

# TECHNICAL SPECIFICATIONS

Department of Veterans Affairs  
Louis Stokes Cleveland VA Medical Center  
**WADE PARK**

10701 East Boulevard Cleveland, OH 44106

**REMOVE PARKING GARAGE OFFICE TRAILERS**  
**Project No. 541-17-508**

**PREPARED BY:**

**Perspectus Architecture**

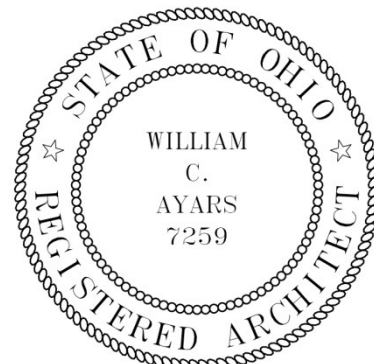
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**Final Construction Documents**

**ISSUE DATE: March 10, 2017**



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Expiration Date 12/31/2017

**DEPARTMENT OF VETERANS AFFAIRS  
SPECIFICATIONS**

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**DRAWING INDEX**

The drawings listed below accompanying this specification form a part of the contract.

<b>DRAWING NO.</b>	<b>TITLE</b>
<b>GENERAL</b>	
1-X1	COVER SHEET
<b>ARCHITECTURAL</b>	
1-A0.1	SITE PLAN, ABBREVIATIONS, SYMBOLS
1-A1.0	PARTIAL FOURTH FLOOR DEMOLITION PLAN
1-A2.0	PARTIAL FOURTH FLOOR STRIPING PLAN
1-A3.0	TRAILER SHOP DRAWING - FOR REFERENCE ONLY
1-A4.0	DEMOLITION DETAILS (TRAILER SHOP DRAWINGS - ELEVATIONS AND DETAILS)
<b>PLUMBING</b>	
1-P0.1	PLUMBING LEGEND, GENERAL NOTES & DETAILS
1-P0.2	PLUMBING SPECIFICATIONS
1-P1.1	PARTIAL FIRST FLOOR PLUMBING DEMOLITION PLAN
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1-P1.3	PARTIAL THIRD FLOOR PLUMBING DEMOLITION PLAN
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<b>ELECTRICAL</b>	
1-E0.1	ELECTRICAL LEGEND, GENERAL NOTES & DETAILS
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1-E1.2	PARTIAL THIRD FLOOR ELECTRICAL DEMOLITION PLAN
1-E1.3	PARTIAL FOURTH FLOOR ELECTRICAL DEMOLITION PLAN

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**SECTION 01 00 00**  
**GENERAL REQUIREMENTS**

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Job Safety Check Sheet - Attachment 6

**SECTION 01 00 00**  
**GENERAL REQUIREMENTS**

**1.1 SAFETY REQUIREMENTS**

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

**1.2 GENERAL INTENTION**

- A. Project Description: This is a single phased project that will remove the temporary office trailers that were installed for the consolidation of the Brecksville and Wade Park medical center campuses. The work will include the removal of all associated temporary utilities and the restoration of the parking spaces.
1. Contractor shall completely prepare project site, furnish labor and materials and perform work for the Remove Parking Garage Office Trailers project as required by drawings and specifications.
- B. Visits to the site by Bidders will be in accordance with FAR clause "52.236-27 Site Visits."
- C. Offices of Perspectus Architecture and Fredrick, Fredrick and Heller Engineers, as Architect-Engineers, will render certain technical services during construction. Such services shall be considered as advisory to the Government and shall not be construed as expressing or implying a contractual act of the Government without affirmations by Contracting Officer or his duly authorized representative.
- D. Before placement and installation of work subject to tests by testing laboratory retained and paid for by the Contractor, the Contractor shall notify the 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 be not less than three work days unless otherwise designated by the COR.
- E. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
1. Contractor shall designate a full time superintendent dedicated solely to this project and who will be on site for the duration of the project.
- F. Prior to commencing work, general contractor shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2) will maintain a presence at the work site whenever the general or subcontractors are present.
- G. Training:

1. All employees of general contractor or subcontractors shall have the following required hours of OSHA certified Construction Safety course and /or other relevant competency training, as determined by VA CP with input from the ICRA team.
  - a. Superintendent: 30 hours
  - b. All other Workers: 10 hours
2. Submit training records of all such employees for approval before the start of work.

### **1.3 STATEMENT OF BID ITEMS**

General Contractor shall refer to solicitation for bid item descriptions.

### **1.4 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR**

- A. AFTER AWARD OF CONTRACT, zero (0) sets of specifications and drawings will be furnished.
- B. Drawings and contract documents may be obtained from the website where the solicitation is posted. All copies will be at Contractor's expense.

### **1.5 CONSTRUCTION SECURITY REQUIREMENTS**

- A. Security Plan:
  1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
  2. The General Contractor is responsible for assuring that all subcontractors working on the project and their employees also comply with these regulations.
- B. Security Procedures:
  1. General Contractor's employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
  2. For working outside the "regular hours" as defined in the contract, the General Contractor shall give 3 days' notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
  3. No photography of VA premises is allowed without written permission of the Contracting Officer.
  4. VA reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.



C. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the COR for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.
2. The General Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation. See Section 08 71 00, DOOR HARDWARE and coordinate.
3. All construction doors/access doors must use VA key system and remain locked at all times from the corridor/exterior side.

D. Document Control:

1. Before starting any work, the General Contractor/Sub Contractors shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "sensitive information".
2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information. This information shall be shared only with those with a specific need to accomplish the project.
3. Certain documents, sketches, videos or photographs and drawings may be marked "Law Enforcement Sensitive" or "Sensitive Unclassified". Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.
4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
5. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.
6. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".
7. All electronic information shall be stored in specified location following VA standards and procedures using an Engineering Document Management Software (EDMS).
  - a. Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.
  - b. "Sensitive information" including drawings and other documents may be attached to e-mail provided all VA encryption procedures are followed.

E. Motor Vehicle Restrictions

1. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies.
2. No parking is available at Medical Center for contractors and Contractor commuter vehicles shall be parked off-site.

#### **1.6 OPERATIONS AND STORAGE AREAS**

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

by patients or medical personnel, and Contractor's personnel, except as permitted by COR where required by limited working space.

1. Do not store materials and equipment in other than assigned areas.
2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient that do not impede with Medical Center activities. Provide unobstructed access to Medical Center areas required to remain in operation.
3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements and review and approval by COR.
4. All noise generating operations which are disruptive to Hospital operations as determined by the COR, including but not limited to cutting of ceilings, walls and floor coring, drilling etc., shall be scheduled during weekends or between 6:00 PM and 7:00 AM on weekdays, unless otherwise determined by COR. Include all premium time charges in Bid.

G. Phasing:

1. The work for this project is intended to be accomplished in one phase as described by the Drawings. If the Contractor elects to create phases, Contractor shall furnish the 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, Contractor shall notify the COR two weeks in advance for final approval 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 phases mutually agreeable to COR and Contractor. Final inspection of each phase before moving to the next phase will be required through the Contracting Officer and COR.
2. The Medical Center must maintain its operation 24 hours a day 7 days a week. Therefore, any interruption in service must be scheduled and coordinated with the COR to ensure that no lapses in operation occur. It is the CONTRACTOR'S responsibility to develop a work plan and schedule detailing, at a minimum, the procedures to be employed, the equipment and materials to be used, the interim life safety measure to be used during the work, and a schedule defining the duration of the work with milestone subtasks.
3. If multiple phases are employed and to ensure proper execution of each phase, Contractor shall furnish the 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, Contractor shall notify the COR two weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such phasing dates to insure accomplishment of this work in successive phases mutually agreeable to COR and Contractor.

- H. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, 2.1m (seven feet) minimum height, around the construction area indicated on the drawings. Provide gates as required for access with necessary hardware, including hasps and padlocks. Fasten fence fabric to terminal posts with tension bands and to line posts and top and bottom rails with tie wires spaced at maximum 375mm (15 inches). Bottom of fences shall be secured in fence bases and, if necessary, sand bags. Securing of fence posts into concrete parking deck is not permitted. Remove the fence when directed by COR.
- I. When a section of the building is turned over to Contractor, Contractor shall accept entire responsibility therefore.
  - 1. Contractor shall maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.
  - 2. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property (including but not limited to all vehicles in the parking facility) in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations by staff, patients or visitors will not be hindered. Contractor shall permit access to Department of Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. These routes whether access or egress shall be isolated from the construction area by temporary partitions and have walking surfaces, lighting etc to facilitate patient and staff access. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.
- J. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials,

equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by COR.

1. No utility service such as water, gas, medical gases, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of 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 Medical Center Director's prior knowledge and written approval. Refer to electrical specification for additional requirements.
  2. Contractor shall submit a request to interrupt any such services to COR, in writing, three (3) work/business days in advance of a minor shut down and two (2) weeks in advance of a major interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
  3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
  4. Major interruptions of any system, including crane and dock usage, must be requested, in writing, at least 14 calendar days prior to the desired time and shall be performed as directed by the COR.
  5. In case of a contract construction emergency, service will be interrupted on approval of COR. Such approval will be confirmed in writing as soon as practical.
  6. All utility service shutdowns such as water, gas, medical gasses, steam, sewers, electricity, or fire protection shall occur during off-hours or weekends at no additional cost to the Government.
- K. 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 6" beyond the project boundary line. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.

- L. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:
  - 1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles.
  - 2. Method and scheduling of required cutting, altering and removal of existing roads, walks and entrances must be approved by the COR.
- M. Coordinate the work for this contract with other construction operations as directed by COR. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

#### **1.7 ALTERATIONS**

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the COR of areas of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both, to the Contracting Officer. This report shall list by rooms and spaces:
  - 1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.
  - 2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
  - 3. Any discrepancies between drawings and existing conditions at site.
  - 4. Designated 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 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 COR, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and 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 Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.

D. Protection: Provide the following protective measures:

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

**1.8 ABOVE-CEILING WORK REQUIREMENTS**

- A. For all work in public/staff areas that includes removal of ceiling tiles:
  1. Use a pre-fabricated mobile containment unit to control dust.
  2. Use an air scrubber to maintain negative pressure and remove airborne dust particles inside the mobile containment unit.
- B. Before starting work, obtain an Above Ceiling Work Permit (ACWP) from the COR.
- C. The ACWP must be requested at least five business days in advance of the requested start date of the work. A floor plan identifying the work location must be included in the ACWP request submitted to the VA COR. If an ACWP is not obtained in advance, then the VA will stop work.
- D. Clear the work area of patients, staff, and visitors. Cover desks, chairs, floors, or other surfaces that may be subject to falling debris or dust.
- E. Only one ceiling tile shall be removed at a time. If more than one ceiling tile is removed, a fire watch shall be posted.
- F. When work is complete each day, replace the ceiling tile, remove the mobile containment unit/dust covers, and perform a cleanup of the area before allowing the area to be reoccupied. If work will exceed one day, penetrations made in smoke walls or rated fire walls shall be temporarily sealed with fire retardant material, such as mineral wool. Ceiling tiles shall be replaced before leaving for the day.

- G. Upon completion of the work, request the VA COR to perform a follow-up inspection of the work, so that the ACWP can be closed out.

#### **1.9 DISPOSAL AND RETENTION**

- A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
1. Reserved items which are to remain property of the Government are identified by attached tags or noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by COR.
  2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
  3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.
    - a. Furnishings and equipment located inside the confines of the trailers at the start of construction will be deemed to be abandoned by the Government and will become the property of the General Contractor for disposition.
  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" copy 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 Contracting Officer who will annotate the contract file and transmit the Manifest to the COR.
    - 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 CFR 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

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

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer, or replace the tree with a tree of like size, at the sole discretion of the COR.
- B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

- C. Final Clean-up: On completion of project and after removal of all debris, rubbish, and temporary construction, Contractor shall leave the construction area in a clean condition satisfactory to the Resident Engineer. Cleaning shall include off the station disposal of all items and materials not required to be salvaged, as well as all debris and rubbish resulting from demolition and new work operations.

#### **1.11 RESTORATION**

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the COR. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the 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 Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with Bid Solicitation GENERAL CONDITIONS.

#### **1.12 AS-BUILT DRAWINGS**

- A. The contractor shall maintain two full size sets of as-built drawings which will be kept current during construction of the project, to include all contract changes, modifications and clarifications.
- B. All variations shall be shown in the same general detail as used in the contract drawings. To ensure compliance, as-built drawings shall be made available for the Architect's or COR's review, as often as requested.

- C. Contractor shall submit two full size, approved, completed sets of as-built drawings within 14 calendar days after the acceptance of the project by the COR, in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, except that As-Built drawings shall not be submitted electronically.

#### **1.13 USE OF ROADWAYS**

- A. For hauling, use only established public roads and roads on Medical Center property and, when authorized by the COR, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges and at the conclusion of construction, contractor shall restore these areas to their original condition.

#### **1.14 TEMPORARY USE OF EXISTING ELEVATORS**

- A. Use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:
1. Contractor makes all arrangements with the COR for use of elevators. The COR will ascertain that elevators are in proper condition. Contractor may use elevators for daily use for personnel only between the hours of 7:00 am and 6:00 pm and for special nonrecurring time intervals when permission is granted. Personnel for operating elevators will not be provided by the Department of Veterans Affairs.
  2. Contractor to develop a proposed elevator usage plan for review and approval by COR.
  3. Contractor covers and provides maximum protection of following elevator components:
    - a. Entrance jambs, heads soffits and threshold plates.
    - b. Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.
    - c. Finish flooring.
  4. If brake lining of elevators are excessively worn or damaged during temporary use, they shall be removed and replaced by new brake lining at the contractors expense.
  5. All parts of main controller, starter, relay panel, selector, etc., worn or damaged during temporary use shall be removed and replaced with new parts, if recommended by elevator inspector after elevator is released by Contractor.

6. Place elevator in condition equal, less normal wear, to that existing at time it was placed in service of Contractor as approved by Contracting Officer.

7. **Elevators may not be used for the hauling of debris.**

#### **1.15 TEMPORARY TOILETS**

A. Contractor shall provide temporary portable toilets for use of all Contractor's workmen. Keep such places clean and free from flies.

#### **1.16 AVAILABILITY AND USE OF UTILITY SERVICES**

A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.

B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia and repair or restore the infrastructure as required.

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

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

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

1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.

2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at COR's discretion) of use of water from Medical Center's system.

#### **1.17 TESTS**

- A. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.

#### **1.18 RELOCATED EQUIPMENT AND ITEMS**

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing items indicated to be relocated by Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as directed by the COR.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph "Abandoned Lines".
- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
- E. 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.

- - - E N D - - -

## **OSHA Requirements and Safety and Health Regulations**

### **PART 1 - OSHA Requirements**

#### **1.1 General**

- A. Contractors are required to comply with the Occupational Safety and Health Act of 1970. This will include the safety and health standard found in Code of Federal Regulations (CFR) 1910 and 1926. Copies of those standards can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20420.
- B. In addition, Contractor will be required to comply with other applicable Medical Center policies and safety regulations. These policies and regulations will be presented to the Contractor at the pre-construction meeting. Each of the Contractor's employees will be required to read the statement of policies and regulations, and sign an acknowledgment that such policies and regulations are understood. Signed acknowledgment will be returned to the Contract Officer Technical Representative.
- C. Contractors involved with the removal, alteration or disturbance of asbestos-type insulation or materials or lead paint will be required to comply strictly with the regulations found in CFR 1910.1001 and the appropriate Environmental Protection Agency (EPA) lead regulations regarding disposal of asbestos or lead paint. Assistance in identifying asbestos or lead can be requested from the Medical Center's Industrial Hygienist and the COR.
- D. Contractors entering locations of asbestos contamination or lead paint residue (i.e., pipe, basements, walls, windows) shall be responsible for providing respiratory protection to their employees and ensuring respirators are worn in accordance with the Occupational Safety and Health Administration (OSHA) [CFR 1910.1001(g)]. Asbestos-or lead paint-contaminated areas shall be defined on project drawings. The minimum equipment requirements will be a half-mask air-purifying respirator equipped with high efficiency filters and disposable coveralls, or as determined by air monitoring results.
- E. Contractor, along with other submittals and at least two weeks prior to bringing any materials on-site, must submit a complete list of chemicals the Contractor will use and Material Safety Data Sheets (MEDS) for all hazardous materials as defined in OSHA 1910.1200(d), Hazard Determination. Contracting Officer shall have final approval of all materials brought on site.
- F. The Contractor will be held solely responsible for the safety and health of their employees. The contractor will also be held responsible for protecting the health and safety of the VA Community (patients, staff, and visitors) from the unwanted effects of construction. VA staff will monitor the Contractor's performance in complying with all safety and health aspects of the project. Severe or constant violations may result in an immediate work stoppage or request for a Compliance Officer from the Occupational Safety and Health Administration.
- G. During all phases of demolition, construction and alterations, Contractors are required to understand and strictly follow National Fire Protection Association (NFPA) 241, Standard for Safeguarding Construction, Alteration and Demolition Operations. The Medical Center's

Safety and Occupational Health Specialist or Industrial Hygienist will closely monitor the work area for compliance. Appropriate action will be taken for non-compliance.

## **PART 2 - Specific VA Medical Center Fire and Safety Policies, Procedures and Regulations**

### **2.1 Introduction.**

- A. The safety and fire protection of patients, employees, members of the public and government is one of continuous concern to this Medical Center.
- B. Contractors, their supervisors and employees are required to comply with Medical Center policies to ensure the occupational safety and health of all. Failure to comply may result in work stoppage.
- C. While working at this Medical Center, contractors are responsible for the occupational safety and health of their employees. Contractors are required to comply with the applicable OSHA standards found in 29 CFR 1910 for general industry and 29 CFR 1926 for construction. Failure to comply with these standards may result in work stoppage and a request to the Area Director of OSHA for a Compliance Officer to inspect your work site.
- D. Contractors are to comply with the requirements found in the National Fire Protection Association (NFPA) 241, Building Construction and Demolition Operation, and NFPA 51B, Fire Prevention in Use of Cutting and Welding Processes.
- E. Questions regarding occupational safety and health issues can be addressed to the Medical Center Safety and Occupational Health Specialist (ext. 4172) or Industrial Hygienist (ext. 4628).
- F. Smoking is not permitted in any interior areas of the Medical Center, including all interior stairwells, tunnels, construction and/or service/maintenance sites. Compliance with this policy by your direct and subcontracted labor force is required.

### **2.2 Hazard Communication**

- A. Contractors shall comply with OSHA Standard 29 CFR 1926.59, Hazard Communication.
- B. Contractors shall submit to the VA Safety Officer, copies of MSDS covering all hazardous materials to which the Contractor and VA employees are exposed.
- C. Contractors shall inform the Safety Officer of the hazards to which VA personnel and patients may be exposed.
- D. Contractors shall have a written Hazard Communication Program available at the construction site, which details how the Contractor will comply with 29 CFR 1926.59.

### **2.3 Fires**

- A. All fires must be reported. In the event of a fire in your work area, use the nearest pull box station, and also notify Medical Center staff in the immediate area. Emergency notification can also be accomplished by dialing ext. 2222.
- B. Be sure to give the exact location from where you are calling and the nature of the emergency. If a Contractor experiences a fire that was rapidly extinguished by your staff, you still must notify the Construction Safety Officer (ext. 4172) within an hour of the event so that an investigation of the fire can be accomplished.

## **2.4 Fire Alarms, Smoke Detection and Sprinkler System**

If the nature of your work requires the deactivation of the fire alarm, smoke detection or sprinkler system, you must notify the Safety Office. Notification must be made well in advance so that ample time can be allowed to deactivate the system and provide alternative measures for fire protection. Under no circumstance is a Contractor allowed to deactivate any of the fire protection systems in this Medical Center.

## **2.5 Smoke Detectors**

False alarms will not be tolerated. You are required to be familiar with the location of the smoke detectors in your work area. When performing cutting, burning or welding or any other operations that may cause smoke or dust, you must take steps to temporarily cover smoke detectors in order to prevent false alarms. Failure to take the appropriate action

will result in the Contracting Officer assessing actual costs for government response for each false alarm that is preventable. Prior to covering the smoke detectors, the Contractor will notify the Safety Officer, who will also be notified when the covers are removed.

## **2.6 Hot Work Permit**

- A. Hot work is defined as operations including, but not limited to, cutting, welding, thermal welding, brazing, soldering, grinding, thermal spraying, thawing pipes or any similar situation. If such work is required, whenever possible the Contractor must notify the COR no less than one day in advance of such work. The Competent Hot Work Supervisor (CHWS) will inspect the work area and issue a Hot Work Permit, authorizing the performance of such work.
- B. All hot work will be performed in compliance with the Engineering Service Policy 138-047 regarding Hot Work Permits and NFPA 241, Safeguarding Construction, Alteration and Demolition Operations; and NFPA 51B, Fire Prevention in Use of Cutting and Welding Processes; and applicable OSHA standard. A hot work permit will only be issued to individuals familiar with these regulations.
- C. A Hot Work Permit will be issued only for the period necessary to perform such work. In the event the time necessary will exceed one day, a Hot Work Permit may be issued for the period needed; however, the CHWS will inspect the area daily. Hot Work Permit will apply only to the location identified on the permit. If additional areas involve hot work, then additional permits must be requested.



- D. Contractors will not be allowed to perform hot work processes without the appropriate permit.
- E. Any work involving the Medical Center's fire protection system will require advance notification. Under no circumstance will the Contractor or employee attempt to alter or tamper with the existing fire protection system.
- F. Thirty minutes following completion of the hot work, the Fire Watch will perform an inspection of the area to confirm that sparks or drops of hot metal are not present.

## **2.7 Temporary Enclosures**

Only non-combustible materials will be used to construct temporary enclosures or barriers at this Medical Center. Plastic materials and fabrics used to construct dust barriers must conform to NFPA 701, Standard Methods of Fire Tests for Flame-Resistant Textiles and Films.

## **2.8 Flammable Liquids**

All flammable liquids will be kept in approved safety containers. Only the amount necessary for your immediate work will be allowed in the building. Flammable liquids must be removed from the building at the end of each day.

## **2.9 Compressed Gas Cylinders**

Compressed gas shall be secured in an upright position at all times. A suitable cylinder cart will be used to transport compressed gas cylinders. Only those compressed gas cylinders necessary for immediate work will be allowed in occupied buildings. All other compressed gas cylinders will be stored outside of buildings in a designated area. Contractors will comply with applicable standards compressed gas cylinders found in 29 CFR 1910 and 1926 (OSHA).

## **2.10 Internal Combustion Engine-Powered Equipment**

Equipment powered by an internal combustion engine (such as saws, compressors, generators, etc.) will not be used in an occupied building. Special consideration may be given for unoccupied buildings only if the OSHA and NFPA requirements have been met.

## **2.11 Powder-Activated Tools**

The operator of powder-activated tools must be trained and certified to use them. Powder-activated tools will be kept secured at all times. When not in use, the tools will be locked up. When in use, the operator will have the tool under his immediate control.

## **2.12 Tools**

- A. Under no circumstances will equipment, tools and other items of work to be left unattended for any reason. All tools, equipment and items of work must be under the immediate control of your employee.

- B. If for some reason a work area must be left unattended, then tools and other equipment must be placed in an appropriate box or container and locked. All tool boxes, containers or any other device used for the storage of tools and equipment will be provided with a latch and padlock, and will be kept locked at all times, except for putting in and removing tools.
- C. All doors to work areas will be closed and locked when rooms are left unattended. Failure to comply with this policy will be considered a violation of VA Regulations 1.218(b), Failure to comply with signs of a directive and restrictive nature posted for safety purposes, and subject to a \$50.00 fine. Subsequent similar violations may result in both imposition of such a fine as well as the Contracting Officer taking  
  
action under the contract's Accident Prevention Clause [Federal Acquisition Regulation (FAR) 52.236-13] to suspend all contract work until violations may be satisfactorily resolved, or under FAR 52.236-5, Material and Workmanship Clause, to remove from the worksite any personnel deemed by the Contracting Officer to be careless to the point of jeopardizing the welfare of facility patients or staff.
- D. You must report any tools or equipment that are missing to the VA Police Department.
- E. Tools and equipment found unattended will be confiscated and removed from the work area.

## **2.13 Ladders**

Ladders must not be left unattended in an upright position. Ladders must be attended at all times or taken down, and chained securely to a stationary object.

## **2.14 Scaffolds**

All scaffolds will be attended at all times. When not in use, an effective barricade (fence) will be erected around the scaffold to prevent use by unauthorized personnel (Reference OSHA 1926, Subpart L).

## **2.15 Excavations**

The contractor shall comply with OSHA 1926, Subpart P. An OSHA Competent Person must be on site during the excavation. The contractor shall coordinate with the COR and utility companies prior to the excavation to identify underground utilities tanks, etc. All excavations left unattended will be provided with a barricade suitable to prevent entry by unauthorized persons.

## **2.16 Storage**

You must make prior arrangements with the COR for the storage of building materials. Storage will not be allowed to accumulate in the Medical Center buildings.

## **2.17 Trash and Debris**

You must remove all trash and debris from the work area on a daily basis. Trash and debris will not be allowed to accumulate inside or outside of the buildings. You are responsible for making arrangements for removal of trash from the Medical Center facility.

## **2.18 Protection of Floors**

It may be necessary at times to take steps to protect floors from dirt, debris, paint, etc. A tarp or other protective covering may be used. However, you must maintain a certain amount of floor space for the safe passage of pedestrian traffic. Common sense must be used in this matter.

## **2.19 Signs**

Signs must be placed at the entrance to work areas warning people of your work. Signs must be suitable for the condition of the work. Small pieces of paper with printing or writing are not acceptable. The VA Medical Center (VAMC) Safety Officer or COR can be consulted in this matter.

## **2.20 Accidents and Injuries**

Contractors must report all accidents and injuries involving their employees.

## **2.21 Infection Control**

Contractors must control the generation of dust and the contamination of patient care surfaces, supplies and equipment. During demolition phases of the construction:

- A. The construction area shall be under negative pressure, ensuring there is an appreciable flow of clean air from the VA-occupied portion of the facility into the construction area. The airflow shall be sufficiently strong enough to draw in the plastic door flaps commonly located at the construction entrance or at the specific site within the construction area.
- B. Construction debris being transported through the VA-occupied portion of the facility shall be covered and/or wetted.
- C. Construction employees shall remove dust-laden clothing before entering the VA-occupied portion of the facility.
- D. Carpet/sticky mats shall be placed at all construction entrances, and be satisfactorily maintained so as to minimize the tracking of dust into the VA-occupied portion of the facility.
- E. Dry sweeping of dust and debris is not to be performed.

(Control measures B - E above must be practiced during the construction phase.)

## **2.22 Confined Space Entry**

- A. Contractor will be informed that the workplace contains permit-required confined space, and that permit-space entry is allowed only through compliance with a permit space program meeting the requirements of 29 CFR 1910.146 and 1926.21(b)(6).

- B. Contractor will be apprised of the elements including the hazards identified and the Medical Center's (last employer) experience with the space that makes the space in question a permit space.
- C. Contractor will be apprised of any precautions or procedures that the Medical Center has implemented for the protection of employees in or near permit space where Contractor personnel will be working.
- D. Medical Center and Contractor will coordinate entry operations when both Medical Center personnel and Contractor personnel will be working in or near permit spaces as required by 29 CFR 1910.146(d)(ii) and 1926.21(b)(6).
- E. Contractor will obtain any available information regarding permit space hazards and entry operation from the Medical Center.
- F. At the conclusion of the entry operations, the Medical Center and Contractor will discuss any hazards confronted or created in permit spaces.
- G. The Contractor is responsible for complying with 29 CFR 1910.246(d) through (g) and 1926.21(b)(6). The Medical Center, does not provide rescue and emergency services required by 29 CFR 1910.246(k) and 1926.21(b)(6).

## **2.23 Contractor Parking and Material Delivery**

There is no Contractor parking on Medical Center property unless the contract drawings show a designated staging area that is under the Contractor's control.  
Contractor's delivery of building materials tools, etc., must be pre-arranged with the Project Manager.

## Pre Construction Risk Assessment (PCRA)

Project: \_\_\_\_\_ Project/Contract #: \_\_\_\_\_

This form may be used for projects or activities to determine if a Site Specific Safety Plan (SSSP) is necessary. If the contractor or vendor is not working independently (VAMC Supervisor is present and in control of the contractor) and the job is short duration (less than five working days) and the hazard analysis does not include any high risk activities, then Occupational Health and Safety may allow work without submitting a SSSP.

Activity	Yes	High Risk
1. Respiratory protection is required for the work being conducted List specifics: (activity being preformed, PPE Being used, Training, Fit testing).		
2. Hearing protection is required for the work being conducted List specifics: (Type of noise; impact, constant, start up).		
3. Other personal protective equipment is required for the work being conducted, what activity? _____ List specifics: (Gloves, safety Glasses, hard hat, steel toes, overalls).		
4. Are there overhead hazards associated with the activity being conducted? Wires, power, communication, grounding, location(s), signage. List specifics:		Yes
5. Work is being conducted in a confined space. Permit required? Training? List specifics: Tanks, sewer, tunnels, Rescue Team notification.		PRCS Only
6. Ladders will be necessary for the work being conducted.		
7. Scaffolding will be necessary for the work being conducted. List specifics:		Greater than six feet
8. Other work platforms will be necessary for the work being conducted. List specifics: Rails, toe boards, netting		Greater than six feet
9. Fall protection is required for the work being conducted. List specifics:		Yes

10. ASBESTOS Abatement Exposure to asbestos may be associated with the work being conducted. List specifics: Renovation, Demolition, Emergency Response <u>29 CFR 1910.1001.</u>		Yes unless approved by the Asbestos Manager
Activity	Yes	High Risk
11. Hazardous materials will be used. MSDSs will be provided for known substances List specifics: 29 CFR 1910.1200.		
12. Hot work (Cutting, Welding, Brazing, etc). Use of VAMC Cleveland Hot Work Policy (ECP 138-047) is required.		
13. Additional ventilation will be necessary for the work being conducted. List specifics: Reason for need of ventilation, confined space, foul odor, excessive heat.		
14. Operation and maintenance of electric power generation, control, transformation, transmission, and distribution lines and equipment are necessary for the work being conducted. List specifics:		Yes
15. Work will be conducted on energized equipment. Use of VAMC Cleveland Working on Energized Equipment policy (138- 034) is required. List specifics: list voltages in area, emergency procedures.		Yes
16. Other electrical work will be conducted. List specifics:		
17. Lock Out/Tag Out will be necessary for the work being conducted. List specifics:		
18. Cranes, derricks, or slings will be necessary for the work being conducted. List specifics:		Yes
19. Excavating will be necessary for work being conducted. List site specifics:		Yes

Activity	Yes	High Risk
20. Excavating or earthmoving equipment will be used. List specifics:		
21. Industrial trucks will be used. List specifics:		
22. Other motorized vehicles will be used. List specifics:		
23. Concrete and masonry construction operations will be necessary for work being conducted. List specifics: % of recycled components		
24. Steel erection activities will be necessary for the work being conducted. List specifics: New Steel % of recycled material,		Yes
25. Alteration, conversion, or improvement of existing electric transmission and distribution lines and equipment will be necessary for the work being conducted. List specifics:		Yes
26. Hand and portable powered tools or other hand-held equipment will be used.		
27. Compressed gas or compressed air equipment is necessary for work being conducted.		
28. List all other hazardous activities that will be conducted or potentially hazardous equipment that will be used including vibration hazards.		

