

**SECTION 01 00 01
GENERAL REQUIREMENTS (MAJOR NCA PROJECTS)**

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**SECTION 01 00 01 (MAJOR NCA PROJECTS)
GENERAL REQUIREMENTS**

SPEC WRITER NOTES:

- 1 Use this section only for NCA Major projects.
- 2. Delete between // ---- //if not applicable to project. Include following Notice on 8a contracts only.
- 3. //NOTICE: The provisions of this Section, GENERAL REQUIREMENTS, pertain only to the contract between the Small Business Administration and its selected subcontractor(s).//
- 4. Verify identification requirements for all construction workers required by the Cemetery. ADD a statement concerning Photo ID requirements.

1.1 GENERAL INTENTION

- A. Completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work for _____ as _____ required by drawings and specifications.

SPEC WRITER NOTES:

- 1. Following paragraph is applicable for construction at existing cemeteries.
- 2. Include contact information for the Cemetery Director in Paragraph B.

- B. Visits to the site by Bidders may be made only by appointment with the Cemetery Director.

SPEC WRITER NOTES:

- 1. Clarify with Project Manager and include following paragraph only on projects with A/E.

- C. Offices of _____, 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 COR or duly authorized Contracting Officer Representative (COR).

SPEC WRITER NOTES:

- 1. The following paragraph is intended for use on NCA projects where certain tests are to be performed by a VA retained Testing Laboratory.

- D. All Testing Laboratory services will be retained and paid for by the Contractor (see Spec. Section 01 45 29 Testing Laboratory Services).

However, the Department of Veterans Affairs may elect to retain its own Testing Laboratory for any purpose. Before placement and installation of work subject to tests by testing laboratory retained by Department of Veterans Affairs, the notify the RE/COR 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 not be less than three working days unless otherwise designated by the RE/COR.

SPEC WRITER NOTES:

1. Modify the following paragraph to be applicable for the project conditions. These conditions vary across MSN's and States. Check with the Project Manager for specific requirements.

- E. All employees of general contractor and subcontractors shall comply with VA security management program. //Obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.// //VA Photo ID shall be required by all personnel.// //Local badging policy will be provided by (Insert applicable information).// //All Contractors on site will require VA badges at all times and must go through the security background clearance.//
- F. Prior to commencing work, general contractor shall provide proof that an OSHA certified "competent person" (CP) as defined in 29 CFR 1926.20(b)(2) will maintain a presence at the work site whenever the general contractor or subcontractors are present.

SPEC WRITER NOTES:

1. The length of training is based on the project hazards and complexity, State and Federal regulations and VA requirements. Modify the following accordingly.

G. Training:

1. All employees of general contractor or subcontractors having supervisory responsibilities shall have the //10-hour// //30-hour// OSHA certified Construction Safety course and/or other relevant competency training, as determined by VA CP.
2. All other employees of general contractor or subcontractors shall have the 10-hour OSHA certified Construction Safety course and/or other relevant competency training. Relevant competency training shall be as determined acceptable by the VA CP.

- 3. Submit training records of all such employees for approval before the start of work.

SPEC WRITER NOTES:

- 1. In paragraph below change title, "GENERAL CONSTRUCTION" as necessary to reflect the specifics for that specific portion of the work, such as "CLIN, 001, BASE BID, GENERAL CONSTRUCTION:", or "CLIN 002, CRYPTS:", or "CLIN 005, BID ALTERNATE NO. 1, (ADD):", etc.
- 2. Unit-price items will only be used when their use is directed by the Project Manager. When using unit-price items, insert FAR clause 52.212-11 in the contract specifications.

1.2 STATEMENT OF BID ITEM(S)

- A. CLIN 001, //BASE BID, //GENERAL CONSTRUCTION:// _____:// Work of the Contract includes general construction, alterations, roads, walks, grading, drainage, mechanical and electrical work, utility systems, water storage facilities, //_____// and necessary removal of existing structures and construction and certain of other items.

SPEC WRITER NOTES:

- 1. If prices are needed for Alternate Bid Items, describe Alternate Items below and show items on SOLICITATION, OFFER AND AWARD (SF 1442). COORDINATE with Project Manager.
- 2. For each CLIN entry prepare a complete summary description of the work to be provided, acceptable to the Project Manager and/or Contracting Officer.

- B. CLIN 00//insert the next number//, BID ALTERNATE NO.1(ADD):

- C. CLIN 00//insert the next number//, BID ALTERNATE NO.2(ADD):

SPEC WRITER NOTES:

- 1. Fill in blank space below with number of sets determined necessary for each project. The quantity to be provided as well as the source for the documents shall be as acceptable to the Project Manager
- 2. Delete within //----//, regarding returned plans, when project is with an 8a contract.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, //_____ full-sized//_____ half-sized// drawing sets and _____ sets of specifications will be furnished //as well as an electronic set of plans and specifications//. // These drawings and specifications will consist of those returned by prospective bidders.//
//These drawings and specifications will be new or from stock of prospective bidder returned documents, or a combination thereof.//
- B. Additional sets of drawings may be made by the Contractor, at Contractor's expense.

SPEC WRITER NOTES:

1. Modify following article to suit the project. Coordinate with Cemetery.

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. Assure that all sub-contractors working on the project and their employees also comply with these regulations. //Dismissal of violators may be directed by the Resident Engineer.//
- B. Security Procedures:
1. Contractor's employees shall not enter the project site without an 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, give 3 days' notice to the RE/COR 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 RE/COR.
 4. VA reserves the right to close down or shut down the project site and order Contractor's employees off the premises in the event of a national emergency. Return to the site only with the written approval of the RE/COR.

SPEC WRITER NOTES:

1. Modify following article to suit the project. Delete 2 and 3 if not on an existing VA facility with VA police. Coordinate with Cemetery and RE.

C. Guards:

1. Provide unarmed guards at the project site //24 hours a day, 7 days a week// //after construction hours// //if deemed necessary because of vandalism or theft within the contract work areas//.
2. //The guard shall have communication devices to report events as directed by //Local Police Department//VA police.//
3. //Install equipment for recording guard rounds to ensure systematic checking of the premises.//
4. Secure the project site, work in progress, materials, tools, equipment and any other materials within the project site that are not under operational control of the Cemetery staff. The use of guards is a Contractor responsibility, if deemed necessary because of ongoing theft and/or vandalism within the project work area. Coordinate the use of guards with the RE following input from the Cemetery Operations through the RE. Any guards provided shall be able to communicate with the local police.

D. Key Control:

1. Provide duplicate keys and lock combinations to the RE/COR for the purpose of security inspections of every area of project including toolboxes and parked machines and to take any emergency action(s).
2. Turn over all permanent lock cylinders to the VA locksmith for permanent installation. //Coordinate the lock cylinder and key system work and shall provide the devices required to comply with the facility security system.// See Section 08 71 00, DOOR HARDWARE and coordinate.

E. Document Control:

1. Before starting any work, submit an electronic security memorandum, from the Contractor and each Subcontractor describing the actions to be performed to achieve the goals of maintaining confidentiality of "sensitive information".
2. Perform safekeeping procedures for all drawings, project manual and other project information. This information from these 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 RE/COR upon request.

4. These security documents shall not be removed or transmitted from the project site without the written approval of the RE/COR.
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 RE/COR immediately when there is a loss or compromise of "sensitive information".

SPEC WRITER NOTES:

1. Review the following with the Project Manager to determine the applicability of these requirements for the project location, and whether the project is new or a modification to an existing facility.
 2. Modify or delete the following as deemed appropriate following discussion with the Project Manager.
7. All electronic information shall be stored in a 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.

SPEC WRITER NOTES:

1. Modify or delete the following paragraph for project site locations that are not proximate to other VA facilities where this type of vehicle control presently exists. Make modifications following directions of the Project Manager.

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.

SPEC WRITER NOTES:

1. Coordinate editing with the Project Manager, RE/COR and/or Cemetery Director if available. Edit subparagraphs C, E, G, H, M, P and Q

carefully as they directly relate to interim life safety edit for project and delete // and facility provisions.

1.5 APPLICABLE PUBLICATIONS

A. Applicable Publications: Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by the basic designation only. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.

