NOTICE

NO HAND CARRIED BIDS!
NO MAILED BIDS!

Current security requirements established by the U.S. Capitol Police to screen mail being delivered to the U.S. Capitol Complex of buildings preclude the use of U.S. Postal Service by offerors to deliver their proposals submitted in response to this solicitation. In addition, because all packages must be screened for security purposes at a central location prior to their delivery, the Architect of the Capitol cannot accept packages containing offers handcarried directly to the Bid Room address within the Ford House Office Building, as specified elsewhere in this solicitation, or at any other location in the U.S. Capitol Complex of buildings.

Due to these unusual circumstances the Procurement Division for the Architect of the Capitol will only accept offers/proposals via UPS or FEDEX. See provision AOC52.215-1 Instructions to Offerors located in Section L for solicitations for services/supplies or the Solicitation Conditions for solicitations for construction. All handcarried offers/proposals will be rejected. Any attempt to handcarry an offer/proposal to any location in the U.S. Capitol Complex of buildings will be refused. Offerors are advised when sending proposals via FEDEX or UPS ***not*** to use same day delivery. FEDEX/UPS often subcontract out the delivery for same-day service. It is necessary for delivery personnel to arrive in a FEDEX/UPS truck and be in a uniform recognized as FEDEX/UPS. Offerors are encouraged to determine who will be making the delivery when making arrangements with FEDEX/UPS.

NOTICE TO CONTRACTORS

The Architect of the Capitol anticipates that in 2006 the agency's contractors will have to register with the Central Contractor Registration (CCR) database. This is the primary vendor database for the U.S. Federal Government and the CCR collects, validates, stores, and disseminates data in support of agency acquisition missions.

Registration in the CCR will become mandatory in order to be awarded contracts by the Federal Government. Vendors are required to complete a one-time registration to provide basic information relevant to procurement and financial transactions. Vendors must update or renew their registration at least once per year to maintain an active status.

CCR validates the vendor information and electronically shares the secure and encrypted data with the federal agencies finance offices to facilitate paperless payments through electronic funds transfer (EFT).

The AOC is now encouraging all vendors to register with the CCR if they are not already registered. Vendors can register on line at http://www.ccr.gov. This internet site contains all pertinent information for registration as well as provides contact points for help when registering.

CONSTRUCTION OF HART SENATE OFFICE BUILDING FIRE ALARM SYSTEM

August 3, 2007

Architect of the Capitol
United States Capitol
Washington, D.C. - 20515

PROJECT MANUAL
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RFP No. 070108

ISSUED BY: ARCHITECT OF THE CAPITOL

CONSTRUCTION OF HART SENATE OFFICE BUILDING FIRE ALARM SYSTEM

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VOLUME I

BUSINESS

SOLICITATION,OFFER, AND AWARD *(Construction, Alteration, or Repair)* Architect of the Capitol	1. SOLICITATION NO. RFP070108	2. TYPE OF SOLICITATION ☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)	3. DATE ISSUED 08/03/2007	PAGE 1 OF 47 PAGES

IMPORTANT -The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT N0.	5. REQUISITION/PURCHASE REQUEST NO.	6A. PROJECT NO.	6B. TITLE
	SB 070276		CONSTRUCTION OF HSOB FIRE ALARM

7. ISSUED BY	8. ADDRESS OFFER TO
AOC - Procurement Division 2nd & D Streets, SW Room H2-263 WASHINGTON, DC 20515	AOC - Procurement Division 2nd & D Streets, SW Room H2-263 WASHINGTON, DC 20515

9. FOR INFORMATION CALL:	a. NAME	b. TELEPHONE NUMBER (Include area code)(NO COLLECT CALLS)
	Matt Hazlinsky	202-226-0994

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" means "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date)

A SITE VISIT WILL BE CONDUCTED ON AUGUST 15, 2007 AT 10:00AM AT THE MAIN LOBBY OF THE HART SENATE OFFICE BUILDING. THE DURATION OF THIS CONTRACT IS 1,095 CALENDAR DAYS.

11. The Contractor shall begin performance 10 calendar days and complete it within 0 calendar days after receiving ☒ award, ☐ notice to proceed. This performance period is ☒ mandatory ☐ negotiable. (*(See* _____ *.)*

12a. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in Item 12b).	12b. CALENDAR DAYS
☒ YES ☐ NO	15

13. ADDITIONAL SOLICITATION REQUIREMENTS

a. Sealed offers in original and 3 copies to perform the work required are due at the place specified in item 8 by 2:00pm (hour) local time 09/04/2007 (date). If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

b. An offer guarantee ☒ is, ☐ is not required.

c. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference

d. Offers providing less than 60 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER (Must be fully completed by offeror)

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code) CODE	15. TELEPHONE NO. (Include area code)
	16. REMITTANCE ADDRESS (Include only if different than Item 14.)

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within 60 calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13d. Failure to insert any number means the offeror accepts the minimum in Item 13d.)

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS
(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)

AMENDMENT NO.										
DATE										

20a. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)	20b. SIGNATURE	20c. OFFER DATE

AWARD (To be completed by Government)

21. ITEMS ACCEPTED

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN ITEM 27 (4 copies unless otherwise specified)	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO 41 U.S.C. 5
26. ADMINISTERED BY AOC - Procurement Division 2nd & D Streets, SW Room H2-263 WASHINGTON, DC 20515	27. PAYMENT WILL BE MADE BY Accounting Division Ford House Office Bldg. Rm. H2-205 Washington, DC 20515

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _____ copies to issuing office) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.	☐ 29. AWARD (Contractor is required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No futher contractual document is necessary.
30a. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print)	31a. NAME OF CONTRACTING OFFICER (Type or print) Matt Hazlinsky
30b. SIGNATURE / 30c. DATE	31b. UNITED STATES OF AMERICA BY_____ / 31c. DATE SIGNED

Summary Info Continuation Page

THE SCHEDULE - SUPPLIES OR SERVICES AND PRICES/COSTS FOR CONSTRUCTION - The Contractor shall furnish all supplies, equipment, personnel and services necessary to perform the demolition and removal of the existing fire alarm system control unit equipment and risers and the installation of new analog addressable fire alarm and emergency voice alarm evacuation systems with distributed amplifiers in the Hart Senate Office Building (see the SPECIFICATIONS) as required by the Architect of the Capitol.

BASE

Number	Commodity Name	Quantity	Unit of Issue	Unit Price ($)	Total Cost ($, Inc. disc)
1	CONSTRUCTION OF HSOB FIRE ALARM	Total : 1.00	EA	$	$
	Description: Provide all labor and materials for the construction of a new fire alarm system in the Hart Senate Office Building, as per the attached specifications.				

Lump-Sum Price for Base $

For purposes of evaluation and negotiation of future additions or deletions of work, the Offeror shall return a copy of Section 01270 - Unit Prices of the Specifications complete with unit prices input for each item under para 3.2.

General Conditions

52.211-12

Liquidated Damages--Construction (Sept 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of $2,000.00 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.223-3 Alt I

Hazardous Material Identification and Material Safety Data (Jan 1997) - Alternate I (July 1995)

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard
No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous
material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item

Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, list None)	Identification No.

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered
under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the
requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph
(b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is
the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete
or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit
the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility
or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes,

ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with paragraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in paragraph (i)(2), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in paragraph (b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.

(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS's in or on each shipping container. If affixed to the outside of each container, the MSDS's must be placed in a weather resistant envelope.

(End of clause)

52.225-9

Buy American Act--Construction Materials (Jan 2005)

(a) *Definitions*. As used in this clause--

"Component" means an article, material, or supply incorporated directly into a construction material.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

"Cost of components" means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

"Domestic construction material" means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

"Foreign construction material" means a construction material other than a domestic construction material.

"United States" means the 50 States, the District of Columbia, and outlying areas.

(b) *Domestic preference.*

(1) This clause implements the Buy American Act (41 U.S.C. 10a - 10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:

None

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) *Request for determination of inapplicability of the Buy American Act.*

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data*. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

FOREIGN AND DOMESTIC CONSTRUCTION MATERIALS PRICE COMPARISON

Construction Material Description	Unit of Measure	Quantity	Price (Dollars)*
Item 1:	--	--	--
Foreign Construction Material			
Domestic Construction Material			
Item 2:	--	--	--
Foreign Construction Material			
Domestic Construction Material			

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]
[Include other applicable supporting information.]
[Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]*

(End of clause)

52.236-5

Material and Workmanship (Apr 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

52.236-9

Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements (Apr 1984)

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

directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site, and (2) 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.

(End of clause)

52.243-7

52.243-7 NOTIFICATION OF CHANGES (APR 1984)

(a) *Definitions*. "Contracting Officer," as used in this clause, does not include any representative of the Contracting Officer.

"Specifically authorized representative (SAR)," as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) *Notice*. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing, within 10 (to be negotiated) calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

(1) The date, nature, and circumstances of the conduct regarded as a change;
(2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;
(3) The identification of any documents and the substance of any oral communication involved in such conduct;
(4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;
(5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--

(i) What contract line items have been or may be affected by the alleged change;
(ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;
(iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;
(iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and

(6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.

(c) *Continued performance*. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders and similar actions of the SAR shall be reduced to writing and copies furnished to the Contractor and to the Contracting Officer. The Contracting Officer shall countermand any action which exceeds the authority of the SAR.

(d) *Government response*. The Contracting Officer shall promptly, within 15 (to be negotiated) calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer shall either--

(1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;
(2) Countermand any communication regarded as a change;
(3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or
(4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the Government will respond.

(e) *Equitable adjustments*. (1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the

Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made--

(i) In the contract price or delivery schedule or both; and
(ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

NOTE: The phrases "contract price" and "cost" wherever they appear in the clause, may be appropriately modified to apply to cost-reimbursement or incentive contracts, or to combinations thereof.

(End of clause)

AOC52.202-2

Definitions - Construction (Jun 2004)

(a) The term Government means the United States of America, represented by the Architect of the Capitol, who is the Contracting Officer.

(b) The term head of the agency means the Committee, Commission, or other authority of the Legislative Branch of the Government having final jurisdiction or supervision over the work involved. The other authority as used in this paragraph includes the Architect of the Capitol in cases in which he has final jurisdiction or supervision over the work involved.

(c) The term Architect as used in the contract documents shall mean the Architect of the Capitol.

(d) The term Contracting Officer as used in the contract documents means the Architect of the Capitol or his duly authorized representative.

(e) The term his duly authorized representative means any person or persons or board authorized to act for the head of the agency within the scope of their authority.

(f) The term Contractor means the individual, partnership or corporation entering into a contract with the Government to perform the work specified.

(g) The term Subcontractor , as used in this part, means any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime contractor or other subcontractor. There is no privity of contract between the Government and the Subcontractors.

(h) The term Project Director means the individual designated by the Architect to monitor the progress of work from a technical standpoint. The duties and responsibilities of the Project Director shall include supervision of scheduling, receipt and verification of Contractor s payrolls in accordance with the Davis Bacon Act, coordination between Divisions, concerning resolution and/or avoidance of potential problems and, to the extent authorized by the Delegation of Authority, if any, issuance of clarifications, supplemental agreements and change orders to the Contractor.

(i) The term contract documents includes, collectively, the Project Manual, the contract drawings and the addenda and modifications thereto, if any.

(j) The term work includes, but is not limited to, materials, labor, and manufacture and fabrication of components.

(k) The term specifications means the portion of the Contract Documents that consist of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

(l) The term drawings means the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, that show the design, location and dimensions of the Work, and generally includes plans, elevations, sections, details, schedules and diagrams.

(m) Wherever in the specifications or upon the drawings the word directed, required, ordered, designated, prescribed, or words of like import are used, it shall be understood that the direction, requirement, order, designation, or prescription, of the Contracting Officer is

intended and similarly the words approved, acceptable, satisfactory, or words of like import shall mean approved by or acceptable to, or satisfactory to the Contracting Officer, unless otherwise expressly stated.

(n) Where as shown, as indicated, as detailed, or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word provided as used herein shall be understood to mean provide complete in place, that is furnished and installed.

(End of clause)

AOC52.203-1

Advertising/Promotional Materials (Dec 2005)

(a) It is the policy of the Congress to discourage contractors providing services and supplies to the Legislative Branch entities, including the Architect of the Capitol, from advertising practices that feature the Capitol and Capitol Complex in a manner in which conveys, or is reasonably calculated to convey, a false impression of sponsorship, approval or endorsement of any product or service by the Congress, the Government of the United States, or any Department, Agency or instrumentality thereof.

(b) Contractors performing construction services for Legislative Branch entities, including the Architect of the Capitol, are discouraged from capitalizing on their contractual relationships with such entities and shall not engage in advertising practices which convey, or are reasonably calculated to convey, a false impression of sponsorship, approval or endorsement of any product or service by the Congress, the Government of the United States, of any Department, Agency or instrumentality thereof. This includes utilizing, in conjunction with the fact of their contractual relationship, images of the Capitol, any other buildings in the Capitol Complex, or any part of the United States Capitol Grounds in their advertising or promotional materials; and/or publishing or disseminating the aforementioned advertising or promotional materials.

(c) The Contractor, by signing this contract, agrees to comply with the foregoing and to submit any proposed advertising or promotional copy connected in any manner with this contract and/or the Capitol, other Capitol Complex Buildings, or the United States Capitol Grounds to the Contracting Officer for approval prior to publication.

(d) If this solicitation is for supplies or services, including construction, to be provided to or performed for the United States Supreme Court, the Contractor, by signing this contract, agrees that he or she will not advertise the award of the contract in his/her commercial advertising in such a manner as to state or imply that the Supreme Court of the United States endorses a product, project, or commercial line of endeavor.

(End of clause)

AOC52.203-2

Disclosure of Information to the General Public (Jun 2004)

(a) Promptly after receiving any request from the general public for information on or data derived from this contract, the contractor shall notify the Architect of the Capitol, Procurement Division. The contractor shall cooperate with the Procurement Division in compiling or collecting information or data if the Architect of the Capitol determines the information or data to be releasable.

(b) General public, for purposes of this clause, are those groups or individuals who are not authorized by law or regulation to have access.

(c) This clause is not intended to prevent the contractor from providing contract information or data which the contractor is required to provide in order to conduct its business, such as insurance, banking, subcontracting.

(d) The contractor is permitted to request that proprietary information or data not be released if such release would harm or impair the contractor in conducting its normal business. Such request must be documented with clear and specific grounds for that claim.

(End of clause)

AOC52.204-1

Printed or Copied Double-sided on Recycled Paper (Jun 2004)

The Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied doubled-sided on recycled paper and meet minimum content standards when not using electronic commerce methods to submit information or data to the Government.

(End of clause)

AOC52.204-4

AOC52.204-4 Personal Identity Verification of Contractor Personnel (Jun 2007)

By entering into this contract, the Contractor agrees to comply with all Federal laws that apply to the Contractor's activities, including but not limited to the U.S. Citizenship and Immigration Services' requirement to maintain a signed copy of I-9 Employment Eligibility Verification for each employee in accordance with 8 U.S.C. 1324(a).

(End of clause)

AOC52.211-3

Deficiencies in Contract Documents (Jun 2004)

The Contractor shall promptly inform the Contracting Officer, in writing, of any discovered errors, omissions, discrepancies, conflicts or ambiguities in the contract documents before proceeding with any work affected by such factors. Failure to do so will be at the risk of the Contractor.

(End of clause)

AOC52.215-10

Examination of Records (Jun 2004)

(a) The Contractor agrees that the Architect of the Capitol or any duly authorized representatives shall, until the expiration of 3 years after final payment under this contract, have access to and the right to examine any books, accounting procedures and practices documents, papers, records and other data regardless of whether such items are in written form, in the form of computer data or in any other form and other supporting evidence, involving transactions related to this contract or compliance with any clause or certification thereunder.

(b) The Contractor further agrees to include in all its subcontracts hereunder a provision to the effect that subcontractor agrees that the Architect of the Capitol or any authorized representatives shall, until the expiration of 3 years after final payment under the subcontract, have access to and the right to examine books, documents, papers, records other data regardless of whether such items are in written form, in the form of computer data or in any other form, and other supporting evidence, involving transactions related to the subcontract or compliance with any clause or certification thereunder.

(c) The term subcontract as used in this clause excludes purchase orders not exceeding $10,000.

(End of clause)

AOC52.215-11

Audits (Jun 2004)

(a) If the price of this contract is changed through the operation of any of the provisions of this contract, the Contractor, within such reasonable time as the Contracting Officer may direct, shall submit complete and accurate cost and pricing data in support of any claim asserted under such provisions.

(b) With the submission of cost and pricing data the Contractor shall supply the following certification by a duly authorized corporate officer, partner, or owner, as applicable:

"This is to certify that, to the best of my knowledge and belief, the cost and pricing data herewith submitted to the Contracting Officer in support of a price adjustment under Supplement/Claim No. for _____ (identify by description) are accurate and complete and they are current as of _____ (date).
Date of Execution _____
Firm _____
Signature_____
Title_____"

(c) The Contracting Officer in accordance with the FAR clause Audit and Records - Negotiation , 52.215-2, has the right to examine all books, records, documents and other data of the Contractor or subcontractor in order to evaluate the accuracy, completeness, and currency of cost or pricing data thus submitted. The Contractor shall insert an appropriate provision in all subcontracts for the purpose of making the requirements of this paragraph applicable thereto.

(End of clause)

AOC52.219-1

Utilization of Small Business Concerns (Aug 2004)

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with all types of small business concerns as determined by the size standards in 13 CFR 121.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to all types of small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

(End of clause)

AOC52.222-3

Convict Labor (Jun 2004)

In connection with the performance of work under this contract the Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, approved September 10, 1965, 18 U.S.C. 4082(c)(2).

(End of clause)

AOC52.222-4

Overtime Work (Aug 2004)

No extra reimbursement will be allowed for work performed outside regular working hours or on Saturdays, Sundays, or holidays and, for work performed in the District of Columbia, Presidential Inauguration Day, unless such work is authorized by the Contracting Officer; and provided such work is not otherwise required to be performed under the terms of the contract. If said authorization is verbal, with written verification thereof by signature of the Contracting Officer on the employee's weekly time record (see AOC52.232-2, Payments - Services or AOC52.232-3, Payments - Services Utilizing Time Records).

(End of clause)

AOC52.222-7

Workmen's Compensation Laws (Jun 2004)

The Contractor and his subcontractors employed on the site shall comply with the Workmen's Compensation Laws of the [District of Columbia Maryland Virginia].

(End of clause)

AOC52.223-1

Hazardous Material Identification and Material Safety Data - Supplement (Jun 2005)

(a) Except as provided in paragraph (c), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS s), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in FAR 52.223-3(b).

(b) For items shipped to consignees, the Contractor shall include a copy of the MSDS s with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS s to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.

(c) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS in or on each shipping container. If affixed to the outside of each container, the MSDS s must be placed in a weather resistant envelope.

(d) For items provided to a construction site, the contractor shall provide two copies of each MSDS. One copy shall be provided to the COTR in accordance with the Division 1 submittal requirements, and a second copy shall be kept in an MSDS binder on the job site.

(End of clause)

AOC52.223-3

Security Markings (Jun 2004)

(a) Before dissemination to subcontractors or other personnel, all AOC drawings and electronic copies thereof shall be considered at a minimum to be sensitive but unclassified (SBU). The following statement shall be imprinted on each page of drawings:

PROPERTY OF THE UNITED STATES GOVERNMENT
COPYING, DISSEMINATING, OR DISTRIBUTING THESE DRAWINGS, PLANS OR SPECIFICATIONS TO UNAUTHORIZED USERS IS PROHIBITED
Do not remove this notice
Properly destroy documents when no longer needed

(b) The following paragraph shall be included on the cover page of the information (such as the cover page on a set of construction drawings and on the cover page of the specifications).

PROPERTY OF THE UNITED STATES GOVERNMENT
COPYING, DISSEMINATING, OR DISTRIBUTING THESE DRAWINGS, PLANS OR SPECIFICATIONS TO UNAUTHORIZED USERS IS PROHIBITED
Do not remove this notice
Properly destroy documents when no longer needed

(End of clause)

AOC52.223-4

Transmission or Posting of Drawings/Specifications (Jun 2004)

Due to security issues, the contractor is strictly prohibited from placing or transmitting drawings and specifications on the internet or modem without express permission from the Architect of the Capitol.

(End of clause)

AOC52.223-10

Affirmative Procurement of Biobased Products under Contracts for Services and Construction (Mar 2007)

(a) *Definition*. "Biobased product" (7 U.S.C. 8101(2)) means a product determined by the U.S. Department of Agriculture to be a commercial or industrial product (other than food or feed) that is composed, in whole or in significnt part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials.

(b) In the performance of this contract, the contractor shall make maximum use of biobased products that are USDA-designated items unless the product cannot be acquired --

(1) Competitively within a time frame providing for compliance with the contract performance schedule;

(2) Meeting contract performance requirements; or

(3) At a reasonable price.

(c) Information about this requirement and these products is available at http://www.biobased.oce.usda.gov/.

(End of clause)

AOC52.225-1

Buy American Act - Supplement (Jun 2004)

In addition to provisions of the above clause entitled, Buy American Act, the General Provisions of the Legislative Branch Appropriations Act provides in part, as follows:

(a) It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available in the Act should be American-made.

(b) In providing financial assistance to or entering into any contract with, any entity using funds made available in the Act, the head of each Federal Agency, to the greatest extent practicable, shall provide to such entity a notice describing the statement made in Paragraph (a) above, by the Congress.

(End of clause)

AOC52.228-2

Insurance - Work on a Government Installation (Jul 2005)

(a) The Contractor shall, at his own expense, provide and maintain during the entire performance of this contract at least the kinds and minimum amounts of insurance as required in this clause.

(b) Within twenty (20) calendar days after the date of contract award or before commencing work under this contract, whichever is earlier, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. A Certificate of Insurance evidencing the Contractor's compliance with the requirements of this clause, identifying all policies of insurance and sureties proposed for the provision of liability coverage pertinent to the work of the instant contract, including the endorsement required in this paragraph, and manually countersigned by an authorized representative of the insurance company shall be submitted in accordance with the time frame stated in this paragraph. All policies for liability protection, bodily injury, or property damage shall include the United States of America, acting by and through the Architect of the Capitol, as an additional insured with respect to operations under this contract. Each policy of insurance shall contain the following endorsement, which may be attached as a rider:

"It is understood and agreed that the Contractor's Insurance Company or surety shall notify the Architect of the Capitol, in writing, thirty (30) calendar days in advance of the effective date of any reduction in or cancellation of this policy."

(c) Insurance and required minimum liability limits are:

(1) Appropriate bodily injury and property damage liability insurance, with limits of not less than $500,000 for each occurrence and $2,000,000 for annual aggregate, including requirements for protection of hoisting and scaffolding operations, when applicable, and servicing areas adjacent to the building;

(2) Automobile bodily injury liability insurance with limits of not less than $200,000 for each person and $500,000 for each accident, and property liability insurance, with a limit of not less than $20,000 for each accident. A combined single limit for these coverages is acceptable; and/or

(3) Workmen's compensation insurance as required by the laws of (1) the District of Columbia for work performed on a Government site located in the District of Columbia; (2) the State of Maryland for work performed on a Government site located in Maryland; or (3) the Commonwealth of Virginia for work performed on a Government site located in Virginia.

(d) The Contractor shall insert the substance of this clause, including this paragraph, in subcontracts under this contract that require work on a Government installation, and shall require subcontractors to provide and maintain the insurance required in this clause. The Contractor shall maintain a copy of all subcontractors proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

(End of clause)

AOC52.228-4

Indemnification and Hold Harmless Agreement (Jun 2004)

The Contractor agrees to indemnify and hold the Government harmless against any and all claims for damages to persons or property from any cause or causes whatsoever arising out of the performance of services covered by the contract; including, but not limited to, errors, omissions or negligent acts of the Contractor, but excluding active negligence of the Government, and against any and all costs, expenses, attorney's fees, and liability incurred by the Government in defending against such claims, whether the same proceed to judgement or not. In the prosecution of any successful claim or suit by the Government for the enforcement of this contract, the Contractor shall reimburse the Government for any reasonable attorney's fees and costs of claim or suit incurred by the Government.

(End of clause)

AOC52.228-5

AOC52.228-5 Payment Protection and Performance Bonds - Construction (Dec 2006)

(a) Payment protection and performance bonds. (1) For a new definitive contract (one containing no provisions for issuance of task orders) or purchase order, payment protection and performance bonds, if required, shall be provided by the contractor after notice of award of the contract.

(2) For indefinite-delivery contracts, the contractor has the option of providing --

(i) Payment protection and performance bonds for the total estimated amount of the contract within the time frame as specified elsewhere in the contract; or

(ii) Payment protection and performance bonds upon the issuance of each task order under the contract and as determined by the value of the instant task order within the time frame as specified elsewhere for the instant task order.

(b) Required bonds. (1) A performance bond is not required if the original contract, purchase order, or task order amount is $100,000 or less.

(2) A performance bond (Standard Form 25) is required if the original contract, purchase order, or task order amount exceeds $100,000. The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract, purchase order, or task order amount.

(3) Payment protection is not required if the original contract, purchase order, or task order amount is $30,000 or less.

(4) Payment protection is required if the original contract, purchase order, or task order is greater than $30,000. The penal amount of payment protection at the time of award shall be 100 percent of the original contract, purchase order, or task order amount. See FAR 52.228-13, Alternative Payment Protections, for the types of acceptable payment protection.

(c) Irrevocable letter of credit. If an irrevocable letter of credit is used, FAR 52.228-14, Irrevocable Letter of Credit, is applicable and can be found at http://www.arnet.gov/far/index.html.

(d) Additional bond protection. (1) The Government may require additional performance and payment bond protecction if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(2) The Government may secure the additional protection by directing the Contractor to increase the penal amount of hte existing bonds or to obtain an additional bond.

(e) Furnishing executed bonds. The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified elsewhere in the contract or order or prior to commencing work, whichever is sooner.

(f) Surety or other security for bonds. The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, or by other acceptable security such as postal money order, certified check, cashier s check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 3700 East West Highway Room 6F01, Hyattsville MD 20782 or via the internet at http://www.fms.treas.gov/c570.

(g) Notice of subcontractor waiver of protection (40 U.S.C. 270 b(c). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(h) Upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

AOC52.228-6

Notice to Sureties (Jun 2004)

The final inspection and acceptance of the work included in this contract shall not be binding or conclusive upon the Government if it shall subsequently appear that the Contractor has willfully or fraudulently, or through collusion with the representatives of the Government in charge of the work, supplied inferior material or workmanship, or has departed from the terms of the contract, or if defects of any kind should develop during the period that the guarantees covering such material and workmanship are in force. In such event, the Government shall have the right, notwithstanding such final acceptance and payment, to have the work removed and to cause the work to be properly performed and satisfactory material supplied to such extent as, in the opinion of the Contracting Officer, may be necessary to finish the work in accordance with the drawings, if any, and specifications, at the expense of the Contractor and the sureties on its bond, and the Government shall have the right to recover against the Contractor and its sureties the cost of such work, together with such other damages as the Government may suffer because of the default of the Contractor in the premises, the same as though such acceptance and final payment had not been made.

(End of clause)

AOC52.232-4

Payments - Construction (Sep 2005)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, or estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor s request for progress payments shall including the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested;

(ii) A listing of the amount included for work performed by each subcontractor under the contract;

(iii) A listing of the total amount of each subcontract under the contract;

(iv) A list of the amounts previously paid to each such subcontractor under the contract; and

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete Paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification.

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor s performance.
(Name)_____
(Title) _____
(Date) _____

(d) Retainage. In making such progress payments, there shall be retained 10 percent of the estimated amount until final completion and acceptance of all work required by the contract. However, if the Contracting Officer, at any time after 50 percent of the work has been completed, finds that satisfactory progress is being made, he may authorize any of the remaining partial payments to be made in full. Also, whenever the work is substantially complete, the Contracting Officer, if he considers the amount to be retained to be in excess of the amount adequate for the protection of the Government, at his discretion, may release to the Contractor all or a portion of such excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefore without retention of a percentage. Retainage under any contract action awarded by the Architect functioning in the capacity as a Contracting Officer for the agency shall be released by the Architect rather than an administrative Contracting Officer.

(e) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment,

become the sole property of the Government, but this shall not be construed as--

(1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(f) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor s claims to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(g) Invoices shall be issued monthly as defined in Paragraph (b) in which services are performed by the Contractor. Properly certified invoices shall be FAXED to the Architect of the Capitol, Accounting Division at (202) 226-2580. Information concerning requirements for payment requisitions must be secured by telephoning the Accounting Officer at (202) 226 2552. Payment will be made on a monthly basis. To assist the AOC in making timely payments, the Contractor is requested to furnish the following additional information on the invoice:

(1) Contract Number;

(2) Name and address of Contractor;

(3) Invoice Date;

(4) Period the payment covers; and

(5) Amount by line item as identified in the Schedule.

(h) Each invoice shall be in accordance with the SCHEDULE OF SUPPLIES OR SERVICES AND PRICES/COSTS FOR CONSTRUCTION completed during the payment period. The Contractor shall keep accurate time records for each of his personnel employed in the work, and information copies of the Contractor's time records (payrolls) shall be submitted with each invoice for payment. Original certified copies of Contractor s payrolls shall have been submitted weekly in arrears to the Contracting Officer in accordance with the Davis Bacon Act.

(i) Payments will be made directly to your financial institution through Direct Deposit/Electronic Funds Transfer (DD/EFT). The Contractor s attention is directed to the requirements of AOC52.232-6, Payment By Electronic Funds Transfer - Other than Central Contractor Registration.

(End of clause)

AOC52.232-6

Payment by Electronic Funds Transfer - Other than Central Contractor Registration (Jun 2004)

(a) Method of payment.

(1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT) except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the contractor agrees to either

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to delay payment until such time as the Government makes payment by EFT (but see paragraph (d)).

(b) Mandatory submission of Contractor s EFT information. (1) The Contractor is required to provide the Government with the information required to make payment by EFT (see paragraph (i) of this clause). The contractor shall provide this information directly to the office designated in paragraph (k) to receive that information (hereafter: "designated office") by three working days after notification of contract award. If not otherwise specified in this contract, the payment office is the designated office for receipt of the

contractor s EFT information. If more than one designated office is named for the contract, the contractor shall provide a separate notice to each office. In the event that the EFT information changes, the contractor shall be responsible for providing the updated information to the designated office(s).

(2) If the contractor provides EFT information applicable to multiple contracts, the contractor shall specifically state the applicability of this EFT information in terms acceptable to the designated office. However, EFT information supplied to a designated office shall be applicable only to contracts that identify that designated office as the office to receive EFT information for that contract.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment.

(1) Notwithstanding the provisions of any other clause of this contract, the Government is not required to make any payment under this contract until after receipt, by the designated payment office, of the correct EFT payment information from the Contractor. Until receipt of the correct EFT information, any invoice or contract financing request shall be deemed not to be a valid invoice.

(2) If the EFT information changes after submission of correct EFT information, the Government shall begin using the changed EFT information no later than the 30 days after its receipt by the designated office to the extent payment is made by EFT. However, the Contractor may request that no further payments be made until the changed EFT information is implemented by the payment office.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government failed to use the Contractor provided EFT information in the correct manner, the Government remains responsible for--

(i) Making a correct payment; and

(ii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because Contractor s EFT information was incorrect at the time of Government release or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment and the provisions of paragraph (d) shall apply.

(f) EFT and assignment of claims. If the contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the contractor shall require as a condition of any such assignment that the assignee shall provide the EFT information required by paragraph (i) of this clause to the designated office and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the contractor. EFT information that shows the ultimate recipient of the transfer to be other than the contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of Paragraph (d) of this clause.

(g) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information provided by the contractor s financial agent.

(h) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address in the contract.

(i) EFT Information. The contractor shall provide the following information to the designated payment office. The contractor may supply this data for this or multiple contracts (see paragraph (b) of this clause). The Contractor shall designate a single financial agent per contract capable of receiving and processing the EFT information using the EFT methods described in paragraph (c) of this clause. The information required is as follows:

(1) The contract number;

(2) The contractor s name and remittance address as stated in the contract(s);

(3) The signature (manual or electronic, as appropriate), title, and telephone number of the contractor s official authorized to provide this information;

(4) The name, address, and 9 digit Routing Transit Number of the contractor s financial agent; and

(5) The contractor s account number and the type of account (checking, saving or lockbox).

(j) The Contractor shall send all EFT information, and any changes to EFT information to the office designated in paragraph (k) of this clause. The Contractor shall not send EFT information to the payment office, or any other office than that designated in paragraph (k). The Government need not use any EFT information sent to any office other than that designated in paragraph (k).

(k) Designated office:

Name:
Architect of the Capital
Accounting Division
Mailing Address:
2nd and D Streets SW
Ford House Office Building
Washington, DC 20515

Telephone:
(202) 226-2552
Facsimile:
(202) 225-7321

(End of clause)

AOC52.232-9

Payment of Interest on Contractor Claims (Jun 2004)

(a) If an appeal is filed by the Contractor from a final decision of the Contracting Officer under the Disputes paragraph of this contract, denying a claim arising under the contract, simple interest on the amount of the claim finally determined owed by the Government shall be payable to the Contractor. Such interest shall be at the rate determined by the Secretary of the Treasury pursuant to Public Law 92 41, 85 Stat. 97, from the date the Contractor furnishes to the Contracting Officer his written appeal under the Disputes paragraph of this contract, to the date of (1) a final judgement by a court of competent jurisdiction, or (2) mailing to the Contractor of a change order, or a supplemental agreement for execution either confirming completed negotiations between the parties or carrying out a decision of a contract appeals board.

(b) Notwithstanding Paragraph (a) above, (1) interest shall be applied only from the date payment was due, if such date is later than the filing of appeal, and (2) interest shall not be paid for any period of time that the Contracting Officer determines the Contractor has unduly delayed in pursuing his remedies before a board of contract appeals or a court of competent jurisdiction.

(End of clause)

AOC52.232-12

Assignment - Supplement (Sep 2004)

Neither the contract nor any interest therein shall be assigned. However, moneys due or to become due under the contract may be assigned in accordance with the provisions of FAR clause 52.232-23 (ASSIGNMENT OF CLAIMS) as incorporated by reference in Section I.

(End of clause)

AOC52.233-1

Disputes (Jun 2004)

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days

from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the head of the agency involved. The decision of the head of the agency or his duly authorized representative for the determination of such appeals shall be final and conclusive. This provision shall not be pleaded in any suit involving a question of fact arising under this contract as limiting judicial review of any such decision to cases where fraud by such official or his representative or board is alleged; provided, however, that any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this paragraph, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This paragraph does not preclude consideration of questions of law in connection with decisions provided for in Paragraph (a) above. Nothing in this contract, however, shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

(End of clause)

AOC52.233-2

Claims for Equitable Adjustments - Waiver and Release of Claims (Jun 2004)

(a) Whenever the Contractor submits a claim for equitable adjustment under any paragraph of this contract which provides for equitable adjustment of the contract, such claim shall include all types of adjustments in the total amounts to which the paragraph entitles the Contractor, including but not limited to adjustments arising out of delays or disruptions or both caused by such change. Except as the parties may otherwise expressly agree, the Contractor shall be deemed to have waived (1) any adjustments to which it otherwise might be entitled under the paragraph where such claims fail to request such adjustments, and (2) any increase in the amount of equitable adjustments additional to those requested in its claim.

(b) Further, the Contractor agrees that, if required by the Contracting Officer, he will execute a release, in form and substance satisfactory to the Contracting Officer, as part of the supplemental agreement setting forth the aforesaid equitable adjustment, and that such release shall discharge the Government, its officers, agents and employees, from any further claims, including but not limited to further claims arising out of delays or disruptions or both, caused by the aforesaid change.

(End of clause)

AOC52.233-3

Limitation on Damages for Delay (Jun 2004)

(a) The Architect shall not be obligated or liable to the Contractor for, and the Contractor hereby expressly waives any claims against the Architect on account of any damages, of any nature whatsoever, which the Contractor, or its subcontractor at any tier may incur as a result of delays, interferences, disruptions, suspensions, changes in sequence or the like arising from or out of any act or omission of the Architect, it being understood and agreed that the Contractor's sole and exclusive remedies in such event shall be a reimbursement of direct costs necessarily incurred as a result of the foregoing causes, and an extension of the contract time, but only in accordance with the provisions of the Contract Documents.

(b) For the purposes of this clause, the term "Damages" shall include all indirect and/or impact costs which shall include, without limitation: unabsorbed Home Office Overhead (including calculations under the "Eichleay Formula"), Idle Labor and Equipment, Loss of Productivity, and Interest; the term "Damages" shall not include on-site direct costs, which shall include direct labor (superintendence, labor, time-keeping, and clerical work) direct materials and supplies (including material handling), direct equipment, restoration and cleanup, overhead and profit (but only as permitted under the clauses Changes and Changes - Supplement, taxes, insurance, and bonding costs, which will be calculated in accordance with the clauses Changes and Changes - Supplement. Provided, however, that the accounting practice of treating these costs as "direct" shall be in accordance with

(1) The Contractor's established and consistently followed cost accounting practices for all work; and

(2) FAR Cost Accounting Cost Principles and Procedures (FAR Part 31).

(c) To the extent that any other provision of this contract provides for the payment of damages, as defined in this clause, to the Contractor and is thus inconsistent with the provisions of this clause, such other provision will be superseded hereby with respect to the issue of damages.

(End of clause)

AOC52.236-1

Access to Work (Jun 2004)

(a) The Contracting Officer or his representative may visit and inspect the Contractor's plant, without advance notice, at any time during the course of this contract, and he shall be granted every available assistance to facilitate such inspection.

(b) The Contracting Officer and proper members of his staff shall at all times have access to the work, and the Contractor shall provide proper and safe facilities for such access and for inspection.

(End of clause)

AOC52.236-2

Other Contracts and Work (Jun 2004)

(a) The Contractor shall fully inform himself as to conditions relating to construction and labor under which other work, if any, is being performed, or is to be performed, by or for the Government, by contract or otherwise, where such work may affect or be affected by, operations under this Contract.

(b) Notwithstanding the performance by other parties of work at the site during performance of this contract, the Contractor shall prosecute the work diligently and continuously, and he shall cooperate in every way with such other parties. The Contractor shall give such other parties, to the extent their work is affected by his work, all information necessary for the proper execution of their work, without delay. The Contractor shall so arrange and conduct his work that other parties may complete their work at the site according to schedule. All other work under the instant contract shall be carefully coordinated with work under such other contracts.

(End of clause)

AOC52.236-3

Accident Prevention and Safety and Health Programs - Construction (Sep 2004)

(a) The Contractor shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others and comply with the safety and health standards published in 41 C.F.R. Part 50-205, including any matters incorporated by reference therein. He shall also be responsible for all materials delivered and work performed until completion and final acceptance of the entire contract work, except for any completed unit thereof which theretofore may have been finally accepted.

(b) Williams-Steiger Occupational Safety and Health Act. The Contractor shall also comply in all aspects of the job with the regulations issued by the Secretary of Labor pursuant to the Williams-Steiger Occupational Safety and Health Act of 1970, as set forth in Title 29 of the Code of Federal Regulations. The Contractor shall bring to the attention of the Architect any work encountered which may involve entry into a suspected confined space as defined by OSHA. A determination will be made by the Architect, and if the area is deemed a permit required confined space, additional protective measures will be needed, per OSHA requirements.

(c) National Fire Protection Association standards. The Contractor shall comply with all applicable standards of the National Fire Protection Association relative to fire prevention, except to the extent that more exacting requirements are specified or imposed by the Contracting Officer. The Contractor shall keep and properly maintain fire prevention devices at the job site and shall take all possible precautions deemed necessary by the Government representative in charge of the work.

(d) Protection of property and persons. (1) The Contractor shall protect all of his material and work at the site, whether incorporated in the work or not, against damage or loss from any cause, and he shall take all necessary precautions against damage to all other work and material on the site. He shall provide and maintain necessary safeguards for protection of his employees, Government employees and the public generally, and he shall take all other proper precautions for their protection against injury. He shall comply with all directives and regulations of the Contracting Officer and other proper authorities relative to the use of public property.

(2) The Contractor shall protect all electric, telephone, computer facilities, water, gas, sewer, steam and other underground utility lines, in sidewalks, streets or other areas in, under or around the site, to the satisfaction of the Contracting Officer, the Government of the District of Columbia, and all other authorities having jurisdiction.

(3) The performance of work at the site by other parties shall not relieve the Contractor from any liability for loss or damage or from his obligations under this contract. No agreement or arrangement between the Contractor and others as to a division or proportionate share of liability for loss or damage incurred, or of the cost of insurance, shall in any way relieve the Contractor of such liability or his obligations under this contract.

(e) The Contractor shall comply with the requirements of FAR 52.236.13, Accident Prevention. In the event that conditions on the site pose an imminent danger or threat to the Contractor s workers, the public, Government employees, other persons, or to Capitol complex structures and property of historical significance, the Contracting Officer can verbally order the Contractor to suspend work operations in the specified area until said conditions are corrected to the Contracting Officer s satisfaction. The Contracting Officer

shall promptly issue a written order to suspend the work to the Contractor formalizing the specifics of the verbal suspension of work.

(f) The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(End of clause)

AOC52.236-4

Cutting and Patching (Jun 2004)

Prior to initiation of the work operations of either cutting or patching, as a necessary requirement of the work under this contract, of any structural component or of lintels, stair systems, piping, duct work, vessels, equipment and like items in the building, the Contractor shall consult with the Contracting Officer and follow explicitly his directions and stated requirements concerning methods, materials, the manner in which the work is performed, and the level of competence and skill possessed by Contractor's employees, or those of subcontractors, who are proposed to be employed in said cutting and/or patching operations.

(End of clause)

AOC52.236-5

Cleaning and Restoring (Jun 2004)

(a) The contractor shall remove dirt and debris resulting from the operations under this contract daily.

(b) The Contractor shall, as a condition precedent to the final acceptance of the work, remove from the site of the work all remaining plant, installations, temporary barricades, temporary facilities, equipment, tools, materials, refuse, rubbish and waste, used or accumulated in connection with, but not incorporated in, the work, unless otherwise specified or directed, and he shall leave the buildings, grounds, streets, and all public places occupied by him in a thoroughly clean, neat and satisfactory condition.

(End of clause)

AOC52.236-8

Scheduling of Work (Aug 2004)

(a) The Contractor shall, before commencing work on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of partial payments until the Contractor submits the required schedule.

(b) The Contractor shall furnish sufficient forces, construction plant and equipment, and shall work such hours as necessary to insure prosecution of work in accordance with the approved schedule. If, in the opinion of the Contracting Officer, the Contractor falls behind in the scheduled progress, the Contractor shall take such steps as may be necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained. The provisions of this subparagraph shall not be construed as prohibiting work on Saturdays, Sundays and holidays and, for work performed in the District of Columbia, Presidential Inauguration Day, if the Contractor so elects and if approved.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

AOC52.236-9

Schedule of Values (Jun 2004)

(a) The Contractor shall, in accordance with the requirements of the Contracting Officer, prepare and submit for approval a schedule of estimated values of all parts of the work, and shall submit such quantity breakdowns pertinent thereto as the Contracting Officer may deem necessary for the proper checking of partial payment requisitions and for other administrative purposes. The total of the schedule of values shall equal the amount of the contract. The values employed in making this schedule will be used only for determining partial payments; they will not be used as a basis for determining an increase or decrease in the contract price. The listings and subdivisions of this schedule for estimated costs and quantity breakdowns shall be as approved by the Contracting Officer.

(b) The submission and approval of the schedule of values shall be a condition precedent to the making of partial payments.

(End of clause)

AOC52.236-10

Specifications and Drawings for Construction (Feb 2007)

(a) The Contractor shall keep on the site of the work a copy of the drawings and specifications, and of approved shop drawings, product data and samples and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, or in case of discrepancy either within the figures, within the drawings, or within the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information he considers necessary, unless otherwise provided.

(b) Shop drawings means drawings submitted to the Government by the Contractor, subcontractor, any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract.

(c) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (c); and

(5) Reproduce and print contract drawings and specifications as needed.

(d) In general--

(1) Large scale drawings shall govern small scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(e) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(f) The work shall conform to the specifications and the contract drawings included as part of this contract.

(g) The Contractor shall submit to the Contracting Officer for approval shop drawings, product data and samples as required under the various sections of this Project Manual. The Contractor shall coordinate all such submittals, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings, product data, or samples submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for re-submission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such submittals, nor from responsibility for complying with the requirements of this contract, except with respect to variations

described and approved in accordance with Paragraph (d) below.

(h) If shop drawings, product data, or samples show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(i) Upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings, product data or samples delivered under this contract.

(j) The provisions of this entire paragraph shall be included in all subcontracts at any tier.

(End of clause)

AOC52.236-12

Product Data and Samples (Jun 2004)

(a) Product data shall mean information (e.g., catalog cuts, standard illustrations, drawings, performance charts, data and brochures) pertinent to a particular product, equipment or material required as a part of the work. Product data is required to establish, for the purposes of evaluation and approval, details of the product offered in response to specifications elsewhere in the contract documents. Product data pertains to significant elements such as (1) design; (2) materials; (3) components; (4) performance characteristics; and (5) methods of manufacture, assembly, construction, or operation. The term includes, in addition to the above, the manufacturer's standard printed recommendations for application and use, compliance with recognized standards of trade associations and testing agencies, and the application of their labels and seals (if any).

(b) Samples are physical examples of materials, equipment or workmanship that will be used by the Contracting Officer to establish standards by which the work will be judged.

(c) Samples not subject to destructive tests may be retained by the Contracting Officer until completion of the work; they will then be returned to the Contractor, at his own expense, if he so requests in writing.

(End of clause)

AOC52.243-1

Changes - Supplement (Jun 2004)

(a) Definitions.

(1) A change order is a unilateral contract modification, signed by the Contracting Officer, which describes and identifies a particular change in the requirements as permitted by the FAR clause, 52.243-4, Changes and authorizes the contractor to begin performance with the changed requirements. The change order may reference pertinent oral or written directives, provide an adjustment to the contract price and/or time for performance, and direct the contractor to submit a proposal for definitization of the change order.

(2) A supplemental agreement is a bilateral contract modification, signed by the contractor and the Contracting Officer, which either authorizes the contractor to begin performance with the changed requirements in accordance with the equitable adjustment agreed to prior to commencement of performance of the changed requirements or definitizes a change order after agreement of an equitable adjustment to the contract.

(3) Request for Proposal. A request by the Contracting Officer or his duly authorized representative for the contractor to submit a proposal for requirements contemplated to be changed. Such proposal shall be submitted within the time limit specified in the request and in accordance with the requirements and limitations of this clause.

(b) Authorization of changes. All changes to contract requirements will be authorized in writing by the Contracting Officer through one of the following methods:

(1) A Supplemental Agreement, with the concurrence of the contractor; or

(2) A unilateral Change Order.

(c) Submission of proposals and cost breakdowns by the contractor.

(1) Proposals for changes to the contract requirements shall include a brief description of the change; a breakdown of costs as outlined hereinafter; and a time impact analysis (fragnet).

(2) In considering proposals for changes involving added requirements, omitted requirements, or any combination thereof, the Contracting Officer or his duly authorized representative will make check-estimates in such detail as he deems necessary with the view of arriving at equitable adjustments. With each proposal, the contractor shall submit separately an itemized breakdown as per "Exhibit A" hereof, which shall include, but not be limited to, the following:

(i) Direct labor costs;

(ii) Social Security and Unemployment Insurance Taxes;

(iii) Workmen's compensation and general liability insurance;

(iv) Direct material quantities and unit prices (separated into trades);

(v) Construction equipment;

(vi) Overhead; and

(vii) Profit.

(3) If the contractor believes that the change in the contract requirements affects the contract period of performance, as required by AOC52.211-5, Commencement, Prosecution, and Completion of Work, of the Supplementary Conditions, appropriate substantiation must be submitted for evaluation/review.

(4) A complete proposal, including breakdown of cost and time impact, shall be submitted by the contractor within the time frame stipulated in calendar days by the Government for each proposed change. Generally, complete proposals shall be submitted by the contractor within 7 calendar days after the contractor receives the request for proposal, although this time frame may be adjusted for more complex or more urgent requirements. Except as provided by an individual contract modification, no payment for a change order will be made until a supplemental agreement has been signed by the contractor and the Contracting Officer. If complete proposals are not received timely, the Contracting Officer, after consultation with his authorized representative, may determine the cost of the change and the time impact and issue a change order based upon this determination with the stipulation that if a supplemental agreement is not negotiated within a reasonable amount of time, this determination will be final and conclusive, subject only to the contractor's rights of appeal as provided in AOC52.233-1, Disputes, of the General Conditions.

(d) Allowances for overhead and profit.

(1) The following percentages will be allowed for overhead and profit:

(i) The contractor shall receive, as a percentage of the cost of all work performed by his own organization, an amount not to exceed 10% overhead and not to exceed 10% profit; and

(ii) If subcontractor(s) are involved in the change, a fee in an amount not to exceed 10% as a percentage of the total price of the subcontractor portion of the change.

(iii) Subcontractor(s) to the prime contractor (first tier subcontractor(s)) shall receive, as a percentage of the cost of all work performed by or for it, a total amount not to exceed 10% overhead and not to exceed 10% profit.

(iv) The percentages for fees, overhead, and profit permitted by the above shall be allowed only for the contractor and its first tier subcontractors. Percentages for fees, overhead, and profit in any amount will not be allowed for subcontractors of any other tier.

(2) Percentages for overhead allowed are deemed to include, but shall not be limited to, the following:

(i) Field Overhead Items.

(A) Trailer;

(B) Storage Facilities;

(C) Contractor's and subcontractor's superintendence;

(D) Construction equipment/tools, except those that are specially required for a specific change;

(E) Utilities;

(F) Contractor's and subcontractor's field office, administrative/support staff;

(G) Cost of preparing record drawing changes, correspondence, etc., relating to the contract;

(H) Job site safety aids; and

(I) Cleaning and maintenance of nuisance debris from jobsite.

(ii) Office Overhead Items for Contractor and Subcontractors.

(A) Maintenance/operation of principal or branch offices;

(B) Personnel costs;

(C) Cost for preparing correspondence, fragnets, etc., relating to the contract; and

(D) Cost of insurance and bonds, except for insurance costs relating to direct labor, as outlined in "Exhibit A".

(iii) For changes which include custom items unique to the project and which are fabricated off-site, the fabricator, whether the contractor or a subcontractor at any tier, shall furnish a breakdown of costs associated with the work in the fabricating plant. This breakdown shall include labor, material, equipment and overhead/plant costs in sufficient detail to allow for review by the Contracting Officer or his duly authorized representative. Costs charged to overhead/plant shall be allowable costs for the fabricator, whether he is the contractor or a subcontractor at any tier, provided that the costs claimed are consistent with the provisions of Subpart 31.203 of the Federal Acquisition Regulation (Chapter 1, Title 48, Code of Federal Regulations). An amount not to exceed 10% of the cost of the fabricated item will be allowed for the fabricator's profit. If the fabricator is a subcontractor, the overhead and profit percentages for the contractor and any subcontractor at a higher tier having a contractual relationship with the fabricator shall be allowed in accordance with this clause.

(e) Changes involving decreases in price. For changes involving only a decrease in price, the contractor and subcontractors shall return as credit for overhead and profit those same percentages which are allowed for like changes involving increases in price. On changes involving both an increase and a decrease in price, overhead and profit will be allowed only on the net increase.

(f) Changes involving increases or decreases on basis of contract specified unit prices. No percentages for overhead and profit will be added to, or deleted from, any unit prices in event of an increase or decrease in the contract requirements on the basis of contractual unit prices.

