

**SECTION 01 00 00  
GENERAL REQUIREMENTS**

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**SECTION 01 00 00  
GENERAL REQUIREMENTS**

**1 GENERAL INTENTION**

- 1.1 Contractor shall completely prepare site for building operations, including demolition and removal of existing items, and furnish labor, materials and other necessary resources to perform the work for Door Hardware Replacement Part 2, as required by drawings and specifications.
- 1.2 Visits to the site by Bidders may be made only by appointment with the Federal Health Care Center (FHCC) COR.
- 1.3 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.
- 1.4 Prior to commencing work, general contractor shall provide proof that a OSHA designated “competent person” (CP) (29 CFR 1926.20 (b) (2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- 1.5 Training:
  - 1.5.1 All employees of general contractor or subcontractor shall have the 10-hour or 30-hour OSHA Construction Safety course and other relevant competency training, as determined by COR acting as Construction Safety Officer with input from the facility Construction Safety Committee.
  - 1.5.2 Submit training records of all such employees for approval before the start of work.
- 1.6 VHA Directive 2011-36, Safety and Health during Construction, dated 9/22/2011 in its entirety is made a part of this section.

**2 STATEMENT OF BID ITEM(S)**

- 2.1 BASE BID: Work included alterations, new doors and hardware to replace Non-compliant hardware to meet Life Safety requirements.

### **3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR**

- 3.1 Drawings and contract documents will be provided to the contractor on CD/DVD. Any hard copies produced will be at Contractor's expense.

### **4 CONSTRUCTION SECURITY REQUIREMENTS**

#### 4.1 Security Plan:

- 4.1.1 The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.

- 4.1.2 The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.

#### 4.2 Security Procedures:

- 4.2.1 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.

- 4.2.2 For work outside the "regular hours" as defined in the contract, the General Contractor shall give one week's notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.

- 4.2.3 No photography of FHCC premises is allowed without written permission of the Contracting Officer.

- 4.2.4 The FHCC 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.

#### 4.3 Guards: INTENTIONALLY DELETED.

#### 4.4 Key Control:

- 4.4.1 The General Contractor shall provide duplicate keys and lock combinations to the Contracting officers representative (COR) for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.

#### 4.5 Document Control:

- 4.5.1 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”.
- 4.5.2 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.
- 4.5.3 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.
- 4.5.4 These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
- 4.5.5 All paper waste or electronic media such as CD’s and diskettes shall be shredded and destroyed in a manner acceptable to the FHCC.
- 4.5.6 Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of “sensitive information”.
- 4.5.7 All electronic information shall be stored in specified location following FHCC standards and procedures using an Engineering Document Management Software (EDMS).
  - 4.5.7.1 Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.
  - 4.5.7.2 “Sensitive information” including drawings and other documents may be attached to e-mail provided all FHCC encryption procedures are followed.

#### 4.6 Motor Vehicle Restrictions

- 4.6.1 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.

4.6.2 Separate permits shall be issued for General Contractor and its employees for parking in designated areas only. Parking for contractor's vehicles is in Parking Lot #1 only.

## **5 OPERATIONS AND STORAGE AREAS**

5.1 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.

5.2 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.

5.3 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.

5.4 Working space and space available for storing materials shall be as determined by the COR.

5.5 Workmen are subject to rules of Health Care Center applicable to their conduct.

5.6 Execute work so as to interfere as little as possible with normal functioning of Health Care 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 is 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. Keep roads clear of construction materials, debris, standing construction equipment and vehicles at all times.

- 5.6.1 Do not store materials and equipment in other than assigned areas.
- 5.6.2 Schedule the delivery of materials and equipment to immediate construction working areas within buildings in use by the Health Care Center in quantities sufficient for not more than five work days unless otherwise approved by the COR. Provide unobstructed access to Health Care Center areas required to remain in operation.
- 5.6.3 Where access by Health Care 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.
- 5.7 Utilities Services: INTENTIONALLY REMOVED.
- 5.8 Construction Fence: INTENTIONALLY REMOVED.
- 5.9 When a building and/or construction site is turned over to Contractor, Contractor shall accept entire responsibility including upkeep and maintenance therefore:
  - 5.9.1 Contractor shall maintain a minimum temperature of 4 degrees C (40 degrees F) at all times, except as otherwise specified.
  - 5.9.2 Contractor shall maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.

**6 PHASING:**  
INTENTIONALLY REMOVED.

**7 UTILITIES SERVICES:**  
INTENTIONALLY REMOVED.

## **8 ALTERATIONS**

- 8.1 Survey: Before any work is started, the Contractor shall make a thorough survey with the COR and a representative of FHCC Supply Service (if required), of areas in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by all participants to the Contracting Officer. This report shall list by rooms and spaces:
- 8.1.1 Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas building(s).
  - 8.1.2 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.
  - 8.1.3 Shall note any discrepancies between drawings and existing conditions at site.
  - 8.1.4 Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and COR.
- 8.2 Any items required by drawings to be either reused and/or relocated, found during this survey to be nonexistent, or in opinion of COR and/or Supply Representative, to be in such condition that their use is impossible or impractical, may be furnished and/or replaced by Contractor with new items in accordance with specifications furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract may 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).
- 8.3 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:

8.3.1 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.

8.4 Protection: Provide the following protective measures:

8.4.1 Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.

8.4.2 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.

8.4.3 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.

## **9 DISPOSAL AND RETENTION**

9.1 Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:

9.1.1 Reserved items which are to remain property of the Government are noted on drawings or in specifications as items to be stored by the contractor. 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.

9.1.2 Items not reserved shall become property of the Contractor and be removed by Contractor from Health Care Center.

9.1.3 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 Lovell FHCC 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.



## **10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS**

- 10.1 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.
- 10.2 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.

### **(FAR 52.236-9)**

- 10.3 Refer to Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS, for additional requirements on protecting vegetation, soils and the environment. Refer to Articles, "Alterations", "Restoration", and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.

## **11 RESTORATION**

- 11.1 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.

11.2 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.

11.3 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 not scheduled for discontinuance or abandonment.

## **12 PHYSICAL DATA:**

INTENTIONALLY REMOVED.

## **13 PROFESSIONAL SURVEYING SERVICES:**

INTENTIONALLY REMOVED.

## **14 AS-BUILT DRAWINGS:**

INTENTIONALLY REMOVED.

## **15 USE OF ROADWAYS**

15.1 For hauling, use only established public roads and roads on Health Care 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 and restoration performed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.

## **16 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT:**

INTENTIONALLY REMOVED.

## **17 TEMPORARY USE OF EXISTING ELEVATORS**

17.1 Use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:

17.1.1 Contractor makes all arrangements with the COR for use of elevators. The COR will ascertain that elevators are in proper condition. Contractor may use service elevators in each building. Patients and FHCC staff have priority in use of elevators. Personnel for operating elevators will not be provided by the Lovell FHCC.

17.1.2 Contractor covers and provides maximum protection of following elevator components:

17.1.2.1 Entrance jambs, heads soffits and threshold plates.

17.1.2.2 Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.

17.1.2.3 Finish flooring.

## **18 TEMPORARY USE OF NEW ELEVATORS:**

INTENTIONALLY REMOVED.

## **19 TEMPORARY TOILETS:**

INTENTIONALLY REMOVED.

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

20.1 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.

20.2 The Contractor, at Contractor's expense and in a workmanlike manner, in compliance with code and as 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 restore the infrastructure as required.

20.3 Contractor shall install meters at Contractor's expense and furnish the Health Care Center a monthly record of the Contractor's usage of electricity as hereinafter specified.

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

20.4.1 Obtain electricity by connecting to the Health Care 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.

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

20.5.1 Obtain water by connecting to the Health Care Center water distribution system. Provide reduced pressure backflow preventer at each connection as per code. Water is available at no cost to the Contractor.

20.5.2 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 Health Care Center's system.

## **21 NEW TELEPHONE EQUIPMENT:**

21.1 INTENTIONALLY REMOVED.

## **22 TESTS:**

INTENTIONALLY REMOVED.

## **23 INSTRUCTIONS**

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

23.2 Manuals: Maintenance and operating manuals and one compact disc (four hard copies and one electronic copy each) for each separate piece of equipment shall be delivered to the COR coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units

and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.

**24 GOVERNMENT-FURNISHED PROPERTY:**

INTENTIONALLY REMOVED.

**25 RELOCATED // EQUIPMENT // ITEMS:**

INTENTIONALLY REMOVED.

**26 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS  
EQUIPMENT:**

INTENTIONALLY REMOVED.

**27 HISTORIC PRESERVATION:**

INTENTIONALLY REMOVED.

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

- 1.1 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:
  - 1.1.1 Satisfactory written evidence is presented to, and approved by Contracting Officer, that manufacturer cannot make scheduled delivery of approved item or;
  - 1.1.2 Item delivered has been rejected and substitution of a suitable item is an urgent necessity or;
  - 1.1.3 Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.
- 1.2 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 (including any laboratory samples to be tested) will not serve as a basis for extending contract time for completion.
  - 1.2.1 Allow 14 calendar days for FHCC Engineering review.
- 1.3 Submittals will be reviewed for compliance with contract requirements by COR, and action thereon will be taken by COR on behalf of the Contracting Officer.
- 1.4 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.
- 1.5 Schedules called for in specifications and shown on shop drawings shall be submitted for use and information of Lovell Federal Health Care Center (FHCC). However, the

Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer assumes no responsibility for checking schedules or layout drawings for exact sizes, exact numbers and detailed positioning of items.

- 1.6 Submittals must be submitted by Contractor only and shipped prepaid. The FHCC assumes no responsibility for checking quantities or exact numbers included in such submittals.
  - 1.6.1 Submit samples in single units unless otherwise specified. Submit shop drawings, schedules, manufacturers' literature and data, and certificates electronically, except where hardcopy submittal is specified.
  - 1.6.2 Submittals will receive consideration only when accompanied by a transmittal letter signed by Contractor. Letter shall be attached as the first page within the .pdf document and shall contain the list of items submitted, name of FHCC, name of Contractor, contract and project number, applicable specification paragraph numbers, 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 shall be marked to indicate specific items submitted for approval.
    - 1.6.2.1 A copy of 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.
    - 1.6.2.2 Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the FHCC, name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.
    - 1.6.2.3 Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.
- 1.7 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.