SPEC WRITER NOTES:

1. Edit to make dates indicated for citations the most current at date of submittal; determine changes from date indicated on the TIL download of the section and modify requirements impacted by the changes.

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

E84-2022 Surface Burning Characteristics of Building Materials

2. National Fire Protection Association (NFPA):

10-2022 Standard for Portable Fire Extinguishers
 30-2021 Flammable and Combustible Liquids Code
 51B-2019 Standard for Fire Prevention During Welding, Cutting and Other Hot Work
 70-2020 National Electrical Code
 241-2022 Standard for Safeguarding Construction, Alteration, and Demolition Operations

3. Occupational Safety and Health Administration (OSHA):

29 CFR 1926 Safety and Health Regulations for Construction

1.6 FIRE SAFETY

A. 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 RE/COR/Cemetery Director 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 subcontractor's beginning work, they shall undergo a safety briefing provided by the Contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of NCA equipment, etc.

Documentation shall be provided to the RE/COR that individuals have undergone the Contractor's safety briefing.

- B. Site and Building Access: Maintain free and unobstructed access to emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- C. 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).

SPEC WRITER NOTES:

1. For new construction that is to remain under Contractor control until complete, delete paragraph E and renumber paragraphs.
2. Where phasing drawings are used, or new work is to attach to existing facilities that will continue to be in operation, show locations and hourly fire ratings of anticipated temporary construction partitions and hourly fire ratings of nearby existing construction on phasing drawings. Detail unusual conditions.
3. Coordinate the language of the applicable sub-paragraphs below to match the design of the temporary construction partitions by the appropriate A/E designer.
4. Coordinate the design of these temporary facilities with the operational staff during the design process.

//D. Temporary Construction Partitions:

1. Install and maintain temporary construction partitions to provide smoke-tight separations between // construction areas // the areas that are described in phasing requirements // and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire-retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, 3/4-hour fire/smoke rated doors with self-closing devices.
2. Install // one-hour // two-hour // fire-rated // temporary construction partitions as shown on drawings to maintain integrity

- of existing exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, and opening 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.//
- E. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- F. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with RE/COR/Cemetery Director.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to RE/COR.
- H. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- SPEC WRITER NOTES:
1. Modify to suit design. Coordinate with phasing.
- J. 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. Request interruptions in accordance with Article 1.6, OPERATIONS AND STORAGE AREAS, and coordinate with RE/COR. All existing or temporary fire protection systems (fire alarms) located in construction areas shall be tested as coordinated with the RE/COR. Parameters for the testing and results of any tests performed shall be recorded by the //National Cemetery//Contractor//and copies provided to the RE/COR.
- K. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with RE/COR.

SPEC WRITER NOTES:

1. Use contractor's process unless specifically directed by the PM to do otherwise.

- L. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with RE/COR. // Obtain permits from RE/COR at least ____ hours in advance // . // Designate the Contractor's responsible project-site fire prevention program manager to permit hot work.//
- M. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to RE/COR.
- N. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking rest areas.
- O. Dispose of waste and debris in accordance with NFPA 241 //and Construction Waste Management Plan required under Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT//. Remove from buildings daily.
- P. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.

SPEC WRITER NOTES:

- 1. Spec Writer shall check with the Project Manager for direction for applicable local conditions based upon project location.
- 2. Verify any specific onsite storage criteria with local fire protection jurisdiction and report to Project Manager. Adjust specifications as directed by the PM.

1.7 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 RE/COR. 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 trailers, office trailers) and utilities may be erected by the Contractor only with the approval of the RE/COR 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 RE/COR, the buildings and utilities may be abandoned and need not be removed.

- C. The Contractor shall, under regulations prescribed by the RE/COR, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the RE/COR. 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. Paragraphs 1.6.A thru 1.6.C are from (FAR 52.236-10)

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.

SPEC WRITER NOTES:

1. Use Paragraphs D through O for projects at existing sites and Paragraphs D' through F' for projects at new Cemeteries.
 2. If construction fences are required, and if there are any requirements or limitations on workmen's parking and access by VA or Contractor, they should be so stated in this article.
 3. Check with requirements of Network Analysis System (NAS) when that Section is included on project, because the Project Analysis Group generally composes the following subparagraphs G through H' to supplement the NAS section.
 4. On large projects, the drawings should indicate the space available to the Contractor. On small projects the RE/COR may determine what space may be made available.
- D. Working space and space available for storing materials shall be //as shown on the drawings// as determined by the RE/COR//.
- E. Workmen are subject to rules of the Cemetery regarding their conduct and dress code.
- F. Execute work so as to interfere as little as possible with normal functioning of Cemetery as a whole, including operations of utility

services, fire protection systems and any existing equipment, and with work being done by others.

1. Do not store materials and equipment in other than assigned areas.
2. // Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by the Department of Veterans Affairs in quantities sufficient for not more than two workdays. //Provide unobstructed access, for the Cemetery personnel, to areas that are required to remain in operation during the construction of the project.//
3. Where access by Cemetery 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. All such actions shall be coordinated with the Utility Company involved and the RE/COR.

G. Phasing: To ensure such executions, furnish the RE/COR with a schedule of approximate //phasing //dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, notify the RE/COR 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 ensure accomplishment of this work in //successive// and/or concurrent //phases as is mutually agreeable to the Cemetery Director, RE/COR and Contractor, as follows:

SPEC WRITER NOTES:

1. Set up phasing by buildings, burial areas, crypt fields, columbaria or special use areas in accordance with information received from Cemetery through Project Manager.
2. The phasing plan provided to the Contractor should identify critical sequence work items. The sequence and timing for work on or adjoining existing burial areas, where there may be the need to limit public access for specific time periods to allow the work to proceed
3. Control of the flow of traffic, whether for individuals or services moving through the Cemetery, are also critical issues that need to be considered in the work phasing plan.

Phase I:

Phase II:

SPEC WRITER NOTES:

1. Use the first sentence of Paragraph I', including material enclosed within " // ," only if all areas will be vacated by VA during the periods of alterations. Delete material within " // " from first sentence and include subparagraph 1 and 2 if one or more areas will be occupied by VA during the periods of alterations.
2. Complete the Table below if applicable or delete if not. Currently table is assigned with (TBD) which means "To Be Determined".

H. Building(s) _____ will be occupied during performance of work // . // ; but immediate areas of alterations will be vacated. //

//1. Certain areas of Building(s) _____ will be occupied by Cemetery personnel for various periods as listed below:

AREA	PERIOD
TBD	TBD
TBD	TBD
TBD	TBD

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 Cemetery's operations will not be hindered. Permit access to Department of Veterans Affairs personnel 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 Cemetery operations will continue during the construction period.

2. Immediate areas of alterations not mentioned above will be temporarily vacated while alterations are performed. //

SPEC WRITER NOTES:

1. This paragraph requires that the location for Construction fencing be indicated on the drawings.
2. Complete the drawing work and modify as required.

I. Construction Fence: Before construction operations begin, the 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 RE/COR.

J. When a building //or //site// is turned over to Contractor, it is accepted in entirety and responsibility therefore includes, but is not limited to the following:

1. Maintain a minimum temperature of 4 degrees C (40 degrees F) at all times, except as otherwise specified.

SPEC WRITER NOTES:

1. If there is not an existing automatic fire alarm and fire protection system in any building(s) to be turned over to the Contractor, delete Paragraph 2 below.
2. Maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, make arrangements for pre-inspection of the site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from the Contractor's employee.

SPEC WRITER NOTES:

1. If anticipated work involves a serious disruption of services, the permitted down time and other limitations should be mentioned in the specification.
 2. For existing Cemetery facilities, make sure that the underground systems indicated on the plans have been reviewed by the senior staff member with the most knowledge regarding underground systems that exist or have been installed by the Cemetery staff over time.
 3. Edit or delete paragraphs that are not applicable.
- K. Utilities Services: Maintain existing utility services for the Cemetery at all times. Meet with the RE and appropriate Cemetery operations staff to walk the proposed work areas and discuss any known or potential underground systems that are indicated or not shown on the construction drawings, prior to starting the work.

SPEC WRITER NOTES:

1. The following sentences should be included or not in the specification, following discussion with the Project Manager. Modify accordingly based upon the project specific conditions.