EXHIBIT A
TYPICAL FORM OF BREAKDOWN FOR PRICE ADJUSTMENT

SUBCONTRACTORS' BREAKDOWN

						Extensions		
Items Involved	Quantities	Unit Cost	Equipment	Material	Labor	Totals	Final Totals	Unit Cost
Excavation (Identify)								
* Volume								
* Crane Operator								
* Laborers								
Shoring (Identify)								
* Area								
* Welder								
Subcontractor Total								

PRIME CONTRACTOR'S BREAKDOWN

						Extensions		
Items Involved	Quantities	Unit Cost	Equipment	Material	Labor	Totals	Final Totals	Unit Cost
West Wall (Cinder Block)								
* Area								
* Block 8x8x16								
* Mortar								

Items Involved	Quantities	Unit Cost	Equipment	Material	Labor	Totals	Final Totals	Unit Cost
* Mason								
* Laborer								
Subtotal								
Prime Contractor's Total								
Prime Contractor's Overhead and Profit on Subcontractor								
Total								

(End of Clause)

AOC52.244-1

Award of Subcontracts and Other Contracts for Portions of the Work (Sep 2005)

(a) The Contractor is responsible for coordination of all work performed by its own workforce and those of its subcontractors. Each subcontractor shall be experienced in and capable of performing in a satisfactory manner all work in his speciality, and shall meet the standard of competence established for the Contractor.

(b) The Contractor shall be responsible for all acts of subcontractors employed by him under this contract, and for their compliance with all terms and provisions of the contract applicable to their performance. The Contractor shall continuously coordinate the work of all sub-contractors to assure proper processing and progress of the Work. The Contractor shall require each subcontractor to (1) examine the project schedule, shop drawings and the work of other trades and all sections of the specifications to the extent necessary for satisfactory Installation of his work, and connection between his work and the work of other trades; (2) coordinate his work accordingly; and (3) cooperate with other trades toward timely and satisfactory completion of the entire work.

(c) Organization of the specifications into sections and subsections and the arrangement of drawings shall not control the Contractor in dividing work among subcontractors or in establishing the extent of work to be performed by any trade.

(d) The Government reserves the right to require dismissal of any subcontractor who, by reason of previous unsatisfactory work on AOC projects or for any other reason, is considered by the Contracting Officer to be incompetent or otherwise objectionable for performing work under this contract.

(e) Nothing contained in the contract documents shall create any contractual relations between any subcontractor and the Government.

(End of clause)

AOC52.245-2

Government-Furnished Property (Nov 2004)

(a) For the purposes of this clause, Government-furnished property includes cell phones and telephones, personal digital assistants, computers (including laptops), electronic devices, services such as network access, tools, furnished space, storage, utilities, furnishings, equipment, and any other item or service provided by the AOC to the contractor.

(b) No AOC equipment or property can be provided under this contract unless specifically negotiated as part of the award price. If, after contract award, it becomes necessary or advisable to issue AOC property to the contractor, the contract price shall be reduced by a reasonable amount that reflects the price the contractor would pay if providing the property.

(c) The Contracting Officer s Technical Representative (COTR) for this contract is responsible for coordinating the issuance and return of Government-furnished property.

(d) Any Government-furnished property provided to the contractor for use during performance of this contract shall be issued to the contractor s representative and recorded on AOC Form 1423, AOC PROPERTY ISSUED TO CONTRACTORS. The contractor s representative shall be responsible for the ensuring the proper care and use of the Government-furnished property, whether used by the contractor representative or another contractor employee. Government-furnished property provided by the AOC can be used only for the conduct of official business on behalf of the AOC. The contractor is specifically prohibited from using AOC-furnished property for personal use or to conduct operations that benefit other Government agency contracts or other contractor activities that do not directly support AOC contracts.

(e) All information technology property that requires interface or connection to the AOC network must be provided by the AOC. The use of non-AOC IT property that requires interface or connection to the AOC network is strictly prohibited.

(f) All contractor employees who require access to the AOC network or who are issued a personal digital assistant must complete and sign the Non-disclosure Agreement for Contract Employees Conditional Access to Sensitive but Unclassified Information for The Architect of The Capitol before access will be granted. The COTR is responsible for providing the non-disclosure agreements to the AOC Office of Information Resources Management.

(g) All Government-furnished property shall be returned by the contractor to the COTR in the same condition as issued, with allowances for wear and tear that occurs with reasonable care and use. Failure to return Government-furnished property or the return of Government-furnished property that has not been properly maintained and used may result in a reduction to the contract price that reflects the market replacement value of the property or the market price to repair or restore the property to its condition when issued to the contractor.

(End of clause)

AOC52.246-1

Final Inspection and Acceptance - Construction - Supplement (Mar 2007)

(a) No inspection or other action of the Government shall be construed to constitute a final acceptance of any portion of the work under this contract until all work under the contract is completed. None of the work under the contract shall be deemed to be finally accepted until the Contractor, upon completion and final inspection of all work, is notified in writing of final acceptance of work under the contract, or in lieu thereof, until final payment of the final voucher as prescribed in AOC52.232-4, Payments - Construction. The provisions of FAR clause 52.246-12, Inspection of Construction are hereby modified by the provisions of this paragraph with respect to the finality of acceptance of any portion of the work by the Government prior to completion of all work under the contract.

(b) The Contractor shall notify the Contracting Officer, at least 10 days in advance, of the date the work will be fully complete and ready for final inspection. Any additional costs incurred by the Government due to necessary reinspection of work found not ready for final inspection upon the Contractor's notice of completion will be charged to the Contractor and deducted from the contract price.

(End of clause)

52.252-2

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

www.gsa.gov or www.arnet.gov

(End of clause)

Clauses By Reference

Clause	Title	Date
52.246-12	Inspection of Construction	11/08/2006

Clauses By Reference

Clause	Title	Date
52.222-21	Prohibition Of Segregated Facilities	11/08/2006
52.222-26	Equal Opportunity	03/22/2007
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era,	11/08/2006

Clause	Title	Date
	and Other Eligible Veterans	
52.228-2	Additional Bond Security	11/08/2006
52.228-11	Pledges Of Assets	11/08/2006
52.228-12	Prospective Subcontractor Requests for Bonds	11/08/2006
52.228-14	Irrevocable Letter of Credit	11/08/2006
52.236-26	Preconstruction Conference	11/08/2006
52.242-14	Suspension of Work	11/08/2006
52.246-21	Warranty of Construction	11/08/2006
52.203-3	Gratuities	11/08/2006
52.203-5	Covenant Against Contingent Fees	11/08/2006
52.203-6	Restrictions On Subcontractor Sales To The Government	11/08/2006
52.215-2	Audit and Records--Negotiation	11/08/2006
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	11/08/2006
52.222-6	Davis Bacon Act	11/08/2006
52.222-7	Withholding of Funds	11/08/2006
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52.222-9	Apprentices and Trainees	11/08/2006
52.222-10	Compliance with Copeland Act Requirements	11/08/2006
52.222-11	Subcontracts (Labor Standards)	11/08/2006
52.222-12	Contract Termination-Debarment	11/08/2006
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52.222-14	Disputes Concerning Labor Standards	11/08/2006
52.222-15	Certification of Eligibility	11/08/2006
52.222-27	Affirmative Action Compliance Requirements for Construction	11/08/2006
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans	11/08/2006
52.222-36	Affirmative Action For Workers With Disabilities	11/08/2006
52.223-6	Drug Free Workplace	11/08/2006
52.227-1	Authorization and Consent	11/08/2006
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52.232-23	Assignment Of Claims	11/08/2006

Clause	Title	Date
52.236-2	Differing Site Conditions	11/08/2006
52.236-3	Site Investigation and Conditions Affecting the Work	11/08/2006
52.236-6	Superintendence by the Contractor	11/08/2006
52.236-7	Permits and Responsibilities	11/08/2006
52.236-8	Other Contracts	11/08/2006
52.236-11	Use and Possession Prior to Completion	11/08/2006
52.236-13	Accident Prevention	11/08/2006
52.242-13	Bankruptcy	11/08/2006
52.243-4	Changes	11/08/2006
52.245-2	Government Property (Fixed Price Contracts)	11/08/2006
52.249-2 Alt I	Termination for Convenience of the Government (Fixed-Price) - Alternate I	11/08/2006
52.249-10	Default (Fixed-Price Construction)	11/08/2006

Supplementary Conditions

AOC52.201-1

Contracting Officers Authority (Jun 2004)

The Contracting Officer is the only person authorized to make or approve any changes in any of the requirements of this contract, notwithstanding any provision contained elsewhere in this contract. In the event that the Contractor makes any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority and no adjustment will be made in the contract price to cover any increase in costs incurred as a result thereof.

(End of clause)

AOC52.201-2

Contracting Officers Technical Representative (COTR) (Mar 2005)

The Government shall provide the name, address and telephone number of the COTR at the time of contract award and the duties thereby delegated to that person. Any subsequent change to the individual or the individual s responsibilities will be confirmed in writing by the Contracting Officer. In no instance will the COTR be delegated authority to order any change in the contractor s performance which would affect (a) cost or schedule for contracts for services or supplies, or (b) scope, the completion date for intermediate phases or milestones, or overall completion date for contracts for construction.

(End of clause)

AOC52.211-1

KEY PERSONNEL (Apr 2007)

(a) The Contractor shall assign to this contract the following key personnel as proposed in the Contractor's technical proposal:

Name: _____

Title: _____ Telephone No._____

Name:_____

Title: _____ Telephone No._____

Name:_____

Title:_____ Telephone No. _____

(b) During the first ninety (90) days of performance, the Contractor shall make no substitutions of key personnel unless the substitution is necessitated by illness, death, or termination of employment. The Contractor shall notify the Contracting Officer within 15 calendar days after the occurrence of any of these events and provide the information required by Paragraph (c) below. After the initial 90-day period, the Contractor shall submit the information required by Paragraph (c) to the Contracting Officer at least 15 calendar days prior to making any permanent substitutions.

(c) The Contractor shall provide a detailed explanation of the circumstances necessitating the proposed substitutions, complete resumes for the proposed substitutions, and any additional information requested by the Contracting Officer. Proposed substitutes should have comparable qualifications to those of the person being replaced. The Contracting Officer will notify the Contractor within 15 calendar days after receipt of all required information of the decision on substitutions. The contract will be modified to reflect any approved changes of key personnel.

(d) The approval of substitute personnel will not be considered to be grounds for an increase in the contract price.

(e) The special security requirements in AOC52.223-5, Special Security Requirements, or AOC52.223-6, Special Security Requirements - U.S. Supreme Court, shall apply to all approved Contractor personnel substitutions.

(End of clause)

AOC52.211-5

Commencement, Prosecution and Completion of Work (Mar 2007)

(a) All work to be performed under this contract shall be completed within 1095 calendar days after the date of contract award. No work under this contract shall be performed on Saturdays, Sundays or Federal holidays and, for work performed in the District of Columbia, Presidential Inauguration Day, except with prior approval of the Contracting Officer.

(b) Time for completion of the contract work will be adjusted only in accordance with applicable clauses, e.g., Differing Site Conditions, Changes, Changes - Supplement , Suspension of Work, or other clauses, as appropriate.

(End of clause)

AOC52.223-5

Special Security Requirements - Services (Jun 2007)

(a) All vehicles, and contents, used by the Contractor or his subcontractors, which enter or leave United States Government property during performance of the work, will be subject to clearance, inspection and identification procedures conducted by the United States Capitol Police.

(b) All persons entering the Legislative Branch Buildings shall gain access to the building by passing through x-ray screening devices. In addition, all handbags and all hand-carried items shall be screened by x-ray devices prior to their entry into the building.

(c) All personnel provided by the Contractor and employed on the site of the work will be subject to a security background investigation. Each employee will be required to fill out an I.D. Request Form and U.S. Capitol Police Request for check of Criminal History Records and each employee will be photographed and fingerprinted. The Contractor shall provide any assistance required by any of its employees in completing the forms.

(d) Prior to commencement of work, the contractor and all designated on-site employees will be required, on a one-time basis, to be fingerprinted in Washington D.C. The location for the Electronic Fingerprinting Service is the U.S. Capitol Hill Police, Fairchild Building, 499 South Capitol Street SW, Washington, DC 20003.

(e) Within seven (7) calendar days after the date of contract award, the Contractor shall submit to the Contracting Officer's Technical Representative (COTR) a list of all employees proposed to be employed on this contract. This list shall include the employee's full name, date of birth and social security number.

(f) While security background investigations are in process, the Contractor's employees must not be granted access to the Capitol Hill complex to perform work or provide services for the AOC unless they are escorted by an AOC staff member. "Escorted" is defined to mean that the AOC staff member will remain with the employee(s) at all times during the performance of the work. Any of the Contractor's employees who are perceived by the Contracting Officer as a security risk as a result of evidence discovered in the background security investigation will not be issued an Identification Card, will be denied access to the site of the work, and the Contractor will be directed to remove such employee from performance of any of the contract work, whether it be on or off the work site. Any contractor employee denied access to the site of work on a contract or task/delivery order as a result of a security investigation may not apply for access to any other AOC/U.S. Supreme Court contract or task/delivery order work site.

(g) An identification card, with photograph, will be prepared for each employee of the Contractor requiring access to the site. The identification card shall be dated to indicate the period of time for which it is to remain valid - from the date the employee reports for duty until the applicable date which occurs first: the expiration of the contract, or the last date of the employee's tour of duty with the Contractor. All contractor personnel must wear the ID badge whenever on the Capitol complex premises or when attending off-site functions on behalf of the AOC. ID badges must be worn in such a manner that contractor personnel can be easily identified as such.

(h) The Contractor is fully responsible to return:

(1) The ID badge of any individual employee, including subcontractor personnel, who is removed for any reason including but not limited to illness, or dismissal;

(2) The ID badges of all contractor employees, including subcontractor personnel, whose performance under the contract is completed in advance of final contract job completion; and

(3) All outstanding ID badges issued for the contractor and its employees, including subcontractor personnel, within 24 hours of on site contract job completion.

(i) ID badges are to be hand delivered by the contractor within 24 hours of any of the events listed under (f) above to the Contracting Officer's Representative.

(j) The Contractor's failure to return any ID badge, access card, or key issued under this contract or order shall result in a deduction of $100.00 from the contract per ID badge, access card, and/or key not returned.

(End of clause)

AOC52.223-8

DELIVERY VEHICLE INSPECTION REQUIREMENTS (Apr 2007)

(a) All vehicles and contents used by the Contractor or his subcontractors which enter or leave United States Government property during performance of work under this contract will be subject to clearance, inspection, and identification procedures conducted by the United States Capitol Police.

(b) Mobile Vehicle and Cargo Inspection System (Mobile VACIS). All delivery vehicles carrying fuel, garbage, or similar cargo that cannot be offloaded for inspection and security screening shall utilize the Mobile VACIS located at Third and Pennsylvania Avenue, NW, Washington, DC, for inspection prior to making deliveries to any building within the Capitol Complex, including, but not limited to, the U.S. Capitol Building; the U.S. Botanic Garden; the Hart, Dirksen, and Russell Senate Office Buildings; the Rayburn, Longworth, Cannon, and Ford House Office Buildings; the Thomas Jefferson, John Adams, and James Madison Memorial Library of Congress buildings; the Capitol Power Plant; the Capitol Visitors Center; and the U.S. Supreme Court and Thurgood Marshall Federal Judiciary Buildings.

(c) 4700 Shepherd Parkway SW inspection facility. All other vehicles making deliveries to the above listed locations except for the U. S. Supreme Court shall utilize the off-site inspection and screening facilites at 4700 Shepherd Parkway SW, Washington, DC 20032.

(d) For all deliveries within seven calendar days or prior to the first delivery, the contractor shall provide the following information to the U.S. Capitol Police:

(1) List of drivers;

(2) Date of birth for each driver;

(3) Social Security Number of each driver;

(4) Vehicle make;

(5) Vehicle model;

(6) License tag number and state where vehicle is licensed;

(7) Color of vehicle; and

(8) Contractor name, if shown on the vehicle.

(e) Information for deliveries made through the Mobile VACIS unit must be faxed to (202) 228-4313. For verification of receipt, the contractor may call (202) 224-9728. Updates to the information for Mobile VACIS deliveries must be sent to the U.S. Capitol Police throughout the period of performance of the contract.

(f) Information for deliveries made through the Shepherd Parkway facility must be faxed to (202) 226-0571. For verification of receipt, the contractor may call (202) 226-0905. Updates to the information must be renewed April 30, August 31, and December 31 of each year and provided to the U. S. Capitol Police whenever repetitive deliveries are anticipated.

(End of clause)

AOC52.236-11

Submittals (Jun 2004)

(a) The Contractor shall deliver all required submittals within the times specified elsewhere in this contract. Unless specifically stated otherwise, four (4) sets of each item shall be delivered by the contractor to the Contracting Officer s Technical Representative. An in-depth description of these submittals can be found in the appropriate technical sections of the specification. Any Schedule of Work prepared shall reflect delivery of these items. Failure to provide timely delivery of these submittals may be considered to be grounds for termination for default.

(b) The Government will review the submittals and either approve them as submitted, or mark required changes on them. If change are required, the Contractor shall deliver revised submittals for approval by the Government which incorporate all of the required changes within two weeks after receipt by the Contractor of the marked-up submittals.

(End of clause)

AOC52.242-2

AOC52.2242-2 CONTRACTOR PERFORMANCE EVALUATIONS (DEC 2006)

At the conclusion of contract performance and/or at any point during the performance of this contract, the AOC may elect to evaluate the Contractor and submit a final or interim performance evaluation into the appropriate on-line database designated as the repository of Contractor evaluations for the Federal Government. Any evaluation submitted shall include input from the Contracting Officer's Technical Representative and other agency personnel, as appropriate, and the Contracting Officer. The Contractor shall have the opportunity to review any evaluations and submit supporting information for any differing of positions between the Contactor and the AOC in accordance with the protocol established by the specific on-line database.

(End of clause)

Representations and Certifications

52.203-2

Certificate of Independent Price Determination (Apr 1985)

(a) The offeror certifies that--

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to--

(i) Those prices;

(ii) The intention to submit an offer; or

(iii) The methods or factors used to calculate the prices offered.

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory--

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision [insert full name of person(s) in the offeror s organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror s organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) of this provision have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies paragraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

52.204-3

Taxpayer Identification (Oct 1998)

(a) *Definitions*.

"Common parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal

Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) *Taxpayer Identification Number (TIN).*

__TIN: _____.

__TIN has been applied for.

__TIN is not required because:

__Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

__Offeror is an agency or instrumentality of a foreign government;

__Offeror is an agency or instrumentality of the Federal Government.

(e) *Type of organization.*

__Sole proprietorship;

__Partnership;

__Corporate entity (not tax-exempt);

__Corporate entity (tax-exempt);

__Government entity (Federal, State, or local);

__Foreign government;

__International organization per 26 CFR 1.6049-4;

__Other _____.

(f) *Common parent.*

__Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

__Name and TIN of common parent:

Name _____.

TIN _____.

(End of provision)

52.209-5

Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters (Dec 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals--

(A) Are __ are not __ presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have __ have not __, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against

them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are __ are not __ presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror has __ has not __, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (*e.g.*, general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

AOC52.204-2

Data Universal Numbering System (Duns) Number (Jun 2004)

(a) The offeror shall enter, in the space provided below, the DUNS number that identifies the offeror s name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services.

(b) If the offeror does not have a DUNS number, it should contract Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror, if located within the United States, should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

(1) Company name,

(2) Company address;

(3) Company telephone number;

(4) Line of business;

(5) Chief executive officer/key manager;

(6) Date the company was started;

(7) Number of people employed by the company; and

(8) Company affiliation.

(c) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information

Services office from the Internet home page at http://www.customerservice@dnb.com. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@mail.dnb.com.

(d) Enter DUNS number:_____.

(End of provision)

AOC52.204-3

Representations and Certifications (Nov 2004)

The offeror shall properly execute and submit with its offer the Representations and Certifications contained herein. Insert information in spaces provided as applicable.

(End of provision)

AOC52.215-8

Authorized Negotiators (Jun 2004)

The offeror represents that following persons are authorized to negotiate on its behalf with the Government in connection with this Request for Proposal:

Name: _____ Title: _____

Telephone: _____ E-Mail: _____

Name: _____ Title: _____

Telephone: _____ E-Mail: _____

Name: _____ Title: _____

Telephone: _____ E-Mail: _____

(End of provision)

Solicitation Conditions

52.216-1

Type of Contract (Apr 1984)

The Government contemplates award of a firm fixed price contract resulting from this solicitation.

(End of provision)

AOC52.215-1

Instructions to Offerors (May 2007)

(a) Definitions. As used in this provision --

Proposal modification is a change made to a proposal before the solicitation s closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

Proposal revision is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

Time, if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays, including Presidential Inauguration Day. However, if the last day falls on a Saturday, Sunday, or legal holiday, including Presidential Inauguration Day, then the period shall include the next working day.

(b) Offerors are expected to examine the entire solicitation and all instructions. Failure to do so will be at the offeror s risk. Each offeror shall furnish the information required by the solicitation. The offeror will be held responsible for full knowledge of all information contained therein.

(c) Packaging, transmission, and tracking of proposals. (1) Proposals, modifications, and revisions shall be enclosed, in the quantities specified elsewhere in this solicitation, in sealed envelopes. [NOTE: If this solicitation is for construction services and award will be made as lowest priced technically acceptable, with each copy of the form entitled, "SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair)", the offeror shall enclose the completed Schedule page; offer guarantee, if required; and Representations and Certifications.] Address envelopes to: Architect of the Capitol, Procurement Division, Ford House Office Building, Attn: Matt Hazlinsky, Room H2-263 Bid Room, Second and D Streets, S.W., Washington, DC 20515. Offeror shall write Bid Documents Enclosed, H2-263 Bid Room, and write the solicitation number, time and date for receipt of offers on the exterior of the package on the same side as the address. Telegraphic or facsimile proposals and modifications will not be considered.

(2) Current security requirements established by the U.S. Capitol Police to screen mail being delivered to the U.S. Capitol Complex of buildings preclude the use of U. S. Postal Service by offerors to deliver their proposals submitted in response to this solicitation. In addition, because all packages must be screened for security purposes at a central location prior to their delivery, the Architect of the Capitol cannot accept packages containing offers hand carried directly to the Bid Room address within the Ford House Office Building, or any other location in the U.S. Capitol Complex of buildings. See Notice for Delivery on the front of the solicitation.

(3) To assist in tracking of proposals, offerors are requested to fax a copy of their signed Solicitation, Offer and Award form as well as a copy of the FEDEX or UPS receipt to Matt Hazlinsky to (866) 813-9541 at the time of the issuance of their proposal.

(4) The only acceptable method by which offerors can deliver their responses to this solicitation shall be via Federal Express (FEDEX) or United Parcel Service (UPS). Offers submitted via any other method will be rejected. OFFERORS - DO NOT MAIL YOUR OFFER BY REGULAR U.S. MAIL. See notice attached to this solicitation for special instructions.

(d) Submission, modification, revision, and withdrawal of proposals. (1) Offerors are responsible for submitting proposals and any modifications or revisions so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m. local time, for the designated Government office on the date that the proposal or revision is due.

(2) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is late and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would no unduly delay the acquisition, and-

(i) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals;

(ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government s control prior to the time set for receipt of proposals; or

(iii) It is the only proposal received.

(3) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(4) Acceptable evidence to establish the date of receipt at the Government installation includes the time/date stamp of that installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(5) If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the Government office designated for receipt of proposals by the exact time specified in the solicitation and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(6) Proposals may be withdrawn by written notice received at any time before award. Proposals may be withdrawn in person by an offeror or an authorized representative if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(End of provision)

AOC52.215-2

Interpretations and Amendments (Jun 2004)

(a) Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing no later than fourteen calendar days prior to the date established for receipt of offers. Oral explanations or instructions given before the award of a contract will not be binding.

(b) Prospective offerors shall request the Contracting Officer, in writing, via FAX or e-mail for an interpretation or correction of any ambiguity, inconsistency, or error in the contract documents which they may discover or which should have been discovered by a reasonably prudent offeror. Such requests or objections to materials or methods of construction shown or specified shall be directed to the attention of the Contracting Officer at least fifteen (15) calendar days prior to the date specified for receipt of proposals. Written requests shall be transmitted via e-mail to mhazlins@aoc.gov or via facsimile to (866) 813-9541.

(c) Any interpretations or corrections, as well as any additional modifications the Contracting Officer may desire to include, will be in the form of amendments, in writing, which will be sent on the same date to all offerors if that information is necessary in submitting offers or if the lack of it would be prejudicial to other prospective offerors and shall become a part of any subsequent contract. The Contracting Officer reserves the right to answer only such questions as have, in his opinion, a definite bearing upon the proposals to be submitted.

(1) Offerors shall acknowledge the receipt of all amendments to the solicitation by:

(i) Signing and returning the amendment;

(ii) Identifying the amendment number and date in the space provided for this purpose on the form for submitting a offer;

(iii) Letter or telegram; or

(iv) Facsimile, if facsimile offers are authorized in the solicitation.

(2) The Government must receive the acknowledgment by the time and at the place specified for receipt of offers.

(d) Requests for oral interpretations or any other interpretations not made by amendments will not be accepted, and any information that may possibly be gained by offerors in that manner is gratuitous and not binding.

(e) If this solicitation is amended, all terms and conditions that are not amended remain unchanged.

(End of provision)

AOC52.215-3

Restriction on Disclosure and Use of Data (Jun 2004)

Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall

(a) Mark the title page with the following legend:
This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with--the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government s right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets (insert numbers or other identification of sheets) ; and

(b) Mark each sheet of data it wishes to restrict with the following legend:
Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(End of provision)

AOC52.215-7

Preparation of Proposals - Construction (Jun 2004)

(a) Offers shall be submitted, in the quantities as stated elsewhere in this solicitation, on the accompanying printed form entitled, SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair) and copies thereof, with blank spaces suitably filled in. Erasures or other changes on any or all submissions shall be initialed by the signer of the offer.

(b) Copies of the offer shall be identical and each copy shall give the full business address of the offeror, and be signed by him (see Block 20B of the form entitled, SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair) with his usual signature. Offer by partnerships shall furnish the full names of all partners, and shall be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and designation of the person signing. Offers by corporations shall be signed with the legal name of the corporation, followed by the name of the State of incorporation and by the signature and designation of the president, secretary, or other person authorized to bind it in the matter. The name of each person signing shall be typed or printed below the signature. An offer by a person who affixes to his signature the word president , Secretary , agent , or other designation, without disclosing his principal, may be held to be the offer of the individual signing. When requested by the Government, satisfactory evidence of the authority of the offer signing in behalf of the corporation shall be furnished.

(End of provision)

AOC52.215-9

Failure to Submit Offer (Jun 2004)

Recipients of this solicitation not responding with a proposal should not return this solicitation, unless it specifies otherwise. Instead, they should advise the issuing office by letter, postcard, or established electronic commerce methods, whether they want to receive future solicitations for similar requirements. If a recipient does not submit a proposal and does not notify the issuing office that future solicitations are desired, the recipient s name will be removed from the applicable mailing list.

(End of provision)

AOC52.228-7

AOC52.228-7 OFFER GUARANTEE - CONSTRUCTION (DEC 2006)

(a) An offer guarantee is required for all offers exceeding $100,000. For a new definitive contract (one containing no provisions for issuance of task orders) or purchase order, the amount of the offer guarantee is based upon the proposed amount of the offer. For a requirements contract, the offer guarantee is based upon the price payable for the estimated total quantity. For an indefinite-quantity contract, the offer guarantee is based upon the price payable for the specified minimum quantity. The price of any options is not included except for those options exercised at the time of the contract award.

(b) Failure to furnish an Offer Guarantee in the required form and amount, with and as a part of the proposal, will be cause for rejection of the proposal.

(c) The offeror shall furnish an Offer Guarantee of not less than 20% of the proposed price in the form of a firm commitment

consisting of a Bid Bond, Certified Check, Cashier's Check, Irrevocable Letter of Credit, or Postal Money Order made payable to the Architect of the Capitol, or under Treasury Department Regulations certain bonds or notes of the Unites States. The Contracting Officer will return Offer Guarantees, other than Bid Bonds, (1) to unsuccessful offerors as soon as practicable after evaluation of the proposals; and (2) to the successful offeror upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the offer as accepted.

(End of provision)

AOC52.236-13

Visit to the Site of the Work - Construction (Jun 2004)

(a) It is strongly recommended that all prospective offerors visit the site where the work is to be performed, compare the work requirements with existing conditions, verify dimensions, if necessary, and fully inform themselves regarding the nature and scope of the proposed work and the conditions under which it will be conducted. Offerors shall also inform themselves regarding other work, if any, being done or to be done by or for the United States government, the District of Columbia government and utility companies, by contract or otherwise, where such work may affect or be affected by the operations under the contract. Failure to take these precautions will in no way relieve the successful offeror from his obligation to furnish all materials, services, labor, and any other requirements necessary to complete the work satisfactorily under the conditions established by the contract documents and without additional expense to the Government.u

(b) A pre-proposal meeting will be conducted at the the main lobby of the Hart Senate Office Building Washington, D.C. for all prospective offerors on
August 15, 2007 at 10:00am, local time.

(c) The Architect will conduct one field inspection of the work immediately following the pre-proposal meeting. Those intending to participate shall meet at the address above. Information concerning the meeting may be obtained by telephoning Matt Hazlinsky at 202-226-0994.

(d) Offerors are encouraged to submit all questions in writing at least five (5) working days prior to the conference. Questions will be considered at any time prior to or during the conference; however, offerors will be asked to confirm verbal questions in writing. Subsequent to the conference, an amendment to the solicitation containing an abstract of the questions and answers, and a list of attendees, will be disseminated.

(e) Offerors are cautioned that, notwithstanding any remarks or clarifications given at any site visit, the pre-proposal conference or field inspection, all terms and conditions of the solicitation remain unchanged unless they are changed by amendment to the solicitation. If the answers to conference questions, or any solicitation amendment, create ambiguities, it is the responsibility of the offeror to seek clarification prior to submitting a offer.

(End of provision)

L.1

Notice to Offerors - Site Visit

A Site Visit will be held on August 15, 2007 at 10:00am at the main lobby of the Hart Senate Office Building.

This is the only site visit planned for this project.

At the site visit, attendees shall sign the attendance sheet for proof of attendance. The site visit will commence with a briefing from the Contracting Officer followed by a walk-through of the work site. Attendees will be shown the ceiling disassembly, ceiling, 1' x 1' Spline and 5' x 5' ceiling tiles.

Attendees may ask questions relating to the RFP and Specifications during the site visit. However, all questions posed orally to the Government should also be submitted in writing either during the site visit or soon after so that answers can be provided via an amendment to the solicitation.

L.2

ARTICLE 1. PROPOSAL COMPOSITION - SOURCE SELECTION PROCEDURES

(a) Proposals shall be submitted in two major subdivisions: Technical Proposal whose content and arrangement shall be as described in the articled, "INSTRUCTIONS FOR PREPARING THE TECHNICAL PROPOSAL - SOURCE SELECTION PROCEDURES" of this section, and a Price Proposal, which shall be prepared in detail on a basis as described and set forth in the article entitled, "INSTRUCTIONS FOR PREPARING THE PRICE PROPOSAL - SOURCE SELECTION PROCEDURES" of this section.

(b) The Technical Proposal and the Price Proposal portions of each proposal tendered by any offeror shall each be enclosed in a separate sealed package, identified on its outer surface as to content in the manner prescribed in the article entitled "SUBMISSION, MODIFICATION, REVISION, AND WITHDRAWAL OF PROPOSALS" of this section and submitted in the following number of copies:

(1) Technical Proposal - One original and three (3) copies.

(2) Price Proposal - One original and one (1) copy.

(c) Each offeror may submit one or more proposals; however, each proposal shall be configured as described above, shall be considered on its own merits as to the completeness of submission and shall not share required documentation, bonding, or other requirements of submission with any other proposal submitted by the same offeror.

(End of article)

ARTICLE 2. INSTRUCTIONS FOR PREPARING THE TECHNICAL PROPOSAL - SOURCE SELECTION PROCEDURES - CONSTRUCTION

(a) The Technical Proposal shall be organized in accordance with the following format to facilitate evaluation by the Government. The Technical Proposal shall be subdivided into three subsections: Corporate Experience and Expertise, Past Performance and Key Personnel; indexed by evaluation factor and contained in three ring binders, binder clips, rings, or other methods that allow the material to be viewed and removed easily. Spiral binding is strongly discouraged.

(b) Evaluation factors.

(1) **Evaluation Factor 1 - Corporate Experience and Expertise.** The Offeror shall, to the extent possible, provide descriptions of contracts for the same or similar work performed in the last 5 years as described below:

The completion of retrofit fire alarm installation projects that:

- include the installation of fire alarm systems for buildings that are 500,000 square feet or greater,

- include phased retrofitted/installation in fully occupied buildings,

- were performed in high-rise buildings,

- include addressable Notifier equipment,

- include addressable Notifier equipment which include NOTI-FIRE-NET multi-node network systems that include touch screen annunciators, graphical map annunciators, and multiple printers.

Each project description shall include, at a minimum, the following:

(i) Contract Number; and

(ii) Contract award amount and final amount and description of any differences between the award amount and the final amount; and

(iii) Procuring Agency/entity or contractor, and address; and

(iv) Title of Contract, and location; and

(v) Name, address & current telephone & fax numbers* & E-mail address* of contract administrator or contracting officer at Agency/owner *(fax & E-mail are optional); and

(vi) Brief description of project; and

(vii) Period of performance, with date of award and completion date; and

(viii) Type of contract.

(2) **Evaluation Factor 2 - Past Performance.** Although the Government reserves the right to use any source of information available on the Offeror's past performance to either evaluate past performance or verify information provided by the Offeror, the Offeror shall provide information that demonstrates the offeror's past performance. The enclosed "AOC PAST PERFORMANCE QUESTIONNAIRE" shall be provided to each of the companies/agencies submitted by the offeror in response to Evaluation Factor 2. The questionnaire(s) must be faxed by the companies/agencies to the attention of Matt Hazlinsky at (866) 813-9541 by the date established for receipt of offers in order to be considered in the evaluation process. A neutral rating will be applied for those projects/contracts for which a questionnaire is not received.

(3) **Evaluation Factor 3 - Key Personnel.** (i) The Offeror shall enter the names of the proposed Key Personnel for the following positions: 1. Project Manager, 2. Superintendent , 3. Job Foreman.
(ii) The Offeror shall provide resumes for the key personnel. Resumes shall document recent and relevant experience as described in Article 2(b)(1) within the past five years, shall be a maximum of four pages, and include the following information:

(A) A list of projects and the level of involvement,

(B) A list of five references who can provide appropriate feedback regarding the technical capabilities, including a contact name, company, address and current telephone number;

(C) Position and years with the Offeror, and if less than 5 years with the offeror, position and years with previous employer;

(D) Beginning and ending month and year for each position;

(E) A list of all licenses, certifications and designations.

ARTICLE 3. INSTRUCTIONS FOR PREPARING THE PRICE PROPOSAL - SOURCE SELECTION PROCEDURES - CONSTRUCTION

(a) A firm fixed-price shall be entered by each Offeror on the Schedule page for the line item which shall represent the cost for performing the work required by this Request for Proposal. The Architect reserves the right to request from each Offeror information regarding the breakdown of all costs that are included in the lump sum price (Line Item No. 1), to include copies of all work sheets used in forming the proposed pricing. Erasures or other changes on any or all submissions shall be initialed by the signer of the proposal or by his duly authorized agent.

(b) The Offeror shall return a copy of Section 01270 - Unit Prices of the Specifications complete with unit prices input for each item under para 3.2. Unit prices provided in response to this solicitation will be used for evaluation purposes and for negotiations of potential future additions or deletions of work.

(c) The Price Proposal shall be submitted with the following required documents in the order shown below:

(1) "SOLICITATION, OFFER, AND AWARD" form (original signature required in Block 20B); and

(2) The "SCHEDULE" page; and

(3) the "REPRESENTATIONS AND CERTIFICATIONS"; and

(4) the "BID GUARANTEE"; and

(5) "Section 01270 - Unit Prices".

ARTICLE 4. EVALUATION CRITERIA - SOURCE SELECTION PROCEDURES - CONSTRUCTION

General Requirements. The evaluation criteria to be used by the Contracting Officer for the selection of a contractor to perform the work specified herein are defined below. The criteria are divided into Technical and Price categories. The Technical Evaluation Criteria, when combined, is significantly more important than price. However, as the difference in technical merit between the proposals becomes less significant, the relative importance of the proposed prices will increase. The Technical Evaluation Criteria are of equal importance in relation to one another.

(a) **Technical Evaluation Criteria**. The criteria to be used in assessing the quality of each proposal are listed below.

(1) **Corporate experience and expertise.** The Government will evaluate the quality and extent of the Offeror's experience within the last 5 years relevant to:

The completion of retrofit fire alarm installation projects that:

- include the installation of fire alarm systems for buildings that are 500,000 square feet or greater,

- include phased retrofitted/installation in fully occupied buildings,

- were performed in high-rise buildings,

- include addressable Notifier equipment,

- include addressable Notifier equipment which include NOTI-FIRE-NET multi-node network systems that include touch screen annunciators, graphical map annunciators, and multiple printers.

Higher scores will be given to Offerors whose experience is most extensive in the work described. Offerors with little or no experience performing the work described will receive lower scores.

(2) **Past Performance.** The Offeror's past performance will be evaluated to determine the extent of successful performance of similar projects described under Article 4(a)(1), Corporate Experience and Expertise, within the past five years, taking into consideration timeliness and degree of client satisfaction for each project. In investigating the Offeror's past performance, the Government will consider references submitted by the Offeror and may also consider information from other sources.

(3) **Key Personnel.** The Government will evaluate proposed key personnel for level of qualifications, the extent of experience in the work described under Article 4(a)(1), Corporate Experience and Expertise, within the past five years, taking into consideration the degree of client satisfaction for each project. Higher scores will be given to Offerors whose key personnel have relevant experience that is extensive and past performance that has been highly successful.

(b) **Price Evaluation Criteria.** The Government will evaluate the price proposals of all firms found technically qualified. Price criterion measures not only actual dollars but also analyze the reasonableness of the offeror's proposed price.

52.225-10

Notice of Buy American Act Requirement--Construction Materials (May 2002)

(a) *Definitions.* "Construction material," "domestic construction material," and " foreign construction material," as used in this provision, are defined in the clause of this solicitation entitled "Buy American Act -Construction Materials" (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) *Requests for determinations of inapplicability.* An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers.

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested -

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

AOC52.215-5

Contract Award - Source Selection Procedures (Jun 2004)

(a) The Government will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, cost or price and other factors, specified elsewhere in this solicitation, considered.

(b) The Government may

(1) Reject any or all offers if such action is in the public interest;

(2) Accept other than the lowest offer; and

(3) Waive informalities and minor irregularities in offers received.

(c) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror s initial proposal should contain the offeror s best terms from a price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

(d) The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the offer.

(e) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer as provided in Paragraph (d) of this provision), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award. Negotiations conducted after receipt of an offer do not constitute a rejection or counteroffer by the Government.

(f) Neither financial data submitted with an offer, nor representations concerning facilities or financing, will form a part of the resulting contract. However, if the resulting contract contains a clause providing for price reduction for defective cost or pricing data, the contract price will be subject to reduction if cost or pricing data furnished is incomplete, inaccurate, or not current.

(g) The Government may determine that an offer is unacceptable if the prices proposed are materially unbalanced between line items or sub line items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(End of provision)

VOLUME I I

TECHNICAL

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SECTION 01000 - GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS:

A. **General Requirements**: The provisions or requirements of Division 1 apply to the entire work of the Contract and, where so indicated, to other elements which are included in the project, and include, but are not limited to the following:

1. Summary of the Work.
2. Project Coordination.
3. Definitions and Standards.
4. Schedules and Reports.
5. Submittals.
6. Temporary Facilities and Controls.
7. Products.
8. Project Closeout.

1.2 SUMMARY OF THE WORK:

A. **Project/Work Identification**:

1. **General**: Project name is the Phase 1 Fire Alarm System Replacement, Hart Senate Office Building (HSOB), Washington, D.C., as shown on Contract Documents prepared by the Architect of the Capitol (hereafter referred to as "the Architect" or the "AOC"). The fire alarm system drawings are dated June 15, 2007, the fire protection system specifications are dated June 15, 2007.

2. **Summary by Reference**: Work of the Contract can be summarized by references to the SCHEDULE, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, Official Procedure for Making Changes in Contracts, Specification Sections, Drawings, Amendments and Modifications to the contract documents issued subsequent to the initial printing of this Project Manual and including, but not necessarily limited to, printed material referenced by any of these.

3. **Abbreviated Written Summary**: Briefly and without force and effect upon the contract documents, the work of the Contract can be summarized as follows:

   a. The work consists of the demolition and removal of the existing fire alarm system control unit equipment (hereafter referred to as the "head-end") installed in the HSOB, and the demolition and removal of the fire alarm system risers (hereafter referred to as the "spine") in the HSOB and in the area designated as the "Core Area" located in the Dirksen Senate Office Building (DSOB), as shown on the fire alarm system demolition drawings.

   b. The work consists of the installation of new analog addressable fire alarm and emergency voice alarm evacuation systems with distributed amplifiers (hereafter referred to as "the fire alarm system") in the HSOB and in the "Core Area" located

in the DSOB, as shown on the fire alarm system design drawings. Included in the scope is the following:

1) The installation of 3 networked fire alarm system control units in the HSOB, one in the Fire Watch Room (Room 114A) on the first floor and two in Mechanical Room MER10 (Room H9M10) on the ninth floor;

2) The installation of all new fire alarm system risers, metal raceway, and electrical junction boxes;

3) The installation of a new networked computer-based graphic command center installed in the Fire Watch Room (Room 114A); the installation of a new low-power touchscreen annunciator installed the DSOB Service Center (Room DG49);

4) The installation of a new graphical map LED annunciator located at the U.S. Capitol Police 24-hour post outside the DSOB Service Center;

5) The installation of new addressable area smoke detectors, plenum detectors, and duct smoke detectors to replace existing conventional 2-wire smoke detectors;

6) The connection of all existing circuits for initiating devices, audible and visible notification appliances, firefighter telephone cabinets with dedicated handsets, and control functions (e.g., elevator recall) in accordance with specification Division 13 "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"; and

7) All associated components to provide complete and fully functional fire alarm systems, including modules, boards, equipment, materials, wiring, metal raceway and any other materials necessary for the installation of the replacement fire alarm system head-end and spine.

c. During the fire alarm system demolition and installation, work spaces will be fully furnished and will remain so during all phases of the project. The Contractor shall make the appropriate provisions for moving/protecting furnishings in the way of the proposed work. The Contractor shall coordinate this effort with the AOC SOB superintendent's office and the office staff where work is to be performed, in accordance with Division 1 Section "GENERAL REQUIREMENTS" Article 1.3.E.

4. **Use of the Contract Documents:** The Contract Documents are comprised of the fire alarm system design drawings, the fire alarm system demolition drawings, the fire protection systems narrative report, the Specifications, the Amendments, the Contract, approved Changes and other directives. These documents are not to be used separately for bid or construction as they represent the entirety of the project. The Contractor is responsible for insuring that the documents are used together.

5. **Phasing Plan**: No Phasing Plan is included in the Contract Documents. The Contractor is expected to complete all work sequentially to provide the minimum disruption of

parking and normal building operations in the area. The Contractor will provide his own plan for approval by the Architect showing proposed sequencing of the work and coordination with Government parking requirements. The phasing plan shall be submitted to the Architect and approved by the Architect prior to any work being performed.

a. The Contractor shall refer to Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM", article 3.4 for further information.

B. **Contractor Use of Premises**:

1. **General**: The Contractor shall limit his use of the premises to the work indicated, so as to allow for the Government's occupancy and use by the public during all construction activities.

2. **Contractor Use of the Existing Building**: During the construction period the site and the building will be occupied by Members of Congress, other Government employees and the general public. Maintain the existing building in a safe and weather-tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period. Cooperate fully with the Architect or his representative during construction operations to minimize conflicts and to facilitate Government usage.

a. **Clear Passage**: Keep public areas such as hallways, stairs, elevator lobbies and toilet rooms free from accumulation of waste material, rubbish or construction debris. Where debris, tools, materials, etc., may fall onto, or into the path of, pedestrians, contractor shall provide protection in accordance with applicable safety regulations.

b. **Smoking or open fires** will not be permitted within the building enclosure or on the premises.

c. **Temporary Elevator Use**: The Architect will designate elevators available for use of Contractor's personnel. Use of other than designated elevators will not be permitted.

d. **Standard Working Hours:** The standard working hours of operation for the Hart Senate Office Building and the Dirksen Senate Office Building "Core Area"are as follows. Work may be performed during these hours; any off-hours work shall be coordinated with the Architect and the AOC SOB Superintendent:

1) Sunday through Friday: 22:00 to 06:30.

2) All areas disturbed for work shall be restored to clean status within the approved work hours for that day and shall include a minimum time allotment of 45 minutes at the conclusion of the work period for inspection and approval by the Architect, and potential subsequent re-cleaning.

3. **Limitations on Use of the Site**: Limitations on site usage as well as specific requirements that impact site utilization are indicated on the Drawings and by other Contract Documents. Portions of the site beyond areas on which work is indicated are not to be disturbed. In addition to these limitations and requirements, administer allocation of available space among entities needing both access and space so as to produce the best overall efficiency in performance of the total work of the project. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.

   a. **Unless designated** for sole Contractor use, keep existing driveways and entrances serving the premises clear and available to the Government and its employees at all times. Do not permit trucks of any kind to use existing sidewalks without prior authorization of the Architect.

   b. **Maintain driveways** between and around combustible material storage piles at least 15' wide and free of accumulation of rubbish, equipment and materials. Maintain access for fire fighting equipment.

   c. **Do not unreasonably** encumber the site with materials or equipment. Confine stockpiling of materials to the areas indicated by the AOC. If additional storage is necessary, obtain and pay for such storage off-site.

   d. **Provide 24hr/7day** access to the building by emergency vehicles and firefighting equipment.

4. **Construction Parking Control**: Parking space for personal vehicles is not available on the site. Obtain approval of the Architect for parking of construction motor vehicles or other equipment on the site.

C. **Government Occupancy**: The Government reserves the right to place and install equipment as necessary in completed areas of the building and to occupy such areas prior to final acceptance, provided that such occupancy does not substantially interfere with completion of the work. Such placing of equipment and partial occupancy shall not constitute acceptance of the work or any part of the work.

D. **Protection of Government Property**: The Contractor is expected to take all reasonable precautions to protect U.S. Government Property. In the event of damage to or theft of Government Property, the Contractor will be held fully responsible for his own personnel, his subcontractor's personnel and their actions.

E. **Blasting**: The use of any kind or type of explosive in the performance of work is prohibited, except the use of construction tools actuated by or employing powder-actuated charges which shall be permitted, provided that the tool is of the kind and design ordinarily used for such construction and that the Architect has authorized its use after determining that its use will not endanger human life or safety.

F. **Mechanical/Electrical Requirements of General Work**: Except as otherwise indicated, comply with applicable provisions of the *National Electrical Code (NEC)* and standards by National Electrical Manufacturer's Association (NEMA) for electrical components of general

work. Where applicable, provide products listed and labeled by nationally recognized independent testing and labeling organizations. Mechanical systems and equipment, and the components thereof, will be arranged and installed to provide ready accessibility for AOC employees, post construction, and ease of lock/tag application during lockout/tagout procedures.

1.3 **PROJECT COORDINATION**:

A. **Coordination and Meetings**: Prepare a written memorandum on required coordination activities. Include such items as required notices, reports and attendance at meetings. Distribute this memorandum to each entity performing work at the project site. Prepare similar memorandum for separate contractors where interfacing of their work is required.

1. **Continuously coordinate** the work of subcontractors to ensure proper processing and progress of the work. Require each subcontractor to examine work of other trades and all sections of specifications to assure satisfactory installation of, and connection between, his work and work of other trades.

a. **Provide other parties**, to the extent their work is affected by this work, all information necessary for the proper execution of their work. Arrange and conduct work so that other parties may complete their work at the site according to schedule. All work under this contract shall be carefully coordinated with work under other such contracts.

2. **Look ahead schedules:** Weekly project meetings shall be held for the purpose of Look-ahead schedules. The look-ahead schedules shall be submitted on a weekly basis covering work to be executed three weeks after that meeting. Individual suite work is not required to be tracked in detail, but suite work shall be consolidated into general work areas by wing or other approved categories and scheduled on a Project Basis. This will permit the Architect to coordinate and notify building occupants of activity as to not disturb the activities of members of congress and coordination of preparation for work to occur in the rooms.

a. **Suite Sequence:** The Look-Ahead Schedule shall allow the Architect to coordinate suite availability with building occupants. The weekly Look-Ahead Schedule shall permit the Architect to vary the order in which individual suites are completed within the week's work plan. The Contractor shall coordinate the final order of suite work at the beginning of each week's work with the Architect.

b. **Suite Availability:** If for any reason a suite becomes unavailable for work, the general work area's fire alarm conduit connections intended for the suite shall be "stuffed-off" to allow for later connection.

c. **48 Hour Notice:** Provide final notice to the Architect of the intent to work in a room or suite 48 hours in advance of each room or suite's planned work period.

3. **Architect Notification**: To allow time for the Architect to observe the construction, provide a minimum of 48 hours notice of excavation work, completion of steel reinforcing, pouring of concrete, paving operations, utility work, trenching, tree removal

or replacement, commencements of next phase of work, and other tasks to be identified by the Architect.

B. **Surveys and Records/Reports**: Working from lines and levels established by the property survey, establish and maintain bench marks and other dependable markers. Establish bench marks and markers to set lines and levels for work at each story of construction and elsewhere as needed to properly locate each element of the project. Calculate and measure required dimensions as shown within recognized tolerances. Drawings shall not be scaled to determine dimensions. Advise entities performing work of marked lines and levels provided for their use. Advise the Architect promptly upon detection of deviations that exceed indicated tolerances.

1. **The Contractor** shall maintain a complete set of Contract Documents on the site during the execution of this contract. All Drawings and Specifications shall be posted with the latest information and Changes.

C. **General Installation Provisions**:

1. **Pre-Installation Meetings**: Hold a pre-installation meeting at the project site well before installation of each unit of work which requires coordination with other work. Installer and representatives of the manufacturers and fabricators who are involved in or affected by that unit of work, and with its coordination or integration with other work that has preceded or will follow, shall attend this meeting. Advise the Architect of scheduled meeting dates.

2. **Installer's Inspection of Conditions**: Require the Installer of each major unit of work to inspect the substrate to receive work and conditions under which the work is to be performed. The Installer shall report all unsatisfactory conditions in writing to the Contractor. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

3. **Manufacturer's Instructions**: Where installations include manufactured products, comply with the Manufacturer's applicable instructions and recommendations for installation, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the Contract Documents.

4. **Mounting Heights**: Where mounting heights are not indicated, mount individual units of work at industry recognized standard mounting heights for the particular application indicated. Refer questionable mounting height choices to the Architect for final decision.

   a. **Mount units of work** required to be accessible to handicapped people at heights prescribed by the Uniform Federal Accessibility Standards as referenced by the Americans with Disabilities Act (ADA) (Fed. Reg./Vol. 56, No. 144/Part 36).

D. **Cleaning and Protection**: During handling and installation of work at the project site, clean and protect work in progress and adjoining work on the basis of continuous maintenance. Apply protective covering on installed work where it is required to ensure freedom from damage or deterioration at time of completion.

1. **Site and Work Area Preparation:** Work is to be executed under this contract in room and spaces occupied by Members of Congress and their staff. Every effort shall be made to protect those areas from damage and to preserve the normal functions conducted in those spaces. The contractor shall coordinate all work with the Architect and submit a plan for approval that details methods to be employed to ensure preservation of work areas.

   a. **The Architect:** In preparation for each day's work in occupied rooms and suites, the Architect will ensure that all personal items, papers, and minor office equipment are removed from desktops and work surfaces and relocated to unaffected closets or storage rooms or otherwise to not interfere with the work at hand, prior to commencement of each day's work period.

   b. **The Contractor:** The Contractor shall preserve and protect all desks, floors and equipment from damage during the entire work of this project. All surfaces must be restored to the condition found at the start of work. Do not step on or cause any equipment or staging to rest on any furniture and equipment. Furniture moving is permitted. Personal computers, printers, Facsimile machines, and similar devices shall remain connected to networks and power systems and shall not be disturbed without prior authorization in writing. Such devices shall be covered as to not damage the devices from a lack of ventilation (ex. Overheating), as they may be operating to support congressional activities. The Contractor shall, as required, remove, store, and re-install any shelves that must be relocated for access to the ceiling spaces.

   c. **Architect Inspection:** All areas disturbed for work shall be restored to clean status within the approved work hours for that day and shall include a minimum time allotment of 45 minutes at the conclusion of the work period for inspection and approval by the Architect, and potential subsequent re-cleaning. Work hours are between Sunday through Friday between 22:00 to 06:30.

