

**SECTION 01 00 00
GENERAL REQUIREMENTS**

TABLE OF CONTENTS

1.1 GENERAL INTENTION.....	1
1.2 STATEMENT OF BID ITEM(S)	2
1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR.....	2
1.4 CONSTRUCTION SECURITY REQUIREMENTS.....	2
1.5 FIRE SAFETY.....	4
1.6 OPERATIONS AND STORAGE AREAS.....	12
1.7 ALTERATIONS	15
1.8 INFECTION PREVENTION MEASURES.....	17
1.9 DISPOSAL AND RETENTION	19
1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS	20
1.11 RESTORATION	20
1.12 PHYSICAL DATA.....	21
1.13 PROFESSIONAL SURVEYING SERVICES.....	21
1.14 LAYOUT OF WORK	21
1.15 AS-BUILT DRAWINGS	21
1.16 USE OF ROADWAYS.....	21
1.17 RESIDENT ENGINEER'S FIELD OFFICE	22
1.18 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT	25
1.19 TEMPORARY USE OF EXISTING ELEVATORS	26
1.20 TEMPORARY USE OF NEW ELEVATORS.....	27
1.21 TEMPORARY TOILETS	27
1.22 AVAILABILITY AND USE OF UTILITY SERVICES.....	27
1.23 NEW TELEPHONE EQUIPMENT	28

1.24 TESTS	28
1.25 INSTRUCTIONS	29
1.26 GOVERNMENT-FURNISHED PROPERTY	30
1.27 RELOCATED // EQUIPMENT // ITEMS //	31
1.28 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT	32
1.29 CONSTRUCTION SIGN	32
1.30 SAFETY SIGN	33
1.31 PHOTOGRAPHIC DOCUMENTATION.....	<u>40</u>
1.32 FINAL ELEVATION Digital Images	<u>373</u>
1.33 HISTORIC PRESERVATION	<u>374</u>

**SECTION 01 00 00
GENERAL REQUIREMENTS**

1.1 GENERAL INTENTION

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing domestic hot and cold water piping in Buildings 256 and 257 , and furnish labor and materials and perform work for Veteran's Affairs – West Los Angeles campus sites as required by drawings and specifications.
- B. There will be one (1) scheduled site visit which will be specified in the solicitation document.
- C. Offices of Schwab Engineering and Management, as Architect-Engineers, will render certain technical services during construction. Such services shall be considered as advisory to the Government and shall not be construed as expressing or implying a contractual act of the Government without affirmations by Contracting Officer or his duly authorized representative.
- D. Before placement and installation of work subject to tests by testing laboratory retained by Department of Veterans Affairs, the Contractor shall notify the Resident Engineer in sufficient time to enable 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 Resident Engineer.
- E. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
- F. Prior to commencing work, general contractor shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- G. Training:
 - 1. All employees of general contractor or subcontractors shall have the 10-hour OSHA certified Construction Safety course and/or other relevant competency training, as determined by VA CP with input from the ICRA team.
 - 2. Submit training records of all such employees for approval before the start of work.

- H. VHA Directive 2011-36, Safety and Health during Construction, dated 9/22/2011 in its entirety is made a part of this section

1.2 STATEMENT OF BID ITEM(S)

- A. ITEM I, contractor shall provide all labor and materials necessary to complete this project per the solicitation document. Work shall include but not limited to complete replacement of all hot and cold water lines in building 256 and 257.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, one CD-ROM of specifications and drawings will be furnished if not obtained from the IFB.
- B. Additional sets of drawings may be made by the Contractor, at Contractor's expense, from the CD-Rom issued in the IFB.

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 and escort arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
 3. No photography of VA premises is allowed without written permission of the Contracting Officer.
 4. VA reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Guards:

1. The General Contractor shall provide unarmed guards at the project site 24 hours a days, 7 days a week.
2. The guard shall have communication devices to report events as directed by VA police.
3. The general Contractor shall install equipment for recording guard rounds to ensure systematic checking of the premises.