1. //Provide an underground utility locating service to locate any existing underground lines //or other underground facilities//within his work area that are to remain in service. Any new information, not clearly indicated on the bid documents shall be passed on to the Contractor's underground locating service staff. Any new information discovered by the underground locating service staff shall be turned over to the RE/COR for dissemination to the Cemetery Staff.//
- L. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, 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 the RE/COR.
1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of the RE/COR. 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 RE/COR, and Cemetery 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. Submit a request to interrupt any such services to RE/COR, and Cemetery Director, in writing, //48 hours//14 calendar days//interval agreed to by the RE/COR// in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
 3. The Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of the Cemetery. Interruption time approved by the Cemetery may occur at other than Contractor's normal working hours at no additional cost to the Government.
 4. Major interruptions of any system must be requested, in writing, at least //15//21// calendar days prior to the desired time and shall

be performed as directed by the RE/COR, which may require the work to be performed off hours which shall be done at no additional cost to the Government.

5. In case of a contract construction emergency, service will be interrupted on approval of RE/COR. Such approval will be confirmed in writing as soon as practical.

SPEC WRITER NOTES:

1. Modify the following paragraph to be coordinated with the respective technical specifications so there is no confusion of who is responsible for paying the fees for new temporary and new permanent service connections to the construction project. Clarify with the PM before completing the specifications.
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.
- 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. Lines shall be 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 Cemetery 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.//
 2. Method and scheduling of required cutting, altering and removal of existing roads, walks and entrances must be approved by the RE/COR.
- O. Coordinate the work for this contract with other construction operations as directed by RE/COR. This includes the scheduling of

traffic and the use of roadways, as specified in Article 1.//insert correct number//, USE OF ROADWAYS.

SPEC WRITER NOTES:

1. Use following Subparagraph O on existing cemetery projects only.

P. Coordination of Construction with Cemetery Director: The burial activities at a National Cemetery shall take precedence over construction activities. Cooperation and coordination with the Cemetery Director, through the RE/COR, in arranging construction schedule to cause the least possible interference with Cemetery activities in actual burial areas, is required. Construction noise during the interment services shall not disturb the service. Coordination of work may require that equipment that is heard from the service location be shut-off, or moved out of the area prior to the service, as acceptable to the Cemetery Director through the RE/COR. Trucks and workmen shall not pass through the service area during this period:

1. Discontinue work sufficiently in advance of Easter Sunday, Mother's Day, Father's Day, Memorial Day, Veteran's Day and/or Federal holidays, and clean up all areas of operation adjacent to functioning areas of the Cemetery, including existing burial sections //and any other areas identified by the RE/COR// before these dates.
2. Clean-up activities shall include the removal of all equipment, tools, materials and debris and leaving the areas in a clean, neat condition.

SPEC WRITER NOTES:

1. Include the following references to existing cemetery projects where there are only to be partial modifications to the existing building(s) and partial occupancy of the buildings, or use of existing facilities in the building are to occur after the Contractor's work.

1.8 ALTERATIONS

A. Survey: Before any work is started, make a thorough survey with the RE/COR of //buildings //areas of buildings// in which alterations are to occur and areas which are anticipated routes of access. Create and furnish a written report to the RE/COR. This report shall list by rooms and spaces:

1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout // affected areas of building.
 2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
 3. Shall note any discrepancies between drawings and existing conditions at site.
 4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur, and which have been agreed upon by Contractor and RE/COR.
- 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 RE/COR, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by the Contractor with new items in accordance with specifications which will be furnished by the 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 RE/COR 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 the Contractor to such flooring and other surfaces, despite protection measures; and will form the basis for determining extent of repair work required of the Contractor to restore damage caused by the 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. Protect the 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.

1.9 ENVIRONMENTAL CONTROLS

- A. 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 were directed by RE/COR. Block off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
- B. Vacuum and wet mop all transition areas from construction to the occupied Cemetery buildings at the end of each workday.
- C. Final Cleanup:
 1. Perform HEPA vacuum cleaning of all surfaces in the construction area //as well as any adjoining areas that remained in service and were contaminated by dust from the work area//. This included walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
 2. Upon completion of the project, or as work progresses, remove all construction debris from above ceiling, vertical shafts and utility chases that have been part of the construction.
 3. All new air ducts shall be cleaned prior to final inspection.

SPEC WRITER NOTES:

1. On small projects developed for a Cemetery, modify the following to indicate that items to remain shall be tagged. Tagged items shall be removed and stored. For large projects noting such items on drawings or in specifications shall be done.
2. Coordinate with the Project Manager, and Cemetery operations to ensure that the items to remain for small projects are Tagged before the Contractor visits the site.

1.10 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 were directed by RE/COR.
 2. Items not reserved shall become property of the Contractor and be removed by Contractor from the National Cemetery.
 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.

SPEC WRITER NOTES:

1. Use the following subparagraph only when there are existing PCB transformers or capacitors to be removed and disposed of by the Contractor. Verify the need for this subparagraph with the Team Electrical Engineer.
2. If this material is determined to be present and the contractor is going to have to deal with it during the project, consider including this as a separate part of the GR, say "Hazardous Waste" heading.
3. Hazardous Waste Disposal: The Department of Toxic Services Control (DTSC) administers California's regulations regarding toxic waste. While these are generally aligned with Federal EPA standards, there are some specific items that may not be covered by EPA (I.E. mercury containing fluorescent lamps). DTSC regulations are found in California Code of Regulations, Title 22, Division 4.5, Chapters 10 through 51. For California projects, review and make

recommendations to the Project Manager before finalizing for direction.

4. The above notes should be considered for all local regulations of this type and where conflicts exist, they should be brought to the Project Manager with recommendations from the A/E, and subsequent direction shall be provided by the Project Manager.

4. PCB Transformers // and Capacitors // : The Contractor shall be responsible for disposal of the Polychlorinated Biphenyl (PCB) transformers // and capacitors // . The transformers // and capacitors // shall be taken out of service and handled in accordance with the procedures of the Environmental Protection Agency (EPA) and the Department of Transportation (DOT) as outlined in Code of Federal Regulation (CFR), Titled 40 and 49 respectively. The EPA's Toxic Substance Control Act (TSCA) Compliance Program Policy Nos. 6-PCB-6 and 6-PCB-7 also apply. Upon removal of PCB transformers // and capacitors // for disposal, the "originator" copies of the Uniform Hazardous Waste Manifest (EPA Form 8700-22), along with the Uniform Hazardous Waste Manifest Continuation Sheet (EPA Form 8700-22A) shall be returned to the RE/COR who will annotate the contract file and transmit the Manifest to the Cemetery Director.

a. Copies of the following listed CFR titles may be obtained from the Government Printing Office:

40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 761	PCB Manufacturing, Processing, Distribution in Commerce, and use Prohibitions
49 CFR 172	Hazardous Material tables and Hazardous Material Communications Regulations
49 CFR 173	Shippers - General Requirements for Shipments and Packaging
49 CRR 173	Subpart A General
49 CFR 173	Subpart B Preparation of Hazardous Material for Transportation

49 CFR 173

Subpart J Other Regulated Material; Definitions
and Preparation

TSCA

Compliance Program Policy Nos. 6-PCB-6 and
6-PCB-7**1.11 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS**

- A. Preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work sites, which are not to be removed and which do not unreasonably interfere with the work required under this contract. Remove trees only when specifically authorized to do so, 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, then trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the RE/COR.
- B. 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. 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 RE/COR may have the necessary work performed and charge the cost to the Contractor. Paragraphs 1.10.A and 1.10.B are from (FAR 52.236-9).

SPEC WRITER NOTES:

1. Modify the following to include the correct numbers and titles for the applicable "Articles" being referenced for this work.
- C. Refer to Section 01 57 19, 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.

SPEC WRITER NOTES:

1. Use following paragraph when the disturbed area on the site exceeds one acre. Confirm with the Project Manager.
2. Before completing the following, check with the Project Manager as there are

state and local jurisdiction requirements, where these agency requirements may be more restrictive than Federal criteria on things like discharge levels, monitoring obligations, and review responsibilities. Verify the criteria with the local jurisdiction and provide information to the Project Manager with recommendations and complete the paragraphs following the PM directions.

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 NCA Central/Cemetery) 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 providing 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.