2. **Clean and perform maintenance** on installed work as frequently as necessary through remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

3. **Limiting Exposures of Work**: To the extent possible through reasonable control and protection methods, supervise performance of the work in such a manner and by such means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period.

   a. **Protect against possible damage** all sills, jambs and soffits of permanent openings used as passageways or through which materials are handled. Protect exposed corners, spandrels, projecting features and similar permanent work subject to damage. Cover and protect all prefinished work from damage by mortar, plaster, gypsum drywall compounds, paint, and other construction materials and operations. Use wheelbarrows equipped with rubber tires over permanently exposed floors and paving. Provide special protection for works of art, as prescribed in the Contract Documents.

4. **Load all trucks** leaving the site with earthen materials or loose debris in a manner that will prevent dropping of materials on streets. Fasten suitable tarpaulins over the load before they enter surrounding paved streets. Trucks bringing earthen materials over paved streets to the site shall be similarly covered.

5. **Clean sidewalks and streets** adjacent to site daily or more often as necessary, of debris spillage or mud/dirt tracked from loading and trucking involved in construction operations. Maintain suitable truck wheel washing installation and crew to prevent any mud from being carried onto adjacent paved streets. Conform to local regulations regarding load limits.

E. **Cutting and Patching**: Where the Contractor must cut, patch, alter, add to, repair or refinish existing construction and finishes which are not to be removed, he shall leave such construction and finishes complete and in satisfactory condition. Cutting, patching, and the like shall be neatly and carefully performed, and new materials and methods shall match existing corresponding work unless otherwise indicated. Exposed patches and repairs shall be as inconspicuous as possible. Contractor shall refer to specification Division 1 Section "CUTTING, DRILLING, CORING, AND PATCHING".

1. **Construction, finishes,** equipment and other items which are damaged or defaced by reason of work performed under this contract shall be restored to the satisfaction of the Architect.

F. **Conservation and Salvage**: It is a requirement for supervision and administration of the work that construction operations be carried out with the maximum possible consideration given to the conservation of energy, water and materials. In addition, maximum consideration shall be given to salvaging materials and equipment involved in performance of the work but not incorporated therein. Refer to other sections for required disposition of salvage materials which are the Government's property.

1. **Archaeological Rights**: There is a possibility that items of archaeological significance may be found during the excavation of the site. In such event, the Contractor shall stop excavation in the vicinity of the find and notify the Architect immediately; subsequent excavation work shall proceed as directed by the Architect. All items found which are considered to have archaeological significance are the property of the Government.

1.4 DEFINITIONS AND STANDARDS:

A. **General**: Comply with governing regulations and the codes and standards imposed upon the work. These requirements include the obtaining of permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with regulations, codes and standards.

B. **Definitions**: A substantial amount of specification language consists of definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon). Certain terms used in contract documents are defined in this article. Definitions and explanations contained in this section are not necessarily either complete or exclusive, but are

general for the work to the extent that they are not stated more explicitly in another element of the contract documents.

1. **Installer**: The term "installer" is defined as the entity (person or firm) engaged by the Contractor, its subcontractor or sub-subcontractor for performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (installers) be expert in the operations they are engaged to perform.

2. **Testing Laboratory**: The term "testing laboratory" is defined as an independent entity engaged to perform specific inspections or tests of the work, either at the project site or elsewhere, and to report, and (if required) interpret results of those inspections or tests.

3. **Indicated**: The term "indicated" is a cross-reference to graphic representations, notes or schedules on drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for the purpose of helping the reader locate cross-reference, and no limitation is intended except as specifically noted.

4. **Furnish**: Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

5. **Install**: Except as otherwise defined in greater detail, the term "install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.

6. **Provide**: Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

7. **Exposed**: The term "exposed" is defined as an item or surface, exterior or interior, which can be seen by a person outside the building or a person inside a usable space within the building during normal activity.

    a. Mechanical and electrical rooms, air handling rooms, storage rooms and penthouses shall be considered to have exposed surfaces, as shall the mechanical and electrical construction within them.

    b. The interiors of closets and alcoves shall be considered exposed surfaces, and shall be finished to match the finish of the adjoining room or space, unless another finish is otherwise indicated.

    c. The interiors of cabinets shall be considered exposed, but a finish different from that of the exterior may be permitted or required by other sections.

8. **Concealed**: The term "concealed" is defined as an item or space not normally seen, occupied or used by building occupants or staff, such as shafts, hoistways, tunnels, ceiling plenums, attics, and crawls spaces.

9. **Finished Space**: The term "finished space" is defined as space normally used by the public, building occupants or staff for primary functions of the building, but does not include mechanical, electrical and elevator equipment rooms, hoistways, tunnels or mechanical penthouses, unless otherwise indicated.

10. **Specialist**: The term "specialist" is defined as an individual or firm of established reputation (or, if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the contract, installing items required by the contract, or otherwise performing work required by the contract. Where the contract specification requires installation by a specialist, that term shall also be deemed to mean either the manufacturer of the item, an individual or firm licensed by the manufacturer, or an individual or firm who will perform the work under the manufacturer's direct supervision.

C. **Format and Specification Content Explanations**: Bolding and underscoring: Are used strictly to assist reader of specification text in scanning text for key words (for quick recall). No emphasis on or relative importance is intended where bolding and underscoring are used. Imperative language is used generally in specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by the Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by Contractor, or when so noted, by others.

1. **Abbreviations**: The language of specifications and other contract documents is of the abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self-explanatory nature have been included in texts. Specific abbreviations have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of specification requirements with titles of general standards which are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of the contract documents so indicates.

2. **Minimum Quality/Quantity**: In every instance, the quality level or quantity shown or specified is intended as minimum for the work to be performed or provided. Except as otherwise specifically indicated, actual work may either comply exactly with that minimum (within specified tolerances), or may surpass the quality of that minimum within reasonable limits. In complying with requirements, indicated numeric values are either minimum or maximums as noted or as appropriate for context of requirements. Refer instances of uncertainty to the Architect for decision before proceeding.

D. **Overlapping and Conflicting Requirements**: Where there appears to be overlapping or conflicting requirements in the drawings and specifications, refer all such questions in writing to the Architect for interpretation. Do not proceed with that portion of the work that is under question until the Architect has replied in writing. Delays necessitated by requests for

interpretation shall not form the basis for a Change to the contract. The Architect's interpretation and decision shall be final. Procedures for resolving disagreements with the decision of the Architect are outlined in the General Conditions of the Contract. The order of precedence is established as follows:

1. **Order of Precedence:** Any inconsistency in this solicitation or Contract shall be resolved by giving precedence in the following order:

   a. The Schedule (excluding the specifications).
   b. Representations and other instructions.
   c. Contract clauses.
   d. The Specifications.
   e. The Drawings. Large scale drawings take precedence over small scale drawings. Do not scale drawings.

2. **Industry Standards**: Where compliance with two (2) or more industry standards or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent requirement is intended and will be enforced, unless specifically detailed language written into contract documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently-equal-but-different requirements, and uncertainties as to which level of quality is more stringent, to the Architect for a decision before proceeding.

3. **Contractor's Options**: Except for overlapping or conflicting requirements, where more than one set of requirements are specified for a particular unit of work, Options are intended to be the Contractor's regardless of whether or not it is specifically indicated as such.

E. **Drawing Symbols**: Except as otherwise indicated, graphic symbols used on drawings are those symbols recognized in the construction industry for purposes indicated, i.e., National Fire Protection Association (NFPA) Standard 170, *Standard for Fire Safety Symbols*. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., Ninth edition.

   1. **Mechanical/Electrical Drawings:** Graphic symbols used on mechanical and electrical drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, these symbols are supplemented by more specific symbols as recommended by other recognized technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Architect for clarification before proceeding.

F. **Industry Standards**: Except to the extent that more explicit or more stringent requirements are written directly into contract documents, applicable standards of the construction industry have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies were bound herein, subject to the order of precedence previously stated.

1. **Publication Dates**: Except as otherwise indicated, where compliance with an industry standard is required, conform to the standard in effect on the date of the Invitation for Bids, or, if referred to in any Amendments, at the date of such Amendments.

2. **Abbreviations and Names**: The following acronyms or abbreviations as referenced in contract documents are defined to mean the associated names. Both names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of the date of contract documents:

AIA	American Institute of Architects 1735 New York Ave., NW Washington, DC 20006-5292 www.aia.org	(800) AIA-3857 (202) 636-7300
AISC	American Institute of Steel Construction One East Wacker Drive, Suite 3100 Chicago, IL 60601-2001 www.aisc.org	(312) 670-2400
ANSI	American National Standards Institute 1819 L. Street, NW Washington, DC 20036 www.ansi.org	(202) 293-8020
AOC	Architect of the Capitol www.aoc.gov	
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329 www.ashrae.org	(800) 527-4723 (404) 636-8400
ASTM	American Society for Testing and Materials International 100 Bar Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959 www.astm.org	(610) 832-9585
AWI	Architectural Woodwork Institute 1952 Isaac Newton Square West Reston, VA 20190 www.awinet.org	(800) 449-8811 (703) 733-0600
AWS	American Welding Society 550 N.W. LeJeune Road Miami, Florida 33126 www.aws.org	(800) 443-9353 (305) 443-9353

BOCA	Building Officials & Code Administrators International, Inc. The BOCA National Building Code (Consolidated into the ICC) www.bocai.org	
CDA	Copper Development Association, Inc. 260 Madison Avenue New York, NY 10016 www.copper.org	 (800) 232-3282 (212) 251-7200
FM	FM Global 1301 Atwood Avenue, P.O. Box 7500 Johnston, R.I. 02919 www.fmglobal.com	 (401) 275-3000
ICC	International Code Council 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041 www.iccsafe.org	 (703) 931-4533
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue, 17th Floor New York, New York 10016-5997 www.ieee.org	 (212) 419-7900
LSC	*Life Safety Code* (from NFPA)	
NAAMM	National Association of Architectural Metal Manufacturers 8 South Michigan Avenue, Suite 1000 Chicago, Illinois 60603 www.naamm.org	 (312) 332-0405
NEC	*National Electrical Code* (from NFPA)	
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 www.necanet.org	 (301) 657-3110
NEMA	National Electrical Manufacturers Association 1300 North 17th Street, Suite 1847 Rosslyn, VA 22209 www.nema.org	 (703) 841-3200
NFPA	National Fire Protection Association One Batterymarch Park Quincy, MA 02169-7471 www.nfpa.org	 (800) 344-3555 (617) 770-3000

NICET	National Institute for Certification of Engineering Technologies 1420 King Street Alexandria, VA 22314-2794 www.nicet.org	(888)IS-NICET
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018 www.nrca.net	(866) 275-6722 (847) 299-9070
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, Virginia 20151-1209 www.smacna.org	(703) 803-2980
SSPC	Society for Protective Coatings 40 24th Street, 6th Floor Pittsburgh, Pennsylvania 15222-4656 www.sspc.org	(877) 281-7772 (412) 281-2331
UL	Underwriters Laboratories, Inc. 333 Pfingsten Rd. Northbrook, IL 60062-2096 www.ul.com	(847) 272-8800 (877) 854-3577
WWPA	Western Wood Products Association 522 SW Fifth Avenue, Suite 500 Portland, Oregon 97204-2122 www.wwpa.org	(503) 224-3930

G. **Federal Government Agencies**: Names and titles of federal government Standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of Standard- or Specification-producing agencies of the federal government. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up to date as of the date of the Contract Documents.

ADA	Americans with Disabilities Act (ADA Information Line) www.ada.gov	800-514-0301
ADAAG	Americans with Disabilities Act Accessibility Guidelines www.access-board.gov/adaag/html/adaag.htm	
CFR	Code of Federal Regulations (Available from the Government Printing Office) 732 North Capitol St. NW Washington, DC 20401	

	(Material is usually first published in the "Federal Register") www.gpoaccess.gov/cfr/index.html	(202) 512-0000
CPSC	Consumer Product Safety Commission 4330 East-West Highway Bethesda, MD 20814-4408 www.cpsc.gov	 (800) 638-2772 (301) 504-7923
DOJ	U.S. Department of Justice 950 Pennsylvania Avenue, NW Washington D.C. 20530-0001 www.usdoj.gov	 (202) 514-2000
EPA	Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460 www.epa.gov	 (800) 438-2474 (202) 272-0167
FS	Federal Specification Available from Department of Defense Automated Printing Service http://dodssp.daps.dla.mil	 (215) 697-6257
	Available from General Services Administration 1800 F Street, NW Washington DC 20405 www.gsa.gov	 (202) 619-8925
	Available from National Institute of Building Services 1090 Vermont Avenue, NW, Suite 700 Washington, DC 20005-4905 www.nibs.org	 (202) 289-7800
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor) N3647 200 Constitution Ave., NW Washington, DC 20210 www.osha.gov www.dol.gov	 (202) 219-8148 (866) 4-USA-DOL
UFAS	Uniform Federal Accessibility Standards www.access-board.gov/ufas/ufas-html/ufas.htm	

H. **District of Columbia Government Agencies**: Names and titles of local government Standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of Standard- or Specification-producing agencies of the DC government. Names and addresses are subject to

change but are believed to be, but are not assured to be, accurate and up to date as of the date of the Contract Documents.

DC-EHA	Environmental Health Administration Department of Health 852 North Capitol Street, NE Washington, DC 20002 www.dchealth.dc.gov	(202) 671-5000
DDOT	District Department of Transportation 2000 14th Street, NW, 6th Floor Washington, DC 20009 www.ddot.dc.gov	(202) 673-6813
WASA	District of Columbia Water and Sewer Authority 5000 Overlook Avenue, SW Washington, DC 20032 www.dcwasa.com	(202) 787-2000

1.5 **SCHEDULES & REPORTS**:

A. **Coordination**: Coordinate both the listing and timing of reports and other activities required by provisions of this and other sections, so as to provide consistency and logical coordination between the reports. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to all parties involved in the work including the Architect.

B. **Material Schedule**: Prior to commencing work, submit for approval the names of manufacturers and the trade names or numbers of all materials proposed for use on the project. Do not use any material until approved by the Architect. Upon request, furnish samples of materials, without cost to the Government, for examination and testing.

1. **Submit 8 copies** of the product-listing schedule prior to commencement of the Work. Provide a written explanation for omissions of data, and for known variations from contract requirements.

C. **Schedule of Values:** Within 30 calendar days of the date of contract award, a Schedule of Values shall be submitted. This schedule is defined as a work item by work item breakdown of cost of each definitive work activity including Contractor's markup. The Schedule of Values shall directly correlate with the Phases of Work indicated on the approved Progress Schedule specified below.

1. The Grand Total of all of the Schedules shall equal Contractor's original bid.

2. The proper updating of both the Schedule of Values and the Record Drawings shall be considered precedent to approval of Partial Payments.

D. **Shop Drawing Submittal Schedule:** Within 30 calendar days of the date of contract award, a Shop Drawing Submittal Schedule shall be submitted. The schedule shall indicate at a minimum, all shop drawing submittals to be made, their contents, each specification section the submittal is drawn from, the date on which it will be submitted, the expected return dates, and the subcontractor responsible for creating the submittal. The submittal will be reviewed by the Architect as the first shop drawing submittal and comments made must be acknowledged and employed in the resubmission prior to the submittal of any other shop drawing. Do not "Load" the schedule.

E. **Fully-Developed Progress Schedule**: Within 60 calendar days of the date of contract award, the Contractor shall prepare and submit for approval a comprehensive bar-chart type progress schedule indicating, by stage-coded symbols, a time bar for each major category or unit of work to be performed at the site; include minor elements of work which are, nevertheless, involved in overall sequencing of the work. Arrange the schedule to show how final acceptance is scheduled to allow for the Architect's procedure for certification of final acceptance. Prepare the schedule on sheets of stable transparency, or other reproducible material, to permit reproduction for the required distribution.

1. **Cost Correlation**: Immediately below the date line at the heading of the bar-chart, provide a two item cost correlation line, indicating both "precalculated" and "actual" costs. This cost correlation line shall show dollar-volume of work performed as of the same dates used for preparation of partial payment requests. Refer to GENERAL CONDITIONS for cost reporting and payment procedures. In so far as it is practical to do so, use the same units of work in the progress schedule as indicated in the "schedule of values" required by the GENERAL CONDITIONS and further specified above.

2. **Schedule Updating**: Following its initial approval, the project schedule shall be updated monthly for the purpose of recording and monitoring progress of the Work and establishing the values of progress payments. If the Work falls behind schedule, revise schedule and describe action to be taken to insure that work will be completed within the Contract time. Any adjustment to the Contract Time shall be made in accordance with the GENERAL CONDITIONS. For each schedule update, prepare a narrative report which shall include a description of all activities completed during the preceding month, description of progress made and planned activities listed as started but not completed on the updated Progress Schedule, and a written description and justification of any proposed revision to the logic sequence.

   a. **Contractor Revisions**: The Contractor may also request revisions to the logic sequence and schedule of the Progress Schedule in the event that his planning for the project is revised. If revisions to the approved Progress Schedule are desired, the Architect shall be notified in writing for his approval, stating reasons for proposed revision. If the Architect considers such proposed revisions to be of a major nature, he may require the Contractor to revise and resubmit for approval, without additional cost to the Government, all or the affected portion of the schedule to indicate the effect on the entire project. Provide two weeks notice to the Architect, in writing, prior to submitting any Contractor proposed revisions not discussed in a previous Progress Meeting.

b. **Architect Revisions**: Architect-directed revisions to the Progress Schedule will be forwarded to the Contractor with a ten (10) calender day Contractor response period. The Contractor shall either assent to the proposed change or state reasons for not implementing the proposed revision.

c. **Progress Updates**: Revisions to the Progress Schedule made to reflect actual work progress to date are not revisions to logic sequence and schedule. In disagreements concerning actual progress recorded to date, the Architect's determination shall govern.

3. **Distribution**: Following the initial submittal to and response by the Architect, print and distribute progress schedules to the Architect (8 copies), separate contractors, the principal subcontractors and suppliers or fabricators, and others with a need-to-know schedule-compliance requirement. When revisions are made, distribute updated issues to the appropriate entities.

F. **Progress Meetings and Documentation**: In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, hold a general progress meeting each month with time coordinated with preparation of the partial payment request. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting. Discuss status of each element of current work in relation to Progress Schedule. Determine how behind-schedule work will be expedited, and secure commitments from entities involved in doing so to ensure that work will be completed within Contract Time.

1. **Initial Progress Meeting**: Schedule initial progress meeting, recognized as "Pre-Construction Meeting", for a date not more than 15 calendar days after date of commencement of the Work. Use it as an organizational meeting, and review responsibilities and personnel assignments.

2. **Daily Reports**: Prepare a daily report, recording information concerning events at the site; and submit duplicate copies to the Architect on at least weekly intervals.

G. **Permits, Licenses, and Certificates**: For the Government's records, submit copies of utility permits, licenses, certifications, utility inspection reports, releases, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

1.6 SUBMITTALS:

A. **General**: Shop drawings, product data, samples and other work-related submittals are required to amplify, expand and coordinate the information contained in the Contract Documents. The Contractor is responsible for all dimensions, for the design of adequate or proper components, connections and other items, for the inclusion in the work of all elements and incidental details, and for the satisfactory fabrication, construction, operation and coordination of the work.

1. **Approval** of any submission shall not be construed as a complete or precise check of the item submitted but will only indicate that the general methods of design, detailing, construction or other elements under consideration appear to be satisfactory, without specific determinations or particulars.

2. **Changes to the Contract** will not be made by notations on submittals. In the event submittals returned by the Architect with notations, which in the opinion of the Contractor, constitute additional work for which he is entitled to an adjustment in the contract sum or the contract time, the Contractor shall comply with the procedure set forth in Article 18, "Changes," of the GENERAL CONDITIONS.

3. **Do not permit** submittal copies without an appropriate final "Action" marking by the Architect to be used in connection with the work.

4. **Submissions of "Approved Equals:"** In addition to standard submittal requirements, for each item submitted as an "approved equal" submit the following:

   a. **Comparison of** proposed approved equal's characteristics with the salient characteristics of the specified product demonstrating that the proposed approved equal fully meets or exceeds the specifications,

   b. **Drawings and** samples as required for specified products,

   c. **Any changes** required in other elements (if any) because of the submission of the proposed approved equal, and

   d. **A listing of** sources of supply, maintenance service (if applicable), and replacement parts.

B. **Submittal Procedures**: Make all submittals to the Architect or to an individual designated by the Architect.

1. **Only the Architect** or an individual designated by the Architect can approve or disapprove submittals. Deviations and variations from the contract requirements contained in the submittal can be approved only by the Architect or by an individual delegated such authority by the Architect.

2. **Costs** associated with transmittal of submittals shall be borne by the Contractor.

3. **Review Time**: Except as specified elsewhere, allow for a review period of thirty (30) calendar days after receipt of the submittals by the Architect. Advise the Architect on each submittal, as to whether processing time is critical to the progress of the work, and if work would be expedited if processing time could be shortened. No extension of time will be authorized because of the Contractor's failure to transmit submittals or re-submittals to the Architect sufficiently in advance of the work. For submittals of items requiring coordination between different trades or subcontractors, review time period starts from the time that all required submittals have been received by the Architect and

ends when submittal leaves the Architect. The Contractor is required to coordinate all work involving associated sub-trades and produce coordinated drawings for submittal where required by individual specification sections or as required below.

4. **Preparation of Submittals**: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, supplier, manufacturer, submittal name and similar information to distinguish it from other submittals. Label as to number and title of specification section, drawing number and detail references, as appropriate. Show Contractor's executed review and approval marking and provide space of not less than 20 sq. in. for the Architect's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through the Contractor's office will be returned without action.

5. **Number of Copies**: Submit a minimum of 8 copies of each submittal requested.

C. **Specific Submittal Requirements**: Specific submittal requirements for individual units of work are specified in the applicable specification section. Except as otherwise indicated in the individual specification sections, comply with the requirements specified herein for each type of transmittal.

1. **Product Data**: Collect required product data into a single submittal for each unit of work or system. Mark each copy to show which choices and options are applicable to the project. Where product data has been printed to include information on several similar products, some of which are not required for use on the project, or are not included in this submittal, mark the copies to show clearly that such information is not applicable.

a. **Submittals**: Submittal is for information and record, unless otherwise indicated. Initial submittal is final submittal unless returned by the Architect, marked with an action which indicates an observed non-compliance.

1) **Initial Submittal**: Except as otherwise indicated, submit eight (8) copies of each required product data submittal, plus two (2) additional copies where required for maintenance manuals. The Architect will retain two (2) copies and return the other marked with "Action" and corrections or modifications as required.

2. **Shop Drawings**: Provide special notation of dimensions that have been established by field measurement. Highlight, encircle or otherwise indicate deviations from the Contract Documents on the shop drawings.

a. **Preparation**: Submit newly prepared information, drawn to accurate scale on sheets not less than 8-1/2" x 11"; except for actual pattern or template type drawings, the maximum sheet size shall not exceed 36" x 48". Indicate the name of the firm that prepared each shop drawing and provide appropriate project identification in the title block.

1) Do not reproduce contract documents or copy standard printed information as the basis of shop drawings.

2) Use standard architectural scales for all drawings.

b. **Coordination Drawings**: Prior to installation of sleeves and inserts for equipment, and/or the performance of work in spaces in which two (2) or more trades are involved and in which the probability of interference exists as determined by either the Contractor or the Architect, submit composite coordination drawings for the Work. Show sequencing and relationship of separate units of work which must interface in a restricted manner to fit in the space provided, or function as indicated. In case interference develops, the Architect will decide which work shall be relocated, regardless of which was installed first. Coordination drawings are considered shop drawings and must be definitive in nature.

c. **Equipment and Systems**: Shop Drawings for equipment and systems shall show ratings (where applicable), and how components are assembled, function together, and how they will be installed. Shop drawings, product data, certificate of conformance or compliance, certified test or inspection reports, and other submittals for equipment, systems, and their component parts shall be coordinated and submitted as a unit. Multiple or piecemeal submissions are not acceptable except where prior approval is obtained from the Architect, in which case a list of data to be submitted later shall be included with the first submission.

d. **Initial Submittals**: Original transmittal letter and 8 blue-line or black-line prints shall be forwarded to the Architect for approval. Copy of transmittal letter, 1 blue-line or black-line print and one correctable 1-1/2 mil translucent polyester reproducible of each shop drawing shall be forwarded to the Architect for their review.

e. **Final Submittal**: 8 prints, plus 2 additional prints where required for maintenance manuals; 2 will be retained and remainder will be returned, one of which is to be marked-up and maintained by Contractor as "Record Document."

3. **Samples**: Documentation required specifically for sample submittals includes a generic description of the sample, the sample source or the product name or Manufacturer, compliance with governing regulations and recognized standards. In addition, indicate limitations in availability, sizes, delivery time, and similar limiting characteristics.

a. **Preparation**: Where possible provide samples that are physically identical with the proposed material or product to be incorporated in the work; provide full scale, fully fabricated samples cured and finished in the manner specified. Where variations in color, pattern, or texture are inherent in the material or product represented by the sample, submit not less than 3 units of the sample, which show the full range of variations. Where samples are specified for the Architect's selection of color, texture or pattern, submit a full set of available choices for the material or product. Mount, display, or package samples in the manner specified to facilitate the review of indicated qualities. Prepare samples to match the Architect's sample where so indicated.

b. **Submittal**: Submit 3 sets of samples in the final submittal, one set will be returned. If the submittal is for the Architect's selection of color, pattern, texture or similar characteristics from a manufacturer's standard range of choices, only a single set of samples is required for a preliminary submittal. The final submittal may then be limited only to those choices selected by the Architect for final incorporation into the Work.

4. **Miscellaneous Submittals**:

a. **Inspection and Test Reports**: Classify each inspection and test report as being either "shop drawings" or "product data" depending on whether the report is specially prepared for the project, or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.

b. **Offsite Fabrication Facilities**: Provide for scheduled visits to off site fabrication facilities by the Architect. Make all facilities, including storage areas and plant, open and accessible to review of procedures, materials used and storage and shipping methods.

c. **Warranties**: Refer to Article "Products" for specific general requirements on warranties, product bonds, workmanship bonds and maintenance agreements. In addition to copies desired for the Contractor's use, furnish 2 executed copies of such warranties, bonds or agreements. Provide 2 additional copies where required for maintenance manuals.

d. **Staging Plan**: The Architect will indicate in plan where the Contractor can stage the construction. Submit a Staging Plan indicating specific locations of the storage and loading of materials, traffic direction and control concept and signage, security perimeter for staging area, locations of informational construction signage, locations of temporary toilets and other temporary construction, emergency facilities and resources and any other construction facilities required.

e. **Traffic Control**: Submit a site plan and details for review and approval by the Architect to diagrammatically indicate proposed measures for safely and efficiently controlling and re-routing traffic as necessary to enable construction work, deliveries, paving, testing operations and other activities. Indicate schedules of activities occurring hourly before, during and after the normal workday. At all times provide minimal disruption to the day-to-day activities occurring on the site and at adjacent locations.

f. **Safety Plan**: Submit a Safety Plan in accordance with **all** requirements in Division 1 "SAFETY AND HEA LTH", especially, those listed under Section 1.5 B, Contractor's Safety & Health Program & Policies.

5. **Closeout Submittals**: Refer to Article "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information, materials, tools, and similar items.

D. **Architect's Action**: Except for submittals for the record and similar purposes, where action and return on submittals is required or requested, the Architect will review each submittal and mark with appropriate "Action." Where the submittal must be held for coordination, the Architect will so advise the Contractor without delay.

1. **If no changes** to the drawing are required, three (3) prints and the reproducible drawing will be returned to the Contractor, bearing the stamp of the Architect, stating - "APPROVED."

2. **If changes** to the drawing are required, but are of such minor nature that fabrication and/or construction can proceed in accordance with the correction noted by the Architect without resubmission of the drawing three (3) prints and the reproducible drawing will be returned to the Contractor bearing the Stamp of the Architect stating "Approved as Noted." The Contractor shall proceed with fabrication and/or construction in accordance with the Architect's corrections, and resubmit corrected copy for the Architect's records.

3. **If changes** to the drawing are required, but are of such nature that fabrication or construction cannot proceed, three (3) prints and the reproducible drawing will be returned to the Contractor, bearing the stamp of the Architect stating - "Revise and Resubmit." In such a case, the Contractor shall resubmit the drawings, properly corrected. Upon resubmission of shop drawings, if any corrections or changes are made other than those marked by the Architect, the Contractor shall clearly indicate any such corrections or changes made on his own initiative.

4. **If the product does not meet** the specification requirements, the number of copies outlined above will be returned to the Contractor, bearing the stamp of the Architect stating - "REJECTED." In such a case, the Contractor shall submit a new product which complies with the technical specifications.

5. **Other Action**: Where the submittal is returned, marked with the Architect's explanation, for special processing or other Contractor activity, or is primarily for information or record purposes, the submittal will be marked as follows:

   a. **Not Subject to Review**: This review category will apply to submittals which are not required by the Contract Documents and are inadvertently submitted and stamped; or

   b. **Received/No Action Required**: This category will be used when returning "Informational Submittals" for which the Architect is not required to take action.

1.7 TEMPORARY FACILITIES AND CONTROLS:

A. **Description of Requirements**: This article specifies administrative and procedural requirements for temporary services and facilities, including such items as temporary utility services, temporary construction and support facilities, and project security and protection.

1. **Use Charges**: No cost or usage charges for temporary services or facilities are chargeable to the Government. Cost or use charges for temporary services or facilities will not be accepted as a basis of claims for a change-order extra. All materials and equipment provided by the Contractor for temporary facilities shall remain the property of the Contractor.

2. **Materials and Execution**: Provide new materials and equipment for temporary services and facilities; used materials and equipment that are undamaged and in serviceable condition may be used, if acceptable to the Architect. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards. Do not use materials of temporary service in permanent installation.

B. **Quality Assurance**: Comply with the requirements of the BOCA National Building Code - 1999 and regulations governing construction and local industry standards, in the installation and maintenance of temporary services and facilities.

1. **Standards**: Comply with the requirements of NFPA Code 241, *Building Construction, Alteration and Demolition Operations,* the ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", "OSHA 29 CFR 1926 Construction Standards", and the NECA National Joint Guideline NJC-6 "Temporary Job Utilities and Services".

a. **Refer** to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", as prepared jointly by Associated General Contractors of America (AGC) and American Specialty Contractors, Inc. (ASC) for industry recommendations.

b. **Trade Jurisdictions**: The assigned responsibilities for the installation and operation of temporary utilities are not intended to interfere with the normal application of trade regulations and union jurisdictions applicable to the work.

2. **Inspections**: Inspect and test each service before placing temporary utilities in use. Arrange for required inspections and tests by governing authorities, and obtain required certifications and permits for use.

C. **Job Conditions**: Provide each temporary service and facility ready for use at each location when the service or facility is first needed to avoid delay in performance of the Work. Maintain, expand as required and modify temporary services and facilities as needed throughout the progress of the Work. Do not remove until services or facilities are no longer needed, or are replaced by the authorized use of completed permanent facilities.

D. **Temporary Utilities**: The Architect will designate a connection point for installation of temporary service to the project to existing service. Arrange with the Architect for an acceptable time when service can be interrupted, where necessary to make connections for temporary services.

1. **Temporary Electric Power Service**: Electrical energy will be supplied by the Government, but the Contractor shall install and maintain all necessary conduit, wiring, and devices needed to execute the work. Install all wiring in flexible conduit or armored cable with minimum No. 12 gage wire. Portable cords for small power tools shall be properly grounded and installed as approved by the Architect. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for plug-in connection of power tools and equipment. The Government will not be held responsible for power outages beyond its control.

   a. **Comply with applicable NEMA**, NECA and UL standards and governing regulations for materials and layout of temporary electric service, including those requirements included in Division-16 sections.

   b. **Install service and grounding** in compliance with the *National Electrical Code* (NFPA 70), the BOCA National Building Code, and Power Company requirements. Include necessary service connection, service switch, meters, transformers, overload protected disconnect, main distribution switch gear, panelboards, wiring, cables, devices, and accessories.

2. **Temporary Lighting**: Provide local switching of temporary lighting, spaced to allow lighting to be turned off in patterns to conserve energy and retain light suitable for work-in-progress, access traffic, security check and project lock-up.

   a. **Provide general service incandescent lamps** of wattage indicated or required for adequate illumination. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide exterior fixtures where fixtures are exposed to weather or moisture. Keep sockets equipped with active lamps. Where feasible, utilize fluorescent type fixtures.

3. **Temporary Heating, Cooling and Ventilating**: Provide temporary heating, cooling, and ventilating where indicated or needed for performance of the Work, curing or drying of recently installed work or for protection of work in place from adverse effects of low temperatures or high humidity. Select facilities known to be safe and without deleterious effect upon the work in place or being installed. Coordinate with ventilation requirements to produce the indicated ambient condition required, to minimize the consumption of fuel or energy, and to comply with code requirements.

   a. **Maintain** a minimum temperature of 50 deg. F (7 deg. C) in permanently enclosed portions of the building and areas where finished work has been installed. Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the fuel being consumed. Do not use open burning or salamander type heating units where prohibited by governing codes or

regulations, or when combustible materials are located in or near the space being heated, or when the work installed or being installed includes work which will be exposed to view in the completed project.

1) **Do not store** fuel in building.

b. **Provide for ventilation** requirements where possible through use of natural ventilation, utilizing temporary heat and enclosures and openings to effect needed movement of air. Where necessary, install temporary fans or blowers to provide ventilation of construction spaces. Where necessary, operate units with filters and baffles to avoid distribution of dust and fumes and to minimize deleterious effects upon work. Equip portable ventilating fans with suitable safety guards.

c. **As soon as practical**, after permanent system is in place and operable, provide heat from the permanent building heating system, under operation and supervision of personnel authorized by the equipment manufacturer, until the building is complete.

1. Permanent system may be operated without diffusers and registers in place, but filters with same efficiency as those specified for permanent system must be installed in ductwork.
2. Immediately prior to acceptance by the Government, clean ducts and replace all used filters with new ones.

4. **Temporary Telephones**: Arrange for the local telephone company to install temporary service to the project. Location of telephones and telephone wires is subject to the Architect's approval.

[Arrange for the local telephone company to install temporary service to the project or provide cellular service to the contractor's site superintendent.. Location of telephones and telephone wires is subject to the Architect's approval.]

5. **Water Service**: Water will be provided for project use by the Government at existing sources. Provide temporary piping, connections, maintenance and other work required to deliver water required for the project.

a. As soon as construction operations at each floor level require water, extend service, the full height of the building to form a temporary water and fire water standpipe. Provide distribution piping for temporary water to each location of use. As a minimum, provide one 3/4" outlet for each floor level of construction spaced so that water can be reached with a 100 foot length of hose. Provide one 3/4" flexible rubber hose 100 feet long with an adjustable nozzle, at each outlet where work requiring water is in progress.

6. **Temporary Sanitary Facilities:** Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Use of the designated existing Government toilet facilities, will be permitted, provided these facilities are properly cleaned and maintained in a condition acceptable to the Government. Immediately prior to Final Acceptance, restore these facilities to the condition prevalent at the time of initial use. Do not clean tools or equipment in building toilet rooms.

7. **Fire Protection:** Comply with applicable recommendations of NFPA 10, *Standard for Portable Fire Extinguishers*. Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than 1 extinguisher on each floor at or near each usable stairwell. Store combustible materials in clearly-labeled containers in recognized fire-safe locations.

   a. **Develop and supervise** an overall fire prevention and first aid fire protection program for personnel at the project site.

   b. **Provide type "A" fire extinguishers** for offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires.

   c. **Maintain adequate safeguard** on the site for a period of 30 minutes following the cessation of welding or burning operation, including but not limited to after completion of work at end of shift, lunch breaks and temporary work.

   d. **Where temporary water outlets** are available, provide hoses of sufficient length to reach construction areas. Hang hoses with a warning sign, to the effect that hoses are for fire protection purposes and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

   e. **At the earliest feasible date** in each area of the project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel at the site on how to use facilities which may not be self-explanatory.

E. **Temporary Construction and Support Facilities**:

1. **Field Offices, Storage Trailers and Sheds**: The AOC does not allow the construction of temporary field offices, or use of storage trailers and sheds for equipment and tools. The AOC will provide the contractor(s) with a staging area for equipment and tools. The staging area will be identified to the contractor(s) during an on-site walk-through.

2. **Temporary Partitions:** Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

   a. Construct dustproof partitions of not less than nominal 4-inch (100-mm) studs, 5/8-inch (16-mm) Type X gypsum wallboard with joints taped on occupied side, and ½-inch (13-mm) fire-retardant plywood on construction side.

   b. Construct dustproof, floor-to-ceiling partitions of not less than nominal 4-inch (100-mm) studs, 2 layers of 6-mil (0.14-mm) polyethylene sheets, inside and outside temporary enclosure. Cover floor with 2 layers of 6-mil (0.14-mm) polyethylene sheets, extending sheets 18 inches (460 mm) up the side walls. Overlap and tape full length of joints. Cover floor with 3/4-inch (19-mm) fire-retardant plywood.

1) Construct a vestibule and airlock at each entrance to temporary enclosure with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.

c. Insulate partitions to provide noise protection to occupied areas.

d. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.

e. Protect air-handling equipment.

f. Weatherstrip openings.

3. **Construction Aids**: Design, construct, and maintain construction aids and miscellaneous general services and facilities as needed to accommodate performance of the work. Construction aids and miscellaneous general services and facilities include, but are not limited to the following:

a. **Provide temporary stairs** where ladders are not adequate for performance of work, and until permanent stairs are available. Cover finished permanent stairs which will be exposed to occupants' use, with a durable protective covering of plywood or similar material so that finishes will be undamaged at the time of acceptance.

b. **Provide scaffolds** as required for proper execution of the Work. Remove or relocate scaffolds promptly to avoid interference with other trades. Provide stairs for vertical circulation.

c. **Provide adequate guardrails and barriers** at perimeters of each level of construction as work progresses in accordance with District of Columbia requirements and in conformance with requirements of the Special Conditions.

d. **Provide adequate facilities** for hoisting materials and employees. Do not permit employees to ride hoists which comply only with requirements for hois ting materials. The Contractor is responsible for selection of type, size and number of facilities. Truck cranes and similar devices used for hoisting are considered as being "tools and equipment" and not temporary facilities.

e. **Chutes**: Do not permit free dropping of materials, rubbish or debris, but remove by use of material hoist and/or rubbish chute. Locations of all hoists and chutes are subject to approval by the Architect.

1. Protect building from use of hoists and chutes to prevent damage, marring or staining of permanent work. Brace and guy securely and provide safety devices as required by code.

4. **Project Signage**: No signs, other than safety signs, may be erected on the site unless specifically indicated otherwise.

F. **Security and Protection Facilities**: Provide and maintain all necessary barricades, lights, and other safeguards for the protection of Members of Congress, Government employees, Contractor's employees and the general public from injury. Protect materials and work on the site, whether incorporated in the work or not, against damage or loss from any cause.

1. **Protect all** electric, telephone, water, gas, sewer, steam, and other underground utility lines in sidewalks, street or other areas, in, under or around the site, to the satisfaction of the AOC Fire Marshal's Office, the District of Columbia, and other authorities having jurisdiction. Prior to commencing work which may affect or disturb underground utilities, consult with the Architect.

2. **Provide a reasonably neat** and uniform appearance in security and protection facilities acceptable to the Architect.

3. **Except for utilization** of permanent fire protection facilities, as soon as available in each area, do not change over from use of temporary security and protection facilities to use of permanent facilities until near final acceptance, or for longer periods of time as requested by the Architect.

4. **Barricades and Fences**: Comply with recognized standards and code requirements for the erection of substantial, structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the public, of the hazard being protected against. Provide lighting where appropriate and needed, including flashing red lights where appropriate.

5. **Sidewalk Bridge and Walkway**: Erect a substantial, structurally adequate protective bridge for the passage of persons along the walkway wherever the possibility exists that materials might be hoisted from the roadway, across walkway and onto site. Coordinate with project entrance gates and other facilities and obstructions. Comply with governing regulations and requests of governing authorities.

   a. **Construct the sidewalk bridge** using heavy scaffold or shoring type framing, waterproofed heavy wood plan-K overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways and similar provisions for protection and safe passage. Paint and maintain the facility in a manner acceptable to the Government.

   b. **Construct the back wall** to serve as the project enclosure fence. Extend the framed plywood backwall beyond the bridge structure, as needed, to complete the enclosure fence.

6. **Security Enclosure and Lockup**: Install substantial and durable general temporary enclosure of partially completed areas of construction. Provide locking entrances adequate to prevent unauthorized entrance, vandalism, theft and similar deleterious effects and violations of project security. Provide copies of access keys to the United States Capitol Police.

G. **Temporary Controls**:

1. **Traffic Control:** Plan vehicular access methods, locations and timing of deliveries in a manner to minimize interference with street and pedestrian traffic and to conform to District of Columbia regulations. Do not block or obstruct public streets, driveways and walkways adjacent to the site at any time during performance of the work without proper authorization. Do not permit trucks of any kind to use existing sidewalks without prior authorization of the Architect.

2. **Collection and Disposal of Wastes:** Establish a system for daily collection and disposal of waste materials from construction areas and elsewhere on the site. Enforce requirements strictly. Do not hold collected materials at the site longer than 7 days during normal weather or 3 days when the daily temperature is expected to rise above 80 deg. F (27 deg. C). Handle waste materials that are hazardous, dangerous, or unsanitary separately from other inert waste by containerizing appropriately. Dispose of waste material in a lawful manner.

   a. Burying or burning of waste materials on the site will not be permitted.

   b. Washing waste materials down sewers or into waterways will not be permitted.

   c. Provide rodent proof containers located on each floor level of construction work, to encourage depositing of garbage and similar wastes by construction personnel.

3. **Dust Control:** During periods of construction activity creating dust conditions sprinkle with water periodically the site areas disturbed by Contractor's operation or treat with dust suppressors to control dust. Dry power brooming will not be permitted. Use vacuuming, wet mopping, wet sweeping or wet power brooming. Air blowing will be permitted only for cleaning non-particulate debris. Use only wet cutting procedures for unit masonry and concrete.

4. **Noise Control:** Avoid the use of tools and equipment that produce harmful noise. Restrict the use of noise making tools and equipment to hours of use that will minimize noise complaints from persons or firms near the project site.

5. **Environmental Protection**: Provide general protection facilities, operate temporary facilities, conduct construction activities, and enforce strict discipline for personnel on the site in ways and methods that comply with environmental regulations, and that minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result from the performance of work at the site.

6. **Snow and Ice Control**: Keep access to building and work areas clear of snow adequately to permit access while work is in progress. Do not allow snow and ice to accumulate so as to overload or otherwise endanger any portion of the Work. Do not allow snow and ice to accumulate over surfaces that can be damaged upon thawing.

H. **Installation, Operation, Termination and Removal**: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.

1. **Supervision**: Limit availability of temporary services and facilities to essential and intended uses to minimize waste and abuse. Do not permit temporary installations to be abused or endangered. Do not allow hazardous, dangerous or unsanitary conditions to develop or persist on the project site.

2. **Maintenance**: Operate and maintain temporary services and facilities in good operating condition throughout the time of use and until removal is authorized. Protect from damage by freezing temperatures and similar elements.

   a. **Prevent water filled piping from freezing** by use of ground covers, insulation, by keeping drained or by temporary heating. Maintain distinct markers for underground lines. Protect from damage during excavation operations. Prevent contamination of water sources.

3. **Termination and Removal**: Unless the Architect requests that it be maintained for a longer period of time, remove each temporary service and facility promptly when the need for it or a substantial portion of it has ended, or when it has been replaced by the authorized use of a permanent facility, or no later than substantial completion. Repair damaged work, clean exposed surfaces and replace work which cannot be satisfactorily repaired. Contract time includes the time required for final cleanup of premises.

   a. **Immediately prior to final acceptance**, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period.

   b. **Restoration of Site and Adjacent Areas** : Restore the site and the adjacent areas used for staging, traffic, protection and storage of materials to their conditions prior to start of work. This includes, but is not limited to all site improvements, signage, lighting, street furniture, paving, sprinkler systems, utilities, plant, trees and turf materials. Procedures which may be required include de-compaction of compacted soils, addition of soil amendments, aeration, re-grading and removal of contaminated materials or other procedures as may be necessary.

1.8 PRODUCTS:

A. **General**: Refer to clause, "Materials and Workmanship," of the GENERAL CONDITIONS. After execution of the Contract, the Contractor's requests for changes in the products, materials, equipment and methods of construction required by the Contract Documents are considered requests for "contract modifications," and are subject to the requirements specified in the Architect of the Capitol, "Official Procedure for Making Changes in Contracts." Revisions to the contract documents, where requested by the Architect are considered as "changes" not substitutions.

B. **Quality Assurance**: Compatibility of products is a basic requirement of product selection. When the Contractor is given the option of selecting between two or more products for use on the project, the product selected must be compatible with other products previously selected, even if the products previously selected were also Contractor options. The complete compatibility between various choices available to the Contractor is not assured by the various

requirements of the Contract Documents, but must be provided by the Contractor. Provide a single product for each required product selection, regardless of whether that product selection is provided by more than one sub-contractor. Do not alter product brands or series for a given product selection during the life of the contract without written approval of the Architect.

1. **Source Limitations**: To the fullest extent possible and subject to the restrictions of the "Buy American Act," provide products of the same generic kind, from a single source, for each unit of work.

C. **Product Delivery, Storage, and Handling**: Deliver, store, and handle products in accordance with manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft. Control delivery schedules to minimize long-term storage at the site and to prevent overcrowding of construction spaces, and to ensure minimum holding or storage times for items known or recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration or loss. Contractor shall maintain, at the worksite, ready access to Manufacturers Material Safety Data Sheet(s) (MSDS) for each material/product.

1. **Deliver products** to the site in the manufacturer's sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, ventilating, and installing.

2. **Store products** at the site in a manner that will facilitate inspection and measurement of quantity or counting of units, and in conformance with manufacturer's instructions.

3. **Store heavy materials** away from the project structure in a manner that will not endanger the supporting construction.

D. **General Product Compliance**: Requirements for individual products are indicated in the Contract Documents; compliance with these requirements is in itself a contract requirement. These requirements may be specified in any one of several different specifying methods, or in any combination of these methods.

1. **Procedures for Selecting Products**: The Contractor's options in selecting products are limited by requirements of the Contract Documents and governing regulations. They are not controlled by industry traditions or procedures experienced by the Contractor on previous construction projects.

a. **Performance Specification Requirements**: Where the specifications require compliance with indicated performance requirements, provide products that comply with the specific performance requirements indicated, and that are recommended by the manufacturer for the application indicated. The manufacturer's recommendations may be contained in published product literature, or by the manufacturer's individual certification of performance. General overall performance of a product is implied where the product is specified for specific performances.

b. **Compliance with Standards, Codes and Regulations**: Where the specifications require only compliance with an imposed standard, code or regulation, the

Contractor has the option of selecting a product that complies with specification requirements, including the standards, codes and regulations.

c. **Visual Matching**: Where matching an established sample is required, the final judgement of whether a product proposed by the Contractor matches the sample satisfactorily will be determined by the Architect. Where there is no product that matches the sample satisfactorily and also complies with other specified requirements, comply with the provisions of the contract documents concerning "contract modifications" for the selection of a matching product in another product category, or for non-compliance with specified requirements.

d. **Visual Selection**: Except as otherwise indicated, where specified product requirements include the phrase "...as selected from the manufacturer's standard colors, patterns, textures..." or similar phrases, the Contractor has the option of selecting the product and manufacturer, provided the selection complies with other specified requirements. The Architect is subsequently responsible for selecting the final color, pattern and texture from the product line selected by the Contractor.

E. **General Product Requirements**: Provide products that comply with the requirements of the contract documents and that are undamaged and, unless otherwise indicated, unused at the time of installation. Provide products that are complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.

1. **Provide products** that are essentially the standard catalogued products of manufacturers regularly engaged in production of such products and that are the manufacturer's latest standard design that complies with the specification requirements. Equipment shall essentially duplicate items that have been in satisfactory commercial and industrial use at least two years, or more if otherwise specified, prior to bid opening; or in lieu thereof shall have been used and operated in a test installation which, in the opinion of the Architect, duplicate its field performance for the same period of time. The Architect reserves the right to require the Contractor to submit evidence to this effect for his approval. When two units of the same class of equipment are required, these units shall be the product of a single manufacturer; however, the component parts of the system need not be the products of the same manufacturer.

2. **Provide standard**, domestically produced products for which the manufacturer has published assurances that the products and its parts are likely to be available to the Government at a later date.

3. **Nameplates**: Except as otherwise indicated for required labels and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on the exterior of the completed project.

F. **Installation of Products**: Except as otherwise indicated in individual sections of these specifications, comply with the manufacturer's instructions and recommendations for installation of the products in the applications indicated. Anchor each product securely in place, accurately

located and aligned with other work. Clean exposed surfaces and protect surfaces as necessary to ensure freedom from damage and deterioration at time of acceptance. Products pertaining to mechanical systems and equipment, and the components thereof, as well as systems/equipment itself, will be arranged and installed to provide ready accessibility for AOC employees, post construction, and ease of lock/tag application during lockout/tagout procedures.

1.9 **PROJECT CLOSEOUT**:

A. **Definitions**: "Project Closeout" is the term used to describe certain collective project requirements, indicating completion of the work that are to be fulfilled near the end of the Contract Time in preparation for final acceptance and occupancy of the Work by the Government, as well as final payment to the Contractor and the normal termination of the Contract.

1. **Time of closeout** is directly related to "Final Acceptance." Therefore, the time of closeout may be either a single time period for the entire Work or a series of time periods for individual elements of the Work that have been certified as substantially complete at different dates. This time variation, if any, shall be applicable to the other provisions of this Division.

B. **Final Cleaning**: Special cleaning requirements for specific units of Work are included in the appropriate sections of Division 2 through 16. General Cleaning during the regular progress of the Work is required by the GENERAL CONDITIONS and is included under Article "Temporary Facilities and Controls".

1. **Cleaning**: Provide final cleaning of the Work at the time indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial building cleaning and maintenance program. Comply with the manufacturer's instructions for operations.

a. **Complete the following** cleaning operations before requesting the Architect's inspection for Final Acceptance.

b. **Remove labels** which are not required as permanent labels.

c. **Clean transparent materials**, including mirrors and glass in doors and windows, to a polished condition. Remove putty and other substances which are noticeable as vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

d. **Clean exposed** exterior and interior hard-surfaced finishes to a dust-free condition, free of dust, stains, films and similar noticeable distracting substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

e. **Wipe surfaces** of mechanical and electrical equipment clean. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

f. **Clean the project site**, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas to a broom clean condition; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

2. **Pest Control**: Engage an experienced exterminator to make a final inspection of the project, and to rid the project of rodents, insects and other pests.

3. **Compliance**: Comply with safety standards and governing regulations for cleaning operations. Remove waste materials from the site and dispose of in a lawful manner.

a. **Where extra materials** of value remaining after completion of associated work have become the Government's property, salvage or dispose of these materials to the Government's best advantage as directed.

C. **Record Document Submittals**: Specific requirements for record documents are indicated in the individual sections of these specifications. Other requirements are indicated in the GENERAL CONDITIONS. General submittal requirements are indicated in the various "Submittals" articles of individual sections of the Project Manual.

1. **Do not use** record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.