D. Key Control:

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

E. Document Control:

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

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

F. Motor Vehicle Restrictions

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

1.5 FIRE SAFETY

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

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

E84-2009 Surface Burning Characteristics of Building Materials

2. National Fire Protection Association (NFPA):

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

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

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

70-2011..... National Electrical Code

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

3. Occupational Safety and Health Administration (OSHA):

29 CFR 1926 Safety and Health Regulations for Construction

- B. Fire Safety Plan: Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to Resident Engineer and Facility Safety Manager 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 Construction Partitions:
 - 1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, ¾ hour fire/smoke rated doors with self-closing devices.
 - 2. Install two-hour fire-rated temporary construction partitions as shown on drawings to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.
 - 3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration firestop materials in accordance with Section 07 84 00, FIRESTOPPING.

- F. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- G. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Resident Engineer and facility Safety Manager.
- H. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Resident Engineer and facility Safety Manager.
- I. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- J. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- K. Standpipes: N/A.
- L. Sprinklers: N/A.
- M. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Project Engineer and facility Safety Manager. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the Resident Engineer.
- N. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Resident Engineer and facility Safety Manager.
- O. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Project Engineer. Obtain permits from facility Safety Manager at least __48__ hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.
- P. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Resident Engineer and facility Safety Manager.

- Q. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking rest areas.
- R. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.
- S. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.
- T. If required, submit documentation to the Resident Engineer that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.

U. Fines for violations of Fire Safety Requirements.

Construction Site Fines

Construction Company Name	
Project Title	
Date	
Location (Bldg. floor/room)	
Superintendents Name & Phone	
Project Engineers Name & Phone	

Construction Barricade	1 st Offence	2 nd Offence	3 rd Offence
Temporary walls sealed, no penetrations	Warning	\$250.00	\$750.00
Temporary doors have closers	Warning	\$250.00	\$750.00
Door frames have gasket, doors close and seal properly	Warning	\$250.00	\$750.00
Construction site door locked from unauthorized entry	Warning	\$250.00	\$750.00
Interstitial properly sealed and maintained to prevent dust travel	Warning	\$250.00	\$750.00

Negative Air If Required in Class 3 and 4 Only	1 st Offence	2 nd Offence	3 rd Offence
All windows and doors not properly closed in construction area	Warning	\$250.00	\$750.00

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Negative air machine(s) not running (24/7)	Warning	\$250.00	\$750.00
Negative air machines filters not clean	Warning	\$250.00	\$750.00
Negative air discharge hoses not intact	Warning	\$250.00	\$750.00
Negative air discharge hose not properly vented	Warning	\$250.00	\$750.00
Negative air filter record not posted on unit and updated	Warning	\$250.00	\$750.00

Fire Safety (Fire Protection)	1st Offence	2nd Offence	3rd Offence
Smoking in and adjacent to construction areas or outside of a designated smoking area	\$2,500	\$2,500	\$2,500
Dispose of waste and debris in accordance with NFPA 241. Remove daily	\$2,500	\$2,500	\$2,500
Smoke detectors bagged, covered or made inoperable in any way must be made operable at the end of the work shift or after hot work	\$2,500	\$2,500	\$2,500
Any false alarms that cause the Fire Department to visit	\$2,500 plus expenses	\$2,500 plus expenses	\$2,500 plus expenses
Failure to obtain Hot Work Permit prior to work	\$2,500	\$2,500	\$2,500
Interstitial work shall have safety measures and personnel in place both above and below the ceiling to ensure no injury or death occurs due to Fall Hazards (OSHA)	\$5,000	\$5,000	\$5,000
Tools, material or equipment fall from interstitial areas through the suspended ceiling to the floor below	\$2,500 plus any costs of injuries to patients, staff or visitors	\$5,000 plus any costs of injuries to patients, staff or visitors	\$10,000 plus any costs of injuries to patients, staff or

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			visitors
Fire sprinkler heads are obstructed	Warning	\$500.00	\$1000.00
Fire sprinkler heads not protected from damage during construction	Warning	\$500.00	\$1000.00
Fire extinguisher missing	Warning	\$250.00	\$500.00
Fire extinguishers not properly mounted	Warning	\$250.00	\$500.00
Fire extinguishers not checked monthly	Warning	\$250.00	\$500.00
Fire extinguishers annual service not done	Warning	\$250.00	\$500.00
Blocked fire exits	Warning	\$2,500	\$5,000
Failure to maintain fire watch during hot work with appropriately trained staff	Warning	\$2,500	\$5,000
Propped open or tied open fire or smoke doors	\$2,500	\$3,500	\$5,000
Failure to obtain a hot work permit prior to work	\$2,500 plus expenses	\$3,500 plus expenses	\$5,000 plus expenses
Setting off/tripping fire alarm system or flow switches without prior written COR approval	\$2,500 plus expenses	\$3,500 plus expenses	\$5,000 plus expenses
Setting off a fire sprinkler without prior written COR approval	\$2,500 plus expenses	\$5,000 plus expenses	\$10,000 plus expenses