Activity	Yes	High Risk
29. Infection Control Risks identified. Infection Control Risk Assessment (ICRA) required- refer to Enclosure (1).		Yes unless approved by IC
30. Life Safety Risks identified. Interim Life Safety Risk Assessment Form -Attachment (4) - must be completed and submitted.		
31. Emergency Procedures Identified. Fire, severe weather, utility failure, etc.		
32. Demolition will be necessary for the work being conducted.		Yes
33. <i>New Construction:</i> Minimum ___%___ of total project waste shall be diverted from landfill. Recycled aggregate, Concrete, Steel.		
34. <i>Interior Remodeling:</i> Minimum ___%___ of total project waste shall be diverted from landfill. a) Ceiling tile b) Steel c) Carpet		

Submitted by (Contractor)\_\_\_\_\_ Date: \_\_\_\_\_

Reviewed by (COR) \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed by (CSM) \_\_\_\_\_ Date: \_\_\_\_\_

SSSP Required                      Yes    No



**Construction Safety Poster – Cleveland VA  
Project:**

**Project #:**

**VAMC Emergency Number – 2222**

**Infection Control Category:**

**Fire Extinguisher Locations:**

**Fire Alarm Location:**

**Safe Area of Refuge Location:**

**Evacuation Assembly Location:**

**MSDS Location:**

**COR: \_\_\_\_\_**

**Phone: \_\_\_\_\_**

## Interim Life Safety Risk Assessment Form

**Project:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Estimated completion Date** \_\_\_\_\_ **Actual Completion Date** \_\_\_\_\_

### Life Safety Risk Assessment

Guidelines:	Yes/ No	Comments	ILSM
1. Will exit egress routes from occupied areas remain unchanged?			
2. Will exit stairs remain unobstructed and fire separated?			
3. Will fire and smoke compartments remain intact and unchanged?			
4. Will fire alarm detection systems remain functional and unimpaired?			
5. Will fire suppression systems remain function and unimpaired?			
6. Will construction area be separated by noncombustible smoke tight partitions?			
7. Will emergency access by fire department remain unobstructed?			
8. Will normal distances to exits be maintained?			
9. Will all hazardous areas be protected?			

### Interim Life Safety Measures (ISLM)

- |   |   |
|---|---|
| A. Ensure Egress                            | H. Conduct 2 Fire Drills Per Shift in All Areas     |
| B. Emergency Forces Access                  | I. Conduct 2 Fire Drills Per Shift in Local Area    |
| C. Fire Department Notification             | J. Increase Hazard Surveillance                     |
| D. Ensuring Operational Life Safety Systems | K. Compartmentation Training of Personnel           |
| E. Temporary Construction                   | L. Conduct Organizational Training on Life Safety   |
| F. Additional Fire Fighting Equipment       | M. Conduct Additional Training on Incident Response |
| G. Control Combustible Loading              | N. Institute a Fire Watch                           |

GENERAL REQUIREMENTS

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Safety and Health During Construction Activities - Attachment 4

**Life Safety Narrative:**

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**Assessment Performed By:** \_\_\_\_\_

Contracting Officer Technical Representative

**Assessment Reviewed By:** \_\_\_\_\_

VAMC Cleveland Occupational Health and Safety

## Contractor Safety and Security Orientation

In order to promote safety in construction activities at VAMC Cleveland, all contract employees will receive orientation to communicate facility-specific safety concerns. This document provides examples of discussion points used to give contractors the necessary site-specific safety and procedural information. Refer to the Infection Control During Construction program for Infection Control Orientation discussion points.

Check all that apply:

	Specific Items on the Hazardous Work Activity Checklist (Attachment 2)
	Stop Work Authority
	Confined Space Entry Requirements
	Obtaining and Updating Hot Work Permits
	Interim Life Safety Measures (Attachment 4)
	.Job Site Security
	Contractor ID Badge Requirements
	Contractor Key Requirements
	Contractor Parking Requirements
	Process for Working Before or After Normal Hours
	VA Daily Log
	Request for Information
	Other Not Previously Mentioned

## Job Safety Check Sheet

Project ID: \_\_\_\_\_ COR: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

### A. Personal Protective Equipment:

	No.	Grade	N/A	COMMENTS –Note Improvements Needed:
1. Hard hats in use by all personnel.	A1	1 2 3 4 5	N/A	
2. Eye protection in use by all personnel.	A2	1 2 3 4 5	N/A	
3. Hearing protection (engineering controls, double protection for high noise areas, rotation of employees).	A3	1 2 3 4 5	N/A	
4. Proper footgear and protective clothing.	A4	1 2 3 4 5	N/A	
5. Fall protection in use.	A5	1 2 3 4 5	N/A	
6. Respirators/face masks in good condition and used as required (medical evaluation and fit test).	A6	1 2 3 4 5	N/A	

### B. Tools and Equipment:

	No.	Grade	N/A	COMMENTS –Note Improvements Needed:
1. Tools and equipment in good condition.	B1	1 2 3 4 5	N/A	
2. All equipment properly guarded.	B2	1 2 3 4 5	N/A	
3. Electrical equipment connected properly, grounded and in good condition; GFCI; automatic magnetic cut-off for woodworking tools.	B3	1 2 3 4 5	N/A	
4. Air/sandblast hoses in good condition and properly wired.	B4	1 2 3 4 5	N/A	
5. Compressors equipped with automatic shut-off.	B5	1 2 3 4 5	N/A	
6. Ladders in good condition; tied back; extended 3 ft. beyond landing.	B6	1 2 3 4 5	N/A	

### C. Scaffolding: ☐ Suspended ☐ Tubular ☐ Other (*Rope Falls Not Permitted*)

	No.	Grade	N/A	COMMENTS –Note Improvements Needed:
1. Scaffold in good repair; guardrails; toe boards and wire mesh in place.	C1	1 2 3 4 5	N/A	
2. Counterweights marked with weight and in proper ratio.	C2	1 2 3 4 5	N/A	
3. Scaffold tied back and tied in.	C3	1 2 3 4 5	N/A	
4. Passageways under scaffold blocked.	C4	1 2 3 4 5	N/A	

### D. Hazardous Chemicals/Air Contaminants:

	No.	Grade	N/A	COMMENTS –Note Improvements Needed:
1. Hazard Communication Right-To-Know poster / written program on job.	D1	Y N	N/A	
2. List of hazardous materials on job.	D2	Y N	N/A	
3. Material Safety Data Sheets available.	D3	Y N	N/A	
4. Employees are familiar with program.	D4	1 2 3 4 5	N/A	
5. Proper containers in use with correct labels.	D5	1 2 3 4 5	N/A	

**E. General:**

	<b>No.</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COMMENTS –Note Improvements Needed:</b>
1. Safe access to work area.	E1	Y	N	N/A	
2. Contractors wearing ID Badges.	E2	Y	N	N/A	
3. Job site security maintained	E2	Y	N	N/A	
4. Good housekeeping and material storage.	E2	Y	N	N/A	
5. Barricades/debris protection/warning signs in place.	E3	Y	N	N/A	
6. Floor and wall openings properly protected.	E4	Y	N	N/A	
7. Shoring properly installed	E5	Y	N	N/A	
8. Eye wash available.	E6	Y	N	N/A	
9. First aid: Kit and certified employees.	E8	Y	N	N/A	
10. Trucks: Safe/good condition; D.O.T. regulation compliance.	E9	Y	N	N/A	

**F. Fire Safety (ILSM)**

	<b>No.</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COMMENTS –Note Improvements Needed:</b>
1. Exits & pathways clearly marked and unobstructed.	F1	Y	N	N/A	
2. Emergency services pathway is free and unobstructed.	F2	Y	N	N/A	
3. Fire extinguishers are in place and inspected.	F3	Y	N	N/A	
4. Smoke and fire alarms operational or ILSM taken	F4	Y	N	N/A	
5. Sprinkler system operational or ILSM taken.	F5	Y	N	N/A	
6. Hot Work Permits posted.	F3	Y	N	N/A	
7. Hot work sites inspected after hot work.	F4	Y	N	N/A	
8. Smoking Policy is followed.	F5	Y	N	N/A	

**G. Paperwork and Other Postings:**

	<b>No.</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COMMENTS –Note Improvements Needed:</b>
1. OSHA poster/log.	G1	Y	N	N/A	
2. Emergency phone number card.	G2	Y	N	N/A	
3. Drug-Free Workplace Policy Summary and poster (if applicable).	G3	Y	N	N/A	
4. Job logs and Job Safety Check Sheets.	G4	Y	N	N/A	
5. Site-Specific Safety Plan (if applicable).	G5	Y	N	N/A	

Additional Comments:

**SECTION 01 23 00**  
**ALTERNATES**

**PART 1 GENERAL**

**1.1 DESCRIPTION**

This section includes administrative and procedural requirements for deduct alternates.

**1.2 DEFINITIONS**

- A. Deduct Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
1. Deduct Alternates described in this Section are part of the Work only if enumerated in the Agreement.
  2. The credit for each deduct alternate is the net deduction from the Contract Sum to incorporate the deduct alternate into the Work. No other adjustments are made to the Contract Sum.

**1.3 PROCEDURES**

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the deduct alternate into Project.
1. Include as part of each deduct alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of the deduct alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each deduct alternate. Indicate if deduct alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to deduct alternates.
- C. Execute accepted deduct alternates under the same conditions as other work of the Contract.

**1.4 SCHEDULE OF DEDUCT ALTERNATES**

- A. Refer to the Solicitation for a list of Deduct Alternates.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

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**SECTION 01 32 16.15**  
**PROJECT SCHEDULES**

**PART 1- GENERAL**

**1.1 DESCRIPTION:**

- A. The Contractor shall develop a Critical Path Method (CPM) plan and schedule demonstrating fulfillment of the contract requirements (Project Schedule), and shall keep the Project Schedule up-to-date in accordance with the requirements of this section and shall utilize the plan for scheduling, coordinating and monitoring work under this contract (including all activities of subcontractors, equipment vendors and suppliers). Conventional Critical Path Method (CPM) technique shall be utilized to satisfy both time and cost applications.

**1.2 CONTRACTOR'S REPRESENTATIVE:**

- A. The Contractor shall designate an authorized representative responsible for the Project Schedule including preparation, review and progress reporting with and to the Contracting Officer's Representative (COR).
- B. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the requirements of this specification section.
- C. The Contractor's representative shall have the option of developing the project schedule within their organization or to engage the services of an outside consultant. If an outside scheduling consultant is utilized, Section 1.3 of this specification will apply.

**1.3 CONTRACTOR'S CONSULTANT:**

- A. The Contractor shall submit a qualification proposal to the COR, within 10 days of bid acceptance. The qualification proposal shall include:
1. The name and address of the proposed consultant.
  2. Information to show that the proposed consultant has the qualifications to meet the requirements specified in the preceding paragraph.
  3. A representative sample of prior construction projects, which the proposed consultant has performed complete project scheduling services. These representative samples shall be of similar size and scope.
- B. The Contracting Officer has the right to approve or disapprove the proposed consultant, and will notify the Contractor of the VA decision within seven calendar days from receipt of the qualification proposal.



In case of disapproval, the Contractor shall resubmit another consultant within 10 calendar days for renewed consideration. The Contractor shall have their scheduling consultant approved prior to submitting any schedule for approval.

#### **1.4 COMPUTER PRODUCED SCHEDULES**

- A. The contractor shall provide monthly, to the Department of Veterans Affairs (VA), all computer-produced time/cost schedules and reports generated from monthly project updates. This monthly computer service will include: three copies of up to five different reports (inclusive of all pages) available within the user defined reports of the scheduling software approved by the Contracting Officer; a hard copy listing of all project schedule changes, and associated data, made at the update and an electronic file of this data; and the resulting monthly updated schedule in PDM format. These must be submitted with and substantively support the contractor's monthly payment request and the signed look ahead report. The COR shall identify the five different report formats that the contractor shall provide.
- B. The contractor shall be responsible for the correctness and timeliness of the computer-produced reports. The Contractor shall also be responsible for the accurate and timely submittal of the updated project schedule and all CPM data necessary to produce the computer reports and payment request that is specified.
- C. The VA will report errors in computer-produced reports to the Contractor's representative within ten calendar days from receipt of reports. The Contractor shall reprocess the computer-produced reports and associated diskette(s), when requested by the Contracting Officer's representative, to correct errors which affect the payment and schedule for the project.

#### **1.5 THE COMPLETE PROJECT SCHEDULE SUBMITTAL**

- A. Within 14 calendar days after receipt of Notice to Proceed, the Contractor shall submit for the Contracting Officer's review; three blue line copies of the interim schedule on sheets of paper 765 x 1070 mm (30 x 42 inches) and an electronic file in the previously approved CPM schedule program. The submittal shall also include three copies of a computer-produced activity/event ID schedule showing project duration; phase completion dates; and other data, including event cost. Each activity/event on the computer-produced schedule shall contain as

a minimum, but not limited to, activity/event ID, activity/event description, duration, budget amount, early start date, early finish date, late start date, late finish date and total float. Work activity/event relationships shall be restricted to finish-to-start or start-to-start without lead or lag constraints. Activity/event date constraints, not required by the contract, will not be accepted unless submitted to and approved by the Contracting Officer. The contractor shall make a separate written detailed request to the Contracting Officer identifying these date constraints and secure the Contracting Officer's written approval before incorporating them into the network diagram. The Contracting Officer's separate approval of the Project Schedule shall not excuse the contractor of this requirement. Logic events (non-work) will be permitted where necessary to reflect proper logic among work events, but must have zero duration. The complete working schedule shall reflect the Contractor's approach to scheduling the complete project. The final Project Schedule in its original form shall contain no contract changes or delays which may have been incurred during the final network diagram development period and shall reflect the entire contract duration as defined in the bid documents. These changes/delays shall be entered at the first update after the final Project Schedule has been approved. The Contractor should provide their requests for time and supporting time extension analysis for contract time as a result of contract changes/delays, after this update, and in accordance with Article, ADJUSTMENT OF CONTRACT COMPLETION.

- D. Within 30 calendar days after receipt of the complete project interim Project Schedule and the complete final Project Schedule, the Contracting Officer or his representative, will do one or both of the following:
1. Notify the Contractor concerning his actions, opinions, and objections.
  2. A meeting with the Contractor at or near the job site for joint review, correction or adjustment of the proposed plan will be scheduled if required. Within 14 calendar days after the joint review, the Contractor shall revise and shall submit three blue line copies of the revised Project Schedule, three copies of the revised computer-produced activity/event ID schedule and a revised

- electronic file as specified by the Contracting Officer. The revised submission will be reviewed by the Contracting Officer and, if found to be as previously agreed upon, will be approved.
- E. The approved baseline schedule and the computer-produced schedule(s) generated there from shall constitute the approved baseline schedule until subsequently revised in accordance with the requirements of this section.
- F. The Complete Project Schedule shall contain sufficient detail to provide an accurate depiction of all construction activities.

#### **1.6 WORK ACTIVITY/EVENT COST DATA**

- A. The Contractor shall cost load all work activities/events except procurement activities. The cumulative amount of all cost loaded work activities/events (including alternates) shall equal the total contract price. Prorate overhead, profit and general conditions on all work activities/events for the entire project length. The contractor shall generate from this information cash flow curves indicating graphically the total percentage of work activity/event dollar value scheduled to be in place on early finish, late finish. These cash flow curves will be used by the Contracting Officer to assist him in determining approval or disapproval of the cost loading. Negative work activity/event cost data will not be acceptable, except on VA issued contract changes.
- B. The Contractor shall cost load work activities/events for guarantee period services, test, balance and adjust various systems in accordance with the provisions in Article, FAR 52.232 - 5 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS) and VAAR 852.236 - 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS).
- C. In accordance with FAR 52.236 - 1 (PERFORMANCE OF WORK BY THE CONTRACTOR) and VAAR 852.236 - 72 (PERFORMANCE OF WORK BY THE CONTRACTOR), the Contractor shall submit, simultaneously with the cost per work activity/event of the construction schedule required by this Section, a responsibility code for all activities/events of the project for which the Contractor's forces will perform the work.
- D. The Contractor shall cost load work activities/events for all BID ITEMS including ASBESTOS ABATEMENT. The sum of each BID ITEM work shall equal the value of the bid item in the Contractors' bid.

## 1.7 PROJECT SCHEDULE REQUIREMENTS

- A. Show on the project schedule the sequence of work activities/events required for complete performance of all items of work. The Contractor Shall:
1. Show activities/events as:
    - a. Contractor's time required for submittal of shop drawings, templates, fabrication, delivery and similar pre-construction work.
    - b. Contracting Officer's and Architect-Engineer's review and approval of shop drawings, equipment schedules, samples, template, or similar items.
    - c. Interruption of VA Facilities utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
    - d. Test, balance and adjust various systems and pieces of equipment, maintenance and operation manuals, instructions and preventive maintenance tasks.
    - e. VA inspection and acceptance activity/event with a minimum duration of five work days at the end of each phase and immediately preceding any VA activation period required by the contract phasing for that phase.
  2. Show not only the activities/events for actual construction work for each trade category of the project, but also trade relationships to indicate the movement of trades from one area, floor, or building, to another area, floor, or building, for at least five trades who are performing major work under this contract.
  3. Break up the work into activities/events of a duration no longer than 20 work days each or one reporting period, except as to non-construction activities/events (i.e., procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities/events for which the COR may approve the showing of a longer duration. The duration for VA approval of any required submittal, shop drawing, or other submittals will not be less than 20 work days.
  4. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion. Activities/events labeled

- "start," "continue," or "completion," are not specific and will not be allowed. Lead and lag time activities will not be acceptable.
5. The schedule shall be generally numbered in such a way to reflect discipline, phase or location of the work.
- B. The Contractor shall submit the following supporting data in addition to the project schedule:
1. The appropriate project calendar including working days and holidays.
  2. The planned number of shifts per day.
  3. The number of hours per shift.
- Failure of the Contractor to include this data shall delay the review of the submittal until the Contracting Officer is in receipt of the missing data.
- C. To the extent that the Project Schedule or any revised Project Schedule shows anything not jointly agreed upon, it shall not be deemed to have been approved by the COR. Failure to include any element of work required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of the COR's approval of the Project Schedule.
- D. Compact Disk Requirements and CPM Activity/Event Record Specifications: Submit to the VA an electronic file(s) containing one file of the data required to produce a schedule, reflecting all the activities/events of the complete project schedule being submitted.

#### **1.8 PAYMENT TO THE CONTRACTOR:**

- A. Monthly, the contractor shall submit an application and certificate for payment using VA Form 10-6001a or the AIA application and certificate for payment documents G702 & G703 reflecting updated schedule activities and cost data in accordance with the provisions of the following Article, PAYMENT AND PROGRESS REPORTING, as the basis upon which progress payments will be made pursuant to Article, FAR 52.232 - 5 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS) and VAAR 852.236 - 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS). The Contractor shall be entitled to a monthly progress payment upon approval of estimates as determined from the currently approved updated project schedule. Monthly payment requests shall include: a listing of all

agreed upon project schedule changes and associated data; and an electronic file (s) of the resulting monthly updated schedule.

- B. Approval of the Contractor's monthly Application for Payment shall be contingent, among other factors, on the submittal of a satisfactory monthly update of the project schedule.

#### **1.9 PAYMENT AND PROGRESS REPORTING**

- A. Monthly schedule update meetings will be held on dates mutually agreed to by the COR and the Contractor. Contractor and their CPM consultant (if applicable) shall attend all monthly schedule update meetings. The Contractor shall accurately update the Project Schedule and all other data required and provide this information to the COR three work days in advance of the schedule update meeting. Job progress will be reviewed to verify:
1. Actual start and/or finish dates for updated/completed activities/events.
  2. Remaining duration for each activity/event started, or scheduled to start, but not completed.
  3. Logic, time and cost data for change orders, and supplemental agreements that are to be incorporated into the Project Schedule.
  4. Changes in activity/event sequence and/or duration which have been made, pursuant to the provisions of following Article, ADJUSTMENT OF CONTRACT COMPLETION.
  5. Completion percentage for all completed and partially completed activities/events.
  6. Logic and duration revisions required by this section of the specifications.
  7. Activity/event duration and percent complete shall be updated independently.
- B. After completion of the joint review, the contractor shall generate an updated computer-produced calendar-dated schedule and supply the Contracting Officer's representative with reports in accordance with the Article, COMPUTER PRODUCED SCHEDULES, specified.
- C. After completing the monthly schedule update, the contractor's representative or scheduling consultant shall rerun all current period contract change(s) against the prior approved monthly project schedule. The analysis shall only include original workday durations and schedule logic agreed upon by the contractor and COR for the contract change(s).

When there is a disagreement on logic and/or durations, the Contractor shall use the schedule logic and/or durations provided and approved by the COR. After each rerun update, the resulting electronic project schedule data file shall be appropriately identified and submitted to the VA in accordance to the requirements listed in articles 1.4 and 1.7. This electronic submission is separate from the regular monthly project schedule update requirements and shall be submitted to the COR within fourteen (14) calendar days of completing the regular schedule update. **Before inserting the contract changes durations, care must be taken to ensure that only the original durations will be used for the analysis, not the reported durations after progress. In addition, once the final network diagram is approved, the contractor must recreate all manual progress payment updates on this approved network diagram and associated reruns for contract changes in each of these update periods as outlined above for regular update periods. This will require detailed record keeping for each of the manual progress payment updates.**

- D. Following approval of the CPM schedule, the VA, the General Contractor, its approved CPM Consultant, RE office representatives, and all subcontractors needed, as determined by the SRE, shall meet to discuss the monthly updated schedule. The main emphasis shall be to address work activities to avoid slippage of project schedule and to identify any necessary actions required to maintain project schedule during the reporting period. The Government representatives and the Contractor should conclude the meeting with a clear understanding of those work and administrative actions necessary to maintain project schedule status during the reporting period. This schedule coordination meeting will occur after each monthly project schedule update meeting utilizing the resulting schedule reports from that schedule update. If the project is behind schedule, discussions should include ways to prevent further slippage as well as ways to improve the project schedule status, when appropriate.

#### **1.10 RESPONSIBILITY FOR COMPLETION**

- A. If it becomes apparent from the current revised monthly progress schedule that phasing or contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:

1. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.
  2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog of work.
  3. Reschedule the work in conformance with the specification requirements.
- B. Prior to proceeding with any of the above actions, the Contractor shall notify and obtain approval from the COR for the proposed schedule changes. If such actions are approved, the representative schedule revisions shall be incorporated by the Contractor into the Project Schedule before the next update, at no additional cost to the Government.

#### **1.11 CHANGES TO THE SCHEDULE**

- A. Within 30 calendar days after VA acceptance and approval of any updated project schedule, the Contractor shall submit a revised electronic file (s) and a list of any activity/event changes including predecessors and successors for any of the following reasons:
1. Delay in completion of any activity/event or group of activities/events, which may be involved with contract changes, strikes, unusual weather, and other delays will not relieve the Contractor from the requirements specified unless the conditions are shown on the CPM as the direct cause for delaying the project beyond the acceptable limits.
  2. Delays in submittals, or deliveries, or work stoppage are encountered which make rescheduling of the work necessary.
  3. The schedule does not represent the actual prosecution and progress of the project.
  4. When there is, or has been, a substantial revision to the activity/event costs regardless of the cause for these revisions.
- B. CPM revisions made under this paragraph which affect the previously approved computer-produced schedules for Government furnished equipment, vacating of areas by the VA Facility, contract phase(s) and sub phase(s), utilities furnished by the Government to the Contractor, or any other previously contracted item, shall be furnished in writing to the Contracting Officer for approval.



- C. Contracting Officer's approval for the revised project schedule and all relevant data is contingent upon compliance with all other paragraphs of this section and any other previous agreements by the Contracting Officer or the VA representative.
- D. The cost of revisions to the project schedule resulting from contract changes will be included in the proposal for changes in work as specified in FAR 52.243 - 4 (Changes) and VAAR 852.236 - 88 (Changes - Supplemental), and will be based on the complexity of the revision or contract change, man hours expended in analyzing the change, and the total cost of the change.
- E. The cost of revisions to the Project Schedule not resulting from contract changes is the responsibility of the Contractor.

#### **1.12 ADJUSTMENT OF CONTRACT COMPLETION**

- A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the COR may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof based on revised activity/event logic, durations (in work days) and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in this request. The Contracting Officer's determination as to the total number of days of contract extension will be based upon the current computer-produced calendar-dated schedule for the time period in question and all other relevant information.
- B. Actual delays in activities/events which, according to the computer-produced calendar-dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Contracting Officer will within a reasonable time after receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing of the Contracting Officer's decision.
- C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer in accordance with the

provisions specified under FAR 52.243 - 4 (Changes) and VAAR 852.236 - 88 (Changes - Supplemental). The Contractor shall include, as a part of each change order proposal, a sketch showing all CPM logic revisions, duration (in work days) changes, and cost changes, for work in question and its relationship to other activities on the approved network diagram.

- D. All delays due to non-work activities/events such as RFI's, WEATHER, STRIKES, and similar non-work activities/events shall be analyzed on a month by month basis.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

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**SECTION 01 33 23**  
**SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES**

- 1-1. Refer to Articles titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21) and, SPECIAL NOTES (VAAR 852.236-91), in GENERAL CONDITIONS.
- 1-2. For the purposes of this contract, samples, test reports, certificates, and manufacturers' literature and data shall also be subject to the previously referenced requirements. The following text refers to all items collectively as SUBMITTALS.
- 1-3. Submit for approval, all of the items specifically mentioned under the separate sections of the specification, with information sufficient to evidence full compliance with contract requirements. Materials, fabricated articles and the like to be installed in permanent work shall equal those of approved submittals. After an item has been approved, no change in brand or make will be permitted unless:
  - A. Satisfactory written evidence is presented to, and approved by Contracting Officer, that manufacturer cannot make scheduled delivery of approved item or;
  - B. Item delivered has been rejected and substitution of a suitable item is an urgent necessity or;
  - C. Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.
- 1-4. Forward submittals in sufficient time to permit proper consideration and approval action by Government. Time submission to assure adequate lead time for procurement of contract - required items. Delays attributable to untimely and rejected submittals will not serve as a basis for extending contract time for completion.
- 1-5. Submittals will be reviewed for compliance with contract requirements by Architect-Engineer, and action thereon will be taken by COR on behalf of the Contracting Officer.
- 1-6. Contractor shall assign a file number to each submittal. Contractor, in any subsequent correspondence, shall refer to this file and identification number to expedite replies relative to previously approved or disapproved submittals.
- 1-7. The Government reserves the right to require additional submittals, whether or not particularly mentioned in this contract. If additional submittals beyond those required by the contract are furnished pursuant to request therefor by Contracting Officer, adjustment in contract price and time will be made in accordance with Articles titled CHANGES (FAR

52.243-4) and CHANGES - SUPPLEMENT (VAAR 852.236-88) of the GENERAL CONDITIONS.

- 1-8. Schedules called for in specifications and shown on shop drawings shall be submitted for use and information of Department of Veterans Affairs and Architect-Engineer. However, the Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer and Architect-Engineer assumes no responsibility for checking schedules or layout drawings for exact sizes, exact numbers and detailed positioning of items.
- 1-9. Submittals must be submitted by Contractor only and shipped prepaid. Contracting Officer assumes no responsibility for checking quantities or exact numbers included in such submittals.
  - A. Submit samples required by individual specification sections to the Architect, in quadruplicate, except where a greater number is required. Electronic submittal of samples is not permitted.
    1. Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center, name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.
  - B. Shop drawings, schedules, manufacturers' literature and data, and certificates shall be submitted electronically to the Architect in PDF format, unless specifically indicated otherwise.
  - C. Submittals will receive consideration only when accompanied by a transmittal letter signed by Contractor. Transmittal letters shall be submitted electronically in PDF format for all submittals except samples, and shall contain the list of items, name of Medical Center, name of Contractor, contract number, applicable specification paragraph numbers, unique file number for the submittal, applicable drawing numbers (and other information required for exact identification of location for each item), manufacturer and brand, ASTM or Federal Specification Number (if any) and such additional information as may be required by specifications for particular item being furnished. In addition, catalogs showing product data shall be marked to indicate specific items submitted for approval.
    1. A copy of the transmittal letter must be enclosed with items, and any items received without identification letter will be considered "unclaimed goods" and held for a limited time only.
    2. Each certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center,

name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.

3. Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.
- D. If submittal samples have been disapproved, resubmit new samples as soon as possible after notification of disapproval. Such new samples shall be marked "Resubmitted Sample" in addition to containing other previously specified information required on label and in transmittal letter.
- E. Approved samples will be kept on file by the COR at the site until completion of contract, at which time such samples will be delivered to Contractor as Contractor's property. Where noted in technical sections of specifications, approved samples in good condition may be used in their proper locations in contract work. At completion of contract, samples that are not approved will be returned to Contractor only upon request and at Contractor's expense. Such request should be made prior to completion of the contract. Disapproved samples that are not requested for return by Contractor will be discarded after completion of contract.
- F. Submittal drawings (shop, erection or setting drawings) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check. Submittal drawings shall be submitted electronically, and shall comply with the following requirements:
  1. Each drawing shall have marked thereon, proper descriptive title, including Medical Center location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
  2. A space 120 mm by 125 mm (4-3/4 by 5 inches) shall be reserved on each drawing to accommodate approval or disapproval stamp.
  3. When work is directly related and involves more than one trade, shop drawings shall be submitted to Architect-Engineer under one cover.
- G. If submittal drawings have been disapproved, resubmit new drawings as soon as possible after notification of disapproval. Such new drawings

- shall be marked "Resubmitted Drawings" in addition to containing other previously specified information required on label and in transmittal letter.
- 1-10. Samples, shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to:
- René Niemoller  
Perspectus Architecture  
13212 Shaker Square, Suite 204  
Cleveland, Ohio 44120  
rniemoller@perspectusarch.com
- 1-11. At the time of transmittal to the Architect-Engineer, the Contractor shall also send one copy of the complete submittal directly to the COR.

