative, the buildings and utilities may be abandoned and need not be removed.
- C. The Contractor shall, as prescribed by the Contracting Officer's Representative, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer's Representative. 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, code 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.

D. Working space and space available for storing materials shall be as determined by the Contracting Officer's Representative.

E. Workmen are subject to rules of the VA Campus applicable to their conduct.

F. Execute work so as to interfere as little as possible with normal functioning of the VA Campus as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others.

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 the VA in quantities sufficient for not more than two work days. Provide unobstructed access to VA Campus areas required to remain in operation.

G. Utilities Services: Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems, they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Contracting Officer's Representative. All such actions shall be coordinated with any Utility Company involved:

H. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, six-foot minimum height, around the construction area, material storage areas and dumpsters/waste locations. Contractor shall provide and maintain visual screening fabric for all fencing. Contractor shall provide gates as required for access with necessary hardware including hasps and locks. All gates shall be kept closed at all times, and locked when no workers are present. Contractor shall coordinate with the COR to assure VA access at any time. Contractor shall remove the fence when directed by Contracting Officer's Representative.

Contractor shall place all applicable safety signs as required by 29 CFR 1926, securely attached to fence or approved surface. Contractor shall also place construction area signs on the exterior of the construction

fence alerting campus and contractor personnel that the fence is enclosing a construction area. Sign shall indicate Construction Area, Authorized Personnel Only, Hard Hats and safety shoes required - Spacing of signs shall not exceed 50' on center, with a minimum of one safety sign on each direction of fence.

- I. Work areas will be vacated by Government and turned over to Contractor after date of Notice to Proceed and all pre-construction activities and submittals have been accepted by the COR.
- J. When a building/ area are turned over to Contractor, Contractor shall accept entire responsibility therefore.
 - 1. Contractor shall maintain a minimum temperature of 4 degrees C (40 degrees F) at all times, except as otherwise specified.
 - 2. 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 (VA or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.
- K. Utilities Services: Maintain existing utility services for the VA Campus at all times.
 - 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 Contracting Officer's Representative. 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 Contracting Officer's Representative prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS and 28 05 11, REQUIREMENTS FOR ELECTRONIC SAFETY AND SECURITY INSTALLATIONS for additional requirements.
 - 2. Contractor shall submit a request to interrupt any such services to Contracting Officer's Representative, in writing, 5 weeks 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 the VA. Interruption time approved by

- Contracting Officer's Representative may occur at other than Contractor's normal working hours at the contractor's own expense.
4. Major interruptions of any system must be requested, in writing, at least 45 calendar days prior to the desired time and shall be performed as directed by the Contracting Officer's Representative. Contractor shall make provisions that all major utility interruptions shall occur during off hours and / or Saturdays at the contractor's own expense.
 5. In case of a contract construction emergency, service will be interrupted on approval of Contracting Officer's Representative. 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 Contractor.
- L. 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.
- M. To minimize interference of construction activities with flow of VA Campus traffic, comply with the following:
1. The Contractor shall not block any road or street, walkway or building egress without requesting in writing for approval from the Contracting Officer's Representative. Written requests shall be made at least (21) days prior to proposed interruption. 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. Wherever excavation for new work crosses existing roads, at least one lane must be open to traffic at all times.
 2. Method and scheduling of required cutting, altering and removal of existing roads, walks and entrances must be approved by the Contracting Officer's Representative.
- N. Coordinate this contract with other construction operations as directed by Contracting Officer's Representative. This includes the scheduling of traffic and the use of roadways.

1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Contracting Officer's Representative, of buildings areas in which alterations occur and areas which are anticipated routes of access, and furnish a signed report, to the Contracting Officer's Representative. This report shall list by rooms and spaces:
1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of the 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 note any discrepancies between drawings and existing conditions at site.
 4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contracting Officer's Representative.
- B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of Contracting Officer's Representative to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and Contracting Officer's Representative together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:
1. Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.
- D. Protection: Provide the following protective measures:

1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.
2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.
3. Protection of interior of existing structures at all times, from damage, dust and weather. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

1.8 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VA'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 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 Contracting Officer's Representative and Facility ICRA team for review for compliance with contract requirements.
 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. VA Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the Contracting Officer's Representative prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition in patient-care areas:
 1. The Contractor, Contracting Officer's Representative and VA Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in patient-care areas 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. The contractor