Jobsite & Cleanliness	1st Offence	2nd Offence	3rd Offence
Project area not kept clean and debris not removed daily	Warning	\$150.00	\$250.00

Walk-off mats (clean & adequate to contain dust)	Warning	\$150.00	\$500.00
Debris not removed daily and in suitable containers (closed/covered, wheels cleaned prior to transport)	Warning	\$250.00	\$500.00
Construction personnel & materials not transported on dedicated service elevator	Warning	\$250.00	\$500.00
Adjacent floor and corridor areas not clean and clear	Warning	\$150.00	\$250.00
Construction personnel not wearing required PPE (e.g., hardhat, protective eyewear, footwear).	Warning	\$150.00	\$250.00
Construction workers not wearing proper ID	Warning	\$150.00	\$250.00
Permits not properly pulled and posted (ILSM's & Infection Control Permits, Hot Work, etc.)	Warning	\$250.00	\$500.00
Proper exit signage not posted	Warning	\$150.00	\$250.00
Exits not providing free and unobstructed access	Warning	\$250.00	\$500.00
Alternate exits are not clearly identified in and around construction	Warning	\$250.00	\$500.00
Utilities	1st Offence	2nd Offence	3rd Offence
Negligently turning off or tripping a circuit breaker in an occupied area of a patient care building	\$2,500 plus any costs of injuries to patients	\$5,000 plus any costs of injuries to patients	\$10,000 plus any costs of injuries to patients
Negligently turning off or interrupting any utility in any area of the facility without proper notification and authorization, i.e. "Utility Shutdown Notice"	\$2,500 plus expenses	\$2,500 plus expenses	\$2,500 plus expenses

DEPARTMENT OF VETERANS AFFAIRS
CORRECT POTABLE WATER DEF.-BLDGS. 256/257
VA GREATER LOS ANGELES HEALTHCARE SYSTEM

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691-15-115WL

1.6 OPERATIONS AND STORAGE AREAS

- A. The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.
 - B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
 - C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.
 - D. Working space and space available for storing materials shall be as determined by the Resident Engineer.
 - E. Workmen are subject to rules of Medical Center applicable to their conduct.
 - F. Execute work in such a manner as to interfere as little as possible with work being done by others. Keep roads clear of construction materials, debris, standing construction equipment and vehicles at all times.
 - G. Execute work so as to interfere as little as possible with normal functioning of Medical Center as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by Resident Engineer where required by limited working space.
1. Do not store materials and equipment in other than assigned areas.

2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
 3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements.
- H. Utilities Services: Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems (except telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Resident Engineer. All such actions shall be coordinated with the Utility Company involved:
1. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- I. Phasing: To insure such executions, Contractor shall furnish the Resident Engineer with a schedule of phasing dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, Contractor shall notify the 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 Director, Resident Engineer and Contractor.
- J. Building(s) No.(s) 256 & 257 will be occupied during performance of work; but immediate areas of alterations will be vacated.
1. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations will not be hindered. Contractor shall permit access to Department of Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.

2. Immediate areas of alterations not mentioned in preceding Subparagraph 1 will be temporarily vacated while alterations are performed.
- K. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, 2.1m (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 375mm (15 inches). Bottom of fences shall extend to 25mm (one inch) above grade. Remove the fence when directed by Resident Engineer.
- L. When a building is 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 (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.
- M. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Resident Engineer.
1. No utility service such as water or fire protection systems may be interrupted without prior approval of Resident Engineer.
 - a. Interruption of Utilities: A monetary fine, at a minimum of \$2,500 plus expenses, will be levied, if any utility service is interrupted in any area of the facility without proper notification and authorization, i.e., "Utility Shutdown Notice"
 2. Contractor shall submit a request to interrupt any such services to Resident Engineer, in writing, 48 hours in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.