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**SECTION 01 35 26**  
**SAFETY REQUIREMENTS**

**1.1 APPLICABLE PUBLICATIONS:**

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

B. American Society of Safety Engineers (ASSE):

A10.1-2011.....Pre-Project & Pre-Task Safety and Health  
Planning

A10.34-2012.....Protection of the Public on or Adjacent to  
Construction Sites

A10.38-2013.....Basic Elements of an Employer's Program to  
Provide a Safe and Healthful Work Environment  
American National Standard Construction and  
Demolition Operations

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

E84-2013.....Surface Burning Characteristics of Building  
Materials

D. The Facilities Guidelines Institute (FGI):

FGI Guidelines-2010Guidelines for Design and Construction of  
Healthcare Facilities

E. National Fire Protection Association (NFPA):

10-2013.....Standard for Portable Fire Extinguishers

30-2012.....Flammable and Combustible Liquids Code

51B-2014.....Standard for Fire Prevention During Welding,  
Cutting and Other Hot Work

70-2014.....National Electrical Code

70B-2013.....Recommended Practice for Electrical Equipment  
Maintenance

70E-2012 .....Standard for Electrical Safety in the Workplace

99-2012.....Health Care Facilities Code

241-2013.....Standard for Safeguarding Construction,  
Alteration, and Demolition Operations

F. The Joint Commission (TJC)

TJC Manual .....Comprehensive Accreditation and Certification  
Manual

G. U.S. Nuclear Regulatory Commission

- 10 CFR 20 .....Standards for Protection Against Radiation
- H. U.S. Occupational Safety and Health Administration (OSHA):
  - 29 CFR 1904 .....Reporting and Recording Injuries & Illnesses
  - 29 CFR 1910 .....Safety and Health Regulations for General  
Industry
  - 29 CFR 1926 .....Safety and Health Regulations for Construction  
Industry
  - CPL 2-0.124.....Multi-Employer Citation Policy
- I. VHA Directive 2005-007

## 1.2 DEFINITIONS:

- A. Critical Lift. A lift with the hoisted load exceeding 75% of the crane's maximum capacity; lifts made out of the view of the operator (blind picks); lifts involving two or more cranes; personnel being hoisted; and special hazards such as lifts over occupied facilities, loads lifted close to power-lines, and lifts in high winds or where other adverse environmental conditions exist; and any lift which the crane operator believes is critical.
- B. OSHA "Competent Person" (CP). One who is capable of identifying existing and predictable hazards in the surroundings and working conditions which are unsanitary, hazardous or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them (see 29 CFR 1926.32(f)).
- C. "Qualified Person" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.
- D. High Visibility Accident. Any mishap which may generate publicity or high visibility.
- E. Accident/Incident Criticality Categories:
  - 1. **No impact** - near miss incidents that should be investigated but are not required to be reported to the VA;
  - 2. **Minor incident/impact** - incidents that require first aid or result in minor equipment damage (less than \$5000). These incidents must be investigated but are not required to be reported to the VA;
  - 3. **Moderate incident/impact** - Any work-related injury or illness that results in:



- a. Days away from work (any time lost after day of injury/illness onset);
- b. Restricted work;
- c. Transfer to another job;
- d. Medical treatment beyond first aid;
- e. Loss of consciousness;
- f. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (5) above or,
- g. any incident that leads to major equipment damage (greater than \$5000).

These incidents must be investigated and are required to be reported to the VA;

4. **Major incident/impact** - Any mishap that leads to fatalities, hospitalizations, amputations, and losses of an eye as a result of contractors' activities. Or any incident which leads to major property damage (greater than \$20,000) and/or may generate publicity or high visibility. These incidents must be investigated and are required to be reported to the VA as soon as practical, but not later than 2 hours after the incident.

F. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered personnel.

### **1.3 REGULATORY REQUIREMENTS:**

- A. In addition to the detailed requirements included in the provisions of this contract, comply with 29 CFR 1926, comply with 29 CFR 1910 as incorporated by reference within 29 CFR 1926, comply with ASSE A10.34, and all applicable federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern except with specific written approval and acceptance by the Contracting Officer Representative (COR).

#### **1.4 ACCIDENT PREVENTION PLAN (APP) :**

A. The APP (aka Construction Safety & Health Plan) shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and ensure it is site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all worksite safety and health of each subcontractor(s). Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out.

B. The APP shall be prepared as follows:

1. Written in English by a qualified person who is employed by the Prime Contractor articulating the specific work and hazards pertaining to the contract (model language can be found in ASSE A10.33). Specifically articulating the safety requirements found within these VA contract safety specifications.
2. Address both the Prime Contractors and the subcontractors work operations.
3. State measures to be taken to control hazards associated with materials, services, or equipment provided by suppliers.
4. Address all the elements/sub-elements and in order as follows:
  - a. **SIGNATURE SHEET.** Title, signature, and phone number of the following:
    - 1) Plan preparer (Qualified Person such as corporate safety staff person or contracted Certified Safety Professional with construction safety experience);
    - 2) Plan approver (company/corporate officers authorized to obligate the company);
    - 3) Plan concurrence (e.g., Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional). Provide concurrence of other applicable corporate and project personnel (Contractor).
  - b. **BACKGROUND INFORMATION.** List the following:

- 1) Contractor;
  - 2) Contract number;
  - 3) Project name;
  - 4) Brief project description, description of work to be performed, and location; phases of work anticipated (these will require an AHA).
- c. STATEMENT OF SAFETY AND HEALTH POLICY.** Provide a copy of current corporate/company Safety and Health Policy Statement, detailing commitment to providing a safe and healthful workplace for all employees. The Contractor's written safety program goals, objectives, and accident experience goals for this contract should be provided.
- d. RESPONSIBILITIES AND LINES OF AUTHORITIES.** Provide the following:
- 1) A statement of the employer's ultimate responsibility for the implementation of his SOH program;
  - 2) Identification and accountability of personnel responsible for safety at both corporate and project level. Contracts specifically requiring safety or industrial hygiene personnel shall include a copy of their resumes.
  - 3) The names of Competent and/or Qualified Person(s) and proof of competency/qualification to meet specific OSHA Competent/Qualified Person(s) requirements must be attached.;
  - 4) Requirements that no work shall be performed unless a designated competent person is present on the job site;
  - 5) Requirements for pre-task Activity Hazard Analysis (AHAs);
  - 6) Lines of authority;
  - 7) Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements) should be identified;
- e. SUBCONTRACTORS AND SUPPLIERS.** If applicable, provide procedures for coordinating SOH activities with other employers on the job site:
- 1) Identification of subcontractors and suppliers (if known);
  - 2) Safety responsibilities of subcontractors and suppliers.
- f. TRAINING.**

- 1) Site-specific SOH orientation training at the time of initial hire or assignment to the project for every employee before working on the project site is required.
- 2) Mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, crane operator, rigger, crane signal person, fall protection, electrical lockout/NFPA 70E, machine/equipment lockout, confined space, etc...) and any requirements for periodic retraining/recertification are required.
- 3) Procedures for ongoing safety and health training for supervisors and employees shall be established to address changes in site hazards/conditions.
- 4) OSHA 10-hour training is required for all workers on site and the OSHA 30-hour training is required for Trade Competent Persons (CPs)

**g. SAFETY AND HEALTH INSPECTIONS.**

- 1) Specific assignment of responsibilities for a minimum daily job site safety and health inspection during periods of work activity: Who will conduct (e.g., "Site Safety and Health CP"), proof of inspector's training/qualifications, when inspections will be conducted, procedures for documentation, deficiency tracking system, and follow-up procedures.
- 2) Any external inspections/certifications that may be required (e.g., contracted CSP or CSHT)

**h. ACCIDENT INVESTIGATION & REPORTING.** The Contractor shall conduct mishap investigations of all Moderate and Major as well as all High Visibility Incidents. The APP shall include accident/incident investigation procedure and identify person(s) responsible to provide the following to the COR:

- 1) Exposure data (man-hours worked);
- 2) Accident investigation reports;
- 3) Project site injury and illness logs.

**i. PLANS (PROGRAMS, PROCEDURES) REQUIRED.** Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks in site-specific compliance and accident prevention plans. These Plans shall include but are not be

limited to procedures for addressing the risks associates with the following:

- 1) Emergency response;
- 2) Contingency for severe weather;
- 3) Fire Prevention;
- 4) Medical Support;
- 5) Posting of emergency telephone numbers;
- 6) Prevention of alcohol and drug abuse;
- 7) Site sanitation (housekeeping, drinking water, toilets);
- 8) Night operations and lighting;
- 9) Hazard communication program;
- 10) Welding/Cutting "Hot" work;
- 11) Electrical Safe Work Practices (Electrical LOTO/NFPA 70E);
- 12) General Electrical Safety
- 13) Hazardous energy control (Machine LOTO);
- 14) Site-Specific Fall Protection & Prevention;
- 15) Excavation/trenching;
- 16) Asbestos abatement;
- 17) Lead abatement;
- 18) Crane critical lift;
- 19) Respiratory protection;
- 20) Health hazard control program;
- 21) Radiation Safety Program;
- 22) Abrasive blasting;
- 23) Heat/Cold Stress Monitoring;
- 24) Crystalline Silica Monitoring (Assessment);
- 25) Demolition plan (to include engineering survey);
- 26) Formwork and shoring erection and removal;
- 27) PreCast Concrete.
- 28) Public (Mandatory compliance with ANSI/ASSE A10.34-2012).

- C. Submit the APP to the COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES within 14 calendar days of the receipt of the Notice to Proceed. Work cannot proceed without an accepted APP.
- D. Once accepted by the COR, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or

the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

- E. Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the COR, project superintendent, project overall designated OSHA Competent Person, and the facility Safety Officer. Should any severe hazard exposure, i.e. imminent danger, become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate/remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSE/SAFE A10.34) and the environment.

- F. Reference sample AAP at the conclusion of this Section.

#### **1.5 ACTIVITY HAZARD ANALYSES (AHAS) :**

- A. AHAs are also known as Job Hazard Analyses, Job Safety Analyses, and Activity Safety Analyses. Before beginning each work activity involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or sub-contractor is to perform the work, the Contractor(s) performing that work activity shall prepare an AHA (Example electronic AHA forms can be found on the US Army Corps of Engineers web site)
- B. AHAs shall define the activities being performed and identify the work sequences, the specific anticipated hazards, site conditions, equipment, materials, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level of risk.
- C. Work shall not begin until the AHA for the work activity has been accepted by the COR and discussed with all engaged in the activity, including the Contractor, subcontractor(s), and Government on-site representatives at preparatory and initial control phase meetings.
1. The names of the Competent/Qualified Person(s) required for a particular activity (for example, excavations, scaffolding, fall protection, other activities as specified by OSHA and/or other State and Local agencies) shall be identified and included in the AHA. Certification of their competency/qualification shall be submitted to the Government Designated Authority (GDA) for acceptance prior to the start of that work activity.

2. The AHA shall be reviewed and modified as necessary to address changing site conditions, operations, or change of competent/qualified person(s).
  - a. If more than one Competent/Qualified Person is used on the AHA activity, a list of names shall be submitted as an attachment to the AHA. Those listed must be Competent/Qualified for the type of work involved in the AHA and familiar with current site safety issues.
  - b. If a new Competent/Qualified Person (not on the original list) is added, the list shall be updated (an administrative action not requiring an updated AHA). The new person shall acknowledge in writing that he or she has reviewed the AHA and is familiar with current site safety issues.
3. Submit AHAs to the COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES for review within 14 calendar days of the receipt of the Notice to Proceed and at least 14 calendar days prior to the start of each phase after the first phase. Subsequent AHAs shall be formatted as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.
4. The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.
5. Develop the activity hazard analyses using the project schedule as the basis for the activities performed. All activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier, or subcontractor and provided to the prime contractor for review and approval and then submitted to the COR.

#### **1.6 PRECONSTRUCTION CONFERENCE:**

- A. Contractor representatives who have a responsibility or significant role in implementation of the accident prevention program, as required by 29 CFR 1926.20(b)(1), on the project shall attend the preconstruction conference to gain a mutual understanding of its implementation. This includes the project superintendent, subcontractor superintendents, and any other assigned safety and health professionals.

- B. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, review, and acceptance of AHAs to preclude project delays.
- C. Deficiencies in the submitted APP will be brought to the attention of the Contractor, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Contractor shall not begin work until there is an accepted APP.

**1.7 "SITE SAFETY AND HEALTH OFFICER" (SSHO) AND "COMPETENT PERSON" (CP):**

- A. The Prime Contractor shall designate a minimum of one SSHO at each project site that will be identified as the SSHO to administer the Contractor's safety program and government-accepted Accident Prevention Plan. Each subcontractor shall designate a minimum of one CP in compliance with 29 CFR 1926.20 (b)(2) that will be identified as a CP to administer their individual safety programs.
- B. Further, all specialized Competent Persons for the work crews will be supplied by the respective contractor as required by 29 CFR 1926 (i.e. Asbestos, Electrical, Cranes, & Derricks, Demolition, Fall Protection, Fire Safety/Life Safety, Ladder, Rigging, Scaffolds, and Trenches/Excavations).
- C. These Competent Persons can have collateral duties as the subcontractor's superintendent and/or work crew lead persons as well as fill more than one specialized CP role (i.e. Asbestos, Electrical, Cranes, & Derricks, Demolition, Fall Protection, Fire Safety/Life Safety, Ladder, Rigging, Scaffolds, and Trenches/Excavations).
- D. The SSHO or an equally-qualified Designated Representative/alternate will maintain a presence on the site during construction operations in accordance with FAR Clause 52.236-6: *Superintendence by the Contractor*. CPs will maintain presence during their construction activities in accordance with above mentioned clause. A listing of the designated SSHO and all known CPs shall be submitted prior to the start of work as part of the APP with the training documentation and/or AHA as listed in Section 1.8 below.



- E. The repeated presence of uncontrolled hazards during a contractor's work operations will result in the designated CP as being deemed incompetent and result in the required removal of the employee in accordance with FAR Clause 52.236-5: Material and Workmanship, Paragraph (c).

**1.8 TRAINING:**

- A. The designated Prime Contractor SSHO must meet the requirements of all applicable OSHA standards and be capable (through training, experience, and qualifications) of ensuring that the requirements of 29 CFR 1926.16 and other appropriate Federal, State and local requirements are met for the project. As a minimum the SSHO must have completed the OSHA 30-hour Construction Safety class and have five (5) years of construction industry safety experience or three (3) years if he/she possesses a Certified Safety Professional (CSP) or certified Construction Safety and Health Technician (CSHT) certification or have a safety and health degree from an accredited university or college.
- B. All designated CPs shall have completed the OSHA 30-hour Construction Safety course within the past 5 years.
- C. In addition to the OSHA 30 Hour Construction Safety Course, all CPs with high hazard work operations such as operations involving asbestos, electrical, cranes, demolition, work at heights/fall protection, fire safety/life safety, ladder, rigging, scaffolds, and trenches/excavations shall have a specialized formal course in the hazard recognition & control associated with those high hazard work operations. Documented "repeat" deficiencies in the execution of safety requirements will require retaking the requisite formal course.
- D. All other construction workers shall have the OSHA 10-hour Construction Safety Outreach course and any necessary safety training to be able to identify hazards within their work environment.
- E. Submit training records associated with the above training requirements to the COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 14 calendar days prior to the date of the preconstruction conference for acceptance.
- F. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the SSHO or his/her designated representative. As a minimum, this briefing shall

include information on the site-specific hazards, construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, emergency procedures, accident reporting etc... Documentation shall be provided to the COR that individuals have undergone contractor's safety briefing.

- G. Ongoing safety training will be accomplished in the form of weekly documented safety meeting.

#### **1.9 INSPECTIONS:**

- A. The SSHO shall conduct frequent and regular safety inspections (daily) of the site and each of the subcontractors CPs shall conduct frequent and regular safety inspections (daily) of the their work operations as required by 29 CFR 1926.20(b)(2). Each week, the SSHO shall conduct a formal documented inspection of the entire construction areas with the subcontractors' "Trade Safety and Health CPs" present in their work areas. Coordinate with, and report findings and corrective actions weekly to COR.
- B. A Certified Safety Professional (CSP) with specialized knowledge in construction safety or a certified Construction Safety and Health Technician (CSHT) shall randomly conduct a monthly site safety inspection. The CSP or CSHT can be a corporate safety professional or independently contracted. The CSP or CSHT will provide their certificate number on the required report for verification as necessary.
1. Results of the inspection will be documented with tracking of the identified hazards to abatement.
  2. The COR will be notified immediately prior to start of the inspection and invited to accompany the inspection.
  3. Identified hazard and controls will be discussed to come to a mutual understanding to ensure abatement and prevent future reoccurrence.
  4. A report of the inspection findings with status of abatement will be provided to the COR within one week of the onsite inspection.

#### **1.10 ACCIDENTS, OSHA 300 LOGS, AND MAN-HOURS:**

- A. The prime contractor shall establish and maintain an accident reporting, recordkeeping, and analysis system to track and analyze all injuries and illnesses, high visibility incidents, and accidental property damage (both government and contractor) that occur on site. Notify the COR as soon as practical, but no more than four hours after

any accident meeting the definition of a Moderate or Major incidents, High Visibility Incidents, , or any weight handling and hoisting equipment accident. Within notification include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the COR determines whether a government investigation will be conducted.

- B. Conduct an accident investigation for recordable injuries and illnesses, for Medical Treatment defined in paragraph DEFINITIONS, and property damage accidents resulting in at least \$20,000 in damages, to establish the root cause(s) of the accident. Complete the VA Form 2162, and provide the report to the COR within 7 calendar days of the accident. The COR will provide copies of any required or special forms.
- C. A summation of all man-hours worked by the contractor and associated sub-contractors for each month will be reported to the COR monthly.
- D. A summation of all Minor, Moderate, and Major incidents and all OSHA recordable accidents experienced on site by the contractor and associated sub-contractors for each month will be provided to the COR monthly. The contractor and associated sub-contractors' OSHA 300 logs will be made available to the COR as requested.

#### **1.11 PERSONAL PROTECTIVE EQUIPMENT (PPE) :**

- A. PPE is governed in all areas by the nature of the work the employee is performing. For example, specific PPE required for performing work on electrical equipment is identified in NFPA 70E, Standard for Electrical Safety in the Workplace.
- B. Mandatory PPE includes:
  - 1. Hard Hats - unless written authorization is given by the COR, except in circumstances of work operations that have limited potential for falling object hazards such as during finishing work or minor remodeling. With authorization to relax the requirement of hard hats, if a worker becomes exposed to an overhead falling object hazard, then hard hats would be required in accordance with the OSHA regulations.

2. Safety glasses - unless written authorization is given by the COR, appropriate safety glasses meeting the ANSI Z.87.1 standard must be worn by each person on site.
3. Appropriate Safety Shoes - based on the hazards present, safety shoes meeting the requirements of ASTM F2413-11 shall be worn by each person on site unless written authorization is given by the COR.
4. Hearing protection - Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks.

#### **1.12 INFECTION CONTROL**

- A. Infection Control is critical in all medical center facilities. Interior construction activities causing disturbance of existing dust, or creating new dust, must be conducted within ventilation-controlled areas that minimize the flow of airborne particles into patient areas.
- B. Reference Hospital policy for Infection Control at the end of this Section.
- C. An AHA associated with infection control will be performed by VA personnel in accordance with FGI Guidelines (i.e. Infection Control Risk Assessment (ICRA)). The ICRA procedure found on the American Society for Healthcare Engineering (ASHE) website will be utilized. Risk classifications of Class II or lower will require approval by the COR before beginning any construction work. Risk classifications of Class III or higher will require a permit before beginning any construction work. Infection Control permits will be issued by the COR. The Infection Control Permits will be posted outside the appropriate construction area. More than one permit may be issued for a construction project if the work is located in separate areas requiring separate classes. The primary project scope area for this project will be determined by the Infection Control Risk Assessment Team, however, work outside the primary project scope area may vary. The required infection control precautions with each class are as follows:
  1. Class I requirements:
    - a. During Construction Work:
      - 1) Notify the COR.
      - 2) Execute work by methods to minimize raising dust from construction operations.

- 3) Ceiling tiles: Immediately replace a ceiling tiles displaced for visual inspection.
- b. Upon Completion:
  - 1) Clean work area upon completion of task.
  - 2) Notify the COR.
2. Class II requirements:
  - a. During Construction Work:
    - 1) Notify the COR.
    - 2) Provide active means to prevent airborne dust from dispersing into atmosphere such as wet methods or tool mounted dust collectors where possible.
    - 3) Water mist work surfaces to control dust while cutting.
    - 4) Seal unused doors with duct tape.
    - 5) Block off and seal air vents.
    - 6) Remove or isolate HVAC system in areas where work is being performed.
  - b. Upon Completion:
    - 1) Wipe work surfaces with cleaner/disinfectant.
    - 2) Contain construction waste before transport in tightly covered containers.
    - 3) Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.
    - 4) Upon completion, restore HVAC system where work was performed
    - 5) Notify the COR.
3. Class III requirements:
  - a. During Construction Work:
    - 1) Obtain permit from the COR.
    - 2) Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system.
    - 3) Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Install construction barriers and ceiling protection carefully, outside of normal work hours.
    - 4) Maintain negative air pressure, 0.01 inches of water gauge, within work site utilizing HEPA equipped air filtration units

and continuously monitored with a digital display, recording and alarm instrument, which must be calibrated on installation, maintained with periodic calibration and monitored by the contractor.

- 5) Contain construction waste before transport in tightly covered containers.
- 6) Cover transport receptacles or carts. Tape covering unless solid lid.

b. Upon Completion:

- 1) Do not remove barriers from work area until completed project is inspected by the COR and thoroughly cleaned by the VA Environmental Services Department.
- 2) Remove construction barriers and ceiling protection carefully to minimize spreading of dirt and debris associated with construction, outside of normal work hours.
- 3) Vacuum work area with HEPA filtered vacuums.
- 4) Wet mop area with cleaner/disinfectant.
- 5) Upon completion, restore HVAC system where work was performed.
- 6) Return permit to the COR.

4. Class IV requirements:

a. During Construction Work:

- 1) Obtain permit from the COR.
- 2) Isolate HVAC system in area where work is being done to prevent contamination of duct system.
- 3) Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Install construction barriers and ceiling protection carefully, outside of normal work hours.
- 4) Maintain negative airpressure, 0.01 inches of water gauge, within work site utilizing HEPA equipped air filtration units and continuously monitored with a digital display, recording and alarm instrument, which must be calibrated on installation, maintained with periodic calibration and monitored by the contractor.
- 5) Seal holes, pipes, conduits, and punctures.

- 6) Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave work site.
- 7) All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area.

b. Upon Completion:

- 1) Do not remove barriers from work area until completed project is inspected by the COR with thorough cleaning by the VA Environmental Services Dept.
- 2) Remove construction barriers and ceiling protection carefully to minimize spreading of dirt and debris associated with construction, outside of normal work hours.
- 3) Contain construction waste before transport in tightly covered containers.
- 4) Cover transport receptacles or carts. Tape covering unless solid lid.
- 5) Vacuum work area with HEPA filtered vacuums.
- 6) Wet mop area with cleaner/disinfectant.
- 7) Upon completion, restore HVAC system where work was performed.
- 8) Return permit to the COR

D. Barriers shall be erected as required based upon classification (Class III & IV requires barriers) and shall be constructed as follows:

1. Class III and IV - closed door with masking tape applied over the frame and door is acceptable for projects that can be contained in a single room.
2. Construction, demolition or reconstruction not capable of containment within a single room must have the following barriers erected and made presentable on hospital occupied side:
  - a. Class III & IV (where dust control is the only hazard, and an agreement is reached with the COR and Medical Center) - Airtight plastic barrier that extends from the floor to ceiling. Seams must be sealed with duct tape to prevent dust and debris from escaping.
  - b. Class III & IV - Drywall barrier erected with joints covered or sealed to prevent dust and debris from escaping.

- c. Class III & IV - Seal all penetrations in existing barrier airtight.
  - d. Class III & IV - Barriers at penetration of ceiling envelopes, chases and ceiling spaces to stop movement air and debris.
  - e. Class IV only - Anteroom or double entrance openings that allow workers to remove protective clothing or vacuum off existing clothing.
  - f. Class III & IV - At elevators shafts or stairways within the field of construction, overlapping flap minimum of two feet wide of polyethylene enclosures for personnel access.
- E. Products and Materials:
- 1. Sheet Plastic: Fire retardant polystyrene, 6-mil thickness meeting local fire codes.
  - 2. Barrier Doors: Self Closing solid core wood or hollow metal in steel frame, painted.
  - 3. Dust proof fire-rated drywall.
  - 4. High Efficiency Particulate Air-Equipped filtration machine rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. HEPA filters should have ASHRAE 85 or other prefilter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Maintenance of equipment and replacement of the HEPA filters and other filters will be in accordance with manufacturer's instructions.
  - 5. Exhaust Hoses: Heavy duty, flexible steel reinforced; Ventilation Blower Hose.
  - 6. Adhesive Walk-off Mats: Provide minimum size mats of 24 inches x 36 inches.
  - 7. Disinfectant: Hospital-approved disinfectant or equivalent product.
  - 8. Portable Ceiling Access Module.
- F. Before any construction on site begins, all contractor personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- G. A dust control program will be establish and maintained as part of the contractor's infection preventive measures in accordance with the FGI Guidelines for Design and Construction of Healthcare Facilities. Prior to start of work, prepare a plan detailing project-specific dust



protection measures with associated product data, including periodic status reports, and submit to COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

- H. Medical Center Infection Control personnel will monitor for airborne disease (e.g. aspergillosis) during construction. A baseline of conditions will be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality with safe thresholds established.
- I. In general, the following preventive measures shall be adopted during construction to keep down dust and prevent mold.
  - 1. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. HEPA filtration is required where the exhaust dust may reenter the medical center.
  - 2. Exhaust hoses shall be exhausted so that dust is not reintroduced to the medical center.
  - 3. Adhesive Walk-off/Carpet Walk-off Mats shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
  - 4. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as it is created. Transport these outside the construction area in containers with tightly fitting lids.
  - 5. The contractor shall not haul debris through patient-care areas without prior approval of the COR and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.
  - 6. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the

construction areas. All accidental spills must be cleaned up and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.

7. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.

J. Final Cleanup:

1. Upon completion of project, or as work progresses, remove all construction debris from above ceiling, vertical shafts and utility chases that have been part of the construction.
2. Perform HEPA vacuum cleaning of all surfaces in the construction area. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
3. All new air ducts shall be cleaned prior to final inspection.

K. Exterior Construction

1. Contractor shall verify that dust will not be introduced into the medical center through intake vents, or building openings. HEPA filtration on intake vents is required where dust may be introduced.
2. Dust created from disturbance of soil such as from vehicle movement will be wetted with use of a water truck as necessary
3. All cutting, drilling, grinding, sanding, or disturbance of materials shall be accomplished with tools equipped with either local exhaust ventilation (i.e. vacuum systems) or wet suppression controls.

**1.13 TUBERCULOSIS SCREENING**

- A. Contractor shall provide written certification that contract employees assigned to the work site that are determined to be at risk for transmission of TB have had a pre-placement tuberculin screening within 90 days prior to assignment to the worksite and been found to have negative TB screening reactions. Contractors shall be required to show documentation of negative TB screening reactions for any additional workers who are added after the 90-day requirement before they will be allowed to work on the work site. NOTE: This can be the Center for Disease Control (CDC) and Prevention and two-step skin testing or a Food and Drug Administration (FDA)-approved blood test.

1. Contract employees manifesting positive screening reactions to the tuberculin shall be examined according to current CDC guidelines prior to working on VHA property.
2. Subsequently, if the employee is found without evidence of active (infectious) pulmonary TB, a statement documenting examination by a physician shall be on file with the employer (construction contractor), noting that the employee with a positive tuberculin screening test is without evidence of active (infectious) pulmonary TB.
3. If the employee is found with evidence of active (infectious) pulmonary TB, the employee shall require treatment with a subsequent statement to the fact on file with the employer before being allowed to return to work on VHA property.

#### **1.14 FIRE SAFETY**

- A. Fire Safety Plan: Establish and maintain a site-specific 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 COR and Facility Safety Manager for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. This plan may be an element of the Accident Prevention Plan.
- B. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- 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).
- D. Temporary Construction Partitions:
  1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas and adjoining areas. Construct partitions of gypsum board on the public side and gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on the construction side of fire retardant treated wood or metal steel studs. Gypsum board joints on the public side of the temporary partition shall be taped and finished. The public side of temporary partitions shall be painted.

- Extend the partitions through suspended ceilings to floor slab deck or roof. At door openings, install Class C, ¾ hour fire/smoke rated doors with self-closing devices and VA locking system (storeroom type lock always locked from the corridor side). Refer to Drawings for additional requirements.
2. Install temporary construction partitions to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.
  3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration firestop materials in accordance with Section 07 84 00, FIRESTOPPING.
- 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 COR.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to 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.
- J. Sprinklers: Install, test and activate new automatic sprinklers prior to removing existing sprinklers.
- K. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with COR. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the

testing and results of any tests performed shall be recorded by the medical center and copies provided to the COR.

- L. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with COR.
- M. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with COR. Obtain permits from COR at least 48 hours in advance.
- N. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to COR.
- O. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction.
- P. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily. (Refer to Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT for GEMS Policy Requirements.)
- Q. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.
- R. If required, submit documentation to the COR that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.
- S. See Section 01 00 00, GENERAL REQUIREMENTS for additional OSHA Requirements and Safety and Health Regulations.