- 1.8 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.
  - 1.8.1 Samples that are not approved will be returned to Contractor only upon request and at Contractor's expense. Such request should be made within 10 business days of notification of disapproval. Disapproved samples that are not requested for return by Contractor will be discarded after 15 business days.
- 1.9 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.
  - 1.9.1 For each drawing required, submit one legible .pdf format page. Submittal drawings requiring multiple pages may be submitted as a single file.
  - 1.9.2 .pdf drawings shall be formatted for printing at full size (42"x30".)
  - 1.9.3 Each drawing shall have marked thereon, proper descriptive title, including FHCC location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
  - 1.9.4 A space 120 mm by 250 mm (4-3/4 by 10 inches) shall be reserved on each drawing to accommodate approval or disapproval stamp(s).
  - 1.9.5 Approved or disapproved shop drawings will be returned to Contractor via submittal exchange system.
  - 1.9.6 When work is directly related and involves more than one trade, shop drawings shall be submitted to COR under one cover.
- 1.10 Electronic Submittal Procedures:
  - 1.10.1 Contractor may use any or all of the following options for submittal preparation:



- 1.10.1.1 Subcontractors/suppliers provide .pdf format submittal documents to Contractor via submittal exchange website.
- 1.10.1.2 Subcontractors/suppliers provide paper submittal documents to Contractor who then scans and converts to .pdf format.
- 1.10.1.3 Subcontractors/suppliers provide paper submittals to scanning service which scans and converts to .pdf format.
- 1.10.2 Contractor shall review, comment and apply electronic stamp certifying that submittal (as noted) complies with the requirements of the contract documents including verification of manufacturer/product, dimensions and coordination of information with other trades.
- 1.10.3 Contractor shall transmit each submittal to FHCC via the web-based submittal exchange system.
- 1.10.4 Contractor shall receive email notification of approval/disapproval status upon completion of FHCC review.
- 1.11 Samples, shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to:

CPT. James A. Lovell FHCC  
3001 Green Bay Road  
BLDG 3, RM 118  
North Chicago IL, 60064

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**SECTION 01 35 26  
SAFETY REQUIREMENTS**

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

### **1 APPLICABLE PUBLICATIONS:**

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

- 1.1 American Society of Safety Engineers (ASSE):
  - 1.1.1 A10.1-2011 Pre-Project & Pre-Task Safety and Health Planning
  - 1.1.2 A10.34-2012 Protection of the Public on or Adjacent to Construction Sites
  - 1.1.3 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
- 1.2 American Society for Testing and Materials (ASTM):
  - 1.2.1 E84-2013 Surface Burning Characteristics of Building Materials
- 1.3 The Facilities Guidelines Institute (FGI):
  - 1.3.1 FGI Guidelines-2010 Guidelines for Design and Construction of Healthcare Facilities
- 1.4 National Fire Protection Association (NFPA):
  - 1.4.1 10-2013 Standard for Portable Fire Extinguishers
  - 1.4.2 30-2012 Flammable and Combustible Liquids Code
  - 1.4.3 51B-2014 Standard for Fire Prevention during Welding, Cutting and Other Hot Work
  - 1.4.4 70-2014 National Electrical Code
  - 1.4.5 70B-2013 Recommended Practice for Electrical Equipment Maintenance
  - 1.4.6 70E-2012 Standard for Electrical Safety in the Workplace
  - 1.4.7 99-2012 Health Care Facilities Code
  - 1.4.8 241-2013 Standard for Safeguarding Construction, Alteration, and Demolition Operations
- 1.5 The Joint Commission (TJC)
  - 1.5.1 TJC Manual Comprehensive Accreditation and Certification Manual
- 1.6 U.S. Nuclear Regulatory Commission

- 1.6.1 10 CFR 20 Standards for Protection Against Radiation
- 1.7 U.S. Occupational Safety and Health Administration (OSHA):
  - 1.7.1 29 CFR 1904 Reporting and Recording Injuries & Illnesses
  - 1.7.2 29 CFR 1910 Safety and Health Regulations for General Industry
  - 1.7.3 29 CFR 1926 Safety and Health Regulations for Construction Industry
  - 1.7.4 CPL 2-0.124 Multi-Employer Citation Policy
- 1.8 VHA Directive 2005-007

## **2 DEFINITIONS:**

- 2.1 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)).
- 2.2 "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.
- 2.3 High Visibility Accident. Any mishap which may generate publicity or high visibility.
- 2.4 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 through provided by a physician or registered personnel.
- 2.5 Recordable Injuries or Illnesses. Any work-related injury or illness that results in:
  - 2.5.1 Death, regardless of the time between the injury and death, or the length of the illness;
  - 2.5.2 Days away from work (any time lost after day of injury/illness onset);
  - 2.5.3 Restricted work;
  - 2.5.4 Transfer to another job;
  - 2.5.5 Medical treatment beyond first aid;
  - 2.5.6 Loss of consciousness; or

2.5.7 A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

### **3 REGULATORY REQUIREMENTS:**

3.1 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 enforceable in North Chicago, IL. 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 approval and acceptance by the COR and Facility Safety Officer.

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

4.1 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.

4.2 The APP shall be prepared as follows:

4.2.1 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.

4.2.2 Address both the Prime Contractors and the subcontractors work operations.

4.2.3 State measures to be taken to control hazards associated with materials, services, or equipment provided by suppliers.

4.2.4 Address all the elements/sub-elements and in order as follows:

4.2.5 SIGNATURE SHEET. Title, signature, and phone number of the following:

4.2.5.1 Plan preparer (Qualified Person such as corporate safety staff person or contracted Certified Safety Professional with construction safety experience);

4.2.5.2 Plan approver (company/corporate officers authorized to obligate the company);

4.2.5.3 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).

4.2.5.4 BACKGROUND INFORMATION. List the following:

Contractor;

Contract number;

Project name;

Brief project description, description of work to be performed, and location; phases of work anticipated (these will require an AHA).

4.2.5.5 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.

4.2.5.6 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;

4.2.5.7 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.

4.2.5.8 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)

4.2.5.9 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)

4.2.5.10 ACCIDENT INVESTIGATION & REPORTING. The Contractor shall conduct mishap investigations of all OSHA Recordable Incidents. The APP shall include accident/incident investigation procedure & identify person(s) responsible to provide the following to the Contracting Officer and COR:

1. Exposure data (man-hours worked);
2. Accident investigations, reports, and logs.

4.2.5.11 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.
- 4.3 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 five (5) business days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.
- 4.4 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.
- 4.5 Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the project superintendent, Facility Safety Office and COR. 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.

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

- 5.1 As 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 subcontractor 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)
- 5.2 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.
- 5.3 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.
  - 5.3.1 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 COR for acceptance prior to the start of that work activity.
  - 5.3.2 The AHA shall be reviewed and modified as necessary to address changing site conditions, operations, or change of competent/qualified person(s).
    - 5.3.2.1 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.
    - 5.3.2.2 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.

- 5.3.3 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 at least 15 business days prior to the start of each phase. Subsequent AHAs as 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.
- 5.3.4 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.
- 5.3.5 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.

## **6 PRECONSTRUCTION CONFERENCE:**

- 6.1 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.
- 6.2 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 COR 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.
- 6.3 Deficiencies in the submitted APP will be brought to the attention of the Contractor within 15 business days of submittal, and the Contractor shall revise the plan to correct

deficiencies and re-submit it for acceptance. Do not begin work until there is an accepted APP.

## **7 “SITE SAFETY AND HEALTH OFFICER” (SSHO) AND “COMPETENT PERSON” (CP):**

- 7.1 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.
- 7.2 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).
- 7.3 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).
- 7.4 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.
- 7.5 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).

## **8 TRAINING:**

- 8.1 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.
- 8.2 All designated CPs shall have completed the OSHA 30-hour Construction Safety course within the past 5 years.
- 8.3 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.
- 8.4 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.
- 8.5 Submit training records associated with the above training requirements to the Contracting Officer Representative for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 15 business days prior to the date of the preconstruction conference for acceptance.
- 8.6 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, Health Care Center safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of Health Care Center equipment, emergency procedures,

accident reporting etc... Documentation shall be provided to the COR that individuals have undergone contractor's safety briefing.

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

## **9 INSPECTIONS:**

- 9.1 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 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 COR.
- 9.2 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.
- 9.2.1 Results of the inspection will be documented with tracking of the identified hazards to abatement.
- 9.2.2 The COR will be notified immediately prior to start of the inspection and invited to accompany the inspection.
- 9.2.3 Identified hazard and controls will be discussed to come to a mutual understanding to ensure abatement and prevent future reoccurrence.
- 9.2.4 A report of the inspection findings with status of abatement will be provided to the COR within one week of the onsite inspection.

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

- 10.1 Notify the COR as soon as practical, but no more than four hours after any accident meeting the definition of OSHA Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$5,000, or any weight handling

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.

10.2 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 5 business days of the accident. The COR will provide copies of any required or special forms.

10.3 A summation of all man-hours worked by the contractor and associated sub-contractors for each month will be reported to the COR monthly.

10.4 A summation of 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.

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

11.1 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.

11.2 Mandatory PPE includes:

11.2.1 Hard Hats – unless written authorization is given by the COR 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.

11.2.2 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.

11.2.3 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.

11.2.4 Hearing protection - Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks.

## **12 INFECTION CONTROL**

12.1 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.

12.2 An AHA associated with infection control will be performed by FHCC 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. The ICRA shall be posted outside the appropriate construction area. Work in most areas will be considered as (Class II) with the exception of the four (4) operating rooms, which is considered (Class III).

12.3 Products and Materials:

12.3.1 Sheet Plastic: Fire retardant polyethylene, 6-mil thickness meeting local fire codes

12.3.2 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 pre-filter 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.

12.3.3 Adhesive Walk-off Mats: Provide minimum size mats of 24 inches x 36 inches

12.3.4 Disinfectant: Hospital-approved disinfectant or equivalent product

12.4 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.



- 12.5 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 the COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- 12.6 FHCC 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.
- 12.7 In general, the following preventive measures shall be adopted during construction to keep down dust and prevent mold.
- 12.7.1 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.
- 12.7.2 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.
- 12.7.3 The contractor shall not haul debris through patient-care areas without prior approval of the COR and the Health Care 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.
- 12.7.4 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.
- 12.8 Final Cleanup:

12.8.1 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.

12.8.2 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.

### **13 TUBERCULOSIS SCREENING**

13.1 Contractor shall provide written certification that all contract employees assigned to the work site have had a pre-placement tuberculin screening within 90 days prior to assignment to the worksite and been found 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.

13.1.1 Contract employees manifesting positive screening reactions to the tuberculin shall be examined according to current CDC guidelines prior to working on FHCC property.

13.1.2 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.

13.1.3 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 FHCC property.

### **14 FIRE SAFETY**

14.1 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 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.

- 14.2 **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.
- 14.3 **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).
- 14.4 **Means of Egress:** Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with COR.
- 14.5 **Egress Routes for Construction Workers:** Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to COR.
- 14.6 **Fire Extinguishers:** Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- 14.7 **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 Health Care Center. Parameters for the testing and results of any tests performed shall be recorded by the Health Care Center and copies provided to the COR.
- 14.8 **Smoke Detectors:** Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with COR.
- 14.9 **Hot Work:** Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with COR at least 24 hours in advance.
- 14.10 **Fire Hazard Prevention and Safety Inspections:** Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to the COR.
- 14.11 **Smoking:** Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking rest areas.

14.12 Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.

14.12.1 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.

## **15 WELDING AND CUTTING**

15.1 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 1 hour in advance.

## **16 LADDERS**

16.1 All Ladder use shall comply with 29 CFR 1926 Subpart X.

16.2 All portable ladders shall be of sufficient length and shall be placed so that workers will not stretch or assume a hazardous position.