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.
 6. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- N. Abandoned Lines: All service lines such as pipes and the like, and their hangers or supports, which are to be abandoned are 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 wall 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.
- O. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:
1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles.
- P. Coordinate the work for this contract with other construction operations as directed by Resident Engineer. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Resident Engineer and a representative of VA Supply Service, of areas of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by all three 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 buildings.

DEPARTMENT OF VETERANS AFFAIRS
 CORRECT POTABLE WATER DEF.-BLDGS. 256/257
 VA GREATER LOS ANGELES HEALTHCARE SYSTEM

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

1.8 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VAMC's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
- B. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group as specified here. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to Resident Engineer and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
 - 1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- C. Medical center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:
 - 1. The RE and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.
 - 2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.
- D. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.
 - 1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by 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 two-hour fire-rated temporary drywall construction barriers to completely separate construction from the operational areas of the hospital in order to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. A fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be used where dust control is the only hazard, and an agreement is reached with the Resident Engineer and Medical Center.
 - b. HEPA filtration is required where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters should have ASHRAE 85 or other prefilter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the medical center.
 - c. Adhesive Walk-off/Carpet Walk-off Mats, minimum 600mm x 900mm (24" x 36"), shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
 - d. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.
 - e. The contractor shall not haul debris through patient-care areas without prior approval of the 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 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.
 - h. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.
- E. Final Cleanup:
- 1. Upon completion of project, or as work progresses, remove all construction debris from above ceiling, vertical shafts and utility chases that have been part of the construction.
 - 2. Perform HEPA vacuum cleaning of all surfaces in the construction area. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
 - 3. All new air ducts shall be cleaned prior to final inspection.

1.9 DISPOSAL AND RETENTION

- A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
 - 1. Reserved items which are to remain property of the Government are identified by attached tags or noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by Resident Engineer.
 - 2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
 - 3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and

spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.

4. N/A.

1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (N/A)

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

1.12 PHYSICAL DATA

- A. Data and information furnished or referred to below 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 Consulting Engineer.
- B. Government does not guarantee that other materials will not be encountered nor that proportions, conditions or character of several materials will not vary from those indicated by explorations. Bidders are expected to examine site of work and logs of borings; and, after investigation, decide for themselves character of materials and make their bids accordingly. Upon proper application to Department of Veterans Affairs, bidders will be permitted to make subsurface explorations of their own at site.

1.13 PROFESSIONAL SURVEYING SERVICES (N/A)**1.14 LAYOUT OF WORK (N/A)****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

- A. 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.

- B. When new permanent roads are to be a part of this contract, Contractor may construct them immediately for use to facilitate building operations. These roads may be used by all who have business thereon within zone of building operations.
- C. When certain buildings (or parts of certain buildings) are required to be completed in advance of general date of completion, all roads leading thereto must be completed and available for use at time set for completion of such buildings or parts thereof.

1.17 RESIDENT ENGINEER'S FIELD OFFICE

- A. The Contractor shall, within fifteen (15) days after receipt of Notice to Proceed, provide where shown on the drawings a temporary field office, furniture, and two inch deep gravel surfaced area for use of the Resident Engineer. Office and furniture shall be new.
- B. The field office shall provide not less than 134 square meters (1440 gross square feet) of floor area in one unit. Installation of the office shall meet all local codes.
- C. Provide office with two, 900 mm (three foot) wide exterior doors, including hardware and OSHA approved platform and stairs leading to grade.
- D. Enclose the entire perimeter of the office from the floor to the ground and finish to match exterior. Provide R7 insulation and seal tight to ground with a painted 19 mm (3/4 inch) exterior grade plywood skirt.
- E. Exterior finishes shall be manufacturer's standards.
- F. Provide floor, wall, and roof with not less than R5 insulation.
- G. Interior finishes shall consist of resilient flooring, plywood paneling or painted wallboard on walls, and acoustical tile ceilings. Interior doors may be either painted or stained.
- H. Interior shall be subdivided with full height partitions to provide two offices, one sample room, one toilet. Provide each space with 900 mm (three foot) wide door with master keyed locks. Section off an area with a low partition and counter for the secretary's desk.
- I. Provide 750 mm (2-1/2 feet) wide by 900 mm (3 feet) high operable windows; two in each room (none required in sample room), except provide only one 600 mm (2 foot) high window in toilet room(s). Window openings shall be fitted with security bars to prevent any forced entry. The door of field office shall have a hasp and padlock and also deadbolts keyed from both sides.