2. **Record Documents**: Maintain a record set of blue or black line white-prints of contract drawings and shop drawings in a clean, undamaged condition. Mark-up the set of record documents to show the actual installation where the installed work varies substantially from the work as originally shown. Mark whichever drawing is most capable of showing the actual "field" condition ("as-built" condition) fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at the corresponding location on the working drawings. Give particular attention to concealed work that would be difficult to measure and record at a later date.

a. **Mark record sets** with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work.

b. **Note related** change-order numbers where applicable.

c. **Organize record drawing sheets** into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.

d. **Materials and Tools**: Refer to individual sections of the Project Manual for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted.

D. **Maintenance Manuals**: Organize operating and maintenance data into suitable sets of manageable size. Bind data into individual binders properly identified and indexed. Bind each set of data in a heavy-duty 2-inch, 3-ring vinyl-covered binder, with pocket folders for folded sheet information. Mark the appropriate identification on both front and spline of each binder.

E. **Warranties and Bonds:** At Final Completion compile eight (8) copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, Supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.

   a. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.

   b. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS," the Project title or name, project number, and the name of the Contractor.

2. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

F. **General Operating and Maintenance Instructions**: Arrange for each installer of operating equipment and other work that requires regular or continuing maintenance, to meet at the site with the Government's personnel to provide necessary basic instruction in the proper operation and maintenance of the entire Work. Where installers are not experienced in the required procedures, include instruction by the manufacturer's representatives.

G. **Closeout Submittals:** Prior to requesting Final Inspection, submit the following:

1. Project Record Documents, properly annotated and in the format required.
2. Copies of Warranties and Bonds.
3. Operation and Maintenance data.
4. All required operating or special tools required in individual sections.
5. All required keys and keying schedules.

H. **Prerequisites to Final Acceptance**: Complete the following before requesting the Architect's final inspection for certification of final acceptance, and final payment as required by the GENERAL CONDITIONS. List known exceptions, if any, in the request.

1. **Submit the final payment** request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

2. **Submit an updated final statement**, accounting for final additional changes to the Contract Sum.

3. **Submit a certified copy** of the Architect's final punch-list of itemized work identified to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by the Architect.

4. **Submit final meter readings for utilities**, a measured record of stored fuel, and similar data either as of the date of substantial completion, or else when the Government took possession of and responsibility for corresponding elements of the Work.

5. **Submit** consent of surety.

I. **Reinspection Procedures**: The Architect will reinspect the Work upon receipt of the Contractor's notice that the work, including punchlist items resulting from earlier inspections, has been completed, except for these items whose completion has been delayed because of circumstances that are acceptable to the Architect.

J. **Removal of Protection**: Except as otherwise indicated or requested by the Architect, remove temporary protection devices and facilities which were installed during the course of the work to protect previously completed work during the remainder of the construction period.

END OF DIVISION 1

SECTION 01270 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for unit prices.

B. Related Sections include the following:

1. Division 13 Section "FIRE ALARM AND EMERGENCY VOICE COMMUNICATION SYSTEM"
2. Division 16 Section "BASIC ELECTRICAL MATERIALS AND METHODS"

1.3 DEFINITIONS

A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. The Architect reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at the Architect's expense, by an independent surveyor acceptable to Contractor.

C. Changes to the Contract will be considered only for AOC requested concept changes. Such changes to the contract price will be authorized only by written change order.

D. The Contractor shall provide a unit installation cost for the materials and labor required for the installation of fire alarm system wiring, metal and nonmetal raceway and electrical boxes and any other materials required, smoke detectors, terminal cabinets, and other equipment as indicated herein in the case where actual layouts are different than shown on the fire alarm system design drawings.

E. The Contractor shall include all special types of devices for all device types. It shall not be acceptable for the Contractor to exclude unit pricing for any fire alarm system component submitted for use in the project. Attach additional sheets as necessary. It is the Contractor's responsibility to include equipment, devices, etc. as part of the fire alarm system replacement project not shown in the list below.

F List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit

price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL

A. Unit prices below shall correspond to the types of devices submitted for use in the project.

B. The following unit prices are for the addition or deletion of one device installed complete (including associated raceway, interconnecting wiring and associated labor) and operational (including programming, testing, documentation, warranty and any associated labor). It is intended that the same price for the addition and deletion of items from the contract be utilized, submission of differing prices for addition and deletion shall not be acceptable.

3.2 LIST OF UNIT PRICES

A. Unit Price No. 1 - FIRE ALARM CONTROL UNIT:

1. Description: Fire alarm control unit according to Division 13 Section "FIRE ALARM CONTROL UNITS (FACUs) GENERAL"; and shall be manufactured by Notifier®, a division of Honeywell International, Inc.
2. Unit of Measurement: Fire alarm control unit ($_____ea.)

B. Unit Price No. 2 - COMPUTER-BASED GRAPHIC COMMAND CENTER:

1. Description: Computer-based graphic command center with all parts, pieces and accessories according to Division 13 Section "COMPUTER-BASED GRAPHIC COMMAND CENTER"; and shall be the ONYX Series NCS Network Control Station manufactured by Notifier®, a division of Honeywell International, Inc.
2. Unit of Measurement: Computer-based graphic command center ($_____ea.)

C. Unit Price No. 3 - LOW-POWER TOUCHSCREEN ANNUNCIATOR:

1. Description: Low-power touchscreen annunciator with all parts, pieces and accessories according to Division 13 Section "LOW-POWER TOUCHSCREEN ANNUNCIATOR"; and shall be the ONYX FirstVistion™ manufactured by Notifier®, a division of Honeywell International, Inc.
2. Unit of Measurement: Low-power touchscreen annunciator ($_____ea.)

D. Unit Price No. 4 - ADDRESSABLE DETECTOR BASE:

1. Description: Addressable detector bases according to Division 13 Section "DETECTOR BASES"
2. Unit of Measurement: Addressable detector bases ($_____ea.)

E. Unit Price No. 5 - ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR:

1. Description: Addressable photoelectric smoke detectors according to Division 13 Section "ADDRESSABLE PHOTOELECTRIC SMOKE DETECTORS"
2. Unit of Measurement: Addressable smoke detectors ($_____ea.)

F. Unit Price No. 6 - ADDRESSABLE PHOTOELECTRIC DUCT SMOKE DETECTOR:

1. Description: Addressable photoelectric duct smoke detectors according to Division 13 Section "ADDRESSABLE PHOTOELECTRIC DUCT SMOKE DETECTORS"
2. Unit of Measurement: Addressable duct smoke detectors ($_____ea.)

G. Unit Price No. 7 - ADDRESSABLE MONITOR MODULE:

1. Description: Addressable monitor modules according to Division 13 Section "ADDRESSABLE MONITOR MODULES"
2. Unit of Measurement: Addressable monitor module ($_____ea.)

H. Unit Price No. 8 - ADDRESSABLE CONTROL RELAY OUTPUT MODULE:

1. Description: Addressable monitor modules according to Division 13 Section "ADDRESSABLE CONTROL RELAY OUTPUT MODULES"
2. Unit of Measurement: Addressable control relay output module ($_____ea.)

I. Unit Price No. 9 - ADDRESSABLE FAULT ISOLATION MODULE:

1. Description: Addressable fault isolation modules according to Division 13 Section "ADDRESSABLE FAULT ISOLATION MODULES"
2. Unit of Measurement: Addressable fault isolation module ($_____ea.)

J. Unit Price No. 11 - GRAPHICAL MAP LED ANNUNCIATOR:

1. Description: 24" x 36" Graphical map LED annunciators according to Division 13 Section "GRAPHICAL MAP LED ANNUNCIATORS"
2. Unit of Measurement: LED annunciator ($_____ea.)

K. Unit Price No. 12 - REMOTE ALARM INDICATOR:

1. Description: Remote alarm indicators according to Division 13 Section "REMOTE ALARM INDICATORS/REMOTE TEST STATIONS"
2. Unit of Measurement: Remote alarm indicator ($_____ea.)

L. Unit Price No. 13 - REMOTE TEST STATION:

1. Description: Remote test stations according to Division 13 Section "REMOTE ALARM INDICATORS/REMOTE TEST STATIONS"
2. Unit of Measurement: Remote test station ($_____ea.)

M. Unit Price No. 14 - FIRE ALARM SYSTEM PRINTER:

1. Description: Fire alarm system printers according to Division 13 Section "FIRE ALARM SYSTEM PRINTERS"
2. Unit of Measurement: Fire alarm system printer ($_____ea.)
3. Unit of Measurement: Printer ribbon/cartridge ($_____ea.)

N. Unit Price No. 15 - MINI-COMPUTER POWER CONDITIONER:

1. Description: Mini-computer power conditioners according to Division 13 Section "MINI-COMPUTER POWER CONDITIONER"
2. Unit of Measurement: Mini-computer power conditioner ($_____ea.)

O. Unit Price No. 16 - TERMINAL CABINET:

1. Description: Terminal cabinets according to Division 13 Section "INSTALLATION", article 3.3.K and article 3.3.L (minimum of 4 terminals per circuit)
2. Unit of Measurement: Terminal cabinet ($_____ea.)

P. Unit Price No. 17 - RACEWAYS, FITTINGS AND ACCESSORIES:

1. Description: Electrical components according to Division 16 Section "RACEWAYS, FITTINGS AND ACCESSORIES" including connectors, fittings, etc.
2. Unit of Measurement: Rigid Ferrous Metal Conduit ($_____/10 feet.)
3. Unit of Measurement: Intermediate Ferrous Metal Conduit ($_____/10 feet.)
4. Unit of Measurement: Electrical Metallic Tubing ($_____/10 feet.)
5. Unit of Measurement: Flexible Metal Conduit ($_____/10 feet.)
6. Unit of Measurement: Liquid-tight Flexible Metal Conduit ($_____/10 feet.)

Q. Unit Price No. 18 - NON-METALLIC RACEWAYS, FITTINGS AND ACCESSORIES:

1. Description: Electrical components according to Division 16 Section "RACEWAYS, FITTINGS AND ACCESSORIES" and Division 13 Section "INSTALLATION", article 3.3.G.1
2. Unit of Measurement: Non-metallic Raceway ($_____/10 feet.)

R. Unit Price No. 19 - OUTLET, JUNCTION, AND PULL BOXES:

1. Description: Electrical components according to Division 16 Section "OUTLET, JUNCTION, AND PULL BOXES"
2. Unit of Measurement: Galvanized Steel Outlet Boxes ($_____ea.)
3. Unit of Measurement: Galvanized Steel Junction and Pull Boxes ($_____ea.)
4. Unit of Measurement: Threaded Type Boxes ($_____ea.)
5. Unit of Measurement: Specific Purpose Outlet Boxes ($_____ea.)

S. Unit Price No. 20 - CONDUCTORS AND ACCESSORIES:

1. Description: Electrical components according to Division 16 Section "CONDUCTORS AND ACCESSORIES"
2. Unit of Measurement: Power Wiring ($_____/foot.)
3. Unit of Measurement: Class 1 Wiring ($_____/foot.)
4. Unit of Measurement: Class 2 Wiring ($_____/foot.)
5. Unit of Measurement: Class 3 Wiring ($_____/foot.)
6. Unit of Measurement: Signaling Line Circuit Wiring ($_____/foot.)
7. Unit of Measurement: Speaker Circuit Wiring ($_____/foot.)
8. Unit of Measurement: Other Fire Alarm System Wiring ($_____/foot.)

T. Unit Price No. 21 - CEILING TILES:

1. Description: Replacement ceiling tiles for 1' x 1' spline ceiling and 5' x 5' grid ceiling (with 20" square and other size tiles) according to Division 13 Section "INSTALLATION" article 3.3.R and 3.3.S
2. Unit of Measurement: 1' x 1' spline ceiling tile ($_____ea.)
3. Unit of Measurement: 20" x 20" grid ceiling tile ($_____ea.)

U. Unit Price No. 22 - CONTRACTOR HOURLY RATES:

1. Description: Hourly rates for fire alarm system installing contractor, NICET Level II Technician, NICET III Technician, and sprinkler system installing contractor
2. Unit of Measurement: Fire alarm system contractor ($_____/hour)
3. Unit of Measurement: NICET Level II Technician ($_____/hour)

4. Unit of Measurement: NICET Level III Technician ($_____/hour)
5. Unit of Measurement: Sprinkler system contractor ($_____/hour)

END OF SECTION 01270

SECTION 01546 - SAFETY AND HEALTH

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. **General:** This section, general in nature, is applicable to all work performed under this contract and identifies some of the precautions necessary to protect the safety and health of employees, visitors, occupants and contract employees, and to prevent the loss of or damage to property and the environment.

1. Note the Construction Contractor submittal requirements outlined in Part 1 paragraph "Submittals" of this Section.

B. **Related Work:** The following sections, located elsewhere in this Project Manual, indicate the scope of work and specific measures to control hazardous materials/conditions:

1. Division 1 Sections "GENERAL REQUIREMENTS"
2. Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"
3. Division 1 Sections "SELECTIVE DEMOLITION"
4. Division 7 Sections "FIRESTOPPING"
5. Division 13 Sections "LEAD ABATEMENT"
6. Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES"
7. Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"
8. Division 16 Sections "BASIC ELECTRICAL MATERIALS AND METHODS"

1.2 REFERENCES:

A. **General:** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. Exclusion of any specific regulations/standards required by Federal and/or local codes does not relieve the Contractor of their legal and contractual obligations to adhere to such requirements.

B. **National Standards / Code of Federal Regulations (CFRs):**

1. 29 CFR 1910 - OSHA Occupational Safety and Health Standards.
2. 29 CFR 1926 - OSHA Safety and Health Regulations for Construction.
3. 40 CFR Parts 700-799, Subchapter R - Toxic Substance Control Act (TSCA).
4. 40 CFR Parts 50-99, Air Programs.
5. 40 CFR Parts 260-299, Hazardous Waste Management System (radionuclides).
6. 40 CFR Part 761 - Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.
7. 40 CFR Parts 104-140 and 401-471, Water Programs.
8. DOT Manual of Uniform Traffic Control Devices.
8. Americans with Disabilities Act (ADA), current with updates.

C. **Related Building and System Codes:**

1. International Building Code (IBC).
2. International Existing Building Code (IEBC).
3. Life Safety Code - NFPA 101.
4. National Fire Alarm Code - NFPA 72.
5. International Electrical Code; and related NEMA, NECA, and UL Standards.
6. International Mechanical Code.
7. International Plumbing Code.

D. **Federal Standard 313A - Material Safety Data Sheets, Preparation and Submission.**

E. **Related** District of Columbia, state, and local regulations shall apply.

1.3 DEFINITION OF HAZARDOUS MATERIALS:

A. **General:** Refer to hazardous and toxic materials/substances, Subparts H and Z of 29 CFR 1910 and related parts of 29 CFR 1926; 40 CFR 261; and to others as defined in Federal Standard 313.

B. **Those hazardous materials** most commonly encountered can include pesticides, cleaning agents, paints, adhesives, strippers, solvents, asbestos, polychlorinated biphenyls (PCB's), mercury vapor lamps, but may include others. Any unlabeled substance should be handled as hazardous material until properly identified.

C. **All suspect asbestos containing materials** (e.g., boiler insulation, duct insulation, pipe insulation), surfacing materials (i.e., plaster and sprayed-on fireproofing) and miscellaneous materials (i.e., asphalt flooring, ceiling tiles, adhesives and mastics, drywall, roofing, gaskets and cement board), must be considered asbestos containing unless proven otherwise in accordance with 29 CFR 1926.1101.

D. **Pre-1978 Surfaces:** All finished/painted surfaces of buildings constructed prior to 1978 shall be considered finished with lead based paint unless proven otherwise.

E. **Products likely to contain PCB's** include electrical transformers, capacitors, voltage regulators, oil switches, and some fluorescent light ballasts. Transformer vaults with PCB contaminated floors are identified by signage at the entry door (refer to Part 3 of this Section, article "Cautionary Procedures at Existing Vaults").

F. **Products likely to include mercury** include fluorescent light tubes, switches, gauges, thermostats, and older thermometers.

1.4 QUALITY ASSURANCE:

A. **Pre-Construction Safety Meeting:** Representatives of the Contractor must meet with the Contracting Officer and his/her representative(s) prior to the start of work under this contract. The purpose of the pre-construction meeting is to review the Contractor's Safety and Health Program and Policies, and to discuss the implementation of all safety and health provisions pertinent to the work to be performed under the contract. The Contractor shall be prepared to discuss, in detail, the measures he/she intends to take in controlling any unsafe or unhealthy

conditions associated with the work to be performed under the contract. If directed by the Contracting Officer, this meeting may be held in conjunction with other pre-construction meetings such as the General Pre-Construction meeting. The level of detail of the safety meeting is dependent upon the nature of the work and the potential inherent hazards. The Contractor's principal on-site representative(s), the general superintendent and his/her safety representative(s) shall be in attendance.

B. **Compliance With Regulations:** All work, including contact with the handling of hazardous or regulated materials, the disturbance or dismantling of structures containing hazardous or regulated materials, and/or the transport and disposal of hazardous or regulated materials shall comply with the applicable requirements of 29 CFR 1910/1926, 40 CFR, 49 CFR, and all other applicable federal, state, and local regulations.

C. **Construction Site Lighting:** Lighting intensity levels for construction areas shall meet the minimum requirements established by 29 CFR 1926.56: Illumination, including *Table D-3 - Minimum Illumination Intensities in Foot-Candles*.

D. **Compliance/Conflicts:** All work shall comply with applicable Federal, state and local safety and health requirements. Where there is a conflict between applicable regulations, the most stringent shall take precedence.

E. **Contractor Responsibility:** All Contractors shall assume full responsibility and liability for compliance with applicable regulations pertaining to the health and safety of personnel during the execution of work, and shall hold the Government harmless for any action on his/her part, or that of his/her employees or subcontractors, which results in illness, injury or death. The Contractor shall designate a single point-of-contact who is authorized to act on behalf of the contracting firm, authorized to take immediate corrective actions, and assigned the task of daily inspections and reporting outlined herein. Construction Contractors shall comply with the following additional requirements in accordance with 29 CFR 1926.16 (Prime/Subs):

1. Compliance with the accepted Accident Prevention Plan written by the prime Contractor for the specific work, submitted to the government, and reviewed by the COTR. The Contractor's plan will be job specific and will include work to be performed by the subcontractors, and measures to be taken by the Contractor to control hazards associated with materials, services, or equipment provided by suppliers.

2. Regularly scheduled safety meetings shall be held at least once a week for all supervisors on the project to review past activities, to plan ahead for new or changed operations, and to establish safe working procedures for the anticipated hazards. An outline of each meeting shall be submitted through the COTR to the Contracting Officer.

3. At least one "toolbox" safety meeting shall be conducted weekly by field supervisors or foreman for all workers. An outline report of the meeting, including date, time, duration, attendance, subjects discussed and the name of the director shall be maintained and copies furnished to the designated authority on request.

1.5 SUBMITTALS:

A. **Submittal "Punch-List:"** A submittal punch list for projects involving "other" hazardous

materials as identified in the Construction Contractor's Safety and Health Program and Policies (paragraph B, below) and/or other recognized flammable or toxic products identified in the referenced codes/standards.

B. **Contractor's Safety and Health Program and Policies:** Submit a Plan of Action for handling hazardous materials (except for asbestos, lead based paint, PCBs and mercury lamps as they are covered by specific sections) and/or flammable or toxic products. Work shall not commence until the Contractor's safety program has been reviewed by the Architect. The Construction Contractor's Plan of Action shall contain the following:

1. Activity Hazard Analysis and Accident Prevention Plan: Identification of anticipated hazards, problems, and proposed mitigation measures/mechanisms.

2. Description of how applicable safety and health regulations and standards are to be met.

3. Protection of the public or others not related to the operation. Maintain code-compliant means of egress for project duration.

4. Means of protection for adjacent non-construction areas, permanent and temporary access ways, and occupants and for controlling noise/dust/fumes/debris generated by the work.

5. Contractor Safety Officer: Identify a lead Safety Officer and alternates, including 24-hour contact information for each.

6. Specialized training and experience of employees to be used for the work.

7. Type of protective equipment and work procedures to be used.

8. Material Safety Data Sheets (MSDSs) for, and proposed procedures for using, disposing of, or storing toxic/hazardous materials (also see 29 CFR1910.1200). All management and disposal of wastes shall be in accordance with Federal, states and local regulations.

9. Phasing requirements to minimize impact to non-construction work activities.

10. Emergency procedures for handling accidental spills, releases or potential exposures.

11. Interfacing of trades and control of subcontractors, if applicable.

12. Identification of any required analyses, test demonstrations, and validation requirements.

13. Hazard Communications Plan.

14. Trenching and Shoring Plan.

15. Confined Spaces employee certifications and related work procedures.

16. Multi-Employer Worksite Plan.

17. Demolition plans outlining protective measures and responsibilities required under 29

CFR 1926, Subpart T.

C. **Accident Reporting:** Serious accidents such as those resulting in: treatment of an injury at a medical facility; response by emergency medical personnel; or damage to property other than that of the Contractor will be reported to the contracting officer's representative by telephone within twenty-four hours of the occurrence. A copy of each accident report, which the Contractor or subcontractors submit to their insurance carriers, shall be forwarded through the Contracting Officer's Technical Representative (COTR) to the Contracting Officer (CO) as soon as possible (in no event later than seven (7) calendar days after the occurrence). All accidents/losses shall be reported using AOC "Incident Investigation Report" (from AOC Safety Policy 9-4, available from the COTR) or other form that meets OSHA Standards, as required. Any incident involving fatality or permanent total disability, or property damage to the Government or other property amounting to $100,000 or more requires immediate notification of the AOC Safety and Occupational Health Branch (SOHB).

D. **MSDSs:** The Contractor shall provide copies of each MSDS, in accordance with 29 CFR 1910.1200 - *App E* and with AOC 52.223-1. One copy shall be provided to the COTR per Division 1 submittal requirements, and a second copy shall be kept in an MSDS binder on the job site.

E. **Waste Disposal:** The Contractor shall dispose of all wastes and provide all paperwork, including but not limited to, manifests and disposal certifications, in accordance with all federal, state, and local regulations. Asbestos waste shall be accompanied by an Asbestos Shipment Record. The AOC shall sign manifests, certifications, and shipping records for lead, asbestos, and PCB wastes generated from this contract.

F. **Hot Work Permits:** When coordinating with the AOC's jurisdiction Superintendent for hot work, submit AOC designated "Hot Work Permit" (from AOC Safety Policy 10-14, available from the COTR) or other form that meets OSHA Standards, as required.

G. **Worker Certifications:** The Contractor shall provide copies of all worker certifications for handling Hazardous Materials, Working in Confined Spaces, and other certifications required by OSHA, EPA, and local regulatory agencies (not required by other technical sections in the Project Manual).

H. **Scaffolding:** All scaffolding that is erected on this job will be erected in accordance with the requirements of 29 CFR 1926, Subpart L -- *Scaffolds*. Per OSHA Standards, a scaffold erection plan will be developed by the Contractor, certified by an engineer (licensed in the District of Columba, Virginia, or Maryland) and provided to the CO prior to set up. Once in place, the Contractor's assigned safety officer shall inspect and document the conditions of the scaffold and scaffold anchor points prior to use, and once per shift thereafter. Any observed failures in the scaffold shall render it unusable until the condition is rectified and re-inspected. Weekly scaffold inspection reports shall be provided to the designated COTR for inclusion in the contract records.

1. **Other Means of Access:** Should the Contractor employ other means of access to the work area, they shall be utilized in accordance with the requirements of 29 CFR 1926, Subpart N -- *Cranes, Derricks, Hoists, Elevators, and Conveyors*. The Contractor shall submit a plan for use of such equipment, fully coordinated with any other plans for site facilities

(i.e., scaffolding, staging, etc.).

2. **Scaffolding constructed** by the Contractor for use by AOC employees shall also comply with 29 CFR 1910.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

A. **Special facilities**, devices, equipment, clothing, and similar items used by the Contractor in the execution of work shall comply with all applicable regulations. Such materials and equipment shall be identified in the Plan of Action called for herein.

2.2 MATERIAL SAFETY DATA SHEETS (MSDSs):

A. **MSDSs** shall be available on-site for all products used under this contract. The prime contractor is responsible for meeting the hazard communication requirements, in accordance with 29 CFR 1910.1200. To the extent feasible, non-flammable and non-toxic products shall be used.

PART 3 - EXECUTION

3.1 CAUTIONARY PROCEDURES AT EXISTING VAULTS:

A. **General:** Transformer vaults may have floors which are PCB contaminated. These vaults are generally marked by blue signs, which identify the vault as PCB-contaminated; assure all vaults are marked with blue signs prior to proceeding with Work. On rare occasions, vault doors in existing buildings may be equipped with protective alarms and devices. Consult the AOC COTR to ascertain whether vault doors in areas under this contract are so equipped and have proper approved signage systems.

3.2 HAZARDOUS MATERIALS:

A. **General:** The Contractor shall bring to the Architect's attention, any material suspected of being hazardous which he/she encounters during execution of the work. The Architect shall then determine whether the Contractor shall perform tests to determine the nature or toxicity of the material. If the Architect directs the Contractor to perform tests, and/or if the material is found to be hazardous and additional protective measures are needed, a change to the contract may be required (subject to the "AOC Official Procedure for Making Changes to Contracts"). Persons conducting sampling testing and laboratories processing samples shall be certified.

3.3 CONFINED SPACES:

A. **Confined Spaces:** It is the responsibility of the AOC to identify and demarcate all known confined spaces within our facilities. It is the Contractor's responsibility to notify and coordinate with the Superintendent's Office when confined space work is to be done, obtain permission from this office to enter the space, conduct all required testing of space prior to entry,

and complete an entry permit as required by OSHA regulations and the Confined Space Program previously submitted to the AOC COTR for the project.

3.4 **PROTECTION:**

A. **Contractor Responsibility:** The Contractor shall take all necessary precautions to prevent injury to the public, building occupants and visitors, and damage to or contamination of property or the environment. For the purposes of this contract, the public or building occupants shall include all persons not employed by the Contractor or subcontractor thereof.

B. **Welding, Cutting, and Brazing:** The AOC specifically requires a permit for welding, cutting, and brazing. This AOC "Hot Work Permit" shall be approved each day by the AOC Superintendent's Safety Specialist, or his/her designee, and coordinated through the Superintendent's Office whenever welding, cutting or any open flame work is performed. Work areas shall be kept clear of combustibles within a 35-foot radius of any hot work. Combustibles which cannot be removed shall be covered with flame-resistant blankets. Compressed gas cylinders shall be secured in a vertical position and stored in accordance with Compressed Gas Association (CGA) Guidelines at all times. Valve protection caps shall be in place whenever cylinders are not in use, moved or stored. Appropriate fire extinguishers shall be maintained at welding and cutting operations. A designated fire watch shall sign and return the permit. The fire watch shall be on duty during operations and for a minimum of 30 minutes after completion of welding or cutting operations to ensure no possibility of fire exists.

1. Provide adequate ventilation to protect employees from fume or gas exposure.

2. During arc welding activities erect screens to shield activities.

C. **Storage:** It is prohibited to store, position, or use equipment, tools, materials, scraps, and trash in a manner likely to present a hazard to the public or building occupants by its accidental shifting, ignition, or other hazardous qualities. Storing of combustible or flammable liquids shall be in accordance with the current edition of the National Fire Code for Flammable and Combustible Materials (NFPA 30). Compressed gases shall be stored in accordance with Compressed Gas Association (CGA) guidelines.

D. **Obstructions:** No corridor, aisle, stairway, door, or exit shall be obstructed or used in such a manner as to encroach upon routes of ingress or egress utilized by the public or building occupants, or to present an unsafe or unhealthy condition to the public or building occupants.

E. **Housekeeping:** Housekeeping practices shall be in conformance with OSHA 29 CFR 1910.22, 29 CFR 1910.141, 29 CFR 1910.1001, 29 CFR 1910.1025, 29 CFR 1926.25, 29 CFR 1926.62, and 29 CFR 1926.1101, for non-construction and construction contracts respectively.

F. **Protection of the Public and Federal Employees:** Work shall not be performed in any area occupied by the public or Federal employees unless the Contractor takes adequate steps for the protection of the public and Federal employees, and work is specifically permitted by the contract/jurisdiction Superintendent. Comply with requirements of ANSI A10.34.2001.

G. **Electrical Systems:** In addition to complying with the referenced standards in this Section, refer to Division 1 requirements for "Temporary Facilities and Controls." Provide compliant

electrical supply, overload/ground fault protection, lighting, and signage/notification systems. Ensure that arrangements and installations accommodate the Architect's lockout/tagout procedures.

H. **Mechanical Systems:** Mechanical systems and equipment, and the components thereof, will be arranged and installed to provide ready accessibility and ease of lock/tag application during lockout/tagout procedures for AOC employees, post construction.

I. **Fences & Barricades:** The work area shall be fenced, barricaded, or otherwise segregated from the public or building occupants to prevent unauthorized entry into the work area. Fence elements shall be installed in such a manner as to overcome the negative or hazardous effects of wind and weather typical to the region. The use of barbed wire is prohibited unless requested in writing by the Architect.

J. **Pedestrian Access Ways:** All interior and exterior paths of travel established for pedestrian circulation within and around a construction site shall meet the requirements of 28 CFR Part 36 (*ADAAG*), Appendix A (Standards for Accessible Design), Articles 4.3 through 4.5; when a path is changed to accommodate work, the Contractor shall also provide directional signage in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), 2003. All paths shall be maintained clear and level, without obstruction. Any proposed exceptions to these requirement must be approved in writing by the Architect prior to construction.

1. **Lighting:** All interior/exterior access ways, both permanent and temporary, shall be provided with a uniform minimum lighting level of 3 footcandles (fc) at the walking surface, in accordance with 29 CFR 1926.56(a), Table D-3 - *Minimum Illumination Intensities in Foot-Candles*.

K. **Alternate Precautions:** When the nature of the work prevents isolation of the work area and the public or building occupants may be in or pass through, under or over the work area, alternate precautions such as the posting of signs, warning lights, the use of signal persons, the erection of barricades or similar controls around particularly hazardous operations shall be approved and used.

L. **Work Over Thoroughfares:** When work is to be performed over a public thoroughfare such as a sidewalk, lobby, or corridor, the thoroughfare shall be closed, if possible, or other precautions taken such as the installation of screens or barricades. When exposure to falling objects exists, as during the erection of building walls or during demolition, special protection of the type detailed in 29 CFR 1910/1926 shall be provided.

M. **Temporary Construction Barriers:** Temporary construction barriers, partitions which cover a hole in a rated fire wall, protect occupants from noise or vibration, or separate the construction from public access and exit corridors shall be erected floor-to-ceiling, wall-to-wall, and shall remain in place for the duration of the contract. The minimum construction standards for these temporary barriers shall be metal studs, anchored top and bottom at a maximum spacing of 16 inches (406 mm) on-center, and covered with a minimum of one layer of ½-inch gypsum wallboard.

N. **Dust and Fume Control Measures:** Work performed adjacent to occupied areas shall be done within dust control barriers (generally constructed of polyethylene sheeting or other barriers as

approved by the Architect). To the extent feasible, maintain the work environment at a negative pressure differential with the adjoining occupied areas. The use of fume and odor producing products and materials shall be done in such a manner, or at such a time as to minimize impact on building occupants. Provide measures to minimize migration of dust, fumes, gases, and similar affects into the adjacent areas. Ensure that adequate ventilation is provided to work areas in conformance with OSHA regulations.

O. **Roof Work:** During the performance of roofing work, employees will be protected as required by the OSHA standards contained in 29 CFR 1926 - subpart M "Fall Protection."

P. **Removal of Fences and Barricades:** Fences and barricades shall be removed upon completion of the project, in accordance with local ordinance and to the satisfaction of the Contracting Officer or his/her representative(s).

Q. **Completion of Work:** Do not create or leave hazards unabated (e.g., open or absent electrical panels, unmarked circuit breakers/fuses, faceplates missing from receptacles, open maholes, un-barricaded trenches/excavations, etc.).

END OF SECTION 01546

SECTION 01731 - CUTTING, DRILLING, CORING, AND PATCHING

PART 1-GENERAL

1.1 RELATED DOCUMENTS

A. **Drawings** and general provisions of Contract, including General and Supplementary Conditions and other Division 1 "GENERAL REQUIREMENTS" Specification Sections, apply to this Section.

B. Related Sections include the following:

1 Division 1 Section "GENERAL REQUIREMENTS"
2. Division 1 Sections "SAFETY AND HEALTH"
3. Division 1 Sections "SELECTIVE DEMOLITION"
4. Division 7 Sections "FIRESTOPPING"
5. Division 13 Sections "LEAD ABATEMENT"
6. Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES"
7. Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"
8. Division 16 Sections "BASIC ELECTRICAL MATERIALS AND METHODS"

1.2 SUMMARY

A. **This Section** specifies administrative and procedural requirements for cutting, drilling, coring and patching.

B. **Refer to other Sections** for specific requirements and limitations applicable to cutting, drilling, coring, and patching individual parts of the Work.

C. **Demolition** of selected portions of the building for alterations is included in Division 1, Section "SELECTIVE DEMOLITION".

1.3 DEFINITIONS

A. **Cutting:** The removal of existing construction necessary to permit the installation or performance of other Work.

B. **Coring:** Removal of a cylindrical shaped portion of construction by the use of a wet or dry core drill machine.

C. **Drilling:** To make a hole in a hard material with a drill.

D. **Patching:** The fitting and repair work required to restore surfaces to original or existing conditions after installation of other Work.

1.4 SUBMITTALS

A. **Cutting, Drilling, Coring, and Patching Procedures Plan:** Approval of procedures for cutting, drilling, coring, and patching is required before proceeding. Submit a proposal describing

procedures at least 14 days in advance of the time cutting, drilling, coring, and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:

1. Describe the extent of cutting, drilling, coring, and patching required and proposed methods for each type of substrate. Approval by the Architect and a representative from the mason shop shall be obtained for each instance of cutting, coring, and drilling before beginning work.

2. Description of the anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in appearance and other significant visual elements.

3. Disclose if water will be used to aide the cutting, coring or drilling process. Describe measures taken to ensure that water damage will not result from the coring, cutting or drilling process.

4. List products and equipment to be used and firms or entities that will perform Work. Indicate compatibility and cohesion characteristics of patching compounds with adjacent materials.

5. Describe methods to be used to control dust.

6. Indicate dates and times when cutting, drilling, coring, and patching is to be performed.

7. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.

8. Where cutting, drilling, coring, and patchin g involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the existing structure.

9. Approval by the Architect to proceed with cutting, drilling, coring, and patching does not waive the Architect's right to laterrequire complete removal and replacement of a part of the Work found to be unsatisfactory.

B. **Samples:** Provide cutting, drilling, coring, and patching samples for the following items within 14 calendar days after notice to proceed in order that special reviews and coordination can be arranged with the Architect:

1. Plaster on masonry.

2. Plaster on Lath (Lath & Plaster).

3. Painted surfaces (color matching, standard finishes).

4. Marble stone (flooring and walls).

1.5 QUALITY ASSURANCE

A. **Requirements for Structural Work:** Do not cut, drill, core or patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.

1. Obtain approval of the cutting, drilling, coring, and patching procedures before cutting, drilling, coring, and patching the following structural elements:

   a. Foundation construction.
   b. Bearing walls.
   c. Structural concrete.
   d. Structural steel.
   e. Structural deck.
   f. Lintels.
   g. Miscellaneous structural metals.
   h. Stairs.
   I. Equipment supports.
   j. Piping, ductwork, vessels and equipment.
   k. Structural systems of other construction.

B. **Operational and Safety Limitations:** Do not cut, drill, core or patch operating elements or safety related components in a manner that would result in reduced capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

1. Obtain approval of the cutting, drilling, coring, and patching procedures before cutting, drilling, coring, and patching the following operating elements or safety related systems:

   a. Primary operational systems and equipment.
   b. Air or smoke barriers.
   c. Water, moisture, or vapor barriers.
   d. Membranes and flashings.
   e. Fire protection systems.
   f. Noise and vibration control elements and systems.
   g. Control systems.
   h. Communication systems.
   I. Electrical wiring systems.
   j. Conveying systems.
   k. Operating systems of other construction.

C. **Visual Requirements:** Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting, drilling, coring, and patching. Remove and replace Work cut, drilled, cored or patched in a visually unsatisfactory manner.

1. Retain the original installer or fabricator to cut and patch exposed work if the original installer or fabricator is identified in the Contract Documents or is known to the Contractor and is available for the work.

2. If it is not possible to engage the original installer or fabricator, engage a Specialist who is specifically experienced in the work.

3. The cutting, drilling, coring, and patching procedures plan shall include but not necessarily be limited to work required at the following visual elements.

   a. Stonework and masonry.
   b. Painted plaster and lathe.
   c. Ornamental metal.
   d. Matched-veneer woodwork.
   e. Preformed metal panels.
   f. Firestopping.
   g. Stucco, ornamental and flat plaster.
   h. Carpeting.
   I. Wall covering.
   j. Mechanical system enclosures, cabinets, or covers.
   k. Marble.
   l. Ceiling features.

D. **General Requirements:** Comply with requirements for control of dust and dirt as included in Division 1 Section "GENERAL REQUIREMENTS," article Temporary Facilities and Controls.

1.6 EXISTING WARRANTIES

A **Replace, patch, and repair** material and surfaces cut or damaged by methods and with materials in such a manner as not to void any existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. **General:** Comply with requirements specified in other sections of the Project Manual or indicated on the drawings.

B. **Use materials** that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of existing materials.

C. Plaster: Comply with ASTM C 842, American Society for Testing and Materials Standard Specification for the Application of Interior Gypsum Plaster, or Portland Cement Plaster in areas exposed to temperature/humidity differentials and moisture.

Gypsum Plaster

1. Base Coat: Ready-mixed, sand aggregate gypsum plaster base, or approved equivalent.

2. Finish Coat: Ready-mixed gypsum finish plaster, or approved equivalent.

Portland Cement Plaster

1. Start: An aqueous blend of inorganic polymers with an organic penetrating aid used to

chemically strengthen concrete, mortar or other materials prior to repairing or coating.

2. Structural Skin: A fiber-reinforced cement basedcoating for vertical interior and exterior walls.

3. Admix: AN acrylic admix designed to enhance the performance of cement based products.

D. Paint: 2 finish coats of low-luster (eggshell) or semigloss (where appropriate), acrylic-latex, interior enamel over a primer.

1. Historic paint analysis may be required for designated areas or projects. For historic decorative finishes the contractor shall consult with the Architect Historian and obtain approval for processes to be used.

PART 3 - EXECUTION

3.1 INSPECTION

A. **Before cutting, drilling or coring existing surfaces,** examine surfaces and conditions under which work is to be performed. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding. Notify the Architect if hazardous materials are encountered and do not proceed with work until hazardous conditions are abated.

1. **Before proceeding**, meet at the site with partiesinvolved in cutting, drilling, coring, and patching, including mason shop representative and Architect. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

2. **Painted Surfaces:** Prior to removing/disturbing any existing painted surface, the Contractor shall notify the Architect so that it can be tested for lead based paint. If lead based paint is found, it will be removed by the Architect.

3.2 PREPARATION

A. **Temporary Support:** Provide temporary support of Work to be cut, if needed.

B. **Protection:** Protect existing construction during cutting, drilling, coring, and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting, drilling, coring, and patching operations.

1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

2. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3. Construct appropriate enclosures, barriers, or guards, etc., in accordance with applicable regulations, adequate to prevent dust dispersion into adjacent areas and/or ductwork.

3.3 PERFORMANCE

A. **General:** Employ skilled workmen to perform cutting, drilling, coring, and patching. Proceed with cutting, drilling, coring, and patching at the earliest feasible time and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

B. **Cutting, Drilling and Coring:** Cut/drill/core existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the originalinstaller and comply with the original installer's recommendations.

1. In general, where cutting/drilling/coring is required use han d or small power tools designed for sawing or grinding, not hammering and chopping. Cut/drill/core holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

3. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.

4. Equipment used to drill holes shall be standard masonry drills commonly used for drilling small holes in concrete using rotary mode only. Hammer drills are prohibited.

C. **Patching:** Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

3. Where removal of walls or partitions extends from one finished area into another, patch and repair floor and wall surfaces in thenew space to provide an even surface of uniform color texture and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform finish.

   a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken area containing the patch, after the patched area has received primer and second coat.

4. Patch, repair or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

D. **Plaster Installation:** Comply with manufacturer's instructions and install thickness and coats

as indicated. Unless otherwise indicated:

1. Provide 3-coat system.

2. Finish gypsum plaster with smooth-troweled finish to match existing surfaces. Sand lightly to remove trowel marks and arises.

3. Cut, patch, point-up and repair plaster to accommodate other construction and to restore cracks, dents and imperfections.

E. **Coordinate cutting, drilling, coring, and patching work** as described in Division 1 Section "CUTTING AND PATCHING", article 1.3.F.

3.4 CLEANING

A. Thoroughly clean areas and spaces where cutting, drilling, coring, and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature.

B. Vacuum all areas affected by the cutting, drilling, coring and patching immediately following completion of work in each area. Verify that all areas have been cleaned at the end of each workday. Re-clean if needed.

C. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied.

END OF SECTION 01731

SECTION 01732 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 "GENERAL REQUIREMENTS" Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Demolition and removal of selected portions of building or structure.

2. Salvage of existing items to be reused or recycled.

B. Related Sections include the following:

1. Division 1 Section "GENERAL REQUIREMENTS"
2. Division 1 Sections "SAFETY AND HEALTH"
3. Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"
4. Division 7 Sections "FIRESTOPPING"
5. Division 13 Sections "LEAD ABATEMENT"
6. Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES"
7. Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"
8. Division 16 Sections "BASIC ELECTRICAL MATERIALS AND METHODS"

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Detach items from existing construction and deliver them to Architect ready for reuse.

C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

1.4 SUBMITTALS

A. Qualification Data: Contractor shall submit qualifications data..

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Submit a work plan for completing the selective demolition work in all the finished spaces.

2. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure that all on-site operations are uninterrupted.

3. Interruption of utility services. Indicate how long utility services will be interrupted.

4. Coordination for shutoff, capping, and continuation of utility services.

5. Use of elevator and stairs.

6. Locations of proposed dust- and noise-control temporary partitions and means of egress.

7. Coordination with Architect for the continued occupancy of portions of the existing building and partial occupancy of completed Work areas.

8. Means of protection for items to remain and items in path of waste removal from building.

1.5 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project. They shall be experienced at completing selective demolition of highly ornamental finishes in public spaces. Contractor shall be have a minimum of five years experience and have completed work of a similar nature on at least three projects in the last five years

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI A10.6 and NFPA 241.

D. Predemolition Conference: Conduct conference at Project site. Review methods and procedures related to selective demolition including, but not limited to, the following:

1. Inspect and discuss condition of construction to be selectively demolished.

2. Review structural load limitations of existing structure.

3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.

4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

5. Review areas where existing construction is to remain and requires protection.

1.6 PROJECT CONDITIONS

A. Portions of the building immediately adjacent to selective demolition area will be occupied during the demolition. Conduct selective demolition so that the daily operations of the building will not be disrupted.

1. Comply with requirements specified in Division 1 Section "GENERAL REQUIREMENTS."

B. Conditions existing at time of inspection for bidding purpose will be maintained as far as practical.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify the Architect.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.7 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

F. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

G. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them

against damage during selective demolition operations.

1. Comply with requirements for existing services/systems interruptions specified in Division 1 Section "GENERAL REQUIREMENTS."

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.

2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

3. Cover and protect furniture, furnishings, and equipment that have not been removed.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.

4. Maintain adequate ventilation when using cutting torches.

B. Removed and Salvaged Items:

1. Clean salvaged items.

2. Pack or crate items after cleaning. Identify contents of containers.

3. Store items in a secure area until delivery to Architect.

4. Transport items to storage area designated by Architect.

5. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.

2. Pack or crate items after cleaning and repairing. Identify contents of containers.

3. Protect items from damage during storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.5 DEMOLITION OF FIRE ALARM SYSTEM EQUIPMENT

A. Contractor shall coordinate the demolition of the existing fire alarm system head-end and spine installed in the HSOB and in the "Core Area" with the fire alarm system demolition drawings (i.e., drawings FD101 - FD121 and drawings FD122 - FD131). Existing fire alarm system equipment in the HSOB and the DSOB "Core Area" shall remain operational and in-tact throughout the installation, testing and acceptance of the replacement fire alarm system. Once accepted by the Architect, the Contractor shall demolish the equipment accordingly.

B. After the Phase 1 replacement of the fire alarm system head-end and spine have been formally accepted by the Architect, the Contractor shall completely remove the unused existing fire detection and alarm system control equipment, system components and other equipment that are not specified as being part of the new system or as part of the existing system to be re-used. The equipment removed shall be boxed, labeled and delivered to the SOB Superintendent's Office. All unused, fire alarm system wire and cable shall be removed and disposed of properly off-site by the Contractor.

1. All existing wiring and raceway shall be removed and shall be scrapped/recycled off-site, in accordance with the Architect's requirements. The Contractor shall provide documentation on the quantity of wire and raceway that was scrapped/recycled and the location of where such materials were scraped/recycled.

C. The Contractor shall perform all removal work efforts in accordance with the best and most modern practices.

D. All cutting, coring, patching, painting and through-penetration firestop assemblies needed as a result of this work shall be the responsibility of the Contractor and shall be coordinated with the Architect (see Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"and Division 7 Sections "FIRESTOPPING").

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Government's property, remove demolished materials from Project site and recycle or dispose of in accordance with applicable Federal, state, and local regulations.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off government's property and legally dispose of them.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.8 SELECTIVE DEMOLITION SCHEDULE

A. Existing Construction to Be Removed: Core drilling adjacent to brick arches on the ground and second floor, core drilling brick flooring and core drilling of plaster and lathe ceiling and soffits.

B. Existing Items to Be Removed and Salvaged: Removal of plaster cores with decorative painted finishes on the second floor ceiling and marble that has been core drilled on the first floor.

C. Existing Items to Be Removed and Reinstalled: Marble enclosures at the ground floor and marble at the first floor.

END OF SECTION 01732

SECTION 07840 - FIRESTOPPING

PART 1 - GENERAL REQUIREMENTS

1.1 SUMMARY:

A. Section Includes:

1. Firestopping and fire safing systems for sealing penetrations through fire-rated construction.

B. Related Sections include the following:

1. Division 1 Section "GENERAL REQUIREMENTS".
2. Division 1 Sections "SAFETY AND HEALTH"
3. Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"
4. Division 1 Sections "SELECTIVE DEMOLITION"
5. Division 13 Sections "LEAD ABATEMENT"
6. Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES"
7. Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"
8. Division 16 Sections "BASIC ELECTRICAL MATERIALS AND METHODS"

C. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 "GENERAL REQUIREMENTS" specification sections, apply to all work of this Section.

D. Contractor shall firestop existing unprotected penetrations where new work uses the existing penetrations.

1.2 REFERENCES:

A. American Society for Testing and Materials (ASTM)

1. C612 - Specification for Mineral Fiber Block and Board Thermal Insulation

2. E119 - Method for Fire Tests of Building Construction and Materials

3. E814 - Methods for Fire Tests of Through-Penetration Firestops

B. Underwriters Laboratories (UL): 1479 - Fill, Void or Cavity Materials and Through-Penetration Firestop Systems

1.3 SYSTEM DESCRIPTION:

A. Each firestopping and fire safing system shall be selected to maintain fire rating of the assembly in which it is used.

B. Firestopping and fire safing systems shall be resilient as necessary to accommodate differential movement between assemblies.

C. Where firestopping is used to seal penetrations through floors with waterproof membranes, system shall be selected for compatibility with membrane material.

1.4 **QUALITY ASSURANCE**:

A. Code Verification: Prior to installation of firestopping systems, obtain approval from the AOC for the firestopping systems and applications proposed.

B. Firestopping: Tested in accordance with ASTM E119 or UL 1479 to meet the hourly fire ratings of the construction being sealed. Provide F rated assemblies except where T rated assemblies are required by the AOC.

C. Firestopping systems shall be assemblies listed by a nationally recognized testing laboratory (NRTL) acceptable to the Architect.

1.5 **SUBMITTALS**:

A. The Contractor shall submit all proposed firestopping systems to the AOC Fire Marshal Division for approval prior to installation. The submittal shall consist of product data sheets of all material to be used, listing of firestopping system, and drawing showing location where the firestopping system is proposed to be installed.

1.6 **DELIVERY, STORAGE, AND HANDLING**:

A. In accordance with Division 1.

1.7 **ENVIRONMENTAL CONDITIONS**:

A. Environmental Requirements: Comply with manufacturer's recommendations.

B. Maintain maximum ventilation to remove volatile emissions produced during the installation process.

PART 2 - PRODUCTS

2.1 **SAFING INSULATION**:

A. Semi-Rigid Type: ASTM C612, Class 1 and 2; preformed mineral fiber batt or roll; unfaced; minimum 4pcf density; USG "Thermafiber" Safing Insulation (ICBO Report 2331), or approved; width and thickness as required for application indicated.

2.2 **FIRESTOPPING SYSTEMS**:

A. Systems meeting the requirements specified and suitable for the conditions indicated. Penetrations in fire resistance rated wall assemblies shall be sealed with through-penetration firestop systems, listed by an NRTL acceptable to the Architect.

PART 3 - EXECUTION

3.1 EXAMINATION:

A. Prior to starting work, carefully inspect installed work of other trades and verify that such work is complete to the point where work of this Section may properly commence. Notify the Architect in writing of conditions detrimental to the proper and timely completion of the work.

B. Do not begin installation until all unsatisfactory conditions are resolved. Beginning work constitutes acceptance of site conditions and responsibility for defective installation caused by prior observable conditions.

3.2 INSTALLATION OF FIRESTOPPING:

A. Install firestopping in accordance with the manufacturer's recommendations and as necessary to meet the specified fire rating requirements.

1. Raceway penetrating all full-height walls, floors and ceilings, shall be fire-stopped in a manner that maintains the fire-resistance rating of the penetrated assembly, in accordance with this specification. The Contractor shall submit a 2-hour fire resistance rated through-penetration firestop system that has been tested and listed by an NRTL acceptable to the Architect, for review and approval for all penetrations through full-height walls, floors and ceilings. Once approved, the Contractor shall install the raceway and circuits using the approved fire rated assembly.

2. All raceway and wiring penetrations through the 2-hour fire resistance rated electrical closet walls shall be firestopped with through-penetration firestop systems that are listed by a NRTL acceptable to the Architect and are rated to maintain the fire resistance rating of the 2-hour walls.

B. Where firestopping is used to seal around penetration through waterproof membranes, install to maintain integrity of waterproof barrier.

3.3 CLEANING:

A. Trim excess material flush with adjacent surface.

B. Remove spills and leave area in undamaged, clean condition.

END OF SECTION 07840

SECTION 13082 - LEAD ABATEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies abatement and disposal of lead containing products and controls needed to limit occupational and environmental exposure to lead hazards.

1.2 SCOPE OF WORK

A. In the scope of this specification, the Contractor shall furnish and install a new analog addressable fire alarm and emergency voice alarm evacuation systems with distributed amplifiers and strobe power supplies in the HSOB, the DSOB "Core Area", and in the Subway Tunnel, as indicated on the contract documents.

B. Hazardous Materials procedures, as outlined by the Architect, shall be adhered to where existing construction and/or building surfaces are disturbed as a result of this work.

C. The Contractor, his employees, and sub-contractors shall be trained in the recognition and identification of lead based paint, or provide a specialist to fulfill this function. Lead based paint survey results are provided in the Contract Documents (i.e., Limited Hazardous Materials Evaluation (Asbestos and Lead Based Paint), prepared by Jenkins Environmental, Inc. in September of 2004), but are not all-inclusive.