16.3 Manufacturer safety labels shall be in place on ladders

16.4 Step Ladders shall not be used in the closed position

16.5 Top steps or cap of step ladders shall not be used as a step

16.6 Portable ladders, used as temporary access, shall extend at least 3 ft (0.9 m) above the upper landing surface.

16.6.1 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.

16.6.2 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.

16.6.3 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.

- - - E N D - - -

## **SECTION 01 42 19 REFERENCES**

### **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)**

1.2.1 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.

1.2.2 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)**

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

##### **1.3.1.1 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.

- 1.4.1 ANSI American National Standards Institute, Inc.  
<http://www.ansi.org>
- 1.4.2 APA The Engineered Wood Association  
<http://www.apawood.org>
- 1.4.3 ASCE American Society of Civil Engineers  
<http://www.asce.org>
- 1.4.4 ASME American Society of Mechanical Engineers  
<http://www.asme.org>
- 1.4.5 ASSE American Society of Sanitary Engineering  
<http://www.asse-plumbing.org>
- 1.4.6 ASTM American Society for Testing and Materials  
<http://www.astm.org>
- 1.4.7 AWI Architectural Woodwork Institute  
<http://www.awinet.org>
- 1.4.8 AWS American Welding Society  
<http://www.aws.org>
- 1.4.9 BHMA Builders Hardware Manufacturers Association  
<http://www.buildershardware.com>
- 1.4.10 DHI Door and Hardware Institute  
<http://www.dhi.org>
- 1.4.11 ICBO International Conference of Building Officials  
<http://www.icbo.org>
- 1.4.12 NFPA National Fire Protection Association  
<http://www.nfpa.org>
- 1.4.13 NIH National Institute of Health

<http://www.nih.gov>

1.4.14 NSF National Sanitation Foundation

<http://www.nsf.org>

1.4.15 NWWDA Window and Door Manufacturers Association

<http://www.nwwda.org>

1.4.16 OSHA Occupational Safety and Health Administration Department of Labor

<http://www.osha.gov>

1.4.17 SDI Steel Door Institute

<http://www.steeldoor.org>

1.4.18 IGMA Insulating Glass Manufacturers Alliance

<http://www.igmaonline.org>

1.4.19 SSPC The Society for Protective Coatings

<http://www.sspc.org>

1.4.20 UBC The Uniform Building Code

See ICBO

1.4.21 UL Underwriters' Laboratories Incorporated

<http://www.ul.com>

1.4.22 ULC Underwriters' Laboratories of Canada

<http://www.ulc.ca>

1.4.23 WWPA Western Wood Products Association

<http://www.wwpa.org>

- - - E N D - - -

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

### **1 GENERAL**

#### **1.1 DESCRIPTION**

- 1.2 This section specifies the requirements for the management of non-hazardous building construction and demolition waste.
- 1.3 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.
- 1.4 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:
- 1.4.1 Waste Management Plan development and implementation.
  - 1.4.2 Techniques to minimize waste generation.
  - 1.4.3 Sorting and separating of waste materials.
  - 1.4.4 Salvage of existing materials and items for reuse or resale.
  - 1.4.5 Recycling of materials that cannot be reused or sold.
  - 1.4.6 At a minimum the following waste categories shall be diverted from landfills:
    - 1.4.6.1 Soil.
    - 1.4.6.2 Inerts (eg, concrete, masonry and asphalt).
    - 1.4.6.3 Clean dimensional wood and palette wood.
    - 1.4.6.4 Green waste (biodegradable landscaping materials).
    - 1.4.6.5 Engineered wood products (plywood, particle board and I-joists, etc).
    - 1.4.6.6 Metal products (eg, steel, wire, beverage containers, copper, etc).
    - 1.4.6.7 Cardboard, paper and packaging.
    - 1.4.6.8 Bitumen roofing materials.
    - 1.4.6.9 Plastics (eg, ABS, PVC).



1.4.6.10 Carpet and/or pad.

1.4.6.11 Gypsum board.

1.4.6.12 Insulation.

1.4.6.13 Paint.

1.4.6.14 Fluorescent lamps.

## 1.5 RELATED WORK

1.5.1 Section 02 41 00, DEMOLITION.

1.5.2 Section 01 00 00, GENERAL REQUIREMENTS.

1.5.3 Lead Paint: Section 02 83 33.13, LEAD BASED PAINT REMOVAL AND DISPOSAL.

## 1.6 QUALITY ASSURANCE

1.6.1 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:

1.6.1.1 Excess or unusable construction materials.

1.6.1.2 Packaging used for construction products.

1.6.1.3 Poor planning and/or layout.

1.6.1.4 Construction error.

1.6.1.5 Over ordering.

1.6.1.6 Weather damage.

1.6.1.7 Contamination.

1.6.1.8 Mishandling.

1.6.1.9 Breakage.

1.6.2 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.

1.6.3 Contractor shall develop and implement procedures to recycle construction and demolition waste to a minimum of 50 percent.

- 1.6.4 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.
- 1.6.5 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.
- 1.6.6 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.
- 1.6.7 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.
- 1.6.8 Record on daily reports any problems in complying with laws, regulations and ordinances with corrective action taken.
- 1.7 TERMINOLOGY
- 1.7.1 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.
- 1.7.2 Clean: Untreated and unpainted; uncontaminated with adhesives, oils, solvents, mastics and like products.
- 1.7.3 Construction and Demolition Waste: Includes all non-hazardous resources resulting from construction, remodeling, alterations, repair and demolition operations.
- 1.7.4 Dismantle: The process of parting out a building in such a way as to preserve the usefulness of its materials and components.
- 1.7.5 Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of land filling (includes Class III landfills and inert fills).

- 1.7.6 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.
- 1.7.7 Inert Fill: A facility that can legally accept inert waste, such as asphalt and concrete exclusively for the purpose of disposal.
- 1.7.8 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.
- 1.7.9 Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.
- 1.7.10 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.
- 1.7.11 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.
- 1.7.12 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.
- 1.7.12.1 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.
- 1.7.12.2 Off-site Recycling – Materials hauled to a location and used in an altered form in the manufacture of new products.
- 1.7.13 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.
- 1.7.14 Reuse: Materials that are recovered for use in the same form, on-site or off-site.

- 1.7.15 Return: To give back reusable items or unused products to vendors for credit.
- 1.7.16 Salvage: To remove waste materials from the site for resale or re-use by a third party.
- 1.7.17 Source-Separated Materials: Materials that are sorted by type at the site for the purpose of reuse and recycling.
- 1.7.18 Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.
- 1.7.19 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.

## 1.8 SUBMITTALS

- 1.8.1 In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES, furnish the following:
  - 1.8.2 Prepare and submit to the COR a written demolition debris management plan. The plan shall include, but not be limited to, the following information:
    - 1.8.2.1 Procedures to be used for debris management.
    - 1.8.2.2 Techniques to be used to minimize waste generation.
    - 1.8.2.3 Analysis of the estimated job site waste to be generated:
      - 1.8.2.3.1 List of each material and quantity to be salvaged, reused, recycled.
      - 1.8.2.3.2 List of each material and quantity proposed to be taken to a landfill.
    - 1.8.2.4 Detailed description of the Means/Methods to be used for material handling.
      - 1.8.2.4.1 On site: Material separation, storage, protection where applicable.
      - 1.8.2.4.2 Off site: Transportation means and destination. Include list of materials.
        - 1.8.2.4.2.1 Description of materials to be site-separated and self-hauled to designated facilities.
        - 1.8.2.4.2.2 Description of mixed materials to be collected by designated waste haulers and removed from the site.
      - 1.8.2.4.3 The names and locations of mixed debris reuse and recycling facilities or sites.
      - 1.8.2.4.4 The names and locations of trash disposal landfill facilities or sites.

- 1.8.2.4.5 Documentation that the facilities or sites are approved to receive the materials.
- 1.8.3 Designated Manager responsible for instructing personnel, supervising, documenting and administer over meetings relevant to the Waste Management Plan.
- 1.8.4 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.

## 1.9 APPLICABLE PUBLICATIONS

- 1.9.1 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.
- 1.9.2 U.S. Green Building Council (USGBC):
- 1.9.3 LEED Green Building Rating System for New Construction

## 1.10 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. Records shall be kept in accordance with the LEED Reference Guide and LEED Template.

## **2 PRODUCTS**

### 2.1 MATERIALS

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

## **3 EXECUTION**

### 3.1 COLLECTION

- 3.1.1 Provide all necessary containers, bins and storage areas to facilitate effective waste management.

3.1.2 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.

3.1.3 Hazardous wastes shall be separated, stored, disposed of according to local, state, federal regulations.

### 3.2 DISPOSAL

3.2.1 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.

3.2.2 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

3.3.1 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.

3.3.2 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.

3.3.3 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**

### **1 GENERAL**

This section specifies demolition and removal of buildings, portions of buildings, utilities, other structures and debris from trash dumps shown.

#### **1.1 RELATED WORK:**

1.1.1 Safety Requirements: Section 01 35 26 Safety Requirements Article, ACCIDENT PREVENTION PLAN (APP).

1.1.2 Reserved items that are to remain the property of the Government: Section 01 00 00, GENERAL REQUIREMENTS.

1.1.3 Lead Paint: Section 02 83 33.13, LEAD-BASED PAINT REMOVAL AND DISPOSAL.

1.1.4 Construction Waste Management: Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT.

1.1.5 Infectious Control: Section 01 35 26, SAFETY REQUIREMENTS, Article 12, INFECTION CONTROL.

#### **1.2 PROTECTION:**

1.2.1 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.

1.2.2 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.

1.2.3 Maintain fences, barricades, lights, and other similar items around exposed excavations until such excavations have been completely filled.

1.2.4 Provide enclosed dust chutes with control gates from each floor to carry debris to truck beds and govern flow of material into truck. Provide overhead bridges of tight board or prefabricated metal construction at dust chutes to protect persons and property from falling debris.

- 1.2.5 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.
- 1.2.6 In addition to previously listed fire and safety rules to be observed in performance of work, include following:
  - 1.2.6.1 No wall or part of wall shall be permitted to fall outwardly from structures.
  - 1.2.6.2 Maintain at least one stairway in each structure in usable condition to highest remaining floor. Keep stairway free of obstructions and debris until that level of structure has been removed.
  - 1.2.6.3 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.
  - 1.2.6.4 Keep hydrants clear and accessible at all times. Prohibit debris from accumulating within a radius of 4500 mm (15 feet) of fire hydrants.
- 1.2.7 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 FHCC; 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.
- 1.3 UTILITY SERVICES:
  - 1.3.1 Demolish and remove outside utility service lines shown to be removed.



- 1.3.2 Remove abandoned outside utility lines that would interfere with installation of new utility lines and new construction.

