

SECTION 01 00 00
GENERAL REQUIREMENTS
TABLE OF CONTENTS

- 1.1 GENERAL INTENTION
- 1.2 STATEMENT OF BID ITEM(S)
- 1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR
- 1.4 CONSTRUCTION SECURITY REQUIREMENTS
- 1.5 FIRE SAFETY
- 1.6 OPERATIONS AND STORAGE AREAS
- 1.7 ALTERATIONS
- 1.8 INFECTION PREVENTION MEASURES - **N/A**
- 1.9 DISPOSAL AND RETENTION
- 1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS
- 1.11 RESTORATION
- 1.12 PHYSICAL DATA
- 1.13 PROFESSIONAL SURVEYING SERVICES
- 1.14 LAYOUT OF WORK
- 1.15 AS-BUILT DRAWINGS
- 1.16 USE OF ROADWAYS
- 1.17 RESIDENT ENGINEER'S FIELD OFFICE **N/A**
- 1.18 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT
- 1.19 TEMPORARY USE OF EXISTING ELEVATORS
- 1.20 TEMPORARY USE OF NEW ELEVATORS **N/A**
- 1.21 TEMPORARY TOILETS
- 1.22 AVAILABILITY AND USE OF UTILITY SERVICES
- 1.23 NEW TELEPHONE EQUIPMENT - **N/A**
- 1.24 TESTS
- 1.25 INSTRUCTIONS
- 1.26 GOVERNMENT FURNISHED PROPERTY - **N/A**
- 1.27 RELOCATED // EQUIPMENT // ITEMS //
- 1.28 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT - **N/A**
- 1.29 CONSTRUCTION SIGN - **N/A**
- 1.30 SAFETY SIGN
- 1.31 CONSTRUCTION DIGITAL IMAGES - **N/A**
- 1.32 FINAL ELEVATION DIGITAL IMAGES - **N/A**
- 1.33 HISTORIC PRESERVATION
- 1.34 SUBMITTALS
- 1.35 SCHEDULE OF VALUES

N/A = NOT APPLICABLE

SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

- A. Work includes general construction, alterations, electrical, civil and mechanical work, necessary removal of existing structures, construction, and certain other items as required by the drawings and specifications.
- B. Visits to the site by Bidders may be made only by appointment with the Contracting Officer (CO) or Contracting Officer's technical Representative (COTR).
- C. All employees of general contractor and subcontractor shall comply with VA security management program, be identified by project and employer and restricted from unauthorized access.
- D. Prior to commencing work, general contractor shall provide proof that an OSHA certified "competent person" (CP) 29 CFR 1926.20(b)(2) will maintain a presence at the work site whenever the general or subcontractors are present.
- E. Training:
 - 1. Beginning July 31, 2005, 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.
 - 2. Submit training records of all such employees for approval before the start of work.

1.2 STATEMENT OF BID ITEM

A. BID ITEM 1

Contractor shall furnish material, equipment, supervision and labor for all the work associated with the installation of campus-wide backup power consisting of four natural gas powered internal combustion gensets, related electrical equipment and connection to the 13.8kv electrical distribution system. The distribution system has redundant feeds from Tucson Electric Power Company. The feeds are 100% redundant and are designated as "A" & "B" feeds. The work includes general construction, demolition, removal and disposal of existing equipment and materials, alterations, electrical, controls, architectural, civil and mechanical work, utility systems, testing, start-up, necessary removal of existing equipment, locating and relocating equipment and other items. Contractor to connect to Southwest Gas Company (SWG) natural gas

line at a point on the property line and complete the installation to the gensets, in compliance with SWG requirements. Bid documents to include a cost proposal, cost schedule of values, submittal register, construction schedule, a demolition, installation, phasing plan that minimizes interference with hospital operations. Submit a phasing plan that keeps one 13.8kv distribution system feed in service while work is being performed. Only one feed can be out of service at a time and the load side of the in service feed must be backed by a portable substation or temporary genset as noted on the plans. Cost proposal to be organized on a line item activity basis. Price on a line item basis so that there is a priced line item for expendables, material takeoff, major equipment, labor for installation, subcontract work rentals, start up and testing.

Bid Item work is detailed on the drawings and specifications.

B. BID ITEM 2

All of the work in BID ITEM 1 except deduct one genset.

Work that is common to all gensets is to be installed.

Bid Item work is detailed on the drawings and specifications.

C. BID ITEM 3

All of the work in BID ITEM 2 except deduct one genset

Work that is common to all gensets is to be installed.