- shall install negative air machines as directed by the Contracting Officer's Representative and shall be required to add machines as directed.
2. In case of a problem - the VA, 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 Contracting Officer's Representative. Blank off ducts and diffusers to prevent circulation of dust into adjacent areas during construction.
 2. Do not perform dust producing tasks within adjacent areas without the approval of the Contracting Officer's Representative. 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 temporary drywall construction barriers to separate construction from the operational areas of the facility to contain dirt debris and dust. Construct the dust proof barrier with a one hour fire rating. Barriers shall be sealed and made presentable on facility occupied side. Install a self-closing rated door and metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. For special cases a fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be used in certain circumstances where hard walls cannot be constructed and an agreement is reached with the Contracting Officer's Representative and VA Fire Protection Specialist.
 - b. HEPA filtration is required. Contractor shall verify that construction exhaust to exterior is not reintroduced to the adjacent facility 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. The contractor shall install a state of the art air pressure differential monitor. The monitor shall be placed at such a location that anyone entering or leaving the work site shall be able to determine if negative air pressure is being maintained.
- d. Adhesive Walk-off/Carpet Walk-off Mats, minimum 24" x 36", shall be used at all interior transitions from the construction area to occupied medical center area. A shop vacuum with HEPA filtration shall be placed at any exit from the work site. These shop vacuums shall be used to remove dust that has accumulated on workers clothing while working whenever they leave the work site. The mats shall be changed as directed by the Contracting Officer's Representative to maintain clean work areas directly outside construction area at all times.
- e. Vacuum and wet mop all transition areas from construction to the adjacent facility at the end of each workday. Shop vacuums and vacuum cleaners shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.
- f. The contractor shall not haul debris through adjacent areas without prior approval of the Contracting Officer's Representative. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with tape. No sharp objects should be allowed to cut through the plastic. Wipe down the wheel treads and the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down. Wheels and tires shall not track debris on floors outside the work zone.
- g. 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.
- h. 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 4 hours. Remove and dispose of porous materials that remain damp for more than 24 hours.

- i. 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 and existing air ducts shall be cleaned prior to final inspection.

1.9 DISPOSAL AND RETENTION

A. Materials and equipment accruing from work removed 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 noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed from present locations in such a manner as to prevent damage. Store such items where directed by Contracting Officer's Representative.
2. Items not reserved shall become property of the Contractor and be removed by Contractor.
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 VA 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.
4. The Contractor is required to alert the VA immediately in the event any known or suspected hazardous materials are disturbed or will need to be disturbed before proceeding with work. Hazardous materials, such as PCB's, asbestos, lead paint, cleaning solutions and other harmful chemicals shall be disposed of in accordance with federal, state and local laws and regulations. In case of an accidental spill of hazardous materials, the Contractor shall take immediate action to contain the spill and notify the Contracting Officer's Representative. Washing cement, plaster, paint, oil or grease, solvents, etc. into any drains is strictly prohibited. **REPORT ANY**

**ACCIDENTAL SPILLS THAT MAY RUN INTO STORM DRAINS IMMEDIATELY TO
ENGINEERING SERVICE AT 650-493-5000 EXTENSION 62468.**

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

- A. The Contractor shall preserve and protect all structures, equipment and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut as directed by the Contracting Officer's Representative.
- B. Contractor shall protect all irrigation equipment designated to remain within the limit of work and ensure the continued irrigation of all existing planting areas to remain in place.
- C. *The project construction may affect irrigation operations beyond the limit of work.* It shall be the responsibility of the Contractor to ensure the irrigation operations beyond the limit of work, affected by the project construction, remain operational at all times during construction. Contractor shall make all repairs to restore operations within 24 hours of the disruption. If the Contractor fails or refuses to repair the damage within 24 hours of the disruption, the Contracting Officer's Representative may have the necessary work performed and charge the cost to the Contractor.
- D. The Contractor shall protect existing trees to remain by placing temporary fencing completely around the perimeter of the drip line of the trees. Provide 6' high tree protection fencing completely enclosing the tree(s). Avoid driving major fence posts or stakes into major roots.
 - 1. Treatment of roots exposed during construction. For roots over 1 inch in diameter damaged during construction, make a clean straight cut to remove damaged portion of the root. All exposed roots should be temporary covered with damp burlap and covered with soil or mulch as soon as possible to prevent drying.
 - 2. No equipment or machinery shall be used within the tree protection zone. Work within the protection zone shall be done manually.
 - 3. No stockpiling of materials, vehicular traffic, or storage is allowed within the tree protection zone.