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

### **3 PART 3 – EXECUTION**

#### DEMOLITION:

- 3.1 Completely demolish and remove buildings and structures, including all appurtenances related or connected thereto, as noted below:
  - 3.1.1 As required for installation of new utility service lines.
  - 3.1.2 To full depth within an area defined by hypothetical lines located 1500 mm (5 feet) outside building lines of new structures.
- 3.2 Debris, including brick, concrete, stone, metals and similar materials shall become property of Contractor and shall be disposed of by him daily, off the FHCC to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Resident Engineer. Break up concrete slabs below grade that do not require removal from present location into pieces not exceeding 600 mm (24 inches) square to permit drainage. Contractor shall dispose debris in compliance with applicable federal, state or local permits, rules and/or regulations.
- 3.3 In removing buildings and structures of more than two stories, demolish work story by story starting at highest level and progressing down to third floor level. Demolition of first and second stories may proceed simultaneously.
- 3.4 Remove and legally dispose of all materials, other than earth to remain as part of project work, from any trash dumps shown. 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. All materials in the indicated trash dump areas, including above surrounding grade and extending to a depth of 1500mm (5feet) below surrounding grade, shall be included as part of the lump sum compensation for the work of this section. Materials that are located beneath the surface of the surrounding ground more than 1500 mm (5 feet), or materials that are discovered to be hazardous shall be handled as

unforeseen. The removal of hazardous material shall be referred to Hazardous Materials specifications.

- 3.5 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 Resident Engineer. When Utility lines are encountered that are not indicated on the drawings, the Resident Engineer shall be notified prior to further work in that area.

CLEAN-UP:

- 3.6 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 off the FHCC 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 08 11 13 HOLLOW METAL DOORS AND FRAMES**

### **1 GENERAL**

#### **1.1 DESCRIPTION**

- 1.1.1 This section specifies steel doors, steel frames and related components.
- 1.1.2 Terms relating to steel doors and frames as defined in ANSI A123.1 and as specified.

#### **1.2 RELATED WORK**

- 1.2.1 Door Hardware: Section 08 71 00, DOOR HARDWARE.
- 1.2.2 Glazing and ballistic rated glazing: Section 08 80 00, GLAZING.

#### **1.3 SUBMITTALS**

- 1.3.1 Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- 1.3.2 Manufacturers Literature and Data:
  - 1.3.2.1 Fire rated doors and frames, showing conformance with NFPA 80 and Underwriters Laboratory, Inc., or Intertek Testing Services or Factory Mutual fire rating requirements.

#### **1.4 SHIPMENT**

- 1.4.1 Prior to shipment label each door and frame to show location, size, door swing and other pertinent information.
- 1.4.2 Fasten temporary steel spreaders across the bottom of each door frame.

#### **1.5 STORAGE AND HANDLING**

- 1.5.1 Store doors and frames at the site under cover.
- 1.5.2 Protect from rust and damage during storage and erection until completion.

#### **1.6 APPLICABLE PUBLICATIONS**

- 1.6.1 Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
- 1.6.2 Federal Specifications (Fed. Spec.):
  - L-S-125B                      Screening, Insect, Nonmetallic

1.6.3 Door and Hardware Institute (DHI):

A115 Series Steel Door and Frame Preparation for Hardware,  
Series A115.1 through A115.17 (Dates Vary)

1.6.4 Steel Door Institute (SDI):

113-01 (R2006) Thermal Transmittance of Steel Door and Frame Assemblies

128-09 Acoustical Performance for Steel Door and Frame Assemblies

1.6.5 American National Standard Institute:

A250.8-2003 (R2008) Specifications for Standard Steel Doors and Frames

1.6.6 American Society for Testing and Materials (ASTM):

A167-99(R2009) Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet,  
and Strip

A568/568-M-11 Steel, Sheet, Carbon, and High-Strength, Low-alloy, Hot-Rolled  
and Cold-Rolled

A1008-10 Steel, sheet, Cold-Rolled, Carbon, Structural, High Strength Low  
Alloy and High Strength Low Alloy with Improved Formability

B209/209M-10 Aluminum and Aluminum-Alloy Sheet and Plate

B221/221M-12 Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire,  
Profiles and Tubes

D1621-10 Compressive Properties of Rigid Cellular Plastics

D3656-07 Insect Screening and Louver Cloth Woven from Vinyl Coated  
Glass Yarns

E90-09 Laboratory Measurement of Airborne Sound Transmission Loss of  
Building Partitions

1.6.7 The National Association Architectural Metal Manufacturers (NAAMM):

Metal Finishes Manual (AMP 500-06)

1.6.8 National Fire Protection Association (NFPA):

80-13 Fire Doors and Fire Windows

1.6.9 Underwriters Laboratories, Inc. (UL):

Fire Resistance Directory

1.6.10 Intertek Testing Services (ITS):

Certifications Listings...Latest Edition

1.6.11 Factory Mutual System (FM):

Approval Guide

## **2 PRODUCTS**

### **2.1 MATERIALS**

2.1.1 Stainless Steel: ASTM A167, Type 302 or 304; finish, NAAMM Number 4.

2.1.2 Sheet Steel: ASTM A1008, cold-rolled for panels (face sheets) of doors.

2.1.3 Anchors, Fastenings and Accessories: Fastenings anchors, clips connecting members and sleeves from zinc coated steel.

2.1.4 Aluminum Sheet: ASTM B209/209M.

2.1.5 Aluminum, Extruded: ASTM B221/221M.

2.1.6 Prime Paint: Paint that meets or exceeds the requirements of A250.8.

### **2.2 FABRICATION GENERAL**

#### **2.2.1 GENERAL:**

2.2.1.1 Follow ANSI A250.8 for fabrication of standard steel doors, except as specified otherwise. Doors to receive hardware specified in Section 08 71 00, DOOR HARDWARE. Tolerances as per ANSI A250.8. Thickness, 44 mm (1-3/4 inches), unless otherwise shown.

2.2.1.2 When vertical steel stiffeners are used for core construction, fill spaces between stiffeners with mineral fiber insulation.

2.2.2 Standard Duty Doors: ANSI A250.8, Level 1, Full flush seamless design of size and design shown. Use for interior locations only. Do not use for stairwell doors, security doors and detention doors.

2.2.3 Heavy Duty Doors: ANSI A250.8, Level 2, Full flush seamless design of size and design

shown. Core construction types a, d, or f, for interior doors, and, types b, c, e, or f, for exterior doors.

Core Construction Type	Door Core Description
a	Kraft honeycomb
b	Polyurethane
c	Polystyrene
d	Unitized steel grid
e	Mineral fiberboard
f	Vertical steel stiffeners

#### 2.2.4 Smoke Doors:

2.2.4.1 Close top and vertical edges flush.

2.2.4.2 Provide seamless vertical edges.

2.2.4.3 Apply Steel astragal to the meeting stile at the active leaf of pair of doors or double egress doors.

2.2.4.4 Provide clearance at head, jamb and sill as specified in NFPA 80.

#### 2.2.5 Fire Rated Doors (Labeled):

2.2.5.1 Conform to NFPA 80 when tested by Underwriters Laboratories, Inc., Inchcape Testing Services, or Factory Mutual for the class of door or door opening shown.

2.2.5.2 Fire rated labels of metal, with raised or incised markings of approving laboratory shall be permanently attached to doors.

2.2.5.3 Close top and vertical edges of doors flush. Vertical edges shall be seamless. Apply steel astragal to the meeting stile of the active leaf of pairs of fire rated doors, except where vertical rod exit devices are specified for both leaves swinging in the same direction.

2.2.5.4 Construct fire rated doors in stairwell enclosures for maximum transmitted temperature rise of 230 °C (450 °F) above ambient temperature at end of 30 minutes of fire exposure when tested in accordance with ASTM E152.

#### 2.2.6 Custom Metal Hollow Doors:

2.2.6.1 Provide custom hollow metal doors where nonstandard steel doors are indicated. At the Contractor's option, custom hollow metal doors may be provided in lieu of standard steel doors. Door size(s), design, materials, construction, gages and finish shall be as specified for of standard steel doors.

## 2.3 SHOP PAINTING

2.3.1 ANSI A250.8.

## **3 EXECUTION**

### 3.1 INSTALLATION OF DOORS AND APPLICATION OF HARDWARE

3.1.1 Install doors and hardware as specified in Section 08 11 13, HOLLOW METAL DOORS AND FRAMES, Section 08 14 00, WOOD DOORS, and Section 08 71 00, DOOR HARDWARE.

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## **SECTION 08 14 00 INTERIOR WOOD DOORS**

### **1 GENERAL**

#### **1.1 SUMMARY**

##### **1.1.1 Section Includes:**

1.1.1.1 Interior flush wood doors.

1.1.1.1.1 Fire rated doors.

1.1.1.1.2 Smoke rated doors.

#### **1.2 RELATED REQUIREMENTS**

1.2.1 Door Hardware including hardware location (height): Section 08 71 00, DOOR HARDWARE.

1.2.2 Installation of Doors and Hardware: Section 08 11 13, HOLLOW METAL DOORS AND FRAMES and Section 08 71 00, DOOR HARDWARE.

#### **1.3 SUBMITTALS**

1.3.1 Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

##### **1.3.2 Submittal Drawings:**

1.3.2.1 Show size, configuration, and fabrication and installation details.

1.3.2.2 Include details of glazing.

1.3.2.3 Indicate project specific requirements not included in Manufacturer's Literature and Data submittal.

##### **1.3.3 Manufacturer's Literature and Data:**

1.3.3.1 Description of each product.

1.3.3.2 Fire rated doors showing conformance with NFPA 80.

##### **1.3.4 Operation and Maintenance Data:**

1.3.4.1 Care instructions for each exposed finish product.

#### **1.4 QUALITY ASSURANCE**



#### 1.4.1 Manufacturer Qualifications:

1.4.1.1 Regularly and presently manufactures specified products.

1.4.1.2 Manufactures specified products with satisfactory service on five similar installations for minimum five years.

#### 1.5 DELIVERY

1.5.1 Deliver products in manufacturer's original sealed packaging.

1.5.1.1 Minimum 0.15 mm (6 mil) polyethylene bags or cardboard packaging to remain unbroken during delivery and storage.

1.5.2 Mark packaging, legibly. Indicate manufacturer's name or brand, type, color, and manufacture date.

1.5.2.1 Identify door opening corresponding to Door Schedule.

1.5.3 Before installation, return or dispose of products within distorted, damaged, or opened packaging.

#### 1.6 STORAGE AND HANDLING

1.6.1 Store products indoors in dry, weathertight facility.

1.6.1.1 Store doors according to ANSI/WDMA I.S. 1A.

1.7 Protect products from damage during handling and construction operations.

#### 1.8 FIELD CONDITIONS

1.8.1 Environment:

1.8.1.1 Product Temperature: Minimum 21 degrees C (70 degrees F) for minimum 48 hours before installation.

1.8.1.2 Work Area Ambient Temperature Range: 21 to 27 degrees C (70 to 80 degrees F) continuously, beginning 48 hours before installation.

