

**SECTION 01 00 00
GENERAL REQUIREMENTS**

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SECTION 010000

GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 SAFETY REQUIREMENTS

Refer to Section 01 35 26, SAFETY REQUIREMENTS for safety and infection control requirements.

1.2 GENERAL INTENTION

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work at the VA Palo Alto Health Care System, VA Medical Center, Palo Alto, California as required by drawings and specifications. **Parking and staging areas are very limited on campus. Contractors will be required to park off-site and transport their employees to and from the VA medical center campus.**
- B. The Work includes all labor, materials, equipment, supervision and other items necessary for the full and proper execution and performance of the Work. It is not intended that the Contract Documents include each and every sub-system and sub-component necessary to complete the Work properly. Sub-systems, sub-components or details required or normally included as trade practice may not be specifically mentioned or shown. Nevertheless, Contractor shall be responsible for each element of the Work.
- C. Visits to the site by Bidders may be made only by appointment with the Palo Alto Resident Engineers Office.
- D. Offices of SmithGroupJJR, Inc., 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.
- E. All employees of general contractor and subcontractors shall comply with the VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
- F. Comply with VA Palo Alto Health Care System (VAPAHCS) Rules of the Station attached to this Specification. Where there are conflicting requirements between the Contract Documents and the Rules of the Station, the more stringent provisions shall be followed, unless directed otherwise by the Resident Engineer.

- G. Prior to commencing work, the general contractor shall provide proof that a OSHA designated "competent person" (CP) (29 CFR 1926.20(b) (2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- H. Training:
 - 1. All employees of the general contractor or its subcontractors shall have the 10-hour (for all workers) or 30-hour (Supervisory/managers and above) OSHA Construction Safety course and other relevant competency training, as determined by the Resident Engineer.
 - 2. Submit training records of all such employees for approval before the start of work.
- I. VHA Directive 2011-36, Safety and Health during Construction, in its entirety is made a part of this section

1.3 STATEMENT OF BID ITEMS

- A. Refer to Contract Documents and Government's Bid Documents.
- B. **CLIN 0001, Base Proposal - Research and Veterinary Medical Unit (VMU) Building:** General Construction: Work includes the construction of approximately 95,000 GSF 2-story building with below grade VMU floor, a utility level of approximately 31,000 GSF, a loading dock, and associated utilities, site demolition, landscape and hardscape as described in the documents. Period of Performance: 910 calendar days.
- C. **CLIN 0002, Physical Security:** Provide separate cost (extract from CLIN 001) for portions of the building systems and materials designated on the drawings and/or in the specifications to provide physical security for the building structure and systems.
- D. **CLIN 0003, Unit Prices for removal and disposal of contaminated soil.:** Provide a unit price for removal and disposal of each Cubic Yard of contaminated soil. The unit price shall include all the costs associated with sampling, testing, soil analysis, hauling and disposal of the contaminated soil at an acceptable disposal site(s). Estimated quantity of 50,000 CY.
- E. **CLIN 0004, Deduct Alternate 1:** Delete providing selected manufactured, metal movable and flexible casework systems (including movable tables, table-based bench systems and movable storage units), and other items as indicated on Drawing Numbers QL0.0.1, QL0.0.2, QL0.0.6, QL0.0.8. The specific casework is indicated QL0.1.1-QL0.4.6. These casework systems and related tops will be furnished by others but installed in this contract. Change from Contractor Provided/Contractor Installed (CC) to VA Provided/Contractor Installed (VC)..