1.3 APPLICABLE PUBLICATIONS

A. **The publications** listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

B. **CODE OF FEDERAL REGULATIONS (CFR):**

CFR 29 Part 1910	Occupational Safety and Health Standards
CFR 29 Part 1926	Safety and Health Regulations for Construction
CFR 40 Part 148	Hazardous Waste Injection Restrictions
CFR 40 Part 260	Hazardous Waste Management System: General
CFR 40 Part 261	Identification and Listing of Hazardous Waste
CFR 40 Part 262	Standards Applicable to Generators of Hazardous Waste
CFR 40 Part 263	Standards Applicable to Transporters of Hazardous Waste
CFR 40 Part 264	Standards for Owners and Operations of Hazardous Waste Treatment, Storage, and Disposal Facilities
CFR 40 Part 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
CFR 40 Part 268	Land Disposal Restrictions
CFR 49 Part 172	Hazardous Material Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements
CFR 49 Part 178	Specifications for Packaging
CFR 40 Part 745	Identification of Dangerous Levels of Lead

C. **National Fire Protection Association (NFPA):**

NFPA 701-1989 Methods of Fire Test for Flame-Resistant Textiles and Films

D. **National Institute For Occupational Safety And Health (NIOSH):**

NIOSH OSHA Booklet 3142 Lead in Construction

E. **Underwriters Laboratories(UL):**

UL 586-1990 High-Efficiency, Particulate, Air Filter Units

F. **American National Standards Institute:**

Z9.2-1979(R1991) Fundamentals Governing the Design and Operation of Local Exhaust Systems.

G. **HUD's Guidelines For the Evaluation and Control of Lead - Based Paint Hazards in Housing.**

H. **District of Columbia Lead-Based Paint Abatement and Control Act of 1996 (DC Law 11-221).**

I. Related Sections include the following:

1. Division 1 Section "GENERAL REQUIREMENTS"
2. Division 1 Sections "SAFETY AND HEALTH"
3. Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"
4. Division 1 Sections "SELECTIVE DEMOLITION"
5. Division 7 Sections "FIRESTOPPING"
6. Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES"
7. Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"
8. Division 16 Sections "BASIC ELECTRICAL MATERIALS AND METHODS"

1.4 DEFINITIONS

A. **Action Level**: Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period. As used in this section, "30 micrograms per cubic meter of air" refers to the action level.

B. **Area Monitoring**: Sampling of lead concentrations which is representative of the airborne lead concentrations which may reach the breathing zone of personnel potentially exposed to lead.

C. **Physical Boundary**: Area physically roped or partitioned off around an enclosed lead control area to limit unauthorized entry of personnel. As used in this section, "inside boundary" shall mean the same as "outside lead control area."

D. **Certified Industrial Hygienist (CIH):** As used in this section, refers to an Industrial Hygienist employed by the Contractor and is certified by the American Board of Industrial Hygiene in comprehensive practice.

E. **Change Rooms and Shower Facilities:** Rooms within the designated physical boundary around the lead control area equipped with separate storage facilities for clean protective work clothing and equipment and for street clothes which prevent cross- contamination.

F. **Competent Person:** A person capable of identifying lead hazards in the work area and is authorized by the Contractor to take corrective action.

G. **Decontamination Room:** Room for removal of contaminated personal protective equipment (PPE).

H. **Eight-Hour Time Weighted Average (TWA):** Airborne concentration of lead averaged over an 8-hour workday to which an employee is exposed.

I. **High Efficiency Particulate Air (HEPA) Filter Equipment:** HEPA filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining lead-contaminated paint dust. A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron size particles.

J. **Lead:** Metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.

K. **Lead Control Area:** An enclosed area or structure with full negative pressure containment to prevent the spread of lead dust, paint chips, or debris of lead-containing material removal operations. The lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.

L. **Lead Permissible Exposure Limit (PEL):** Fifty micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more than 8 hours in a work day, the PEL shall be determined by the following formula. PEL (micrograms/cubic meter of air) = 400/No. of hrs worked per day

M. **Personnel Monitoring:** Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1926.62. Samples shall be representative of the employee's work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulders, with a radius of 150 mm to 225 mm (6 to 9 inches) and the center at the nose or mouth of an employee.

N. **Architect:** The Architect of the Capitol.

1.5 QUALITY ASSURANCE

A. **Before exposure** to lead-contaminated dust, show evidence that workers have completed the comprehensive medical examination as required by 29 CFR 1926.62 (I) (1) (I) & (ii). The examination shall not be required if adequate records show that employees have been examined as required by 29 CFR 1926.62(I) within the last year.

B. **Medical Records:** Maintain complete and accurate medical records of employees in accordance with 29 CFR 1910.20.

C. **The Contractor** shall engage the services of an Certified Industrial Hygienist (CIH) certified by the American Board of Industrial Hygiene (ABIH). Selection of the CIH is subject to approval of the Architect. The CIH will be responsible for, but not limited to the following:

1. **Certify** Training.

2. **Review, approve and submit** to the Architect's representative, all lead-containing material removal plan for conformance to the applicable referenced standards.

3. **Inspect and or oversee** the inspection of, all lead-containing material removal work for conformance with the approved plan.

4. **Develop** a monitoring plan and/or perform the monitoring. This is to include samples to test airborne levels of lead to determine exposure.

5. **Ensure work** is performed in strict accordance with specifications at all times.

6. **Ensure hazardous exposure** to personnel and to the environment are adequately controlled at all times.

7. **Visually inspect** all lead control areas for cleanliness and perform floor dust wipe testing.

8. **Review and approve** and submit to the Architect's representative, all sampling data within the time frames outlined in this specification.

9. **Review, approve and submit** to the Architect, the Contractor's lead compliance program in accordance with 29 CFR 1926.62(e)(2).

   a. The CIH may delegate the performance of his work, (except for the reviews and approval of plans, programs and sampling strategies), to an Industrial Hygienist (IH) he selects, who are qualified by virtue of their training and work experiences to perform tasks. The CIH shall supervise the IH or all of the IH (s) and will be responsible for and review all results of their work. The selection of the CIH and the IH (s), is subject to approval of the Architect.

D. **Training:** Train each employee performing lead paint removal, lead containing material removal, disposal, and air sampling operations prior to the time of initial job assignment, in accordance with 29 CFR 1926.62.

E. **Training Certification:** The CIH shall certify all Contractor employee Lead Training Certificates. These documents shall be submitted to the Architect as directed by section 1.6.D.6.c of this specification.

F. **Respiratory Protection Program:**

1. Furnish each employee required to wear a negative pressure respirator or other appropriate type with a respirator fit test at the time of initial fitting and at intervals that are required by 29 CFR 1910.134.

2. The Contractor shall establish and implement a respiratory protection program that has been approved and certified by the project CIH as required by 29 CFR 1910.134, 29 CFR 1910.1025, and 29 CFR 1926.62.

G. **Hazard Communication Program:** The Contractor shall establish and implement a Hazard Communication program that has been approved and certified by the project CIH as required by 29 CFR 1910.1200. Once approved by the Architect and before any work starts, the Contractor shall implement this plan.

H. **Safety and Health Compliance:**

1. **In addition** to the detailed requirements of this specification, comply wi th laws, ordinances, rules, and regulations of federal, state, and local authorities regarding removing, handling, storing, transporting, licensing and disposing of lead waste materials. Comply with the applicable requirements of the current issue of 29 CFR 1926.62 and this specification. Submit matters regarding interpretation of standards to the Architect for resolution before starting work.

2. **Where specification** requirements and the referenced documents vary, the most stringent requirements shall apply.

I. **Pre-Construction Conference:** Ten (10) days before beginning any lead containing material removal, the CIH and Removal Contractor shall meet with the Architect's Occupational Health, Environmental, and Safety Office representative to discuss in detail the lead-containing paint and or material removal work plan. The topic of the Pre-Construction Conference shall include work procedures and precautions for the work plan.

J. **Supervision:** The competent person assigned to this operation by the Contractor, shall be required to be onsite and supervising any and all work being performed inside the Lead Control area.

1.6 SUBMITTAL

A. **General:** No work involving the removal of lead containing materials shall begin until all submittals required by this specification are approved by the Architect.

B. **Hazardous Waste Management:**

1. **Submit a Hazardous Waste Management Plan** within 14 days after award of contract to the Architect for approval. The Hazardous Waste Management plan shall comply with applicable requirements of Federal, State, and local hazardous waste regulations and address:

a. Procedures to segregate abatement wastes into separate waste streams to minimize the quantity of hazards waste generated.

b. Testing to identify hazardous wastes associated with the work.

c. Estimated quantities of wastes to be generated and disposed of.

d. Transporter / disposal facility documentation including, name, location, EPA identification number, hazardous waste permits and a 24 hour point of contact.

e. Names and qualifications (experience and training) of personnel who will be working on-site with hazardous wastes.

f. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.

g. Spill prevention, containment, and cleanup contingency measures to be implemented.

h. Procedures and schedule for waste containment, removal and disposal. Wastes shall be cleaned up and containerized daily.

2. **Obtain Architect's generator EPA** identification number from the Architect. Contact the Architect's Safety and Occupational Health Branch's representative for this information.

C. **Manufacturer's Catalog Data:**

1. HEPA Vacuums

2. Respirators

3. HEPA filtered negative air machines.

4. LBP Removal Chemicals.

5. All other tools or equipment that the Contractor plans on using to remove Lead - Containing materials.

D. **Instructions:** Paint removal materials. Include applicable material safety data sheets.

E. **Statements Certifications and Statements:**

1. **Qualifications of CIH:** Submit to the Architect for approval the name, address, and telephone number of the CIH selected to perform responsibilities in paragraph entitled "CIH Responsibilities." Provide previous experience of the CIH on five (5) projects of comparable size, cost and complexity. Submit proper documentation that the Industrial Hygienist is certified by the American Board of Industrial Hygiene in comprehensive practice, including certification number and date of certification/re-certification.

2. **Qualifications of Competent Person:** Submit to the Architect for approval the name, address, and telephone number of the Competent Person assigned to supervise this operation. Provide all previous experience of the Competent Person related to Lead Abatement operations.

3. **Testing Laboratory:** Submit to the Architect for approval, the name, address, and telephone number of the testing laboratory selected to performing the analysis and reporting of airborne concentrations of lead wipes, and TCLP sampling. Provide proper documentation that persons performing the analysis have been judged proficient by successful participation within the last year in the American Industrial Hygiene Association (AIHA). Environmental Lead Proficiency Analytical Testing Program (ELPAT). The laboratory shall be accredited by the American Industrial Hygiene Association (AIHA). Provide AIHA and ELPAT documentation along with date of accreditation / re-accreditation.

4. **Lead-Containing Material Removal Plan:** Ten (10) days before work starts, submit to the Architect for approval, a detailed job-specific plan, approved by the CIH, of work procedures to be used in the removal of lead-containing paint or materials. The plan shall include the name of the Competent Person assigned to supervise the operation, a sketch showing the location, size, and details of lead control areas, type of containment materials used, location and details of decontamination rooms, change rooms, shower facilities, and HEPA filtered mechanical ventilation system.

   a. Include in the plan, eating, drinking, smoking and restroom procedures, interface of trades, sequencing of lead related work, collected wastewater and lead paint and/or lead containing material debris disposal plan, air sampling plan, respirators, protective equipment, and a detailed description of the method of containment of the operation to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not exceeded outside of the lead control area.

   b. Include air and floor wipe sampling, strategy, sampling methodology, frequency, duration of sampling, and qualifications and training of air monitoring personnel in the sampling portion on the plan.

5. **Field Test Reports:** Monitoring Results: Submit all monitoring results to the Architect's Occupational Health, Environmental, and Safety Office representative, by the next work day. All monitoring and floor wipe test results shall be signed by the testing laboratory, the employee performing the sampling, the employee that analyzed the sample, and the CIH. The quickest turn around time available, shall be used for all floor wipe tests, taken to clear a lead control area.

6. **Records:**

   a. Submit completed and signed hazardous waste manifest from treatment or disposal facility.

   b. Before work starts, submit to the Architect for approval, certification of Medical Examinations as required by 29 CFR 1926.62. The CIH shall certify that all employees, who will be engaged in lead - containing material removal operations, have been medically cleared as required by 29 CFR 1926.62.

c. Before work starts, submit to the Architect for approval, certification of employee training certified by the CIH.

d. Before work starts, submit to the Architect for approval, the CIH approved Contractor's employee respiratory protection program.

e. Before work starts, submit to the Architect for approval, certification of employees respirator fit testing certified by the CIH.

f. Before work starts, submit to the Architect for approval, the CIH approved copy of the Hazard Communication Program as required by 29 CFR 1910.1200.

g. Before work starts, submit to the Architect for approval, the Contractor's CIH approved lead compliance program in accordance with 29 CFR 1926.62(e)(2).

h. Three days after completion of each containment and or lead abatement activity, submit a draft closing report. The closing report shall include a executive summary which will include but is not limited to the following: (1) A statement of the work done, (2) Address all issues concerning all documents generated during this activity (See a through g above), (3) A statement that the work area is cleared for re-occupancy, any other comments related to this work activity or is requested by the Architect. Two days after all comments are received on the draft closing report, submit the final closing report.

PART 2 PRODUCTS

2.1 PAINT REMOVAL PRODUCTS:

A. **Submit for approval,** applicable Material Safety Data Sheets for paint removal products used in paint removal work. Use the least toxic product, suitable for the job and acceptable to the CIH.

PART 3 EXECUTION

3.1 PROTECTION

A. **Notification:** Notify the Architect's Occupational Health, Environmental, and Safety Office representative 10 days prior to the start of any lead abatement work.

B. **Lead Control Area Requirements:**

1. **Establish a lead control area** by completely enclosing with 6 mil poly, where lead-containing material removal operations will be performed.

2. **Contain removal operations** by the use of a negative pressure full containment system with at least one change room and with HEPA filtered exhaust, exhausted to the outside of the building. The negative pressure containment, shall have a minimum of 6 air changes per hour. The Contractor shall maintain a -0.020 column inches of water pressure

differential, relative to outside pressure. This measurement shall be recorded and maintained within the enclosure as evidenced by manometric measurements and maintained around the clock, or until authorization for containment removal is obtained from the Architect. Hourly readings shall be recorded while lead removal work is being performed. Anytime the negative pressure is less than -0.020 column inches of water pressure differential, relative to outside pressure, all lead removal work inside the containment will stop. The work may be restarted only after the negative pressure is restored to a level of -0.020 column inches of water pressure differential or greater, relative to outside pressure.

C. **Protection of Existing Work to Remain:** Perform Lead - Containing Material removal work without damage or contamination of adjacent areas. Where existing work is damaged or contaminated, the Contractor will restore it to its original condition.

D. **Boundary Requirements:** Provide physical boundaries around the lead control area by sealing off the area to ensure that airborne concentrations of lead will not reach 20 micrograms per cubic meter of air outside of the lead control area.

E. **Heating, Ventilating and Air Conditioning (HVAC) Systems:** Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the lead control areas. Seal intake and exhaust vents in the lead control area with 6-mil plastic sheet and tape. Seal seams in HVAC components that pass through the lead control area.

F. **Change Room and Shower Facilities:** Provide clean change rooms and shower facilities within the physical boundary around the designated lead control area in accordance with requirements of 29 CFR 1926.62.

G. **Mechanical Ventilation System:**

1. **Use adequate ventilation** to control personnel exposure to lead in accordance with 29 CFR 1926.62.

2. **Contain removal operations** by the use of a negative pressure full containment system with at least one change room with HEPA filtered exhaust, exhausted to the outside of the building. The negative pressure containment, shall have a minimum of 6 air changes per hour. The Contractor shall maintain a -0.020 column inches of water pressure differential, relative to outside pressure. This measurement shall be recorded and maintained within the enclosure as evidenced by manometric measurements and maintained around the clock, or until authorization for containment removal is obtained from the Architect. Hourly readings shall be recorded while lead removal work is being performed. Anytime the negative pressure is less than -0.020 column inches of water pressure differential, relative to outside pressure, all lead removal work inside the containment will stop. The work may be restarted only after the negative pressure is restored to a level of -0.020 column inches of water pressure differential or greater, relative to outside pressure.

H. **Personnel Protection:** Personnel shall wear and use protective clothing and equipment as specified herein. Eating, smoking, or drinking is not permitted in the lead control area. The CIH shall initially select the appropriate respiratory protection to be used by the employees as required by 29 CFR 1926.62.

I. **Warning Signs:** Provide warning signs at approaches to lead control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Signs shall comply with the requirements of 29 CFR 1926.62.

3.2 WORK PROCEDURES

A. **Perform removal of Lead-Containing Material** in accordance with approved Lead-Containing Material removal plan. The assigned Competent Person shall supervise the work and will be on site anytime work in the Lead Control area is on-going. This person shall use procedures and equipment required to limit occupational and environmental exposure to lead when Lead - Containing Material is removed in accordance with 29 CFR 1926.62, except as specified herein. Dispose of removed Lead-Containing Material, any paint chips and associated waste in compliance with Environmental Protection Agency (EPA), federal, state, and local requirements.

B. **Personnel Exiting Procedures:** Whenever personnel exit the lead-controlled area, they shall perform the following procedures and shall not leave the work until:

1. **Vacuum** themselves off.

2. **Remove protective clothing** in the decontamination room, and place them in an approved impermeable disposal bag.

3. **Shower.**

4. **Change** to clean clothes prior to leaving the physical boundary designated around the lead-contaminated job site.

C. **Monitoring:** Monitoring of airborne concentrations of lead shall be in accordance with 29 CFR 1926.62 and as specified herein. Air monitoring, testing, and reporting shall be performed by a CIH or an Industrial Hygiene (IH) Technician who is under the direction of the CIH.

1. **The CIH or the IH Technician** under the direction of the CIH shall be on the job site directing the monitoring, and inspecting the Lead - Containing Material removal work to ensure that the requirements of this specification have been satisfied during the entire Lead - Containing Material removal operation.

2. **Personal air monitoring samples** shall be taken on employees who are anticipated to have the greatest risk of exposure as determined by the CIH.

3. **Submit results of air monitoring samples**, signed by the CIH, by the next work day after the air samples are taken. Notify the Architect immediately of exposure to lead at or in excess of the action level of 30 micrograms per cubic meter of air outside of the lead control area.

D. **Monitoring During Lead-Containing Material Removal Work:**

1. **Perform personal and area monitoring** during the entire Lead-Containing Material removal operation. Sufficient area monitoring shall be conducted at the physical boundary outside the lead control area to ensure unprotected personnel are not exposed above 20 micrograms per cubic meter of air.

a. If the outside boundary lead levels are at or exceed 20 micrograms per cubic meter of air, work shall be stopped and the CIH shall notify the Architect immediately.

1) The CIH shall immediately investigate, perform necessary air and/or wipe sampling and render a decision as whether these areas are contaminated are not. The findings of the investigation and the results of any samples taken, shall be reported to the Architect immediately.

2) If the area investigated by the CIH is found to be contaminated with lead, the following procedures shall be followed:

a) Work in all lead containment operations shall remain halted.

b) The Contractor shall decontaminate (clean up) the contaminated area.

c) The CIH shall determine the source and cause of the contamination, along with the necessary corrective measures to be taken.

d) The Contractor shall decontaminate the contaminated area using the corrective measures outlined by the CIH.

e) The CIH shall visually inspect the "Contractor-cleaned" contaminated area and perform floor wipe tests. The number of floor wipe tests will be determined by the CIH. Results of the floor wipe tests shall be less than 40 $\mu g/ft^2$. The CIH shall submit copies of all sample results along with a certification that the area is no longer contaminated with lead.

f) If on the second try, the Contractor is unable to achieve a floor wipe sample result of less than 40 $\mu g/ft^2$ for a particular area, the following procedures shall be followed:

1. The CIH shall render a decision as to what clearance level would be achievable for that particular area.

2. The CIH shall submit to the Architect this decision, along with copies of the sampling data for area, along with a certification that the area is no longer contaminated with lead.

g) The Architect will issue the authority to restart work in the lead control area, once the CIH certifies to the Architect, that the contaminated area has been successfully decontaminated.

2. **The CIH** shall review the sampling data collected on that day to determine if condition(s) requires any further change in work methods. Removal work shall resume when approval is given by the Architect.

3. **The Contractor** shall control the lead level outside of the work boundary to less than 30 micrograms per cubic meter of air at all times. As a minimum, conduct area monitoring daily on each shift in which Lead - Containing Material removal operations are performed in areas immediately adjacent to the lead control area. If any outside the work boundary

lead levels are at or exceed 20 micrograms per cubic meter of air, work shall be stopped and the CIH shall immediately investigate as to what condition(s) are causing the increased levels and notify the Architect immediately. Removal work shall resume when approval is given by the Architect.

3.3 LEAD-CONTAINING Material REMOVAL

A. **Remove Lead - Containing Material** within the areas designated on the approved Lead - Containing Material removal plan in order to completely expose the substrate. Take whatever precautions are necessary to minimize damage to the underlying substrate.

B. **Indoor Lead-Containing Material Removal:** Select Lead - Containing Material removal processes to minimize contamination of work areas with lead-contaminated dust or other lead-contaminated debris/waste. This Lead - Containing Material removal process shall be described in the Lead - Containing Material removal plan approved by the Architect.

C. **After beginning the Lead-Containing Material** removal operation or at the direction of the Architect, the following procedures shall be followed, concerning all reports of possible lead contamination in occupied spaces, within a building that has a Lead Control area:

1. **The CIH** shall immediately investigate, perform necessary air and/or wipe sampling and render a decision as whether these areas are contaminated and develop a corrective plan of action. The findings of the investigation and the results of any samples taken, shall be reported to the Architect immediately.

2. **If the area investigated** by the CIH is found to be contaminated with lead, the following procedures shall be followed:

   a. Work in all lead containment operations shall be halted.

   b. The Contractor shall initiate the corrective plan of action plan developed by the CIH in order to decontaminate the area.

   c. The CIH shall determine the source and cause of the contamination, along with the necessary corrective measures to be taken to prevent a reoccurrence.

   d. Before any lead abatement work is restarted, the CIH must certify to the Architect, that the source and cause of the contamination has been corrected. Work may restart once approval from the Architect is received.

   e. The CIH shall visually inspect the "Contractor-cleaned" contaminated area and perform floor wipe tests. The number of floor wipe tests will be determined by the CIH. Results of the floor wipe tests shall be less than 40 $\mu g/ft^2$. The CIH shall submit copies of all sample results along with a certification that the area is no longer contaminated with lead.

3.4 CLEANUP AND DISPOSAL:

A. **Cleanup:** Maintain surfaces of the lead control area free of accumulations of Lead - Containing Material chips and dust. Restrict the spread of dust and debris; keep waste from being

distributed over the work area. Do not dry sweep or use compressed air to clean up the area. At the end of each shift and when the Lead - Containing Material removal operation has been completed, clean the area of all visible Lead - Containing Material contamination, dust and debris by vacuuming with a HEPA filtered vacuum cleaner and wet wipe and or mopping the area.

B. **Certification:** The CIH shall certify in writing the following:

1. **The inside and outside** of each lead control area air monitoring samples are less than 30 micrograms per cubic meter of air.

2. **The respiratory protection** for the employees was adequate and the work procedures were performed in accordance with 29 CFR 1926.62 and this specification, and that there were no visible accumulations of lead-contaminated Lead - Containing Material and dust on the work site.

3. **The CIH** shall perform floor wipe test(s) by using methodology that is outlined in HUD's Guidelines for the Evaluation and Control of Lead - Based Paint hazards in Housing. A Lead Control area is considered complete if all floor wipe sample results are below $40\mu g/ft^2$. Do not remove the lead control area or roped-off boundary and warning signs prior to the Architect's approval and receipt of the CIH's certification.

4. **Re-clean and re-sample** any Lead Control area showing dust or residual Lead - Containing Material (chips) or floor wipe sample results that are above $40\mu g/ft^2$.

C. **Testing of Lead-Containing Material Residue:** Where indicated or when directed by the Architect, test all potential Lead - Containing waste by following the Toxicity Characteristic Leaching Procedure (TCLP) for lead in accordance with 40 CFR 261.

D. **Disposal:**

1. **Collect** all potential lead-contaminated waste, including but not limited to, removed paint chips, abrasive blast medium, architectural components, scrap, debris, bags, containers, equipment, and lead-contaminated clothing.

2. **For drummed waste,** store in U.S. Department of Transportation (49 CFR 178) approved 55-gallon drums to identify the type of waste (49 CFR 172) and the date lead contaminated wastes were first put into the drum.
For architectural components, e.g., doors, windows, and molding, store so as to prevent environmental contamination. Six - mil plastic sheeting should be placed underneath and on top of the material; plywood or other durable material should be placed on top of the plastic to prevent it from being punctured. Transport waste in covered vehicle only.

3. **Periodically remove hazardous wastes** so that 90 calendar day storage limitation is not exceeded.

4. **Handle, store, transport, and dispose** lead or lead-contaminated waste in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, and 40 CFR 265. Comply with land disposal restriction notification requirements as required by 40 CFR 268.

5. **Disposal Documentation:** Submit written evidence that the hazardous waste transporter and the treatment, storage, or disposal facility (TSDF) is approved for lead disposal by the EPA and state or local regulatory agencies. Submit one copy of the completed manifest, signed and dated by the initial transporter in accordance with 40 CFR 262. Submit Certification of disposal from TSDF.

END OF SECTION 13082

SECTION 13281 - ASBESTOS ABATEMENT PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. **General:** This section includes required procedures necessary to reduce air concentrations of asbestos to the specified level and maintain the specified asbestos control limits that is mandated during the life of the contract. It also includes procedures for the encapsulation, removal, containment, and disposal of asbestos containing materials.

1. Work Area: See fire alarm system design drawings, fire alarm system demolition drawings, and Specifications.

B. Related Sections include the following:

1. Division 1 Section "GENERAL REQUIREMENTS"
2. Division 1 Sections "SAFETY AND HEALTH"
3. Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"
4. Division 1 Sections "SELECTIVE DEMOLITION"
5. Division 7 Sections "FIRESTOPPING"
6. Division 13 Sections "LEAD ABATEMENT"
7. Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"
8. Division 16 Sections "BASIC ELECTRICAL MATERIALS AND METHODS"

1.2 SCOPE OF WORK:

A. The Contractor shall familiarize himself with the work area and Contract Documents in terms of the exposed asbestos hazard and take all reasonable precautions to avoid disturbing asbestos containing materials.

B. The Contractor, his employees, and sub-contractors shall be trained in the recognition and identification of asbestos containing materials, or provide a specialist to fulfill this function. Asbestos survey results are provided in the Contract Documents (i.e., Limited Hazardous Materials Evaluation (Asbestos and Lead Based Paint), prepared by Jenkins Environmental, Inc. in September of 2004) and are summarized in the table below, but are not all-inclusive.

Material or Surface	Asbestos Identified?	Space or Area
12" Brown Floor Tile	No	Small Office in Inventory Management - "Core Area" Basement
2 x 4 Ceiling Tile	No	Small Office in Inventory Management - "Core Area" Basement
2 x 4 Ceiling Tile	No	IMD Office - "Core Area" Basement
Sprayed Insulation	Yes	Senate Office Building Tunnel

C. It is the Contractor's responsibility to avoid disturbing asbestos containing materials and immediately notify the AOC when asbestos containing materials are identified which will need to be disturbed as part of this work, and await instructions on how to proceed.

1.3 QUALITY ASSURANCE:

A. Definitive Responsibility Criteria:

1. **Qualifications For the Asbestos Abatement Contractor:**

   a. **Asbestos Abatement Experience:** Provide the name and location of at least five (5) prior asbestos abatement projects, successfully performed by the selected Asbestos Abatement Contractor, that are comparable in scope of work, structure, project costs and in complexity. For each project include the name and current telephone number of the project's contract representative. Address how each project is comparable in scope of work, structure, project costs and complexity.

   b. **Project Documents:** Provide copies of the daily logs and air monitoring reports including final clearance sample results, for the five abatement projects submitted in response to the preceding paragraph.

   c. **Pollution Liability Insurance:** Submit proof of Pollution Liability Insurance coverage. If the completion date of the bid project is beyond the effective dates of the Pollution Liability Insurance coverage, then the selected contractor shall submit a statement stating it is understood, that this Pollution Liability Insurance coverage, shall remain in effect throughout the duration of this contract.

   d. **Federal/State EPA and OSHA citations**: Provide a list all federal and State EPA or OSHA citations the Contractor has received in the last five (5) years.

2. **Qualifications for the Supervisor / Competent Person:** Provide the name and experience record of the proposed Supervisor/Competent Person and foreman, the selected Asbestos Abatement Contractor, will assign to this project. Provide evidence that the proposed Supervisor/Competent Person has supervised at least five (5) asbestos abatement contracts of comparable scope and complexity.

   a. **Accreditation:** Provide evidence that shows the proposed Supervisor/Competent Person, is accredited as an asbestos Contractor/Supervisor as described in 40 CFR Part 763 (EPA's Model Accreditation Plan).

3. **Qualifications for the Certified Industrial Hygienist (CIH):** Provide the name and experience record of the CIH selected to perform the duties outlined in "Project Certified Industrial Hygienist" below. Provide evidence showing that, in the last five years, the selected CIH has performed abatement oversight on projects of comparable scope and complexity.

a. **Certification, Accreditation and Training:** Provide evidence that shows the selected CIH (1.) is certified in Comprehensive Practice by the American Board of Industrial Hygiene (ABIH) (2.) is currently accredited as an Asbestos Building Inspector, Contractor/Supervisor, and Project Designer as described in 40 CFR Part 763 (3.) has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course *Sampling and Evaluating Airborne Asbestos Dust* or equivalent (4.) is currently registered in the American Industrial Hygiene Association's (AIHA) *Asbestos Analytical Registry* (5.) is currently participating in their *Proficiency Analytical Testing* (PAT) certification program.

b. **Errors and Omissions Insurance:** Provide evidence showing the Project CIH has Errors and Omissions Insurance coverage. If the completion date of the project is beyond the effective dates of the insurance coverage, submit documentation stating that the CIH(s) Errors and Omissions Insurance coverage will be kept current and in effect for the duration of the project.

4. **Qualifications for the Industrial Hygienist (IH):** Name of and experience record of the Industrial Hygienist(s) (IH), the CIH selects, who are qualified by virtue of their training and work experiences, to perform duties assigned by the CIH. Show experience on 5 projects of comparable scope and complexity, that the IH has overseen in the last five years. Provide evidence that:

a. The selected IH is currently Accredited as an asbestos building inspector, Contractor/Supervisor, and Project Designer as described in 40 CFR Part 763.

b. The selected IH has successfully completed the NIOSH 582 course Sampling and Evaluating Airborne Asbestos Dust or equivalent and is currently registered in the American Industrial Hygiene Association's (AIHA) Asbestos Analytical Registry.

c. The selected IH is currently participating in their (PAT) certification program.

5. **Testing Laboratory Qualifications:** Proof of qualifications of testing laboratory and personnel as follows:

a. **Accreditation:** Provide proof of accreditation by the AIHA for asbestos analysis, and the NIST under National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos analysis.

b. **Proficiency:** Provide the two most recent consecutive quarterly reports showing the laboratory analyzing the samples has been judged proficient by successful participation in the NIOSH's PAT certification and Bulk Asbestos Proficiency Analytical Testing (ELPAT) programs.

c. **Laboratories and Microscopists:** Provide proof the laboratory(s) selected to analyze project samples is accredited by the American Industrial Hygiene Association (AIHA), holds appropriate state license and successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program. For microscopists to analyze fibers-in-air samples on site, provide proof that they have been judge by current inclusion on the AIHA Asbestos Analyst's Registry (AAR).

d. **Errors and Omissions Insurance:** Provide evidence showing the laboratory has Errors and Omissions Insurance coverage. If the completion date of the project is beyond the effective dates of the insurance coverage, submit documentation stating that the laboratory's Errors and Omissions Insurance coverage will be kept current and in effect for the duration of the project.

B. **Contractors performing** asbestos abatement work for the Architect of the Capitol in the District of Columbia are required to be licensed to do asbestos work in the District of Columbia. The Contractor shall comply with the licensing regulations of:

Government of the District of Columbia
Department of Consumer and Regulatory Affairs (DCA)
Environmental Regulation Administration
51 N Street NE
5th Floor
Washington, DC 20002

C. **Contractor employees** assigned to active asbestos work areas in the District of Columbia must be licensed by the District of Columbia as trained asbestos workers and supervisors. The Abatement Personnel shall have completed the EPA AHERA/OSHA abatement worker/supervisor course; have training on the standard operating procedures of the Abatement Contractor; have one year of asbestos abatement experience; have applicable medical and respiratory protection documentation; have certificate of training and State accreditation/license.

D. **Asbestos Control Limits:** The enclosed work areas shall be defined as a regulated area in accordance with 29 CFR 1910.1001 and 29 CFR 1926.1101.

1. **Inside Asbestos Work Area:** For personnel wearing negative-pressure respirators, air concentrations of asbestos shall not exceed an 8-hour time weighted average of 0.1 fibers (longer than 5 microns), per cubic centimeter of air as determined by the NIOSH 7400 method. Regardless of respiratory protection worn, air concentrations inside the work area will not exceed an 8-hour time weighted average of one (1) fiber per cubic centimeter as determined by the NIOSH 7400 method. In the event that this level is exceeded, all work in the asbestos work area shall stop and may not restart until fiber levels are below an 8-hour time weighted average of one (1) fiber per cubic centimeter as determined by the NIOSH 7400 method. It is the responsibility of the Contractor to provide an independent industrial hygiene consultant to provide the required personal air monitoring and to assure that all safety and health procedures are followed.

2. **Outside Asbestos Work Area:** Air concentrations of asbestos shall not exceed 0.01 fibers (longer than 5 microns) per cubic centimeter of air as determined by the NIOSH 7400 method. This applies to all areas in the building while work is in progress, except for the asbestos work area. Anytime this level is exceeded, all work in the asbestos work area will be stopped and may not restart until approval from the AOC/SOHB is given. To assure compliance with this provision, the government may provide (in addition to the approved sampling plan), air monitoring outside the Contractor's work area. If used, the government's industrial hygienist will have unrestricted access to the Contractor's work site. If the asbestos abatement Contractor wishes, he may perform any additional air sampling to assure compliance and for comparison with this specification.

E. **Project Certified Industrial Hygienist (Project CIH):** The primary Contractor shall engage the services of a CIH certified in Comprehensive Practice by the American Board of Industrial Hygiene (ABIH) for the period of this contract. Selection of the Project CIH is subject to approval of the Architect. This person is responsible for all environmental oversight of this contract. Although contracted by the General Contractor, the Project CIH is responsive to the Architect. During the contract period, the Project CIH is required to be on call and to be on project site within two hours after notification by the Architect. Additionally, the Project CIH will arrange for another Architect approved CIH, to be a back-up, to cover duties assigned under this specification, in the event that the selected Project CIH is not able to be on site as required or cannot report to the project site within the allotted 2 hours. Responsibilities for the Project CIH include but shall not be limited to the following:

1. **Coordination meeting.** Immediately after selection the Project CIH will contact the Architect to schedule a coordination meeting. Suggested attendees to this meeting are: the AOC Construction Manager, a representative of the AOC/SOHB, and a representative of the AOC jurisdiction where the work is being performed. The purpose of this coordination meeting is to establish a clear working knowledge of the project and the responsibilities of the Project CIH with the Architect's staff.

2. **Certify**, that prior to beginning any abatement activity, all personnel is trained in accordance with OSHA 29 CFR 1926.1101 (k)(9) and any additional State/Local requirements. Training must include, at a minimum, the elements listed at 29 CFR 1926.1101 (k)(9)(viii). Training shall have been conducted by a third party, EPA/State approved trainer meeting the requirements of EPA 40 CFR 763 Appendix C (AHERA MAP). Provide copies of the initial training certificates and all refresher taken to date.

3. **Certify** that medical examinations meeting the requirements of 29 CFR 1926.1101 (m) are provided for all personnel working in the regulated area, regardless of exposure levels. The physician's written opinion as required by 29 CFR 1926.1101 (m)(4) shall be provided for each person and shall include in the opinion the person has been evaluated for working in a heat stress environment while wearing personal protective equipment and is able to perform the work.

4. **Review,** approve and submit for review to the Architect:

   a. **All asbestos abatement plans** of action for conformance to applicable referenced standards and this specification.

   b. **All submittals** (except initial submittal of contractor qualification information) the Contractor submits under paragraph 1.4.

   c. **All sampling data** within the time frames outlined in this specification.

5. **Review,** approve and submit to the Architect for review all required Material Safety Data Sheets (MSDS) submitted by the Contractor.

6. **Inspect and or oversee** the inspection of, asbestos abatement removal work for conformance with the approved plan.

7. **Develop and submit** for review a daily monitoring plan to test airborne levels of asbestos to determine exposure levels. The plan will include all personal, area, and final air samples to be used to clear a containment area.

8. **Perform daily monitoring** in accordance with the approved plan.

9. **Ensure all work** is performed in strict accordance with this specification at all times.

10. **Ensure hazardous exposure** to personnel and to the environment are adequately controlled at all times.

11. **The Project CIH shall visually inspect** and approve all asbestos containment areas before asbestos containing materials are removed and before performing any final air tests.

12. **At the direction** of the AOC/SOHB, the Project CIH shall investigate possible contaminations and contamination related complaints. The Project CIH, shall perform any necessary sampling and/or site investigations in order to develop findings and conclusions of the reported incidence. Submit a verbal report that outlines all findings of the investigation to the AOC/SOHB within 24 hours of the initial notice. Submit a final written report to the AOC/SOHB within 3 work days of the initial notice.

13. **With the approval of the Architect the Project CIH** may select IH (s) to perform duties assigned by the Project CIH. The selected IH (s) shall be under the direct supervision of the Project CIH, who will be responsible for IH(s) job performance, and will review and approve all results of their work. The selection of IH (s) shall be based on their training and work experiences and will be subject to the approval of the Architect.

14. **PPE:** Establish the Personal Protective Equipment (PPE) daily.

F. **Project Competent Person**: The abatement contractor shall assign a competent person as defined in 29 CFR 1926.1101, as a person who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate them. This person shall meet the criteria outlined in paragraph 1.2.A.2, of this specification and is required to be on site supervising the work. Responsibilities for the Project Competent Person include but shall not be limited to the following:

1. Comply with the requirements outlined in 29 CFR 1926.1101, paragraph (o) *Competent Person.*

2. Follow the requirements outlined by the Project CIH.

3. Limit access to the abatement area by permitting only authorized personnel and personnel listed in "Access to Work Area" below to enter.

4. No employee shall be allowed to wear a respirator unless a physician has determined they are capable of doing so and has issued a written opinion for that person.

5. All personnel wearing respirators shall have a current qualitative/quantitative fit test which was conducted in accordance with 29 CFR 1910.134 (f) and Appendix A. Fit tests shall be done for PAPRs with the blower off.

6. The Competent Person shall assure that the positive/negative fit check is done each time the respirator is donned by an employee. Head coverings must cover respirator head straps. Any situation that prevents an effective face piece to face seal as evidenced by failure of a fit check shall preclude that person from wearing a respirator until resolution of the problem.

7. Maintain a daily log of all persons who enter and exit the work area until the containment is authorized for removal.

8. Working with the project CIH, ensure that all documents are filed in the final report due three days after the containment is authorized for removal.

9. Ensure that only personnel with current EPA accreditation and DC asbestos license, perform abatement work in the work area.

1.3 REFERENCES:

A. American National Standards Institute (ANSI) Publication:

1. Z9.2-79 - Fundamentals Governing the Design and Operation of Local Exhaust Systems

B. American Society for Testing and Materials (ASTM) Publication:

1. E 849-82 - Safety and Health Requirements relating to Occupational Exposure to Asbestos

C. Code of Federal Regulations (CFR):

1. 29 CFR 1910.1001, Occupational Safety and Health Act (OSHA), INCLUDING Appendix A through I.

2. 29 CFR 1910.20, Subpart C, General Safety and Health Provisions.

3. 29 CFR 1910.134, OSHA General Industry Respirator Requirements.

4. 29 CFR 1926.1101. Occupational Exposure to Asbestos, Construction Industry Standard, INCLUDING Appendix A through K.

5 40 CFR Part 61, Subpart M: U.S. Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos.

D. State and Local Regulations:

1. Applicable state and local regulations shall apply.

E. **Architect of the Capitol**

1. The Architect of the Capitol's *Uniform Asbestos Management Program.*

2. Other special requirements listed by the AOC.

1.4 **SUBMITTALS:**

A. **General:** Transmit all submittals to the Architect for review.

B. **Initial Submittal of Asbestos Abatement Contractor or Subcontractor Qualification Information:** Items 1 through 3 below are to be submitted as a complete package after the bid receipt, but are required to be reviewed by the AOC Safety and Occupational Health Branch (AOC/SOHB) prior to Notice to Proceed.

1. **Asbestos Abatement Contractor or Subcontractor Qualification Information:** Submit for review, the name, address, telephone number and required documentation of qualifications of the Asbestos Abatement Contractor or Subcontractor, selected for this contract.

2. **Certified Industrial Hygienist (Project CIH):** Submit name, address, telephone number and required documentation of qualifications of the Certified Industrial Hygienist selected to perform the duties outlined in 1.2.E above.

3. **Experience and Qualifications of Supervision:** Submit name of and required documentation of qualifications of the proposed competent person who would be assigned to this project, as outlined in "Definitive Responsibility Criteria" above.

C. **Post-Award Asbestos Abatement Submittal:** Items listed below are to be submitted after the award, but are required to be reviewed and recommended approved, by the Project Certified Industrial Hygienist (CIH) prior to submission to the Safety and Occupational Health Branch or his designated representative. These actions must be completed prior to starting work.

1. **Experience and Qualifications of Workers:** Name and experience record, if any, of workmen who will be assigned to this project. Include for each person evidence of successful completion of State of Maryland or Commonwealth of Virginia training given by qualified personnel. Provide certification that employees meet the OSHA medical surveillance requirements.

2. **License Information:** Provide a copy of a current District of Columbia Asbestos Contractor's License and Individual Asbestos License for asbestos projects in the District of Columbia.

3. **CIH Approved Plan of Action:** Before start of work submit the design and layout of the regulated area and the negative air machines. The submittal shall indicate the number of, location of, and size of negative air machines. The point(s) of exhaust, air flow within the regulated area, anticipated negative pressure differential, and supporting calculations for sizing shall be provided. In addition, submit the following:

a. Manufacturer's information on the negative air machine(s).

b. Method of supplying power to the units and designation/location of the panels.

c. Description of testing method(s) for correct air volume and pressure differential.

d. Provide manufacturer's product data on the pressure differential measuring device used.

There will be 4 air exchanges required with minus 0.02 inch of water pressure differential. The plan must include the location and layout of each containment and decontamination areas, the sequencing of asbestos work, the interface of trades involved in the performance of work, methods to be used to assure the safety of building occupants and visitors to the site. The plan must explain the use of portable HEPA ventilation systems, identify the means of isolating the building's HVAC system during removal operations, detail the method of removal to prohibit emissions into the work area, and identify the method of packaging the asbestos waste. No locally exhausted HEPA filtered drills or saws shall be used as the sole means of containment of drilling or cutting asbestos-containing materials unless prior approval is given by the AOC/SOHB.

4. **Project CIH Approved Area Sampling Plan:** Submit a detailed plan which shows the proposed air sampling strategy to be used to comply with the requirements specified. This plan must be separate from the CIH approved plan of action. Show all locations where sampling will occur during the asbestos abatement operation.

5. **Temporary Storage of Containerized Asbestos Waste:** Submit a request to the AOC, requesting a location for temporary storage of containerized asbestos waste that is generated by this project.

6. **Project CIH Approved Disposal Plan:** Submit to the Architect a disposal plan including the location of the approved disposal site and the contractor's method for documenting proper asbestos disposal. Detail the methods by which the containerized asbestos waste is taken from the work area to the temporary storage area.

7. **IH qualifications:** Submit the name and required documentation of qualifications of the proposed IH (s)for this project.

8. **NESHAP Notification Requirements**: The contractor shall coordinate with the AOC/SOHB, in submitting the appropriate written notification. Any costs incurred due to expiration of the EPA NESHAP notice before completing assigned abatement work will be at the expense of the Contractor. **For the purpose of this contract, initial and all changes to the initial notification shall be postmarked by the appropriate addressee below, at least** 10 working days and 35 calendar days respectively, prior to the start of asbestos abatement work:

   a. Ten (10) working days prior to beginning asbestos abatement work notify:

      U. S. Environmental Protection Agency Region III
      Pesticides/Asbestos

Programs and Enforcement Branch
Mail Code: 3WC32
1650 Arch Street
Philadelphia, PA 19107

And

District of Columbia
Department of Health
Air Quality Division
51 N Street NE
Washington, DC 20002
Phone: (202) 535-2259
FAX Number 202-535-1371

Thirty Five (35) days prior to beginning asbestos abatement work notify:

AOC, Safety and Occupational Health Branch (AOC/SOHB)
Ford House Office Building
Room HOB2-553
Washington DC 20515
Phone: (202) 225-4043
FAX NUMBER (202) 226-9915

And the affected AOC Building Superintendent to satisfy the District of Columbia's building occupant asbestos abatement notification requirement.

b. **Changes to the original NESHAP Notification:** Any changes to the original notification, shall be coordinated with the AOC/SOHB prior to submission. After this coordination, the Contractor shall submit changes to the original notification, pursuant to the NESHAP requirements, within the time frames specified and to the appropriate jurisdiction listed above.

c. **Emergency NESHAP Notices:** The Contractor, shall contact the AOC/SOHB, for procedures regarding the submission of any emergency notifications, pursuant to the NESHAP requirements.

9. **AOC Asbestos Project Number:** Contact the AOC/SOHB at 202-225-4043 for this number. This Asbestos Control Number will be used in all documents concerning this project.

10. **Certificates of Compliance:** RESERVED

11. **Information on Encapsulating Material:** Submit written evidence that material meets the the specified characteristics and the latest requirements of the EPA.

12. **Laboratory Qualification Information:** Submit proof of required qualifications of testing laboratory and their personnel. See "Testing Laboratory Qualifications".

13. **Containers For Disposal of Friable Asbestos:** Submit for review, the manufacturers cut sheet for the bags and containers the contractor intends to use to dispose of the asbestos containing material. Bags shall be minimum of 6 mil polyethylene (or equivalent) and labeled in accordance with 40 CFR Part 61 subpart M (NESHAP) and 29 CFR 1926.1101.

14. **Decontamination Facility:** Unless otherwise specified by the AOC/SOHB, throughout the time that asbestos abatement is taking place, the Asbestos Abatement Contractor will maintain a working three-stage decontamination facility at the point of access to the containment. As a minimum, the decontamination facility will consist of a clean changing area, an air space, a shower, another air space, and a contaminated changing area. The size and location of this facility shall be reviewed by the AOC/SOHB.

15. **Sequencing/Scheduling:** Submit for review, the sequencing and/or scheduling for each containment or containments being performed under this contract, to the AOC/SOHB.

16. **Filtering for vacuums and exhaust equipment** shall conform to ANSI Z9.2. HEPA filters shall be used in all vacuums and exhaust equipment. All HEPA filtered vacuums and exhaust equipment shall be tested for integrity with a Dioctylphthalate (DOP) or Dioctylsubacate (DOS) smoke generator. Submit evidence showing that all HEPA filtered vacuums and exhaust equipment, scheduled for use under this Contract, have been tested and passed an DOP or DOS smoke generator.

17. **HEPA Filter Replacement:** If any HEPA filtered vacuums or ventilation equipment requires HEPA filter replacement during this abatement operation, another dioctylpthalate (DOP) test shall be performed. The results of the dioctylpthalate (DOP) test shall be submitted when received and reviewed by the AOC/SOHB before re-using the equipment under this Contract.

18. **Encapsulant Requirements:** Submit, before the start of work, the manufacturer's technical data for all types of encapsulant used on the project. Provide application instructions. Submit certification data as required in Encapsulant section. Submit MSDS for each material in compliance with 29 CFR 1910.1200. Submit certification from manufacturer that material it will adequately wet ACM as per NESHAP requirements.

D. **During-Work Asbestos Abatement Submittal:** After review and approval by the Project CIH, submit items required under 1.4D1 and 1.4D2 to the AOC/SOHB as the work progresses and at the times specified.

1. **Air Monitoring and Work Area Inspections:**

   a. **Air Monitoring Results:** Post for all workers to see, within 24 hours of collection, the results of all air monitoring conducted. Post the results at a location designated by the General Contractor and notify the AOC/SOHB. A copy of the results shall be provided to the AOC/SOHB within the same time frame.

   b. **Differential Air Pressure Readings:** Starting when a negative pressure containment is erected and approved by the Project CIH, a strip chart recorder shall be installed and work area relative pressure shall be monitored 24 hours a day until

final air clearances are produced. Submit a copy of the daily strip chart record to the AOC/SOHB within 24 hours after the recording was made.

c. **Work Area Inspections:** The Project CIH shall personally perform a visual inspection of the abatement work area for the pre-removal, pre-final, and re-occupancy stage. The Project CIH or the IH(s) working for the Project CIH, will perform visual inspections of the abatement work area daily and pre-final. Submit documentation of the daily, pre-removal, pre-final inspections to the AOC/SOHB, within 24 hours of completion. Documentation of the re-occupancy stages of the work inspection shall be submitted to the AOC/SOHB as soon as completed.

2. **Transporting and Disposing of Asbestos Containing Materials (ACM):**

a. **Disposal Receipts:** Submit receipts from the transporter, that acknowledge the contractor's shipment of ACM from the site (NESHAP Waste Shipment Records) within three (3) days following removal of ACM from the premises. Provide on each receipt the date, quantity of material removed, and signature of an authorized representative of the transporter. A signed and dated copy to the Waste Shipment Record, showing receipt at an authorized landfill, must be received by AOC/SOHB within 10 calendar days of the date of the shipping receipt.

b. **Transportation Vehicles:** Transportation shall be in vehicles dedicated to asbestos transportation. Vehicles shall be marked in accordance with DOT and NESHAP regulations.

E. **Final Submittal:** After review and approval by the Project CIH, submit items required under 1 and 2 below to the AOC/SOHB within 3 calendar days at the completion of work for each containment. The CIH shall submit a project report consisting of:

1. The daily log book information and documentation of events during the abatement project.

2. Copies of all waste shipment records for asbestos waste sent to the designated landfill.

3. The report shall include a certificate of completion.

4. All air and bulk sampling conducted for this project.

5. All final air clearance data.

6. All perimeter samples.

7. Copies of training certificates for all personnel engaged in this abatement work.

8. Copies of respirator fit tests for all personnel engaged in this abatement work.

9. Copies of the OSHA required asbestos and respirator medical clearances for all personnel engaged in this abatement work.

10. The final report shall include an executive summary. The executive summary must show:

a. A summary of the work done.

b. A statement that all personnel conducting this abatement operation had all required training and were medically cleared to perform this type of work in accordance with OSHA, EPA regulations and all State and Local laws, rules and regulations.

c. The executive summary must also show that all final air samples results were below the limits established by EPA, the District of Columbia, and this specification and declare the area ready for re-occupancy.

d. Describe the type, application, and quantity of asbestos containing materials removed by the contractor.

e. Include all copies of the final air and bulk sampling as performed by a third party.

f. Indicate that all building systems disturbed by the contractor during the work under the contract have been reinstalled and are in working order.

1.5 CONTRACTOR RESPONSIBILITY:

A. **The Contractor** shall assume full responsibility and liability for compliance with all applicable Federal, State, and local regulations pertaining to the protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical ex aminations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations, and shall hold the government harmless for failure to comply with any applicable safety or health regulation on the part of himself, his employees, or his subcontractors.

B. **The Contractor shall** secure all necessary permits in conjunction with asbestos removal, hauling and disposition and provide timely notification of such actions, as may be required by federal, state, regional, and local authorities. For this project, ensure that notification to the Regional Office of the EPA and the District of Columbia is made, and provide copies of the notification to the AOC/SOHB 10 days prior to the commencement of the work. Provide notification in accordance with 40 CFR 61.22(d)(1).

C. **The Contractor** shall inform the affected building Superintendent and the AOC/SOHB not less than thirty five (35) days prior to commencement of the asbestos abatement, of the health or safety factors that necessitate the asbestos abatement and procedures that will be taken to protect the health, safety, and possessions of the building occupants.

D. **Site Security:**

1. **Regulated area** access is to be restricted only to authorized, trained/accredited and protected personnel. These may include the Abatement Contractor's employees, employees of Subcontractors, AOC employees and representatives, State and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to commencing the project and be posted in the clean room of the decontamination unit.

2. **Entry into** the regulated area by unauthorized individuals shall be reported immediately to the Competent Person.