1.8.1.3 Install products when building is permanently enclosed and when wet construction is completed, dried, and cured.

1.8.1.3.1 Comply with door manufacturer's instructions for relative humidity.

#### 1.9 WARRANTY

- 1.9.1 Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."
- 1.9.2 Manufacturer's Warranty: Warrant interior factory finished wood doors against material and manufacturing defects.
  - 1.9.2.1 Warranty Period: one (1) year.

## **2 PRODUCTS**

### **2.1 PRODUCTS - GENERAL**

2.1.1 Provide each product from one manufacturer.

2.1.2 Sustainable Construction Requirements:

2.1.2.1.1 Paints and coatings.

### **2.2 FLUSH WOOD DOORS**

2.2.1 General:

2.2.1.1 ANSI/WDMA I.S. 1A, Extra Heavy Duty.

2.2.1.2 Adhesive: Type II.

2.2.1.3 Core: Structural composite lumber, except when mineral core is required for fire rating.

2.2.1.4 Thickness: 44 mm (1-3/4 inches) unless otherwise shown or specified.

2.2.2 Faces:

2.2.2.1 ANSI/WDMA I.S. 1A.

2.2.2.2 One species throughout project unless scheduled or otherwise shown.

2.2.2.3 Match face veneers for doors for uniform effect of color and grain at joints.

2.2.2.4 In existing buildings, where doors are required to have transparent finish, use wood species, grade, and assembly of face veneers to match adjacent existing doors.

2.2.2.5 Painted Finishes: Custom Grade, mill option close grained hardwood, premium or medium density overlay.

2.2.2.6 Factory sand doors for finishing.

2.2.3 Wood For Stops, Louvers, Muntins and Moldings For Flush Doors Required to Have Transparent Finish:

2.2.3.1 Solid wood of same species as face veneer, except maple is acceptable on birch doors.

### 2.2.3.2 Glazing:

2.2.3.2.1 On non-fire-rated doors, use applied wood stops nailed tightly on room side and attached on opposite side with flathead, countersunk wood screws, spaced approximately 125 mm (5 inches) on center.

### 2.2.3.3 Wood Louvers:

2.2.3.3.1 Door manufacturer's standard product, fabricated of solid wood sections.

2.2.3.3.2 Wood Slats: minimum 5 mm (3/16 inch) thick.

2.2.3.3.3 Stiles routed out to receive slats.

2.2.3.3.4 Secure louvers in prepared cutouts with wood stops.

### 2.2.4 Fire-Rated Wood Doors:

#### 2.2.4.1 Fire Resistance Rating:

2.2.4.1.1 B Label: 1-1/2 hours.

2.2.4.1.2 C Label: 3/4 hour.

#### 2.2.4.2 Labels:

2.2.4.2.1 Comply with NFPA 252, UL 10C, and labeled by qualified testing and inspection agency showing fire resistance rating.

2.2.4.2.2 Metal labels with raised or incised markings.

#### 2.2.4.3 Performance Criteria for Stiles of Doors Utilizing Standard Mortise Leaf Hinges:

2.2.4.3.1 Hinge Loading: WDMA TM 8. Average of 10 test samples for Extra Heavy Duty doors.

2.2.4.3.2 Direct Screw Withdrawal: WDMA TM 10 for Extra Heavy Duty doors. Average of 10 test samples using a steel, fully threaded #12 wood screw.

2.2.4.3.3 Cycle-Slam: 1,000,000 cycles with no loose hinge screws or other visible signs of failure when tested according to WDMA TM 7.

#### 2.2.4.4 Hardware Reinforcement:

2.2.4.4.1 Provide fire and smoke rated doors with hardware reinforcement blocking.

2.2.4.4.2 Size of lock blocks as required to secure hardware specified.

2.2.4.4.3 Top, Bottom and Intermediate Rail Blocks: Minimum 125 mm (5 inches) by full core width.

2.2.4.4.4 Reinforcement blocking in compliance with labeling requirements.

2.2.4.4.5 Mineral material similar to core is not acceptable.

2.2.4.5 Other Core Components: Manufacturer's standard as allowed by labeling requirements.

2.2.4.6 Glazed Vision Panel Frame: Steel approved for use in labeled doors.

2.2.4.7 Astragal: Steel type for pairs of doors.

2.2.5 Smoke Barrier Doors:

2.2.5.1 Glazed Vision Panel Frame: Steel approved for use in labeled doors.

2.2.5.2 Astragal: Steel type for pairs of doors, including double egress doors.

2.2.5.3 Accessories:

2.2.5.3.1 Frame Gaskets and Automatic Door Bottom Seal: As specified in Section 08 71 00, DOOR HARDWARE.

## 2.3 FABRICATION

2.3.1 Factory machine interior wood doors to receive hardware, bevels, undercuts, cutouts, accessories and fitting for frame.

2.3.2 Factory fit fire rated doors according to NFPA 80.

2.3.3 Rout doors for hardware using templates and location heights specified in Section 08 71 00, DOOR HARDWARE.

2.3.4 Factory fit doors to frame, bevel lock edge of doors 3 mm (1/8 inch) for each 50 mm (2 inches) of door thickness.

2.3.5 Clearances between Doors and Frames and Floors:

2.3.5.1 Fire Rated Doors: Comply with NFPA 80.

2.3.5.1.1 Doors with Automatic Bottom Seal: Maximum clearance 10 mm (3/8 inch) at threshold.

2.3.5.1.2 Other Door Bottoms: Maximum 3 mm (1/8 inch) clearance at the jambs, heads, and meeting stiles, and a 19 mm (3/4 inch) clearance at bottom, except as otherwise

specified.

2.3.5.2 Door Jambs, Heads, and Meeting Stiles: Maximum 3 mm (1/8 inch).

2.3.6 Provide cutouts for glazed and louver openings.

2.3.7 Finish surfaces, including both faces, top and bottom and edges of the doors smooth to touch.

2.3.8 Identify each door on top edge.

2.3.8.1 Mark with stamp, brand or other indelible mark, giving manufacturer's name, door's trade name, construction of door, date of manufacture and quality.

2.3.8.2 Mark door or provide separate certification including name of inspection organization.

2.3.8.3 Identify door manufacturing standard, including glue type.

2.3.8.4 Identify veneer and quality certification.

2.3.8.5 Identification of preservative treatment for stile and rail doors.

## 2.4 FINISHES

2.4.1 Field Finished Doors: Seal top and bottom edges of doors with two coats of catalyzed polyurethane or water resistant sealer.

## 3 EXECUTION

### 3.1 PREPARATION

3.1.1 Examine and verify substrate suitability for product installation.

3.1.1.1 Verify door frames are properly anchored.

3.1.1.2 Verify door frames are plumb, square, in plane, and within tolerances for door installation.

3.1.2 Protect existing construction and completed work from damage.

3.1.3 Install astragal on active leaf of pair of smoke doors and one leaf of double egress smoke doors.

### 3.2 INSTALLATION

3.2.1 Install products according to manufacturer's instructions and approved submittal drawings.

3.2.1.1 Install fire rated doors according to NFPA 80.

3.2.1.2 When manufacturer's instructions deviate from specifications, submit proposed resolution for COR's consideration.

### 3.3 PROTECTION

3.3.1 After installation, place shipping container over door and tape in place.

3.3.1.1 Do not apply tape to door faces and edges.

3.3.2 Provide protective covering over exposed hardware in addition to covering door.

3.3.3 Maintain covering in good condition until removal is directed by Contracting Officer's Representative.

- - E N D - -

**SECTION 08 71 00**  
**DOOR HARDWARE**

**1 GENERAL**

1.1 DESCRIPTION

1.1.1 Door hardware and related items necessary for complete installation and operation of doors.

1.2 RELATED WORK

1.2.1 Application of Hardware:

1.2.2 Section 08 14 00, WOOD DOORS

1.2.3 Section 08 11 13, HOLLOW METAL DOORS AND FRAMES

1.2.4 Painting: Section 09 91 00, PAINTING.

1.3 GENERAL

1.3.1 All hardware shall comply with UFAS, (Uniform Federal Accessible Standards) unless specified otherwise.

1.3.2 Provide rated door hardware assemblies where required by most current version of the International Building Code (IBC) or where specified by contract documents.

1.3.3 Hardware for Labeled Fire Doors and Exit Doors: Conform to requirements of NFPA 80 for labeled fire doors and to NFPA 101 for exit doors, as well as to other requirements specified. Provide hardware listed by UL, except where heavier materials, large size, or better grades are specified herein under paragraph HARDWARE SETS. In lieu of UL labeling and listing, test reports from a nationally recognized testing agency may be submitted showing that hardware has been tested in accordance with UL test methods and that it conforms to NFPA requirements.

1.3.4 Hardware for application on metal and wood doors and frames shall be made to standard templates. Furnish templates to the fabricator of these items in sufficient time so as not to delay the construction.

1.3.5 The following items shall be of the same manufacturer, except as otherwise specified:

1.3.5.1 Mortise locksets.

1.3.5.2 Hinges for hollow metal and wood doors.

1.3.5.3 Surface applied overhead door closers.

1.3.5.4 Exit devices.

1.3.5.5 Floor closers.

1.4 WARRANTY

1.4.1 Automatic door operators shall be subject to the terms of FAR Clause 52.246-21, except that the Warranty period shall be one year.

1.5 MAINTENANCE MANUALS

1.5.1 In accordance with Section 01 00 00, GENERAL REQUIREMENTS Article titled "INSTRUCTIONS", furnish maintenance manuals and instructions on all door hardware. Provide installation instructions with the submittal documentation.

1.6 SUBMITTALS

1.6.1 Submittals shall be in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Submit 2 copies of the schedule per Section 01 33 23. Submit 2 final copies of the final approved schedules to Health Care Center Locksmith as record copies.

1.6.2 Hardware Schedule: Prepare and submit hardware schedule in the following form:

Hardware Item	Quantity	Size	Reference Publication Type No.	Finish	Mfr. Name and Catalog No.	Key Control Symbols	UL Mark (if fire rated and listed)	ANSI/BHMA Finish Designation

1.6.3 Samples and Manufacturers' Literature:

1.6.3.1 Samples: All hardware items (proposed for the project) that have not been previously approved by Builders Hardware Manufacturers Association shall be submitted for approval. Tag and mark all items with manufacturer's name, catalog number and project



number.

1.6.3.2 Samples are not required for hardware listed in the specifications by manufacturer's catalog number, if the contractor proposes to use the manufacturer's product specified.

1.6.4 Certificate of Compliance and Test Reports: Submit certificates that hardware conforms to the requirements specified herein. Certificates shall be accompanied by copies of reports as referenced. The testing shall have been conducted either in the manufacturer's plant and certified by an independent testing laboratory or conducted in an independent laboratory, within four years of submittal of reports for approval.

## 1.7 DELIVERY AND MARKING

1.7.1 Deliver items of hardware to job site in their original containers, complete with necessary appurtenances including screws, keys, and instructions. Tag one of each different item of hardware and deliver to COR for reference purposes. Tag shall identify items by Project Specification number and manufacturer's catalog number. These items shall remain on file in COR's office until all other similar items have been installed in project, at which time the contractor will retrieve items on file from COR for installation in predetermined locations on the project.