#### **1.15 ELECTRICAL**

- A. All electrical work shall comply with NFPA 70 (NEC), NFPA 70B, NFPA 70E, 29 CFR Part 1910 Subpart J - General Environmental Controls, 29 CFR Part 1910 Subpart S - Electrical, and 29 CFR 1926 Subpart K in addition to other references required by contract.
- B. All qualified persons performing electrical work under this contract shall be licensed journeyman or master electricians. All apprentice electricians performing under this contract shall be deemed unqualified persons unless they are working under the immediate supervision of a licensed electrician or master electrician.
- C. All electrical work will be accomplished de-energized and in the Electrically Safe Work Condition (refer to NFPA 70E for Work Involving Electrical Hazards, including Exemptions to Work Permit). Any Contractor, subcontractor or temporary worker who fails to fully comply with this requirement is subject to immediate termination in accordance

with FAR clause 52.236-5(c). Only in rare circumstance where achieving an electrically safe work condition prior to beginning work would increase or cause additional hazards, or is infeasible due to equipment design or operational limitations is energized work permitted. The COR with approval of the Medical Center Director will make the determination if the circumstances would meet the exception outlined above. An AHA and permit specific to energized work activities will be developed, reviewed, and accepted prior to the start of that work.

1. Development of a Hazardous Electrical Energy Control Procedure is required prior to de-energization. A single Simple Lockout/Tagout Procedure for multiple work operations can only be used for work involving qualified person(s) de-energizing one set of conductors or circuit part source. Task specific Complex Lockout/Tagout Procedures are required at all other times.
  2. Verification of the absence of voltage after de-energization and lockout/tagout is considered "energized electrical work" (live work) under NFPA 70E, and shall only be performed by qualified persons wearing appropriate shock protective (voltage rated) gloves and arc rate personal protective clothing and equipment, using Underwriters Laboratories (UL) tested and appropriately rated contact electrical testing instruments or equipment appropriate for the environment in which they will be used.
  3. Personal Protective Equipment (PPE) and electrical testing instruments will be readily available for inspection by the the COR.
- D. Before beginning any electrical work, an Activity Hazard Analysis (AHA) will be conducted to include Shock Hazard and Arc Flash Hazard analyses (NFPA Tables can be used only as a last alternative and it is strongly suggested a full Arc Flash Hazard Analyses be conducted). Work shall not begin until the AHA for the work activity has been accepted by the COR and discussed with all engaged in the activity, including the Contractor, subcontractor(s), and Government on-site representatives at preparatory and initial control phase meetings.
- E. Ground-fault circuit interrupters. GFCI protection shall be provided where an employee is operating or using cord- and plug-connected tools related to construction activity supplied by 125-volt, 15-, 20-, or 30-ampere circuits. Where employees operate or use equipment supplied by greater than 125-volt, 15-, 20-, or 30- ampere circuits, GFCI

protection or an assured equipment grounding conductor program shall be implemented in accordance with NFPA 70E - 2015, Chapter 1, Article 110.4(C) (2).

#### **1.16 FALL PROTECTION**

- A. The fall protection (FP) threshold height requirement is 6 ft (1.8 m) for ALL WORK, unless specified differently or the OSHA 29 CFR 1926 requirements are more stringent, to include steel erection activities, systems-engineered activities (prefabricated) metal buildings, residential (wood) construction and scaffolding work.
  - 1. The use of a Safety Monitoring System (SMS) as a fall protection method is prohibited.
  - 2. The use of Controlled Access Zone (CAZ) as a fall protection method is prohibited.
  - 3. A Warning Line System (WLS) may ONLY be used on floors or flat or low-sloped roofs (between 0 - 18.4 degrees or 4:12 slope) and shall be erected around all sides of the work area (See 29 CFR 1926.502(f) for construction of WLS requirements). Working within the WLS does not require FP. No worker shall be allowed in the area between the roof or floor edge and the WLS without FP. FP is required when working outside the WLS.
  - 4. Fall protection while using a ladder will be governed by the OSHA requirements.

#### **1.17 SCAFFOLDS AND OTHER WORK PLATFORMS**

- A. All scaffolds and other work platforms construction activities shall comply with 29 CFR 1926 Subpart L.
- B. The fall protection (FP) threshold height requirement is 6 ft (1.8 m) as stated in Section 1.16.
- C. The following hierarchy and prohibitions shall be followed in selecting appropriate work platforms.
  - 1. Scaffolds, platforms, or temporary floors shall be provided for all work except that can be performed safely from the ground or similar footing.
  - 2. Ladders less than 20 feet may be used as work platforms only when use of small hand tools or handling of light material is involved.
  - 3. Ladder jacks, lean-to, and prop-scaffolds are prohibited.
  - 4. Emergency descent devices shall not be used as working platforms.

- D. Contractors shall use a scaffold tagging system in which all scaffolds are tagged by the Competent Person. Tags shall be color-coded: green indicates the scaffold has been inspected and is safe to use; red indicates the scaffold is unsafe to use. Tags shall be readily visible, made of materials that will withstand the environment in which they are used, be legible and shall include:
1. The Competent Person's name and signature;
  2. Dates of initial and last inspections.
- E. Mast Climbing work platforms: When access ladders, including masts designed as ladders, exceed 20 ft (6 m) in height, positive fall protection shall be used.

#### **1.18 CRANES**

- A. All crane work shall comply with 29 CFR 1926 Subpart CC.
- B. Prior to operating a crane, the operator must be licensed, qualified or certified to operate the crane. Thus, all the provisions contained with Subpart CC are effective and there is no "Phase In" date.
- C. A detailed lift plan for all lifts shall be submitted to the COR 14 days prior to the scheduled lift complete with route for truck carrying load, crane load analysis, siting of crane and path of swing and all other elements of a critical lift plan where the lift meets the definition of a critical lift. Critical lifts require a more comprehensive lift plan to minimize the potential of crane failure and/or catastrophic loss. The plan must be reviewed and accepted by the General Contractor before being submitted to the VA for review. The lift will not be allowed to proceed without prior acceptance of this document.
- D. Crane operators shall not carry loads
1. Over the general public or VAMC personnel
  2. Over any occupied building unless
    - a. The top two floors are vacated
    - b. Or overhead protection with a design live load of 300 psf is provided

#### **1.19 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)**

- A. All installation, maintenance, and servicing of equipment or machinery shall comply with 29 CFR 1910.147 except for specifically referenced operations in 29 CFR 1926 such as concrete & masonry equipment [1926.702(j)], heavy machinery & equipment [1926.600(a)(3)(i)], and



process safety management of highly hazardous chemicals (1926.64). Control of hazardous electrical energy during the installation, maintenance, or servicing of electrical equipment shall comply with Section 1.15 to include NFPA 70E and other VA specific requirements discussed in the section.

#### **1.20 CONFINED SPACE ENTRY**

- A. All confined space entry shall comply with 29 CFR 1910.146 except for specifically referenced operations in 29 CFR 1926 such as excavations/trenches [1926.651(g)].
- B. A site-specific Confined Space Entry Plan (including permitting process) shall be developed and submitted to the COR.

#### **1.21 WELDING AND CUTTING**

As specified in section 1.14, Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with COR. Obtain permits from COR at least 48 hours in advance.

#### **1.22 LADDERS**

- A. All Ladder use shall comply with 29 CFR 1926 Subpart X.
- B. All portable ladders shall be of sufficient length and shall be placed so that workers will not stretch or assume a hazardous position.
- C. Manufacturer safety labels shall be in place on ladders.
- D. Step Ladders shall not be used in the closed position.
- E. Top steps or cap of step ladders shall not be used as a step.
- F. Portable ladders, used as temporary access, shall extend at least 3 ft (0.9 m) above the upper landing surface.
  - 1. When a 3 ft (0.9-m) extension is not possible, a grasping device (such as a grab rail) shall be provided to assist workers in mounting and dismounting the ladder.
  - 2. In no case shall the length of the ladder be such that ladder deflection under a load would, by itself, cause the ladder to slip from its support.
- G. Ladders shall be inspected for visible defects on a daily basis and after any occurrence that could affect their safe use. Broken or damaged ladders shall be immediately tagged "DO NOT USE," or with similar wording, and withdrawn from service until restored to a condition meeting their original design.

#### **1.23 FLOOR & WALL OPENINGS**

- A. All floor and wall openings shall comply with 29 CFR 1926 Subpart M.

- B. Floor and roof holes/openings are any that measure over 2 in (51 mm) in any direction of a walking/working surface which persons may trip or fall into or where objects may fall to the level below. See 21.F for covering and labeling requirements. Skylights located in floors or roofs are considered floor or roof hole/openings.
- C. All floor, roof openings or hole into which a person can accidentally walk or fall through shall be guarded either by a railing system with toeboards along all exposed sides or a load-bearing cover. When the cover is not in place, the opening or hole shall be protected by a removable guardrail system or shall be attended when the guarding system has been removed, or other fall protection system.
1. Covers shall be capable of supporting, without failure, at least twice the weight of the worker, equipment and material combined.
  2. Covers shall be secured when installed, clearly marked with the word "HOLE", "COVER" or "Danger, Roof Opening-Do Not Remove" or color-coded or equivalent methods (e.g., red or orange "X"). Workers must be made aware of the meaning for color coding and equivalent methods.
  3. Roofing material, such as roofing membrane, insulation or felts, covering or partly covering openings or holes, shall be immediately cut out. No hole or opening shall be left unattended unless covered.
  4. Non-load-bearing skylights shall be guarded by a load-bearing skylight screen, cover, or railing system along all exposed sides.
  5. Workers are prohibited from standing/walking on skylights.

- - - E N D - - -

(Name) CONSTRUCTION COMPANY

# **SITE SPECIFIC ACCIDENT PREVENTION PLAN**

**+  
CONSTRUCTION HEALTH AND SAFETY PROGRAM**

**FOR**

<Name of Project>

**Veterans Affairs Medical Center – Wade Park  
Cleveland, Ohio**

**Project number given by contracting to avoid confusion**

**PROJECT # 541-##-###  
CONTRACT # VA541-<A-XYZ>**

**RESPONSIBILITIES AND LINES OF AUTHORITY OF <NAME> CONSTRUCTION COMPANY**

The following people have responsibilities and authority for corporate safety:

## BACKGROUND INFORMATION (Prime)

- I. Contractor: **<Name>**  
**<Address>**  
**<City, State Zip>**
- II. Project Name: **Wade Park - <Name>**
- III. Project Description: **<Brief Description (541-xx-xxx)>**
- IV. Contractor Accident Record: **<Contractor provide OSHA Log information>**

### A. RESPONSIBILITIES

- 1. Chief Corporate Safety Officer: **<Contact Name (Contact telephone #)>**  
**<Name>** Construction Company  
**<Title>**
- 2. Site Safety Responsibilities: **<Contact Name (Contact telephone #)>**  
**<Name>** Construction Company  
**<Title>**
- 3. Project Safety Consulting: **<Contact Name (Contact telephone #)>**  
**<Name>** Construction Company  
**<Title>**

## BACKGROUND INFORMATION (SUBCONTRACTOR)

- I. Contractor: **<Name>**  
**<Address>**  
**<City, State Zip>**
- II. Project Name: **Wade Park - <Name>**
- III. Project Description: **<Brief Description>**
- IV. Contractor Accident Record: **<Contractor provide OSHA Log information>**

### A. RESPONSIBILITIES

- 1. Chief Corporate Safety Officer: **<Contact Name (Contact telephone #)>**  
**<Name>** Construction Company  
**<Title>**
- 2. Site Safety Responsibilities: **<Contact Name (Contact telephone #)>**  
**<Name>** Construction Company  
**<Title>**



## SCOPE OF WORK SUMMARY

### Summary

This job consists of **<Basic Description> Please include the scope of work submitted for the project**

#### Pre-demolition:

**<Describe the activity in sufficient detail to determine the safety program elements that will be required to be addressed in the body of the procedure – Section 6. Use the PCRA (Pre-Construction Risk Assessment) along with the Scope of Work to determine which elements need to be addressed for the pre-demolition phase.>**

#### Demolition:

**<Describe the activity in sufficient detail to determine the safety program elements that will be required to be addressed in the body of the procedure – Section 6. PCRA (Pre-Construction Risk Assessment) along with the Scope of Work to determine which elements need to be addressed for each of the demolition phase.>**

#### Construction:

**<Describe the activity in sufficient detail to determine the safety program elements that will be required to be addressed in the body of the procedure Section - 6. PCRA (Pre-Construction Risk Assessment) along with the Scope of Work to determine which elements need to be addressed for the construction phase.>**

## 1. SITE ACCESS:

- a) Parking onsite is not provided by the VAMC Cleveland at the Wade Park Facility
- b) Access into the facility will be through entrances located close to the work area to avoid patient care areas. The following entrance that will be used by <Name> Construction Company employees will be submitted in writing or on the drawings:  
<Enter the specific building access to be used>

## 2. WORK AREA SECURITY:

- a) All <Name> Construction Company employees will wear company identification badges or those provided by VAMC Cleveland Police Service.
- b) Patients, visitors and unauthorized VAMC Cleveland employees will be kept out of work areas using locked doors, barricades and safety postings as appropriate.

## 3. PLAN FOR PREVENTION OF ALCOHOL AND DRUG ABUSE

<Review – replace with your own company policy if this doesn't work for you>

- a) Due to the nature of our work, it is critical that all employees are free from the adverse effects of drugs and/or alcohol. The company is committed to providing a safe workplace for all its employees. The goal of this policy is to maintain a safe and secure work environment that is free from the effects of alcohol and drug abuse.
- b) The intent of this policy is to be responsive to the employees health needs by the early recognition and treatment of chemical dependency problems and behavioral/medical disorder, and to support the rights of the company and its employees to work within an alcohol / drug free environment.
- c) This policy is not applicable to physician prescribed drugs. Employees on such medication(s), which may adversely affect their job performance, should promptly discuss the matter with their supervisor.
  - Failure of the employee to so notify their supervisor can result in disciplinary action including discharge.
  - It should be noted that while legal, prescribed drugs could adversely affect the safety of the employee and other employees on the site.
  - All <Name> Construction employees are drug tested before hiring, periodically, and annually.

## 4. SITE SAFETY AUDITS (Inspections):

### a) INTERNAL INSPECTIONS

The site supervisor, who is the <Name> Construction competent person, will conduct the Site Safety and Health inspections. The competent person's certifications are located in Appendix B. <Put the Certifications in the Appendix B.> There will two types of safety inspections that will be performed on this job site.

- (1) A weekly Safety and Health inspection and report will be conducted by the site supervisor. The inspection forms will document and track the following information:
  - Any Violations
  - Date of violation
  - Nature of violation
  - Needed corrective action
  - Date of correction
  - Name of responsible person(s)
  - (a) In addition to the above items he will also notify any employee and/or subcontractor in writing of any violations.
  - (b) This information will be followed up on by the COR or Construction Safety Group, as needed and/or requires immediate attention to the violations. (Should he notify VA of findings?)
  - (c) All safety inspection forms are reviewed to ensure that all noted corrective actions are within the applicable OSHA and Veterans Affairs Safety and Health Manual guidelines.
  - (d) This documentation will be kept (readily available?) at the project field office, and will aid in the audits of the Accident Prevention Plan.
- (2) The second type of Safety and Health Inspection will be a daily checklist.
  - (a) This too, will be performed each workday onsite, by the site supervisor.
  - (b) This documentation will be kept at the project field office, and will aid in the audits of the Accident Prevention Plan. (this too Should be made readily available?)

b) EXTERNAL INSPECTORS/CONSTRUCTION ROUNDS

- (1) At various times there may be announced and unannounced visits to the work area of any of the Contracted Construction Projects. They may be visited by some or all of the members of the Construction Safety Inspection Group.
- (2) Prior to the activity of cutting and/or welding, the COR for the Veterans Affairs will be contacted to assist in scheduling a site inspection and submission for a burn permit.
- (3) Prior to any activity including digging and/or excavating, the COR for the Veterans Affairs will be contacted to assist in scheduling a site inspection and submission for a permit.
- (4) Prior to any activity including the renovation and/or penetration of rated walls, the COR for the Veterans Affairs will be contacted to assist in scheduling a site inspection and submission for a permit.
- (5) Prior to any activity including the removal or repair of Asbestos



Containing Building Material, the COR for the Veterans Affairs will be contacted to assist in scheduling a site inspection and submission for a permit.

c) INSPECTIONS BY OUTSIDE PARTIES i.e., OSHA, EPA, etc.

(1) Presentation of Credentials - Upon arrival at the work site or facility, the Compliance Officer must display his or her credentials and will ask to meet with the appropriate employer representative.

(2) The contractor must notify the projects COR immediately upon the initial contact of the Compliance Officer's contact.

(3) Opening Conference – During an opening conference, the compliance officer will explain the purpose of the inspection. The contractor's management representative must be prepared to discuss actions that have been taken to demonstrate their company's commitment to the health and safety of employees (e.g. work practices, safety and industrial hygiene standards, safety manuals, training conducted, internal inspections, etc).

(4) An authorized employee representative will be given the opportunity to attend the opening conference and to accompany the compliance officer during the inspection. Employees may also be consulted during the conduct of the inspection. Employees who participate in the inspection, or are consulted by the compliance officer, are protected from discrimination for exercising their safety and health rights under the "Whistle Blowers Act".

(5) A contractor management representative and a VAMC Cleveland Safety representative must accompany the compliance officer during the inspection and keep accurate notes of any actual or possible violations found by the compliance officer. Obvious violations detected by the compliance officer should be corrected on the spot where possible.

(6) It is imperative that existing operations, reports, logs, etc. not be misrepresented to the compliance officer. The penalty for making false statements or representation to OSHA or its compliance officers is a maximum of \$10,000 and 6 months imprisonment. In addition, the offending party can be subject to discipline by the company up to and including discharge.

(7) Closing Conference - After the inspection has been conducted, a closing conference will be held between the compliance officer, the employer and employee representatives and VAMC Cleveland. This is the best time, before possible issuance of a citation, to explain the company's position. It is imperative that we question any proposed findings or abatement periods that are unreasonable. Request that any citations be sent to the company with a copy to the VAMC Cleveland safety office.

## 5. SAFETY TRAINING /EDUCATION:

a) Site orientation training:

All employees on site will be required to attend a Safety Training Orientation at the start of the project, or before they begin work at the job site. The site supervisor, competent person, will conduct the training. Training on the applicable requirements of this Site Specific Training Plan is mandatory and must be documented.

b) Supervisor and employee safety meetings:

The primary site supervisor, who is the competent person (certifications located in Appendix B), will conduct the initial employee site safety orientation. Mandatory safety meetings will be held on a weekly basis. Safety and health topics will vary from week to week on subject matter, utilizing the 29 CFR 1910 and 29 CFR 1926 standards, along with the Veterans Affairs Safety and Health Program and issues raised during construction.

**<Place documentation of training sign-in sheets and agenda in Appendix B>**

c) Employee training:

**<Name>** Construction Company employees will be trained, at the site safety orientation on the following topics:

- When PPE is necessary.
- What PPE is necessary and which PPE has been selected for each process the employee operates.
- How to properly put on, take off, adjust, and wear PPE.

## 6. ACCIDENT REPORTING:

All **<Name>** Construction employees on site will be required to attend an “Accident and Event Reporting” Orientation class at the start of the project, or before they begin work at the job site. The site supervisor, competent person, will conduct the above mentioned training.

a) Accident investigations, reports, and logs:

The project manager and site supervisor will conduct all accident and near miss investigations. The site supervisor will maintain the OSHA 300 log. All documentation will be kept on the job site. Certifications for competent person(s) are located in Appendix B.

b) Immediate notification of major accidents:

Should a major accident occur, the following notifications will take place as soon as any injured person(s) are cared for:

**<Contact Name, Title>**  
**<Contact Name, Title>**  
**<Contact Name, Title>**

VA Safety Representative: Frank Wunderle

**Local Emergency Services:**

**For Wade Park**

Hospital	VA Wade Park Medical Facility 10701 East Blvd. Cleveland, Ohio 44106 Dial 2222 from any VA Phone
Hospital	University Hospitals 11100 Euclid Avenue Cleveland, Ohio 44106 911 / (216) 844-1000
Fire Department	911 / 216-664-6813
Security	Dial 4207 from any VA Phone

**For Brecksville**

Hospital	VA Brecksville Medical Facility 10000 Brecksville Rd.. Brecksville, Ohio 44141 Dial 2222 from any VA Phone
Hospital	Marymount medical Center 2001 East Royalton Rd. Broadview Hts., Ohio 44147 440.717.5800
Fire Department	911 / 440-526-2640
Security	Dial 4207 from any VA Phone

This listing will be posted in the field office.

c) Accident response plan:

<Name> Construction Company intends to make certain all emergency incidents are handled in a proper and safe manner giving priority to the following:

- Life Safety
- Property Conservation
- Emergency Situation Investigation
- Return to Normal Operations

d) Exposure data / man hours worked:

- (1) This section covers the following operations **<Fill in operation/s requiring additional training>** unless the employer can demonstrate that the operation does not involve employee exposure or the reasonable possibility for employee exposure to safety or health hazards. Example; (a negative impact statement or asbestos abatement)
- (2) This information will be maintained by the site supervisor and verified by **<Contact Name>**. A daily log will be maintained of all man hours worked. This information will also be used to determine the final TIR for the project. Any data collected will be submitted to the COR for their report.

## 7. EMERGENCY RESPONSE PLAN:

This plan covers the actions of all **<Name>** Construction employees. All subcontractors on site will be required to submit for approval, to **<Name>** Construction Company, their own site specific Emergency Response Plan. If not adequate, the subcontractor and their employees must be orientated to the **<Name>** Construction Company's "SITE SPECIFIC EMERGENCY RESPONSE PLAN", before they can begin work at this site.

### a) Chemical Safety:

As part of this program, **<Name>** Construction Company will inform subcontractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety, or other hazards.

The following procedures address emergency response as follows:

- Pre-emergency planning and coordination with outside parties:  
VAMC (COR) will receive notification of date to start work, along with MSDS's of all substances brought onto the facility.
- Personal roles, lines of authority, training, and communication:

The personnel utilizing chemicals will contain the substances brought onto the facility. Plumbers will contain and handle all compressed gas cylinders, providing they have been trained and documented.

In the case where a situation occurs that they cannot handle, all employees will be trained on evacuating the area, notifying the on-site supervisor, and workers in the immediate worksite.

- Emergency recognition and prevention:

All workers will, at the safety orientation, be informed of this site-specific emergency response plan and procedures.

All workers will be responsible to recognize hazards and their prevention, practice this at all times on the worksite.

All workers will be responsible to answer question from surveyors about general safety, health, and emergency procedures wherever they are on site.

### b) Emergency plan for severe weather:

For the site-specific severe weather conditions that employees may encounter during the project, <Name> Construction Company has developed the following procedures. First, <Name> Construction Company employees will adhere to all NWS warnings and advisories. For snowfall, the policy for workers is that a Level Three emergency, which is predicted heavy snow fall, or other dangerous weather conditions.

- Safe distances and places of refuge:

All workers at this site will be informed of the designated location of the safe zone. This will also be posted in the field office for all to be reminded of. In the event of an emergency occurrence, and the Local Fire Department, or any other entity is summoned, all workers will report to this zone to be accounted for.

- Site security and control:

In the event of an emergency, workers will notify the site supervisor or project manager of the situation, at that time, workers will report to the safe zone. The site supervisor and/or project manager will notify security and any other applicable authorities. Staying away from the immediate situation and not allowing any unauthorized personnel to enter until proper authorities arrive.

- Evacuation routes and procedures:

Any work will be performed on the interior of the building. Evacuation plans are posted in various locations throughout work area by the VA.

- Decontamination:

This would be required if there is a possibility of a large spill of hazardous material with the potential of contaminating contractor employees. Small spills and personnel contaminations are expected to be cleaned up using the contractors Hazard Communication program and associated MSDS requirements.

c) Medical support:

It will be the duty of all workers onsite, including subcontractors, to immediately report to the site supervisor and/or project manager, COR's any and all emergencies.

The following are items of concern regarding the handling of all medical support requirements:

(1) On site:

- For incidents occurring on site at Wade Park Veterans Affairs Medical Center or Brecksville Veterans Affairs Medical Center; the victim(s) will be stabilized prior to be relocated to another institution.
- For non-emergency support first aid supplies will be kept at the <Name> Construction Company field office. All subcontractors will be

required to supply properly trained personnel as well as their own first aid supplies.

- All supplies will be subject to our safety inspections. No one will perform first aid or CPR unless properly trained, and verification of certification is on file at the jobsite.

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(2) Off site:

- For the Wade Park location, University Hospital Medical Center is located at 11100 Euclid Avenue (216) 844-1000. For the Brecksville location, Marymount medical Center is located on 2001 East Royalton Rd., Broadview Hts., OH 44147.
- Maps are posted and available for all contractors on site (See Appendix A).
- Emergency medical treatment and first aid:
- Emergency alerting and response procedures:
- It will be the duty of all workers onsite, including subcontractors, to immediately respond to the COR's, Construction Safety Team or Outside Inspectors from governmental agencies or agencies approving accreditation regarding their function during an emergency.

(3) Posting of emergency telephone numbers:

The posting of these Emergency Telephone Numbers will be in the job field office, where all workers will have access to them. All employees and subcontractors will be made aware of these and the location at the safety orientation. The numbers are as follows:

Hospital	Wade Park Veterans Affairs Medical Center Dial 2222 from any VA Phone
	University Hospital 911 / (216) 844-1000
Fire Department	911 / (216) 664-6813
Security	Dial 4207 from any VA Phone

d) Hazard communication program:

This site specific Hazard Communication Plan has been implemented in accordance with 29 CFR 1910.1200.

All areas in which hazardous chemicals will be stored shall have the proper label and/or signs. The MSDS for all chemicals on site will be located in a book labeled MSDS, in the project field office.

The training of employees and subcontractors will be as follows:

- Where to find this program
- What is in this program
- All chemicals on this jobsite
- What is an MSDS
- How to find specific information on an MSDS
- Labeling system
- What area these chemicals are stored in, map indicating
- The proper handling procedures for these chemicals
- Spill/release clean up protocol

Should there be an immediate threat to life or property, the emergency response plan for the installation, which is to be on file at the field office.

It is mandatory that all subcontractors submit, before a new chemical is introduced to the worksite, that the proper MSDS is submitted to the site supervisor/project manager. It will be the responsibility of the site supervisor to inform all employees and subcontractors of the new chemical(s), introduce the MSDS, and the potential hazards of that chemical. The site supervisor and/or project manager will have the responsibility to notify the Contracting Officer / COR of any and all new chemicals brought onto the facility.

Chemical storage areas, if needed, to be located per VA designated location.

- e) CORRECTIVE ACTIONS INVOLVING CLEAN-UP OPERATIONS AT SITES COVERED BY THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976 (RCRA) AS AMENDED (42 W.S.C. 6901 ET SEQ).

Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substance that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA, NPL, and initial investigations of government identified sites which area conducted before the presence or absence of hazardous substances has been ascertained;

Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites;

Operations involving hazardous waste that area conducted at treatment, storage, disposal (TSD) facilities regulated by 40 CFR Parts 264 and 265 pursuant to RCRA; or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations; and Emergency response operations for releases of, or substantial threats of releases of, hazardous substances with regard to the location of the hazard.

## **8. FIRE PREVENTION PLAN:**

We at <Name> Construction Company limit our employees participation to the use of portable fire extinguishers. The site supervisor at safety orientation will cover this Plan. The following topics will include:

- a) All areas controlled by the primary contractor are required to maintain fire protection during their occupancy. As a minimum smoke detectors and heat sensors shall be in place whenever the areas original fire protection has been compromised.
- b) All fire extinguishers must be checked and tagged every thirty day
- c) The general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.
- d) Actions to be taken by authorized person(s)
  - (1) Evacuate area.
  - (2) Notify site supervisor and/or project manager.
  - (3) Determine if fire is incipient
  - (4) Utilize fire extinguisher.
  - (5) If fire or smoke is too great, report to safe zone.
  - (6) Make call to Fire Department if instructed by supervisor and/or project manager.
- e) Actions to be taken by unauthorized person(s)
  - (1) Evacuate area
  - (2) Notify supervisor and/or project manager.
  - (3) Report to safe zone.
  - (4) Make call to Fire Department if instructed by site supervisor and/or project manager.
- f) Only approved fire extinguishers will be onsite and checked on a daily basis by the site supervisor. These will be located in the following areas, but not limited to:
  - (1) Portable Fire Extinguishers
  - (2) Individual Roles and Responsibilities
  - (3) Fire Watch
  - (4) Response Plans
  - (5) Safe Zone
  - (6) Notification
  - (7) Site Mapping
  - (8) Inside field office.
  - (9) In any area where cutting or welding is taking place
- g) The following sections listed below are all part of this Accident Prevention Plan. The information below contains additional requirements that are part of this Fire Prevention Plan:
  - Safety and Health Inspections
  - Firefighting Plan
  - Posting of Emergency Numbers



- Hazard Communication Program
- Site Sanitation Plan

- (1) The risk of a job site fire can be avoided through; safety and health inspections, housekeeping, proper maintenance, proper storage and handling, ensuring all employees and subcontractors are performing their designated work duties properly, the handling of supplies and equipment as directed, following all guidelines set forth through operating manuals, instructions, and training,
- (2) All employees and subcontractors require the proper storage of combustibles. Combustible liquids must be stored and covered in approved containers.
- (3) All chemical spills including, of course, combustible liquids, must be cleaned up immediately.
- (4) All chemical and chemical products will be handled and stored in accordance with the procedures noted on their individual MSDS

**Note:** Care must be taken when cleaning up chemical spills. Information on appropriate personal protective equipment, proper disposal, proper cleanup procedures, required ventilation, etc is found on the products MSDS.

- (5) Cleanup materials and damaged containers must be properly disposed.
  - (6) Combustible liquids and trash must be segregated and stored away from ignition sources.
  - (7) Approved portable fire extinguishers will be checked on daily basis, ensuring they are charged and ready for use.
  - (8) Smoking is not permitted inside the facility. Only designated areas by the VA will be permitted (outside), with smoking debris discarded in designated areas..
  - (9) Debris will not be allowed to accumulate on the job site and will be maintained daily.
- h) Submission of a Burn Permit. **<Name>** Construction will submit a Burn Permit to the COR to perform acetylene oxygen welding, brazing and cutting, the following precautionary measures will be required as part of this permit along with any additional requirements by the VA Medical Center Policy 138-012 (Hot Work):
- (1) Inspect all surroundings and equipment to insure that combustible substances are not present in any area where contact of metal at a temperature above the flashpoint of any compound is possible.
  - (2) Ensure that no open containers or spills of combustible substances are present.
  - (3) Ensure that ignition is not possible by conduction, convection, radiation, or

dispersion of molten metal.

(4) Proper protection equipment and practices will be used, i.e., fireproof blankets, removal of combustible materials where practicable, and portable fire extinguishers of proper type on hand.