1.12 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 RE/COR. Existing work to be altered or extended and is found to be defective in any way, shall be reported to the RE/COR 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 the Contractor's own expense, immediately restore to service and repair any damage caused by the Contractor's workmen to any operational existing piping and conduits, wires, cables, etc. The above is applicable for all owner operated systems with underground elements or those 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).

SPEC WRITER NOTES:

- 1. Modify and coordinate Paragraph B with drawings.
- 2. Check with Project Manager to determine if soil report is available at the Cemetery. Modify Paragraph C accordingly.

1.13 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.

SPEC WRITER NOTES:

- 1. Insert name and address of testing facility performing the soils investigation work.

1. The indications of physical conditions on the drawings and in the specifications are the result of site investigations by

 Paragraphs 1.12.A and 1.12.A.1 are from (FAR 52.236-4).

- 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 Contracting Officer,
 _____ and shall be considered part of the contract documents.
- D. The 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 the site of work and logs of borings and, after investigation, decide for themselves the character of materials and make their bids accordingly. Upon proper application to the Department of Veterans Affairs, bidders will be permitted to make subsurface explorations of their own at site.

1.14 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. Provide a written certification to the RE/COR that the land surveyor or civil engineer is not one who is a regular employee of the Contractor, and that the land surveyor or civil engineer has no financial interest in this contract.

1.15 LAYOUT OF WORK

- A. Lay out the work from Government established base lines and benchmarks indicated on the drawings and shall be responsible for all measurements in connection with the layout. Furnish, at the Contractor's own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. Execute the work to the lines and grades that may be established or indicated by the RE/COR. Maintain and preserve all stakes and other marks established by the RE/COR until authorized to remove them. If such marks are destroyed by the Contractor or through Contractor's negligence before their removal is authorized, the RE/COR may replace them and deduct the

expense of the replacement from any amounts due or to become due to the Contractor. Paragraph 1.14.A is from (FAR 52.236-17).

SPEC WRITER NOTES:

1. Coordinate the layout for buildings, additions or other facilities indicated in the following paragraph to ensure that the layout method described matches what is indicated on the drawings.

B. Establish and plainly mark //center lines// and/or //drawing indicated layout reference lines// for: //each building// and/or //addition to each existing building//; //lines for each gravesite control monument//; //locations for each sprinkler head within the burial section as detailed or at the point equal distance from the closest point on surrounding planned headstone locations//; //footings and foundations for columbarium and memorial walls and elements in their respective complexes//; //preplaced crypts//; //preplaced urn vaults//and all such other lines and grades that are reasonably necessary to properly assure that location, orientation, and elevations established for each such structure and/or addition, and all other facilities to be constructed as part of the work for this project. The surveyed layout information shall be accurate to the highest industry standards for the respective type of work, all in accordance with lines, orientation, locations 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. The Survey shall include, but not be limited to, location of lines and grades of footings, exterior walls, center lines of columns/piers in two 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 RE/COR before any work (such as footings, floor slabs, columns, walls, utilities and other major controlling features) are placed.

SPEC WRITER NOTES:

1. Review paragraph 2 and discuss with the Project Manager. Modify and/or

delete paragraph as directed by the PM or incorporate the information in the corresponding technical Section(s) as applicable.

2. //The forms for the concrete foundations, of the columbarium and/or memorial wall elements and complexes, where exposed in the final installation, require tighter construction tolerances than for general foundations (See Drawings for the allowable tolerances). For the exposed foundations of these elements provide such additional survey points and elevations as are needed so a registered land surveyor or registered civil engineer can quickly check the work and provide the required certification(s) before concrete is poured. Contractor shall install and adjust the forms sufficiently in advance of scheduling the concrete pour(s) so they can be checked and certified prior to concrete being poured. The required certification(s) by the registered surveyor or engineer to the Contractor and/or RE/COR shall be provided before concrete is poured in the forms. The signed certification(s) shall identify the specific forms for which the certification is applicable, and shall contain language that clearly indicated that the identified foundation forms for the portions of the work that will be exposed in the final installation, and to a depth below expansion joints where the foundations abut new rigid hardscape (concrete, stone, pavers, etc.) are at the correct location, correct dimensions, and correct orientation, and that the indicated pour elevations are correct, all according to the contract drawings, within the allowable construction tolerances of //indicate the allowable construction tolerance for the dimensions, orientation, location and elevation of the forms// for layout and elevation of this work. The Certification that the form work and elevations are according to the design drawings, within allowable tolerances (which need to be indicated in the certification) should be provided to the RE/COR for review and acceptance prior to concrete for the foundations being poured.//

SPEC WRITER NOTES:

1. Delete inapplicable portions of following article. Do not include for small additions to buildings, such as stairways, etc. For one story construction omit the words enclosed

in paragraph 1.14, D, from the first
// to the second //.

- D. // During progress of work, and particularly as work progresses from floor to floor, the 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 RE/COR before any major items of concrete work are placed. In addition, furnish to the RE/COR certificates from a registered land surveyor or registered civil engineer that the following work is complete in every respect as required by contract drawings.

SPEC WRITER NOTES:

1. Modify the following items based upon the specific work scope for the project.
 1. Lines of each building and/or addition.
 2. Elevations of bottoms of footings and tops of floors of each building and/or addition.
 3. Lines and elevations of sewers and of all outside distribution systems.
 4. Lines of grave plot documentation.
 5. Lines of elevations of all swales and interment areas.
 6. Lines and elevations of roads, streets and parking lots.
 7. Lines and elevations of top of pre-placed crypts.
 8. Lines and elevations of grade over pre-placed crypts.
 9. Northing/Easting coordinate locations of all water, sanitary, storm, gas and irrigation structures, directional fittings, control wire and lines.
- E. Upon completion of the work, the Contractor shall furnish the RE/COR with reproducible drawings, in AutoCAD form, 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. Perform the surveying and layout work of this and other articles and specifications in accordance with the provisions of Article "Professional Surveying Services".

SPEC WRITER NOTES:

1. Modify the following paragraph as required to coordinate with any more

stringent "As-built" requirements that may be in subsequent sections as a result of GPS data collection and GIS requirements.

2. Discuss Paragraphs "F" and "G" with the Project Manager for clarification and modify accordingly.

1.16 AS-BUILT DRAWINGS

- A. Maintain two full size sets of as-built drawings which will be kept current during construction of the project, which will 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 ensure compliance, as-built drawings shall be made available for the RE/COR's review, as often as requested.
- C. Deliver two approved completed sets of as-built drawings to the RE/COR within 15 calendar days after each completed phase and after the acceptance of the project by the RE/COR.
- D. Paragraphs A, B, & C shall also apply to all shop drawings.

SPEC WRITER NOTES:

1. Eliminate Paragraph E if there is not any irrigation system work for the project.
 2. Modify Paragraph E as needed to make consistent with the specifics for the irrigation system installation or modifications for this specific project.
- E. //Produce irrigation system "As-built" drawings that show the actual locations for the pipes, bends, fittings, wiring and appurtenances. The location for the underground materials as well as the depth shall be indicated, and curved pipe installations shall be so indicated, and bends and fittings shall have swing ties showing the locations, using physical features that will be visible in the winter, whenever possible. Swing ties shall be as close to perpendicular as possible. //The "As-Built" drawing for the irrigation system wiring shall show the routing of the wires from controller to corresponding operational elements, and wire colors and numbers and color of spare wires shall be indicated.// The wiring diagram for the irrigation system shall include the routing of the power lines to the equipment as well as the of the grounding equipment.// The actual location of the installed elements on a scaled drawing shall be provided using the enlarged design drawing background to show the actual installation and not the schematic representation of the elements. All sleeves for pipes and/or

wires shall be indicated with the size, type of material location and depth indicated on the "As-Built" drawings.//