Bid Item work is detailed on the drawings and specifications.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

AFTER AWARD OF CONTRACT, 3 sets of specifications and drawings will be furnished. Additional sets of drawings may be made by the Contractor at Contractor's expense.

1.4 CONSTRUCTION SECURITY REQUIREMENTS

A. Security Plan:

1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.

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 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.

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)
E84-1998.....Surface Burning Characteristics of Building
Materials
 2. National Fire Protection Association (NFPA):
10-1998.....Standard for Portable Fire Extinguishers
FCLCH-30-1996.....Flammable and Combustible Liquids Code
51B-1999.....Standard for Fire Prevention During Welding,
Cutting and Other Hot Work
70-1999.....National Electrical Code
241-1996.....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 Project Engineer and Facility Safety Manager 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 Resident Engineer that individuals have undergone contractor's safety briefing.

- C. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- D. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- E. Temporary 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 Resident Project Engineer and facility Safety Manager.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Resident Project Engineer and facility Safety Manager.
- H. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- J. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems. Provide fire watch for impairments more than 4 hours in a 24 hour period.
- K. Smoke Detectors: Prevent accidental operation.
- L. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Project Engineer. Designate contractor's responsible project-site fire prevention program manager to permit hot work. Hot work permits are required.
- M. Fire Hazard Prevention Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Project Engineer and facility Safety Manager.
- N. 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.
- O. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.

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

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.
- C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks or roads.
- D. Workmen are subject to rules of Medical Center applicable to their conduct.
- E. 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.
1. Do not store materials and equipment in other than assigned areas.
 2. Provide unobstructed access to Medical Center areas required to remain in operation.
- F. Phasing: To insure such executions, Contractor shall furnish the Resident Engineer with a schedule of approximate phasing dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. To support this provide a bar chart line item construction activity schedule with sufficient items and detail to view weekly activities. In addition, Contractor shall notify the Resident Engineer two weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such phasing dates to insure accomplishment of this work in successive phases mutually agreeable to Medical Center and Contractor. Contractor shall perform work so the interruption of air handlers and chillers is minimized and any interruption is approved by the Medical Center 72 hours prior to interruption.

- G. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, 2100 mm (seven feet) minimum height, around the construction area indicated on the drawings. Provide gates as required for access with necessary hardware, including hasps and padlocks. Fasten fence fabric to terminal posts with tension bands and to line posts and top and bottom rails with tie wires spaced at maximum 15 inches. Bottom of fences shall extend to one inch above grade. Remove the fence when directed by Resident Engineer.
- H. Utilities Services: Maintain existing utility services for Medical Center 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 or relocated without prior approval of Resident Engineer. Contractor to verify underground locations using electronic locator and pot-holing. Use hand tools to make final excavation to expose all underground. Provide temporary power, facilities, labor, materials, equipment, connections and utilities to assure uninterrupted services. When necessary to cut existing water, steam, gases, sewer or air pipes, conduits, wires, cables etc of utility services or of fire protection systems and communication systems (including telephone), they shall be cut and capped at suitable places where shown or where directed by the Resident Engineer. Test all electrical circuits and piping for type of service; measure and record material, pressure, flow, temperature and test and confirm the operation of each electrical and optical connection prior to interruption. Restore to same condition or better when work is complete and service restored to normal source.
 2. Contractor shall submit a request to interrupt any such services to Resident Engineer, in writing, 72 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 Resident Engineer.

5. In case of a contract construction emergency, service will be interrupted on approval of Resident Engineer. Such approval will be confirmed in writing as soon as practical.
- I. 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.
- J. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:
 1. Keep roads, walks and entrance to grounds, parking, and occupied areas 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 Resident Engineer.
- K. Coordinate the work for this contract with other construction operations as directed by the Resident Engineer. This includes the scheduling of traffic and the use of roadways, as specified in Article 1.16, USE OF ROADWAYS.
- L. Parking for Contractor company vehicle and location of site trailer is south of building 30. Worker parking is in gravel Lot E. Equipment temporary storage is in the gravel area adjacent to Lot E and south of Building 30. Contractor work may not interfere with deliveries to building 30.

1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Resident Engineer in which alterations occur and areas which are anticipated routes of access, and furnish a report to the Contracting Officer. 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 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 Contractor and Resident Engineer.
- B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of Resident Engineer, 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 Resident Engineer 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. In case of leaks, they shall be repaired immediately upon discovery.
 2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.
 3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.
 4. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by Resident Engineer. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.