- J. Provide sufficient fluorescent lighting in each room to deliver 750 lux (70 foot-candles) of light at desk top height without the aid of daylight. Provide one light switch in each room.
- K. Provide one duplex receptacle in each wall of each room. If a wall is 3.0 m (10 feet) long or more, provide two receptacles for each 3.0 m (10 feet), or portion thereof, of wall. Provide two duplex receptacles in low partition at secretary's desk.
- L. The Contractor shall provide the following:
 - 1. Electricity, hot and cold water, and necessary utility services (except telephone).
 - 2. All necessary piping, power circuits network cabling, cat 5e or better cabling for phones and computers, electrical fixtures, lighting, and other items necessary to provide a habitable structure for the purpose intended. The number of network and electrical receptacles will be as per attached drawing of the field office.
 - 3. Thermostatically controlled, centralized heating and air conditioning system designed to maintain the temperature between 21 and 27 degrees C (70 and 80 degrees F) with 50 percent relative humidity maintained during the air conditioning season.
 - 4. One water closet, lavatory, mirror, toilet paper dispenser, paper towel dispenser, soap dispenser, towel bar, and two-prong coat hooks for each toilet room.
 - 5. The contractor to install a suitable alarm system for the field office.
- M. Contractor shall, for the duration of the Resident Engineer's occupancy, provide the following:
 - 1. Satisfactory conditions in and around the field office and parking area.
 - 2. Maintenance of gravel surfaced area, including the area for parking, in an acceptable condition for vehicle and foot traffic at all times.
 - 3. Maintenance of utility services.
 - 4. Daily janitorial services and supplies (toilet paper, soap, etc.).
 - 5. Potable water, fuel and electric power for normal office uses, including lights, heating and air conditioning.
- N. The Contractor shall provide the following new items:

QUANTITY REQUIRED

- 1 Secretary workstation with adjustable keying desk or drawer 738 mm H x 1.5 m W x 760 mm D (size 29-1/2" H x 60" W x 30" D)
- 1 Printer stand 663 mm H x 1.5 m W x 750 mm D (size 26-1/2" H x 60" W x 30" D)
- 3 Office desks, double pedestal
- 1 Conference table 900 mm x 1.8 m (size 3' x 6')
- 1 Plan table 1.2 m x 2.1 m (4' x 7')
- 3 Work tables 750 mm x 1.8 m (folding 30" x 72")
- 1 Secretary chair
- 4 Swivel chairs with arms
- 6 Conference chairs (armless & folding)
- 2 Arm Chairs
- 4 Lockable 5 drawer file cabinets, letter size
- 1 Drawing rack, with 12-750 mm (12-30 inch) "Plan Hold" drawing holders, freestanding
- 1 Shelves for sample room, 7 adjustable Shelves, 305 mm W x 900 mm L (12" W x 3' L)
- 3 Bookcases
- 1 Electric water cooler
- 1 Metal storage cabinet, 900 mm x 450 mm x 1.8 m (36" x 18" x 72") with six shelves
- 2 Secretary workstations with adjustable keying desk or drawer 738 mm H x 1.5 m W 750 mm D (size 29-1/2" H x 60" W x 30" D)
- 2 Printer stands 738 mm H x 1500 mm W x 750 mm D (size 29-1/2" H x 60" H x 30" D)
- 7 Office desks, double pedestal
- 2 Conference tables 900 mm x 1800 mm (size 3' x 6')
- 1 Plan table 1200 mm x 6 meters (4' x 20')

- 7 Work tables 750 mm x 1800 mm (folding 30" x 72")
 - 2 Secretary chairs
 - 7 Swivel chairs with arms
 - 12 Conference chairs (armless and folding)
 - 7 Arm chairs
 - 8 Lockable 5 drawer file cabinets, letter-size
 - 2 Drawing racks, each with 12-750 mm (12-30 inch) "Plan Hold" drawing holders, freestanding
 - 7 Bookcases
 - 1 Electric water cooler
 - 4 Shelves for sample 900 mm x 450 mm x 1.8 m (36" x 18" x 72") high, 7 adjustable shelves.
- O. Resident Engineer's field office and facilities shall be relocated once after its initial installation at the Contractor's expense. Relocation consists of moving the field office and facilities to a location within the VA site designated by the Resident Engineer together with providing and maintaining utilities, parking area, sanitary facilities and janitorial service in new location until completion and final acceptance of project.
- P. At the completion of all work, including the punch list, the Resident Engineer's field office and facilities shall become the property of the Contractor and Contractor shall remove same, including utility connections, from the Medical Center. The site shall be restored to original condition and finished in accordance with contract requirements. Government and be left intact, including utility connections, for future use by Department of Veterans Affairs. All 5 drawer file cabinets provided shall become the property of the Government.
- Q. The Contractor shall furnish floor plans for approval by the Resident Engineer prior to furnishing the field office.