## 1.8 PREINSTALLATION MEETING

1.8.1 Convene a pre-installation meeting not less than 30 days before start of installation of door hardware. Require attendance of parties directly affecting work of this section, including Contractor and Installer, COR and FHCC Locksmith, Hardware Consultant, and Hardware Manufacturer's Representative. Review the following:

- 1.8.1.1 Inspection of door hardware.
- 1.8.1.2 Job and surface readiness.
- 1.8.1.3 Coordination with other work.
- 1.8.1.4 Protection of hardware surfaces.
- 1.8.1.5 Substrate surface protection.
- 1.8.1.6 Installation.
- 1.8.1.7 Adjusting.

1.8.1.8 Repair.

1.8.1.9 Field quality control.

1.8.1.10 Cleaning.

## 1.9 INSTRUCTIONS

1.9.1 Hardware Set Symbols on Drawings: Except for protective plates, door stops, mutes, thresholds and the like specified herein, hardware requirements for each door are indicated on drawings by symbols. Symbols for hardware sets consist of letters (e.g., "HW") followed by a number. Each number designates a set of hardware items applicable to a door type.

## 1.10 APPLICABLE PUBLICATIONS

1.10.1 The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only. In text, hardware items are referred to by series, types, etc., listed in such specifications and standards, except as otherwise specified.

1.10.2 American Society for Testing and Materials (ASTM):

1.10.2.1 F883-04 Padlocks

1.10.2.2 E2180-07 Standard Test Method for Determining the Activity of Incorporated Antimicrobial Agent(s) In Polymeric or Hydrophobic Materials

1.10.3 American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA):

1.10.3.1 A156.1-06 Butts and Hinges

1.10.3.2 A156.2-03 Bored and Pre-assembled Locks and Latches

1.10.3.3 A156.3-08 Exit Devices, Coordinators, and Auto Flush Bolts

1.10.3.4 A156.4-08 Door Controls (Closers)

1.10.3.5 A156.5-14 Cylinders and Input Devices for Locks.

1.10.3.6 A156.6-05 Architectural Door Trim

1.10.3.7 A156.8-05 Door Controls-Overhead Stops and Holders

1.10.3.8 A156.12-05 Interconnected Locks and Latches

- 1.10.3.9 A156.13-05 Mortise Locks and Latches Series 1000
- 1.10.3.10 A156.17-04 Self-Closing Hinges and Pivots
- 1.10.3.11 A156.18-06 Materials and Finishes
- 1.10.3.12 A156.20-06 Strap and Tee Hinges, and Hasps
- 1.10.3.13 A156.21-09 Thresholds
- 1.10.3.14 A156.22-05 Door Gasketing and Edge Seal Systems
- 1.10.3.15 A156.26-06 Continuous Hinges
- 1.10.3.16 A156.28-07 Master Keying Systems
- 1.10.3.17 A156.29-07 Exit Locks and Alarms
- 1.10.3.18 A156.30-03 High Security Cylinders
- 1.10.3.19 A250.8-03 Standard Steel Doors and Frames
- 1.10.4 National Fire Protection Association (NFPA):
  - 1.10.4.1 80-10 Fire Doors and Other Opening Protectives
  - 1.10.4.2 101-09 Life Safety Code
- 1.10.5 Underwriters Laboratories, Inc. (UL):
  - 1.10.5.1 Building Materials Directory (2008)

## **2 PRODUCTS**

### **2.1 BUTT HINGES**

2.1.1 ANSI A156.1. Provide only three-knuckle hinges, except five-knuckle where the required hinge type is not available in a three-knuckle version (e.g., some types of swing-clear hinges). The following types of butt hinges shall be used for the types of doors listed, except where otherwise specified:

2.1.1.1 Exterior Doors: Type A2112/A5112 for doors 900 mm (3 feet) wide or less and Type A2111/A5111 for doors over 900 mm (3 feet) wide. Hinges for exterior outswing doors shall have non-removable pins. Hinges for exterior fire-rated doors shall be of stainless steel material.

2.1.1.2 Interior Doors: Type A8112/A5112 for doors 900 mm (3 feet) wide or less and Type

A8111/A5111 for doors over 900 mm (3 feet) wide. Hinges for doors exposed to high humidity areas (shower rooms, toilet rooms, kitchens, janitor rooms, etc. shall be of stainless steel material.

2.1.2 Provide quantity and size of hinges per door leaf as follows:

2.1.2.1 Doors up to 1210 mm (4 feet) high: 2 hinges.

2.1.2.2 Doors 1210 mm (4 feet) to 2260 mm (7 feet 5 inches) high: 3 hinges minimum.

2.1.2.3 Doors greater than 2260 mm (7 feet 5 inches) high: 4 hinges.

2.1.2.4 Doors up to 900 mm (3 feet) wide, standard weight: 114 mm x 114 mm (4-1/2 inches x 4-1/2 inches) hinges.

2.1.2.5 Doors over 900 mm (3 feet) to 1065 mm (3 feet 6 inches) wide, standard weight: 127 mm x 114 mm (5 inches x 4-1/2 inches).

2.1.2.6 Doors over 1065 mm (3 feet 6 inches) to 1210 mm (4 feet), heavy weight: 127 mm x 114 mm (5 inches x 4-1/2 inches).

2.1.2.7 Provide heavy-weight hinges where specified.

2.1.2.8 At doors weighing 330 kg (150 lbs.) or more, furnish 127 mm (5 inch) high hinges.

2.1.3 See Articles "MISCELLANEOUS HARDWARE" and "HARDWARE SETS" for pivots and hinges other than butts specified above and continuous hinges specified below.

## 2.2 CONTINUOUS HINGES

2.2.1 ANSI/BHMA A156.26, Grade 1-600.

2.2.1.1 Listed under Category N in BHMA's "Certified Product Directory."

2.2.2 General: Minimum 0.120-inch- (3.0-mm-) thick, hinge leaves with minimum overall width of 4 inches (102 mm); fabricated to full height of door and frame and to template screw locations; with components finished after milling and drilling are complete

2.2.3 Continuous, Barrel-Type Hinges: Hinge with knuckles formed around a Teflon-coated 6.35mm (0.25-inch) minimum diameter pin that extends entire length of hinge.

2.2.3.1 Base Metal for Exterior Hinges: Stainless steel.

2.2.3.2 Base Metal for Interior Hinges: Stainless steel.

2.2.3.3 Base Metal for Hinges for Fire-Rated Assemblies: Stainless steel.

2.2.3.4 Provide with non-removable pin (hospital tip option) at lockable outswing doors.

2.2.3.5 Where required to clear adjacent casing, trim, and wall conditions and allow full door swing, provide wide throw hinges of minimum width required.

2.2.3.6 Provide with manufacturer's cut-outs for separate mortised power transfers and/or mortised automatic door bottoms where they occur.

2.2.3.7 Where thru-wire power transfers are integral to the hinge, provide hinge with easily removable portion to allow easy access to wiring connections.

2.2.3.8 Where models are specified that provide an integral wrap-around edge guard for the hinge edge of the door, provide manufacturer's adjustable threaded stud and machine screw mechanism to allow the door to be adjusted within the wrap-around edge guard.

## 2.3 DOOR CLOSING DEVICES

2.3.1 Closing devices shall be products of one manufacturer .

## 2.4 OVERHEAD CLOSERS

2.4.1 Conform to ANSI A156.4, Grade 1.

2.4.2 Closers shall conform to the following:

2.4.2.1 The closer shall have minimum 50 percent adjustable closing force over minimum value for that closer and have adjustable hydraulic back check effective between 60 degrees and 85 degrees of door opening.

2.4.2.2 Where specified, closer shall have hold-open feature.

2.4.2.3 Size Requirements: Provide multi-size closers, sizes 1 through 6, except where multi-size closer is not available for the required application.

2.4.2.4 Material of closer body shall be forged or cast.

2.4.2.5 Arm and brackets for closers shall be steel, malleable iron or high strength ductile cast iron.

2.4.2.6 Where closers are exposed to the exterior or are mounted in rooms that experience high humidity, provide closer body and arm assembly of stainless steel material.

2.4.2.7 Closers shall have full size metal cover; plastic covers will not be accepted.

2.4.2.8 Closers shall have adjustable hydraulic back-check, separate valves for closing and

- latching speed, adjustable back-check positioning valve, and adjustable delayed action valve.
- 2.4.2.9 Provide closers with any accessories required for the mounting application, including (but not limited to) drop plates, special soffit plates, spacers for heavy-duty parallel arm fifth screws, bull-nose or other regular arm brackets, longer or shorter arm assemblies, and special factory templating. Provide special arms, drop plates, and templating as needed to allow mounting at doors with overhead stops and/or holders.
- 2.4.2.10 Closer arms or back check valve shall not be used to stop the door from over swing, except in applications where a separate wall, floor, or overhead stop cannot be used.
- 2.4.2.11 Provide parallel arm closers with heavy duty rigid arm.
- 2.4.2.12 Where closers are to be installed on the push side of the door, provide parallel arm type except where conditions require use of top jamb arm.
- 2.4.2.13 Provide all surface closers with the same body attachment screw pattern for ease of replacement and maintenance.
- 2.4.2.14 All closers shall have a 1 ½" (38mm) minimum piston diameter.

## 2.5 DOOR STOPS

- 2.5.1 Conform to ANSI A156.16.
- 2.5.2 Provide door stops wherever an opened door or any item of hardware thereon would strike a wall, column, equipment or other parts of building construction. For concrete, masonry or quarry tile construction, use lead expansion shields for mounting door stops.
- 2.5.3 Where cylindrical locks with turn pieces or pushbuttons occur, equip wall bumpers Type L02251 (rubber pads having concave face) to receive turn piece or button.
- 2.5.4 Provide floor stops (Type L02141 or L02161 in office areas; Type L02121 x 3 screws into floor elsewhere. Wall bumpers, where used, must be installed to impact the trim or the door within the leading half of its width. Floor stops, where used, must be installed within 4-inches of the wall face and impact the door within the leading half of its width.
- 2.5.5 Where drywall partitions occur, use floor stops, Type L02141 or L02161 in office areas, Type L02121 elsewhere.

- 2.5.6 Provide stop Type L02011, as applicable for exterior doors. At outswing doors where stop can be installed in concrete, provide stop mated to concrete anchor set in 76mm (3-inch) core-drilled hole and filled with quick-setting cement.
- 2.5.7 Omit stops where floor mounted door holders are required and where automatic operated doors occur.
- 2.5.8 Provide appropriate roller bumper for each set of doors (except where closet doors occur) where two doors would interfere with each other in swinging.
- 2.5.9 Provide appropriate door mounted stop on doors in individual toilets where floor or wall mounted stops cannot be used.
- 2.5.10 Provide overhead surface applied stop Type C02541, ANSI A156.8 on patient toilet doors in bedrooms where toilet door could come in contact with the bedroom door.
- 2.5.11 Provide door stops on doors where combination closer magnetic holders are specified, except where wall stops cannot be used or where floor stops cannot be installed within 4-inches of the wall.
- 2.5.12 Where the specified wall or floor stop cannot be used, provide concealed overhead stops (surface-mounted where concealed cannot be used).