(5) When the above operations are in use a continuous Fire Watch will be performed while equipment is being used.

(6) Training in fire protection will occur at the site safety orientation. This training shall include the following topics, but not limited to:

a. <List of Topics>

## 9. SITE SAFETY RULES:

<Name> Construction Company has developed a comprehensive safety and health program that addresses our specific safety and health concerns and provides guidance for the performance of our individual job tasks within the framework of appropriate Occupational Safety and Health Administration (OSHA) standards.

Safety requires not only that each person understand and perform individual tasks in a safe manner, but also that each individual is aware of his/her surroundings and is actively involved in the safety and health of others.

a) No Smoking: Smoking is not permitted inside the facility. Only designated areas by the VA will be permitted (outside), with smoking debris discarded in designated areas.

b) Accidents: In the event of an emergency, workers will notify the site supervisor or project manager of the situation, at that time, workers will report to the safe zone. The site supervisor and/or project manager will notify security and any other applicable authorities.

The goals for all projects are as follows:

- (1) Zero accident rate
- (2) Zero injury/illness rate
- (3) Compliance with all applicable Local, State, OSHA standards and Veterans Affairs Safety Directives

c) Hard Hats: Head Protection will be as follows:

- All workers on this site will be required to wear approved hard hats when working in the close proximity of heavy equipment and where structural steel is being hoisted
- In the area where another workers activities may exposing them to injury.

d) Hazard Reporting: Each employee is encouraged to contact their Supervisor immediately should a safety or health risk exist so that corrective action may be taken immediately.

- e) **Controlled Substances:** Therefore, the following actions are strictly prohibited and will prompt disciplinary action up to and including consideration for immediate discharge:
- (1) The illegal use, sale, arranging for sale, possession or manufacturing of narcotics, drugs or controlled substances while on the job or on VA property.
  - (2) The use of alcohol or illegal drugs while on the job or VA property.
- f) **Safety Devices:** <Name> Construction Company has fulfilled all required Safety and Health Plans and Programs according to regulation, and has installed all required safety device for the equipment being used for the tasks. Failure to use or to disable the mentioned safety device relating to CFR 1910 and 1926 standards to ensure 100% safety will be grounds for review .

The goal is to provide the company and its workers protection against those individuals who refuse to act in a consistently safe manner.

Without proper enforcement, the policy will not be able to deliver the intended results. Therefore, it is essential that all employees be held accountable to these guidelines for disciplinary actions up to and including discharge.

- g) **Personnel Protective Equipment:** Procedures for implementing an effective PPE policy in accordance with 29 CFR 1910.132, will be as follows:

- (1) During a pre-construction walk through, <Contact Name>, the Project Manager, will perform a job site hazard assessment.
- (b) **HAZARD ASSESSMENT:** The purpose of the survey is to identify sources of hazards to workers and co-workers. The documentation of this hazard assessment is located in PCRA (Pre-Construction Risk Assessment)
- (c) **POTENTIAL HAZARD SOURCES** <Adjust based on scope of work>
  - <Surfaces that could become slick, uneven walking and working surfaces>
  - <Welding / Brazing Hazards>
  - <Quality Air Control>
  - <Electrical Hazards>
  - <Potential Overhead Obstructions (above ceiling)>
  - <Fall Protection>
  - <Rolling or pinching objects>
  - <Sharp objects that might pierce feet or cut hands>
  - <Motion that includes tool movement, moving machinery, or machine parts, or movement of personnel that could result in collision with stationary objects.>

- (d) EMPLOYEE TRAINING: <Name> Construction Company employees will be trained, at the site safety orientation on the following topics:
- When PPE is necessary.
  - What PPE is necessary and which PPE has been selected for each process the employee operates.
  - How to properly put on, take off, adjust and wear PPE.
- (2) Each of the basic hazards has been reviewed and a determination made as to the type, level of risk, and seriousness of potential injury.
- When exposure to hazards cannot be engineered completely out of normal operations or maintenance work.
  - When safe work practices cannot provide sufficient additional protection.
  - A Final method of control is through the use of protective clothing or equipment. These include eye protection, steel-toed shoes, hard hats, hearing protection, gloves, and fall protection
- (3) Consideration has been given to the possibility of exposure to several hazards at once. The general procedure for determining appropriate protective equipment is to:
- Identify the potential hazards and the type of protective equipment that is available, and what protection it provides.
  - Compare the capabilities of various types of PPE with the hazards associated with the environment.
  - Select the PPE, which provides a level of protection greater than the minimum required to protect employees from the hazards.
  - Select PPE that will fit each employee properly and provides protection from the hazard.
  - The Hazard Assessment Worksheet is located in Appendix D.
- h) Horseplay: Safety training needs will be identified by continual reassessment of our work methods, equipment and job sites as well as employee and management input. Observation of unsafe acts will be addressed immediately.
- i) Reporting Under the Influence:
- (1) Arriving at work or working under the influence of alcohol or illegal drugs, narcotics or controlled substances.
  - (2) Any illegal substance confiscated pursuant to this policy will be turned over to the proper authorities.
- j) Flammable Liquid Storage: It is mandatory that all subcontractors submit, before a new chemical is introduced to the worksite, that the proper MSDS is submitted to the site supervisor/project manager. It will be the responsibility of the site supervisor to inform all employees and subcontractors of the new chemical(s), introduce the MSDS, and the potential hazards of that chemical. The site supervisor and/or project manager will have

the responsibility to notify the Contracting Officer / COR of any and all new chemicals brought onto the facility.

k) Heavy Equipment Operation

#### **10. WEEKLY CONTRACTOR REVIEWS:**

- a) The primary site supervisor, who is the competent person (certifications in Appendix will conduct the initial employee site safety orientation.
- b) Mandatory safety meetings will be held on a weekly basis. Safety and health topics will vary from week to week on subject matter, utilizing the 29 CFR 1910 and 29 CFR 1926 standards, along with the Veterans Affairs Safety and Health Program and issues raised during construction.(Place documentation of training sign-in sheets and agenda in Appendix B)
- c) Safety takes a commitment from all personnel within our organization. Weekly Training will be interactive with an opportunity for all to actively participate, ask questions, make suggestions, and refer to our written policies and procedures.

#### **11. COMPETENT PERSON:**

- a) A Site Safety and Health Officer (SSHO) will be provided at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor and subcontractors.
- b) The SSHO will be employed by the prime. SSHO qualifications with education certificates will be listed in Appendix B.
- d) There will be a competent person for maintaining a Health Hazard Control and Respiratory Protection Program. They will conduct and document a hazard assessment in accordance with Section 06 to identify and evaluate the need and level of protection required for the activities being scheduled. (What form of documentation).
- d) Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Safety inspection logs shall be attached to the Contractors daily quality control report. Current "Safety Logs" shall be readily available upon request.

#### **12. WRITTEN PROTOCOLS FOR OUTSIDE INSPECTIONS:**

- a) Presentation of Credentials - Upon arrival at the work site or facility, the OSHA compliance officer must display his or her credentials and will ask to meet with the appropriate employer representative.
- b) The contractor must notify the COR immediately upon the initial OSHA Contact.

- (1) Opening Conference – During an opening conference, the compliance officer will explain the purpose of the inspection. Contractor Management representatives must be prepared to discuss actions that have been taken to demonstrate their company's commitment to the health and safety of employees (e.g. work practices, safety and industrial hygiene standards, safety manuals, training conducted, internal inspections, etc).
- (2) An authorized employee representative will be given the opportunity to attend the opening conference and to accompany the compliance officer during the inspection. Employees may also be consulted during the conduct of the inspection. Employees who participate in the inspection, or are consulted by the compliance officer, are protected under the OSHA act from discrimination for exercising their safety and health rights.
- (3) A contractor management representative and a VAMC Cleveland Safety representative must accompany the compliance officer during the inspection and keep accurate notes of any actual or possible violations found by the compliance officer. Obvious violations detected by the compliance officer should be corrected on the spot where possible.
- (4) It is imperative that existing operations, reports, logs, etc. not be misrepresented to the compliance officer. The penalty for making false statements or representation to OSHA or its compliance officers is a maximum of \$10,000 and 6 months imprisonment. In addition, the offending party can be subject to discipline by the company up to and including discharge
- (5) Closing Conference - After the inspection has been conducted, a closing conference will be held between the compliance officer, the employer and employee representatives and VAMC Cleveland. This is the best time, before possible issuance of a citation, to explain the company's position. It is imperative that we question any proposed findings or abatement periods that are unreasonable. Request that any citations be sent to the company with a copy to the VAMC Cleveland safety office.

### 13. SUBCONTRACTOR SITE SPECIFIC SAFETY PLAN:

As part of employment with <Name> Construction Company, **employees** are required to comply with all aspects **of their** corporate level "Safety and Health Plan".

- Supervisors are expected and required to comply with all aspects of the corporate level "Safety and Health Plan" as well as to enforce all applicable requirements at the jobsite.
- Supervisors are expected and required to complete all necessary site safety documentation in a complete and timely manner.
- Supervisors are required to report all safety incidents to the main office as soon as possible. The projects COR is to be notified ASAP. The above items represent the method used to ensure our goals are met.

#### 14. REQUIRED POSTERS:

This Policy Statement will be conspicuously posted in the job site office along with all other required postings including the OSHA Form 300, Log and Summary of Occupational Injuries and Illnesses.

#### 15. SUBCONTRACTOR/SUPPLIERS ORIENTATION PROGRAM:

- a) Identification of subcontractors:  
    <Name of Subcontractor> (List all subcontractors expected to be on site)

- b) Controlling and coordination of subcontractors and suppliers:

Suppliers will be under close supervision during material delivery and pick-up. Communication with suppliers will be important to ensure loads are put in designated areas, and supplier is made aware of any immediate hazards in the area he/she will be in. A project schedule has been coordinated and submitted for approval for the coordination of the scope of work being performed.

- c) SAFETY RESPONSIBILITIES OF SUBCONTRACTORS AND SUPPLIERS:

All subcontractors will be responsible to Submit and implement their corporate level Safety and Health Plan as appropriate for the project. Subcontractor shall submit these documents to <Name> Construction Company for approval prior to the start of their activities on the work site. In addition, they will be responsible for adhering to all applicable OSHA and the Veterans Affairs Safety and Health Program requirements. These documents will be verified through our own site safety inspections and meetings.

In the event that a subcontractor does not have the required safety and health programs, their employees will receive training utilizing <Name> Construction Company's safety and health programs prior to accessing the work site. This training will be documented and compliance with the provisions of <Name> Construction Company's Safety and Health programs will be mandatory as well as being readily accessible.

#### 16. REPORTING OF CATASTROPHIC EVENTS:

It is the policy of <Name> Construction Company to provide a work environment that is inherently safe. The safety and health of our employees is of primary importance as they are our most important resource

- Pre-emergency planning and coordination with outside parties:

VAMC (COR) will receive notification of date to start work, along with MSDS's of all substances brought onto the facility.

- Personal roles, lines of authority, training, and communication:

The personnel utilizing chemicals will contain the substances brought onto the facility. Plumbers will contain and handle all compressed gas cylinders, providing they have been trained and documented.

In the case where a situation occurs that they cannot handle, all employees will be trained on evacuating the area, notifying the on-site supervisor, and workers in the immediate worksite.

- Emergency recognition and prevention:

All workers will, at the safety orientation, be informed of this site-specific emergency response plan and procedures.

All workers will be responsible to recognize hazards and their prevention, practice this at all times on the worksite.

All workers will be responsible to answer question from surveyors about general safety, health, and emergency procedures wherever they are on site.

- Safe distances and places of refuge:

All workers at this site will be informed of the designated location of the safe zone. This will also be posted in the field office for all to be reminded of. In the event of an emergency occurrence, and the Local Fire Department, or any other entity is summoned, all workers will report to this zone to be accounted for.

- Site security and control:

In the event of an emergency, workers will notify the site supervisor or project manager of the situation, at that time, workers will report to the safe zone. The site supervisor and/or project manager will notify security and any other applicable authorities. Staying away from the immediate situation and not allowing any unauthorized personnel to enter until proper authorities arrive.

- Evacuation routes and procedures:

Any work will be performed on the interior of the building. Evacuation plans are posted in various locations throughout work area by the VA.

- Decontamination:

This would be required if there is a possibility of a large spill of hazardous material with the potential of contaminating contractor employees. Small spills and personnel contaminations are expected to be cleaned up using the contractors Hazard Communication program and associated MSDS requirements.

- Emergency medical treatment and first aid:
- Emergency alerting and response procedures:

It will be the duty of all workers onsite, including subcontractors, to immediately report to the site supervisor and/or project manager, COR's any and all emergencies



**17. Site specific plans to address PCRA:**

- a. Only those hazards identified as “yes” on the PCRA need to be addressed.
- b. Modify the description of the safety precautions as needed to address the specific concern. You may refer to a company policy or company rule book to describe the safety precautions or safety plan; however, we will need to have a copy of your plan or policy on file.
- c. To place a check in the box
  - right click on the box
  - Click “Properties”
  - Click “Checked”
  - Click “OK”

## Pre Construction Risk Assessment (PCRA)

	Description of safety precautions or reference to contractor Safety Procedures
<input type="checkbox"/>	<p>(1) Respiratory Protection Plan</p> <ul style="list-style-type: none"> <li>○ Describe of <b>ACTIVITY</b> requiring respiratory protection if applicable</li> <li>○ <b>NEED documentation of training.</b></li> <li>○ <b>Need documentation of fit test.</b></li> </ul>
<input type="checkbox"/>	<p>(2) Hearing: Protection Plan Any area with noise levels at or above 85dba will be required to wear hearing protection. When workers are utilizing loud equipment, or being exposed to such levels, hearing protection shall be provided.</p>
<input type="checkbox"/>	<p>(3) PPE other: Personal protective equipment (PPE) includes hard hats, gloves, safety glasses, steel-toed shoes/boots, hearing protection, and personal fall protection.</p> <p>Eye protection will be as follows:</p> <ul style="list-style-type: none"> <li>○ Safety glasses used for any worker performing, observing tasks that may result in flying objects, dust, or in the area where another workers activities may exposing them to eye injury.</li> <li>○ During welding/cutting operations, the required filter lenses will be utilized according to the operation, electrode size and arc current.</li> </ul> <p>Foot Protection:</p> <ul style="list-style-type: none"> <li>○ All workers will be required to wear the appropriate foot protection.</li> <li>○ Steel-toed shoes/boots are mandatory.</li> </ul> <p>Hand Protection:</p> <ul style="list-style-type: none"> <li>○ Workers may be exposed to hand injuries from; <ul style="list-style-type: none"> <li>▪ sharp objects,</li> <li>▪ abrasive materials</li> <li>▪ and weather.</li> </ul> </li> <li>○ Gloves designed to protect against the specific hazard encountered are an effective means of reducing such risks and will be used on this project.</li> </ul>
<input type="checkbox"/>	<p>(4) Overhead hazards: <b>&lt;(Example)There will be X critical lifts required on this project. A crane will be utilized to load new materials onto X<sup>th</sup> floor roof and remove demolished material from the roof. A plan will be submitted and approved prior to this work being performed.&gt;</b></p>
<input type="checkbox"/>	<p>(5) Confined space: Procedures for entering a confined space depend on the type of confined space and the scope of work associated with the entry.</p> <ol style="list-style-type: none"> <li>a) The VAMC Cleveland Confined Space Entry Program provides the detailed information necessary for regulatory compliance. The contractor may use the VAMC Program or their own providing that it meets regulatory compliance and is reviewed and approved before entry is made.</li> <li>b) Under no circumstances should a person enter into a posted confined space without notifying the COR. A "Shutdown Request" reviewed by Occupational</li> </ol>

	<p>Health and Safety and approved by the COR will be used for this notification.</p> <p>c) Sub-basements are considered non-permit required confined spaces unless welding is performed or other hazards introduced that may create a hazardous atmosphere. When atmospheric hazards are identified then the sub-basements will be worked under the alternate procedure provisions provided that continuous ventilation is used to control the atmospheric hazard.</p> <p>d) Areas posted as "Permit Required" confined spaces will not be entered unless the hazards are eliminated and the space is reclassified. All tanks, voids, ventilation ducts and sewers are considered "Permit Required" confined spaces unless a hazard assessment is conducted and the space is reclassified.</p> <p>e) Employees entering confined spaces will be trained. Training will be based on the Confined Space Entry Program, ANSI National Standard "Safety Requirements for working in Tanks and other Confined Spaces" (ANSI Z117.1), or equivalent training</p>
<input type="checkbox"/>	<p>(6) Ladders: Workers that may be performing work on ladders are instructed to adhere to the following:</p> <ul style="list-style-type: none"> <li>▪ Inspect before using</li> <li>▪ Place ladder using 4 to 1 rule</li> <li>▪ Never place base of ladder on objects</li> <li>▪ Never place ladder in front of door unless</li> <li>▪ Door is blocked in open position</li> <li>▪ Door is demarcated off</li> <li>▪ Door is locked</li> </ul>
<input type="checkbox"/>	<p>(7) Scaffolding: For work that requires scaffolding use for employees and subcontractors, personal fall protection shall be mandatory, unless working less than 6 ft. The following topics listed will be conveyed to workers prior to scaffolding use</p> <ul style="list-style-type: none"> <li>▪ Review scaffolding supplier pamphlet for proper construction</li> <li>▪ Inspect scaffolding structure before initial use/and daily</li> <li>▪ Report any defects immediately / do not use / tag out of service</li> <li>▪ Placement of structure</li> <li>▪ When fall protection is required</li> <li>▪ What you can tie off to</li> </ul>
<input type="checkbox"/>	<p>(8) Work platforms: Describe type of platform required and specific requirements for its use.</p>
<input type="checkbox"/>	<p>(9) Fall protection: Personal Fall Protection &lt;Name&gt; Construction Company requires all employees working at or above 6' to wear personal fall protection, unless the personal fall protection creates a safety hazard by utilizing it. In that case, other means of fall protection shall be provided.</p>
<input type="checkbox"/>	<p>(10) Asbestos: As part of the Asbestos program, &lt;Name&gt; Construction Company will inform subcontractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety, or other hazards. The substances listed in Section 13, paragraph c, under MSDS, have the potential to be released or spilled. Section 13.c, Hazard Communication, lists some potential hazards that contractors and/or subcontractors may encounter. Also listed are the</p>

	response actions to be taken and the proper notification.
<input type="checkbox"/>	(11) Hazardous materials: The substances listed in Section 13 paragraph c, under MSDS, have the potential to be released or spilled. Section 13 c, Hazard Communication, lists some potential hazards that contractors and/or subcontractors may encounter. Also listed are the response actions to be taken and the proper notification. MSDS sheets must be made available for review by the VAMC and contracted employees.
<input type="checkbox"/>	(12) Hot work: The <Name> Construction Company will follow VAMC Cleveland's Hot work Policy (MCP 138-012), <Name> Construction will submit a Hot Work Permit to the COR to perform acetylene oxygen welding, brazing and cutting, the following precautionary measures will be required. <ul style="list-style-type: none"> <li>▪ Inspect all surroundings and equipment to insure that combustible substances are not present in any area where contact of metal at a temperature above the flashpoint of any compound is possible.</li> <li>▪ Ensure that no open containers or spills of combustible substances are present.</li> <li>▪ Ensure that ignition is not possible by conduction, convection, radiation, or dispersion of molten metal.</li> <li>▪ Proper protection equipment and practices will be used, i.e., fireproof blankets, removal of combustible materials where practicable, and portable fire extinguishers of proper type on hand.</li> <li>▪ When the above operations are in use a continuous Fire Watch will be performed while equipment is being used.</li> <li>▪ Training in fire protection will occur at the site safety orientation.</li> </ul>
<input type="checkbox"/>	(13) Ventilation: <Describe the type of forced ventilation that will be used and the reason it is required. Example: A 500 CFM Red Devil blower will be set up for welding operations in the sub-basement. The exhaust of this blower will be directed to the outside.>
<input type="checkbox"/>	(14) Power distribution: Describe the circumstances that would make it necessary for disruption of power from the main power lines or associated transformers entering the facility.
<input type="checkbox"/>	(15) Work being done on energized equipment: Any work to be done on Energized Equipment must be done in accordance with Medical Center Policy (MCP) 138 – 03 (Working on Energized Equipment). The Medical Centers Directors permission is required to work any circuit energized. A Energized Circuit Work permit must be approved before starting work.
<input type="checkbox"/>	(16) Other electric: List Specifics
<input type="checkbox"/>	(17) Loto: <ul style="list-style-type: none"> <li>▪ Only VA Employees will manipulate breakers or valves to perform a Lock Out Tag unless specific permission (in writing) is obtained by the Assistant Chief Engineering, M&amp;O.</li> <li>▪ The VA will hang Locks or tags on valves or breakers as requested by the project manager.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ After the VA places their lock on the device, then &lt;Name&gt; Construction Company will be allowed to place their lock on the device.</li> <li>▪ When clearing the Lock Out Tag Out, &lt;Name&gt; Construction.</li> <li>▪ Company will remove &lt;Name&gt; Construction's locks and notify the COR.</li> <li>▪ The VA will then remove the VA locks and reposition the valve or breaker at the request of &lt;Name&gt; Construction Company.</li> </ul>
<input type="checkbox"/>	(18) Crane operation: <(Example) There will be X critical lifts required on this project. A crane will be utilized to load new materials onto Xth floor roof and remove demolished material from the roof. A plan will be submitted and approved prior to this work being performed.>
<input type="checkbox"/>	(19) Excavating; Trenches, ditches – Describe the type, name of competent person, trench boxes required and if necessary air sampling requirements.
<input type="checkbox"/>	(20) Earthmoving: (Example) The use of this equipment will be required on this project for moving of earth. Safety will be the responsibility of the company performing the work.
<input type="checkbox"/>	(21) Industrial trucks: (Example) The use of this equipment will be required on this project for loading materials onto the X <sup>th</sup> floor roof. Industrial truck safety will be the responsibility of the company performing the work.
<input type="checkbox"/>	(22) Other motorized equipment: List type and specific use. Only qualified operators will be allowed to operate motorized equipment. Diesel powered equipment will not be used near medical Center Ventilation Intakes.
<input type="checkbox"/>	(23) Concrete, Masonry operations: Describe the work to be performed and what fall protection will be provided for workers on forms that are higher than six feet.
<input type="checkbox"/>	(24) Steel Erection: Describe the type of steel erection, fire protection coatings used and fall protection requirements if not already addressed in (10) Fall Protection.
<input type="checkbox"/>	(25) Alteration or Improvement of existing Electrical transmission and distribution lines and equipment. – Describe the scope of work and provisions made to ensure that the facility does not lose power during the work.
<input type="checkbox"/>	<p>(26) Hand &amp; portable tools</p> <p>a) Hand Tools</p> <ol style="list-style-type: none"> <li>.1 For your own protection, do not misuse your tools. Use tools only for the purpose for which they were designed.</li> <li>.2 Your job will be easier and much safer if tools are in good condition. Take care in handling and storing tools.</li> <li>.3 You and the person in charge must be satisfied that all the tools you use on the job, whether they are Company- or personally-owned, are in safe condition.</li> <li>.4 Tools with mushroomed heads, loose, split or broken handles, broken screw drivers, defective pliers, wrenches with spread jaws, defective</li> </ol>

	<p>cords, ground wires and plugs, etc., must not be used.</p> <ol style="list-style-type: none"><li>.5 Never use a defective tool. Defective tools are to be removed from service and marked defective.</li><li>.6 For your own protection, do not misuse your tools.</li><li>.7 Cover sharp-edged and pointed tools with scabbards and guards. Always use the guards when the tools are not in use.</li><li>.8 Never strike the hardened part of one tool against the hardened part of another tool or against any hardened surface.</li><li>.9 Never use a file with a tang unless it is equipped with a handle.</li><li>.10 Never throw tools from one person to another or from one level to another.</li><li>.11 Hot tools, equipment or materials on tables or benches, even if they are metal covered, shall be properly identified.</li><li>.12 Never use improper handles when you work with jacks. Always remove handles when they are not being used.</li><li>.13 Never use metal-shielded spotlights or flashlights around exposed electrical equipment.</li></ol> <p>b) Extension Cords</p> <ol style="list-style-type: none"><li>.1 Use only approved extension cords and lamp guards. Extension cord lamps used in explosion-hazard atmospheres, such as oil vapor or flammable gases, must be equipped with guards and vapor-proof globes. Do not use a lamp with a switch.</li><li>.2 When you use an extension cord around switchboards, switch structures or electrical equipment, it must have a non-metallic socket and guard.</li><li>.3 Use only specially approved low voltage (6 or 12 Volt) extension cords or ground fault circuit interrupter (GFCI) when you need portable lighting in wet locations. This type of cord should be used when you work outdoors, in tanks or in other areas where moisture or condensation may be a hazard.</li><li>.4 Use GFCI protected circuits where required by the electric code. If there is a question about the requirements, contact Engineering Service for resolution.</li></ol> <p>c) Tool Containers</p> <ol style="list-style-type: none"><li>.1 Cover any grating to prevent your tools or material from falling. When you are working on scaffolds or platforms, use a suitable container for any of your tools that are not actually being used.</li></ol> <p>d) Power Tools</p> <ol style="list-style-type: none"><li>.1 Always wear the proper personal protective equipment including but not limited to eye protection.</li><li>.2 Before you use any power tool, check to make sure:<ul style="list-style-type: none"><li>• it is properly tested;</li><li>• all guards are in place;</li><li>• all material is properly secured;</li><li>• you disconnect the tool electrically before inserting or removing any</li></ul></li></ol>
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	<p>attachments; and</p> <ul style="list-style-type: none"> <li>• you use GFCI protected circuits when required.</li> </ul> <p>.3 While a machine is in operation:</p> <ul style="list-style-type: none"> <li>• never remove chips with your hand; always use a suitable brush, hook or stick;</li> <li>• do not let the machine run unattended;</li> <li>• do not place tools or materials on machines where they can be jarred or pushed off;</li> <li>• never try to stop a machine using your hands or any other part of your body as a brake; and</li> <li>• both hands shall be used when working with portable tools.</li> </ul> <p>.4 You must unplug power tools when they are left unattended. You must shut off and de-pressurize (bleed down) pneumatic- or hydraulic-operated tools when they are left unattended.</p> <p>.5 Keep the floor around machines clean and free from oil. If you spill any oil, wipe it up immediately or use an oil absorbent. Slipping is one of the most common causes of accidents.</p> <p>.6 Carefully inspect grinding machines before you use them. Be sure that:</p> <ul style="list-style-type: none"> <li>• you perform a ring test prior to installing a new wheel;</li> <li>• the wheel is secure on the driving shaft;</li> <li>• the wheel is in good condition; dress or replace the wheel as necessary;</li> <li>• the work rest is adjusted properly; and</li> <li>• the safety guard is in place and allows proper visibility to do the work.</li> <li>• Do not use the side of the wheel for grinding, unless it is specifically designed for side grinding.</li> <li>• Many wheels cannot stand up under side grinding.</li> <li>• Never drive a grinding wheel at speeds above that specified by the manufacturer.</li> <li>• When you grind small objects, hold them firmly in place with a suitable tool, not with your fingers.</li> <li>• Do not grind soft metals such as aluminum</li> </ul>
<input type="checkbox"/>	<p>(27) Compressed Gasses: Compressed gas cylinders may be used at this worksite. These cylinders and gases present an injury hazard in the event that a regulator or cylinder is damaged and/or broken. The particular gases used will be <b>&lt;Name Gas&gt;</b>. These hazards will be reduced by routine inspections and maintenance of compressed gas cylinders and by assuring all the units are secured from tipping. Safety caps will be installed on all cylinders that are not in use.</p> <p>Compressed gas cylinder will be kept away from excessive heat, will not be stored where they might be damaged or knocked over by passing or falling objects. The storage of oxygen and fuel gas compressed cylinders will be separated by at least 20 ft.</p>
<input type="checkbox"/>	<p>(28) Other hazardous activities <b>&lt;(Name and describe safety precautions)&gt;</b></p>
<input type="checkbox"/>	<p>(29) Infection Control : Infection Control (216-791-3800 Ext 4791) has been contacted for work in patient care or high risk areas to conduct an Infection Control Risk Assessment (ICRA). Provisions of the ICRA will be followed unless changed by Infection Control.</p>

<input type="checkbox"/>	(30)	Life Safety: Occupational Health and Safety 216-791-3800 Ext 4172 has been contacted to conduct a Life Safety Risk Assessment. Interim Life Safety measures have been determined and will be posted outside of the construction area. Fire extinguishers will be provided inside the construction area and they will be inspected at a minimum of 30 day intervals. Provisions of the Interim Life Safety measures will be followed unless modified by Occupational Health and Safety. If penetrations are made in smoke/fire barriers the COR will verify that they have been appropriately sealed before project completion.
<input type="checkbox"/>	(31)	Emergency Procedures: Standard Emergency Response Plan is described in section 7. Additional provisions required for rescuing employees working at heights or working in Permit Required Confined Spaces will be as follows: <Describe Specifics>
<input type="checkbox"/>	(32)	Demolition: Demolition is described in the Scope of Work Summary. Collection of demolition debris for recycling will minimize dust generation. All containers will be covered and employees will use appropriate methods for controlling the spread of dust outside the construction zone.
<input type="checkbox"/>	(33)	New Construction Recycling: A minimum of <X%> of total project waste will be diverted to a landfill. a) Concrete b) Steel
<input type="checkbox"/>	(34)	Interior Remodeling Recycling: A minimum of <X%> of total project waste will be diverted to a landfill. a) Ceiling Tile b) Steel c) Carpet
<input type="checkbox"/>	(35)	General Recycling: The following categories of waste shall be diverted from a landfill (Check all that apply):
	<input type="checkbox"/>	Green Waste (Biodegradable landscaping material)
	<input type="checkbox"/>	Soil
	<input type="checkbox"/>	Inserts (concrete, asphalt, masonry)
	<input type="checkbox"/>	Clean dimensional wood, palette wood
	<input type="checkbox"/>	Engineered wood products, plywood, particle board, I joints, etc.
	<input type="checkbox"/>	Cardboard Paper packaging
	<input type="checkbox"/>	Asphalt Roofing materials
	<input type="checkbox"/>	Insulation
	<input type="checkbox"/>	Gypsum board
	<input type="checkbox"/>	Carpet and pad
	<input type="checkbox"/>	Paint
	<input type="checkbox"/>	Plastics: ABX, PVC
	<input type="checkbox"/>	Beverage containers

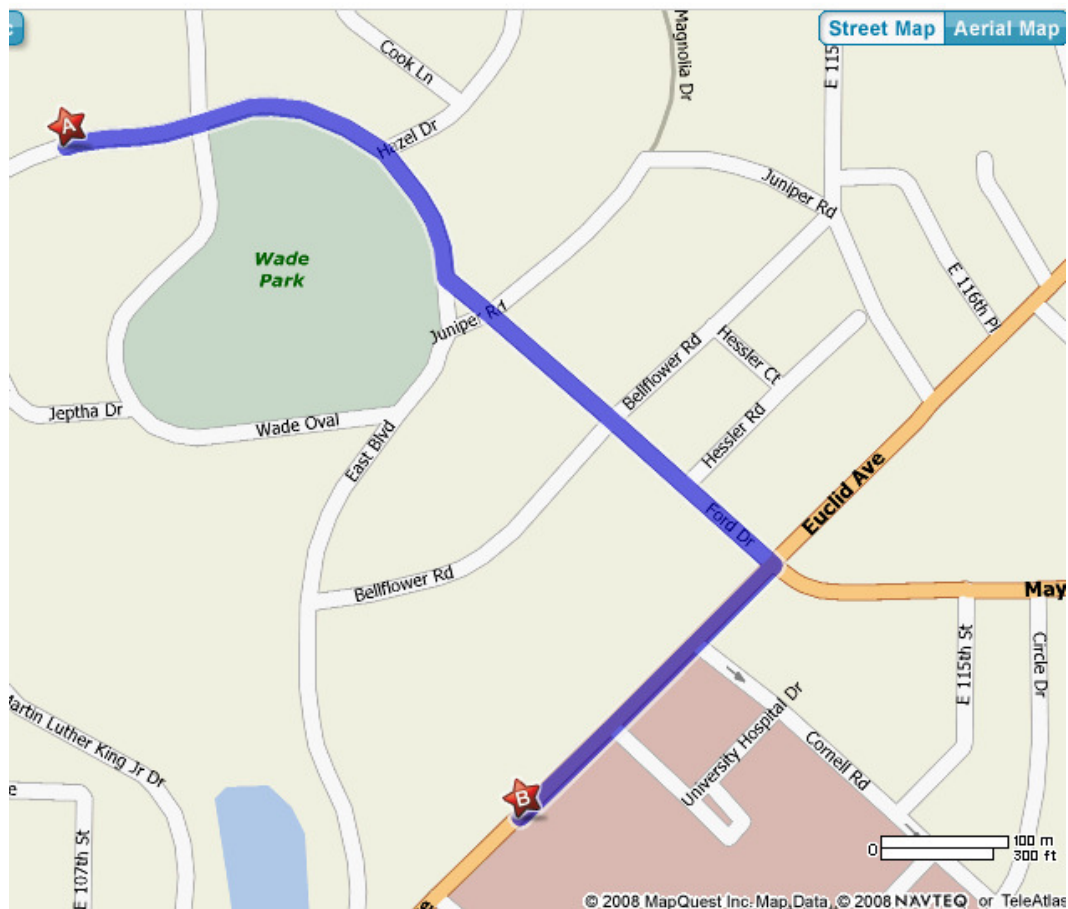


## APPENDIX A

### Evacuation Routes Work Zone Layouts and Maps to Emergency Services

Contractor and subcontractors working in the Medical Center will follow the posted exit signs and maps to evacuate the medical Center. To ensure all employees have been evacuated, they will meet at [Location](#).