- F. **CLIN 0005, Deduct Alternate 2:** Delete providing and installing two cylinder corrals (equipment number EQ1.06.101 and EQ1.06.102), and delete providing and installing ten cylinder holders (equipment numbers EQ1.07.101 through EQ1.107.111 inclusive). Change from CC to VV. Also, delete providing five ice machines (equipment numbers EQ1.10.101 to EQ1.10.105 inclusive), provide complete installation including plumbing hook ups and floor drains for ice machines. Equipment will be furnished by others but installed in this contract. Change from CC to VC.
- G. **CLIN 0006, Deduct Alternate 3:** Delete the casework and tops in rooms: V-111A (see Drawing Number AE2.1.1D), V-111D (see Drawing Number AE2.1.1D), V-121 (see drawing Number AE2.1.1D), V-132 (see Drawing Number AE2.1.1D), V-331A (see Drawing Number AE2.1.1A), 1-226 (see Drawing Number AE2.1.3A), 1-422 (see drawing Number AE2.1.3D), 2-226 (see Drawing Number AE2.1.4A), and 2-422 (see drawing Number 2.1.4D). General Contractor to provide utility coordination, sinks faucets, valves fittings etc., hard utility connections and installation.
- H. **CLIN 0007, Deduct Alternate 4:** Delete all hydroseed and irrigation north of lab building up to the northern most sidewalk. Refer to LP1.1.0 Legend and LP7.1.1 Planting Plan. Also, delete 43 trees total: (13) ULM PAR, (5) ARB UNE and (25) CAR BET. Refer to LP1.1.0 Legend and LP7.1.1 Planting Plan.
- I. **CLIN 0008, Deduct Alternate 5:** Delete all planting and irrigation, except for planting and irrigation above structure and in bioswales. Note trees will remain in bioswales. Refer to LP1.1.0 Legend, LP7.1.2 Planting Plan, and LI1.1.2 Irrigation Plan.
- J. **CLIN 0009, Deduct Alternate 6:** Delete providing one LED, Double-headed Surgical Light (equipment number EQ3.15.204A) and Surgical Boom (equipment number EQ3.15.204B). Provide all related utilities and support. Equipment will be furnished by others but installed in this contract. Change from CC to VC.
- K. **CLIN 0010, Deduct Alternate 7:** Delete providing one Cage and Rack Washer (Cage Washer #1, equipment number EQ1.11.201), provide installation. Equipment will be furnished by others but installed in this contract. Change from CC to VC.
- L. **CLIN 0011, Deduct Alternate 8:** Delete providing and installing one Pouch Machine (equipment number EQ1.13.101A) and one Manifold Unit and Ultra Filtration Systems (equipment number EQ1.13.101B). Equipment will be furnished by others but installed in this contract. Change from CC to VC.
- M. **CLIN 0012, Deduct Alternate 9:** Delete providing 41 Biological Safety Cabinets (equipment number EQ1.02.104.01A2 through EQ1.02.104.11A2 inclusive, EQ1.02.104.19A2 through EQ1.02.104.22A2 inclusive, EQ1.02.104.28A2, EQ1.02.104.30A2, EQ1.02.104.38A2 through EQ1.02.104.61A2 inclusive). Equipment will be furnished by others but installed in this contract. Change from CC to VC.

- N. **CLIN 0013, Deduct Alternate 10:** Delete ceramic frit "Type 2" from all glazing (see Drawing Numbers series AE4.3.X). For glazing noted as G5 provide G1, for glazing noted as G4 provide G7, for glazing noted as G3 provide G2 and for glazing noted as G6 provide G8.
- O. **CLIN 0014, Deduct Alternate 11:** Delete Passenger Elevator P2 and provide for future Duplex operation with Passenger Elevator P1. Drill well hole of sufficient depth to accommodate future jack installation, remove all spoils. Provide iron or steel casing not less than 0.375-inch thick, at least 15.2 mm (6 in.) larger in diameter than the future cylinder. The Elevator Contractor shall demonstrate to the Resident Engineer that the casing has been accurately set, positioned, and plumbed to accept the plunger assembly. Close the bottom with a minimum of 15.2 mm (6 in.) of concrete. Weld ¼" cap on top of cylinder to prevent water and debris from collecting in casing. Provide watertight joint between the casing and the pit floor at bottom of pit. Provide complete entrance assembly at all levels including frame, doors, sills, hangers, tracks, struts, fascia to match Passenger Elevator P1. Doors shall be pinned shut to prevent opening.
- P. **CLIN 0015, Deduct Alternate 12:** Delete Service Elevator S1 and provide for future Duplex operation with Service Elevator S2. Drill well hole of sufficient depth to accommodate future jack installation, remove all spoils. Provide iron or steel casing not less than 0.375-inch thick, at least 15.2 mm (6 in.) larger in diameter than the future cylinder. The Elevator Contractor shall demonstrate to the Resident Engineer that the casing has been accurately set, positioned, and plumbed to accept the plunger assembly. Close the bottom with a minimum of 15.2 mm (6 in.) of concrete. Weld ¼" cap on top of cylinder to prevent water and debris from collecting in casing. Provide watertight joint between the casing and the pit floor at bottom of pit. Provide complete entrance assembly at all levels including frame, doors, sills, hangers, tracks, struts, fascia to match Service Elevator S2. Doors shall be pinned shut to prevent opening.