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. 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.

1.19 TEMPORARY USE OF EXISTING ELEVATORS

- A. Contractor will not be allowed the use of existing elevators. Outside type hoist shall be used by Contractor for transporting materials and equipment.

1.20 TEMPORARY USE OF NEW ELEVATORS (N/A)**1.21 TEMPORARY TOILETS**

- A. Provide where directed, (for use of all Contractor's workmen) ample temporary sanitary toilet accommodations with suitable sewer and water connections; or, when approved by Resident Engineer, provide suitable dry closets where directed. Keep such places clean and free from flies, and all connections and appliances connected therewith are to be removed prior to completion of contract, and premises left perfectly clean.
- B. Contractor may have for use of Contractor's workmen, such toilet accommodations as may be assigned to Contractor by Medical Center. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workmen. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilets.

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, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.
- B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.
- C. Contractor shall install meters at Contractor's expense and furnish the Medical Center a monthly record of the Contractor's usage of electricity as hereinafter specified.
- 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:
 - 1. Obtain heat by connecting to Medical Center heating distribution system.
 - a. Steam is available at no cost to Contractor.
- E. Electricity (for Construction and Testing): Furnish all temporary electric services.

1. Obtain electricity by connecting to the Medical Center electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.

F. Water (for Construction and Testing): Furnish temporary water service.

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

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

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

H. 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 by the Contractor at Contractor's expense.

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 which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a complex which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feedwater, condensate and other related components.
- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

1.25 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and operating manuals (four copies each) for each separate piece of equipment shall be delivered to the Resident Engineer coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.
- C. Instructions: Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation

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

1.26 GOVERNMENT-FURNISHED PROPERTY

- A. The Government shall deliver to the Contractor, the Government-furnished property shown on the Schedule & drawings.
- B. Equipment furnished by Government to be installed by Contractor will be furnished to Contractor at the Medical Center.
- C. 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. Storage space for equipment will be provided by the Government and the Contractor shall be prepared to unload and store such equipment therein upon its receipt at the Medical Center.
- E. 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.
- F. 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.

- G. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.
- H. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

1.27 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 Resident Engineer.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph "Abandoned Lines".
- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
- E. Contractor shall employ services of an installation engineer, who is an authorized representative of the manufacturer of this equipment to supervise assembly and installation of existing dialysis equipment, required to be relocated.
- F. All service lines such as noted above for relocated equipment shall be in place at point of relocation ready for use before any existing equipment is disconnected. Make relocated existing equipment ready for operation or use immediately after reinstallation.

1.28 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT

- A. Contractor shall complete approximately _____ square meters _____ (square feet) of space in building accessible from ground level without use of elevators for storage of certain materials and equipment by Department of Veterans Affairs.
1. Provide such space with adequate light, ventilation and heat in season and lock for adequate security. Contractor shall also install and connect portion of nearest specified fire protection system including all apparatus for instant use to provide water for adequate fire protection of storage space.
 2. Storage space shall be turned over to Contracting Officer ninety days prior to Completion Date of the buildings involved.
 3. Forward two sets of drawings to Contracting Officer through the Resident Engineer 120 days prior to Completion Date of building; drawings shall indicate those areas which will be made available to Department of Veterans Affairs for temporary storage.
 4. All cost for utility services for such storage space shall be borne by Contractor until entire building is turned over for occupancy.
- B. "Completion Date" shall mean that date as established by Contracting Officer upon which Contractor will turn over entire project or portions thereof to the Government.