- E. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer's Representative may have the necessary work performed and charge the cost to the Contractor.

1.11 RESTORATION

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the Contracting Officer's Representative. Existing work to be altered or extended and that which is found to be defective in any way, shall be reported to the Contracting Officer's Representative before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in the same or better condition as existed before contractor commencing work at Contractor's own expense.
- C. Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone, computer network, etc.) which are indicated on drawings or reasonably discovered during execution of the work and which are not scheduled for discontinuance or abandonment at Contractor's own expense.
- D. Expense of repairs to such utilities and systems not shown on drawings for which locations are unknown and not reasonably discovered will be considered for adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

1.12 PHYSICAL DATA

- A. Data and information (test borings, hydrographic data, test pits, weather conditions, etc.) furnished or referred to is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor. (FAR 52.236-4)

1.13 LAYOUT OF WORK

- A. The Contractor shall lay out the work and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at Contractor's own expense, all templates, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines that may be established or indicated by the Contracting Officer's Representative. The Contractor shall also be responsible for maintaining and preserving all marks established by the Contracting Officer's Representative until authorized to remove them. If such marks are destroyed by the Contractor or through Contractor's negligence before their removal is authorized, the Contracting Officer's Representative may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor. (FAR 52.236-17)

1.14 AS-BUILT DRAWINGS

- A. The Contractor shall maintain one full size set 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 Contracting Officer's Representative's review, as often as requested.
- C. Contractor shall deliver two approved completed sets of as-built drawings to the Contracting Officer's Representative within 15 calendar days after each completed phase and after the acceptance of the project by the Contracting Officer's Representative.
Contractor shall provide all final as-built drawings prepared in CAD software. An electronic copy shall be delivered to the COR in both DWG format and PDF along with the two hard copy sets. Drawing size, style, and fonts shall match construction drawings provided to the contractor by the contracting officer. Coordinate with COR for allowable version of DWG files.

1.15 USE OF ROADWAYS

- A. For hauling, use only established public roads and roads on the VA Campus and, when authorized by the Contracting Officer's Representative, such temporary roads which are necessary in the performance of contract work. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed transitions. Temporary roads and protection measures shall be constructed by the Contractor at Contractor's own expense.

1.16 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 Contracting Officer's Representative. If the equipment is not installed and maintained in accordance with the following provisions, the Contracting Officer's Representative 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 use 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. Boilers, pumps, feedwater heaters and auxiliary equipment must be operated as a complete system and be fully maintained by operating personnel. Boiler water must be given complete and continuous chemical treatment.
- 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.

1.17 USE OF EXISTING ELEVATORS

- A. Use of existing elevators for handling building materials and Contractor's personnel shall not be permitted under any circumstance.

1.18 TEMPORARY TOILETS

- A. Provide where directed, (for use of all Contractor and subcontractor employees) ample temporary sanitary toilet accommodations with suitable sewer and water connections; or, when approved by Contracting Officer's Representative, provide suitable dry closets where directed. Keep such places clean and free from odor or flying insects, and all connections and appliances connected therewith are to be removed prior to completion of contract, and premises left perfectly clean.

1.19 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. If applicable, 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. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer's Representative, shall install and maintain all necessary temporary connections and distribution lines, transformers and electrical panels, and all meters required to measure the amount of electricity used for the purpose of determining contractor usage and charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated equipment at contractor's own expense.
- C. Contractor shall install electrical load meters at Contractor's expense and furnish the Contracting Officer's Representative a monthly record of the Contractor's usage of electricity.

- D. 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:
- E. Electricity (for Construction and Testing): Furnish all temporary electric services.
 - 1. Obtain electricity by connecting to the VA Campus electrical distribution system where practical. The Contractor shall separately 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.
 - 2. Where Campus power is not practical or available for project power requirements, contractor shall provide portable power generators at contractor's own expense.
- F. Water (for Construction and Testing): Furnish temporary water service.
 - 1. Obtain water by connecting to the VA Campus 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 Contracting Officer's Representative's discretion) of use of water from VA Campus system at no cost.
 - 3. Provide drinking water for construction personnel at all times.
- G. Fuel: Natural and LP gas and burner fuel oil required for boiler cleaning, normal initial boiler-burner setup and adjusting, and for performing the specified boiler tests will be furnished by the Government. Fuel required for prolonged boiler burner setup, adjustments, or modifications due to improper design or operation of boiler, burner, or control devices shall be furnished or reimbursed by the Contractor at Contractor's expense.