1.4 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. Drawings and contract documents may be obtained from the website where the solicitation is posted. Additional copies will be at the Contractor's expense.

1.5 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. Before starting work the General Contractor shall give one week's 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 Medical Center. Coordinate permission with the Resident Engineer.
4. VA reserves the right to close down or shut down the project site and order General Contractor employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the 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 087100, DOOR HARDWARE and coordinate.

D. Document Control:

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

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

E. Motor Vehicle Restrictions

1. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies.
2. Due to a significant number of on-going major construction projects at the VA Medical Center, Palo Alto, there will be **NO PARKING available on the medical center campus for the personal vehicles of the contractor and subcontractor's employees for the duration of this contract.** An extremely limited number of contractor owned vehicles will be permitted as necessary for the execution of the work.

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 Resident Engineer 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 Resident Engineer, 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 the 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.
 - 1. 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.
 - 2. Do not store materials and equipment in other than assigned areas.
 - 3. Provide unobstructed access to Medical Center areas required to remain in operation.
- G. 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.
- H. 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. Sequence of Work: The Medical Center must maintain its operation 24 hours a day 7 days a week. Therefore, any interruption in service must be scheduled and coordinated with the Resident Engineer to ensure that no lapses in operation occur. It is the CONTRACTOR'S responsibility to develop a work plan and schedule detailing, at a minimum, the procedures to be employed, the equipment and materials to be used, the interim life safety measure to be used during the work, and a schedule defining the duration of the work with milestone subtasks. To insure such executions, Contractor shall furnish the Resident Engineer with a detailed schedule of approximate dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, Contractor shall notify the 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 dates to insure accomplishment of this work in successive phases mutually agreeable to Resident Engineer and Contractor.
- J. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, 6 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.

- K. When a construction site is turned over to Contractor, the Contractor shall accept the entire responsibility including upkeep and maintenance, including and not limited to housekeeping activities and removal of weeds/overgrown plants. Relocate construction fence as required and as approved by Resident Engineer to accommodate changing project limits and conditions.
- L. 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, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior written approval of Resident Engineer. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director's prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS and 28 05 11, REQUIREMENTS FOR ELECTRONIC SAFETY AND SECURITY INSTALLATIONS for additional requirements.
 2. The Contractor shall submit a request to interrupt any such services to Resident Engineer, in writing, thirty (30) calendar days in advance of proposed interruption. Request shall be per the VAPAHCS Rules of the Stations shutdown/outage requirements and as directed by the Resident Engineer. All utility interruptions shall be scheduled and performed by the Contractor on a weekend, unless approved by the Resident Engineer and Medical Center.
 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 60 calendar days in accordance with VAPAHCS Rules of the Station, 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 and the Medical Center. Such approval will be confirmed in writing as soon as practical.

- M. 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.
- N. 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. Wherever excavation for new utility lines cross existing roads, at least one lane must be open to traffic at all times. **Road and lane closures shall be requested for approval.** Notification of lane closure shall be provided in writing a minimum of 30 cal days. Complete closure of main roads is not allowed.
 - 2. Method and scheduling of required cutting, altering and removal of existing roads, walks and entrances must be approved by the Resident Engineer. Provide notice a minimum of 30 cal days.
- O. Coordinate the work for this contract with all other contractor's working in the medical center campus to minimize interruptions to medical center and construction operations. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