- F. //Produce an "As-Built" drawing of the crypt field installations indicating the numbering of the crypts and the burial plots, irrigation aisles, indicating the type of crypt installed in each plot (interior or perimeter) as well as any installed oversized crypts, with the placement and size of the vault indicated. The "As-Built" drawing of the crypt field as installed shall be certified by a registered land surveyor or registered Professional Engineer. The certification shall indicate that the installed crypts have their lids installed within their respective burial plots and that the surface of the lids is installed within +/- //6mm (1/4")//13mm (1/2")// of the plane established for the top of the crypts in the design drawings as specified. The location of the lids for any oversized vaults shall be shown within 13mm (1/2") of the actual location. Coordinates for the location of the corners, and corresponding elevations, of any oversized vaults shall be indicated or available from the electronic "As-Built" drawing files. The "As-Built" drawing for the crypt fields shall also contain a written certification from the registered land surveyor or registered civil engineer that the finished grade that exists above the crypts is at the elevation of the plane for that surface established in the design drawings within an allowable construction tolerance of //+/- 25mm (1-inch)//+/- 50mm (2-inches)//.
- G. //Produce "As-Built" drawings of all subsurface infrastructure improvements, with the location and depth of the improvements being indicated on the drawings. The drawings shall have references indicated that will establish real world (State Plane) coordinates and elevations on the drawing sheets. Infrastructure improvements that are below ground shall be clearly indicated and shall be located within 100mm (4-inches) of their actual location. If underground infrastructure improvements are not being located on the "As-Built" drawings using GPS coordinates (location and elevation), then the "As-Built" drawings shall have swing ties provided to ground surface above all infrastructure improvement locations needed to establish the route of the improvement on the ground surface immediately above the improvements, as well as the depth of the infrastructure improvement below the spot on the ground surface. All of the location and depth information shall be no greater that 100mm (4-inches) from the actual

location of the respective infrastructure improvement when excavated from the indicated location to the indicated depth. Swing-tie information shall be from final project improvements, or existing improvements deemed final by the RE/COR and each location identified shall be by a minimum of two swing ties (close to 90 degrees apart).//

SPEC WRITER NOTES:

1. Coordinate the paragraphs in this section with the proposed project work and discussion with the Project Manager.
2. Recognize the extent of truck traffic on the existing or proposed roads that are or will be used to transport crypts, or other heavy items, for present and future projects. Make sure that the soil conditions, subsurface drainage and roadway section are adequate for the truck traffic that may be using the roads.
3. Coordinate this section with roadway restoration work for the proposed project to ensure that the roadway within the Cemetery is in new, or like new condition when the project is complete as directed by the PM.
4. Verify the existing public roadway condition and design and adjust this section accordingly based upon the frequency and loading of trucks that will be using the roads for this project. If there are any limitations to truck traffic on the route(s) to the site, they should be so noted. Modify this section accordingly.

1.17 USE OF ROADWAYS

- A. Under regulations prescribed by the RE/COR, use only established roadways, or use temporary roadways constructed by the Contractor when //as indicated in the drawings//or as//authorized by the RE/COR//. 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.
- B. When materials are transported in prosecution of the work, use only established public roads and roads on Cemetery property and, when authorized by the RE/COR, such temporary roads which are necessary in the performance of contract work. Temporary roads //not specifically indicated and detailed on the drawings//shall be constructed and maintained by the Contractor at the Contractor's expense including all

necessary erosion and sediment control facilities. When necessary to cross new or existing curbing, sidewalks, or similar construction, the Contractor must furnish install, maintain and remove adequate protection by well-constructed bridges.

- B. When new permanent roads are to be a part of this contract, the Contractor may construct them immediately 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 the time set for completion of such buildings or parts thereof.

SPEC WRITER NOTES:

- 1. Before including RE/COR's Field Office, check with Project Manager to determine if Cemetery can provide office space for the RE/COR in an existing building, or for direction for the following.

1.18 RE/COR'S FIELD OFFICE

- A. Within fifteen (15) days after receipt of "Notice to Proceed", provide, where shown on the drawings, a temporary field office, furniture, and minimum two-inch-deep gravel surfaced area for use of the RE/COR. 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 the 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 // two separate toilets //, and meeting/Admin. Assistant area. 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 Admin. Assistant's desk // s //.
- 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//s// 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 Admin. Assistant's desk.
- L. The Contractor shall provide the following:

SPEC WRITER NOTES:

1. Discuss the following with the Project Manager, then edit the following to include providing and paying for electric, telephone and internet service for the duration of the project for new construction and other jobs where existing VA/NCA Phone Systems and Computer Networks are not available.
 2. For new construction or construction in remote areas, include provisions for installing temporary electrical service for RE Office Trailer and Contractor's use.
1. Electricity, hot and cold water, and necessary utility services (except telephone). Provide three cell phones with //internet browser//,e-mail and// built in speaker phone for use by COR's Office (SRE, RE and Admin. Assistant). In addition, furnish one fully operational stand-alone speaker phone device that attaches to the cell phones for use in phone conferences.
 2. All necessary piping, power circuits, network cabling, patch panels, equipment racks, 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. Provide minimum of 12 network receptacles and 24 electrical receptacles located as approved by CORupon review of the Contractor's submitted plan.
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. Thermostats shall be energy saving programmable type with a minimum of three temperature settings for each day of the week.
 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. Provide holding tank for sanitary sewer, including periodic pumping as required, or any other features needed to make the facility fully operational at the location, including provisions to keep from freezing.
 5. One (1) wall mounted first aid kit that meets or exceeds current OSHA and AMSI Z.803-1 requirements.
 6. One (1) wall mounted key safe with push-button combination lock sized for 48 keys.
 7. Two (2) wall mounted 10 pound Tri-Class (ABC) dry chemical fire extinguishers.
 8. Six (6) hard hats, white, full brim with ratchet headband system.
 9. Six (6) ANSI 207 Class 2 safety vest in lime color with two pockets. Provide 3 size large and 3 size extra-large.

SPEC WRITER NOTES:

1. Verify with Project Manager.

//10. The Contractor shall install a suitable security system for the field office and provide alarm monitoring services for the duration of the RE's occupancy.//

- M. For the duration of the RE/COR's occupancy, provide the following:
1. Satisfactory conditions in and around the field office and parking area.
 2. Maintenance of gravel (6-inch minimum) surfaced area, including the area for parking, in an acceptable condition for vehicle and foot traffic at all times.
 3. Maintenance of utility services.

SPEC WRITER NOTES:

1. Modify or Delete following subparagraph 4 unless specifically

instructed by the Project Manager to leave it in.

- //4. //Twice//Bi-weekly janitorial services and supplies (toilet paper, soap, paper towels, water etc.). //
5. Potable water, fuel and electric power for normal office uses, including lights, heating and air conditioning.
6. Photocopier/Printer/Scanner/Fax Machine (complete with installation, service, maintenance, supplies and payment of all monthly usages charges):
- a. Minimum Photocopier/Printer requirements:
- 1) Collating/sorting/stapling.
 - 2) Enlarging/reducing
 - 3) Multi-size sheet feeder.
 - 4) Four paper tray sizes and bypass tray.
 - 5) Two-sided and single-sided copying.
 - 6) Network capability/connectivity
- b. Minimum Scanner requirements:
- 1) Scan to email and scan to folder capability.
 - 2) PDF, TIFF, JPEG output format capability
 - 3) Network capability/connectivity.
- c. Minimum Fax Machine requirements:
- 1) Plain paper copies.
 - 2) Memory feature with fifty documents.
 - 3) Automatic document feeder with 50-page capacity.
 - 4) Memory storage for twenty or more numbers.
 - 5) Network capacity/connectivity.
- d. All services, maintenance and supplies shall be same day service.

SPEC WRITER NOTES:

1. Delete following subparagraph 7 unless specifically instructed by the Project Manager to leave it in.

7. //Provide two-way radios (2 each) Motorola DTR650 (or equal) with rechargeable batteries and charging stations. These radios will remain the property of Contractor.//

SPEC WRITER NOTES:

1. Modify the materials in Subparagraph 8 as directed by the Project Manager, based upon the location of the facility and availability of land line communications. Results shall provide the RE and his staff with the fastest functioning facilities available.