## 2.6 OVERHEAD DOOR STOPS and HOLDERS

- 2.6.1 Conform to ANSI Standard A156.8. Overhead holders shall be of sizes recommended by holder manufacturer for each width of door. Set overhead holders for 110 degree opening, unless limited by building construction or equipment. Provide Grade 1 overhead concealed slide type: stop-only at rated doors and security doors, hold-open type with exposed hold-open on/off control at all other doors requiring overhead door stops.

## 2.7 LOCKS AND LATCHES

- 2.7.1 Conform to ANSI A156.2. Locks and latches for doors 45 mm (1-3/4 inch) thick or over shall have beveled fronts. Lock cylinders shall have not less than seven pins . Cylinders for all locksets shall be small format interchangeable core type. Cylinder shall be removable by special key or tool. Construct all cores so that they will be interchangeable into the core housings of all mortise locks, rim locks, cylindrical locks, and any other type lock included in the Great Grand Master Key System. Disassembly of lever or

lockset shall not be required to remove core from lockset. All locksets or latches on double doors with fire label shall have latch bolt with 19 mm (3/4 inch) throw, unless shorter throw allowed by the door manufacturer's fire label. Provide temporary keying device or construction core to allow opening and closing during construction and prior to the installation of final cores.

2.7.2 In addition to above requirements, locks and latches shall comply with following requirements:

2.7.2.1 Mortise Lock and Latch Sets: Conform to ANSI/BHMA A156.13. Mortise locksets shall be series 1000, minimum Grade 2. All locksets and latchsets, except on designated doors in Psychiatric (Mental Health) areas, shall have lever handles fabricated from cast stainless steel. Provide sectional (lever x rose) lever design matching Best 45H Series, #15 Style Lever. No substitute lever material shall be accepted. All locks and latchsets shall be furnished with 122.55 mm (4-7/8-inch) curved lip strike and wrought box. At outswing pairs with overlapping astragals, provide flat lip strip with 21mm (7/8-inch) lip-to-center dimension. Lock function F02 shall be furnished with emergency tools/keys for emergency entrance. All lock cases installed on lead lined doors shall be lead lined before applying final hardware finish. Furnish armored fronts for all mortise locks. Where mortise locks are installed in high-humidity locations or where exposed to the exterior on both sides of the opening, provide non-ferrous mortise lock case.

2.7.2.2 Privacy locks in non-mental-health patient rooms shall have an inside thumbturn for privacy and an outside thumbturn for emergency entrance.

## 2.8 ARMOR PLATES, KICK PLATES, MOP PLATES AND DOOR EDGING

2.8.1 Conform to ANSI Standard A156.6.

2.8.2 Provide protective plates as specified below:

2.8.2.1 1. Kick plates, mop plates and armor plates of metal, Type J100 series.

2.8.2.2 2. Provide kick plates and mop plates where specified. Kick plates shall be 254 mm (10 inches) or 305 mm (12 inches) high. Mop plates shall be 152 mm (6 inches) high. Both kick and mop plates shall be minimum 1.27 mm (0.050 inches) thick. Provide kick and mop plates beveled on all 4 edges (B4E). On push side of doors where jamb stop extends



to floor, make kick plates 38 mm (1-1/2 inches) less than width of door, except pairs of metal doors which shall have plates 25 mm (1 inch) less than width of each door. Extend all other kick and mop plates to within 6 mm (1/4 inch) of each edge of doors. Kick and mop plates shall butt astragals. For jamb stop requirements, see specification sections pertaining to door frames.

2.8.2.3 Kick plates and/or mop plates are not required on following door sides:

2.8.2.3.1 Armor plate side of doors;

2.8.2.3.2 Exterior side of exterior doors;

2.8.2.3.3 Closet side of closet doors;

2.8.2.3.4 Both sides of aluminum entrance doors.

2.8.2.4 Armor plates for doors are listed under Article "Hardware Sets". Armor plates shall be thickness as noted in the hardware set, 875 mm (35 inches) high and 38 mm (1-1/2 inches) less than width of doors, except on pairs of metal doors. Provide armor plates beveled on all 4 edges (B4E). Plates on pairs of metal doors shall be 25 mm (1 inch) less than width of each door. Where top of intermediate rail of door is less than 875 mm (35 inches) from door bottom, extend armor plates to within 13 mm (1/2 inch) of top of intermediate rail. On doors equipped with panic devices, extend armor plates to within 13 mm (1/2 inch) of panic bolt push bar.

2.8.2.5 Where louver or grille occurs in lower portion of doors, substitute stretcher plate and kick plate in place of armor plate. Size of stretcher plate and kick plate shall be 254 mm (10 inches) high.

2.8.2.6 Provide stainless steel edge guards where so specified at wood doors. Provide mortised type instead of surface type except where door construction and/or ratings will not allow. Provide edge guards of bevel and thickness to match wood door. Provide edge guards with factory cut-outs for door hardware that must be installed through or extend through the edge guard. Provide full-height edge guards except where door rating does not allow; in such cases, provide edge guards to height of bottom of typical lockset armor front. Forward edge guards to wood door manufacturer for factory installation on doors.

## 2.9 EXIT DEVICES

- 2.9.1 Conform to ANSI Standard A156.3. Exit devices shall be Grade 1; type and function are specified in hardware sets. Provide flush with finished floor strikes for vertical rod exit devices in interior of building. Trim shall have cast satin stainless steel lever handles of design similar to locksets, unless otherwise specified. Provide key cylinders for keyed operating trim and, where specified, cylinder dogging.
- 2.9.2 Surface vertical rod panics shall only be provided less bottom rod; provide fire pins as required by exit device and door fire labels. Do not provide surface vertical rod panics at exterior doors.
- 2.9.3 Concealed vertical rod panics shall be provided less bottom rod at interior doors, unless lockable or otherwise specified; provide fire pins as required by exit device and door fire labels. Where concealed vertical rod panics are specified at exterior doors, provide with both top and bottom rods.
- 2.9.4 Where removable mullions are specified at pairs with rim panic devices, provide mullion with key-removable feature.
- 2.9.5 At non-rated openings with panic hardware, provide panic hardware with key cylinder dogging feature.
- 2.9.6 Exit devices for fire doors shall comply with Underwriters Laboratories, Inc., requirements for Fire Exit Hardware. Submit proof of compliance.
- 2.10 FLUSH BOLTS (LEVER EXTENSION)
- 2.10.1 Conform to ANSI A156.16. Flush bolts shall be Type L24081 unless otherwise specified. Furnish proper dustproof strikes conforming to ANSI A156.16, for flush bolts required on lower part of doors.
- 2.10.2 Lever extension manual flush bolts shall only be used at non-fire-rated pairs for rooms only accessed by maintenance personnel.
- 2.10.3 Face plates for cylindrical strikes shall be rectangular and not less than 25 mm by 63 mm (1 inch by 2-1/2 inches).
- 2.10.4 Friction-fit cylindrical dustproof strikes with circular face plate may be used only where metal thresholds occur.
- 2.10.5 Provide extension rods for top bolt where door height exceeds 2184 mm (7 feet 2 inches).

## 2.11 FLUSH BOLTS (AUTOMATIC)

2.11.1 Conform to ANSI A156.3. Dimension of flush bolts shall conform to ANSI A115. Bolts shall conform to Underwriters Laboratories, Inc., requirements for fire door hardware. Flush bolts shall automatically latch and unlatch. Furnish dustproof strikes conforming to ANSI A156.16 for bottom flushbolt. Face plates for dustproof strike shall be rectangular and not less than 38 mm by 90 mm (1-1/2 by 3-1/2 inches).

2.11.2 At interior doors, provide auto flush bolts less bottom bolt, unless otherwise specified, except at wood pairs with fire-rating greater than 20 minutes; provide fire pins as required by auto flush bolt and door fire labels.

## 2.12 DOOR PULLS with plates

2.12.1 Conform to ANSI A156.6. Pull Type J401, 152 mm CTC (6 inches CTC) length by 19 mm (3/4 inches) diameter minimum with plate Type J302, 90 mm by 381 mm (3-1/2 inches by 15 inches), unless otherwise specified. Provide pull with projection of 57.2 mm (2 1/4 inches) minimum and a clearance of 38.1 mm (1 1/2 inches) minimum. Cut plates of door pull plate for cylinders, or turn pieces where required.

## 2.13 PUSH PLATES

2.13.1 Conform to ANSI A156.6. Metal, Type J302, 203 mm (8 inches) wide by 406.4 mm (16 inches) high. Provide metal Type J302 plates 102 mm (4 inches) wide by 406.4 mm (16 inches) high where push plates are specified for doors with stiles less than 203 mm (8 inches) wide. Cut plates for cylinders, and turn pieces where required.

## 2.14 COMBINATION PUSH AND PULL PLATES

2.14.1 Conform to ANSI 156.6. Type J303, stainless steel 3 mm (1/8 inch) thick, 80 mm (3-1/3 inches) wide by 800 mm (16 inches) high), top and bottom edges shall be rounded. Secure plates to wood doors with 38 mm (1-1/2 inch) long No. 12 wood screws. Cut plates for turn pieces, and cylinders where required. Pull shall be mounted down.

## 2.15 COORDINATORS

2.15.1 Conform to ANSI A156.16. Coordinators, when specified for fire doors, shall comply with Underwriters Laboratories, Inc., requirements for fire door hardware. Coordinator may be omitted on exterior pairs of doors where either door will close independently

regardless of the position of the other door. Coordinator may be omitted on interior pairs of non-labeled open where open back strike is used. Open back strike shall not be used on labeled doors. Paint coordinators to match door frames, unless coordinators are plated. Provide bar type coordinators, except where gravity coordinators are required at acoustic pairs. For bar type coordinators, provide filler bars for full width and, as required, brackets for push-side surface mounted closers, overhead stops, and vertical rod panic strikes.

## 2.16 THRESHOLDS

2.16.1 Conform to ANSI A156.21, mill finish extruded aluminum, except as otherwise specified. In existing construction, thresholds shall be installed in a bed of sealant with ¼-20 stainless steel machine screws and expansion shields. In new construction, embed aluminum anchors coated with epoxy in concrete to secure thresholds. Furnish thresholds for the full width of the openings.

2.16.2 For thresholds at elevators entrances see other sections of specifications.

2.16.3 At exterior doors and any interior doors exposed to moisture, provide threshold with non-slip abrasive finish.

2.16.4 Provide with miter returns where threshold extends more than 12 mm (0.5 inch) beyond face of frame.

## 2.17 AUTOMATIC DOOR BOTTOM SEAL AND RUBBER GASKET FOR LIGHT PROOF OR SOUND CONTROL DOORS

2.17.1 Conform to ANSI A156.22. Provide mortise or under-door type, except where not practical. For mortise automatic door bottoms, provide type specific for door construction (wood or metal).