1.7 **BIM IMPLEMENTATION AND MANAGEMENT**

- A. The latest version of The VA BIM (Building Information Modeling) Guide shall be incorporated by reference and its standards followed.
 - 1. A Construction BIM management plan (BMP) shall be submitted for VA approval as per 3.2 Construction BMP of the VA BIM Guide, outlining the strategy and schedule for utilizing BIM technology to execute construction related activities and project coordination.
 - 2. A Construction BIM Manager shall be submitted for VA approval as per 4.3 Construction BIM Manager of the VA BIM Guide. The individual shall have the appropriate level of relevant experience required for the project complexity and acquisition delivery strategy.
 - 3. Software used for Design and Construction BIM work shall be tested for compatibility. The use of software that is not IFC compliant in the preparation of models is only permitted with the permission of VA. Versioning of software shall be managed by the BIM teams throughout the project lifecycle.
 - 4. Upon award of the contract, a Project Kickoff BIM Standards Meeting shall be scheduled with all the key players of the BIM team to include VA, Design Architect/Engineer, and relevant subcontractors.

5. A BIM Coordination Room(s) shall be provided during construction for facilitating BIM design review and clash detection/coordination where all team members can meet. For each BIM Coordination Room, appropriate equipment and tools shall be provided by the Contractor.
 6. A BIM computer with monitor (55-inch) and software shall be provided to the VA Resident Engineer. The computer shall have the latest construction BIM documents and software for Collaboration, Space and Medical Equipment Validation, Energy Analysis, Visualization for Communication, Functional Analysis, and Constructability. The computer and monitor shall be returned to the Contractor at the completion of the project. The Contractor shall link BIM to the project schedule as a communication method to coordinate with the Medical Center and the VA Resident Engineer logistics that affect medical center operations or require shutdown of any affected facilities and utilities as per 7.7 Communication of Construction Scheduling and Sequencing of the VA BIM Guide.
 7. The contractor shall provide COBIE commissioning as per 7.8 COBIE/Commissioning of the VA BIM Guide.
 8. The contractor shall follow all standards stated in the VA BIM Guide to include approved BIM Software, modeling requirements, project folder structure, and security.
 9. The contractor shall provide final BIM electronic files at project completion to the VA Resident Engineer. Deliverables shall include all electronic files created or modified during construction and shall be provided to the VA on CDs.
 10. All BIM electronic files and deliverables become the sole property of the VA.
- B. If any provision of the Contract conflicts with the VA BIM Guide, the VA BIM Guide shall govern.

1.8 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

- 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.
- C. Refer to Section 015719, TEMPORARY ENVIRONMENTAL CONTROLS, for additional requirements on protecting vegetation, soils and the environment. Refer to Articles, "Alterations", "Restoration", and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.
- D. Refer to FAR clause 52.236-7, "Permits and Responsibilities," which is included in General Conditions. A National Pollutant Discharge Elimination System (NPDES) permit is required for this project. The Contractor is considered an "operator" under the permit and has extensive responsibility for compliance with permit requirements. VA will make the permit application available at the (appropriate medical center) office. The apparent low bidder, contractor and affected subcontractors shall furnish all information and certifications that are required to comply with the permit process and permit requirements. Many of the permit requirements will be satisfied by completing construction as shown and specified. Some requirements involve the Contractor's method of operations and operations planning and the Contractor is responsible for employing best management practices. The affected activities often include, but are not limited to the following:
 - 1. Designating areas for equipment maintenance and repair;
 - 2. Providing waste receptacles at convenient locations and provide regular collection of wastes;
 - 3. Locating equipment wash down areas on site, and provide appropriate control of wash-waters;
 - 4. Providing protected storage areas for chemicals, paints, solvents, fertilizers, and other potentially toxic materials; and
 - 5. Providing adequately maintained sanitary facilities.

1.9 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 provided in Appendix A.
- B. Subsurface conditions have been developed by core borings and test pits. Logs of subsurface exploration are shown diagrammatically on drawings.

- C. A copy of the soil report will be made available for inspection by bidders upon request to the Senior Resident Engineer at the VA Medical Center, Palo Alto and shall be considered part of the contract documents.
- D. 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.

1.10 PROFESSIONAL SURVEYING SERVICES

- A. 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.
- B. Refer to Section 017000, EXECUTION REQUIREMENTS, for additional requirements.