#### Map from VAMC Cleveland (Wade Park Division) to University Hospital



## **APPENDIX B**

### **CERTIFICATIONS & JOBSITE DOCUMENTATION PROGRAM**

<List all individuals including their titles, who have completed

1. **OSHA 30 Hour Construction Safety Course**
2. **OSHA 10 Hour construction Safety Course**
3. **Competent Person Certifications for Respiratory Protection, Fall Protection, Trenching and Shoring, etc. as required by the Scope of Work and applicable regulations.>**

## **APPENDIX C**

### **CONTRACTOR ACCIDENT RECORD**

#### **OSHA 300 FORM**

<To be updated and maintained in the on site construction office or the  
service company if an office is not located on station.>

## **Infection Control During Construction**

**1. Objective.** To prevent the acquisition of healthcare-associated infections in patients, healthcare workers, visitors and contractors during healthcare system construction, renovation, repair or demolition activities.

### **2. Policy**

a. All construction, renovation, demolition and repair projects will be reviewed with Infection Control during the design/planning phase.

b. Infection Control will participate in meetings and area walk-through inspections on a routine basis.

c. All contractors, including subcontractors, must follow the infection control procedures as described in this guideline.

### **3. Planning Phase**

a. Infections Control will participate in design/planning, as well as project kick-off meetings. The Assistant Chief, Engineering Service, Planning and Construction will notify Infection Control of all new projects.

b. Construction design and functional considerations for environmental infection control:

- (1) Location of sinks and dispensers for hand washing products and hand hygiene products.
- (2) Location of fixed sharps containers.
- (3) Types of faucets (e.g., aerated vs. non-aerated; hand control vs. foot control).
- (4) Air handling systems engineered for optimal performance, easy maintenance and repair.
- (5) Types of surface finishes (e.g., porous vs. non-porous).
- (6) Well-caulked walls with minimal seams.
- (7) Location of adequate storage and supply areas.
- (8) Appropriate location of medicine preparation areas (e.g., > 3 ft from sink).
- (9) Appropriate location and type of ice machines.
- (10) Appropriate materials for sinks and wall coverings.
- (11) Appropriate traffic flow.
- (12) Isolation rooms with anterooms as appropriate.
- (13) Appropriate flooring (e.g., seamless floors in dialysis units, operating rooms).
- (14) Sensible use of carpeting.
- (15) Convenient location of soiled utility areas.
- (16) Properly engineered areas for linen services and solid waste management.
- (17) Location of main emergency generator to minimize the risk of system failure from flooding or other emergency.

c. An Infection Control Risk Assessment (ICRA) will be performed using Attachment 1. A multi-disciplinary ICRA team shall be established prior to each project. The goals of the team are to identify high-risk patient populations and locations, and to minimize the risk for airborne infection during projects and after their completion. Suggested members include: Infection Control personnel; Laboratory personnel; Executive Management or designees; Assistant Chief Engineering, Planning and Construction (or designee); Patient Safety Officer; Chiefs or designees of specialized programs (e.g., ICU, Oncology, OR); Safety Manager; Chief, Environmental Care Section; Construction administrators or designees; Architects; Design COR; Project Managers; and COR.

d. Appropriate Infection Control guidelines including PPD requirements will be reviewed with VAMC personnel, COR and Project Managers during this phase for incorporation into design and construction bid packages.

e. Mandatory adherence requirements for infection control should be incorporated into construction contracts, with mechanisms to ensure timely correction of deficiencies.

#### **4. Pre-Construction Phase**

a. Infection Control will attend the Pre-Construction meeting or the Safety and Infection Control Pre-construction meeting if held separately.

b. Infection Control will provide education to contractors and subcontractors during orientation, and on an ongoing basis as necessary. Contractor Employee Orientation Training will be completed before the start of work. Attachment 2 can be used as a guide for conducting this training.

#### **5. Construction Phase**

a. Infection Control Permits (Attachment 3) will be issued by the Infection Control Manager. The Infection Control permits will be posted outside the appropriate construction area. More than one permit may be issued for a construction project if necessary.

b. Infection Control, in conjunction with VA Facilities, COR and the Contractor will conduct routine inspections of all sites. Compliance issues will be documented and addressed immediately. Attachment 4 may be used as a guide when performing these inspections.

c. Infection Control shall monitor for airborne disease (e.g., aspergillosis) as appropriate during projects. It is recommended that a baseline of conditions be established prior to the beginning of the project, and periodically reviewed during the project to determine impact of construction activities on indoor air quality by Infection Control, in conjunction with Safety. If cases of aspergillosis or other healthcare-associated airborne fungal infections occur, diagnosis confirmation will be pursued with tissue biopsies and cultures as feasible. In addition, the following shall occur:

- (1) Review pressure-differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity.
- (2) Implement corrective engineering measures to restore proper pressure differentials as needed.
- (3) Conduct a prospective search for additional cases.
- (4) If no epidemiologic evidence of ongoing transmission exists, continue routine maintenance of the area. Conduct an environmental assessment to find and eliminate the source:
  - (a) Collect environmental samples from potential sources of airborne fungal spores, preferably by using a high-volume air sampler rather than settle plates.
  - (b) If either an environmental source of airborne fungi or an engineering problem with filtration or pressure differentials is identified, perform corrective measures to eliminate the source and route of entry.
  - (c) Use an antifungal biocide registered by the Environmental Protection Agency (EPA) for decontaminating structural materials.
  - (d) If an environmental source of airborne fungi is not identified, review infection control measures, including engineering controls, to identify potential areas for correction or improvement.

d. Medical Waste

- (1) Hospital staff shall remove any medical waste, including sharps containers, from areas to be renovated or constructed prior to the start of the project.
- (2) Infection Control shall be notified immediately if unexpected medical waste is encountered.

e. Temporary Construction Barriers: Construction, demolition, or renovation sites must be separated from patient-care areas and critical areas, such as Supply, Processing and Distribution and Pharmacy, by barriers that keep the dirt and dust inside the worksite.

- (1) The integrity of the temporary construction barriers must assure a complete seal of the construction area from adjacent areas.
- (2) If walls are used as temporary construction barriers, they shall be constructed of gypsum board or treated plywood [flame spread rating of 25 or less in accordance with American Society for Testing and Materials (ASTM) E84] on both sides of wood or metal steel studs. Walls shall be extended through suspended ceilings to floor slab/deck or roof. All joints and penetrations must be sealed. Other barriers may be used upon approval by the COR, Infection Control and Safety.

f. Environmental Control

- (1) External demolition and construction activities

- (a) Determine if the facility can operate temporarily on re-circulated air; if feasible, seal off adjacent air intakes.
- (b) If this is not possible or practical, check the low-efficiency filter banks frequently and replace as needed to avoid buildup of particulates.
- (c) Seal windows and reduce wherever possible other sources of outside air intrusion (e.g., open doors in stairwells and corridors).
- (d) Avoid damaging the underground water system to prevent soil and dust contamination of the water.

(2) Internal construction, repairs and renovations

- (a) Relocate patients whose rooms are adjacent to work zones, depending on their immune status, the scope of the project, the potential for generation of dust or water aerosols, and the methods used to control these aerosols.
- (b) Ensure proper operation of the air-handling system in the affected area after erection of barriers and before the room or area is set to negative pressure. Return air vents should be sealed off and blocked if rigid barriers are used for containment.
- (c) Create and maintain negative air pressure in work zones adjacent to patient-care areas and ensure that required engineering controls are maintained.
- (d) A HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns shall be utilized. Ensure that negative air pressures occur within the work area. HEPA filtration is required where the exhaust dust may re-enter the breathing zone. HEPA filters should have American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 85 or other prefilter to extend the useful life of the HEPA. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced into the facility.
- (e) Negative airflow shall be monitored inside the rigid barriers.
- (f) Barriers shall be monitored to ensure their integrity; any gaps or breaks in barrier joints shall be repaired immediately.
- (g) Windows in work zones shall be sealed if practical; use window chutes for disposal of large pieces of debris as needed, but ensure that the negative pressure differential for the area is maintained.
- (h) In patient care areas, for major repairs that include removal of ceiling tiles and disruption of the space above the false ceiling, use plastic sheets or prefabricated plastic units to contain dust; use negative air pressure systems within this enclosure to remove dust; and either pass air through an industrial-grade portable HEPA filter capable of filtration rates of 300-800 ft<sup>3</sup>/min., or exhaust air directly to the outside away from any air intake devices.

g. Traffic Control

- (1) Designated entry and exit procedures will be defined (in conjunction with any necessary Interim Life Safety Measures) for each construction project where applicable.
- (2) All egress pathways will be free of debris.
- (3) Unauthorized personnel will not be allowed to enter the construction zone.
- (4) Only designated elevators will be used for construction activities during scheduled times.

h. Cleaning

- (1) The construction zone and adjacent entry areas shall be maintained by the contractor in a clean and sanitary manner, and will be swept and wet mopped daily or more frequently as needed to minimize dust generation. Vacuum utilizing HEPA filtration. Area shall be maintained frequently and debris shall be removed as they are created.
- (2) Debris shall not be hauled through patient care areas without prior approval of the COR, Infection Control and Safety. When approved, debris shall be hauled in enclosed dust-proof containers or wrapped in plastic and sealed with duct tape. No sharp objects shall be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust.
- (3) Adhesive walk-off/carpet walk-off mats, minimum 24" x 36" shall be used at all interior transitions from the construction area to occupied Healthcare System areas. These mats shall be changed as often as required to maintain clean work areas directly outside the construction area. Other methods may be utilized as approved by Infection Control and the COR.
- (4) There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 48 hours.
- (5) Environmental Care Service will be responsible for the routine cleaning of adjacent areas and for the terminal cleaning of the construction zone prior to the opening of the newly renovated or constructed area. Specific responsibility will be defined in the construction contract.

i. Contract Personnel Requirements

- (1) Clothing shall be free of loose soil and debris upon exiting the construction zone.
- (2) Personal protective equipment, including face shields, gloves, and N95 respirators will be utilized as appropriate for the task at hand. Contractors are responsible for providing personal protective equipment.
- (3) Contractors entering sterile/invasive procedure areas will be provided with a disposable jump suit, head covering and shoe coverings that must be removed prior to exiting the work area. Tools and equipment must be damp-wiped prior to entry and exit from sterile and invasive procedure areas.
- (4) All equipment, tools, material, etc., transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down. Tools and



equipment soiled with blood and body fluids will be cleaned with an approved germicide.

j. Environmental Monitoring

- (1) Infection Control, in conjunction with Facilities Management and Safety, will plan for environmental monitoring as appropriate for the project.
- (2) There is no current Centers for Disease Control (CDC) recommendation regarding routine microbiologic air sampling before, during or after construction, or before or during occupancy of areas housing immuno-compromised patients. Infection Control will provide for baseline and periodic sampling as needed.
- (3) Traffic control.
- (4) Personal protective equipment.
- (5) Water supply.

**5. Completion Phase**

- a. After completion of construction, ventilation will meet specifications as mandated by regulatory bodies. Restore HVAC, humidity and pressure differentials; replace spent filters with new filters.
- b. The area will be thoroughly cleaned and disinfected before being placed into service.
- c. Potable water supply lines will be flushed before placing newly renovated or constructed areas into service. The construction contractor shall certify that the potable water is safe for use.
- d. The ICRA team will submit a final report to the Assistant Chief, Engineering Service, Planning and Construction regarding the compliance/noncompliance of Infection Control precautions during the project.

Attachments

1. Infection Control Risk Assessment
2. Infection Control Contractor Orientation
3. Infection Control Permit
4. Infection Control Inspection Checklist

## **Infection Control Risk Assessment**

### ***Matrix of Precautions for Construction & Renovation***

**Step One:** Using the following table, identify the *Type (A-D) of Construction Project Activity*.

<b>TYPE A</b>	<b>Inspection and Non-Invasive Activities.</b>  Includes, but is not limited to: <ul style="list-style-type: none"><li>• Removal of ceiling tiles for visual inspection limited to 1 tile per 50 square feet.</li><li>• Painting (but not sanding).</li><li>• Wall covering, electrical trim work, minor plumbing and activities that do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.</li></ul>
<b>TYPE B</b>	<b>Small scale, short duration activities that create minimal dust.</b>  Includes, but is not limited to: <ul style="list-style-type: none"><li>• Installation of telephone and computer cabling.</li><li>• Access to chase spaces.</li><li>• Cutting of walls or ceiling where dust migration can be controlled.</li></ul>
<b>TYPE C</b>	<b>Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies.</b>  Includes, but is not limited to: <ul style="list-style-type: none"><li>• Sanding of walls for painting or wall covering.</li><li>• Removal of floor coverings, ceiling tiles and casework.</li><li>• New wall construction.</li><li>• Minor duct work or electrical work above ceilings.</li><li>• Major cabling activities.</li><li>• Any activity that cannot be completed within a single work shift.</li></ul>
<b>TYPE D</b>	<b>Major demolition and construction projects.</b>  Includes, but is not limited to: <ul style="list-style-type: none"><li>• Activities that require consecutive work shifts.</li><li>• Requires heavy demolition or removal of a complete cabling system.</li><li>• New construction.</li></ul>

**STEP 1:** \_\_\_\_\_

**Step Two:** Using the following table, identify the *Patient Risk Groups* that will be affected.

Low Risk	Medium Risk	High Risk	Highest Risk
<ul style="list-style-type: none"> <li>Office areas</li> </ul>	<ul style="list-style-type: none"> <li>Cardiology</li> <li>Echocardiography</li> <li>Endoscopy</li> <li>Nuclear Medicine</li> <li>Physical Therapy</li> <li>Radiology/MRI</li> <li>Respiratory Therapy</li> </ul>	<ul style="list-style-type: none"> <li>CCU</li> <li>Emergency Room</li> <li>Labor &amp; Delivery</li> <li>Laboratories (specimen)</li> <li>Newborn Nursery</li> <li>Outpatient Surgery</li> <li>Pediatrics</li> <li>Pharmacy</li> <li>Post Anesthesia Care Unit</li> <li>Surgical Units</li> </ul>	<ul style="list-style-type: none"> <li>Any area caring for immuno-compromised patients</li> <li>Burn Unit</li> <li>Cardiac Cath Lab</li> <li>Central Sterile Supply</li> <li>Intensive Care Units</li> <li>Medical Unit</li> <li>Negative pressure isolation rooms</li> <li>Oncology</li> <li>Operating rooms including C-section rooms</li> </ul>

**Step 2:** \_\_\_\_\_

**Step Three:** Match the...

Patient Risk Group (*Low, Medium, High, Highest*) with the planned ...  
Construction Project Type (*A, B, C, D*) on the following matrix, to find the ...  
Class of Precautions (*I, II, III or IV*) or level of infection control activities required.  
(Class I-IV or Color-Coded Precautions are delineated on the following page.)

### IC Matrix - Class of Precautions: Construction Project by Patient Risk

#### Construction Project Type

Patient Risk Group	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group	I	II	II	III
MEDIUM Risk Group	I	II	III	III/IV
HIGH Risk Group	I	II	III/IV	III/IV
HIGHEST Risk Group	II	III/IV	III/IV	III/IV

**Note:** Infection Control approval will be required when the Construction Activity and Risk Level indicate that **Class III** or **Class IV** control procedures are necessary.

**Step 3:** \_\_\_\_\_

#### Description of Required Infection Control Precautions *by Class*

During Construction Project		Upon Completion of Project	
<b>CLASS I</b>	<ol style="list-style-type: none"> <li>1. Notify and receive permission from the COR to perform requested work.</li> <li>2. Execute work by methods to minimize raising dust from construction operations.</li> <li>3. Immediately replace a ceiling tile displaced for visual inspection.</li> </ol>		<ol style="list-style-type: none"> <li>1. Notify COR for inspection once the work is complete.</li> </ol>
<b>CLASS II</b>	<ol style="list-style-type: none"> <li>1. Notify and receive permission from the COR to perform requested work.</li> <li>2. Provide active means to prevent airborne dust from dispersing into atmosphere.</li> <li>3. Water mist work surfaces to control dust while cutting.</li> <li>4. Seal unused doors with duct tape.</li> <li>5. Block off and seal air vents.</li> <li>6. Place dust mat at entrance and exit of work area.</li> <li>7. Remove or isolate HVAC system in areas where work is being performed.</li> </ol>		<ol style="list-style-type: none"> <li>1. Wipe work surfaces with disinfectant.</li> <li>2. Contain construction waste before transport in tightly covered containers.</li> <li>3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.</li> <li>4. Remove isolation of HVAC system in areas where work is being performed.</li> </ol>

<b>CLASS III</b>	<ol style="list-style-type: none"> <li>1. Obtain and post valid Infection Control Construction Permit at each work site. Permit must be signed by COR, I.C. Nurse and General Contractor to be valid.</li> <li>2. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system.</li> <li>3. Complete all critical barriers, i.e., sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Construction of barrier will need to occur outside normal work shifts with approval of COR.</li> <li>4. Construct anteroom where possible and directed by COR.</li> <li>5. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.</li> <li>6. Contain construction waste before transport in tightly covered containers.</li> <li>7. Cover transport receptacles or carts. Tape covering unless solid lid.</li> <li>8. If the spread of dust from construction personnel is not contained workers may be required to wear shoe covers and or be vacuumed prior to leaving worksite at the discretion of the COR or I.C. Nurse.</li> <li>9. Seal holes, pipes, conduits and punctures appropriately.</li> </ol>	<ol style="list-style-type: none"> <li>1. Do not remove barriers from work area until completed project is inspected by the VA's Safety Department.</li> <li>2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. Barriers are required to be removed after hours with approval of COR.</li> <li>3. Vacuum work area with HEPA filtered vacuums.</li> <li>4. Wet mop area with disinfectant.</li> <li>5. Remove isolation of HVAC system in areas where work is being performed.</li> </ol>
<b>CLASS IV</b>	<ol style="list-style-type: none"> <li>1. Follow all requirements listed in Class III as well as additional requirements listed below.</li> <li>2. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site, or they can wear cloth or paper coveralls that are removed each time they leave the work site.</li> <li>3. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area.</li> </ol>	<ol style="list-style-type: none"> <li>1. Before work is turned over and accepted by the VA a certified I.H. must be used to certify cleaning as well as swab and air sampling of the area. These tests shall meet or exceed industry standards for the type of area being renovated.</li> </ol>

**Step 4:** Identify the areas surrounding the project area, assessing potential impact.

<i>Unit Below</i>	<i>Unit Above</i>	<i>Lateral</i>	<i>Lateral</i>	<i>Behind</i>	<i>Front</i>
<i>Risk Group</i>	<i>Risk Group</i>	<i>Risk Group</i>	<i>Risk Group</i>	<i>Risk Group</i>	<i>Risk Group</i>

**Step 5:** Identify specific site of activity, e.g., patient rooms, medication room, etc.

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**Step 6:** Identify issues related to: ventilation, plumbing, electrical, in terms of the occurrence of probable outages.

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**Step 7:** Identify containment measures, using prior assessment. What types of barriers (e.g., solids wall barriers)? Will HEPA filtration be required?

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*(Note: Renovation/construction area shall be isolated from the occupied areas during construction and shall be negative with respect to surrounding areas.)*

**Step 8:** Consider potential risk of water damage. Is there a risk due to compromising structural integrity (e.g., wall, ceiling, roof)?

**Step 9:** Work hours - can or will the work be done during non-patient care hours?

**Step 10:** Do plans allow for adequate number of isolation/negative airflow rooms?

**Step 11:** Do the plans allow for the required number and type of hand washing sinks?

**Step 12:** Does the infection control staff agree with the minimum number of sinks for this project? *(Verify against AIA Guidelines for types and area.)*

**Step 13:** Does the infection control staff agree with the plans relative to clean and soiled utility rooms?

**Step 14:** Plan to discuss the following containment issues with the project team: traffic flow, housekeeping, debris removal (how and when).

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**Appendix:** *Identify and communicate the responsibility for project monitoring that includes infection control concerns and risks. The ICRA may be modified throughout the project. Revisions must be communicated to the Project Manager.*

## **Infection Control Orientation for Construction Workers**

The goal of the Infection Control Program is to identify and reduce the risks of acquiring and transmitting infections among patients, employees, physicians and other licensed independent practitioners, contract service workers, volunteers, students and visitors.

During construction, renovation and minor improvement projects, hidden infectious disease hazards may be released into the air, carried on dust particles or on clothing. One such hazard is fungal organisms such as *Aspergillus*. *Aspergillus* species may be found in decaying leaves and compost, plaster and drywall, and settled dust. These organisms usually do not cause problems in healthy people, but can cause problems in a hospital full of sick patients! *Aspergillus* and other fungal organisms can cause illness and even death in people with certain medical conditions such as transplant patients, cancer treatment patients and patients with lung problems or poor immunity. Therefore, it is critical that you do your part to keep our patients, employees and visitors as safe and healthy as possible. We, in turn, will make conditions as safe as possible for you.

### **1. Medical Waste**

- a. We will remove any medical waste, including sharps containers (for used needles and syringes), from construction areas prior to the start of projects.
- b. If you (contract workers) find any needles, syringes or sharp medical objects, please notify your supervisor and the Infection Control Nurse (X) *immediately*.

### **2. Barrier Walls**

The construction areas *must* be kept separate from patient care areas by barriers that keep the dust and dirt inside the worksite. The walls must provide a complete seal of the construction area from adjacent areas (walls may be rigid or 4 - 6 mil thickness plastic).

### **3. Environmental Control**

- a. Negative air pressure must be maintained within the construction area.
- b. Demolition debris must be removed in tightly fitted covered carts. Use specified traffic patterns.
- c. Sticky or walk-off mats are placed immediately outside the construction zone and changed whenever necessary to control the spread of dust and dirt.
- d. Exterior window seals are to be used to reduce the amount of outside excavation debris coming into the building.
- e. If demolition chutes are used, they must be sealed when not in use. The chute and damper should be sprayed with water, as necessary, to maintain dust control.
- f. Control, collection and disposal must be provided for any drain liquid or sludge found when demolishing plumbing.



#### **4. Traffic Control**

- a. Use designated entry and exit procedures.
- b. Keep all egress pathways free of debris.
- c. No unauthorized personnel should be allowed to enter construction areas.
- d. Use designated elevators only.

#### **5. Cleaning**

- a. Keep the construction area clean on a *daily* basis.
- b. Dust and dirt *must* be kept to a minimum.

#### **6. Workers**

- a. Clothing must be free of loose soil and debris when exiting the construction area.
- b. Use personal protective equipment (masks, face shields, etc.) as indicated for the task at hand.
- c. Handwashing is the best method of reducing the transmission of infection. Always wash your hands with soap and water after visiting the restroom, before eating or smoking, and when leaving the construction site.

Questions? Please feel free to call the Infection Control Nurse, Ext. xxxx

## Infection Control Construction Permit

<b>Construction Class:</b>	
<b>Project Name and Number:</b>	<b>Permit #:</b>
<b>Location of Construction:</b>	
<b>COR:</b>	<b>Telephone:</b>
<b>Contractor Performing Work:</b>	
<b>Supervisor:</b>	<b>Telephone:</b>
<b>CLASS I</b>	<ol style="list-style-type: none"> <li>1. Obtain approval from COR before activities begin</li> <li>2. Work performed is limited to inspections and minor installations</li> <li>3. Execute work by methods to minimize raising dust from inspection operations</li> <li>4. Permit does not need to be posted for this classification.</li> </ol>
<b>CLASS II</b>	<ol style="list-style-type: none"> <li>1. Obtain and post infection control permit at work location before work begins</li> <li>2. Provide active means to prevent air borne dust from dispersing into atmosphere</li> <li>3. Place dust mat at entrances and exits of work sites</li> <li>4. Tools and equipment must be cleaned prior to entrance to the medical center</li> <li>5. Isolate HVAC and seal unused doors with duct tape</li> <li>6. Contain construction waste before transport in tightly covered containers</li> </ol>
<b>CLASS III</b>	<ol style="list-style-type: none"> <li>1. Obtain and post infection control permit at work location before work begins</li> <li>2. Follow all requirements listed for Class II in addition to requirements listed below</li> <li>3. Isolate supply and return ductwork to prevent contamination of system.</li> <li>4. Complete all critical dust barriers as well as the creation of an anti-room where required for inspection by COR before work begins.</li> <li>5. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.</li> <li>6. Construct anteroom where required by COR and I.C. Nurse</li> <li>7. Obtain COR approval before construction and removal of any dust partitions</li> <li>8. Include particle count readings on daily logs against baseline points as required by COR or I.C. Nurse.</li> </ol>

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VAMC WADE PARK  
Remove Parking Garage Office Trailers  
Project No. 541-17-508

<b>CLASS IV</b>	1. Obtain and post infection control permit at work location before work begins
	2. Follow all requirements listed for Class III in addition to requirements listed below
	3. Workers are required to wear clean suites on site
	4. All personnel entering and leaving work site must be vacuumed using a HEPA filter vacuum cleaner.
	5. This class of permit will require additional specialized precautions unique to each activity which will be listed below
€ PPDs Required	
€ Additional Requirements:	
<b>Infection Control Nurse:</b>	<b>Date:</b>
<b>COR:</b>	<b>Date:</b>
<b>Contractor:</b>	<b>Date:</b>

## Infection Control Construction Inspection Form

Construction Location/Project #:					PI Infection Control:	
Contractor:			Phone:		COR:	
Type of Construction:	A	B	C	D		
Patient Risk Group:	Low	Medium	High	Highest		
Class of Precautions:	I	II	III	IV		
					<b>Comments</b>	
<b>Class I, II, III, IV</b>						
1. Methods in place to minimize dust raising.						
2. Appropriate signage on doors to construction area.						
3. Appropriate debris transport, i.e., covered cart, dedicated elevator, dedicated route, etc.						
4. Area cleaned at end of the day/trash to designated area.						
5. No visible signs of mice, insects, birds or other vermin.						
6. Roof protection in place for projects on roof.						
7. Displaced ceiling tiles immediately replaced.						
8. Traffic pattern discourages patient exposure.						
9. Water disruptions, if needed, are scheduled during low activity.						
<b>Class II, III, IV</b>						
10. Barrier is solid and airflow goes from clean to dirty.						
11. Surfaces water-misted to control dust while cutting.						
12. Unused doors sealed with duct tape.						
13. Air vents blocked off and sealed.						
14. Walk off mats at work areas kept wet throughout the day.						
15. Floors not showing visible track dirt outside construction area.						
16. HVAC system for this area is sealed or isolated.						
<b>Class III, IV</b>						
17. Critical barriers to seal area in place before beginning.						
18. Negative air pressure maintained with HEPA equipped units.						
19. Waste contained in tightly covered containers.						
20. Transport carts sealed with tape if not a solid lid.						

<b>Class IV</b>		
21. Patients relocated away from construction area.		
22. HVAC system for this area is isolated.		
23. Holes, pipes, conduits and punctures are sealed appropriately.		
24. Anteroom present and all personnel are required to pass through and be vacuumed with HEPA vacuum prior to leaving the site <i>or</i> they wear cloth or paper coveralls that are removed each time they leave the site.		
25. Barriers in place until final inspection by Safety and Infection Control and cleaning by ECS.		
<b>Initials:</b>		

**SECTION 01 42 19**  
**REFERENCE STANDARDS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

This section specifies the availability and source of references and standards specified in the project manual under paragraphs APPLICABLE PUBLICATIONS and/or shown on the drawings.