1.29 CONSTRUCTION SIGN

- A. Provide a Construction Sign where directed by the Resident Engineer. All wood members shall be of framing lumber. Cover sign frame with 0.7 mm (24 gage) galvanized sheet steel nailed securely around edges and on all bearings. Provide three 100 by 100 mm (4 inch by 4 inch) posts (or equivalent round posts) set 1200 mm (four feet) into ground. Set bottom of sign level at 900 mm (three feet) above ground and secure to posts with through bolts. Make posts full height of sign. Brace posts with 50 x 100 mm (two by four inch) material as directed.
- 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 Resident Engineer.
- D. Detail Drawing of construction sign showing required legend and other characteristics of sign is attached hereto and made a part of this specification and shown on the drawings.

1.30 SAFETY SIGN

- A. Provide a Safety Sign where directed by Resident Engineer. Face of sign shall be 19 mm (3/4 inch) thick exterior grade plywood. Provide two 100 mm by 100 mm (four by four inch) posts extending full height of sign and 900 mm (three feet) into ground. Set bottom of sign level at 1200 mm (four feet) above ground.
- 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.
- C. Maintain sign and remove it when directed by Resident Engineer.
- D. Standard Detail Drawing Number SD10000-02(Found on VA TIL) of safety sign showing required legend and other characteristics of sign is attached hereto and is made a part of this specification and shown on the drawings.
- E. Post the number of accident free days on a daily basis.

Estimated Cost		No. of Photographs
Up to	\$250,000	50 to 100
" "	\$500,000	100 to 150
" "	\$1,000,000	150 to 200
" "	\$2,000,000	200 to 250
" "	\$5,000,000	250 to 300
" "	\$10,000,000	300 to 400
More than	\$10,000,000	400 to 500

1.31 PHOTOGRAPHIC DOCUMENTATION

- A. During the construction period through completion, provide photographic documentation of construction progress and at selected milestones including electronic indexing, navigation, storage and remote access to the documentation, as per these specifications. The commercial photographer or the subcontractor used for this work shall meet the following qualifications:

1. Demonstrable minimum experience of three (3) years in operation providing documentation and advanced indexing/navigation systems including a representative portfolio of construction projects of similar type, size, duration and complexity as the Project.
2. Demonstrable ability to service projects throughout North America, which shall be demonstrated by a representative portfolio of active projects of similar type, size, duration and complexity as the Project.

B. Photographic documentation elements:

1. Each digital image shall be taken with a professional grade camera with minimum size of 6 megapixels (MP) capable of producing 200x250mm (8 x 10 inch) prints with a minimum of 2272 x 1704 pixels and 400x500mm (16 x 20 inch) prints with a minimum 2592 x 1944 pixels.
2. Indexing and navigation system shall utilize actual AUTOCAD construction drawings, making such drawings interactive on an on-line interface. For all documentation referenced herein, indexing and navigation must be organized by both time (date-stamped) and location throughout the project.
3. Documentation shall combine indexing and navigation system with inspection-grade digital photography designed to capture actual conditions throughout construction and at critical milestones. Documentation shall be accessible on-line through use of an internet connection. Documentation shall allow for secure multiple-user access, simultaneously, on-line.
4. Before construction, the building pad, adjacent streets, roadways, parkways, driveways, curbs, sidewalks, landscaping, adjacent utilities and adjacent structures surrounding the building pad and site shall be documented. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings. If site work or pad preparation is extensive, this documentation may be required immediately before construction and at several pre-determined intervals before building work commences.
5. Construction progress for all trades shall be tracked at pre-determined intervals, but not less than once every thirty (30) calendar days ("Progressions"). Progression documentation shall track both the exterior and interior construction of the building. Exterior Progressions shall track 360 degrees around the site and each building. Interior Progressions shall track interior improvements beginning when stud work commences and continuing until Project completion.