1.11 LAYOUT OF WORK

- A. 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 and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through Contractor's negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.
- B. Establish and plainly mark center lines for each building and/or addition to each existing building, and such other lines and grades that are reasonably necessary to properly assure that location, orientation, and elevations established for each such structure, roads, are in accordance with lines and elevations shown on contract drawings.

- C. Following completion of general mass excavation and before any other permanent work is performed, establish and plainly mark (through use of appropriate batter boards or other means) sufficient additional survey control points or system of points as may be necessary to assure proper alignment, orientation, and grade of all major features of work. Survey shall include, but not be limited to, location of lines and grades of footings, exterior walls, center lines of columns in both directions, major utilities and elevations of floor slabs:
1. Such additional survey control points or system of points thus established shall be checked and certified by a registered land surveyor or registered civil engineer. Furnish such certification to the Resident Engineer before any work (such as footings, floor slabs, columns, walls, utilities and other major controlling features) is placed.
 2. During progress of work, and particularly as work progresses from floor to floor, Contractor shall have line grades and plumbness of all major form work checked and certified by a registered land surveyor or registered civil engineer as meeting requirements of contract drawings. Furnish such certification to the Resident Engineer before any major items of concrete work are placed. In addition, furnish to the Resident Engineer certificates from a registered land surveyor or registered civil engineer that the following work is complete in every respect as required by contract drawings.
 3. Lines of each building.
 4. Elevations of bottoms of footings and tops of floors of each building.
 5. Lines and elevations of sewers and of all outside distribution systems.
 6. Lines and elevations of roads, streets and parking lots.
- D. Whenever changes from contract drawings are made in line or grading requiring certificates, record such changes on a reproducible drawing bearing the registered land surveyor or registered civil engineer seal, and forward these drawings upon completion of work to Resident Engineer.
- E. Upon completion of the work, the Contractor shall furnish the Resident Engineer, reproducible drawings at the scale of the contract drawings, showing the finished grade on the grid developed for constructing the work, including burial monuments and fifty foot stationing along new road centerlines. These drawings shall bear the seal of the registered land surveyor or registered civil engineer.
- F. The Contractor shall perform the surveying and layout work of this and other articles and specifications in accordance with the provisions of Article "Professional Surveying Services".
- G. Refer to Section 017000, EXECUTION REQUIREMENTS, for additional layout requirements.

1.12 RECORD DRAWINGS - AS BUILT

- 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, record drawings shall be made available for the Resident Engineer's review, as often as requested.
- C. Contractor shall deliver two approved completed sets of record drawings in electronic version (scanned PDF) to the Resident Engineer within 15 calendar days after each completed phase and after the acceptance of the project by the Resident Engineer.
- D. Refer to Section 017700, CLOSEOUT PROCEDURES, for additional requirements for record drawings.
- E. Paragraphs A, B, & C shall also apply to all shop drawings.

1.13 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.

1.14 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.
- B. 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.
- C. 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.
- D. This paragraph shall not reduce the requirements of the mechanical and electrical specifications sections.

1.15 TEMPORARY USE OF NEW ELEVATORS

- A. The Contractor and his personnel shall be permitted use of new elevator(s) subject to the following provisions:
1. Contractor shall make arrangements with the Resident Engineer for use of elevator(s). Contractor may obtain elevator(s) for exclusive use.
 2. Prior to the use of elevator(s), the Contractor shall have the elevator(s) inspected and accepted by an ASME accredited, certified elevator safety inspector. The acceptance report shall be submitted to the Resident Engineer.
 3. Submit to the Resident Engineer the schedule and procedures for maintaining equipment. Indicate the day or days of the week and total hours required for maintenance. A report shall be submitted to the Resident Engineer monthly indicating the type of maintenance conducted, hours used, and any repairs made to the elevator(s).
 4. The Contractor shall be responsible for enforcing the maintenance procedures per VA and manufacturers recommendations and requirements.