3. **A log book** shall be maintained in the clean room of the decontamination unit. Anyone who enters the regulated area must record their name, affiliation, time in, and time out for each entry.

4. **Access to the** regulated area shall be through a single decontamination unit. All other access (doors, windows, hallways, etc.) shall be sealed or locked to prevent entry to or exit from the regulated area. The only exceptions for this requirement are the waste load-out area which shall be sealed except during the removal of containerized asbestos waste from the regulated area, and emergency exits. Emergency exits shall not be locked from the inside, however, they shall be sealed with poly sheeting and taped until needed.

5. **The Abatement Contractor's** Competent Person shall control site security during abatement operations in order to isolate work in progress and protect adjacent personnel. Containment shall be locked out when the competent person leaves the site. The entrance to the regulated area requires all entrants to be logged in/out so that only authorized personnel are allowed entrance.

6. **The Abatement Contractor** will have the AOC's assistance in notifying adjacent personnel of the presence, location, and quantity of ACM in the regulated area and enforcement of restricted access by the AOC's employees.

7. **The Abatement Contractor** shall provide plans to secure the regulated area during non-working hours.

E. **Emergency Action Plan and Arrangements:**

1. **An Emergency Action Plan** shall be developed by the Abatement Contractor prior to commencing abatement activities and shall be agreed to by the Abatement Contractor and the AOC. The Plan shall meet the requirements of 29 CFR 1910.38 (a);(b).

2. **Emergency procedures shall** be in written form and prominently posted in the clean room and equipment room of the decontamination unit. Everyone, prior to entering the regulated area, must read and sign these procedures to acknowledge understanding of the regulated area layout, location of emergency exits and emergency procedures.

3. **Emergency planning** shall include written notification of police, fire, and emergency medical personnel of planned abatement activities; work schedule and layout of regulated area, particularly barriers that may affect response capabilities.

4. **Emergency planning** shall include consideration of fire, explosion, hazardous atmospheres, electrical hazards, slips/trips and falls, fiber release episodes, confined spaces, and heat stress illness. Written procedures addressing emergency situations shall be developed. Employees need to be aware of these procedures.

5. **Employees shall** be trained in regulated area/site evacuation procedures in the event of workplace emergencies.

a. **For non life-threatening** situations - employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the regulated area to obtain proper medical treatment.

b. **For life-threatening** injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove them from the regulated area, and secure proper medical treatment.

6. **Telephone numbers** of all emergency response personnel shall be prominently posted in the clean room, along with the location of the nearest telephone.

7. **The Emergency Action Plan** shall provide for a contingency plan in the event that an incident occurs that may require the modification of the standard operating procedures during abatement. Such incidents include, but are not limited to, fire; accident; power failure; negative pressure failure; and supplied air system failure. The Abatement Contractor shall detail procedures to be followed in the event of an incident assuring that work is stopped and wetting is continued until correction of the problem.

1.6 **Project/Site Conditions:**

A. **Means of Egress:** Establish and maintain emergency and fire exits from the work area.

B. **Environmental Conditions to be Maintained:** Normal environmental conditions (heat, light, air conditioning) must be maintained outside of the work area.

C. **Decontamination Facilities:** Provide each work area with separate personnel decontamination facility (PDF) and equipment decontamination facilities (EDF). Ensure that the PDF is the only means of ingress and egress to the regulated area and that all equipment, bagged waste, and other material exit the regulated area only through the EDF. See OSHA 29 CFR 1926.1101, Appendix F. The size and location of this facility shall be reviewed by the AOC/SOHB.

1. **General Requirements**. All personnel entering or exiting a regulated area shall follow the requirements of 29 CFR 1926.1101 (j)(1) and these specifications. All equipment and materials must exit the regulated area through the EDF and be decontaminated in accordance with these specifications. Walls and ceilings of the PDF and EDF must be constructed of a minimum of 2 layers of 6 mil, clear/opaque/black/ white fire retardant polyethylene sheeting and be securely attached to existing building components and/or an adequate temporary framework. A minimum of 2 layers of 6 mil poly shall also be used to cover the floor under the EDF and PDF units. Construct doors so that they overlap and secure to adjacent surfaces. Weigh sheets with layers of duct tape so that they close quickly after release. Put arrows on sheets so they show direction of travel and overlap. Construct a solid barrier on the occupied side(s) to protect the sheeting if the area adjacent to the abatement is occupied,.

2. **Temporary Facilities to the PDF and EDF**. The Competent Person shall provide temporary water service connections to the EDF and PDF. Water supply must be of adequate pressure and meet requirements of 29 CFR 1910.141(d)(3). Provide adequate temporary electric power with ground fault protection and overhead wiring in the EDF and

PDF. Provide a sub-panel for all temporary power in the clean room. Provide adequate lighting to maintain a minimum of 50 foot candles in the EDF and PDF. Provide temporary heat to maintain 70 deg F throughout the PDF and EDF except the shower of the PDF shall be maintained at 75 deg F.

3. **Personnel Decontamination Facility (PDF)**. The Competent Person shall provide a PDF consisting of shower room which is contiguous to a clean room and equipment room. The PDF must be sized to accommodate the number of personnel scheduled for the project. The shower room, located in the center of the PDF, shall be fitted with as many portable showers as necessary to insure all employees can complete the entire decontamination procedure within 15 minutes. The PDF shall be constructed of opaque poly for privacy. The PDF shall be constructed to eliminate any parallel routes of egress without showering.

4. **Clean Room:** The clean room must be visually separated from the rest of the building to protect the privacy of personnel changing clothes. The clean room shall be constructed of at least 2 layers of 6 mil fire retardant poly to provide an air tight room. Provide a minimum of 2 flapped doorways 3 feet wide. One doorway shall be the entry from outside the PDF and the second doorway shall be to the shower room of the PDF. The floor of the clean room shall be maintained in a clean, dry condition. Shower overflow shall not be allowed into the clean room. All surfaces in the clean room shall be disinfected twice after each shift change. An adequate supply of disposable towels and disposable protective clothing shall be present in the clean room. Provide up to 2 storage lockers per person. A portable fire extinguisher, Type ABC, shall be provided in accordance with OSHA and NFPA Standard 10. All persons entering the regulated area shall remove all street clothing in the clean room and dress in disposable protective clothing and respiratory protection. Any person entering the clean room does so either from the outside with street clothing on or is coming from the shower room without clothing or with bathing suits and thoroughly washed. Ensure that females, who are required to enter the regulated area be ensured of their privacy throughout the entry/exit process by posting guards at both entry points to the PDF so no male can enter or exit the PDF during her stay in the PDF.

5. **Shower Room**: The Competent Person shall assure that the shower room is a completely water tight compartment to be used for the movement of all personnel from the clean room to the equipment room and for the showering of all personnel going from the regulated area to the clean room. Each shower shall be constructed so water runs down the walls of the shower and into a drip pan. Install a freely draining smooth floor on top of the shower pan. The shower room shall be separated from the rest of the building and from the clean room and equipment room using air tight walls made from at least 2 layers of 6 mil fire retardant poly. The shower shall be equipped with a shower head and controls, hot and cold water, drainage, soap dish and continuous supply of soap, and shall be maintained in a sanitary condition throughout its use. The controls shall be arranged so an individual can shower without assistance. Provide a flexible hose shower head. Waste water will be pumped to a drain after being filtered through a minimum of a 100 micron sock in the shower drain; a 20 micron filter; and a final 5 micron filter. Filters will be changed a minimum of daily or more often as needed. Filter changes must be done in the shower to prevent loss of contaminated water. Hose down all shower surfaces after each shift and clean any debris from the shower pan. Residue is to be disposed of as asbestos waste.

6. **Equipment Room**: The Competent Person shall provide an equipment room which shall be an air tight compartment for the storage of work equipment, reusable footwear and for use as a change station for personnel exiting the regulated area. The equipment room shall be separated from the regulated area by a minimum 3 foot wide door made of three layers of 6 mil fire retardant poly. The equipment room shall be separated from the regulated area, the shower room and the rest of the building by air tight walls and ceiling constructed of a minimum of 2 layers of 6 mil fire retardant poly. If the airborne level of asbestos in the regulated area is expected to exceed 0.5 f/cc, add an additional air-lock between the equipment room and the regulated area. Damp wipe all surfaces of the equipment room after each shift change. Provide an additional loose layer of 6 mil fire retardant poly per shift change and remove this layer after each shift. Provide a temporary electrical sub-panel in this room to accommodate any power tools and equipment used in the regulated area.

7. **PDF construction shall be:** Clean room at the entrance followed by a shower room followed by an equipment room leading to the regulated area. Each doorway in the PDF is minimum of double flaps of 6 mil fire retardant poly.

8. **Equipment Decontamination Facility (EDF)**. The Competent Person shall provide an EDF consisting of a wash room, and clean room for removal of equipment and material from the regulated area. Personnel shall not enter or exit the EDF except in the event of an emergency. Clean debris and residue in the EDF daily. All surfaces in the EDF shall be wiped/hosed down after each shift and all debris shall be cleaned from the shower pan. The EDF shall consist of the following:

   a. **Wash Down Station:** Provide an enclosed shower unit in the regulated area just outside the Wash Room as an equipment bag and container cleaning station.

   b. **Wash Room**: Provide a wash room for cleaning of bagged or containerized asbestos containing waste materials passed from the regulated area. Construct the wash room using materials selected and furnished by the Abatement Contractor and 2 layers of 6 mil fire retardant poly. Locate the wash room so that packaged materials, after being wiped clean, can be passed to the Holding Room. Doorways in the wash room shall be constructed of two layers of 6 mil fire retardant poly.

   c. **Holding Room**: Provide a holding room as a drop location for bagged materials passed from the wash room. Construct the holding room using materials selected and furnished by the Abatement Contractor and 2 layers of 6 mil fire retardant poly. The holding room shall be located so that bagged material cannot be passed from the wash room to the clean room unless it goes through the holding room. Doorways in the holding room shall be constructed of two layers of 6 mil fire retardant poly.

   d. **Clean Room:** Provide a clean room to isolate the holding room from the building. Construct the clean room using materials selected and furnished by the Abatement Contractor and 2 layers of 6 mil fire retardant poly. The clean room shall be located so as to provide access to the holding room from the building. Doorways to the clean room shall be constructed of two layers of 6 mil fire retardant poly. When a negative pressure differential system is used, a rigid enclosure separation between the EDF clean room and the adjacent areas shall be provided.

e. **EDF construction shall be:** Wash Room leading to a Holding Room followed by a Clean Room leading to the building.

9. **Equipment Decontamination Procedures**. At wash down station in the regulated area, thoroughly wet clean contaminated equipment and/or sealed polyethylene bags and pass into Wash Room after visual inspection. When passing anything into the Wash Room, close all doorways of the EDF, other than the doorway between the wash down station and the Wash Room. Keep all outside personnel clear of the EDF. Once inside the Wash Room, wet clean the equipment and/or bags. Close all doorways except the doorway between the Holding Room and the Clean Room. Workers from the Clean Room/Exterior shall enter the Holding Room and remove the decontaminated/cleaned equipment/bags for removal and disposal. These personnel shall wear full protective clothing and appropriate respirators. At no time shall personnel from the clean side be allowed to enter the Wash Room.

D. **Access to Work Area:** Only approved personnel are authorized access to the work area. Once asbestos removal has started, access to the abatement work area by non-approved personnel is not permitted unless authorized by the AOC/SOHB representative, the Project CIH or the competent person. Access to work areas shall always be through decontamination areas. No employee shall be allowed to wear a respirator unless a physician has determined they are capable of doing so and has issued a written opinion for that person. All personnel wearing respirators shall have a current qualitative/quantitative fit test which was conducted in accordance with 29 CFR 1910.134 (f) and Appendix A. Fit tests shall be done for PAPRs with the blower off. The Competent Person shall assure that the positive/negative fit check is done each time the respirator is donned by an employee. Head coverings must cover respirator head straps. Any situation that prevents an effective face piece to face seal as evidenced by failure of a fit check shall preclude that person from wearing a respirator until resolution of the problem. The Project CIH shall review work area air samples and make adjustments for the type of respiratory protection required. All personnel in the regulated area shall not be allowed to eat, drink, smoke, chew tobacco or gum, apply cosmetics, or in any way interfere with the fit of their respirator. The following personnel shall have access to work area with the established respiratory protection:

1. The AOC/SOHB will provide a list of AOC employees, who are authorized access to the abatement area.

2. OSHA Inspectors.

3. EPA Inspectors.

4. DC Inspectors.

5. Approved Contractor personnel.

E. **Protective Clothing**: Provide boots, booties, hard hats, goggles, clothing, respirators and any other personal protective equipment as determined by conducting the hazard assessment required by OSHA in 29 CFR 1910.132 (d). Provide all personnel entering the regulated area with disposable full body coveralls, disposable head covering, and 18 inch boot coverings. The Competent Person shall ensure the integrity of personal protective equipment worn for the

duration of the project. Provide plastic/rubber disposable gloves for hand protection. Cloth type gloves may be worn under plastic/rubber gloves, but cannot be used alone. Duct tape shall be used to secure all suit sleeves to wrists and to secure foot coverings at the ankle. The contractor shall provide daily, five sets of protective clothing for use by visiting authorized personnel.

F. **Regulated Area Entry Procedure**: Worker protection shall meet the most stringent requirement. The Competent Person shall ensure that each time workers enter the regulated area, they remove ALL street clothes in the clean room of the decontamination unit and put on new disposable coveralls, head coverings, a clean respirator, and then proceed through the shower room to the equipment room where they put on non-disposable required personal protective equipment.

G. **Decontamination Procedure - PAPR**: The Competent Person shall require all personnel to adhere to following decontamination procedures whenever they leave the regulated area.

1. **When exiting** the regulated area, remove disposable coveralls, and ALL other clothes, disposable head coverings, and foot coverings or boots in the equipment room.

2. **Proceed to the** shower with respirator but without clothing or with bathing suit. Showering is MANDATORY. Care must be taken to follow reasonable procedures in removing the respirator to avoid damaging filters while showering. The following procedure is required as a minimum:

   a. **Thoroughly wet** body including hair and face. If using a PAPR, hold blower and battery above head to keep filters dry.

   b. **With respirator** still in place, thoroughly decontaminate body, hair, respirator face piece, and all other parts of the respirator except the blower and battery pack on a PAPR. Pay particular attention to cleaning the seal between the face and respirator face piece and under the respirator straps.

   c. **Take a deep breath**, hold it and/or exhale slowly, completely wetting hair, face, and respirator. While still holding breath, remove the respirator and hold it away from the face before starting to breathe.

3. **Carefully decontaminate** the face piece of the respirator inside and out. If using a PAPR, shut down using the following sequence: a) first cap inlets to filters; b) turn blower off to keep debris collected on the inlet side of the filter from dislodging and contaminating the outside of the unit; c) thoroughly decontaminate blower and hoses; d) decontaminate battery pack with a damp rag. (Note: THIS PROCEDURE IS NOT A SUBSTITUTE FOR RESPIRATOR CLEANING!).

4. **Shower and** wash body completely with soap and water. Rinse thoroughly.

5. **Rinse shower** room walls and floor to drain prior to exiting.

6. **Proceed from** shower to clean room; dry off and change into street clothes or into new disposable work clothing.

H. **Decontamination Procedure - Air Purifying, Negative Pressure Respirator**: The Competent Person shall require all personnel use the following decontamination procedures, as a minimum, whenever leaving the regulated area with a full face, HEPA filtered respirator:

1. **When exiting** the regulated area, remove disposable coveralls and ALL other clothes, disposable head coverings, and disposable foot coverings or boots in the equipment room.

2. **Still wearing** the respirator and completely naked, proceed to the shower, which is mandatory. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid asbestos fibers while showering. The following procedure is required, as a minimum:

   a. **Thoroughly wet** body from neck down. Wet hair as thoroughly as possible without wetting the respirator filter.

   b. **Take a deep** breath, hold it and/or exhale slowly, complete wetting of hair, thoroughly wetting face, respirator and filter(s). While still holding breath, remove respirator and hold it away from face before starting to breathe.

3. **Dispose of** wetted filters from respirator.

4. **Carefully decontaminate** respirator face piece and respirator inside and out. (NOTE: THIS IS NOT A SUBSTITUTE FOR RESPIRATOR CLEANING!).

5. **Shower and wash** body completely with soap and water. Rinse thoroughly.

6. **Rinse shower** room walls and floor to drain prior to exiting.

7. **Proceed from** shower room to clean room and change into street clothes or into new disposable work clothes.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

A. **General Requirements (All Abatements Projects):** All equipment, including protective clothing and respirators, used in the execution of this contract and provided to visitors to the site, shall be approved by the Project CIH and shall comply with ASTM E 849 and with the applicable Federal, State, and local regulations. Respirators shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101, except that single use and disposable respirators shall not be used. Type of respirators required shall be as specified by the Project CIH. If any air sampling indicates levels above 0.1 fibers per cubic centimeter or "too dirty to count", powered air or supplied air (type C) respirators shall be required during actual removal operations.

Prior to the start of work, the abatement contractor shall provide and maintain a sufficient quantity of materials and equipment to assure continuous and efficient work throughout the duration of the project. Work shall not start unless the following items have been delivered to the site and the CIH has submitted verification to the AOC's representative to this effect.

1. **All materials** shall be delivered in their original package, container or bundle bearing the name of the manufacturer and the brand name (where applicable).

2. **Store all materials** subject to damage off the ground, away from wet or damp surfaces and under cover sufficient enough to prevent damage or contamination. Flammable materials cannot be stored inside buildings. Replacement materials shall be stored outside of the regulated/work area until abatement is completed.

3. **The Abatement Contractor** shall not block or hinder use of buildings by staff and visitors to the AOC in partially occupied buildings by placing materials/equipment in any unauthorized place.

4. **The Competent Person** shall inspect for damaged, deteriorating or previously used materials. Such materials shall not be used and shall be removed from the work site and disposed of properly.

5. **Polyethylene sheeting** for walls in the regulated area shall be a minimum of 6-mil thick. For floors and all other uses, sheeting of at least 6-mil thickness shall be used in widths selected to minimize the frequency of joints. Fire retardant poly shall be used throughout.

6. **The method of** attaching polyethylene sheeting shall be agreed upon in advance by the Contractor and the AOC and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of moisture resistant duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws, lumber and plywood for enclosures or other effective procedures capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions (including the use of amended water).

7. **Polyethylene sheeting** utilized for personnel decontamination facility shall be opaque white or black in color, 6 mil fire retardant poly.

8. Installation and plumbing hardware, showers, hoses, drain pans, sump pumps and waste water filtration system shall be provided.

9. **An adequate number** of negative pressure units capable of providing a minimum of 4 air changes per hour in the regulated area while maintaining minus 0.02 inch water column shall be used. Two (2) additional negative pressure units shall be available to replace any malfunctioning unit.

10. **An adequate number** of HEPA vacuums, air sampling pumps and loaded filter cassettes, supplied air system, if used, providing Grade D breathing air with respirators and air lines sufficient for personnel, pressure differential gauge and recording capability shall be provided.

11. **An adequate number** of scrapers, sprayers, nylon brushes, brooms, disposable mops, rags, sponges, staple guns, shovels, ladders and scaffolding of suitable height and length as well as meeting OSHA requirements, fall protection devices, water hose to reach all areas in the regulated area, airless spray equipment, and any other tools, materials or

equipment required to conduct the abatement project. All electrically operated hand tools, equipment, electric cords shall be equipped with ground-fault circuit protection.

12. **Special protection** for objects in the regulated area shall be detailed (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds and falling material).

13. **6 mil disposal** bags for asbestos waste shall be pre-printed with labels and markings as required by OSHA, EPA.

14. **Impermeable asbestos** disposal drums shall be metal or fiberboard with locking ring tops with required OSHA, EPA and DOT labels and markings.

15. **The AOC shall be** provided a copy of the MSDS as required for all hazardous chemicals including encapsulants under OSHA 29 CFR 1910.1200 - Hazard Communication. Methylene chloride shall not be used with any spray adhesive or other product.

16. **DANGER signs**, as many and as required by OSHA 29 CFR 1926.1101(k)(7), shall be provided and placed by the Competent Person. All other posters and notices required by Federal and State regulations shall be posted in the Clean Room.

17. **Adequate respirators**, disposable protective clothing, hard hats, goggles, gloves and footwear for the project and number of personnel/shifts shall be provided. All personal protective equipment issued must be based on a hazard assessment conducted under 29 CFR 1910.132(d).

B. **Negative Pressure Filtration System**: The Abatement Contractor shall provide enough HEPA negative air machines to completely exchange the regulated area air volume 4 actual times per hour. The Competent Person shall determine the number of units needed for each regulated area by dividing the cubic feet in the regulated area by 15 and then dividing that result by the actual cubic feet per minute (cfm) for each unit to determine the number of units needed to effect 4 air changes per hour and maintain -.02 inches of negative pressure. Provide a standby units in the event of machine failure and/or emergency in an adjacent area.

C. **Negative Air Machines (HEPA Units)**

1. **Negative Air Machine Cabinet:** The cabinet shall be constructed of steel or other durable material capable of withstanding potential damage from rough handling and transportation. The width of the cabinet shall be less than 30 inches in order to fit in standard doorways. The cabinet must be factory sealed to prevent asbestos fibers from being released during use, transport, or maintenance. Any access to and replacement of filters shall be from the inlet end. The unit must be on casters or wheels.

2. **Negative Air Machine Fan:** The fan rating must provide the air-moving capacity under actual operating conditions. Manufacturer's typically use "free-air" (no resistance) conditions when rating fans. The fan must be a centrifugal type fan.

3. **Negative Air Machine Final Filter:** The final filter shall be a HEPA filter. The filter media must be completely sealed on all edges within a structurally rigid frame. The filter shall align with a continuous flexible gasket material in the negative air machine housing

to form an air tight seal. Each HEPA filter shall be individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 mm dioctylphthalate (DOP) particles. Testing shall have been done in accordance with Military Standard MIL-STD-282 and Army Instruction Manual 136-300-175A. Each filter must bear a UL586 label to indicate ability to perform under specified conditions. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

4. **Negative Air Machine Pre-filters:** The pre-filters, which protect the final HEPA filter by removing larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. A first stage pre-filter shall be a low efficiency type for particles 10 microns or larger. A second stage pre-filter shall have a medium efficiency effective for particles down to 5 microns or larger. Pre-filters shall be installed either on or in the intake grid of the unit and held in place with a special housing or clamps.

5. **Negative Air Machine Instrumentation:** Each unit must be equipped with a gauge to measure the pressure drop across the filters and to indicate when filters have become loaded and need to be changed. A table indicating the cfm for various pressure readings on the gauge shall be affixed near the gauge for reference or the reading shall indicate at what point the filters shall be changed, noting cfm delivery at that point. The unit must have an elapsed time meter to show total hours of operation.

6. **Negative Air Machine Safety and Warning Devices:** An electrical/ mechanical lockout must be provide to prevent the fan from being operated without a HEPA filter. Units must be equipped with an automatic shutdown device to stop the fan in the event of a rupture in the HEPA filter or blockage in the discharge of the fan. Warning lights are required to indicate normal operation; too high a pressure drop across filters; or too low of a pressure drop across filters.

7. **Negative Air Machine Electrical:** All electrical components shall be approved by the National Electrical Manufacturer's Association (NEMA) and Underwriter's Laboratories (UL). Each unit must be provided with overload protection and the motor, fan, fan housing, and cabinet must be grounded.

D. **HEPA Vacuums**

1. **All HEPA vacuums:** All electrical components shall be approved by the National Electrical Manufacturer's Association (NEMA) and Underwriter's Laboratories (UL). Each unit must be provided with overload protection and the motor and housing must be grounded.

2. **Testing of the HEPA Filtered vacuum HEPA filter:** The vacuum filter shall be a HEPA filter. The filter media must be completely sealed on all edges within a structurally rigid frame. The filter shall align with a continuous flexible gasket material in the HEPA vacuum housing to form an air tight seal. Each HEPA filtered vacuum shall be individually tested and certified to have an efficiency of not less than 99.97 percent when challenged with 0.3 mm dioctylphthalate (DOP) particles. Testing shall have been done in accordance with Military Standard MIL-STD-282 and Army Instruction Manual 136-

300-175A. Each filter must bear a UL586 label to indicate ability to perform under specified conditions. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

2.2 ENCAPSULATING MATERIALS:

A. **Types of Encapsulant:** The following four types of encapsulant must comply with performance requirements as stated in "Performance Requirements":

1. Removal encapsulant - used as a wetting agent to remove ACM.

2. Bridging encapsulant - provides a tough, durable coating on ACM.

3. Penetrating encapsulant - penetrates/encapsulates ACM at least 13 mm (½").

4. Lock down encapsulant - seals microscopic fibers on surfaces after ACM removal.

B. **Performance Requirements:** Encapsulant shall meet the latest requirements of EPA; shall not contain toxic or hazardous substances; or solvents; and shall comply with the following performance requirements:

1. General Requirements for all encapsulants:

a. ASTM E84: Flame spread of 25; smoke emission of 50.

b. University of Pittsburgh Protocol: Combustion Toxicity; zero mortality.

c. ASTM C732: Accelerated Aging Test; Life Expectancy 20 years.

d. ASTM E96 Permeability: Minimum of 0.4 perms.

2. Bridging/Penetrating Encapsulant:

a. ASTM E736 Cohesion/Adhesion Test: 24 kPa (50 lbs/ft2).

b. ASTM E119 Fire Resistance: 3 hours (Classified by UL for use on fibrous or cementitious fireproofing).

c. ASTM D2794 Gardner Impact Test; Impact Resistance: Minimum 11.5 kg-mm (43 in/lb).

d. ASTM D522 Mandrel Bend Test; Flexibility: No rupture or cracking.

3. Lock down Encapsulant:

a. ASTM E119 Fire resistance: 3 hours (tested with fireproofing over encapsulant applied directly to steel member).

b. ASTM E736 Bond Strength: 48 kPa (100 lbs/sq. ft.) (test compatibility with cementitious and fibrous fireproofing).

c. In certain situations, encapsulant may have to be applied to hot pipes or equipment. The encapsulant shall be able to withstand high temperatures without cracking or off-gassing any noxious vapors during application.

4. **The Project CIH** shall review and recommend approval for all encapsulating materials used under this contract, prior to submitting them to Architect for review, and prior to their use on site. Encapsulating materials (sealants) shall meet the latest requirements of the Environmental Protection Agency (EPA) and shall possess the characteristics outlined in paragraphs "Types of Encapsulant" and "Performance Requirements" above and the following:

a. **Adherence.** The sealant eliminates fiber dispersal by adhering to the fibrous substrate with sufficient penetration to prevent separation of the sealant from the sprayed asbestos material.

b. **Impact Penetration.** It withstands impact and penetration, protects the enclosed sprayed asbestos material, and it must not cause separation of sprayed asbestos material from its original substrate.

c. **Flexibility.** It possesses enough flexibility to accommodate atmospheric changes and settling of the structure over time.

d. **Resistance to Smoke and Flame.** It shall have high flame retardant characteristics and a low toxic fume and smoke emission rating.

e. **Ease of Application.** It must be easily applied with relative insensitivity to errors in preparation or application. Ease of repair by routine maintenance personnel is desirable.

f. **Toxicity.** The sealant must be neither noxious nor toxic to application workers and structure users thereafter.

g. **Permeability.** It should have some permeability to water vapor to prevent condensation accumulation be resistant to common cleaning agents.

h. **Stability.** It shall have suitable stability to weathering and aging.

C **Guarantee.** Guarantee encapsulating materials in accordance with Guarantee clause of the General Conditions.

PART 3 - EXECUTION

3.1 PREPARATION:

A. **Isolate the Work Area.** Place all tools, scaffolding, materials and equipment needed for working in the regulated area prior to erecting any plastic sheeting. Remove all uncontaminated removable furniture, equipment, and supplies from the regulated area before commencing work, or completely cover with two layers of 6-mil fire retardant poly sheeting and secure with duct tape. Lock out and tag out any HVAC systems in the regulated area. Seal off the perimeter to the regulated area to completely isolate the regulated area from adjacent spaces. All surfaces in the regulated area must be covered to prevent contamination and to facilitate clean-up. Should adjacent areas become contaminated, immediately stop work and clean up the contamination at no additional cost to the Government. Provide firestopping and identify all fire barrier penetrations.

B. **Critical Barriers**: Completely separate the regulated area from adjacent areas using fire retardant poly at least 6 mils thick and duct tape. Individually seal with two layers of 6 mil poly and duct tape all HVAC openings into the regulated area. Individually seal all lighting fixtures, clocks, doors, windows, convectors, speakers, or any other objects or openings in the regulated area. Use care with hot/warm surfaces.

C. **Primary Barriers:** Clean all furniture, equipment, etc., with HEPA vacuum and wet cleaning prior to being moved or covered. Clean all surfaces in the regulated area with the HEPA vacuum and wet wiping before installing poly sheeting. Cover the regulated area with two layers of 6 mil fire retardant poly on the floors and two layers of 6 mil fire retardant poly on the walls, unless otherwise directed in writing by the AOC's representative. Floor layers must form a right angle with the wall and turn up the wall at least 300 mm (12 inches). Seams must overlap at least 1800 mm (6 feet) and must be spray glued and taped. Install sheeting so that layers can be removed independently from each other. Mechanically support and seal with duct tape and glue all wall layers.

1. **Stairs and Ramps:** If stairs and ramps are covered with 6 mil plastic, two layers must be used. Provide 19 mm (3/4") exterior grade plywood treads held in place with duct tape/glue on the plastic. Do not cover rungs or rails with any isolation materials.

2. **Carpeted Floors:** Carpeting shall be covered with three layers of 6 mil poly. Corrugated cardboard sheets or a ridge material approved by the AOC must be placed between the top and middle layers of the poly.

3. **Elevators:** Any elevator walls, floor, and ceiling must be covered with 2 layers of 6 mil fire retardant poly. The elevator door must be in a positively pressurized area outside the clean room of the Decontamination unit. At completion of the abatement work, the elevator must be cleaned as per this section.

D. **Secondary Barriers**: A loose layer of 6 mil poly shall be used as a drop cloth to protect the primary layers from debris generated during the abatement. This layer shall be replaced at the end of each work shift or as needed during the work.

E. **Extension of the Regulated Area**: If the enclosure of the regulated area is breached in any way that could allow contamination to occur, the affected area shall be included in the regulated area and constructed as per this section. If the affected area cannot be added to the regulated area, decontamination measures must be started immediately and continue until air monitoring indicates levels outlined in "Asbestos Control Area" for outside the work area, above, are met.

F. **Firestop Requirements**: Through penetrations caused by cables, cable trays, pipes, sleeves must be firestopped with a fire-rated firestop system providing an air tight seal. Firestop materials that are not equal to the wall or ceiling penetrated shall be brought to the attention of the AOC Fire Protection Division. The contractor shall list all areas of penetration, the type of sealant used, and whether or not the location is fire rated. Any discovery of penetrations during abatement process shall immediately be brought to the attention of the AOC Fire Protection Division. All walls, floors and ceilings are considered fire rated unless otherwise determined by the AOC Fire Protection Division. Any visible openings whether or not caused by a penetration shall be reported by the contractor to the AOC Fire Protection Division for a sealant system determination. For firestops, contact the AOC Fire Protection Division for the opening size, penetration, and fire rating requirements.

G. **Pressure Differential**: The fully operational negative air system within the regulated area shall continuously maintain a pressure differential of minus 0.02 inch water column. Before any disturbance of any asbestos material, this shall be demonstrated to the AOC by use of a pressure differential meter/manometer as required by OSHA 29 CFR 1926.1101(e)(5)(I). The Competent Person shall be responsible for providing and maintaining the negative pressure and air changes as required by OSHA and this specification. In any AOC-occupied building or facility, the abatement contractor is responsible for providing twenty four (24) hour, seven (7) days a week observation of the negative pressure air system once asbestos removal starts. This observation shall continue until final air clearance criteria are met. The suspension of this requirement can only be approved by the AOC/SOHB. Instructions to be followed during the observations will be outlined during the CIH pre-abatement coordination meeting specified in Part 1 above.

H. **Monitoring**: The pressure differential shall be continuously monitored and recorded between the regulated area and the area outside the regulated area with a monitoring device that incorporates a strip chart recorder. The strip chart recorder shall become part of the project log and shall indicate at least minus 0.02 inch water column for the duration of the project.

I. **Supplemental Make-up Air Inlets:** Provide, as needed for proper air flow in the regulated area, in a location approved by the Project CIH, by making openings in the plastic sheeting to allow outside air to flow into the regulated area. Auxiliary makeup air inlets must be located as far from the negative air machines as possible, off the floor near the ceiling, and away from the barriers that separate the regulated area from the occupied clean areas. Cover the inlets with weighted flaps which will seal in the event of failure of the negative pressure system. The flap must be sprayed with adhesive to assure sealing if it closes.

J. **Testing the System**: The negative pressure system must be tested before any ACM is disturbed in any way. After the regulated area has been completely prepared, the decontamination units set up, and the negative air machines installed, start the units up one at a time. Demonstrate the operation and testing of the negative pressure system to the AOC/SOHB using smoke tubes and a negative pressure gauge to document the negative pressure and air flow. Testing must also be done at the start of each work shift.

K. **Demonstration of the Negative Air Pressure Ssystem**: The demonstration of the operation of the negative pressure system to the AOC/SOHB shall include, but not be limited to, the following:

1. **Plastic barriers** and sheeting move lightly in toward the regulated area.

2. **Curtains of** the decontamination units move in toward regulated area.

3. **There is a** noticeable movement of air through the decontamination units. Use the smoke tube to demonstrate air movement from the clean room to the shower room to the equipment to the regulated area.

4. **Use smoke tubes** to demonstrate air is moving air across all areas in which work is to be done. Use a differential pressure gauge to indicate a negative pressure of at least 5.0 Pa (minus 0.02 inch) across every barrier separating the regulated area from the rest of the building. Modify the system as necessary to meet the above requirements.

L. **Use of the Negative Pressure System During Abatement Operations**:

1. **Start units before** beginning any disturbance of ACM occurs. After work begins, the units shall run continuously, maintaining a minimum of 4 actual air changes per hour at a negative pressure differential of 5.0 Pa (minus 0.02 inch) water column, for the duration of the work until a final visual clearance and final air clearance has been completed.

2. **The negative air** machines shall not be shut down at any time during the duration of the project unless it has been authorized by the AOC/SOHB.

3. **Abatement work shall** begin at a location farthest from the units and proceed toward them. If an electric failure occurs, the Competent Person shall stop all abatement work and immediately begin wetting all exposed asbestos materials for the duration of the power outage. Abatement work shall not resume until power is restored and all necessary units are operating properly again.

4. **The negative air** machines shall continue to run after all work is completed and until a final visual clearance and a final air clearance has been completed for that regulated area.

M. **Dismantling the System**: After completion of the final visual and final air clearance has been obtained, the units may be shut down. The units shall have been completely decontaminated, all pre-filters removed and disposed of as asbestos waste, and the unit inlet and outlet sealed with 2 layers of 6 mil poly.

N. **Before the work is begun**, clean all removable items and equipment. Remove them from the work area and store as directed.

O. **Cover all non-removable items** and equipment in the work area with six (6) mil flame retardant plastic sheeting taped securely in place.

P. **When specified,** remove all heating, ventilation, and air conditioning system filters, pack them in sealable double approved disposal bags or containers for disposal in the approved waste

disposal site and replace them with new filters upon completion of abatement. Openings created by the removal of HVAC filters shall be sealed using 6 mil plastic sheeting taped securely in place, prior to start of work.

Q. **Post warning signs**: on the primary containment as required by 29 CFR 1910.1001, 29 CFR 1926.1101, ASTM E 849, as directed by District of Columbia Title 20 DCMR, Section 800 "Control of Asbestos" and as directed by the Architect.

R. **Obtain Approval of the Finished Primary Containment** from the Project CIH, prior to starting any actual asbestos removal work.

3.2 WORK PROCEDURE:

A. **General Procedures:** The enclosed work areas shall be defined as an asbestos regulated area and all asbestos worker protection and work practices not addressed in this specification shall be performed in conformance with the general safety and health provisions of 29 CFR 1910.1001, 29 CFR 1910.20, and the construction industry standard for asbestos, 29 CFR 1926.1101, respectively. The Project CIH shall review work area air samples and make adjustments for the type of respiratory protection required. For asbestos abatement work, use general work practices, work practices for removal, and work practices for encapsulation as specified in 29 CFR 1926.1101. If a conflict arises, the more stringent application shall apply until a determination is made by the Architect.

B. **Protective Clothing:** Provide boots, booties, hard hats, goggles, clothing, respirators and any other personal protective equipment as determined by conducting the hazard assessment required by OSHA at 29 CFR 1910.132 (d). Provide all personnel entering the regulated area with disposable full body coveralls, disposable head covering, and 18 inch boot coverings. The Competent Person shall ensure the integrity of personal protective equipment worn for the duration of the project. Provide plastic/rubber disposable gloves for hand protection. Cloth type gloves may be worn under plastic/rubber gloves, but cannot be used alone. Duct tape shall be used to secure all suit sleeves to wrists and to secure foot coverings at the ankle.

C. **Local Exhaust System:** Provide a local HEPA filtered exhaust system in the asbestos control area. The local HEPA filtered exhaust system shall exhaust to the outside of the building. Local HEPA filtered exhaust equipment must be sufficient to maintain a negative air pressure of 0.02 inch of water anywhere in the asbestos control area. In no case shall the building ventilation system be used as the local exhaust system for asbestos control. Filtering in vacuums and exhaust equipment shall be HEPA filtered equipped and conform to ANSI Z9.2; HEPA filters shall be used in all vacuums and exhaust equipment. NOTE: Approval from the AOC/SOHB is required for all local HEPA filtered exhaust systems that cannot be exhausted directly outside the building. To exhaust an HEPA filtered local exhaust system from an asbestos control area to the inside an AOC building will require the approval of the AOC/SOHB. The HEPA filtered exhaust equipment shall also pass a Dioctylphthalate (DOP) test for HEPA filtered equipment each time a containment that is to be exhausted into the building is erected.

D. **Controlling Access to the Regulated Area:** Access to the regulated area is allowed only through the personnel decontamination facility (PDF). All other means of access shall be eliminated and OSHA Danger asbestos signs posted as required by OSHA. If the regulated area is adjacent to or within view of an occupied area, provide a visual barrier of opaque fire

retardant poly sheeting at least 6 mils thick to prevent building occupant observation. If the adjacent area is accessible to the public, the barrier must be solid and capable of withstanding the negative pressure.

E. **Coordination of Work of all Trades:** Coordinate the work of all trades to assure that their work is performed in accordance with the applicable regulations and that the asbestos control limits are maintained at all times both inside and outside the asbestos work area.

3.3 WET REMOVAL OF ACM OTHER THAN AMOSITE ASBESTOS

A. **Adequately and** thoroughly wet the ACM to be removed prior to removal to reduce/prevent fiber release to the air. Adequate time must be allowed for the amended water to saturate the ACM. Abatement personnel must not disturb dry ACM. Use a fine spray of amended water or removal encapsulant. Saturate the material sufficiently to wet to the substrate without causing excessive dripping. The material must be sprayed repeatedly/continuously during the removal process in order to maintain adequately wet conditions. Removal encapsulant must be applied in accordance with the manufacturer's written instructions. Perforate or carefully separate, using wet methods, any outer covering that is painted or jacketed in order to allow penetration and wetting of the material. Where necessary, carefully remove covering while wetting to minimize fiber release. (Note: In no event shall dry removal occur except when a permit is granted for unavoidable safety hazards.)

B. **If ACM does** not wet well with amended water due to coating or jacketing, remove as follows:

1. **Mist work area** continuously with amended water whenever necessary to reduce airborne fiber levels.

2. **Remove saturated** ACM in small sections. Do not allow material to dry out. As material is removed, place the material, while still wet, into 6-mil poly asbestos waste bags. Twist tightly the bag neck, bend over (gooseneck) and seal with a minimum of three tight wraps of duct tape. Clean/decontaminate the outside of any residue and move to wash down station adjacent to EDF.

3. **Fireproofing or Architectural Finish on Scratch Coat:** Spray with a fine mist of amended water or removal encapsulant. Allow time for saturation to the substrate. Do not over saturate causing excess dripping. Scrape material from substrate. Remove material in manageable quantities and control falling to staging or floor. If the falling distance is over 20 feet (6M), use a drop chute to contain material through descent. Remove residue remaining on the scratch coat after scraping is done using a stiff bristle hand brush. If a removal encapsulant is used, remove residue completely before the encapsulant dries. Re-wet the substrate as needed to prevent drying before the residue is removed.

4. **Fireproofing or Architectural Finish on Wire Lath:** Spray with a fine mist of amended water or removal encapsulant. Allow time to completely saturate the material. Do not over saturate causing excess dripping. If the surface has been painted or otherwise coated, cut small holes as needed and apply amended water or removal encapsulant from above. Cut saturated wire lath into 2 by 6 feet (50 by 150 mm) sections and cut hanger wires. Roll up complete with ACM, cover in burlap and hand place in disposal bag. Do not drop to floor. After removal of lath/ACM, remove any over spray on decking and structure using

stiff bristle nylon brushes. Depending on hardness of over spray, scrapers may be needed for removal.

5. **Pipe Insulation:** Remove the outer layer of wrap while spraying with amended water in order to saturate the ACM. Spray ACM with a fine mist of amended water or removal encapsulant. Allow time to saturate the material to the substrate. Cut bands holding pre-formed pipe insulation sections. Slit jacketing at the seams, remove and hand place in a disposal bag. Do not allow dropping to the floor. Remove molded fitting insulation/mud in large pieces and hand place in a disposal bag. Remove any residue on pipe or fitting with a stiff bristle nylon brush. In locations where pipe fitting insulation is removed from fibrous glass or other non-asbestos insulated straight runs of pipe, remove fibrous material at least 6 inches from the point it contacts the ACM.

3.4 WET REMOVAL OF AMOSITE ASBESTOS

A. **Amosite ACM** will require local exhaust ventilation and collection, as described below, in addition to wet removal. Provide specific description /locations/drawings.

B. **Provide local** exhaust ventilation and collection systems to assure collection of amosite fibers at the point of generation. A 12-inch flexible rigid non-collapsing duct shall be shall be located no more than 2 feet from any scraping/brushing activity. Primary filters must be replaced every 30 minutes on the negative air machines. Each scraping/brushing activity must have a negative air machine devoted to it. For pre-molded pipe insulation or cutting wire lathe, attach a 4-foot square flared end piece on the intake of the duct. Support the duct horizontally at a point 2 feet below the work to effect capture. One person in the crew shall be assigned to operate the duct collection system on a continual basis.

C. **Amosite asbestos** does not wet well with amended water. Submit full information and documentation on the wetting agent proposed prior to start for review by the AOC/SOHB representative. Insure that the material is worked on in small sections and is thoroughly and continuously wetted. Package immediately after removal while wet. Remove as required.

3.5 REMOVAL OF ACM/DIRT FLOORS AND OTHER SPECIAL PROCEDURES

A. **Major Abatement on Dirt Floors:**

When working on dirt floors, pick up all chunks of visible asbestos debris using wet methods if possible after set-up of PDF, EDF, negative air systems as required. Perform work and decontaminate/clean-up; perform lock-down as needed and complete work as required under these specifications. The asbestos contaminated soil (ACS) shall be removed, encapsulated, and enclosed.

1. **Remove ACS** to a minimum depth of 2 inches. After wetting to minimize dust, shovel dirt into disposal bags. The Project CIH shall closely monitor work conditions and take appropriate action to protect workers from exposure to asbestos and heat stress. The minimum number of air changes per hour shall be six using negative air machines.

2. **The Contractor** has the option to encapsulate soil. A test area of a minimum of 100 sq. ft. must be performed to determine feasibility. Provide a written proposal for

encapsulation to the AOC/SOHB representative with test results; recommendation from the manufacturer; a guarantee of performance for 10 years; and any limitations of application. The AOC reserves the right to accept or reject the application proposal with no effect on the contract. If approved, the application and supervision must be done by persons certified by the manufacturer as trained and experienced personnel as evidenced by documentation of such.

3. **Enclosure of ACM** using a concrete layer of 2 inches over the entire surface may also be done. Thoroughly dampen soil first before pouring concrete. Personnel shall be proficient in concrete laying as well as asbestos trained.

3.6 NEGATIVE PRESSURE GLOVEBAG METHOD OF ASBESTOS REMOVAL:

A. **General:** If specifically permitted, the glovebag method may be used for removing pipe insulation on a case by case basis. Approval from the AOC/SOHB, to use this method is required. The Project CIH will determine what personal decontamination procedures are required. Respiratory protection and disposable clothing are required. Discard the clothing in accordance with paragraph Disposal of friable asbestos.

B. **Procedure:** Install the glovebag and negative pressure equipment following all procedures outlined in OSHA's 29 CFR 1926.1101.

C. **Removal and Disposal of Glovebags:** Removal of glovebags shall be in accordance with 29 CFR 1926.1101. Dispose of glovebags, material, and contaminated equipment in accordance with paragraph Disposal of Friable Asbestos.

3.7 SMALL SCALE SHORT DURATION PROJECTS - USE OF MINI-ENCLOSURE SYSTEM

A. **General:** If specifically permitted, a mini-enclosure system may be utilized for projects of short duration where there is less than three (3) square or three (3) linear feet of asbestos to be disturbed. A mini-enclosure system is defined as any portable system capable of performing small scale short duration projects equipped with all aspects of a full containment. This includes, but is not limited to the following components: negative air pressure, shower or water-tank facilities, HEPA vacuums, and polyethylene sheeting barriers. This work is best performed on flat ceiling surfaces, however it can be applied to horizontal wall surfaces. Use of this system is applicable to the following activities:

1. Access above asbestos containing lay-in ceilings

2. Wall channeling

3. Removal of light fixtures in plaster ceilings to access ceiling spaces

4. Changing light fixtures

5. Removal of ceiling tiles to access ceiling spaces

6. Impact or repair to asbestos ceiling plaster (e.g., hanging conduit or other such projects necessitating disturbance to the asbestos surfaces)

7. Removal of duct mastic

8. Removal of transite asbestos panel boards

B. **Procedure**: Utilize a negative pressure mini-enclosure system for this work. This process will follow all procedures outlined in OSHA's 29 CFR 1926.1101. The following steps are to be when performing this work:

1. **Preliminary setup:** Seal all critical barriers (e.g., doors, windows, vents) in the work area. Place OSHA warning signs as necessary facing outward on perimeter doors. Pre-clean area beneath work by wet wiping and HEPA vacuuming. Place drop cloth on surfaces below work and seal ir to floor with duct tape. Disconnect, as necessary, the electric and lock out power to breaker. Check and pressurize water within holding tanks, and nozzles on the enclosure system. Provide ground-fault protection for other outlets.

2. **Preliminary Inspection:** Project CIH will inspect area prior to commencement of work. Verify that all preliminary set-up procedures, as stated above, have been completed. Verify that all filters are properly positioned in HEPA vacuums and negative air machines (NAM). Verify all equipment is operating properly. Review, with contractor, the CIH Approved Plan of Action specified in "Submittals" in Part 1 of this specification.

3. **Work Procedures:** Workers will don two (2) suits, gloves and appropriate respiratory protection in accordance with 29 CFR 1910.134. Workers will activate the negative air system associated with the mini-enclosure. The workers, in accordance with all applicable Federal and District of Columbia regulations, will perform necessary removal and/or encapsulation of asbestos containing material. Non-asbestos containing material to be salvaged, as stated in scheduled work plan, shall be properly decontaminated prior to its removal from the work area.

4. **Waste Removal:** All asbestos containing materials shall be sufficiently wet and placed in bags, drums, or other approved and labeled disposal containers. All waste disposal containers shall be properly decontaminated. Disposal shall be performed as specified in "Cleanup and Disposal" below.

5. **Decontamination Procedures:** Thoroughly clean via wet wiping and HEPA vacuuming all surfaces within the mini-enclosure so that no visible residue remains. Workers will decontaminate by HEPA vacuuming the outer protective suit. Workers will reinspect the area for visible residue, clean as necessary, then decontaminate the inner protective suit. Once entire area is completely decontaminated, the workers may remove and properly dispose of the second suit and shower. Once showered, the worker may exit the mini-enclosure system and remove respiratory protection. If a remote shower facility is utilized, the workers shall follow the same procedure as stated above, however, the second suit shall be removed upon entering the remote shower facility.

6. **Final Visual Inspection:** Once all work for the specified area has been completed and workers have exited the mini-enclosure system, the Project CIH will enter the enclosure system to perform a final visual inspection to insure that there is no visible residue and all work has been completed.

7. **Final Air Sample Clearance:** The following final clearance sampling procedure shall be followed for mini-enclosure systems. If the work area passes final visual inspection, a final clearance air sample shall be conducted by the Project CIH inside the mini-enclosure system. The clearance air sample will have a total volume of at least 1200 liters of air and shall be analyzed by Phase Contrast Microscopy (PCM) following the NIOSH 7400 method A rules. This sample shall be read on-site by the Project CIH. Upon failure of the clearance sample by PCM analysis, another sample shall be conducted and analyzed by Transmission Electron Microscopy (TEM) and submitted to an accredited laboratory with all extra cleaning and sampling at no cost to the Government.

8. **Post-Clearance:** Upon clearance of the mini-enclosure system both by visual and air sampling, the system can be used at another location, leaving the previous work area non-hazardous for other trades to perform routine work.

3.8 QUALITY CONTROL:

A. **Monitoring:** Monitoring of airborne concentrations of asbestos shall be in accordance with 29 CFR 1910.1001, 29 CFR 1926.1101, ASTM E 849, and this specification.

1. **Monitor the airborne concentration** of asbestos before constructing the containment work area, to obtain a baseline fiber concentration in the affected areas. If the baseline air monitoring results, exceeds 0.01 f/cc immediately notify the AOC/SOHB.

2. **Monitor continuously** during the course of the work inside the asbestos work area and other areas as directed by the Project CIH's air sampling strategy. In addition to that sampling strategy, and at a minimum, perform daily monitoring outside the entrance to the asbestos work area, along each perimeter wall of the containment and at the exhaust opening of the local exhaust system. If monitoring shows airborne concentrations greater than the asbestos control limits permitted by this specification, immediately stop all work, and notify the AOC/SOHB. Work shall not be restarted without approval of the Project CIH and the AOC/SOHB.

3. **In addition,** monitor the airborne concentrations of asbestos after final cleanup and removal of the enclosure of the asbestos control area in accordance with paragraph "Final Cleanup and Removal of Enclosures."

B. **Site Inspection and Stop Work Orders:** While performing asbestos abatement work, the Contractor shall be subject to on site inspection by agency officials or agency contracted inspection services. Work shall also be subject to inspection by OSHA and EPA inspectors and/or local building or health officials. If found to be in violation by one of these officials, the Contractor shall cease all work immediately. Until the violation is resolved, standby time required to resolve the violation shall be at the Contractor's expense. Five complete sets of equipment (such as respirators and disposable clothing) required for entry to the asbestos control area shall be available for inspectors use.

3.9 CLEANUP AND DISPOSAL:

A. **Permits and Notifications:** Secure necessary permits in conjunction with asbestos removal, hauling and disposition and provide timely notification of such actions, as may be required by

Federal, state, regional, and local authorities. When required by regulation, ensure that notification to the Regional Office of the EPA and the responsible agency for the District of Columbia is made,; provide copies of the notification to the AOC/SOHB 20 days prior to the commencement of the work. Provide notification in accordance with 40 CFR 61.22(d)(1).

B. **Housekeeping:** Essential parts of asbestos dust control are housekeeping and cleanup procedures. All surfaces throughout the containment work area shall be maintained free of accumulations of asbestos fibers to prevent further dispersion. Give meticulous attention to restricting the spread of dust and debris, keep waste from being distributed over the general area. Use approved industrial vacuum cleaners with a HEPA filters to collect dust and small scrap. The use of compressed air is forbidden. Post appropriate asbestos hazard warning signs. At the end of each work shift, the containment area shall be cleaned. Equip personnel engaged in cleaning up asbestos scrap and waste with necessary respiratory equipment and protective clothing.