## 2.18 WEATHERSTRIPS (For Exterior Doors)

2.18.1 Conform to ANSI A156.22. Air leakage shall not to exceed 0.50 CFM per foot of crack length ( $0.000774\text{m}^3/\text{s}/\text{m}$ ).

## 2.19 MISCELLANEOUS HARDWARE

2.19.1 Access Doors (including Sheet Metal, Screen and Woven Wire Mesh Types): Except for fire-rated doors and doors to Temperature Control Cabinets, equip each single or double

metal access door with Lock Type E07213, conforming to ANSI A156.11. Key locks as directed. Ship lock prepaid to the door manufacturer. Hinges shall be provided by door manufacturer.

2.19.2 Cylinders for Various Partitions and Doors: Key cylinders same as entrance doors of area in which partitions and door occur. Provide cylinders to operate locking devices where specified for following partitions and doors:

2.19.2.1 Folding doors and partitions.

2.19.2.2 Wicket door (in roll-up door assemblies).

2.19.2.3 Slide-up doors.

2.19.2.4 Swing-up doors.

2.19.2.5 Fire-rated access doors-Engineer's key set.

2.19.2.6 Doors from corridor to electromagnetic shielded room.

2.19.2.7 Day gate on vault door.

2.19.3 Mutes: Conform to ANSI A156.16. Provide door mutes or door silencers Type L03011 or L03021, depending on frame material, of white or light gray color, on each steel or wood door frame, except at fire-rated frames, lead-lined frames and frames for sound-resistant, lightproof and electromagnetically shielded doors. Furnish 3 mutes for single doors and 2 mutes for each pair of doors, except double-acting doors. Provide 4 mutes or silencers for frames for each Dutch type door. Provide 2 mutes for each edge of sliding door which would contact door frame.

## 2.20 HINGED WIRE GUARDS (For Windows, Doors and Transoms) AND WIRE PARTITION DOORS

2.20.1 Butt hinges, type A8133 (special swaging) 100 mm by 90 mm (4 inches by 3-1/2 inches), Finish US2C.

2.20.1.1 3 hinges for guards over 1060 mm (3-1/2 feet) high.

2.20.1.2 2 hinges for guards less than 1060 mm (3-1/2 feet) high.

2.20.2 Conform to ANSI A156.36. Lock Type E06081 for guards and Type E06061 for partitions.

2.20.2.1 Keying: Except as noted otherwise, key locks like entrance door or space wherein guards and partitions are located except as otherwise specified.

2.20.2.2 Key locks for partitions enclosing mechanical and electrical equipment in Engineer's Set. (See detailed drawings for number of locks and butt hinges required for each guard).

## 2.21 FINISHES

2.21.1 Exposed surfaces of hardware shall have ANSI A156.18, finishes as specified below.

Finishes on all hinges, pivots, closers, thresholds, etc., shall be as specified below under "Miscellaneous Finishes." For field painting (final coat) of ferrous hardware, see Section 09 91 00, PAINTING.

2.21.2 626 or 630: All surfaces on exterior and interior of buildings, except where other finishes are specified.

2.21.3 Miscellaneous Finishes:

2.21.3.1 Hinges --exterior doors: 626 or 630.

2.21.3.2 Hinges --interior doors: 652 or 630.

2.21.3.3 Pivots: Match door trim.

2.21.3.4 Door Closers: Factory applied paint finish. Dull or Satin Aluminum color.

2.21.3.5 Thresholds: Mill finish aluminum.

2.21.3.6 Cover plates for floor hinges and pivots: 630.

2.21.3.7 Other primed steel hardware: 600.

2.21.4 Hardware Finishes for Existing Buildings: U.S. Standard finishes shall match finishes of hardware in (similar) existing spaces except where otherwise specified.

2.21.5 Special Finish: Exposed surfaces of hardware for dark bronze anodized aluminum doors shall have oxidized oil rubbed bronze finish (dark bronze) finish on door closers shall closely match doors.

2.21.6 Anti-microbial Coating: All hand-operated hardware (levers, pulls, push bars, push plates, paddles, and panic bars) shall be provided with an anti-microbial/anti-fungal coating that has passed ASTM E2180 tests. Coating to consist of ionic silver (Ag+).

Silver ions surround bacterial cells, inhibiting growth of bacteria, mold, and mildew by blockading food and respiration supplies.

## 2.22 BASE METALS

2.22.1 Apply specified U.S. Standard finishes on different base metals as following:

<b>Finish</b>	<b>Base Metal</b>
652	Steel
626	Brass or bronze
630	Stainless steel

## 3 EXECUTION

### 3.1 3.1 HARDWARE HEIGHTS

3.1.1 For existing buildings locate hardware on doors at heights to match existing hardware.

The Contractor shall visit the site, verify location of existing hardware and submit locations to VA COR for approval.

3.1.2 Hardware Heights from Finished Floor:

3.1.2.1 Exit devices centerline of strike (where applicable) 1024 mm (40-5/16 inches).

3.1.2.2 Locksets and latch sets centerline of strike 1024 mm (40-5/16 inches).

3.1.2.3 Deadlocks centerline of strike 1219 mm (48 inches).

3.1.2.4 Hospital arm pull 1168 mm (46 inches) to centerline of bottom supporting bracket.

3.1.2.5 Centerline of door pulls to be 1016 mm (40 inches).

3.1.2.6 Push plates and push-pull shall be 1270 mm (50 inches) to top of plate.

3.1.2.7 Push-pull latch to be 1024 mm (40-5/16 inches) to centerline of strike.

3.1.2.8 Locate other hardware at standard commercial heights. Locate push and pull plates to prevent conflict with other hardware.

### 3.2 INSTALLATION

3.2.1 Closer devices, including those with hold-open features, shall be equipped and mounted to provide maximum door opening permitted by building construction or equipment. Closers shall be mounted on side of door inside rooms, inside stairs, and away from corridors except security bedroom, bathroom and anteroom doors which shall have closer

installed parallel arm on exterior side of doors. At exterior doors, closers shall be mounted on interior side. Where closers are mounted on doors they shall be mounted with sex nuts and bolts; foot shall be fastened to frame with machine screws.

3.2.2 Hinge Size Requirements:

<b>Door Thickness</b>	<b>Door Width</b>	<b>Hinge Height</b>
45 mm (1-3/4 inch)	900 mm (3 feet) and less	113 mm (4-1/2 inches)
45 mm (1-3/4 inch)	Over 900 mm (3 feet) but not more than 1200 mm (4 feet)	125 mm (5 inches)
35 mm (1-3/8 inch) (hollow core wood doors)	Not over 1200 mm (4 feet)	113 mm (4-1/2 inches)

3.2.3 Hinge leaves shall be sufficiently wide to allow doors to swing clear of door frame trim and surrounding conditions.

3.2.4 Where new hinges are specified for new doors in existing frames or existing doors in new frames, sizes of new hinges shall match sizes of existing hinges; or, contractor may reuse existing hinges provided hinges are restored to satisfactory operating condition as approved by COR. Existing hinges shall not be reused on door openings having new doors and new frames. Coordinate preparation for hinge cut-outs and screw-hole locations on doors and frames.

3.2.5 Hinges Required Per Door:

Doors 1500 mm (5 ft) or less in height	2 butts
Doors over 1500 mm (5 ft) high and not over 2280 mm (7 ft 6 in) high	3 butts
Doors over 2280 mm (7 feet 6 inches) high	4 butts
Dutch type doors	4 butts
Doors with spring hinges 1370 mm (4 feet 6 inches) high or less	2 butts
Doors with spring hinges over 1370 mm (4 feet 6 inches)	3 butts



3.2.6 Fastenings: Suitable size and type and shall harmonize with hardware as to material and finish. Provide machine screws and lead expansion shields to secure hardware to concrete, ceramic or quarry floor tile, or solid masonry. Fiber or rawl plugs and adhesives are not permitted. All fastenings exposed to weather shall be of nonferrous metal.

3.2.7 After locks have been installed; show in presence of COR that keys operate their respective locks in accordance with keying requirements. (All keys, Master Key level and above shall be sent Registered Mail to the Health Care Center Director along with the bitting list. Also a copy of the invoice shall be sent to the COR for his records.) Installation of locks which do not meet specified keying requirements shall be considered sufficient justification for rejection and replacement of all locks installed on project.

### 3.3 FINAL INSPECTION

3.3.1 Installer to provide letter to COR that upon completion, installer has visited the Project and has accomplished the following:

3.3.1.1 Re-adjust hardware.

3.3.1.2 Evaluate maintenance procedures and recommend changes or additions, and instruct VA personnel.

3.3.1.3 Identify items that have deteriorated or failed.

3.3.1.4 Submit written report identifying problems.

### 3.4 DEMONSTRATION

3.4.1 Demonstrate efficacy of mechanical hardware and electrical, and electronic hardware systems, including adjustment and maintenance procedures, to satisfaction of the COR and VA Locksmith.

### 3.5 HARDWARE SETS

3.5.1 Following sets of hardware correspond to hardware symbols shown on drawings. Only those hardware sets that are shown on drawings will be required. Disregard hardware sets listed in specifications but not shown on drawings.

3.5.2 Hardware Consultant working on a project will be responsible for providing additional information regarding these hardware sets. The numbers shown in the following sets

come from BHMA standards.

**ELECTRIC HARDWARE ABBREVIATIONS LEGEND:**

ADO = Automatic Door Operator

EMCH = Electro-Mechanical Closer-Holder

MHO = Magnetic Hold-Open (wall- or floor-mounted)

## **INTERIOR SINGLE DOORS**

### Hardware Group – 1

Each Door to Have:

- 1 Mortise Lockset – Office Function
- 1 Closer (Self/Automatic closing)
- 1 Heavy Duty Ball Bearing Hinges, non-removable/welded pin, US26D – (Satin Chromium Plated)
- 1 Kick Plate, US26D – (Satin Chromium Plated)

### Hardware Group – 2

Each Door to Have:

- 1 Mortise Lockset – Office Function
- 1 Stainless Steel Mortise Reinforcement Guard Plate  
Blank Plates (Edge Filler Plate, Cylinder Filler Plate, etc...)

### Hardware Group – 3

Each Door to Have:

- 1 Mortise Lockset – Passage Function
- 1 Stainless Steel Mortise Reinforcement Guard Plate  
Blank Plates (Edge Filler Plate, Cylinder Filler Plate, etc...)

Hardware Group – 4

Each Door to Have:

- 1 Mortise Lockset – Privacy Function
- 1 Stainless Steel Mortise Reinforcement Guard Plate
- Blank Plates (Edge Filler Plate, Cylinder Filler Plate, etc...)

Hardware Group – 5

Each Door to Have:

- 1 Mortise Lockset – Storeroom Function
- 1 Stainless Steel Mortise Reinforcement Guard Plate
- Blank Plates (Edge Filler Plate, Cylinder Filler Plate, etc...)

Hardware Group – 6

Each Door to Have:

- Blank Plates (Edge Filler Plate, Cylinder Filler Plate, etc...)

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