5. During temporary use of elevator(s) all repairs, equipment replacement and cost of maintenance shall be the responsibility of the Contractor.
6. Personnel for operating elevator(s) shall not be provided by the Department of Veterans Affairs.
7. Contractor shall cover and provide maximum protection of the entire elevator(s) installation.
8. The Contractor shall arrange for the elevator company to perform operation of the elevator(s) so that an ASME accredited, certified elevator safety inspector can evaluate the equipment. The Contractor shall be responsible for any costs of the elevator company.
9. All elevator(s) parts worn or damaged during temporary use shall be removed and replaced with new parts. This shall be determined by an ASME accredited certified elevator safety inspector after temporary use and before acceptance by the Government. Submit report to the Resident Engineer for approval.
10. Elevator shall be tested as required by the testing section of the elevator(s) specifications before acceptance by the Department of Veterans Affairs. The Contractor shall be responsible for all cost associated with testing and inspection.

1.16 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.

1.17 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 and repair and restore the infrastructure as required.
- 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.
 - 2. Steam is available at no cost to Contractor.
- E. Electricity (for Construction and Testing): Furnish all temporary electric services.
- F. 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.
- G. 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.
- H. 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.
- I. Steam: Furnish steam system for testing required in various sections of specifications.
 - 1. Obtain steam for testing by connecting to the Medical Center steam distribution system. Steam is available at no cost to the Contractor.
- J. 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.
- K. Fuel: Natural and LPgas and burner fuel oil required for boiler cleaning, normal initial boiler-burner setup and adjusting, and for performing the specified boiler tests shall be furnished by the Contractor. 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.

1.18 NEW TELEPHONE EQUIPMENT

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

1.19 TESTS

- A. As per specification section 23 05 93 the contractor shall provide a written testing and commissioning plan complete with component level, equipment level, sub-system level and system level breakdowns. The plan will provide a schedule and a written sequence of what will be tested, how and what the expected outcome will be. This document will be submitted for approval prior to commencing work. The contractor shall document the results of the approved plan and submit for approval with the as built documentation.
- B. 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.
- C. 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.
- D. 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.
- E. 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.
- F. 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.

1.20 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating manuals (hard copies and electronic) and verbal instructions when required by the various sections of the specifications and as hereinafter specified.

- B. **Manuals:** Maintenance and operating manuals and demonstration/training videos (four hard copies and one electronic copy 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 and training videos 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. Provide a video recording of such training to be delivered to the Resident Engineer. 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.

1.21 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. 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.
- D. 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.
- E. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.
- F. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

1.22 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. Reference the VA Design Guide for "Specialty Signs," sign detail SP-24.02, Detail Drawing of construction sign showing required legend and other characteristics.

1.23 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. Reference the VA Design Guide for "Specialty Signs," sign detail SP-24.04, Detail Drawing of construction sign showing required legend and other characteristics.
- D. Maintain sign and remove it when directed by Resident Engineer.
- E. Post the number of accident free days on a daily basis.

1.24 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, radius 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.

1.25 FINAL ELEVATION DIGITAL IMAGES

- A. A minimum of ten (10) 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 building 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.

1.26 ARCHEOLOGICAL MONITORING OF CULTURAL RESOURCES AND HISTORIC PRESERVATION

- A. Potential for encountering cultural resources during ground disturbances activities, exist in the Project site. Ground disturbances activities include, but not limited to, mechanical excavation such as by excavators, trenching machines, mechanical augers, grading, ground compaction, and boring, excavation by hand tools, as well as indirect ground-disturbance such as the removal of paved surfaces.
- B. The General Contractor shall retain a Project Archeologist, who is a professional archaeologist and meets the Secretary of the Interior's Standards for Cultural resource management work. The Project Archeologist shall, as a minimum, do the following:
 - 1. Develop an archaeological monitoring plan for ground disturbing activities.
 - 2. Develop written guidelines for ground-disturbing activities.
 - 3. Train Contractor's and subcontractor's personnel, and maintain records listing which personnel have undergone training.
 - 4. Be on call to evaluate possible cultural and historic resources uncovered.
 - 5. Project Archeologist shall conduct site visits to assess/monitor ongoing excavations and provide an observation report and ongoing site assessment. All new excavation areas shall be monitored and weekly visits/monitoring shall be conducted on ongoing excavation sites.