1.8 INFECTION PREVENTION MEASURES - N/A

- A. Implement the requirements of VA Infection Control Risk Assessment (ICRA). VA 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 plan as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA. Prior to start of work, prepare a plan detailing dust protection measures.
- C. Pressure differential monitoring, where required, shall be reviewed by the VA to verify that pressure differentials in the construction zone are appropriate for their settings. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.

In case of any problem, the contractor, along with assistance from the VA, 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 Resident Engineer. 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 Resident Engineer. 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 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 Resident Engineer and VA.
 - b. HEPA filtration is required where the exhaust dust may reenter. 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 Resident Engineer 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 immediately.
- 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.

1.9 DISPOSAL AND RETENTION

- A. Materials and equipment accruing from work performed, work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
1. 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 Resident Engineer.
 2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.

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

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

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 Resident Engineer. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the Resident Engineer before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.

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

1.12 PHYSICAL DATA

- A. Data and information 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.
 - 1. The indications of physical conditions on the drawings and in the specifications are the result of site investigations by the government.

1.13 PROFESSIONAL SURVEYING SERVICES

A registered professional land surveyor or registered civil engineer whose services are retained and paid for by the Contractor shall perform services specified herein and in other specification sections. The Contractor shall certify that the land surveyor or civil engineer is not one who is a regular employee of the Contractor, and that the land surveyor or civil engineer has no financial interest in this contract.

1.14 LAYOUT OF WORK

The Contractor shall lay out the work from Government established base lines and bench marks, indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at Contractor's own expense, all stakes,

templates, platforms, 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 and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes

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

1.16 USE OF ROADWAYS

For hauling, use only established public roads and roads on Medical Center property and, when authorized by the Resident Engineer, 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 well constructed bridges.

1.17 RESIDENT ENGINEER'S FIELD OFFICE N/A

1.18 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 Resident Engineer. If the equipment is not installed and maintained in accordance with the following provisions, the Resident Engineer 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

1.19 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 Resident Engineer for use of elevators. The Resident Engineer will ascertain that elevators are in proper condition.
 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. 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.

1.20 TEMPORARY USE OF NEW ELEVATORS - N/A

1.21 TEMPORARY TOILETS

Contractor to provide temporary facilities for use by Contractor's workmen. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workmen.

1.22 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. The Contractor shall carefully conserve any utilities furnished
- B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections

1.23 NEW TELEPHONE EQUIPMENT - N/A

1.24 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 that 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 that 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.

1.25 INSTRUCTIONS /TRAINING

- 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) shall be professional, organized and indexed in a binder, loose or unreadable material is unacceptable. Manuals for each separate piece of equipment shall be included in the manual. In addition, a manual shall be delivered to the Resident Engineer coincidental with the delivery of each piece of equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include cut sheets for equipment and material, 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/Training: Contractor to provide qualified, factory-trained manufacturers' representatives to give detailed instructions in the operation and maintenance of each piece of equipment and system. All training will be at the job site. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated and progressive manner. Schedule training times to meet VA needs. The first instruction period is to be 16 hours and repeated after 6 months after acceptance.
- D. Provide spare parts lists for all equipment.

1.26 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 Medical Center.
- C. Contractor shall be prepared to receive this equipment from Government and store or place such equipment not less than 90 days before Completion Date of project.
- 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.

1.27 RELOCATED EQUIPMENT

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all equipment and material that will need to be relocated for access to work.
- B. Provide temporary service as needed by the VA.
- C. Store & cover in an area indicated by the COTR.
- D. Contractor shall re-install.

1.28 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT - N/A

1.29 CONSTRUCTION SIGN - N/A

1.30 SAFETY SIGN

- A. Provide a Safety Sign where directed by Resident Engineer.
- B. Maintain sign and remove it when directed by Resident Engineer.

1.31 CONSTRUCTION DIGITAL IMAGES - N/A

1.32 FINAL ELEVATION DIGITAL IMAGES - N/A

1.33 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 Resident Engineer verbally, and then with a written follow up.

1.34 SUBMITTALS

All submittals, other than test reports or other items that logically cannot precede the work, shall be transmitted within two weeks after notice to proceed. If certain submittals cannot be transmitted within

this time period, the contractor shall submit a list of the late submittals with dates of expected transmittal. Installation can proceed only with approved submittals. Submittals also will be reviewed by VA's engineering consultant.

1.35 COST SCHEDULE OF VALUES

Submit a cost schedule of values for approval as soon as possible after Notice to Proceed. No payments will be made before approval. The cost schedule to be broken down by work area (not by trade or subcontractor) and shall contain line items matching the work schedule. Do not front-load the cost schedule.

- - - E N D - - -