6. As-built condition of pre-slab utilities and site utilities shall be documented prior to pouring slabs, placing concrete and/or backfilling. This process shall include all underground and in-slab utilities within the building(s) envelope(s) and utility runs in the immediate vicinity of the building(s) envelope(s). This may also include utilities enclosed in slab-on-deck in multi-story buildings. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive site utility plans.
7. As-built conditions of mechanical, electrical, plumbing and all other systems shall be documented post-inspection and pre-insulation, sheet rock or dry wall installation. This process shall include all finished systems located in the walls and ceilings of all buildings at the Project. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings.
8. As-built conditions of exterior skin and elevations shall be documented with an increased concentration of digital photographs as directed by the Resident Engineer in order to capture pre-determined focal points, such as waterproofing, window flashing, radiused steel work, architectural or Exterior Insulation and Finish Systems (EIFS) detailing. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive elevations or elevation details.
9. As-built finished conditions of the interior of each building including floors, ceilings and walls shall be documented at certificate of occupancy or equivalent, or just prior to occupancy, or both, as directed by the Resident Engineer. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings.
10. Miscellaneous events that occur during any Contractor site visit, or events captured by the Department of Veterans Affairs independently, shall be dated, labeled and inserted into a Section in the navigation structure entitled "Slideshows," allowing this information to be stored in the same "place" as the formal scope.
11. Customizable project-specific digital photographic documentation of other details or milestones. Indexing and navigation accomplished through interactive architectural plans.
12. Monthly (29 max) exterior progressions (360 degrees around the project) and slideshows (all elevations and building envelope). The slideshows allow for the inclusion of Department of Veterans Affairs pictures, aerial photographs, and timely images which do not fit into any regular monthly photopath.

13. Weekly (21 Max) Site Progressions - Photographic documentation capturing the project at different stages of construction. These progressions shall capture underground utilities, excavation, grading, backfill, landscaping and road construction throughout the duration of the project.
 14. Regular (8 max) interior progressions of all walls of the entire project to begin at time of substantial framed or as directed by the Resident Engineer through to completion.
 15. Detailed Exact-Built of all Slabs for all project slab pours just prior to placing concrete or as directed by the Resident Engineer.
 16. Detailed Interior exact built overlapping photos of the entire building to include documentation of all mechanical, electrical and plumbing systems in every wall and ceiling, to be conducted after rough-ins are complete, just prior to insulation and or drywall, or as directed by Resident Engineer.
 17. Finished detailed Interior exact built overlapping photos of all walls, ceilings, and floors to be scheduled by Resident Engineer prior to occupancy.
 18. In event a greater or lesser number of images than specified above are required by the Resident Engineer, adjustment in contract price will be made in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- C. Images shall be taken by a commercial photographer and must show distinctly, at as large a scale as possible, all parts of work embraced in the picture.
 - D. Coordination of photo shoots is accomplished through Resident Engineer. Contractor shall also attend construction team meetings as necessary. Contractor's operations team shall provide regular updates regarding the status of the documentation, including photo shoots concluded, the availability of new Progressions or Exact-Built viewable on-line and anticipated future shoot dates.
 - E. Contractor shall provide all on-line domain/web hosting, security measures, and redundant server back-up of the documentation.
 - F. Contractor shall provide technical support related to using the system or service.
 - G. Upon completion of the project, final copies of the documentation (the "Permanent Record") with the indexing and navigation system embedded (and active) shall be provided in an electronic media format, typically a DVD or external hard-drive. Permanent Record shall have Building

Information Modeling (BIM) interface capabilities. On-line access terminates upon delivery of the Permanent Record.

1.32 FINAL ELEVATION DIGITAL IMAGES

- A. A minimum of four (4) images of each elevation shall be taken with a minimum 6 MP camera, by a professional photographer with different settings to allow the Resident Engineer to select the image to be printed. All images are provided to the RE on a CD.
- B. Photographs shall be taken upon completion, including landscaping. They shall be taken on a clear sunny day to obtain sufficient detail to show depth and to provide clear, sharp pictures. Pictures shall be 400 mm x 500 mm (16 by 20 inches), printed on regular weight paper, matte finish archival grade photographic paper and produced by a RA4 process from the digital image with a minimum 300 PPI. Identifying data shall be carried on label affixed to back of photograph without damage to photograph and shall be similar to that provided for final construction photographs.
- C. Furnish six (6) 400 mm x 500 mm (16 by 20 inch) color prints of the following buildings constructed under this project (elevations as selected by the RE from the images taken above). Photographs shall be artistically composed showing full front elevations. All images shall become property of the Government. Each of the selected six prints shall be place in a frame with a minimum of 2 inches of appropriate matting as a border. Provide a selection of a minimum of 3 different frames from which the SRE will select one style to frame all six prints. Photographs with frames shall be delivered to the Resident Engineer in boxes suitable for shipping.
 - 1. All buildings noted within the project.

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.

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