- C. If subsurface cultural resources are encountered, all work in the vicinity of the find shall be temporarily halted and the Resident Engineer shall immediately be informed. The Project Archaeologist shall assess the significance of the find, and may determine that further testing is required to determine the significance of the find. Any evaluation plan drafted by the Project Archaeologist shall first be approved by Department of Veteran Affairs (DVA), Federal Preservation Officer (FPO), and State Historical Preservation Office (SHPO). If evaluation of the resource determines that the resource is an historic property, further mitigative action may be needed.
- D. If human remains are unearthed during construction, State Health and Safety Code Section 7050.50 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. Upon discovery of any human remains, the archaeological monitor shall have authority to halt all project related ground disturbing activity within 100 feet of the find. The DVA police shall be notified immediately. The County Coroner shall be informed immediately pursuant to state law. Within two working days the County Coroner shall determine if the human remains are Native American. If the County Coroner determines the remains are of Native American origin, the Native American Heritage Commission (NAHC) and the FPO shall be informed within 24 hours. The Project Archaeologist and DVA shall consult closely with the Most Likely Descendent, determined by the NAHC (if any), regarding treatment of Native American human remains. If the NAHC is unable to identify the Most Likely Descendent, or the Most Likely Descendent identified fails to make a recommendation, DVA shall contact the NAHC regarding the appropriate treatment of the human remains, which may include reintering the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.

1.27 VA TRIRIGA CPMS

- A. VA contractors, selected by award to perform work, are required to get access to the VA TRIRIGA CPMS. The TRIRIGA CPMS is the management and collaborative environment that the VA uses for all Major, Minor and Non-Recurring Maintenance (NRM) projects within the Office of Construction & Facilities Management (CFM), Veterans Health Administration (VHA), National Cemetery Administration (NCA), and the Veterans Benefits Administration (VBA).
 - 1. The contractor is solely responsible for acquiring access to the VA TRIRIGA CPMS.
 - 2. To gain access to the VA TRIRIGA CPMS the contractor is encouraged to follow the licensing process outline as specified below:
- B. Requirement: TRIRIGA is the management and collaborative environment that VA uses for all construction projects. VA requires its contractors to procure TRIRIGA access as part of the cost of performance for a VA construction related contract.
- C. Access Request and Payment can be made through the following URL <https://valicensing.oncfi.com/>.

1. Inquiries or to request additional services, contact the following:
 - a. Craig Alsheimer, Federal Account Manager, Computerized Facility Integrations, LLC, 18000 West Nine Mile Road, Suite 700, Southfield, MI 48075, Email: calsheimer@gocfi.com, Phone: 248-557-4234 Extension 6010; 410-292-7006

D. Process:

1. Once the contractor has been notified by VA of the award and a unique contract number, the contractor can enter a request for access to TRIRIGA at URL <https://valicensing.oncfi.com/>.
2. CFI will process the request for access and payment. CFI will create the USER ID and a password. Security provisions required to align the contractor to the Contract Number will be entered and an email will be generated and submitted to the requestor.
3. CFI will also provide standard terms and conditions related to the transaction and use agreement.

1.28 Resident Engineer's Field Office

- A. The Contractor shall, within fifteen (15) calendar days after Notice to Proceed, provide maintenance and repair services to the existing field offices, 72 x 60 and 48 x 60 office trailers.
- B. The Contractor shall, for the duration of the project, provide the following:
 1. Satisfactory conditions in and around the field office and parking area.
 2. Maintenance/repair of the trailer offices roof, interior/exterior walls, supports, steps, deck, etc..
 3. Maintenance/repair of gravel surfaced area, including the area for parking, in an acceptable condition for vehicle and foot traffic at all times.
 4. Maintenance/repair of utility services-potable water, plumbing, electric power for normal office uses, including lights, heating and air conditioning.
- C. The Contractor shall provide the following:
 1. 5 Horizontal File Cabinets, letter size.
 2. 5 Bookcases, 6-7 ft tall.
 3. 5 Shelves for Samples (min size 36"x18"x72").
 4. 2 Bottled Water Dispenser (cold and hot water).
 5. Bottled Water to support 30 personnel.

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