8. Internet, Data and Voice Equipment/Connection and Communications (complete installation, maintenance and payment of all monthly usage charges).
- a. 2 Voice lines (one dedicated phone line for FAX machine and one dedicated phone line for communications)
 - b. Voice line numbers must have local area code.
 - c. Four (4) desk telephones, each with speaker, answering machine and long telephone cord.
 - d. One (1) conference room telephone set with conference speaker(s) and extra-long telephone cord.
 - e. Indoor equipment: Must provide separate RJ45 connections for data communications (CAT5 cabling) and RJ11 connections for analog voice communications in quantities specified in General Requirements paragraph 1.17.L.2 above. Provide central location for termination of the CAT5 cabling.
 - f. Data Connection: Provide T-1 connection lines. Methods and material shall be per ANSI/EIA/TIA-568-1991 Standard. Install (2) four pair Category 5e/6 cable unshielded twisted pair (total of 8 conductors) (UTP) Category 5e/6 IEEE 802.3 100BaseT UTP Level 5e/6, 24 AWG cables. Contractor shall supply 100BaseT, Category 5e or Category 6 certified rack-mounted modular RJ45 punch down block/panel as required (24/48 ports) for jacks meeting the ANSI/EIA/TIA-568-A-5 category 5e/6 standards.
 - g. 24/7 live phone-base technical support.
 - h. Next business day on-site support, maintenance and service.
- N. The Contractor shall provide the following new items:
- The list herein below indicates office furniture for the R.E. office facility. First is indicated the item number, followed by the number of the respective items to be provided, followed by the description and size of the items, with the metric size indicated first followed by the Imperial dimensions indicated in parentheses immediately after the metric dimensions.//
1. (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)
 2. (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. Kitchen area with countertop, wash sink, 20 cf refrigerator, Keurig coffee maker, and microwave.

- (4) Office desks, double pedestal
- 4. (1) Conference table (size 3' x 8')minimum.
- 5. (1) Plan table 1.2 m x 2.1 m (4' x 7')
- 6. (3) Worktables 750 mm x 1.8 m (folding 30" x 72")
- 7. (1) Secretary chair
- 8. (4) Swivel chairs with arms
- 9. (6) Conference chairs with arms, non-folding.
- 10.(2) Armchairs
- 11.(4) Lockable 5 drawer file cabinets, letter size
- 12.(1) Drawing rack, with 12-750 mm (12-30 inch) "Plan Hold" drawing holders, freestanding
- 13.(1) Shelves for sample room, 7 adjustable Shelves, 305 mm W x 900 mm L (12" W x 3' L)
- 14.(3) Bookcases
- 15.(1) Electric water cooler and provide a contract for water for the duration of the project.
- 16.(1) Metal storage cabinet, 900 mm x 450 mm x 1.8 m (36" x 18" x 72") with six shelves.

SPEC WRITER NOTES:

- 1. Delete following paragraph "O" if RE/COR field office will not require relocating during the tenure of this contract.

- O. RE/COR'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 NCA site designated by the RE/COR together with providing and maintaining utilities, parking area, sanitary facilities and janitorial service in new location until completion and final acceptance of project.

SPEC WRITER NOTES:

- 1. Check with the Project Manager to determine if field office (trailer) is to become property of the Government. This condition will usually occur on phased projects (projects involving more than one construction contract).

- P. At the completion of all work, including the punch list, the RE/COR's field office and facilities shall become the property of the // Contractor and the Contractor shall remove same, including utility connections, from the Cemetery. 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. Furnish floor plans for approval by the RE/COR prior to furnishing the field office.
- R. Within thirty (30) days after the Notice to Proceed, provide a vehicle for the use of the COR for the duration of the project including project closeout.

SPEC WRITER NOTES:

1. Verify with the Project Manager and designated R.E., on providing and use of ATVs on project.

4-seater with Kubota diesel, red exterior, tilt bed feature, safety triangle, rigid canopy, folding windshield, all terrain tires, brake lights, head lights, roll cage, seat belts, rear view mirrors and roof mounted strobe (yellow).// The vehicle will be //purchased// or leased// by the Contractor and will be returned to the Contractor after completion of this project including project closeout. The COR must inspect and approve vehicle for use before purchase or lease. If leased the Contractor shall submit all lease documents to the RE office upon supplying vehicle to the COR. The Contractor shall provide all manufacturers required/recommended maintenance, all fuel and oils, lubricants, tires, brakes, etc., for the duration of the project including project closeout. Contractor shall repair anything on the vehicle that may need to be fixed to maintain full operational capabilities as a result of wear and tear associated with use at a construction site.

SPEC WRITER NOTES:

1. Modify the following as directed by the Project Manager and designated R.E., if known.
2. Select the appropriate Subparagraph 1., or create a new one is so directed.

- //1. Minimum criteria for the pick-up type of vehicle are as follows:
- a. V-6 or V-8 Engine with Automatic Transmission.
 - b. A/C, heater.
 - c. Off road tires, tow hooks, class 3 hitch in rear with hitch attachment and 50 mm (2") ball with 19 mm 3/4" shank for hitch.

- d. Vehicle shall have 4-wheel drive capacity with hi/low range or on-demand capacities.
- e. Vehicle shall be provided with two (2) additional sets of keys with remote entry.//
- //1. Minimum criteria for the 4x4 type vehicle are as follows:
 - a. Vehicle shall be provided with front and rear rubber floor liners as manufactured by Weather Tech or CORapproved equal.//For the 4x4 type vehicle provide the following:
 - 1) Lease 6 m (20 foot) long Con-Ex, primed and painted, enclosure with ventilation and lighting for storage of the vehicle. Ensure Con-EX's doors are double lockable doors, not roll-up type. Install treated wood ramp for vehicle to Con-Ex if deemed necessary by RE. Provide all vehicle maintenance, and storage unit, for the duration of the project and until Contract Final Settlement. Vehicle shall remain the property of the Contractor.//
 - 2. Provide all necessary fuel and service maintenance/repairs for the duration of the project, until Contract Final Settlement. Contractor shall take vehicle off site as needed for these services.
 - 3. Keep state license plate on the vehicle and maintain auto insurance at all times during the life of the project. Provide insurance coverage certificate to the RE office.
 - 4. No stickers, name plates or decals are to be placed on vehicle by Contractor.
 - 5. A suitable loner vehicle shall be provided to CORif vehicle is out for service for more than 24 hours.

1.19 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 RE/COR. If the equipment is not installed and maintained in accordance with the following provisions, the RE/COR 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, 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. // Burners, pumps, feedwater heaters and auxiliary equipment must be operated as a complete system and be fully maintained by operating personnel. Burner 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.

1.20 TEMPORARY TOILETS

SPEC WRITER NOTES:

1. Check with the Project Manager to verify if any existing toilets can be used by contractor's workmen. If so, designate in this Article.
 2. Delete Paragraph B and renumber, if no existing toilet accommodations are being provided.
- 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 RE/COR 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 the Contractor's workmen; such toilet accommodations as may be assigned to the Contractor by the Cemetery. If any existing Cemetery toilet facilities are so assigned, keep such places clean and be responsible for any damage done thereto by the Contractor's workmen. Failure to maintain satisfactory condition in toilets will deprive the Contractor of the privilege to use such toilets.//
- C. Provide potable water, wastewater holding tank, disposal pumping services and all other amenities as indicated in Paragraph 1.17.L.4.

SPEC WRITER NOTES:

1. Consult Project Manager for use of Paragraph 1.20. Contractor shall furnish utilities from commercial sources for construction on new sites. When practical, furnish utilities from commercial sources for new buildings and large additions on existing sites. Otherwise, Cemetery will furnish utilities to Contractor at no cost for alterations and remodeling. Check with Project Manager concerning practical use of meters.

1.21 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. At Contractor's expense and in a workmanlike manner satisfactory to the RE/COR, 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, remove all the temporary connections, distribution lines, meters, and associated paraphernalia.
- C. Install meters at the Contractor's expense and furnish the Cemetery 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 by their respective manufacturers as required to prevent damage due to dampness or cold.

SPEC WRITER NOTES:

1. Use sub-paragraph 1 in connection with existing projects only. Omit inappropriate sub-paragraphs.

- E. Electricity (for Construction and Testing): Furnish all temporary electric services.

1. //Obtain electricity by connecting to the Cemetery electrical distribution system. Meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices providing temporary heat.// Where not available the contractor shall supply power via portable generators //or temporary electric service from the electric utility company// at own expense.