**1.2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS FPMR PART 101-29 (FAR 52.211-1) (AUG 1998)**

- A. The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29 and copies of specifications, standards, and commercial item descriptions cited in the solicitation may be obtained for a fee by submitting a request to - GSA Federal Supply Service, Specifications Section, Suite 8100, 470 East L'Enfant Plaza, SW, Washington, DC 20407, Telephone (202) 619-8925, Facsimile (202) 619-8978.
- B. If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (a) of this provision. Additional copies will be issued for a fee.

**1.3 AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-4) (JUN 1988)**

The specifications and standards cited in this solicitation can be examined at the following location:

DEPARTMENT OF VETERANS AFFAIRS  
Office of Construction & Facilities Management  
Facilities Quality Service (00CFM1A)  
425 Eye Street N.W, (sixth floor)  
Washington, DC 20001  
Telephone Numbers: (202) 632-5249 or (202) 632-5178  
Between 9:00 AM - 3:00 PM

**1.4 AVAILABILITY OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-3) (JUN 1988)**

The specifications cited in this solicitation may be obtained from the associations or organizations listed below.

AA Aluminum Association Inc.

<http://www.aluminum.org>

AABC	Associated Air Balance Council <a href="http://www.aabchg.com">http://www.aabchg.com</a>
AAMA	American Architectural Manufacturer's Association <a href="http://www.aamanet.org">http://www.aamanet.org</a>
AAN	American Nursery and Landscape Association <a href="http://www.anla.org">http://www.anla.org</a>
AASHTO	American Association of State Highway and Transportation Officials <a href="http://www.aashto.org">http://www.aashto.org</a>
AATCC	American Association of Textile Chemists and Colorists <a href="http://www.aatcc.org">http://www.aatcc.org</a>
ACGIH	American Conference of Governmental Industrial Hygienists <a href="http://www.acgih.org">http://www.acgih.org</a>
ACI	American Concrete Institute <a href="http://www.aci-int.net">http://www.aci-int.net</a>
ACPA	American Concrete Pipe Association <a href="http://www.concrete-pipe.org">http://www.concrete-pipe.org</a>
ACPPA	American Concrete Pressure Pipe Association <a href="http://www.acppa.org">http://www.acppa.org</a>
ADC	Air Diffusion Council <a href="http://flexibleduct.org">http://flexibleduct.org</a>
AGA	American Gas Association <a href="http://www.aga.org">http://www.aga.org</a>
AGC	Associated General Contractors of America <a href="http://www.agc.org">http://www.agc.org</a>
AGMA	American Gear Manufacturers Association, Inc. <a href="http://www.agma.org">http://www.agma.org</a>
AHAM	Association of Home Appliance Manufacturers <a href="http://www.aham.org">http://www.aham.org</a>
AIA	American Institute of Architects <a href="http://www.aia.org">http://www.aia.org</a>
AISC	American Institute of Steel Construction <a href="http://www.aisc.org">http://www.aisc.org</a>
AISI	American Iron and Steel Institute <a href="http://www.steel.org">http://www.steel.org</a>
AITC	American Institute of Timber Construction <a href="http://www.aitc-glulam.org">http://www.aitc-glulam.org</a>
AMCA	Air Movement and Control Association, Inc. <a href="http://www.amca.org">http://www.amca.org</a>
ANLA	American Nursery & Landscape Association <a href="http://www.anla.org">http://www.anla.org</a>



ANSI	American National Standards Institute, Inc. <a href="http://www.ansi.org">http://www.ansi.org</a>
APA	The Engineered Wood Association <a href="http://www.apawood.org">http://www.apawood.org</a>
ARI	Air-Conditioning and Refrigeration Institute <a href="http://www.ari.org">http://www.ari.org</a>
ASAE	American Society of Agricultural Engineers <a href="http://www.asae.org">http://www.asae.org</a>
ASCE	American Society of Civil Engineers <a href="http://www.asce.org">http://www.asce.org</a>
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers <a href="http://www.ashrae.org">http://www.ashrae.org</a>
ASME	American Society of Mechanical Engineers <a href="http://www.asme.org">http://www.asme.org</a>
ASSE	American Society of Sanitary Engineering <a href="http://www.asse-plumbing.org">http://www.asse-plumbing.org</a>
ASTM	American Society for Testing and Materials <a href="http://www.astm.org">http://www.astm.org</a>
AWI	Architectural Woodwork Institute <a href="http://www.awinet.org">http://www.awinet.org</a>
AWS	American Welding Society <a href="http://www.aws.org">http://www.aws.org</a>
AWWA	American Water Works Association <a href="http://www.awwa.org">http://www.awwa.org</a>
BHMA	Builders Hardware Manufacturers Association <a href="http://www.buildershardware.com">http://www.buildershardware.com</a>
BIA	Brick Institute of America <a href="http://www.bia.org">http://www.bia.org</a>
CAGI	Compressed Air and Gas Institute <a href="http://www.cagi.org">http://www.cagi.org</a>
CGA	Compressed Gas Association, Inc. <a href="http://www.cganet.com">http://www.cganet.com</a>
CI	The Chlorine Institute, Inc. <a href="http://www.chlorineinstitute.org">http://www.chlorineinstitute.org</a>
CISCA	Ceilings and Interior Systems Construction Association <a href="http://www.cisca.org">http://www.cisca.org</a>
CISPI	Cast Iron Soil Pipe Institute <a href="http://www.cispi.org">http://www.cispi.org</a>

CLFMI	Chain Link Fence Manufacturers Institute <a href="http://www.chainlinkinfo.org">http://www.chainlinkinfo.org</a>
CPMB	Concrete Plant Manufacturers Bureau <a href="http://www.cpmb.org">http://www.cpmb.org</a>
CRA	California Redwood Association <a href="http://www.calredwood.org">http://www.calredwood.org</a>
CRSI	Concrete Reinforcing Steel Institute <a href="http://www.crsi.org">http://www.crsi.org</a>
CTI	Cooling Technology Institute <a href="http://www.cti.org">http://www.cti.org</a>
DHI	Door and Hardware Institute <a href="http://www.dhi.org">http://www.dhi.org</a>
EGSA	Electrical Generating Systems Association <a href="http://www.egsa.org">http://www.egsa.org</a>
EEI	Edison Electric Institute <a href="http://www.eei.org">http://www.eei.org</a>
EPA	Environmental Protection Agency <a href="http://www.epa.gov">http://www.epa.gov</a>
ETL	ETL Testing Laboratories, Inc. <a href="http://www.etl.com">http://www.etl.com</a>
FAA	Federal Aviation Administration <a href="http://www.faa.gov">http://www.faa.gov</a>
FCC	Federal Communications Commission <a href="http://www.fcc.gov">http://www.fcc.gov</a>
FPS	The Forest Products Society <a href="http://www.forestprod.org">http://www.forestprod.org</a>
GANA	Glass Association of North America <a href="http://www.cssinfo.com/info/gana.html/">http://www.cssinfo.com/info/gana.html/</a>
FM	Factory Mutual Insurance <a href="http://www.fmglobal.com">http://www.fmglobal.com</a>
GA	Gypsum Association <a href="http://www.gypsum.org">http://www.gypsum.org</a>
GSA	General Services Administration <a href="http://www.gsa.gov">http://www.gsa.gov</a>
HI	Hydraulic Institute <a href="http://www.pumps.org">http://www.pumps.org</a>
HPVA	Hardwood Plywood & Veneer Association <a href="http://www.hpva.org">http://www.hpva.org</a>
ICBO	International Conference of Building Officials <a href="http://www.icbo.org">http://www.icbo.org</a>

ICEA	Insulated Cable Engineers Association Inc. <a href="http://www.icea.net">http://www.icea.net</a>
\ICAC	Institute of Clean Air Companies <a href="http://www.icac.com">http://www.icac.com</a>
IEEE	Institute of Electrical and Electronics Engineers <a href="http://www.ieee.org/">http://www.ieee.org/</a>
IMSA	International Municipal Signal Association <a href="http://www.imsasafety.org">http://www.imsasafety.org</a>
IPCEA	Insulated Power Cable Engineers Association
NBMA	Metal Buildings Manufacturers Association <a href="http://www.mbma.com">http://www.mbma.com</a>
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry Inc. <a href="http://www.mss-hq.com">http://www.mss-hq.com</a>
NAAMM	National Association of Architectural Metal Manufacturers <a href="http://www.naamm.org">http://www.naamm.org</a>
NAPHCC	Plumbing-Heating-Cooling Contractors Association <a href="http://www.phccweb.org.org">http://www.phccweb.org.org</a>
NBS	National Bureau of Standards See - NIST
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors <a href="http://www.nationboard.org">http://www.nationboard.org</a>
NEC	National Electric Code See - NFPA National Fire Protection Association
NEMA	National Electrical Manufacturers Association <a href="http://www.nema.org">http://www.nema.org</a>
NFPA	National Fire Protection Association <a href="http://www.nfpa.org">http://www.nfpa.org</a>
NHLA	National Hardwood Lumber Association <a href="http://www.natlhardwood.org">http://www.natlhardwood.org</a>
NIH	National Institute of Health <a href="http://www.nih.gov">http://www.nih.gov</a>
NIST	National Institute of Standards and Technology <a href="http://www.nist.gov">http://www.nist.gov</a>
NLMA	Northeastern Lumber Manufacturers Association, Inc. <a href="http://www.nelma.org">http://www.nelma.org</a>
NPA	National Particleboard Association 18928 Premiere Court Gaithersburg, MD 20879 (301) 670-0604

NSF	National Sanitation Foundation <a href="http://www.nsf.org">http://www.nsf.org</a>
NWWDA	Window and Door Manufacturers Association <a href="http://www.nwwda.org">http://www.nwwda.org</a>
OSHA	Occupational Safety and Health Administration Department of Labor <a href="http://www.osha.gov">http://www.osha.gov</a>
PCA	Portland Cement Association <a href="http://www.portcement.org">http://www.portcement.org</a>
PCI	Precast Prestressed Concrete Institute <a href="http://www.pci.org">http://www.pci.org</a>
PPI	The Plastic Pipe Institute <a href="http://www.plasticpipe.org">http://www.plasticpipe.org</a>
PEI	Porcelain Enamel Institute, Inc. <a href="http://www.porcelainenamel.com">http://www.porcelainenamel.com</a>
PTI	Post-Tensioning Institute <a href="http://www.post-tensioning.org">http://www.post-tensioning.org</a>
RFCI	The Resilient Floor Covering Institute <a href="http://www.rfci.com">http://www.rfci.com</a>
RIS	Redwood Inspection Service See - CRA
RMA	Rubber Manufacturers Association, Inc. <a href="http://www.rma.org">http://www.rma.org</a>
SCMA	Southern Cypress Manufacturers Association <a href="http://www.cypressinfo.org">http://www.cypressinfo.org</a>
SDI	Steel Door Institute <a href="http://www.steeldoor.org">http://www.steeldoor.org</a>
IGMA	Insulating Glass Manufacturers Alliance <a href="http://www.igmaonline.org">http://www.igmaonline.org</a>
SJI	Steel Joist Institute <a href="http://www.steeljoist.org">http://www.steeljoist.org</a>
SMACNA	Sheet Metal and Air-Conditioning Contractors National Association, Inc. <a href="http://www.smacna.org">http://www.smacna.org</a>
SSPC	The Society for Protective Coatings <a href="http://www.sspc.org">http://www.sspc.org</a>
STI	Steel Tank Institute <a href="http://www.steeltank.com">http://www.steeltank.com</a>
SWI	Steel Window Institute <a href="http://www.steelwindows.com">http://www.steelwindows.com</a>

TCA        Tile Council of America, Inc.  
            <http://www.tileusa.com>

TEMA       Tubular Exchange Manufacturers Association  
            <http://www.tema.org>

TPI        Truss Plate Institute, Inc.  
            583 D'Onofrio Drive; Suite 200  
            Madison, WI 53719  
            (608) 833-5900

UBC        The Uniform Building Code  
            See ICBO

UL         Underwriters' Laboratories Incorporated  
            <http://www.ul.com>

ULC        Underwriters' Laboratories of Canada  
            <http://www.ulc.ca>

WCLIB     West Coast Lumber Inspection Bureau  
            6980 SW Varns Road, P.O. Box 23145  
            Portland, OR 97223  
            (503) 639-0651

WRCLA     Western Red Cedar Lumber Association  
            P.O. Box 120786  
            New Brighton, MN 55112  
            (612) 633-4334

WWPA     Western Wood Products Association  
            <http://www.wwpa.org>

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

- - - E N D - - -

**SECTION 01 45 29**  
**TESTING LABORATORY SERVICES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

This section specifies materials testing activities and inspection services required during project construction to be provided by a Testing Laboratory retained by the Contractor.

**1.2 APPLICABLE PUBLICATIONS:**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. American Association of State Highway and Transportation Officials (AASHTO):
  - T27-11.....Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates
  - T96-02 (R2006).....Standard Method of Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
  - T99-10.....Standard Method of Test for Moisture-Density Relations of Soils Using a 2.5 Kg (5.5 lb.) Rammer and a 305 mm (12 in.) Drop
  - T104-99 (R2007).....Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
  - T180-10.....Standard Method of Test for Moisture-Density Relations of Soils using a 4.54 kg (10 lb.) Rammer and a 457 mm (18 in.) Drop
  - T191-02(R2006).....Standard Method of Test for Density of Soil In-Place by the Sand-Cone Method
- C. American Concrete Institute (ACI):
  - 506.4R-94 (R2004).....Guide for the Evaluation of Shotcrete
- D. American Society for Testing and Materials (ASTM):
  - A325-10.....Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
  - A370-12.....Standard Test Methods and Definitions for Mechanical Testing of Steel Products
  - A416/A416M-10.....Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete

A490-12.....Standard Specification for Heat Treated Steel  
Structural Bolts, 150 ksi Minimum Tensile  
Strength

C31/C31M-10.....Standard Practice for Making and Curing Concrete  
Test Specimens in the Field

C33/C33M-11a.....Standard Specification for Concrete Aggregates

C39/C39M-12.....Standard Test Method for Compressive Strength of  
Cylindrical Concrete Specimens

C109/C109M-11b.....Standard Test Method for Compressive Strength of  
Hydraulic Cement Mortars

C136-06.....Standard Test Method for Sieve Analysis of Fine  
and Coarse Aggregates

C138/C138M-10b.....Standard Test Method for Density (Unit Weight),  
Yield, and Air Content (Gravimetric) of Concrete

C140-12.....Standard Test Methods for Sampling and Testing  
Concrete Masonry Units and Related Units

C143/C143M-10a.....Standard Test Method for Slump of Hydraulic  
Cement Concrete

C172/C172M-10.....Standard Practice for Sampling Freshly Mixed  
Concrete

C173/C173M-10b.....Standard Test Method for Air Content of freshly  
Mixed Concrete by the Volumetric Method

C330/C330M-09.....Standard Specification for Lightweight  
Aggregates for Structural Concrete

C567/C567M-11.....Standard Test Method for Density Structural  
Lightweight Concrete

C780-11.....Standard Test Method for Pre-construction and  
Construction Evaluation of Mortars for Plain and  
Reinforced Unit Masonry

C1019-11.....Standard Test Method for Sampling and Testing  
Grout

C1064/C1064M-11.....Standard Test Method for Temperature of Freshly  
Mixed Portland Cement Concrete

C1077-11c.....Standard Practice for Agencies Testing Concrete  
and Concrete Aggregates for Use in Construction  
and Criteria for Testing Agency Evaluation

C1314-11a.....Standard Test Method for Compressive Strength of  
Masonry Prisms

D422-63(2007).....Standard Test Method for Particle-Size Analysis  
of Soils

D698-07e1.....Standard Test Methods for Laboratory Compaction  
Characteristics of Soil Using Standard Effort  
D1140-00(2006).....Standard Test Methods for Amount of Material in  
Soils Finer than No. 200 Sieve  
D1143/D1143M-07e1.....Standard Test Methods for Deep Foundations Under  
Static Axial Compressive Load  
D1188-07e1.....Standard Test Method for Bulk Specific Gravity  
and Density of Compacted Bituminous Mixtures  
Using Coated Samples  
D1556-07.....Standard Test Method for Density and Unit Weight  
of Soil in Place by the Sand-Cone Method  
D1557-09.....Standard Test Methods for Laboratory Compaction  
Characteristics of Soil Using Modified Effort  
(56,000ft lbf/ft<sup>3</sup> (2,700 KNm/m<sup>3</sup>))  
D2166-06.....Standard Test Method for Unconfined Compressive  
Strength of Cohesive Soil  
D2167-08).....Standard Test Method for Density and Unit Weight  
of Soil in Place by the Rubber Balloon Method  
D2216-10.....Standard Test Methods for Laboratory  
Determination of Water (Moisture) Content of  
Soil and Rock by Mass  
D2974-07a.....Standard Test Methods for Moisture, Ash, and  
Organic Matter of Peat and Other Organic Soils  
D3666-11.....Standard Specification for Minimum Requirements  
for Agencies Testing and Inspecting Road and  
Paving Materials  
D3740-11.....Standard Practice for Minimum Requirements for  
Agencies Engaged in Testing and/or Inspection  
of Soil and Rock as used in Engineering Design  
and Construction  
D6938-10.....Standard Test Method for In-Place Density and  
Water Content of Soil and Soil-Aggregate by  
Nuclear Methods (Shallow Depth)  
E94-04(2010).....Standard Guide for Radiographic Examination  
E164-08.....Standard Practice for Contact Ultrasonic Testing  
of Weldments  
E329-11c.....Standard Specification for Agencies Engaged in  
Construction Inspection, Testing, or Special  
Inspection



- E543-09.....Standard Specification for Agencies Performing  
Non-Destructive Testing
- E605-93(R2011).....Standard Test Methods for Thickness and Density  
of Sprayed Fire Resistive Material (SFRM)  
Applied to Structural Members
- E709-08.....Standard Guide for Magnetic Particle Examination
- E1155-96(R2008).....Determining FF Floor Flatness and FL Floor  
Levelness Numbers
- E. American Welding Society (AWS):
- D1.D1.1M-10.....Structural Welding Code-Steel

### **1.3 REQUIREMENTS:**

- A. Accreditation Requirements: Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation. The laboratory's scope of accreditation must include the appropriate ASTM standards (i.e.; E329, C1077, D3666, D3740, A880, E543) listed in the technical sections of the specifications. Laboratories engaged in Hazardous Materials Testing shall meet the requirements of OSHA and EPA. The policy applies to the specific laboratory performing the actual testing, not just the "Corporate Office."
- B. Inspection and Testing: Testing laboratory shall inspect materials and workmanship and perform tests described herein and additional tests requested by COR. When it appears materials furnished, or work performed by Contractor fail to meet construction contract requirements, Testing Laboratory shall direct attention of COR to such failure.
- C. Written Reports: Testing laboratory shall submit test reports to COR, Architect, and Contractor, unless other arrangements are agreed to in writing by the COR. Submit reports of tests that fail to meet construction contract requirements on colored paper.
- D. Verbal Reports: Give verbal notification to COR immediately of any irregularity.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION**

#### **3.1 CONCRETE:**

- A. Batch Plant Inspection and Materials Testing:
1. Perform continuous batch plant inspection until concrete quality is established to satisfaction of COR with concurrence of Contracting Officer and perform periodic inspections thereafter as determined by COR.

2. Periodically inspect and test batch proportioning equipment for accuracy and report deficiencies to COR.
3. Sample and test mix ingredients as necessary to insure compliance with specifications.
4. Sample and test aggregates daily and as necessary for moisture content. Test the dry rodded weight of the coarse aggregate whenever a sieve analysis is made, and when it appears there has been a change in the aggregate.
5. Certify, in duplicate, ingredients and proportions and amounts of ingredients in concrete conform to approved trial mixes. When concrete is batched or mixed off immediate building site, certify (by signing, initialing or stamping thereon) on delivery slips (duplicate) that ingredients in truck-load mixes conform to proportions of aggregate weight, cement factor, and water-cement ratio of approved trial mixes.

B. Field Inspection and Materials Testing:

1. Provide a technician at site of placement at all times to perform concrete sampling and testing.
2. Review the delivery tickets of the ready-mix concrete trucks arriving on-site. Notify the Contractor if the concrete cannot be placed within the specified time limits or if the type of concrete delivered is incorrect. Reject any loads that do not comply with the Specification requirements. Rejected loads are to be removed from the site at the Contractor's expense. Any rejected concrete that is placed will be subject to removal.
3. Take concrete samples at point of placement in accordance with ASTM C172. Mold and cure compression test cylinders in accordance with ASTM C31. Make at least three cylinders for each 40 m<sup>3</sup> (50 cubic yards) or less of each concrete type, and at least three cylinders for any one day's pour for each concrete type. After good concrete quality control has been established and maintained as determined by COR make three cylinders for each 80 m<sup>3</sup> (100 cubic yards) or less of each concrete type, and at least three cylinders from any one day's pour for each concrete type. Label each cylinder with an identification number. COR may require additional cylinders to be molded and cured under job conditions.
4. Perform slump tests in accordance with ASTM C143. Test the first truck each day, and every time test cylinders are made. Test pumped concrete at the hopper and at the discharge end of the hose at the

- beginning of each day's pumping operations to determine change in slump.
5. Determine the air content of concrete per ASTM C173. For concrete required to be air-entrained, test the first truck and every 20 m<sup>3</sup> (25 cubic yards) thereafter each day. For concrete not required to be air-entrained, test every 80 m<sup>3</sup> (100 cubic yards) at random. For pumped concrete, initially test concrete at both the hopper and the discharge end of the hose to determine change in air content.
  6. If slump or air content fall outside specified limits, make another test immediately from another portion of same batch.
  7. Perform unit weight tests in compliance with ASTM C138 for normal weight concrete and ASTM C567 for lightweight concrete. Test the first truck and each time cylinders are made.
  8. Notify laboratory technician at batch plant of mix irregularities and request materials and proportioning check.
  9. Verify that specified mixing has been accomplished.
  10. Environmental Conditions: Determine the temperature per ASTM C1064 for each truckload of concrete during hot weather and cold weather concreting operations:
    - a. When ambient air temperature falls below 4.4 degrees C (40 degrees F), record maximum and minimum air temperatures in each 24 hour period; record air temperature inside protective enclosure; record minimum temperature of surface of hardened concrete.
    - b. When ambient air temperature rises above 29.4 degrees C (85 degrees F), record maximum and minimum air temperature in each 24 hour period; record minimum relative humidity; record maximum wind velocity; record maximum temperature of surface of hardened concrete.
  11. Inspect the reinforcing steel placement, including bar size, bar spacing, top and bottom concrete cover, proper tie into the chairs, and grade of steel prior to concrete placement. Submit detailed report of observations.
  12. Observe conveying, placement, and consolidation of concrete for conformance to specifications.
  13. Observe condition of formed surfaces upon removal of formwork prior to repair of surface defects and observe repair of surface defects.
  14. Observe curing procedures for conformance with specifications, record dates of concrete placement, start of preliminary curing, start of final curing, end of curing period.
  15. Observe preparations for placement of concrete:

- a. Inspect handling, conveying, and placing equipment, inspect vibrating and compaction equipment.
  - b. Inspect preparation of construction, expansion, and isolation joints.
16. Observe preparations for protection from hot weather, cold weather, sun, and rain, and preparations for curing.
17. Observe concrete mixing:
  - a. Monitor and record amount of water added at project site.
  - b. Observe minimum and maximum mixing times.
18. Measure concrete flatwork for levelness and flatness as follows:
  - a. Perform Floor Tolerance Measurements  $F_F$  and  $F_L$  in accordance with ASTM E1155. Calculate the actual overall F- numbers using the inferior/superior area method.
  - b. Perform all floor tolerance measurements within 48 hours after slab installation and prior to removal of shoring and formwork.
  - c. Provide the Contractor and the COR with the results of all profile tests, including a running tabulation of the overall  $F_F$  and  $F_L$  values for all slabs installed to date, within 72 hours after each slab installation.
19. Other inspections:
  - a. Grouting under base plates.
  - b. Grouting anchor bolts and reinforcing steel in hardened concrete.
- C. Laboratory Tests of Field Samples:
  1. Test compression test cylinders for strength in accordance with ASTM C39. For each test series, test one cylinder at 7 days and one cylinder at 28 days. Use remaining cylinder as a spare tested as directed by COR. Compile laboratory test reports as follows:  
Compressive strength test shall be result of one cylinder, except when one cylinder shows evidence of improper sampling, molding or testing, in which case it shall be discarded and strength of spare cylinder shall be used.
  2. Make weight tests of hardened lightweight structural concrete in accordance with ASTM C567.
  3. Furnish certified compression test reports (duplicate) to COR. In test report, indicate the following information:
    - a. Cylinder identification number and date cast.
    - b. Specific location at which test samples were taken.
    - c. Type of concrete, slump, and percent air.
    - d. Compressive strength of concrete in MPa (psi).

- e. Weight of lightweight structural concrete in kg/m<sup>3</sup> (pounds per cubic feet).
- f. Weather conditions during placing.
- g. Temperature of concrete in each test cylinder when test cylinder was molded.
- h. Maximum and minimum ambient temperature during placing.
- i. Ambient temperature when concrete sample in test cylinder was taken.
- j. Date delivered to laboratory and date tested.

### **3.2 REINFORCEMENT:**

- A. Review mill test reports furnished by Contractor.
- B. Make one tensile and one bend test in accordance with ASTM A370 from each pair of samples obtained.
- C. Written report shall include, in addition to test results, heat number, manufacturer, type and grade of steel, and bar size.
- D. Perform tension tests of mechanical and welded splices in accordance with ASTM A370.

### **3.3 STRUCTURAL STEEL:**

- A. General: Provide shop and field inspection and testing services to certify structural steel work is done in accordance with contract documents. Welding shall conform to AWS D1.1 Structural Welding Code.
- B. Prefabrication Inspection:
  - 1. Review design and shop detail drawings for size, length, type and location of all welds to be made.
  - 2. Approve welding procedure qualifications either by pre-qualification or by witnessing qualifications tests.
  - 3. Approve welder qualifications by certification or retesting.
  - 4. Approve procedure for control of distortion and shrinkage stresses.
  - 5. Approve procedures for welding in accordance with applicable sections of AWS D1.1.
- C. Fabrication and Erection:
  - 1. Weld Inspection:
    - a. Inspect welding equipment for capacity, maintenance and working condition.
    - b. Verify specified electrodes and handling and storage of electrodes in accordance with AWS D1.1.
    - c. Inspect preparation and assembly of materials to be welded for conformance with AWS D1.1.
    - d. Inspect preheating and interpass temperatures for conformance with AWS D1.1.

- e. Measure 25 percent of fillet welds.
  - f. Welding Magnetic Particle Testing: Test in accordance with ASTM E709 for a minimum of:
    - 1) 20 percent of all shear plate fillet welds at random, final pass only.
    - 2) 20 percent of all continuity plate and bracing gusset plate fillet welds, at random, final pass only.
    - 3) 100 percent of tension member fillet welds (i.e., hanger connection plates and other similar connections) for root and final passes.
    - 4) 20 percent of length of built-up column member partial penetration and fillet welds at random for root and final passes.
    - 5) 100 percent of length of built-up girder member partial penetration and fillet welds for root and final passes.
  - g. Welding Ultrasonic Testing: Test in accordance with ASTM E164 and AWS D1.1 for 100 percent of all full penetration welds, braced and moment frame column splices, and a minimum of 20 percent of all other partial penetration column splices, at random.
  - h. Verify that correction of rejected welds are made in accordance with AWS D1.1.
  - i. Testing and inspection do not relieve the Contractor of the responsibility for providing materials and fabrication procedures in compliance with the specified requirements.
2. Bolt Inspection:
- a. Inspect high-strength bolted connections in accordance AISC Specifications for Structural Joints Using ASTM A325 or A490 Bolts.
  - b. Slip-Critical Connections: Inspect 10 percent of bolts, but not less than 2 bolts, selected at random in each connection in accordance with AISC Specifications for Structural Joints Using ASTM A325 or A490 Bolts. Inspect all bolts in connection when one or more are rejected.
  - c. Fully Pre-tensioned Connections: Inspect 10 percent of bolts, but not less than 2 bolts, selected at random in 25 percent of connections in accordance with AISC Specification for Structural Joints Using ASTM A325 or A490 Bolts. Inspect all bolts in connection when one or more are rejected.

- d. Bolts installed by turn-of-nut tightening may be inspected with calibrated wrench when visual inspection was not performed during tightening.
- e. Snug Tight Connections: Inspect 10 percent of connections verifying that plies of connected elements have been brought into snug contact.
- f. Inspect field erected assemblies; verify locations of structural steel for plumbness, level, and alignment.
- D. Submit inspection reports, record of welders and their certification, and identification, and instances of noncompliance to COR.

#### **3.4 STEEL DECKING:**

- A. Provide field inspection of welds of metal deck to the supporting steel, and testing services to insure steel decking has been installed in accordance with contract documents and manufacturer's requirements.
- B. Qualification of Field Welding: Qualify welding processes and welding operators in accordance with "Welder Qualification" procedures of AWS D1.1. Refer to the "Plug Weld Qualification Procedure" in Part 3 "Field Quality Control."
- C. Submit inspection reports, certification, and instances of noncompliance to COR.

#### **3.5 SHEAR CONNECTOR STUDS:**

- A. Provide field inspection and testing services required by AWS D.1 to insure shear connector studs have been installed in accordance with contract documents.
- B. Tests: Test 20 percent of headed studs for fastening strength in accordance with AWS D1.1.
- C. Submit inspection reports, certification, and instances of noncompliance to COR.

#### **3.6 SPRAYED-ON FIREPROOFING:**

- A. Provide field inspection and testing services to certify sprayed-on fireproofing has been applied in accordance with contract documents.
- B. Obtain a copy of approved submittals from COR.
- C. Use approved installation in test areas as criteria for inspection of work.
- D. Test sprayed-on fireproofing for thickness and density in accordance with ASTM E605.
  - 1. Thickness gauge specified in ASTM E605 may be modified for pole extension so that overhead sprayed material can be reached from floor.
- E. Location of test areas for field tests as follows:

1. Thickness: Select one bay per floor, or one bay for each 930 m<sup>2</sup> (10,000 square feet) of floor area, whichever provides for greater number of tests. Take thickness determinations from each of following locations: Metal deck, beam, and column.
  2. Density: Take density determinations from each floor, or one test from each 930 m<sup>2</sup> (10,000 square feet) of floor area, whichever provides for greater number of tests, from each of the following areas: Underside of metal deck, beam flanges, and beam web.
- F. Submit inspection reports, certification, and instances of noncompliance to COR and Architect.