C. **Disposal of Friable Asbestos:** Collect and dispose of friable asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing which may produce airborne concentrations of asbestos fibers in disposal bags or containers approved as specified in Part 1 above for post-award submittals. Prior to placing in bags or containers, thoroughly wet down asbestos wastes to reduce airborne concentrations. All asbestos waste shall be double bagged, wrapped or contained in accordance with 40 CFR Subpart M. At the end of each work shift, all waste asbestos materials shall be removed from the containment. Obtain approval from the AOC/SOHB and affected AOC building Superintendent's office, when the removal of the containerized asbestos waste is scheduled from the containment area. The contractor shall make arrangements for the transportation and disposal of all asbestos waste generated under this specification in accordance with all Federal regulations at a sanitary landfill that meets EPA requirements. The Contractor will provide the AOC/SOHB with a copies of all Waste Shipment Records, hauler's receipts, and landfill receiving tickets resulting from the disposal of the asbestos waste as specified in Part 1 above for disposal receipt submittals. Establishment of any on-site temporary holding area for properly packaged asbestos waste must have prior approval from the AOC/SOHB. At no time shall the Contractor receive any asbestos-containing waste from other jobs, compliance inspectors or other sources without prior approval from the AOC/SOHB.

D. **Final Cleanup:** The Contractor shall notify the AOC/SOHB and the Project CIH that the work area is ready for final inspection. The Project CIH shall inspect the work area prior to performing final air sampling. Visual observation of asbestos materials, dust or debris is not permitted on any surface in or around the work area. Clean work area in accordance with EPA approved methods. Once the visual observation is satisfied apply a lock down encapsulant.

E. **Lock down encapsulation:** Lock down encapsulation is an integral part of the ACM removal. At the conclusion of ACM removal and before final air sampling, all surfaces shall be encapsulated with a lock down encapsulant. Apply two coats of encapsulant in strict accordance with the manufacturer's instructions. Any deviation from the instructions must be approved by the AOC's representative in writing prior to commencing the work. Apply the first coat of encapsulant with an airless sprayer at a pressure and using a nozzle orifice as recommended by the manufacturer. If the surface has been allowed to dry, wet wipe or HEPA vacuum prior to spraying with encapsulant. Apply a second coat over the first coat in strict conformance with the manufacturer's instructions. Color the encapsulant and contrast the color in the second coat so

that visual confirmation of completeness and uniform coverage of each coat is possible. Adhere to the manufacturer's instructions for coloring. At the completion of the encapsulation, the surface must be a uniform third color produced by the mixture.

1. **Exposed Edges**: Seal edges of ACM exposed by removal work such as ACM left due to being outside the scope of work for this contract, or is inaccessible such as a sleeve or wall penetration, with one coat of penetrating encapsulant and one coat of bridging encapsulant. Prior to sealing, permit the exposed edges to dry completely in between the coats to permit penetration of the encapsulant.

F. **Final Air Sampling:** Perform air sampling for clearance purposes using a minimum of two (2) Transmission Electron Microscopy (TEM) air samples for each 2500 square feet of containment area. Repeat the decontamination and testing process until asbestos concentration levels are less than 0.01 s/cc (NIOSH 7402 method) or 70 S/mm^2 (AHERA). Copies of the TEM air sample results are to be faxed to the District of Columbia Department of Health, Air Quality Division.

G. **Removal of Enclosure:** If asbestos concentrations do not exceed 0.01 s/cc or 70 S/mm^2, contact the AOC/SOHB for authorization for the removal of the enclosure. Ensure that copies of the TEM air sample results are telefaxed to the District of Columbia Department of Health, Air Quality Division.

H. **Re-Occupancy Inspection:** The Contractor shall notify the AOC/SOHB and the Project CIH that the work area is ready for re-occupancy inspection. The Project CIH, shall inspect the work area after removal of the enclosure and shall ensure that no visible debris is observed. If visible debris is observed, the Contractor shall clean the work area as directed by the Project CIH, in accordance with EPA approved methods until no visible debris are observed. The Project CIH shall provide verbal re-occupancy approval to the AOC/SOHB immediately after this inspection. Documentation of the re-occupancy inspection shall be provided to the AOC/SOHB within 24 hours after approving an area for re-occupancy.

END OF SECTION 13281

SECTION 13851 - FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM

PART 1 - GENERAL

1.1 SUMMARY OF THE WORK

A. The Hart Senate Office Building (HSOB) is an existing, high-rise non-combustible building consisting of 9 stories above grade and 3 levels below grade. The structure is classified as an existing Mixed Use Occupancy consisting of Business, Assembly and Storage Occupancies per NFPA 101, *Life Safety Code* (2000 edition). The building is connected to the Dirksen Senate Office Building (DSOB) at the basement level through the 7th floor with doors at each crossing intersection. The portions of the DSOB that are part of this project are referred to as the "Core Area." Additionally, there is a Subway Tunnel connecting the HSOB, the DSOB and the U.S. Capitol building and the RSOB and the U.S. Capitol building. The tunnel enters the basement level of the HSOB allowing people to enter the subway car for inter-building transportation.

B. The work consists of the demolition and removal of the existing fire alarm system control unit equipment (hereafter referred to as the "head-end") installed in the HSOB, including the Fire Watch Room consoles, graphic annunciators, and NA racks, the demolition and removal of the fire alarm system risers (hereafter referred to as the "spine") in the HSOB and in the area designated as the "Core Area" located in the Dirksen Senate Office Building (DSOB), and the demolition of the existing duct smoke detector lamp annunciators located in each of the electrical closets on each floor of each "wing" of the building, as shown on the fire alarm system demolition drawings and/or indicated in the drawing notes or herein the specification.

C. The work consists of the installation of new analog addressable fire alarm and emergency voice alarm evacuation systems with distributed amplifiers (hereafter referred to as "the fire alarm system") in the HSOB and in the "Core Area" located in the DSOB, as shown on the fire alarm system design drawings. Included in the scope is the following:

1. The installation of 3 networked fire alarm system control units in the HSOB, one in the Fire Watch Room (Room 114A) on the first floor and two in Mechanical Room MER10 (Room H9M10) on the ninth floor;

2. The installation of all new fire alarm system risers, metal raceway, and electrical junction boxes;

3. The installation of a new networked computer-based graphic command center installed in the Fire Watch Room (Room 114A); the installation of a new low power touch screen annunciator installed the DSOB Service Center (Room DG49);

4. The installation of a new graphical map LED annunciator located at the U.S. Capitol Police 24-hour post outside the DSOB Service Center;

5. The installation of new addressable smoke detectors, plenum detectors, and duct smoke detectors to replace existing conventional 2-wire smoke detectors on existing circuits;

6. The connection of **all** **existing** circuits for initiating devices, audible and visible notification appliances, firefighter telephone cabinets with dedicated handsets, and control functions (e.g., elevator recall) in accordance herein; and

7. All associated components to provide complete and fully functional fire alarm systems, including modules, boards, equipment, materials, wiring, metal raceway and any other materials necessary for the installation of the replacement fire alarm system head-end and spine.

D. The HSOB fire alarm system control units shall be networked to (by Class A (Style 7) network communications) and programmed to display signals on the new computer-based graphic command center.

E. Distributed amplifiers and permanently labeled terminal cabinets shall be installed in electrical closets on every floor to power and supervise existing fire alarm system equipment and shall be sized to accommodate the Phase 2 equipment that will be installed.

1. For sizing of distributed amplifiers, the Contractor shall factor a minimum of **1 Watt** for each speaker in each two floor office suite for a total of **40 Watts** per two floor suite (e.g., 133/228).

2. A smoke detector shall be installed in the vicinity of all distributed amplifier cabinets, in accordance with the requirements of NFPA 72 and this specification.

3. In addition, the Contractor shall provide a unit installation cost for the materials and labor required for the installation of fire alarm system wiring, metal and nonmetal raceway and electrical boxes and any other materials required, smoke detectors, terminal cabinets, and other equipment in the case where actual layouts are different than shown on the fire alarm system design drawings.

F. Additionally, the Contractor shall install distributed fire alarm system speaker amplifiers in each of the six electrical closets on each floor (designated by "wing") of the HSOB and in the "Core Area," as shown on the fire alarm system design drawings.

1. A smoke detector shall be installed in the vicinity of all distributed amplifier cabinets, in accordance with the requirements of NFPA 72 and this specification.

G. The Contractor shall connect the new HSOB fire alarm system to the 2 existing "pre-signal" alarm strobes to initiate the HSOB "pre-signal" sequence. The fire alarm system shall be programmed to operate the "pre-signal" alarm strobes on all Alarm signals (both "pre-signal" and Alarm signal).

H. As part of this renovation, existing conventional 2-wire smoke detectors are being replaced (one-for-one) with addressable analog smoke detectors. Additionally, existing conventional 2-wire duct smoke detectors and above ceiling plenum conventional 2-wire smoke detectors are being replaced (one-for-one) with addressable analog smoke detectors. Existing circuits connected to these devices to be replaced are to be re-used, as described and permitted herein.

I. The Contractor shall install new addressable monitor modules to monitor and supervise all

existing conventional initiating device circuits, as indicated on the design drawings and specified herein.

J. The Contractor shall install and connect all new fire alarm system initiating devices, addressable monitor modules and addressable control relay output modules to Class A (Style 6) signaling line circuits with fault isolation modules; shall connect all existing fire alarm system notification appliance circuits to"survivable" Class A (Style Z) risers; shall install new Class A (Style Z) firefighter telephone circuit risers and connect **all existing** firefighter telephone cabinets to the new risers; and shall install and connect the new networked fire alarm system control units and Computer-based graphic command center to Class A (Style 7) network communication wiring.

K. The Contractor shall furnish and install new red lockable fire alarm system terminal cabinets (designated as FATC - "number" "letter") in the Electrical Closets, as shown on the fire alarm system design drawing riser diagrams and details and described in section 3.3.J of this specification. The Contractor shall connect the existing fire alarm system circuits from the existing fire alarm system terminal cabinets (designated as FASC - "number" "letter") to the new risers at the new fire alarm system terminal cabinets, as shown on the fire alarm system design drawing riser diagrams.

L. The Contractor is expected to examine the building's physical conditions which may affect the installation of the work and coordinate actual device locations as necessary to accommodate the existing conditions. The Contractor shall make allowances in the bid to accommodate necessary adjustments based on the physical conditions of the building. Discrepancies between the contract documents and the physical cond itions shall be immediately identified to the Architect.

1. Prior to any construction, the Contractor shall review the Jenkins Environmental, Inc., "Limited Hazardous Materials Evaluation (Asbestos and Lead Based Paint)" document, dated September 2004, to familiarize himself/herself with the locations containing asbestos.

2. The Contractor shall coordinate the installation of fire alarm system equipment, circuits, and raceway in the corridors with spline ceilings (1' x 1' spline ceiling) and offices with 5-foot by 5-foot ceiling grids with 20-inch (and other sizes) square tiles and any other size ceiling tiles with the AOC Shops. The Contractor shall be responsible for replacement of any and all damaged ceiling tiles as a result of the fire alarm system replacement.

M. The Contractor shall demonstrate the utmost care in maintaining the architectural sensitivity of the Senate Office buildings. Deviations from any of the design principles or deviations shown within this specification package must be approved by the Architect prior to the start of such work.

N. During the fire alarm system demolition and installation, work spaces will be fully furnished and will remain so during all phases of the project. The Contractor shall make the appropriate provisions for moving/protecting furnishings in the way of the proposed work. The Contractor shall coordinate this effort with the AOC SOB superintendent's office and the office staff where work is to be performed, in accordance with Division 1 Section "GENERAL REQUIREMENTS" Article 1.3.E.

O. The phasing of the installation and demolition of the fire alarm system equipment shall be in accordance with section 3.4 of this specification. The Contractor shall submit a transition plan to the Architect for review, prior to starting the fire alarm system installation.

L. At no time during the installation of the replacement fire alarm system in the HSOB or the DSOB "Core Area" shall the existing fire alarm system equipment, components, or wiring be take out-of-service for any reason. The existing fire alarm system equipment shall remain operational and in-tact throughout the installation, testing and acceptance of the replacement fire alarm system. Once accepted by the Architect, the Contractor shall demolish the existing fire alarm system control equipment and risers. All existing fire alarm system equipment shall be identified, cataloged, boxed, labeled, and shall be delivered to the SOB Superintendent's Office.

M. All existing wiring permitted by the Architect to be reused shall be tested for stray voltage, ground faults, short-circuit faults and loop resistance, in accordance with the requirements of Table 10.4.2.2, paragraph 11 (Conductors/Metallic Wiring) of NFPA 72 - 2002, prior to reuse (see Division 16, Section 16050" BASIC ELECTRICAL MATERIALS AND METHODS" for additional guidance). To ensure all wiring to be reused meets this requirement, the wiring shall be tested by the Contractor. The testing results shall be recorded, signed by the Contractor and forwarded to the Manufacturer's Specialist and the Architect. No connections to the FACU shall be made until the system wiring has been accepted by the fire alarm Manufacturer's Specialist.

1. Megger testing is the required method to ensure the conductors in the raceway have no damage to their insulation.

2. The AOC Fire Marshal's Division shall be notified prior to all existing wiring testing and shall be invited to be present during such testing.

1.2 DEFINITIONS

A. AHU - Air-handling unit.

B. Approved - Equipment identified by the Architect as acceptable for installation.

C. Architect - The Architect of the Capitol (AOC).

D. Contractor - The company performing the installation of the equipment as identified herein. This also includes any subcontractors, vendors, suppliers and/or fabricators.

E. CPU - Central processing unit.

F. Distributor - The company distributing (or supplying) the fire alarm system equipment. The Distributor must be authorized by the Manufacturer to distribute said fire alarm system equipment.

G. DSOB - The Dirksen Senate Office Building.

H. FACU - Fire alarm control unit.

I. Furnish - Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

J. HSOB - The Hart Senate Office Building.

K. HVAC - Heating, ventilating and air-conditioning equipment.

L. Install - Except as otherwise defined in greater detail, the term "install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.

M. LCD - Liquid crystal display.

N. LED - Light-emitting diode.

O. Manufacturer - The company that manufacturers the fire alarm system equipment to be provided and installed on this project. The Manufacturer is responsible to warranty the fire alarm system equipment for a period of 2 years from the date of substantial completion of the project and acceptance by the Architect.

P. NAC - Notification appliance circuit.

Q. N/O - Normally open contact devices, such as conventional-type heat detectors.

R. NRTL - Nationally recognized testing laboratory. The approval and/or listing of a product by an NRTL, shall be reviewed and deemed acceptable or not acceptable to the Architect.

S. O&M Manual - Operation and Maintenance manual.

T. Provide - Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

U. SCIF - Sensitive Compartmented Information Facility

V. SLC - Signaling line circuit.

W. Specialist - The term "specialist" is defined as an individual or firm of established reputation (or, if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the contract, installing items required by the contract, or otherwise performing work required by the contract. Where the contract specification requires installation by a specialist, that term shall also be deemed to mean either the Manufacturer of the item, an individual or firm licensed by the Manufacturer, or an individual or firm who will perform the work under the Manufacturer's direct supervision.

X. Supplier - The company supplying the fire alarm system equipment. The Supplier must be authorized by the Manufacturer to supply said fire alarm system equipment.

Y. Definitions as they appear in NFPA 72 - 1999, *National Fire Alarm Code* apply to the fire alarm system terms used in this specification section.

1.3 RELATED DOCUMENTS

A. Drawings and general provision of the Contract, including General and Supplementary Conditions and Division 1 "GENERAL REQUIREMENTS" specification section, apply to this section.

B. Related Sections include the following:

1. Division 1 Section "GENERAL REQUIREMENTS" for use of premises and building -occupancy requirements.
2. Division 1 Sections "SAFETY AND HEALTH"
3. Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"
4. Division 1 Sections "SELECTIVE DEMOLITION"
5. Division 7 Sections "FIRESTOPPING"
6. Division 13 Sections LEAD ABATEMENT"
7. Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES"
8. Division 16 Sections "BASIC ELECTRICAL MATERIALS AND METHODS"

1.4 REFERENCES

The Contractor shall provide a system conforming to the requirements of the following publications including all amendments to these publications and referenced standards and codes by the publications. Criteria from the following standards shall be used in the installation of the fire alarm system:

A. BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA).

1. BOCA National Building Code, 1999 edition.

2. BOCA National Fire Prevention Code, 1999 edition.

B. INTERNATIONAL CODE COUNCIL (ICC).

1. International Mechanical Code, 1998 edition.

C. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).

1. NFPA 70, *National Electrical Code (NEC)*, 1999 edition.

2. NFPA 72, *National Fire Alarm Code*, 1999 edition. The system shall be tested (preliminary tests by the Contractor, and Demonstration Test and Acceptance Tests with the Architect) in accordance with the 2002 edition, Chapter 10 "Inspection, Testing and Maintenance."

3. NFPA 90A, *Installation of Air-Conditioning and Ventilating Systems*, 1999 edition.

4. NFPA 101, *Life Safety Code*, 2000 edition.

5. NFPA 13, *Installation of Sprinkler Systems*, 1999 edition.

6. NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection*, 1999 edition.

D. PROVISIONS FOR PERSONS WITH DISABILITIES.

1. *The Americans with Disabilities Act Accessibility Guidelines* (ADAAG).

2. *The Uniform Federal Accessibility Standards* (UFAS), 1985-494-187.

E. UNDERWRITER'S LABORATORIES (UL).

1. UL Building Materials Directory.

2. UL Fire Protection Equipment Directory.

F. FACTORY MUTUAL (FM) APPROVAL GUIDES.

1. FM Approval Guide (1) Fire Protection Equipment.

2. FM Approval Guide (2) Electrical Equipment.

3. FM Approval Guide (3) Building Materials.

G. American National Standards Institute (ANSI).

1. ASME/ANSI Standard A17.1, *Safety Code for Elevators and Escalators* (including addenda).

H. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

1. 29 CFR 1910, General Industry Standards.

2. 29 CFR 1926, Construction Standards.

I. MANUFACTURER'S LISTED/APPROVED INSTRUCTIONS.

1. The latest published edition of the fire alarm system Manufacturer's listed/approved installation instructions, field wiring diagrams and equipment specifications.

1.5 SYSTEM PERFORMANCE REQUIREMENTS

A. The fire alarm system shall consist of analog, addressable, microprocessor based, electrically supervised, non-coded fire alarm control units (FACUs) with NFPA 72 - 1999, Class A (Style 7) network communication paths; Class A (Style 6) addressable signaling line circuits (SLCs); Class A (Style D) initiating device circuits for addressable monitor

modules; and Class A (Style Z) notification appliance circuits and firefighter telephone circuits.

B. The fire alarm system shall be electrically connected to monitor all existing initiating device circuits, notification appliance circuits, and control function circuits (i.e., suppression releasing systems, Locknetics egress door unlocking panels, elevators for recall functions, air-handling units (AHUs) for shutdown of systems, release of magnetically held-open cross-corridor doors).

C. The existing functions of the interfaced systems shall remain unchanged and shall not affect the operation of the fire alarm system, unless specifically addressed in this specification. The fire alarm system shall contain all of the equipment, devices, programming and circuits required for system operation in accordance with NFPA Code requirements and this specification.

D. **When submitting fire alarm system equipment to be installed as part of this project, the Contractor shall give consideration to the future capability of network voice communication (manual paging) campus-wide from a central location off-site from the Senate Office Buildings. Based on direction of the AOC Fire Marshal's Division with regard to the U.S. Capitol Visitor's Center (CVC) the local announcement would take priority over a campus-wide announcement. Unless otherwise noted, the HSOB fire alarm system shall act in a similar manner. The fire alarm system control units must have the ability for future expansion and the compatibility to incorporate such functionality.**

E. The Contractor shall provide all additional equipment, cabinets, conduit, and labor required to meet the requirements and intent of this specification as defined in Section 1.1. Devices and equipment include, but are not limited to the following:

1. 3 networked fire alarm system control units installed in the HSOB, 1 in the Fire Watch Room (Room 114A) on the first floor and 2 in Mechanical Room MER10 (Room H9M10) on the ninth floor; and a new networked computer-based graphic command center installed in the Fire Watch Room (Room 114A); and a low-power touchscreen annunciator installed the DSOB Service Center (Room DG49; and a new graphical map LED annunciator located at the U.S. Capitol Police 24-hour post outside the DSOB Service Center.

2. New addressable analog smoke detectors, duct smoke detectors, and above ceiling plenum detectors connected to existing circuits that will serve as the signaling line circuits.

3. Connection to a power supply with a high degree of reliability and capacity for the intended service; connections to this power service shall be made on a dedicated branch circuit(s); the circuit shall be mechanically protected.

   a. The electrical supply each FACU shall be equipped with a dedicated fused disconnect with a handle that can be locked in the *"power on"* position. This disconnect is to be provided at the connection to the normal power supply serving the FACU. Circuit disconnecting means shall have a red marking, shall be accessible to authorized personnel, and shall be identified

as "FIRE ALARM CIRCUIT CONTROL." The location of the circuit disconnecting means shall be permanently identified on a nameplate installed on the inside of the FACU.

4. Secondary power including standby batteries and charger units.

5. Fire alarm system speaker amplifiers distributed by floor and by "wing," as shown on the fire alarm system design drawings.

6. Addressable monitor modules, control output relay modules and short-circuit fault isolation modules.

7. Interface, monitoring and control (as appropriate) of existing life safety and fire protection systems, including the Locknetics power supplies for powering egress door locks; suppression releasing systems, sprinkler systems, the jockey pump (Manual/Auto/Off switch for any position other than Automatic) and the fire pump; subway car control systems; elevator controls; and stairway smoke vents.

8. Metal raceway (and nonmetal, where required herein), wire, electrical junction boxes, terminal cabinets, and equipment cabinets/back boxes.

9. A permanently lab eled, locked, red fire alarm terminal cabinets installed in electrical closets by floor and by "wing," as shown on the fire alarm system design drawings.

F. The Contractor shall provide a list of parts and components for the installed system by Manufacturer's name, part number, and nomenclature, and recommended stock level required for normal maintenance and unscheduled repairs.

1.6 FUNCTIONAL DESCRIPTION OF THE SYSTEM

A. General

1. The fire alarm system shall report Alarm signals, Supervisory signals and Trouble signals to the FACU, to the low-power touchscreen annunciator, and to the computer-based graphic command center; shall report "Pre-Signal" and Alarm signals to the graphical map LED annunciator, located outside the DSOB Service Center at the U.S. Capitol Police 24-hour post; shall have the capability to alert building occupants using the existing audible and existing visible notification appliances [Phase 2 will add visible appliances throughout]; shall have the capability of manual voice paging and two-way firefighter communication; shall supervise the system for conditions which would impair proper system operation and annunciate such abnormal conditions; and where applicable, control related equipment as indicated on contract documents, such as elevators for recall functions and air-handling units (AHUs) for shutdown.

1.7 ALARM CONDITION

A. The system operation shall be such that the operation of any alarm initiating device shall not

prevent the subsequent alarm operation of any other initiating device, due to wiring or power limitations.

B. Upon activation of any smoke detector, heat detector, manual fire alarm box, sprinkler waterflow switch, fire pump supervisory switch (i.e., jockey pump switch, fire pump running, fire pump AC power fail and fire pump phase reversal), kitchen hood suppression system [Contractor shall determine if currently monitored by the existing system, if not, this will be part of Phase 2], the fire alarm system shall automatically perform the functions contained in this section and operate as follows:

1. The signal is displayed on the HSOB FACU installed in the HSOB Fire Watch Room (Room 114A) and the computer-based graphic command center on the first floor of the HSOB, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49).

2. The "pre-signal" sequence is initiated. The pre-signal sequence consists of the activation of the corresponding "pre-signal" alarm strobes mounted on the wall inside the DSOB Service Center and in the hallway outside of the DSOB Service Center (adjacent to the northwest entrance to the DSOB), instructing on-duty U.S. Capitol Police officers to investigate. The building notification appliances **shall not** operate from any automatic detection devices.

C. The "Pre-Signal" LED corresponding to the HSOB shall illuminate on the graphical map LED annunciator, located at the U.S. Capitol Police 24-hour post outside the DSOB Service Center (Room DG49).

D. The signal, device identification, date and time of occurrence are printed on the fire alarm system printers, located in the HSOB Fire Watch Room (Room 114A) and the DSOB Service Center (Room DG49).

E. Upon manual activation of the U.S. Capitol Police "Manual Evacuation" manual fire alarm box, connected to the HSOB FACU(s), the fire alarm system shall automatically perform the functions contained in this section and operate as follows:

1. The Alarm signal is displayed on the HSOB FACU installed in the HSOB Fire Watch Room (Room 114A) and the computer-based graphic command center on the first floor of the HSOB, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49).

2. The "Alarm" LED corresponding to the HSOB shall illuminate on the graphical map LED annunciator, located at the U.S. Capitol Police 24-hour post outside the DSOB Service Center (Room DG49).

3. All notification appliances in the HSOB, the "Core Area", as designated on the drawings, and the DSOB shall initiate a general alarm (except for the speakers installed in the exit stairways and elevator cabs). The general alarm shall consist of a "slow whoop tone" broadcast over the fire alarm system speakers.

4. The Alarm signal, device identification, date and time of occurrence are printed on the fire alarm system printers, located in the HSOB Fire Watch Room (Room 114A)

and the DSOB Service Center (Room DG49).

F. FACU Indication

1. Alarm signals shall be immediately displayed on the control unit alphanumeric display on the computer-based graphic command center, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49), as shown on the drawings. The display shall indicate the type of device, its location and the time and date of activation. The red "ALARM" LED shall flash on the control unit until the alarm has been acknowledged. Once acknowledged, this same LED shall latch on. A subsequent alarm received from another initiating device after acknowledgment shall flash the alarm LED on the control unit and the display shall show the new alarm information.

2. During an Alarm signal, a pulsing alarm tone shall sound within the control unit until the alarm is acknowledged. If the audible Alarm signals are silenced for any reason, they shall automatically resound if another initiating device is actuated.

3. The alarm sequence shall be recorded with the time and date of all occurrences in the fire alarm system History Log.

G. Auxiliary Functions

1. Where applicable, all auxiliary functions shall be connected to and operated by the control unit. Auxiliary functions shall occur, where applicable, in addition to the "pre-signal" and Alarm sequences, as described above.

2. Elevator Recall. The activation of any fire alarm system initiating device shall, in addition to the "pre-signal" operations listed above, cause the elevator cabs to be recalled.

3. Magnetically Held-Open Doors. Upon receipt of an alarm signal from any fire alarm system initiating device or manual activation of the evacuation sequence or loss of power, the magnetic door hold-open devices (as shown on the drawings) shall release, allowing the held open door to automatically close.

5. Electronically Released Door Locks. Upon manual activation of the evacuation sequence all access-controlled egress door lock release relays shall activate to allow secured doors to unlock, in accordance with NFPA 101 - 2000.

6. Stairway Smoke Vents. Upon receipt of an alarm from the smoke detectors installed at the top of the stairs the stairway vent release relay shall activate allowing the vent to open allowing smoke to escape.

1.8 SUPERVISORY SIGNAL

A. Upon activation of any duct smoke detector, sprinkler valve supervisory switch or other supervisory device, the fire alarm system shall automatically perform the functions contained in this section and operate as follows:

1. The Supervisory signal is displayed on the HSOB FACU installed in the HSOB Fire Watch Room (Room 114A) and the computer-based graphic command center on the first floor of the HSOB, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49).

2. The Supervisory signal, device identification, date and time of occurrence are printed on the fire alarm system printers, located in the HSOB Fire Watch Room (Room 114A) and the DSOB Service Center (Room DG49).

3. For operation of duct smoke detectors:

   a. The "pre-signal" sequence is initiated. The pre-signal sequence consists of the activation of the corresponding "pre-signal" alarm strobe mounted on the wall inside the DSOB Service Center and in the hallway outside of the DSOB Service Center (adjacent to the northwest entrance to the DSOB), instructing on-duty U.S. Capitol Police officers to investigate. The building notification appliances **shall not** operate from any automatic detection devices.

   b. The "Pre-Signal" LED corresponding to the HSOB shall illuminate on the graphical map LED annunciator, located at the U.S. Capitol Police 24-hour post outside the DSOB Service Center (Room DG49).

B. FACU Indication

1. Supervisory shall be immediately displayed on the control unit alphanumeric display on the computer-based graphic command center, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49), as shown on the drawings. The display shall indicate the type of device, its location and the time and date of activation. The "SYSTEM SUPERVISORY" LED shall flash on the control unit until the signal has been acknowledged. Once acknowledged, this same LED shall latch on. If more than one Supervisory signal is in the system, the operator shall be able to scroll the display to view all signals.

2. During a Supervisory signal, a pulsing tone shall sound within the control unit until the signal is acknowledged.

3. Unacknowledged Alarm signals shall have priority over Supervisory signals, and if an Alarm signal is received during a supervisory sequence, the Alarm signal shall have display priority.

4. Restoring the supervisory contact to the normal position shall cause the Supervisory audible signal to pulse thus indicating restoration to normal position. Activating the "ACKNOWLEDGE" switch shall silence the audible signal and restore the system to normal.

5. The supervisory sequence shall be recorded with the time and date of all occurrences in the fire alarm system History Log.

C. Auxiliary Functions

1. Where applicable, all auxiliary functions shall be connected to and operated by the control unit.

2. HVAC Air-Handling Units. The operation of duct smoke detectors shall cause the appropriate fan control relays to activate the shut down of the associated fan(s). Every air-handling unit in the building will not be shut down; only the air-handling unit serving the area where the duct smoke detector is actuated shall be shut down.

3. Dampers. The operation of duct smoke detectors installed to close smoke dampers and combination fire/smoke dampers shall cause the appropriate damper control relays to activate and close the associated damper(s). Every damper in the building will not be closed; only the damper(s) serving the area where the duct smoke detector is actuated shall be closed.

1.9 TROUBLE SIGNAL

A. Upon detection of any fire alarm system trouble condition (e.g., failure of normal power; wiring faults on the signaling line circuits or the notification appliance circuits; failure of the microprocessor or any identification module; system ground faults; and low-battery status), the fire alarm system shall automatically perform the functions contained in this section and operate as follows:

1. The Trouble signal is displayed on the HSOB FACU installed in the HSOB Fire Watch Room (Room 114A) and the computer-based graphic command center on the first floor of the HSOB, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49).

2. The Trouble signal, device identification, date and time of occurrence are printed on the fire alarm system printers, located in the HSOB Fire Watch Room (Room 114A) and the DSOB Service Center (Room DG49).

B. FACU Indication

1. Trouble signals shall be immediately displayed on the control unit alphanumeric display on the computer-based graphic command center, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49), as shown on the drawings. The display shall indicate the type of device, its location and the time and date of activation. The amber "SYSTEM TROUBLE" LED shall flash on the control unit until the signal has been acknowledged. Once acknowledged, this same LED shall latch on. If more than one Trouble signal is in the system, the operator shall be able to scroll the display to view all signals.

2. During a Trouble signal, a pulsing tone shall sound within the control unit until the signal is acknowledged.

3. Unacknowledged Alarm signals shall have priority over Trouble signals, and if an Alarm signal is received during a trouble sequence, the Alarm signal shall have display priority.

4. Restoring the Trouble condition to the normal position shall restore the system to normal.

5. The trouble sequence shall be recorded with the time and date of all occurrences in the fire alarm system History Log.

1.10 CHANGE IN ANY PHYSICAL POINT

A. Upon a change in any physical point on the fire alarm system, the system shall automatically perform the functions contained in this section and operate as follows:

1. The signal shall be immediately displayed on the control unit alphanumeric display on the computer-based graphic command center, and on the low-power touchscreen annunciator located in the DSOB Service Center (Room DG49), as shown on the drawings. The display shall indicate the type of device, its location and the time and date of activation. The corresponding LED shall flash on the control unit until the signal has been acknowledged. Once acknowledged, this same LED shall latch on. If more than one signal is in the system, the operator shall be able to scroll the display to view all signals.

2. The signal, device identification, date and time of occurrence are printed on the fire alarm system printers, located in the HSOB Fire Watch Room (Room 114A) and the DSOB Service Center (Room DG49).

1.11 SYSTEM SUPERVISION

A. All wiring extending from the FACU enclosure to fire alarm system components shall be supervised for opens, shorts and grounds. Systems containing unsupervised wiring of any type shall not be acceptable.

B. The occurrence of any fault shall activate the system trouble circuitry, but shall not interfere with the proper operation of any circuit that does not have a fault condition.

C. Incoming 120 VAC line power shall be supervised so that any power failure shall be audibly and visually indicated at the control unit.

D. Batteries shall be supervised so that a low battery condition or disconnection of the battery shall be audibly and visually indicated at the control unit.

E. Interconnected fire protection systems shall be monitored for Alarm, Supervisory and Trouble signals, as described in this specification.

1.12 SYSTEM RESET

A. A "SYSTEM RESET" button shall be used to return the system to its normal state after an Alarm signal has been cleared. Printed messages shall provide operator assurance of the sequential steps (i.e.: "IN PROGRESS", "RESET COMPLETED") as they occur, should all Alarm signals be cleared.

B. Should an Alarm signal continue to exist, the system shall remain in an abnormal state. System control relays shall not reset. The control unit "ALARM" LED shall remain on. These points shall not require acknowledgment if they were previously acknowledged.

1.13 SUBMITTALS

A. The Contractor shall submit 8 copies of all required submittals to the Architect. The following shall be submitted in sufficient detail to show full compliance with this specification. Partial or incomplete submittals are not acceptable, shall not be reviewed and shall be returned marked "Revise and Resubmit".

B. Contractor Qualifications

Evidence of the Contractor's certification shall be submitted to the Architect for approval prior to any work being started on the fire alarm system. Additionally, Contractor shall meet the qualifications described in this specification.

C. Transition Plan

1. The Contractor shall submit a transition plan depicting the methodology that the Contractor will use with regard to the installation of the new fire alarm system equipment and the demolition of the existing fire alarm system equipment. The transition plan shall be in accordance with section 3.4 of this specification. The transition plan shall be submitted to the Architect for approval prior to the Contractor starting any fire alarm system installation work.

2. The transition plan shall indicate the approximate schedule for the installation of all new equipment and the removal of existing equipment. Special attention shall be made to the use of existing raceway for new wiring, while maintaining existing wiring currently in service. The proposed re-use of any existing wiring and/or raceway shall be made in writing to the Architect, as required by this specification (see Division 16, Section 16050" BASIC ELECTRICAL MATERIALS AND METHODS" for additional guidance on testing of existing wiring).

D. Design Data

1. Power supply loading calculations, standby battery calculations and fire alarm system circuit loading and voltage drop calculations shall be submitted. Standby battery calculations shall include a minimum of 20% factor of safety to represent the aging and storage conditions of the batteries, as well as, spare capacity.

E. Product Data

1. Original Manufacturer's catalog datasheets (copies shall not be accepted) shall be submitted for all fire alarm system equipment to be furnished and installed, including wire selections, special surface mount raceway, and cabinets and back-boxes. Datasheets shall be marked and annotated to clearly identify the model, make and electrical current draw (in both Alarm and Standby) of the products being supplied. Data that is not marked and annotated shall be returned unreviewed. Data

shall include wiring diagrams of all equipment, installation instructions, equipment dimensions, testing procedures, and maintenance manuals.

2. A letter from the Manufacturer certifying that repair services and replacement parts for the fire alarm system equipment to be installed shall be available for a period of 10 years after the date of final acceptance by the Architect.

3. The Contractor shall submit sample screens for the new networked computer-based graphic command center installed in the Fire Watch Room (Room 114A); sample screens for the low-power touchscreen annunciator installed the DSOB Service Center (Room DG49; and a sample of the new graphical map LED annunciator located at the U.S. Capitol Police 24-hour post outside the DSOB Service Center.

4. The Contractors shall provide information to the Architect on the capability of the fire alarm system to actuate pagers for the AOC Fire Electronics Shop and U.S. Capitol Police personnel, as designated by the Architect, when there is an Alarm signal, Supervisory signal or Trouble signal displayed on the FACU.

   a. Information shall include a list of required equipment, unit prices, expected equipment life-cycles, operating and maintenance instructions, and a projected schedule to install the paging equipment, if the Architect were to request the Contractor proceed with the paging equipment.

F. Shop Drawings

1. The following shall be submitted in accordance with this specification and the referenced codes and standards: full-size floor plans drawn to scale indicating device and equipment locations (at a scale of no less than 1/16" = 1'-0"); point-to-point wiring diagrams showing all field terminations of circuits to equipment terminals; panel layouts (if applicable); and riser diagrams. Drawings shall be submitted at least 30 calendar days prior to the start of fire alarm system work.

2. Prior to construction the Contractor will be provided with drawings showing an accurate layout for each office/office suite. At such time the Contractor shall provide a layout of the fire alarm system equipment within the offices/office suites. All fire alarm system equipment locations shall be in accordance with this specification and the codes and standards referenced herein. The layouts shall be submitted to the Architect for review and approval.

G. Sequence of Operations / Programming

1. The Contractor shall submit a sequence of operations matrix describing the operational sequences of devices and equipment. The matrix shall take into account existing auxiliary system Alarm and Trouble conditions monitored by the fire alarm system. The matrix shall be tabular with inputs listed on one side and outputs listed on the other.

2. The Contractor shall submit for approval in writing, a description of any and all required programming changes to be made to the existing fire alarm system during

the transition.

3. Upon completion of the installation, programming, testing and acceptance of the system, the fire alarm system Manufacturer and system Supplier (the Contractor) shall submit a copy of the fire alarm system final program to the Architect and shall grant programming rights to the Architect and shall coordinate all required system training, documentation, and licensing agreements with the Architect.

4. Original programming of the HSOB FACU(s) shall provide for simultaneous evacuation of the HSOB and the "Core Area" upon evacuation of any of these areas. The system shall be arranged such that only programming changes are required to modify this arrangement, per notification by the Architect.

H. As-Built Drawings

1. During the fire alarm system installation, the draft as-built drawings shall be updated every 24 hours. The on-site as-built drawings shall be available for inspection and review on request by the Architect.

2. As-Built drawings shall be submitted for approval 7 calendar days prior to the testing phase (Demonstration Test and Acceptance Test) of the project, as described in this specification. CD-ROM electronic copies and hard copies of all new and revised software and drawings shall be provided with the submittal. Electronic copies shall be in Bentley Systems Microstation Software (.DGN) drawing format. The Contractor shall be required to show the following on the as-built drawings:

   a. As-Built drawings shall document final system configuration including deviations from and amendments to the contract drawings, and field installation changes, concealed and visible.

   b. The exact locations and installation details of all equipment installed, including the FACUs, all initiating devices, notification appliances, addressable interface and control relay devices, terminal cabinets and electrical junction boxes.

   c. The installed wiring and color-coding and wire tag notifications for the exact locations of all installed junction boxes and terminal cabinets.

   d. Specific point-to-point interconnections between all equipment and internal wiring of the equipment. Typical point-to-point wiring diagrams are not acceptable.

3. As-built drawings including current point-to-point drawings will be requested at time of acceptance testing.

4. The Contractor shall show the equipment and addresses associated with each device, as listed in this specification, on a separate layer and provide copies of only this layer shown on the floor plans as part of the set of as-built drawings.

5. The as-built drawings shall be in a final form for submission for final approvals. Once the as-built drawings are approved, the Contractor shall submit 8 copies and the updated CD-ROM with as-built drawings using Bentley Systems Microstation Software to the Architect for distribution.

I. Quality Assurance Plan

1. A Quality Assurance Plan shall be submitted in accordance with the article entitled, "Quality Assurance," of this section. Specialist Certification shall be submitted in accordance with the article entitled, "Services of a Certified Fire Alarm Specialist," of this section.

J. FMD On-Site Inspection / System Acceptance Testing Plan

1. The Contractor shall submit a schedule to allow the AOC Fire Marshal's Division (FMD) to make plans for on-site inspection and system acceptance testing.

K. Certificates and Testing Records

1. Contractor shall prepare a test procedure and test record forms for conducting and recording complete tests on control panels, reporting systems, wiring systems, and field devices installed in accordance with the Manufacturer's requirements and these specifications.

2. Contractor shall submit for approval the test procedure to the Architect at least 30 calendar days prior to the fire alarm system Demonstration Test, as described in this specification.

3. Test procedure shall identify each device and circuit to be tested, describe the initial condition, each step or function in the test, required test result, and equipment to be employed. Test forms with suitable spaces shall be provided for recording test results on all equipment, devices, and wiring to be tested. Test record forms will also have identified spaces for verification signatures of official witnesses and dates of the test.

4. All tests shall be conducted in the presence of the Architect and shall not be conducted until the test procedure is approved.

5. Contractor shall submit proof that all components are listed and/or approved by a nationally recognized testing laboratory (NRTL), acceptable to the Architect, for their intended use and function.

L. Operation and Maintenance Data

Prior to completion of the project, the Contractor shall submit 8 complete indexed bound copies of the Operation and Maintenance (O&M) Manual to the Architect in accordance with the article entitled, "Installation," of this specification. The O&M Manual shall be in accordance with the requirements and recommendations of NFPA 72 - 1999 and shall include the following:

1. The final Equipment List identifying the quantities and types of equipment listed by Manufacturer's part number.

2. A detailed narrative description of the system inputs, evacuation signaling, ancillary functions, annunciation, intended sequence of operations, expansion capability, application considerations, and limitations.

3. A Manufacturer's catalog datasheet for every piece of fire alarm system equipment installed. Datasheets shall be marked and annotated to clearly identify the model, make and electrical current draw (in both Alarm and Standby) of the products being supplied.

4. Operator instructions for basic system operations, including Alarm signal, Supervisory signal and Trouble signal acknowledgement; "Manual Evacuation" via the manual fire alarm box(es) (operated by the U.S. Capitol Police); system reset; interpretation of system outputs; operation of the manual evacuation (paging) signaling equipment and ancillary function controls; and the changing of printer paper.

5. Standby power calculations and voltage drop calculations that coincide with the equipment that has been installed in the building.

6. A point ID list referencing the signaling line circuit loops and the devices on those loops.

7. A sensitivity report for all smoke detectors at the time of acceptance.

8. The results of the testing of all wiring free from faults, as specified in this specification. The results of the Contractor's preliminary testing of the entire fire alarm system, and the Demonstration Test and the Acceptance Test of the entire fire alarm system with the Architect.

9. A detailed description of routine maintenance and testing as required and recommended and as would be provided under a maintenance contract, including testing and maintenance instructions for each type of device installed. The maintenance and testing plan shall be in accordance with the requirements of NFPA 72 - 2002 and the fire alarm system equipment manufacturer's instructions.

10. Detailed troubleshooting instructions for each trouble condition generated from the monitored field wiring, including opens, grounds, and loop failures.

11. A service directory, including a list of names and telephone numbers of those who provide service for the system.

M. System Software and Programming

1. Once the fire alarm system is placed in service, in whole or in part, and the associated building(s) partially or wholly occupied, no software changes shall be performed without the prior written permission of the Architect. All software

changes to the fire alarm system, once in service, shall be performed by a certified manufacturer's representative, trained in the execution of such changes.

2. The fire alarm system Supplier shall be responsible for all initial system programming. Documentation of all programming with disks containing the programming information shall be supplied to the Architect.

3. Upon completion of the installation, programming, testing and acceptance of the system, the communication system Manufacturer and system Supplier shall grant programming rights to the Architect and shall coordinate all required system training, documentation, non-disclosure agreements and licensing agreements with the Architect.

4. Original programming of the HSOB FACU(s) shall provide for simultaneous evacuation of the HSOB, the DSOB and the "Core Area" upon evacuation of any of these areas. The system shall be arranged such that only programming changes are required to modify this arrangement, per notification by the Architect.

1.14 QUALITY ASSURANCE

A. The Contractor shall furnish materials and equipment that are current products of one manufacturer regularly engaged in the production of such fire alarm system equipment. All equipment and materials provided shall be first quality and the Manufacturer's latest model capable of complying with all requirements of this specification and shall have been in continuous production and in continuous service in commercial applications for at least 18 months. All equipment shall be new and unused, except where indicated in this specification.

B. Qualifications of Installer

1. The Contractor shall submit all licenses and certifications for all personnel involved in the fire alarm system Phase 1 installation, as required by the Architect.

2. Prior to installation, the Contractor shall submit data for approval by the Architect, showing that the Contractor has successfully installed, programmed and tested fire alarm systems and associated components of the same type as specified herein, or that the Contractor has a firm contractual agreement with a subcontractor having such required experience. The Contractor shall include the names and locations of at least 3 installations where the Contractor, or the subcontractor referred to above, has successfully installed such systems. Indicate the type and design of each system and certify that each system has performed satisfactorily in the manner intended for a period of not less than 18 months. The Contractor shall submit names and phone numbers of points of contact at each site.

3. Evidence of the Contractor's Certification and the basis of certification shall be provided to the Architect and be approved by the Architect prior to any work being performed at the Senate Office Buildings. Contractor submitted certification requirements shall be in accordance with NICET.

C. Manufacturer's Representative

1. The Contractor shall provide the services of a factory-trained Fire Alarm Specialist from the Manufacturer of the system, experienced in the installation and operation of the type of system being provided, to supervise installation, adjustment, preliminary testing, and final testing (Demonstration Test and Acceptance Test) of the system and to provide instruction to Government personnel. The Contractor shall furnish name and phone number of the Manufacturer's representative.

D. Approved Equipment

1. The Contractor shall provide materials, equipment and devices that have been tested by an NRTL acceptable to the Architect and that are listed or approved for fire protection service when so required by NFPA 72 - 1999 or this specification.

E. Final Connection Requirements

1. All programming and final connections for fire alarm equipment shall be performed by a factory-trained Fire Alarm Specialist licensed as required and accepted by the Architect to install fire alarm systems and trained to program and operate the fire alarm system.

F. Warranty

1. The Contractor shall guarantee all new equipment installed and new raceways, new wiring and connections to existing wiring from defects in workmanship and inherent mechanical and electrical defects for a period of 1 year from the date of substantial completion of the project and acceptance by the Architect and the receipt of as-built drawings and schematics of all equipment.

2. The Manufacturer and the equipment supplier/distributor or the authorized representative shall guarantee all new system equipment for a period of 2 years from the date of substantial completion of the project and acceptance by the Architect.

3. The warranty period shall begin on the date of substantial completion of the project and acceptance in writing by the Architect.

1.15 SERVICES OF A CERTIFIED FIRE ALARM SPECIALIST

A. Services of a Certified Factory-Trained Fire Alarm Specialist thoroughly experienced in fire alarm system work shall be provided on site to perform or directly supervise the installation, make all necessary adjustments, and perform all tests on the fire alarm system at the site. A fire alarm specialist shall be considered certified when the specialist holds a valid Fire Alarm System, Level III (minimum) Certification from the National Institute for Certification in Engineering Technologies (NICET). Certification of other recognized agencies with equivalent requirements will be considered.

1.16 REPAIR SERVICE/REPLACEMENT PARTS

A. Repair services and replacement parts for the system shall be furnished under this contract. The Contractor shall obtain documentation in writing from the Manufacturer that replacement parts will be available for a period of 10 years after the date of final acceptance of this work by the Architect and such documentation shall be included in the submittal.

B. On-site service during the warranty period shall be provided within 4 hours of notification. All repairs shall be completed within 48 hours of notification to service company.

1.17 SPARE PARTS

A. The Manufacturer shall provide a suggested spare parts list with firm unit prices maintained for the duration of the Manufacturer's warranty period as specified herein, for items such as:

1. Power supplies and central processor units;

2. Addressable smoke detectors and addressable bases;

3. Printer ribbons or cartridges for the fire alarm system printer;

4. Addressable monitor modules, addressable control relay output modules, and fault isolation modules;

5. Cans of approved aerosol test smoke, UL listed for use with the type of detector installed, for the use of testing the functionality of the smoke detectors. The Contractor shall include written proof that the aerosol test smoke is UL listed for use with the detectors installed as part of the Existing Fire Alarm System Upgrade, HSOB.

B. Per unit costs for additional devices and appliances shall be supplied to the Architect and shall be firm prices maintained for one year beyond the duration of the Manufacturer's warranty period as specified herein. Firm costs for programming changes shall also be submitted.

PART 2 - PRODUCTS

2.1 QUALIFICATION OF MANUFACTURERS

A. New fire alarm system equipment shall be manufactured and distributed by Notifier®, a division of Honeywell International, Inc. All components shall be listed to UL 864, 9th Edition.

B. Distributors of acceptable Notifier equipment shall provide documentation indicating that they are authorized by the Manufacturer to distribute and service the equipment and that the Manufacturer has stated that they have satisfactorily completed all training courses offered by the Manufacturer in relation to the equipment provided.

C. Notifier or the authorized distributor shall confirm in writing that, within reasonable distance of the job site, there is an established agency which stocks a full complement of parts and offers service during normal working hours on all equipment to be furnished and that the agency shall supply parts without delay and at reasonable cost.

D. Notifier or authorized distributor shall confirm in writing that they will provide on-site emergency repair service within 4 hours of notification of the requirement for such service. This service shall be provided on a 24-hour per day, 7 days per week basis.

2.2 FIRE ALARM CONTROL UNITS (FACUs) - GENERAL

A. The FACU shall provide power, English display status, supervision, control, and programming capability for the fire detection and alarm system.

B. The control unit shall store a record of alarm and trouble events in a nonvolatile history file. This file shall contain, at least, the most recent 500 events, with time and date of each event. It shall be possible to select the number of events to be viewed in the history file so that the entire file does not have to be downloaded. The history file shall remain intact in the event of a loss of AC and battery power.

C. The control unit shall be modular in construction and receive supervised plug-in component boards to provide system functions as hereinafter specified and/or to accommodate future system expansions.

D. The control unit(s) shall contain a modular network communications card allowing the FACU(s) to interface with other FACUs to create a peer-to-peer fire alarm system network. The network card shall be capable of providing Class A (Style 7) network communications.

E. The control unit shall be capable of being expanded in the future to support the number of addressable points (inputs or outputs), as specified in the individual FACU section of this specification. The control unit shall be capable of being expanded and field reprogrammed at any time up to the predetermined maximum capacity of the system, without the requirement to return the operating system to the factory for program changes. All field programming shall be done by an authorized Manufacturer's representative.

F. The control unit shall contain a minimum of 6 signaling line circuits. Each signaling line circuit shall support a minimum of 159 addressable input or detection devices and a minimum of 159 addressable monitor modules or addressable control output devices. All addressable input and output devices shall be capable of being intermixed on the same signaling line circuit.

G. The control unit shall accommodate all addressable input devices in alarm simultaneously and shall be capable of operating all output relays while all inputs are in alarm.

H. The control unit shall supply power and communication protocol signals to the addressable input devices over a single pair of wires per signaling line circuit from the control unit. Signaling line circuits shall be field programmable for Style 6 operation.

J. A minimum of 3 short-circuit fault isolation modules shall be installed on each signaling

line circuit (SLC). One fault isolation module shall be installed at the point the SLC leaves the FACU and at the point where the Class A (Style 6) SLCs return to the FACU. Fault isolation modules shall be placed in order to minimize loss of addressable devices. Fault isolation modules shall be placed at each floor, where the SLC spans multiple floors. In all cases, no more than 25 devices shall be installed on a circuit between fault isolators.

K. The control unit shall support a minimum of 6 visible (strobe) notification appliance circuits per floor to provide an evenly distributed number of notification appliances per floor and circuit (installation of strobes is part of Phase 2).

L. The system and control unit shall contain all the necessary equipment for the installation and support of Class A (Style Z) speaker circuit risers supervising distributed amplifiers located in each of the electrical closets in the designated "wings."

1. Each floor shall be served by speaker notification appliance circuits installed per floor and per designated "wings."

2. Additionally, the control unit shall contain th e necessary equipment for the installation of a separate speaker riser and circuit for each designated exit stair enclosure and for each elevator cab.

a. Speaker circuits powering and supervising speakers in the exit stair enclosures and in the elevator cabs shall be arranged for paging only; the evacuation signal shall not broadcast through the stair and elevator cab speakers.

b. Speaker circuits for exit stair speakers and elevator cab speakers shall be installed separate from speaker circuits on the floor.

3. Speaker circuit risers shall be permitted to serve multiple floors, speaker circuits connecting to speakers on a designated floor shall not serve multiple floors (i.e., speaker circuits shall not cross floor boundaries).