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

1. Obtain water by connecting to the functional Cemetery water distribution system, potable or irrigation, as applicable for the application being tested. When in doubt use potable water. Provide reduced pressure backflow preventer at each connection to the existing potable water system. Water, where available, shall be provided at no cost to the Contractor. Pressure, flow rate and volume of water shall be provided at conditions that will not disrupt the operations of the existing system, provide any facilities required to make the water source characteristics suitable for Contractor's intended use(s) without adversely impacting the existing system.
2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes, or causing unacceptable adverse impacts on the existing system, will be cause for immediate revocation (at RE/COR's discretion) of use of water from the Cemetery's system and will require or result in the Contractor connection(s) being immediately shut-off.

- G. Fuel: The Government will furnish the Natural and/or LP gas required for: burner cleaning; normal initial burner setup and performing the specified burner tests through the applicable installed conveyance system. Fuel required for prolonged burner setup, adjustments, or modifications due to improper design or operation of burner, or control devices shall be furnished by the Contractor at Contractor's expense.

SPEC WRITER NOTES:

1. Review this article with the Project Manager and determine the details of where and how the work by others is to be accomplished and coordinated.
2. Modify this Article as required so it is coordinated with drawings and specifications to result in a fully functional Telephone system, once all of the work by the Contractor and others is completed.

1.22 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.

SPEC WRITER NOTES:

1. Delete TESTS when not applicable to project. Check with Team Mechanical and Electrical Engineers, coordinate and modify this Article accordingly.

1.23 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 RE/COR. 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, hot water, controls and electricity, etc. Another example of a complex which involves several components of different disciplines is a burner

installation. Efficient and acceptable burner operation depends upon the coordination and proper operation of fuel, combustion air, controls, 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.

SPEC WRITER NOTES:

- 1. Check with the Project Manager regarding the requirements to be included in Paragraph 1.23 to create O&M Manuals that are truly useable for the Cemetery staff. Delete the materials indicated between the // when so directed.

1.24 INSTRUCTIONS

- A. 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 RE/COR coincidental with the delivery of the equipment to the job site. //Manuals shall be created for the various equipment functional systems, with the O&M for the individual pieces of equipment being included in the appropriate functional systems. Prepare an outline of the organization and structure of all of the O&M manuals to the RE/COR for review and approval, prior to creation of the manuals. This shall be done through the submittal process, and once approved the Contractor may proceed with the creation of the O&M manuals.// Manuals shall be complete, well organized and easy to use, 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 copies of the approved submittals for the equipment, in an Appendix for the manual, with a TOC listing the items and where the corresponding submittal materials are included. All

pages in the Appendix shall be numbered and the TOC shall refer to the submittal locations based upon the page numbers. The TOC for the Appendix shall also refer each individual submittal item to the appropriate location in the functional diagram for the functional system for the respective O&M Manual.// 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. //In addition to the diagrams and illustrations (which often do not actually reflect the specific installation for the project), the Manuals shall include digital photographs of the actual equipment as installed, with digital annotations added using software like Adobe Pro where pdf images (photographs) can be annotated with text, arrows, lines, etc. To achieve this end result, the Contractor shall take photographs of the equipment as installed, BEFORE it is covered up, for the specific purpose of creating clear annotated photographs of the installation for the O&M Manuals.// 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: 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. Use an integrated, progressive method of providing instructions for different items of equipment that are component parts of a complete system. 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 RE/COR and shall be considered concluded only when the RE/COR is satisfied in regard to complete and thorough coverage. //All instruction periods

where structured "training" of the use of the equipment is being provided to the Cemetery operations staff shall be videotaped and made into a DVD that can be used by the Cemetery staff as a refresher for the use of the specific equipment, or for training new personnel that are not familiar with the operation of the specific equipment. The Contractor shall be responsible for the creation of these "training videos" subject to the review and approval of the RE/COR.// The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the RE/COR, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

SPEC WRITER NOTES:

1. In following article, use sub-paragraph C for a new Cemetery, and sub-paragraph C' for an existing Cemetery. Delete inappropriate sub-paragraphs.

1.25 GOVERNMENT-FURNISHED PROPERTY

- A. The Government shall deliver to the Contractor, the Government-furnished property shown on the //Schedule//drawings// .
- B. Equipment furnished by the Government to be installed by the Contractor will be furnished to the Contractor at the Cemetery.
- //C. Be prepared to receive this equipment from the Government and store or place such equipment not less than 90 days before Completion Date of project. //
- //C'. Storage space for equipment will be provided by the Government and the Contractor shall be prepared to unload and store such equipment therein upon its receipt at the Cemetery //
- D. Notify RE/COR 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, the 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. The Contractor thereafter is responsible for such equipment until such time as acceptance of contract work is made by the Government.

- E. Equipment furnished by the Government will be delivered in a partially assembled (knock down) condition in accordance with existing standard commercial practices, complete with all fittings, fastenings, and appliances necessary for connections to respective services installed under contract. All fittings and appliances (i.e., couplings, ells, tees, nipples, piping, conduits, cables, and the like) necessary to make the connection between the Government furnished equipment item and the utility stub-up shall be furnished and installed by the contractor at no additional cost to the Government.
- F. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.
- G. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

SPEC WRITER NOTES:

1. Check with Equipment Specification Writer concerning what equipment is scheduled to be relocated before using or omitting this article.

1.26 RELOCATED // EQUIPMENT // ITEMS //

- A. 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 RE/COR.
- C. Suitably cap existing service lines, such as water, drain, gas, air, 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. 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.

SPEC WRITER NOTES:

1. Use construction sign when construction cost estimate is and over \$2,000,000.
2. If required by the PM, include the detailed drawings for the Construction and Safety Signs in the drawings.

1.27 CONSTRUCTION SIGN

- A. Provide a Construction Sign were directed by the RE/COR. 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 RE/COR.
- D. Detail Drawing of construction sign showing required legend and other characteristics of sign is shown on the drawings.

SPEC WRITER NOTES:

1. Specify safety sign for all projects when construction cost estimate is over \$2,000,000, except where the work is such that a sign cannot be observed by the Contractor's personnel sometime during the working day.

1.28 SAFETY SIGN

- A. Provide a Safety Sign were directed by RE/COR. 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 RE/COR.
- D. Detail Drawing Number 45 of safety sign showing required legend and other characteristics of sign is shown on the drawings./
- E. Post the number of accident-free days on a daily basis.

SPEC WRITER NOTES:

1. Photographs are not required for Station Level projects. Insert total number of photos in second line below. Number of photographs required shall be within limits included in following table:

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

SPEC WRITER NOTES:

1. Use or delete Paragraph "I" following direction of the PM.

1.29 CONSTRUCTION DIGITAL IMAGES

A. During the construction period through completion, furnish Department of Veterans Affairs with _____ views of digital images, including one color print of each view and one Compact Disc (CD) per visit containing those views taken on that visit. Digital views shall be taken of exterior and/or interior and aerial photographs as selected and directed by RE/COR (RE). Each view shall be taken with a professional grade camera with minimum size of 6 megapixels (MP) and the images will be a minimum of 2272 x 1704 pixels for the 200x250mm (8x 10 inch) prints and 2592 x 1944 pixels for the 400x500 mm (16 x 20 inch) prints, as per these specifications:

1. Normally such images including aerial photographs of the site will be taken at monthly intervals. However, the RE/COR may also direct the taking of special digital images at any time prior to completion and acceptance of contract. If the number of trips to the site exceeds an average of one per month of the contract performance period, then an adjustment in contract price will be made in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) of Section 00 72 00, GENERAL CONDITIONS.
2. In event a greater or lesser number of images than specified above are required by the RE/COR, adjustment in contract price will be

- made in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- B. 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.
 - C. Prints shall be made on 200 x 250 mm (8 by 10 inch) regular-weight matte archival grade photographic paper and produced by a process with a minimum of 300 pixels per inch (PPI). Prints must be printed using the commercial RA4 process (inkjet prints will not be acceptable). Photographs shall have 200 x 200 mm (8 by 8 inch) full picture print with no margin on three sides and a 50 mm (2 inches) margin on the bottom for pre-typed self-adhesive identity label to be added by RE/COR. It is required that the prints are professionally processed so the quality will meet or exceed that of the same size print made with a film camera. Prints must be shipped flat to the RE/COR.
 - D. Images on CD-ROM shall be recorded in JPEG format with a minimum of 24-bit color and no reduction in actual picture size. Compressed size of the file shall be no less than 80% of the original with no loss of information. File names shall contain the date the image was taken, the Project number and a unique sequential identifier. The CD-ROM shall also contain an index of all the images contained therein in either a TXT or Microsoft Word format.
 - E. In case any set of prints are not submitted within five days of date established by RE/COR for taking thereof, the RE/COR may have such images/photographs taken and cost of same will be deducted from any money due to the Contractor.
 - F. Interior Final Photos: After completion of all work in an area final interior photo will be taken. The camera must allow the colors to be as close as possible to the actual colors. For number and location of views, see Section 09 06 00, SCHEDULE FOR FINISHES. View shall be taken after final completion of work. The images shall also be provided on a CD to the RE Office.
 - H. Aerial Photographs: Submit aerial photographs at one-month intervals during the entire construction period. The first aerial photo shall be taken just prior to the start of construction and then at one-month intervals. The final aerial photograph shall be taken at full project completion during a growing season when lawns are green and not dormant //and as directed by the RE/COR//.