1.20 NEW TELEPHONE EQUIPMENT

- A. The Contractor shall coordinate the work of installation of telephone equipment by others. This work shall be completed before the building is turned over to VA.

1.21 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 the Contracting Officer's Representative. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests, and re-tests as required.
- 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 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.

1.22 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating Manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and Operating Manuals (two copies each plus pdf file) for each separate piece of equipment shall be delivered to the Contracting Officer's Representative 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 manufacturer representatives to give detailed instructions to assigned VA 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 Contracting Officer's Representative and shall be considered concluded only when the Contracting Officer's Representative is satisfied in regard to complete and thorough coverage. The VA reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the Contracting Officer's Representative, does not demonstrate sufficient qualifications in accordance with requirements for the above.

1.23 GOVERNMENT-FURNISHED PROPERTY

- A. The Government shall deliver to the Contractor, the Government-furnished property shown on the drawings.
- B. Equipment furnished by Government to be installed by Contractor will be furnished to Contractor at the building.
- 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 building.
- D. Notify Contracting Officer's Representative 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 the Contracting Officer's

- Representative. At such time the Contractor shall acknowledge receipt of equipment described, make notations, and immediately furnish the Contracting Officer's 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 Contracting Officer's Representative.
- 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.

1.24 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 Contracting Officer's Representative.
- C. 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.

1.25 CONSTRUCTION SIGN

- A. Provide a Construction Sign where directed by the Contracting Officer's Representative. All wood members shall be of framing lumber. Face of sign shall be 3/4 inch thick exterior grade plywood. Provide three equally spaced 4x4 pressure treated framing posts extending full height of sign and four feet into ground. Set bottom of sign level at three feet above ground and secure to posts with through bolts. Brace posts

with 2x4 framing material. Minimum sign size shall be 96" wide x 72" tall.

- B. Paint all surfaces of sign and posts two coats of white gloss paint. Border and letters shall be of black gloss paint, except project title which shall be blue gloss paint.
- C. Maintain sign and remove it when directed by the Contracting Officer's Representative.
- D. Submit to COR for approval prior to fabrication detailed drawing of proposed construction sign showing required legend and other characteristics of sign - if requested by Contractor COR may provide examples of previously approved signs.

1.26 SAFETY SIGN

- A. Provide a Safety Sign where directed by Contracting Officer's Representative. Face of sign shall be 3/4 inch thick exterior grade plywood. Provide two 4x4 pressure treated framing posts extending full height of sign and three feet into ground. Set bottom of sign level at four feet above ground. Minimum sign size shall be 48"x48".
- B. Paint all surfaces of Safety Sign and posts with one prime coat and two coats of white gloss paint. Letters and design shall be painted with gloss paint of colors noted and approved by Contracting Officer's Representative.
- C. Post on sign the number of accident free days on a daily basis.
- D. Maintain sign and remove it when directed by Contracting Officer's Representative.
- E. Submit to COR for approval prior to fabrication detailed drawing of proposed safety sign showing required legend and other characteristics of sign - if requested by Contractor COR may provide examples of previously approved signs.

1.27 PHOTOGRAPHIC DOCUMENTATION

- A. Contractor to provide digital photographic exhibit of existing site and work performed. Digital color photos shall be taken from a digital camera with a minimum of 7.0 megapixels. Photos shall be transmitted to the COR by DVD in jpeg or tiff, and PDF formats. Each photo's electronic file size shall be a minimum of 300k with a maximum file size of 1.5meg.
- B. Photos shall document all phases of construction and shall be updated weekly until the project has been completed. Photos shall be submitted each month along with the project invoice for monthly payment.

1.28 FINAL ELEVATION DIGITAL IMAGES - NOT USED

1.29 HISTORIC PRESERVATION

- A. 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 Contracting Officer's Representative verbally, and then with a written follow up.

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