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**SECTION 01 58 16**  
**TEMPORARY INTERIOR SIGNAGE**

**PART 1 GENERAL**

**1.1 DESCRIPTION**

This section specifies temporary interior signs.

**PART 2 PRODUCTS**

**2.1 TEMPORARY SIGNS**

- A. Fabricate from 50 Kg (110 pound) mat finish white paper.
- B. Cut to 100 mm (4-inch) wide by 300 mm (12 inch) long size tag.
- C. Punch 3 mm (1/8-inch) diameter hole centered on 100 mm (4-inch) dimension of tag. Edge of Hole spaced approximately 13 mm (1/2-inch) from one end on tag.
- D. Reinforce hole on both sides with gummed cloth washer or other suitable material capable of preventing tie pulling through paper edge.
- E. Ties: Steel wire 0.3 mm (0.0120-inch) thick, attach to tag with twist tie, leaving 150 mm (6-inch) long free ends.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Install temporary signs attached to room door frame or room door knob, lever, or pull for doors on corridor openings, or other required locations as determined by the COR.
- B. Mark on signs with felt tip marker having approximately 3 mm (1/8-inch) wide stroke for clearly legible numbers or letters.
- C. Identify room with numbers as designated on floor plans.

**3.2 LOCATION**

- A. Install on doors that have room, corridor, and space numbers shown.
- B. Doors that do not require signs are as follows:
  - 1. Corridor barrier doors (cross-corridor) in corridor with same number.
  - 2. Folding doors or partitions.
  - 3. Toilet or bathroom doors within and between rooms.
  - 4. Communicating doors in partitions between rooms with corridor entrance doors.
  - 5. Closet doors within rooms.
- C. Replace missing, damaged, or illegible signs.

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**SECTION 01 74 19**  
**CONSTRUCTION WASTE MANAGEMENT**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. This section specifies the requirements for the management of non-hazardous building construction and demolition waste.
- B. Waste disposal in landfills shall be minimized to the greatest extent possible. Of the inevitable waste that is generated, as much of the waste material as economically feasible shall be salvaged, recycled or reused.
- C. Contractor shall use all reasonable means to divert construction and demolition waste from landfills and incinerators, and facilitate their salvage and recycle not limited to the following:
  - 1. Waste Management Plan development and implementation.
  - 2. Techniques to minimize waste generation.
  - 3. Sorting and separating of waste materials.
  - 4. Salvage of existing materials and items for reuse or resale.
  - 5. Recycling of materials that cannot be reused or sold.
- D. At a minimum the following waste categories shall be diverted from landfills:
  - 1. Soil.
  - 2. Inerts (eg, concrete, masonry and asphalt).
  - 3. Clean dimensional wood and palette wood.
  - 4. Green waste (biodegradable landscaping materials).
  - 5. Engineered wood products (plywood, particle board and I-joists, etc).
  - 6. Metal products (eg, steel, wire, beverage containers, copper, etc).
  - 7. Cardboard, paper and packaging.
  - 8. Bitumen roofing materials.
  - 9. Plastics (eg, ABS, PVC).
  - 10. Carpet and/or pad.
  - 11. Gypsum board.
  - 12. Insulation.
  - 13. Paint.
  - 14. Fluorescent lamps.

**1.2 RELATED WORK**

- A. Section 01 00 00, GENERAL REQUIREMENTS.

B. Section 02 41 00, DEMOLITION.

### **1.3 QUALITY ASSURANCE**

- A. Contractor shall practice efficient waste management when sizing, cutting and installing building products. Processes shall be employed to ensure the generation of as little waste as possible. Construction/ Demolition waste includes products of the following:
  - 1. Excess or unusable construction materials.
  - 2. Packaging used for construction products.
  - 3. Poor planning and/or layout.
  - 4. Construction error.
  - 5. Over ordering.
  - 6. Weather damage.
  - 7. Contamination.
  - 8. Mishandling.
  - 9. Breakage.
- B. Establish and maintain the management of non-hazardous building construction and demolition waste set forth herein. Conduct a site assessment to estimate the types of materials that will be generated by demolition and construction.
- C. Contractor shall develop and implement procedures to recycle construction and demolition waste to a minimum of 50 percent.
- D. Contractor shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling. Any revenues or savings obtained from salvage or recycling shall accrue to the contractor.
- E. Contractor shall provide all demolition, removal and legal disposal of materials. Contractor shall ensure that facilities used for recycling, reuse and disposal shall be permitted for the intended use to the extent required by local, state, federal regulations. The Whole Building Design Guide website <http://www.wbdg.org/tools/cwm.php> provides a Construction Waste Management Database that contains information on companies that haul, collect, and process recyclable debris from construction projects.
- F. Contractor shall assign a specific area to facilitate separation of materials for reuse, salvage, recycling, and return. Such areas are to be kept neat and clean and clearly marked in order to avoid contamination or mixing of materials.

- G. Contractor shall provide on-site instructions and supervision of separation, handling, salvaging, recycling, reuse and return methods to be used by all parties during waste generating stages.
- H. Record on daily reports any problems in complying with laws, regulations and ordinances with corrective action taken.

#### **1.4 TERMINOLOGY**

- A. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial and industrial waste resulting from construction, remodeling, repair and demolition operations.
- B. Clean: Untreated and unpainted; uncontaminated with adhesives, oils, solvents, mastics and like products.
- C. Construction and Demolition Waste: Includes all non-hazardous resources resulting from construction, remodeling, alterations, repair and demolition operations.
- D. Dismantle: The process of parting out a building in such a way as to preserve the usefulness of its materials and components.
- E. Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of land filling (includes Class III landfills and inert fills).
- F. Inert Backfill Site: A location, other than inert fill or other disposal facility, to which inert materials are taken for the purpose of filling an excavation, shoring or other soil engineering operation.
- G. Inert Fill: A facility that can legally accept inert waste, such as asphalt and concrete exclusively for the purpose of disposal.
- H. Inert Solids/Inert Waste: Non-liquid solid resources including, but not limited to, soil and concrete that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board, and does not contain significant quantities of decomposable solid resources.
- I. Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.
- J. Mixed Debris Recycling Facility: A solid resource processing facility that accepts loads of mixed construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing non-recyclable materials.

- K. Permitted Waste Hauler: A company that holds a valid permit to collect and transport solid wastes from individuals or businesses for the purpose of recycling or disposal.
- L. Recycling: The process of sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.
1. On-site Recycling - Materials that are sorted and processed on site for use in an altered state in the work, i.e. concrete crushed for use as a sub-base in paving.
  2. Off-site Recycling - Materials hauled to a location and used in an altered form in the manufacture of new products.
- M. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of new products. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a solid waste facilities permit or be regulated by the local enforcement agency.
- N. Reuse: Materials that are recovered for use in the same form, on-site or off-site.
- O. Return: To give back reusable items or unused products to vendors for credit.
- P. Salvage: To remove waste materials from the site for resale or re-use by a third party.
- Q. Source-Separated Materials: Materials that are sorted by type at the site for the purpose of reuse and recycling.
- R. Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.
- S. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for re-use or recycling.

#### **1.5 SUBMITTALS**

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.

- B. Prepare and submit to the COR a written demolition debris management plan. The plan shall include, but not be limited to, the following information:
1. Procedures to be used for debris management.
  2. Techniques to be used to minimize waste generation.
  3. Analysis of the estimated job site waste to be generated:
    - a. List of each material and quantity to be salvaged, reused, recycled.
    - b. List of each material and quantity proposed to be taken to a landfill.
  4. Detailed description of the Means/Methods to be used for material handling.
    - a. On site: Material separation, storage, protection where applicable.
    - b. Off site: Transportation means and destination. Include list of materials.
      - 1) Description of materials to be site-separated and self-hauled to designated facilities.
      - 2) Description of mixed materials to be collected by designated waste haulers and removed from the site.
    - c. The names and locations of mixed debris reuse and recycling facilities or sites.
    - d. The names and locations of trash disposal landfill facilities or sites.
    - e. Documentation that the facilities or sites are approved to receive the materials.
- C. Designated Manager responsible for instructing personnel, supervising, documenting and administer over meetings relevant to the Waste Management Plan.
- D. Monthly summary of construction and demolition debris diversion and disposal, quantifying all materials generated at the work site and disposed of or diverted from disposal through recycling.

#### **1.6 APPLICABLE PUBLICATIONS**

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced by the basic designation only. In the event that criteria requirements conflict, the most stringent requirements shall be met.

B. U.S. Green Building Council (USGBC):

LEED Green Building Rating System for New Construction

## **1.7 RECORDS**

Maintain records to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. List of each material and quantity to be salvaged, recycled, reused.
- B. List of each material and quantity proposed to be taken to a landfill.
- C. Material tracking data: Receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices, net total costs or savings.

## **PART 3 - EXECUTION**

### **3.1 COLLECTION**

- A. Provide all necessary containers, bins and storage areas to facilitate effective waste management.
- B. Clearly identify containers, bins and storage areas so that recyclable materials are separated from trash and can be transported to respective recycling facility for processing.
- C. Hazardous wastes shall be separated, stored, disposed of according to local, state, federal regulations.

### **3.2 DISPOSAL**

- A. Contractor shall be responsible for transporting and disposing of materials that cannot be delivered to a source-separated or mixed materials recycling facility to a transfer station or disposal facility that can accept the materials in accordance with state and federal regulations.
- B. Construction or demolition materials with no practical reuse or that cannot be salvaged or recycled shall be disposed of at a landfill or incinerator.

### **3.3 REPORT**

- A. With each application for progress payment, submit a summary of construction and demolition debris diversion and disposal including beginning and ending dates of period covered.
- B. Quantify all materials diverted from landfill disposal through salvage or recycling during the period with the receiving parties, dates

removed, transportation costs, weight tickets, manifests, invoices.

Include the net total costs or savings for each salvaged or recycled material.

- C. Quantify all materials disposed of during the period with the receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices. Include the net total costs for each disposal.

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**SECTION 02 41 00**  
**DEMOLITION**

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

This section specifies demolition and removal of portions of buildings, utilities, other structures and debris.

**1.2 RELATED WORK:**

- A. Safety Requirements, including ACCIDENT PREVENTION PLAN (APP): Section 01 35 26, SAFETY REQUIREMENTS.
- B. Disconnecting utility services prior to demolition: Section 01 00 00, GENERAL REQUIREMENTS.
- C. Reserved items that are to remain the property of the Government: Section 01 00 00, GENERAL REQUIREMENTS.
- D. Temporary Construction Barriers and Infectious Control: Section 01 35 26, SAFETY REQUIREMENTS.
- E. Construction Waste Management: Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT.

**1.3 SUBMITTALS**

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- B. Provide a written demolition debris removal plan.
  - 1. The use of temporary trash chutes shall not be permitted.
  - 2. The use of Parking Garage elevators for hauling of debris will not be permitted.
  - 3. Debris removal shall occur in such a manner so as not to interfere with normal garage operation.

**1.4 PROTECTION:**

- A. Perform demolition in such manner as to eliminate hazards to persons and property; to minimize interference with use of adjacent areas, utilities and structures or interruption of use of such utilities; and to provide free passage to and from such adjacent areas of structures. Comply with requirements of ACCIDENT PREVENTION PLAN.
- B. Provide safeguards, including warning signs, barricades, temporary fences, warning lights, and other similar items that are required for protection of all personnel during demolition and removal operations.
- C. Maintain fences, barricades, lights, and other similar items around exposed excavations until such excavations have been completely filled.
- D. Prevent spread of flying particles and dust. Sprinkle rubbish and debris with water to keep dust to a minimum. Do not use water if it results in

hazardous or objectionable condition such as, but not limited to; ice, flooding, or pollution. Vacuum and dust the work area daily.

1. Provide protection of vehicles adjacent to the demolition site to protect them from falling or flying debris. Closure of parking spaces shall occur only after obtaining approval from the COR.
- D. In addition to previously listed fire and safety rules to be observed in performance of work, include following:
1. No wall or part of wall shall be permitted to fall outwardly from structures.
  2. Wherever a cutting torch or other equipment that might cause a fire is used, provide and maintain fire extinguishers nearby ready for immediate use. Instruct all possible users in use of fire extinguishers. Comply with all requirements of the "Hot Work Permit".
  3. Keep hydrants clear and accessible at all times. Prohibit debris from accumulating within a radius of 4500 mm (15 feet) of fire hydrants.
  4. Keep fire extinguishers clear and accessible at all times.
- E. Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The contractor shall take necessary precautions to avoid damages to existing items to remain in place, to be reused, or to remain the property of the Medical Center; any damaged items shall be repaired or replaced as approved by the COR. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal works. Repairs, reinforcement, or structural replacement must have COR's approval.
- F. The work shall comply with the requirements of Section 01 35 26, SAFETY REQUIREMENTS.

#### **1.4 UTILITY SERVICES:**

- A. Demolish and remove utility service lines shown to be removed. Removal of lines shall be above grade only, unless otherwise shown on the Drawings.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

**3.1 DEMOLITION:**

- A. Completely demolish and remove buildings and structures, including all appurtenances related or connected thereto.
  - 1. Furnishings and equipment located inside the confines of the trailers at the start of construction will be deemed to be abandoned by the Government and will become the property of the General Contractor for disposition.
- B. Debris, including brick, concrete, stone, metals and similar materials shall become property of Contractor and shall be disposed of by him daily, off the Medical Center Property to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the COR. Contractor shall dispose debris in compliance with applicable federal, state or local permits, rules and/or regulations.
- C. Remove and legally dispose of all materials. Materials removed shall become property of contractor and shall be disposed of in compliance with applicable federal, state or local permits, rules and/or regulations. Refer also to Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT.
- D. Remove existing utilities as indicated or uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the COR. When Utility lines are encountered that are not indicated on the drawings, the COR shall be notified prior to further work in that area.
- E. Remove abandoned utility lines uncovered during the work in a manner conforming to the nationally recognized code covering the specific utility.
  - 1. Abandoned utilities that extend beyond the boundaries of the project area, shall be removed to a point 6" beyond the project perimeter.

**3.2 CLEAN-UP:**

- A. On completion of work of this section and after removal of all debris, leave site in clean condition satisfactory to COR. Clean-up shall include removal of trailers, disposal of all items and materials not required to remain property of the Government as well as all debris and rubbish resulting from demolition operations.

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**SECTION 07 95 13**  
**EXPANSION JOINT COVER ASSEMBLIES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Prefabricated floor building expansion joint assemblies.
    - a. Metal plate covers at floor joints.

**1.2 APPLICABLE PUBLICATIONS**

- A. Comply with references to extent specified in this Section.
- B. American Society of Civil Engineers (ASCE):
  - 1. ASCE/SEI 7-10 - Minimum Design Loads For Buildings and Other Structures.
- C. ASTM International (ASTM):
  - 1. A36/A36M-14 - Structural Steel.
  - 2. A240/A240M-15b - Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications.
  - 3. A283/A283M-13 - Low and Intermediate Tensile Strength Carbon Steel Plates.
  - 4. A786/A786M-05(2009) - Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy, and Alloy Steel Floor Plates.
  - 5. B36/B36M-13 - Brass, Plate, Sheet, Strip, and Rolled Bar.
  - 6. B121/B121M-11 - Lead Brass Plate, Sheet, Strip and Rolled Bar.
  - 7. B209-14 - Aluminum and Aluminum-Alloy Sheet and Plate.
  - 8. B209M-14 - Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
  - 9. B221-14 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
  - 10. B221M 13 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
  - 11. B455-10 - Copper-Zinc-Lead Alloy (Leaded-Brass) Extruded Shapes.
  - 12. C864-05(2011) - Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
  - 13. D1187/D1187M-97(2011)e1 - Asphalt-Base Emulsions for Use as Protective Coatings for Metal.
  - 14. E1399/E1399M-97(2013)e1 - Standard Test Method for Cyclic Movement and Measuring the Minimum and Maximum Joint Widths of Architectural Joint Systems.
  - 15. E1966-15 - Standard Test Method for Fire-Resistive Joint Systems.

- D. National Association of Architectural Metal Manufacturers (NAAMM):
  - 1. AMP 500-06 - Metal Finishes Manual.
- E. UL LLC (UL):
  - 1. 2079-15 - Standard for Tests for Fire Resistance of Building Joint Systems.

### **1.3 SUBMITTALS**

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
  - 1. Include large-scale details indicating profiles of each type of expansion joint cover, splice joints between joint sections, transitions to other assemblies, terminations, anchorages, fasteners, and relationship to adjoining work and finishes.
  - 2. Show size, configuration, and fabrication and installation details.
  - 3. Include composite drawings showing work specified in other Sections coordinated with expansion joints.
- C. Manufacturer's Literature and Data:
  - 1. Description of each product specified.
  - 2. Show movement capability of each cover assembly and suitability of material used in exterior seals for ultraviolet exposure.
  - 3. Description of materials and finishes.
  - 4. Installation instructions.
- D. Samples: Submit 300 mm (12 inch) long samples.
  - 1. Each type and color of metal finish for each required thickness and alloy.
  - 2. Each type and color of flexible seal.
- E. Qualifications: Substantiate qualifications comply with specifications.
  - 1. Installer with project experience list.
- F. Certificates: Indicate products comply with specifications.
- G. Operation and Maintenance Data:
  - 1. Care instructions for each exposed finish product.

### **1.4 QUALITY ASSURANCE**

- A. Installer Qualifications:
  - 1. Regularly installs specified products.
  - 2. Installed specified products with satisfactory service on five similar installations for minimum five years.

### **1.5 DELIVERY**

- A. Deliver products in manufacturer's original sealed packaging.
- B. Mark packaging, legibly. Indicate manufacturer's name or brand, type, color, and manufacture date.
- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

### **1.6 STORAGE AND HANDLING**

- A. Store products indoors in dry, weathertight facility.
- B. Protect products from damage during handling and construction operations.

### **1.7 FIELD CONDITIONS**

- A. Field Measurements: Verify field conditions affecting expansion joint cover assembly fabrication and installation. Show field measurements on Submittal Drawings.
  - 1. Coordinate field measurement and fabrication schedule to avoid delay.

### **1.8 WARRANTY**

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

## **PART 2 - PRODUCTS**

### **2.1 SYSTEM DESCRIPTION**

- A. Provide traffic durable, watertight, expansion joint for expansion joints and isolation joints in parking deck. System shall perform traffic bearing and movement-accommodation functions as the result of a single installation and without the addition of gutters, vapor barriers, bladders, or other devices suspended beneath or within the system in any way.

### **2.2 SYSTEM PERFORMANCE**

- A. Design expansion joint cover assemblies complying with specified performance.
- B. Joint Movement: ASTM E1399.
  - 1. Nominal Joint Width: match existing.
  - 2. Minimum Movement Capability: 50 percent.
  - 3. Movement Type: Thermal and wind.
- C. Floor Joints: Live loads, including rolling loads.

1. Maximum Deflection: 1/360 of span, maximum.

### **2.3 MATERIALS**

- A. Stainless Steel: ASTM A240/A240M, Type 302 or 304.
- B. Structural Steel Shapes: ASTM A36/A36M.
- C. Steel Plate: ASTM A283/A283M, Grade C.
- D. Rolled Steel Floor Plate: ASTM A786/A786M.
- E. Silicone coating: highway-grade, low-modulus, jet-fuel resistant silicone applied to the impregnated foam sealant at a width greater than maximum allowable joint extension and which when cured and compressed will form a bellows, and installed into manufacturer's standard field-applied epoxy adhesive.
- F. Compression Seals: Pre-compressed secondary sealant using preformed expanding foam sealant; open-cell polyurethane foam impregnated with polymer-modified acrylic adhesive.

### **2.4 PRODUCTS - GENERAL**

- A. Provide each product from one manufacturer.
  1. Provide expansion joint cover assembly designs, profiles, materials and configuration indicated, as required to accommodate joint size variations in adjacent surfaces, and anticipated movement.

### **2.5 FABRICATION**

- A. Garage Floor Joint Cover Plate:
  1. Frame: Angle edge frame on both sides of joint, size as shown.
    - a. Anchors: Stud bolts minimum 100 mm (4 inches) long and 10 mm (3/8 inch) diameter welded to angle spaced maximum 600 mm (24 inches) on center.
    - b. Drill and top one frame for cover plate fasteners.
  2. Cover Plate: Steel cover plate minimum 10 mm (3/8 inch) thick with edges beveled, smooth finish, drilled for countersunk fasteners at ends and maximum 600 mm (24 inches) on center.
  3. Seismic: As required by Code.
  4. Finishes: As selected by Architect from manufacturer's full range.

### **2.6 FINISHES**

- A. Carbon Steel: NAAMM AMP 500, Galvanized G90.
- B. Stainless Steel: NAAMM AMP 500, No. 2B bright finish.

## **2.7 ACCESSORIES**

- A. General: Manufacturer's standard anchors, fasteners, set screws, spaces, protective coating, and filler materials, adhesive and other accessories required for installation.
- B. Barrier Coating: ASTM D1187/D1187M.
- C. Adhesives: Low pollutant-emitting, water based type recommended by adhered product manufacturer for each application.
- D. Fasteners: Type and size recommended by expansion joint cover assembly manufacturer.
  - 1. Exterior Applications: Stainless steel.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Examine and verify substrate suitability for product installation.
- B. Protect existing construction from damage.
- C. Apply barrier coating to steel surfaces in contact with dissimilar metals and cementitious materials to minimum 0.7 mm (30 mils) dry film thickness.

### **3.2 INSTALLATION**

- A. Install products according to manufacturer's instructions and approved submittal drawings.
  - 1. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.
- B. Install anchorage devices and fasteners for securing expansion joint assemblies to in-place construction where anchors are not embedded in concrete and masonry.
  - 1. Clean the joint opening of all contaminants immediately prior to installation of expansion joint system. Repair spalled, irregular or unsound joint surfaces using accepted industry practices for repair of the substrates in question. Remove protruding roughness to ensure joint sides are smooth. Ensure that there is sufficient depth to receive the full depth of the size of the expansion joint being installed.
  - 2. Secure with metal fasteners, type and size to suit application.
- C. Perform cutting, drilling and fitting required for installation of expansion joint cover assemblies.



- D. Install joint cover assemblies aligned and positioned in correct relationship to expansion joint opening and adjoining finished surfaces measured from established lines and levels.
  - 1. Allow for thermal expansion and contraction of metal to avoid buckling.
  - 2. Accommodate joint opening size at time of installation.
- E. Set floor covers at elevations flush with adjacent finished flooring, unless shown otherwise.
- F. Locate anchors at interval recommended by manufacturer, but minimum 75 mm (3 inches) from each end, and, maximum 600 mm (24 inches) on centers.
- G. Maintain continuity of expansion joint cover assemblies with end joints held to a minimum and metal members aligned mechanically using splice joints.
- H. Cut and fit ends to accommodate thermal expansion and contraction of metal to avoid buckling of frames and cover plates.
- I. Flush Metal Cover Plates:
  - 1. Secure flexible filler between frames to allow compression and expansion.
  - 2. Adhere flexible filler materials to frames with adhesive or

### **3.3 CLEANING**

- A. Remove excess adhesive before adhesive sets.
- B. Clean exposed metal surfaces. Remove contaminants and stains.

### **3.4 PROTECTION**

- A. Cover floor joints with plywood where wheel traffic occurs before Substantial completion.
- B. Remove protective covering when adjacent work areas are completed. Clean exposed surfaces in compliance with manufacture's printed instructions.

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**SECTION 32 17 23  
PAVEMENT MARKINGS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

A. Section Includes:

1. Penetrating sealant.
2. Paint on pavement surfaces, in form of traffic lanes, parking bays, areas restricted to handicapped persons, crosswalks, and other detail pavement markings.

**1.2 RELATED REQUIREMENTS**

- A. Paint Color: As indicated on Drawings.

**1.3 APPLICABLE PUBLICATIONS**

- A. Comply with references to extent specified in this section.
- B. Federal Specifications (Fed. Spec.):
1. TT-B-1325D - Beads (Glass Spheres) Retro-Reflective.
  2. TT-P-1952F - Paint, Traffic and Airfield Marking, Waterborne.
- C. Master Painters Institute (MPI):
1. No. 97 - Traffic Marking Paint, Latex.

**1.4 SUBMITTALS**

- A. Submittal Procedures: Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
1. Show pavement marking configuration and dimensions.
  2. Show international symbol of accessibility at designated parking spaces.
- C. Manufacturer's Literature and Data:
1. Description of each product.
  2. Application instructions.
- D. Samples:
1. Paint: 200 mm (8 inches) square, each type and color.
- E. Certificates: Certify products comply with specifications.
- F. Qualifications: Substantiate qualifications comply with specifications.
1. Installer with project experience list.

**1.5 QUALITY ASSURANCE**

- A. Installer Qualifications:

1. Regularly installs specified products.
2. Installed specified products with satisfactory service on five similar installations for minimum five years.
  - a. Project Experience List: Provide contact names and addresses for completed projects.

#### **1.6 DELIVERY**

- A. Deliver products in manufacturer's original sealed packaging.
- B. Mark packaging, legibly. Indicate manufacturer's name or brand, type, color, production run number, and manufacture date.
- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

#### **1.7 STORAGE AND HANDLING**

- A. Store products indoors in dry, weathertight conditioned facility.
- B. Protect products from damage during handling and construction operations.

#### **1.8 FIELD CONDITIONS**

- A. Environment:
  1. Product Temperature: Minimum 13 degrees C (55 degrees F) for minimum 48 hours before installation.
    - a. Surface to be painted and ambient temperature: Minimum 10 degrees C (50 degrees F) and maximum 35 degrees C (95 degrees F).
- B. Field Measurements: Verify field conditions affecting traffic marking installation. Show field measurements on Submittal Drawings.

#### **1.9 WARRANTY**

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

### **PART 2 - PRODUCTS**

#### **2.1 SYSTEM PERFORMANCE**

- A. Design paint complying with specified performance:
  1. Application: Fed. Spec. TT-P-1952.

#### **2.2 PRODUCTS - GENERAL**

- A. Provide each product from one manufacturer and from one production run.
  1. Provide Low Pollutant-Emitting paints and coatings.

### **2.3 PENETRATING SEALER**

- A. Penetrating Sealer: For use on parking garage ramps and decks. High penetration silane sealer providing minimum 95 percent screening per National Cooperative Highway Research Program (NCHRP) No. 244 standards for chloride ion penetration resistance.

### **2.4 SANDBLASTING EQUIPMENT**

- A. Air compressor, hoses, and nozzles of proper size and capacity as required for cleaning painted surfaces. Compressor to provide minimum 0.08 cu. m/s (150 cfm) of air at pressure of minimum 625 kPa (90 psi) at each nozzle used.

### **2.5 PAINT APPLICATOR**

- A. Apply marking paint with approved mechanical equipment. Provide equipment with constant agitation of paint and travel at controlled speeds. Synchronize one or more paint "guns" to automatically begin and cut off paint flow in case of skip lines. Equipment to have manual control to apply continuous lines of varying length and marking widths as indicated on Drawings. Provide pneumatic spray guns for hand application of paint in areas where mobile paint applicator cannot be used.

### **2.6 PAINT**

- A. Paint: MPI No. 97. For obliterating existing markings comply with Fed. Spec. TT-P-1952. Provide minimum 18 L (5 gallons) containers.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Examine and verify substrate suitability for product installation.
  - 1. Allow new pavement surfaces to cure for period of minimum 14 days before application of marking materials.
- B. Protect existing construction and completed work from damage.
- C. Clean substrates. Remove contaminants capable of affecting subsequently installed product's performance.
  - 1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or combination of these methods.
  - 2. Completely remove rubber deposits, existing paint markings, and other coatings adhering to pavement with scrapers, wire brushings,

sandblasting, mechanical abrasion, or approved chemicals as directed by Contracting Officer's Representative.

3. Where oil or grease are present on old pavements to be marked, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application.
4. Clean and dry surface before application of penetrating sealant and pavement marking. Do not begin any marking until COR has inspected surface and gives permission to proceed.

### **3.2 INSTALLATION - GENERAL**

- A. Install products according to manufacturer's instructions and approved submittal drawings.
  1. When manufacturer's instructions deviate from specifications, submit proposed resolution for COR's consideration.

### **3.3 PAINT APPLICATION**

- A. Apply uniformly painted pavement marking of required colors, length, and width with true, sharp edges and ends on properly cured, prepared, and dried surfaces.
- B. Comply with details as indicated on drawings and established control points.
- C. Apply paint at wet film thickness of 0.4 mm (0.015 inch). Apply paint in one coat. When directed by COR, apply additional coats at markings showing light spots. Comply with paint manufacturer's maximum drying time requirements to prevent undue softening of asphalt, and pick-up, displacement, or discoloration by tires of traffic.
- D. When deficiency in marking drying occurs, discontinue paint operations until cause of slow drying is determined and corrected.
- E. Remove and replace marking applied less than minimum material rates, deviates from true alignment, exceeds stipulated length and width tolerances, or shows light spots, smears, or other deficiencies or irregularities.
- F. Remove marking by carefully controlled sandblasting, approved grinding equipment, or other approve method to prevent damage on applied surface.

### **3.4 DETAIL PAVEMENT MARKING APPLICATION**

- A. Apply Detail Pavement Markings, exclusive of actual traffic lane marking as follows:
  - 1. At exit and entrance islands and turnouts.
  - 2. On curbs.
  - 3. At crosswalks.
  - 4. At parking bays.
  - 5. Other locations as indicated on drawings.
- B. Apply International Handicapped Symbol at indicated parking spaces. Color as shown on drawings. Apply paint for symbol using suitable template that will provide pavement marking with true, sharp edges and ends.
- C. Install detail pavement markings of colors, widths and lengths, and design pattern at locations indicated on drawings.

### **3.5 SEALANT APPLICATION**

- A. Apply sealant in accordance with manufacturer's requirements.
- B. Apply sealant when indicated on Drawings.

### **3.6 TOLERANCES**

- A. Length and Width of Lines: Plus or minus 75 mm (3 inches) and plus or minus 3 mm (1/8 inch), respectively.

### **3.7 CLEANING**

- A. Remove excess paint before paint sets.

### **3.8 PROTECTION**

- A. Protect pavement markings from traffic and construction operations.
  - 1. Protect newly painted markings from vehicular traffic until paint is dry and track free.
- B. Repair damage.

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