SPEC WRITER NOTES:

1. Use, modify or delete the following paragraph for remote project locations where all or part of the A/E team members are not local to the project site, as directed by the Project Manager.

//I. Take digital photos of the daily work in progress, including close-ups. The photographs shall be of the actual work progress, intended to convey to the A/E team members the actual work in progress. The images shall be of both close-up in nature as well as panoramic in nature to get the feel for the entire work in progress, especially when there is site work in progress. In addition, work of product installations of materials that are going to be covered up, especially if before the A/E team member responsible for the design of the element if not going to be making a site visit before the work is covered up. The purpose of these photos is to allow another set of eyes on the work as it is in progress, as this will provide additional potential for catching things that aren't correct before they are buried or cast in concrete. It is better to make things correct before they are poured in concrete. Having photos done on a daily basis, and posting them to one of more sites, to which the A/E team can be provided with easy access is also required. These daily photographs will allow the A/E team members to make note of anything that just doesn't look right and discuss with the RE or to ask the Contractor to take more specific photos to facilitate discussion. The frequency and type of these photos shall be acceptable to the RE/COR following discussion with the respective A/E team members.//

SPEC WRITER NOTES:

1. Use the following paragraph for new buildings and major building additions only.

1.30 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 RE/COR 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 a label affixed to back of the photograph without damage to the 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 All-Cemetery 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 RE/COR in boxes suitable for shipping.
1. Entrance sign & wall/fence feature.
 2. Administration/P.I.C. building.
 3. Maintenance building
 4. Committal Service Shelter No. 1.
 5. Flag Plaza.
 6. Columbarium Plaza

1.31 HISTORIC PRESERVATION

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

1.32 PROJECT HEALTH AND SAFETY PLAN

- A. Prior to commencing any construction, submit a site-specific Project Health and Safety Plan (PHSP). At a minimum, the PHSP shall cover the following topics:
1. Organizational structure (including Responsible Persons)
 2. Site Characterization and Job Hazard Identification
 3. Site Control and Security
 4. Training
 5. Medical Surveillance
 6. PPE
 7. Exposure Monitoring

8. Heat Stress
9. Spill Containment
10. Decontamination
11. Emergency Response
12. Confined Spaces
13. Hosting Operations
14. Trench Safety
15. Lockout/Tagout

1.33 PROJECT SUSTAINABILITY GOALS

- A. Develop and distribute copies of the work plan to each subcontractor and the RE/COR. The overall goal for the work plan is to provide a project that meets the functional program needs and incorporates the requirements and principles of sustainability as defined by Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS.
- B. The project goal generally:
 1. Preserve and restore the site ecosystem and biodiversity; avoid site degradation and erosion; minimize offsite environmental impact.
 2. Use the minimum amount of energy, water, and materials feasible to meet the design intent.
 3. Use environmentally preferable products and decrease toxicity level of materials used.
 4. Use renewable energy and material resources.
 5. Optimize operational performance (through commissioning efforts) in order to ensure energy efficient equipment operates as intended. Consider the durability, maintainability, and flexibility of building systems.
 6. Manage construction site and storage of materials to ensure no negative impact on the indoor environmental quality of the building.
 7. Reduce construction waste through reuse, recycling, and supplier take-back.
- C. Sustainability is the balance of environmental, economic, and societal considerations.

1.34 PUNCH LIST APPLICATION SCOPE

- A. Contractor shall provide an automated punch list application for the project. This solution shall be a Commercial-Off-The-Shelf

(COTS) product. Contractor shall procure this service based on the performance criteria listed below.

B. Scope of Work:

1. Provide six (6) hand held tablets loaded with the punch list application for use by Quality Assurance Inspectors (QAI), including the RE/COR and A/E. Tablets shall be the latest technology as required to support efficient use of the proposed solution. Tablets shall be equipped with a built-in high-resolution camera and video capacity. Provide a protective case or cover for the tablet.
Three (3) of the tablets shall be provided to the RE/COR at the start of the project to be used for daily inspections. Provide necessary protective cases, USB cords and chargers.
2. The setup shall allow the QAI to enter, compile and assign punch lists on a standalone platform at the site without being connected to the internet. The QAI shall have the ability to seamlessly switch to the cloud platform and distribute the punch list once they have connected to the internet via landline or a stable 4G signal.
3. The solution shall allow the QAI to access and use the application via the cloud based portal from any device with wi-fi access. The solution shall allow the QAI to efficiently import and export data collected in the field on a standalone tablet.
4. Procure two-year service package from application provider to include unlimited access from unlimited devices to all web based services and products offered by the application provider
5. This scope is only for this project and the provider shall set up access permissions to web based application and data as directed by the RE/COR.
6. Product selection shall be based on the lowest price solution that meets the required system attributes.

C. System attributes:

1. Tablets shall be loaded with the solution to allow for standalone use. All other devices capable of connecting to the hosted cloud application shall require no additional software

- other than flash player for their devices in order to access and use the solution once permissions have been granted.
2. System shall be configured for use on Apple products as well as PC. Other team members with tablets, laptops or desktop computers shall be able to access data, edit data and update status as allowed by permission assignments for the various project team members.
 3. Drop down lists and templates shall allow both preloaded industry standard construction inspection items and also additional site-specific items to be added by the end users. Provide legends and icons for widely used items.
 4. The solution shall allow for the QAI to make annotations directly on plan view and to attach supporting data for the individual punch list items, including photographs, details, submittals, testing reports and/or spec sections.
 5. The solution shall allow the QAI to enter descriptions and actions related to the punch list item and assign responsibilities and due dates based on a preloaded, customizable resource list to project team members.
 6. The solution shall include filters to allow for data access permissions, sorting of punch list for subcontractors and for querying various reporting outputs such as "ball-in-court", due date and status of completion.
 7. Web based solution shall allow for unlimited data storage and provide the latest security encryption technology consistent with Federal standards. Provider shall submit evidence of redundant systems to ensure that data is not lost and is accessible 24/7/365.

1.35 CONSTRUCTION MEETINGS

- A. The VA will hold a preconstruction meeting with the contractors prior to the start of work.
- B. At a minimum, weekly construction meetings will be held at the project site in the RE office. Attendees shall include the RE, Contractors personnel and other entities concerned with the current progress or involved in planning, coordination or performance of future activities. All participants in the meetings shall be familiar with the project and authorized to conclude matters

relating to work. If the RE determines that the meetings need to be held more frequently, the Contractor shall oblige at no cost. The RE Office will publish the official meeting minutes.

1.36 PLAN OF ACTION (POA)

A Plan of Action (POA) shall be submitted to help coordinate work between the Contractor and VA on work that impacts the VA, including but not limited to utility outage requests, road closure requests and demolition/new work within existing buildings. The RE/COR may require a POA be submitted for specific work at the discretion of the RE/COR. POA's shall be numbered sequentially.

1.37 PROJECT MANAGEMENT INFORMATION SYSTEM (PMIS)

A. Kahua is the VA supplied Project Management Information System required to be used for this project. Another platform may be utilized for the project if approval is granted by the VA's project managers and project staff.

B. VA contractors, selected by award to perform work, are required to get access to the Kahua system.

C. The contractor will be provided with 2 licenses at no cost. Please provide information on requested license Spec holders to the CO following award.

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