M. Power for all notification appliances shall come from integral power supplies in the control unit. Remote power supplies, if needed, shall be of the same manufacturer as the FACU and be installed as part of the Phase 2 project. The location of all remote control equipment shall be approved prior to installation by the Architect. All locations containing FACU or remote control equipment shall be protected with a smoke detector, in accordance with NFPA 72 - 1999. Existing notification appliance power supplies located in Room SH2GEX, SH4BT, SH6FE, and SH114 shall be connected to the control unit.

N. At a minimum, each FACU shall contain the following:

1. Display. A minimum 640 character, highly readable, display. Upon input activation, the display shall provide the following indication:

a. A device address display.

b. A field programmed English label indicating the location of the device.

Custom label verbiage shall be submitted to the AOC Fire Marshal's Division, for approval prior to system programming.

c. An English description of the type of device activated, such as smoke detector, manual fire alarm box, water flow switch, etc.

d. The status of the input: alarm, supervisory or trouble.

e. Multiple alarm conditions shall be sequentially displayed automatically at not more than a 5 second interval until manually acknowledged by priority.

2. Annunciation. Annunciation shall be an integral part of the control system and shall indicate alarm, supervisory and trouble conditions and the corresponding address. The following initiating devices and zones shall be annunciated individually:

a. Smoke detectors;

b. Heat detectors;

c. Sprinkler waterflow devices;

d. Manual fire alarm boxes; and

e. Other approved types of automatic fire detection devices or suppression systems.

3. Battery voltage and ammeter readouts shall be available from the LCD display.

4. Once acknowledged, individual alarms shall be viewed by operating a "next-alarm" switch.

5. Communication Ports. 3 supervised RS232C communication ports shall be provided to support a printer. Each RS232C port output shall be programmable for printer or display output and shall be programmable to provide the following functions:

a. Local system programming by the AOC Fire Protection Engineering office. The Contractor shall provide diagnostic software for maintenance and troubleshooting.

b. Listing and indicating status of all field devices.

c. Capability of performing alarm tests on any or all addressable smoke detectors and contact input devices.

d. Monitoring of the system from remote locations via printer, terminal, or computer.

6. A "silent" walk test feature. This feature shall allow for testing of the fire alarm system without activating the notification appliances.

7. Clock. A 24 hour clock shall be provided to continually provide the time of day and day of the week information. During normal standby conditions, the control unit shall display time and date.

8. Any operation of an alarm silence, supervisory silence, trouble silence, acknowledge, lamp test, relay switches, or system reset switch shall cause a display indication of operation with time and date. These operations shall also be recorded in the system's history file.

9. LED driver output. Each control unit shall be capable of driving a minimum of 5 LEDs in the graphical map LED annunciator (to be installed adjacent to the DSOB Service Center). Both the HSOB FACU (the Fire Watch Room) shall drive a "Pre-Signal" LED and an "Alarm LED", with capability of driving additional LEDs (in the future, at the request of the Architect; e.g., Supervisory, Trouble, etc.).

O. Emergency voice communication system: Each FACU shall include central voice alarm system components, complete with microphones, preamplifiers, distributed amplifiers, back-up amplifiers, and tone generators (primary and redundant). Features shall include the following:

1. Pre-recorded digitized message.

   a. Although the standard evacuation sequence in the HSOB is a general alarm tone (slow whoop) broadcast throughout the speakers, the fire alarm system(s) shall have the necessary equipment installed to be programmed to provide the capability of broadcasting a pre-recorded digitized message and the temporal code 3 pattern (National Evacuation Signal) evacuation tone.

   b. The digitized voice message chips and other associated equipment required to operate the fire alarm evacuation system with pre-recorded digitized messages shall be installed in the FACU as part of this project.

   c. The fire alarm system shall be capable of accepting field recordable digital voice messages.

2. A minimum of 2 voice notification channels to permit simultaneous transmission of different announcements to different zones or floors automatically or by using the central control microphone. All communication lines shall be dedicated, supervised communication lines.

3. Control swit ches to transmit an evacuation signal and manual paging voice instructions on a selective per circuit and on an all-call basis.

   a. The Contractor shall provide the required and designated selector switches in order to provide the paging capabilities that match the existing system configuration.

4. Control switch to disable the local speaker (e.g. the speaker(s) in the Fire Watch Room (Room 114A)).

5. Manual voice paging shall take precedence over any automatic messages.

6. Status LEDs to indicate the status of voice alarm speaker zones.

7. Red "MANUAL EVAC" Evacuation/Alarm Indication is on when the evacuation Tone/Message is in process.

8. Red "ALL CLEAR" is on when the All Clear tone or message is playing.

9. Green "READY TO TALK" identifies that the microphone is active and talking may begin.

10. Yellow "SYSTEM TROUBLE," general trouble indication.

11. For calculating the size of amplifiers, the Contractor shall use a minimum value of 1 W per speaker.

12. Distributed and networked amplifiers and back-up amplifiers shall be furnished and installed on every floor.

    a. Back-up amplifiers shall be arranged so that the loss of any amplifier results in the automatic switchover to the back-up amplifier(s).

    b. Upon loss of primary and/or back-up amplifier(s), a trouble indication shall be displayed on the FACU LCD display indicating that an abnormal condition is present in the amplifier(s).

    c. Upon loss of both primary and back-up amplifier(s) and during a fire alarm evacuation (all three situations present at the same time), the fire alarm system shall employ a "degrade mode" local tone that shall be broadcast through the corresponding speakers.

P. The functional operation of the control unit shall be established by programmable software.

1. The operating program shall be contained in nonvolatile EEPROM memory and shall be configurable in any of the following ways:

    a. At the factory;

    b. At the job site via modem; or

    c. At the job site via standard terminal or standard laptop computer. Laptop computers shall utilize standard communications software, such as Procomm or Crosstalk.

2. Access and control of the operating program shall be restricted to proper personnel designated by the Architect.

3. The control unit shall have a minimum of 3 security levels. Each level shall have individual passwords. Illegal access attempts shall be rejected by the system and shall be displayed and recorded in the history file with time and date.

5. Specific security levels shall allow access to the operating system.

6. Accessing a programming function that disables normal system operation shall initiate a trouble sequence.

Q. Failure of the CPU(s) in the control unit module or a channel shall light the CPU Error LED and sound the control unit trouble buzzer. Alarms received while the control unit is in this state shall bypass the software and sound the general alarm signals and light the alarm LED.

R. The channel modules shall be field programmable to report wire-to-wire short conditions as either an alarm or trouble condition.

S. The control unit shall be capable of locating input circuit openings by the associated address and initiate the proper display and trouble sequence.

T. The system response to alarms shall be 2.5 seconds maximum for the first alarm.

U. The control unit shall contain an integral standby battery to provide continuous power in the event of AC power failure.

1. The batteries shall be capable of providing 24 hours of backup power for the system and enough remaining power to operate all notification appliances for 30 minutes at the end of the 24-hour period.

2. The calculations for battery standby shall include a "safety factor" (reserve power estimate) of a minimum 20%.

3. Transfer from AC to battery power shall be instantaneous when AC voltage drops below 85 percent input. Transfer to battery standby shall be indicated by display and recorded in the history file with time and date. The indication shall be "AC OFF".

4. Loss of building power for the system shall automatically and immediately cause transfer of the system to battery power and cause all audible trouble signals to sound. Upon return of building power, the system shall automatically retransfer thereto, and the batteries shall automatically recharge.

5. During battery operation, the control unit shall process all inputs. However, the display shall provide 5 seconds of indication for each new input condition, then turn off to conserve battery power.

6. The control unit shall have a dual rate battery charger that shall maintain the batteries in a fully charged condition and shall provide recharge of the batteries to full capacity in 48 hours.

V. The control unit shall provide a nonprogrammable DPDT common alarm relay and common trouble relay both with contacts rated 2 AMP at 24 VDC.

W. Output Function Modules. The control unit shall utilize output function modules to control output functions. The modules shall plug into the control unit motherboard. The functions and presence of each module shall be supervised, and "AOC FPE" and "AOC FIRE ELECTRONICS SHOP" password shall enable the user to request a list that locates the module by panel and slot within system. All modules shall be individually programmable by circuit as hereinafter specified.

X. The control unit shall be capable of being programmed to receive Alarm signals from smoke detectors and actuate and/or interface to a smoke control system for initiation of the smoke control sequence of operations [FUTURE OPERATION].

Y. The control unit shall be installed surface or semi-flush mounted.

Z. The Contractors shall provide information to the Architect on the capability of the fire alarm system to actuate pagers for the AOC Fire Electronics Shop and U.S. Capitol Police personnel, as designated by the Architect, when there is an Alarm signal, Supervisory signal or Trouble signal displayed on the FACU.

1. Information shall include a list of required equipment, unit prices, expected equipment life-cycles, operating and maintenance instructions, and a projected schedule to install the paging equipment, if the Architect were to request the Contractor proceed with the paging equipment.

2.3 HSOB FACU(s)

A. Fire Watch Room (Room 114A) FACU

1. Annunciation. The HSOB FACU installed on the first floor of the HSOB in the Fire Watch Room (Room 114A) shall be capable of supporting a minimum of 3,000 addressable points connected directly to the FACU, but be capable of annunciating a minimum 10,000 addressable points (inputs or outputs) from other networked panels; at minium, the FACU shall be programmed to annunciate all of the addressable points that are connected to all 3 FACUs installed in the HSOB.

2. The Fire Watch Room HSOB FACU shall be connected to the HSOB pre-signal alarm strobe mounted on the wall inside the DSOB Service Center (Room DG49) and in the hallway outside of the DSOB Service Center (adjacent to the northwest entrance to the DSOB) and shall be programmed to operate this strobe on all Alarm signals (both "pre-signal" and Alarm signal), in accordance with this specification.

3. Evacuation Tone and Pre-recorded digitized message. The standard evacuation sequence in the HSOB is a general alarm slow whoop tone broadcast throughout the

speakers. However, the fire alarm system shall have the capability to broadcast a pre-recorded digitized message. The capability to initiate the automatic voice alarm message in place of the general alarm slow whoop tone shall only require a program change, per direction of the Architect.

a. The alarm sequence shall have the capability of broadcasting an alert tone, a digitized recorded voice message providing the occupants with emergency instructions and at the end of the message sequence the activation of a tone pattern transmitting the slow whoop tone in the zones receiving the alarm.

b. The message shall contain the following verbiage: "Attention please. The signal tone you have just heard indicated a report of an emergency in this building please walk to the nearest stairway and leave the building."

4. Control switches to transmit an evacuation signal and manual paging voice instructions on a selective per circuit and all-call basis for every speaker circuit within the HSOB and the "Core Area" and status LEDs to indicate the status of the associated voice alarm speaker circuit.

5. Original programming of the HSOB FACU(s) shall provide for simultaneous evacuation of the HSOB and the "Core Area" upon evacuation of any of these areas. The system shall be arranged such that only programming changes are required to modify this arrangement, per notification by the Architect.

6. Control switches and status LEDs of the firefighter two-way telephone communication system. Dedicated, two-way, supervised voice communication links between the Fire Watch Room HSOB FACU. Supervised telephone lines shall be connected to talk circuits by controls in this module. Controls shall provide the ability to disconnect phones from talk circuits if too many phones are in use simultaneously. The module includes the following:

a. Audible Pulse and Tone Generator, and High-Intensity Lamp: When a remote telephone is activated, it causes the audible signal to sound and the high-intensity lamp to flash at the FACU.

b. Selector panel controls simultaneous operation of telephones in selected zones and permits up to six phones to be operated simultaneously. Ground faults and open or shorted telephone lines are indicated on the control unit front by individual LEDs. Zone-selector switches with associated LED indicators permit the firefighter to activate selected telephone zones.

c. Means to connect the firefighter telephone circuits to the speaker circuits to allow voice communication over the speaker circuits from a firefighter telephone handset.

7. Control switches, bypass switches and/or status LEDs for the following relay control functions shall be provided:

a. Elevator recall and elevator power shunt trip functions;

b. HVAC shutdown;

c. Stairway smoke hatch control;

d. Release of magnetically held-open doors; and

e. Release of electronically locked doors.

B. MER10 (Room H9M10) FACU(s)

1. Annunciation. The 2 HSOB FACU(s) installed on the ninth floor of the HSOB in MER10 (Room H9M10) shall be capable of supporting and annunciating a minimum of 3,000 addressable points (inputs or outputs); at minimum, the FACU shall be programmed to annunciate all of the addressable points that are connected to the FACU.

C. Signaling line circuits. A minimum of 6 signaling line circuits shall be installed in the HSOB with devices equally distributed on each circuit. A minimum of 2 signaling line circuits shall be installed for addressable devices installed in the "Core Area," with devices equally distributed on each circuit.

1. SLCs shall be installed per "wing," connected to new fire alarm system terminal cabinets (FATC), as shown on the fire alarm system design drawings riser diagrams and shall be designated "A", "B", "C", "D", "E", and "F" in the HSOB and designated "G" in the "Core Area." The existing FASC terminal cabinets shall be re-used.

2. Each SLC shall be loaded to no more than 75% of the Manufacturer's specified capacity. Additional SLCs shall be furnished and installed as necessary to comply with this requirement.

3. SLCs shall be Class A (Style 6) circuits with fault isolation modules installed.

D. A Class A (Style 7) network communications path between the HSOB FACU(s)and the computer-based graphic command center shall be installed.

E. Speaker circuit risers and notification appliance circuits. A minimum of 6 speaker circuit risers per floor shall be installed and connected to distributed amplifiers in the HSOB designated "wings." Each floor in the HSOB designated "wings" shall be served by a minimum of 6 speaker notification appliance circuits. A minimum of 2 speaker notification appliance circuits per floor shall be installed and connected to distributed amplifiers in the "Core Area." Each floor shall be served by a minimum of 2 Class A speaker circuits in the "Core Area." Additional speaker notification appliance circuits and risers shall be installed for the elevator cab speakers and the exit stairway speakers.

1. Existing speaker circuits per "wing," from the existing FASC terminal cabinets shall be connected to the new fire alarm system terminal cabinets (FATC), as shown

on the fire alarm system design drawings riser diagrams and shall be designated "A", "B", "C", "D", "E", and "F" in the HSOB and designated "G" in the "Core Area."

2. The speaker circuit risers shall comply with the survivability requirements of NFPA 72 - 1999. Risers shall be installed within common electrical closets, located on each floor, that are 2-hour fire resistance rated (per information provided by the Architect). All raceway and wiring penetrations through the 2-hour fire resistance rated electrical closet walls shall be firestopped with through-penetration firestop systems that are listed by a NRTL acceptable to the Architect and are rated to maintain the fire resistance rating of the 2-hour walls. Where riser circuits are not installed within the electrical closets, the circuits shall be survivable in accordance with NFPA 72, in a manner acceptable to the Architect.

3. Fire alarm system speakers installed in exit stairways and elevator cabs shall be connected to the fire alarm system on speaker circuit risers separate from the floor speaker circuits.

4. Speaker circuit risers shall be Class A (Style Z) circuits.

G. Firefighter telephone circuits. A separate dedicated Class A (Style Z) firefighter telephone circuit riser shall be installed for each firefighter telephone, as shown on the fire alarm system design drawings and riser diagrams. Existing firefighter telephone circuits per "wing," from the existing FASC terminal cabinets shall be connected to the new fire alarm system terminal cabinets (FATC), as shown on the fire alarm system design drawings riser diagrams and shall be designated "A", "B", "C", "D", "E", and "F" in the HSOB and designated "G" in the "Core Area."

1. Firefighter telephones shall be individually annunciated at the Fire Watch Room HSOB FACU per telephone cabinet.

2. Existing firefighter telephone cabinets shall remain in place and be connected to new firefighter telephone circuit risers.

H. Strobe circuits and power supplies. All existing notification appliance power supplies and strobe circuits shall be connected to the fire alarm system. Existing notification appliance power supplies are located in Room SH2GEX, SH4BT, SH6FE, and SH114.

2.4 COMPUTER-BASED GRAPHIC COMMAND CENTER

A. The computer-based graphic command center shall consist of a desk-top computer, listed as a "Primary Operators Workstation" by a NRTL acceptable to the Architect, with the following equipment:

1. An industrial grade 2.0 Ghz (minimum) personal computer with a detachable keyboard and mouse;

2. A hard drive with a minium of 40 GB capacity;

3. A 1.44 MB floppy disk drive and a 24/10/40X CD-RW drive;

4. A minimum of 256 MB of RAM;

5. A minimum of 16 MB VRAM;

6. A 20-inch high-resolution, color, touch-screen monitor;

7. A fully functional network node communicating on the fire alarm system network with the HSOB FACU(s);

8. RS-232 port(s) for connection to a fire alarm system network event printer;

9. An operating system consisting of Microsoft® Windows® 2000 (or higher) or approved equal acceptable to the Architect.

B. The computer-based graphic command center shall be capable of importing drawing files to be used as building (and subway tunnel) floor area graphical maps. Drawing file formats that shall be accepted by the system include: Bentley Systems Microstation drawing files (.DGN); AutoCAD 2004 drawing files (.DXF, .DWG); metafiles (.WMF); and bitmap files (.BMP).

C. The system shall have the capability annunciate and control a minium of 50,000 fire alarm system network points and to store a minimum of 250,000 events in a historical log.

D. The system shall be equipped with a minimum of 3 security levels of password-protected access.

E. The high-resolution touch-screen monitor shall serve as the interactive interface between the operator and the fire alarm system network. From the touch-screen monitor (or mouse) the operator shall be capable of the following:

1. Silencing Alarm, Supervisory and Trouble signals;

2. Acknowledgement of all Alarm, Supervisory and Trouble signals;

3. Fire alarm system Reset;

4. Display lists (i.e, addressable device points lists); and

5. Perform graphic editing functions.

F. The system shall contain the following operating modes:

1. When no Alarm, Supervisory or Trouble signals are present in the system, the monitor shall display a graphics screen menu that is used to access graphics screens. Each screen shall display the current time and date, system status, and the presently logged-on operator and access level.

2. Upon activation of any Alarm signal and on request by the operator, the monitor shall display the floor plan of the floor in alarm with all the fire alarm system devices shown. The device in alarm shall flash until acknowledged and then become steady until the device has cleared the alarm condition.

3. If a second Alarm signal is registered prior to the first Alarm signal being cleared, the second signal shall be identified by a flashing pending alarm indication. Touching the pending alarm area will transfer the display to the second alarm point graphic screen (floor plan). All subsequent Alarm signals shall be displayed as indicated above.

4. The system shall display Supervisory and Trouble signals in a similar manner; however, Alarm signals shall take priority over displaying Supervisory and/or Trouble signals.

G. The system shall be capable of viewing and printing fire alarm system network node data, including all information on analog addressable devices and maintenance logs/reports on devices in need of cleaning/service.

H. The system shall be provided with an uninterruptible power supply (UPS) that is capable of providing power to the computer-based graphical annunciator and system printer in the event of a power interruption. The UPS shall be required to provide a minimum of 30 minutes of power.

2.5 LOW-POWER TOUCHSCREEN ANNUNCIATOR

A. The low-power touchscreen annunciator shall be the ONYX FirstVision™ interactive firefighters' display.

2.6 CLASS A (STYLE 7) FIRE ALARM SYSTEM NETWORK

A. Contractor shall install and program all the necessary equipment and wiring to establish a Class A (Style 7) fire alarm system network between the HSOB FACU(s) and the computer-based graphic command center. Fire alarm system network wiring shall be mechanically protected by metal raceway.

B. Network Communications

1. Network node communication shall be through a token ring configuration, or a method of communication that is an approved equal.

2. A single open, ground or short on the network communication loop shall not degrade network communications. Information shall be passed in the opposite direction of the open, ground or short to maintain communications throughout all network nodes. At the same time the status of the communication link shall be reported.

3. If a group of nodes becomes isolated from the rest of the network due to multiple fault conditions, that group shall automatically form a sub-network with all common

interaction of monitoring and control remaining intact. The network shall be notified with the exact details of the lost communications.

4. If a single node becomes isolated from the rest of the network due to fault conditions, that node shall operate as a fully stand-alone FACU with all common interactions of monitoring and control remaining intact. The network shall be notified with the exact details of the lost communications.

5. All points monitored and controlled by a single node shall be capable of being made public to the network, such that the points are capable of being programmed for operation by any other node connected to the network.

6. Network communications shall be capable of supporting "point lists" that can be handled as though they were a single point.

7. The network shall provide a means to log into any node on the system via a laptop computer or CRT/Keyboard and have complete network access for diagnostics, maintenance reporting, and information gathering of all nodes in the system. Systems not meeting this requirement shall be provided with all the diagnostic tools required to support this function from selected points on the network.

C. Network Annunciation

1. The fire alarm system network shall be designed, programmed and installed such that the computer-based graphical annunciator shall be able to annunciate every addressable point on the entire network. The HSOB FACU(s) shall annunciate every Alarm signal, Supervisory signal and Trouble signal on the network.

2.7 SYSTEM FIELD DEVICES - GENERAL

A. Connection of initiating devices and notification appliances to appropriate signaling line circuits and notification appliance circuits from each floor shall be as indicated on the installation drawing from the equipment Manufacturer or Supplier.

B. Addressable devices shall operate under the following ranges of environmental conditions:

1. Ambient Temperature: 32-100 degrees Fahrenheit.

2. Relative humidity: 0-93 percent, non-condensing.

3. Air velocity: 300 feet per minute.

C. Each addressable device shall include a means to assign a unique address code to the device in the field. This address code shall serve as the means by which the system program recognizes the device.

D. The address of each addressable device shall be clearly and permanently indicated in the base of each detector or on the face of monitor modules, control relay output modules and manual fire alarm boxes. Fire alarm system devices shall have Brady, or approved equal

(approved by the Architect), adhesive markers attached to them indicating the device address. The markers shall be attached on the outside of the device and lettering shall be a minimum of 12 point.

E. Failure of any single device shall not hinder the operation of any other devices connected to the signaling line circuit.

F. Failure of the control unit to properly communicate with any addressable device shall initiate the proper trouble sequence. While in this trouble condition, the control unit shall cause actual alarm input from devices to override trouble alarm.

2.8 AUTOMATIC DETECTORS - GENERAL

A. All automatic smoke detectors shall be of the addressable, analog photoelectric type and shall be interchangeably mounted into a common twist-lock base.

B. The control unit shall recognize changes of detector type in each location and provide proper indication that reprogramming for the affected address is required.

C. Every automatic detector shall be so located as to be readily visible from the floor. Where a detector is not readily visible form the floor the Contractor shall furnish and install a remote alarm indicator/remote test station connected to the detector.

D. In general, automatic detectors shall be mounted on the structural ceiling or finished ceiling and not on the bottom or side of any type of construction or structure which extends down from the ceiling. The mounting location of every device shall be as shown on the drawings and as approved by the Architect.

E. Automatic detectors shall be located near points where air currents normally intersect. Detectors shall not be located in the direct path of the draft from an HVAC air supply grille, a door, window, or hallway. Detectors shall be installed a minimum of 3 feet from an HVAC air supply diffuser and an air return grill, in accordance with NFPA 72 - 1999. If an existing location is to be reused (as designated on the drawings), it shall meet this requirement or be relocated accordingly.

F. All automatic detectors shall be installed as indicated on the plans and in conformance with all codes and regulations and these specifications. The detectors shall be installed within 5 feet of the location shown on the drawings to accommodate construction. The mounting location of every device shall be approved by the Architect.

2.9 ADDRESSABLE PHOTOELECTRIC SMOKE DETECTORS

A. Addressable analog photoelectric smoke detectors shall be installed in accordance with this specification and as shown on the drawings. Unless otherwise shown on the drawings, area smoke detectors shall be spaced at a maximum of 30 foot centers, and spaced in accordance with NFPA 72 - 1999 and the Manufacturer's installation instructions. Smoke detectors shall only be installed in those environments suitable for proper smoke detector operation.

B. Photoelectric smoke detectors shall have a maximum general alarm setting in all common

spaces of 3.0% - 4.0% per foot obscuration.

C. Detectors shall have a combination alarm/power LED. The LED shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control unit. The LED shall be placed into steady illumination under an alarm condition. An output connection shall also be provided in the base to connect an external remote alarm LED.

2.10 DETECTOR BASES

A. Automatic detectors shall utilize a common, plug-in, twist-lock, tamper-resistant type base that accommodates photoelectric and thermal detectors. Detectors shall be interchangeable to simplify field conversion.

B. Removal of the detector from the base shall cause a trouble indication at the FACU. Removal of the detector shall not disrupt the alarm circuit wiring or prevent the receipt of alarms from other devices operating in the circuit.

C. Insertion of an incorrect detector type into the base shall cause a "Wrong Device" trouble condition at the FACU until the proper type of detector is installed, or the system is re-programmed. The system program shall recognize the insertion of a wrong device and shall automatically default to the setpoint values corresponding to the inserted device, and shall monitor alarm and trouble conditions according to the default parameters.

D. Provide bases constructed of white, high impact polycarbonate designed for mounting on a standard 3-1/2 inch or 4 inch octagonal or 4 inch square outlet box. Provide screw terminal connections for No. 14 AWG wire.

2.11 ADDRESSABLE PHOTOELECTRIC DUCT SMOKE DETECTORS

A. Duct smoke detectors shall be installed in accordance with the requirements of NFPA 72 - 1999, NFPA 90A - 1999 and IMC - 1998, and as shown on the drawings.

B. The duct smoke detectors shall be programmed to activate addressable control output relays to shut down the respective air handling units.

C. Duct smoke detectors that are installed to close smoke dampers and/or combination fire/smoke dampers shall contain a programmable internal relay that shall be programmed to operate and close the respective damper. Duct smoke detectors installed above the ceiling at the return air inlets shall contain a programmable internal relay that shall be programmed to operate on actuation of the detector.

1. Relay operation is programmable from fire alarm control panel and is rated: 1 A @ 28 VDC, power limited; or ½ A @ 120 VAC, non-power limited.

D. Duct smoke detectors shall be photoelectric, addressable analog type, with sampling tube of design and dimensions as recommended by the Manufacturer for the specific duct size and installation conditions where applied. Addressable control relay output modules shall be installed, as shown on the drawings and programmed for HVAC fan shutdown and/or

smoke damper closure.

E. Duct smoke detectors shall be programmed such that upon activation a Supervisory Signal shall be displayed at the FACU. If the FACU does not have the capability to annunciate addressable duct smoke detectors as Supervisory Signals, conventional duct smoke detectors monitored and supervised by addressable monitor modules capable of being programmed as Supervisory Signals shall be allowed to be installed and programmed in place of addressable duct smoke detectors.

F. For maintenance purposes, it shall be possible to clean the duct housing sampling tubes by accessing them through the duct housing front cover.

G. A remote alarm indicator (LED) and remote test station shall be installed in a location approved by the Architect that provides clear and unobstructed viewing of the indicator from the floor and connected to each duct smoke detector, as shown on the drawings.

2.12 ADDRESSABLE MONITOR MODULES

A. Contractor shall furnish and install addressable monitor modules to supervise and monitor the status of each non-addressable device and existing conventional zone, such as conventional spot-type heat detectors, sprinkler waterflow alarm switch and valve supervisory switch contacts, special hazard fire suppression alarm contacts and fire pump supervision contacts.

B. Each addressable monitor module shall be able to support any number of normally open (N/O) devices. Wiring to the devices(s) being monitored shall be Class A supervised (Style D). Module status (normal, alarm, supervisory, trouble) shall be transmitted to the FACU.

1. The Contractor shall not connect more than 20 devices to a single addressable monitor module initiating circuit.

C. Addressable monitor modules shall be installed in spaces with environmental conditions appropriate for proper operation of the modules, in accordance with the Manufacturer's installation specifications.

D. Addressable monitor modules shall include a mounting plate for installation in a junction box or shall be mounted in a locked cabinet or approved box, as shown on the Manufacturers recommended specifications.

E. The addressable monitor modules shall provide an address-setting means and shall also store an internal identifying code which the control unit shall use to identify the type of device.

F. The fire alarm system shall be arranged such that an authorized trained individual can disable each a ddressable monitor module from the FACU front panel display, thus disconnecting the initiating circuit to allow work to be performed on the initiating circuit without causing an alarm. The disabling means shall be a software function and shall be password protected as required in other sections of this specification. Disconnection of the initiating circuit shall cause a trouble signal at the FACU.

G. An LED shall be provided which shall flash under normal conditions, indicating that the monitor module is operational and in regular communication with the control unit. The LED shall be visible through the module cover plate.

2.13 ADDRESSABLE CONTROL RELAY OUTPUT MODULES

A. Contractor shall furnish and install addressable control relay output modules to permit hardwired control of existing control functions. Relay contacts shall be DPDT, rated 2 amperes at 24 VDC.

B. Each relay shall operate according to the control program resident in the FACU. Relay modules shall be installed within 3 feet of the device or circuit being controlled shall be supervised for trouble conditions (open, short, device missing/failed) at the FACU, in accordance with the requirements of NFPA 72 - 1999.

C. Addressable control relay output modules shall be installed in spaces with environmental conditions appropriate for proper operation of the modules, in accordance with the Manufacturer's installation specifications.

D. Relay output modules shall include a mounting plate for installation in a junction box or shall be mounted in a locked cabinet or approved box, as shown on the Manufacturers recommended specifications.

E. The relay output module shall provide an address-setting means and shall also store an internal identifying code which the control unit shall use to identify the type of device.

F. An LED shall be provided which shall flash under normal conditions, indicating that the Relay Output Module is operational and is in regular communication with the control unit. The LED shall be visible through the module cover plate.

G. Addressable control relay output modules shall be installed such that the LED is visible from the floor. When a device that is being controlled is located above the ceiling (e.g., damper, etc.) the control module shall be installed in the finished ceiling or suspended ceiling tile (or in the wall below the module, if approved in advance by the Architect).

H. Contractor shall furnish and install transient suppressors for inductive loads, in accordance with the Manufacturer's specifications.

I. Smoke dampers. The Contractor shall field verify the number and location of all smoke dampers. Addressable control relay modules shall be installed and programmed, as required to operate dampers.

2.14 ADDRESSABLE FAULT ISOLATION MODULES

A. Fault isolation modules shall provide short circuit isolation for signaling line circuit wiring. Fault isolation modules shall be listed by a NRTL acceptable to the Architect.

B. Fault isolation modules shall mount directly to a minimum 2 1/8-inch deep, standard 4-inch square electrical box, without the use of special adapters or trim rings.

C. Power and communications shall be supplied by the signaling line circuit.

D. Fault isolation modules shall report faults to the host FACU. After the wiring fault is repaired, the Fault isolation modules shall test the lines and automatically restore the connection.

E. Fault isolation modules shall be installed in spaces with environmental conditions appropriate for proper operation of the modules, in accordance with the Manufacturer's installation specifications.

F. The fault isolation modules shall provide an address-setting means and shall also store an internal identifying code which the control unit shall use to identify the type of device.

G. An LED shall be provided which shall flash under normal conditions, indicating that the fault isolation module is operational and is in regular communication with the control unit. The LED shall be visible through the module cover plate.

2.15 NOTIFICATION APPLIANCE CIRCUITS

A. Notification Appliance Circuit Risers

1. Notification appliance circuit risers shall not be installed in the same raceway with signaling line circuits unless approved in writing by the fire alarm system Manufacturer.

2. Notification appliance circuit risers and control equipment shall be arranged and installed so that loss of any one notification appliance circuit shall not cause the loss of any other notification appliance circuit in the systems.

2.16 GRAPHICAL MAP LED ANNUNCIATOR

A. A graphical map LED annunciator shall be installed at the U.S. Capitol Police 24-hour post outside the DSOB Service Center (adjacent to the northwest entrance to the DSOB).

B. The annunciator shall measure a minimum of 24" x 36" and shall consist of a map of Capitol Hill depicting the HSOB, the DSOB, the RSOB, the Subway Tunnel, the Senate Employees Child Care Center, the Daniel Webster Page Dormitory, and the Legislative Garage.

C. There shall be a "Pre-Signal" LED and an "Alarm LED" both red, corresponding to each of the buildings listed above in section 2.23.B.

D. The annunciator shall include an internal piezo horn and a key-lock "Acknowledge" switch, "keyed" the same as the FACU(s) (i.e., an LL805 key/lock). The piezo horn shall resound every 5 minutes, requiring a manual acknowledge by actuating the key switch.

E. Under this project, the Contractor shall be responsible for connecting the HSOB fire alarm system to the graphical map LED annunciator and testing for proper operation during all Alarm, Supervisory and Trouble signals, in accordance with the sequence of operation in this specification.

F. The annunciator shall be installed surface or semi-flush mounted.

2.17 REMOTE ALARM INDICATORS/REMOTE TEST STATIONS

A. Duct smoke detectors installed above ceilings, above HVAC ductwork in mechanical equipment rooms and in other locations where the alarm LED is not readily visible from the floor, and other locations as shown on the fire alarm system design drawings, shall be provided with remote alarm LEDs and remote test stations.

B. Remote alarm LEDs shall illuminate when the associated detector is alarmed.

C. Remote alarm LEDs and remote test stations shall be ceiling- or wall-mount in a location readily accessible for testing and readily visible from the floor level for responding personnel. Locations shall be approved by the Architect.

D. Remote alarm LEDs and remote test stations shall be clearly and permanently labeled identifying the type and system address of the associated device and device location (i.e., room number).

2.18 FIRE ALARM SYSTEM PRINTERS

A. Contractor shall furnish and install a 24 pin printhead dot-matrix type fire alarm system printer, listed and labeled as an integral part of the fire alarm system. The printer shall be listed by an NRTL acceptable to the Architect, as a system control unit accessory and shall be supervised by the FACU.

B. A fire alarm system printer shall be located in the HSOB Fire Watch Room (Room 114A), the DSOB Service Center (Room DG49).

C. The system printer shall record all alarm, supervisory, and trouble events. The printout shall include the type of signal (alarm, supervisory, or trouble) the device identification, date and time of the occurrence. The printout differentiates Alarm signals from all other printed indications.

D. The system printer shall be arranged to have the ability to provide hard copy records of system events, addressable analog sensor reports (sensitivity reports, etc.), Walktest system testing reports and History files.

2.19 MINI-COMPUTER POWER CONDITIONER

A. Contractor shall furnish and install a hardwired mini-computer power conditioner to protect each fire alarm system control unit (a total of 3) from electrical surges, spikes, sags, over-voltages, brownouts and electrical noise. The power conditioner shall be listed by an NRTL acceptable to the Architect and shall have built in overload protection.

PART 3 - EXECUTION

3.1 EXISTING SYSTEM COMPONENTS

A. **ALL** existing equipment to remain shall be functionally tested to verify proper operation. If equipment/device does not operate properly, Contractor shall make arrangements with the Architect to replace the defective device with a new device.

B. Smoke detectors mounted below exposed beam ceilings shall be replaced with new detectors mounted to the ceiling. Detectors shall not be mounted to exposed beams or suspended from raceway below the ceiling.

C. Existing elevator lobby smoke detectors shall be removed and replaced as shown on the fire alarm system design drawings. Smoke detectors shall be installed such that the distance from the center line of detector is no more than 15 feet from the opposite wall and no more than 21 feet from the centerline of the elevator door, for each elevator in the bank.

D. **ALL** existing fire alarm system circuit wires shall be functionally tested, in accordance with the requirements of Table 10.4.2.2 of NFPA 72 - 2002 and section 3.4 of this specification.

F. Contractor shall install new riser connections from the terminal cabinets in the HSOB and the DSOB "Core Area," as shown on the fire alarm system design drawing riser diagrams. Contractor shall permanently label all terminals and circuits entering the terminal cabinets.

3.2 HAZARDOUS MATERIALS

A. Asbestos: Information provided by the Architect indicates that Asbestos is present in the Subway Tunnel connecting the HSOB, the DSOB and the U.S. Capitol building and the RSOB and the U.S. Capitol building. Prior to any construction, the Contractor shall review the Jenkins Environmental, Inc., "Limited Hazardous Materials Evaluation (Asbestos and Lead Based Paint)" document, dated September 2004, to familiarize himself/herself with the locations containing asbestos.

1. Additional information on Asbestos can be obtained at the following websites: http://www.epa.gov/region4/air/asbestos/asbmatl.htm and http://www.osha.gov/SLTC/asbestos.

2. The Contractor shall comply with all applicable requirements and guidelines of the OSHA Standards associated with construction in and around areas that contain asbestos, as referenced in this specification and elsewhere.

3. Prior to any and all cutting, coring, drilling, sanding, grinding, and/or chiseling, the Contractor shall verify with the Architect that work in the targeted area will not disturb any existing Asbestos. If work in the targeted area will disturb or could potentially disturb existing asbestos, the Contractor shall take appropriate precautions, as specified in the applicable OSHA Standards, Division 13 section "ASBESTOS ABATEMENT PROCEDURES", and proceed accordingly in accordance with direction from the Architect.

B. Lead Paint: Information provided by the Jenkins Environmental, Inc., "Limited Hazardous Materials Evaluation (Asbestos and Lead Based Paint)" document, dated September 2004, that there is no known lead based paint in the building. However, prior to any construction, the Contractor shall review report and any other data provided by /available from the AOC regarding suspected lead paint.

1. Additional information on lead paint can be obtained at: http://www.osha.gov/SLTC/constructionlead.

2. The Contractor shall comply with all applicable requirements and guidelines of the OSHA Standards associated with construction in and around areas that contain lead paint, as referenced in this specification and elsewhere.

3. Prior to any and all cutting, coring, drilling, sanding, grinding, and/or chiseling, the Contractor shall verify with the Architect that work in the targeted area will not disturb any existing lead paint. If work in the targeted area will disturb or could potentially disturb existing lead paint, the Contractor shall take appropriate precautions, as specified in the applicable OSHA Standards, specification Division 13 section "LEAD ABATEMENT", and proceed accordingly in accordance with direction from the Architect.

C. Unforeseen Hazardous Materials: If additional material, not indicated in the existing inspection reports, that may be hazardous to human health upon disturbance during construction operations is encountered, the Contractor shall stop that portion of work and shall notify the Architect immediately.

3.3 INSTALLATION

A. Installation, workmanship, fabrication, assembly, erection, examination, inspection and testing shall be in accordance with NFPA 70 - 1999 and NFPA 72 - 1999, except as modified herein.

B. The Contractor shall provide and install all required equipment, labels and accessories necessary for the proper operation of the system.

C. All work shall be performed in accordance with the best and the most modern practices of the trade. The entire system shall be installed in a neat and workmanlike manner, in accordance with the standard instructions and recommendations of the manufacturer and in accordance with the approved Manufacturer's wiring diagrams unless otherwise specifically permitted by the Architect.

D. The system shall be installed under the supervision of a qualified, trained, and certified Manufacturer's representative. The Manufacturer's representative shall meet the qualifications and provide the services of a Specialist, as described in this specification. The Specialist is expected to be on site with the Contractor during the installation and testing of wiring and during the entire time of final connections and testing of the fire alarm system. The system shall be demonstrated to perform all of the functions as specified.

E. The supervisory work of the qualified Manufacturer's Specialist shall include, but not

necessarily be limited to, checking all the system wiring connections; advising the Contractor regarding technical details of the installation; and the adjustment and testing of all components of the system in order to ensure a complete and satisfactorily operable system. The Specialist shall be on site, as required by the Architect, during the entire installation and connection of the new control equipment. The Specialist shall monitor all wiring changes and assist the Contractor to ensure a smooth transition to the new control equipment. The cost of the Specialist shall be paid by the Contractor and shall be included in the bid price. The minimum amount of man-hours to be carried is 40 hours. The Contractor shall identify the amount of man-hours that shall be provided and the per-hour cost (including the cost for possible overtime [premium] hours) for the Specialist's time.

F. At no time during the installation of the replacement fire alarm system in the HSOB and the DSOB "Core Area" shall the existing fire alarm system equipment, components, or wiring be take out-of-service for any reason. The existing fire alarm system equipment shall remain operational and in-tact throughout the installation, testing and acceptance of the replacement fire alarm system.

G. The Contractor shall coordinate all work in and through the areas designated as Sensitive Compartmented Information Facility (SCIF) areas (e.g., second floor in the HSOB, "wings" A and D), with the AOC SOB Superintendent's Office.

1. Penetrations into H115, H116 (on the first floor of the HSOB, as shown on drawing F104), and H211 through H214 (on the second floor of the HSOB, as shown on drawing F106) shall be made with nonmetallic raceway.

2. The Contractor shall coordinate with the AOC SOB Superintendent's Office during the shop drawing submittal phase and during the installation of equipment, raceway, and wire and cable through these boundaries.

H. The Contractor shall coordinate all work and testing of associated equipment and circuits in this specification with all related AOC Shops (e.g., Fire Electronics, Mechanical, Plumbing and Elevator), trades, contractors and equipment maintenance and testing representatives in accordance with applicable codes and standards. Where applicable, work and/or equipment provided in other sections and related to the fire alarm system shall include, but not be limited to:

1. Sprinkler waterflow and valve supervisory switches. The Contractor shall coordinate with the Mechanical and Plumbing Shops for the testing of interconnection circuits to all sprinkler system switches that are monitored by the fire alarm system.

2. Elevator recall and elevator power shunt trip. The Contractor shall coordinate with the Elevator Shop for the connection of the fire alarm system to the elevator control circuits and the testing of such circuits. The Contractor shall verify correct operation of these interconnections during an alarm condition, as specified in this specification.

3. HVAC Fan control circuits and smoke dampers. The Contractor shall coordinate with the Mechanical Shop for the connection of the fire alarm system to the HVAC

fan control and smoke damper circuits and the testing of such circuits. The Contractor shall ensure correct operation of these interconnections during an alarm condition.

4. Suppression systems. The Contractor shall coordinate with the Mechanical and Plumbing Shops for the connection of the fire alarm system to the fire suppression systems and the testing of such interconnection circuits. The fire suppression systems shall be interconnected to the fire alarm system in accordance with requirements of NFPA 72 - 1999. The fire suppression systems shall be monitored in accordance with the requirements of this specification.

5. Magnetic door hold-open circuits. Magnetic door hold-open circuits shall be provided such that upon alarm from any fire alarm system initiating device or loss of power all magnetic door hold-open devices (as shown on the drawings) shall release, allowing the held open door to automatically close. The Contractor shall coordinate with the Fire Electronics Shop to field verify the number and location of all magnetic door hold-open device circuits and the connection and testing of such circuits. The Contractor shall furnish and install the appropriate number of addressable control relay output modules programmed to remove power from the door hold-open devices, causing held open doors to close. Final locations shall be approved in advance by the Architect. The Contractor shall wire the connections to these circuits and ensure correct operation of these interconnections during an alarm condition.

6. Electronically released door locks. Connections from the new fire alarm system to the existing Locknetics power supplies shall be wired such that the operation of any fire alarm initiating device shall cause all electronic door lock release relays to activate to allow secured doors to unlock. The Contractor shall be responsible for wiring up to and including connection to these circuits. The Contractor shall ensure correct operation of these interconnections during an alarm condition. Locknetics power supplies exist in the following locations, however, the Contractor shall coordinate with the Fire Electronics Shop to field verify the number and location of all electronically released door lock circuits and the connection and testing of such circuits.

   a. Telephone Room HG13 (3 Locknetics panels).

   b. The stairway adjacent to the Hart Garage exterior vehicle access (1 Locknetics panel).

   c. Telephone Closet 1A-T (2 Locknetics panels).

   d. Telephone Closet 1D-T (2 Locknetics panels).

   e. Closet H132B in SH132 (2 Locknetics panels).

   f. Telephone Closet 1F-T (3 Locknetics panels).

   g. Telephone Closet 1C-T (2 Locknetics panels).

h. Closet H113B in SH113 (2 Locknetics panels).

I. Addressable duct smoke detectors (or conventional type duct smoke detectors monitored and supervised by addressable monitor modules) with remote alarm indicators, remote test stations and addressable control relay output modules (programmed to shut down the affected units) shall be installed in accordance with the IMC – 1998, NFPA 72 – 1999, and NFPA 90A – 1999, at HVAC air-handling unit supply fans and return fans, as shown on the fire alarm system design drawings and as designated by the mechanical schedule shown in the design drawing details.

1. Contractor shall field verify the location of fan control units.

2. Contractor shall field locate the air-handling unit supply fans and return fans in the "Core Area" and install duct smoke detectors with addressable control relay output modules (programmed to shut down the affected units) accordingly.

3. Final locations shall be approved in advance by the Architect.

J. Contractor shall install new red lockable fire alarm system terminal cabinets (designated as FATC - "number" "letter") in the Electrical Closets, as shown on the fire alarm system design drawing riser diagrams and details. The Contractor shall connect the new fire alarm system circuits and the new fire alarm system circuit risers from the FACU(s) to the new FATCs, as shown on the fire alarm system design drawing riser diagrams. Contractor shall permanently label all terminals and circuits entering the terminal cabinets.

1. The terminal cabinets shall be similar in size and contain the required number of terminals to accommodate the incoming fire alarm system riser circuits and outgoing fire alarm system circuits installed on each floor for signaling line circuits, audible speaker circuits, visible notification appliance circuits, firefighter telephone circuits, 24 VDC power for fire alarm system equipment requiring external power, control circuits, etc.

2. Terminal cabinets shall have a minimum of 4 permanently installed terminals per circuit entering and leaving each box.

K. All corridors contain spline ceilings (1' x 1' spline ceiling) . A special tool is required to remove the ceiling tiles. The Contractor shall coordinate with the AOC Shops when installing the fire alarm system equipment in corridors with spline ceilings. The Contractor shall be responsible for replacement of any and all damaged ceiling tiles as a result of the fire alarm system replacement.

L. All offices that contain 5-foot by 5-foot ceiling grids with 20-inch (and other sizes) tiles. A special tool is required to remove the ceiling tiles. The Contractor shall coordinate with the AOC Shops when installing fire alarm system equipment in offices with 5-foot by 5-foot ceiling grids. The Contractor shall be responsible for replacement of any and all damaged ceiling tiles as a result of the fire alarm system replacement.

M. Fault isolator modules shall be furnished as required and shall be mounted as directed by the Manufacturer. The field location of the fault circuit isolators shall be labeled so that the

devices may be easily located, and that location shall be noted on the point-to-point and as-built drawings.

3.4 PHASING OF INSTALLATION/DEMOLITION

A. The Contractor shall install all new network wiring, riser wiring, and raceway, the new HSOB fire alarm control units and the computer-based graphic command center, thus establishing the head-end and communication paths of the fire alarm system backbone first.

1. The Contractor shall determine the size of the new fire alarm control unit(s) to be installed and gauge the installation based on the allowable amount of wall space available in the areas shown on the fire alarm system design drawings.

2. The FACU to be installed in the HSOB Fire Watch Room shall be wall-mounted adjacent to the existing Autocall 1500 E FACU in a proposed location acceptable to the AOC SOB Superintendent's Office.

3. The Contractor shall be permitted to temporarily mount the main fire alarm control panel equipment based upon the allowable amount of wall space available in the areas. Prior to this work, the Contractor shall be required to submit a detailed phasing plan and the plan must be approved in advance by the Fire Marshal's Division. A pre-scheduled changeover period shall be permitted for a maximum 72-hour duration.

4. The Contractor shall connect the existing fire alarm system control unit and the new fire alarm system control unit together via addressable modules for cross-actuation during receipt of signals.

B. The Contractor shall be required to resistor out zones that are not yet connected, shall provide all new addressable devices in a "box" at each new terminal cabinet, and is required to begin with a panel indication of NORMAL on the new system panel prior to switchover.

1. Speaker circuits, initiating device circuits, signaling line circuits, and new addressable devices shall be permitted to be switched over and tested on a "core per floor" basis.

2. The two parallel systems (existing and new) shall operate as the fire alarm for the system during the installation and acceptance testing phase.

C. The Contractor shall install all new smoke detectors (and duct smoke detectors) on existing circuits on a core-by-floor basis.

1. Connection risers shall be installed up through the electrical closets in each of the "wings" of the HSOB and in the DSOB "Core Area", as shown on the fire alarm system design drawings.

2. The Contractor shall impair the existing fire alarm system by removing the existing smoke detectors and shall resistor out the zones on the existing system.

3. Wiring shall be megger tested, as described herein this specification.

4. The new addressable smoke detectors shall be installed and connected to the existing circuits.

5. The existing circuits shall be interfaced to the new signaling line circuit risers in the electrical closets.

6. During the normal work hours of the phased installation of the smoke detectors the interconnection between the existing fire alarm system and the new fire alarm system shall be removed, thus avoiding transmission and reporting of multiple trouble signals.

D. The Contractor shall take the following into consideration during the core-by-floor phased installation, testing, and demolition of fire alarm system equipment:

1. Megger Testing. Based on the requirements of the AOC Fire Marshal's Division, the Contractor shall megger test all new installed circuits and any existing circuits that are to be re-used that will have all existing devices removed as part of this project (i.e., smoke detector initiating device circuits where the 2-wire detectors are to be removed and addressable detectors are to be installed in their place).

2. Use of Existing Equipment. The AOC Fire Marshal's Division will permit the Contractor to re-use existing devices in the current locations as part of the Phase 1 installation. However, existing equipment shall not be permitted to be removed and re-used in other locations.

3. Acceptance Testing. The Contractor shall proceed with acceptance testing on a core-per-floor basis.

E. During the fire alarm system demolition and installation, work spaces will be fully furnished and will remain so during all phases of the project. The Contractor shall make the appropriate provisions for moving/protecting furnishings in the way of the proposed work. The Contractor shall coordinate this effort with the AOC SOB superintendent's office and the office staff where work is to be performed, in accordance with Division 1 Section "GENERAL REQUIREMENTS" Article 1.3.E.

1. The Contractor shall perform a re-acceptance test of the fire alarm system in accordance with the requirements of NFPA 72 - 2002, Chapter 10, in accordance with the AOC Fire Marshal's Division requirements, and as described herein.

2. Once the new fire alarm system installation has been completed, tested and accepted by the Architect, the Contractor shall remove all the existing fire control equipment from the Fire Watch Room.

3.5 PHASED DEMONSTRATION TESTS

A. Upon completion of the installation of the core-by-floor fire alarm system equipment, the Contractor shall provide a minimum of one (1) week's notice to the Architect that the fire

alarm system has been satisfactorily tested (preliminary test) by the Contractor and the Manufacturer's Specialist and is ready for the Demonstration Test (i.e., pre-acceptance test). The fire alarm system shall be tested in accordance with Chapter 10, "Inspection, Testing and Maintenance" of NFPA 72 - 2002, *National Fire Alarm Code*.

1. Control equipment shall be tested to verify receipt of alarm, supervisory, and trouble signals, operation of evacuation signals and auxiliary functions, circuit supervision including detection of open circuits and ground faults, and power supply supervision for detection of loss of AC power and disconnection of standby batteries, as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 1, and the manufacturer's testing instructions.

2. Spot-type smoke detectors shall be tested as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 13, and the manufacturer's testing instructions. An approved method for ensuring smoke entry in to the sensing chamber of the smoke detectors shall be used. If aerosol smoke is used, the spray must be UL listed for use with the type of detector installed. The Contractor must furnish this proof to the AOC Fire Marshal's Division, prior to the spray being used.

3. Restorable-type heat detectors shall be functionally tested with a portable heat source, as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 13, and the manufacturer's testing instructions.

4. Manual fire alarm boxes shall be functionally tested by actuating the manual station and resetting the station with the "key-operated" reset feature, as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 13, and the manufacturer's testing instructions.

5. All other fire alarm system initiating devices, notification appliances, control functions, and system interfaces shall be tested, as specified and required by NFPA 72 - 2002, Table 10.4.2.2, and the manufacturer's testing instructions.

6. The Contractor shall operate every building fire alarm device to ensure proper operation, correct annunciation at each remote annunciator (as shown on the drawings) and at the control unit and proper operation of all alarms and auxiliary functions. Where applying heat would destroy any detector, they may be manually operated.

7. The tests shall demonstrate that the entire control system functions as intended. All circuits and devices shall be tested, including initiating devices, equipment shutdown, notification appliances, and auxiliary functions (including elevator recall, elevator power shunt trip, and AHU shutdown). In addition, supervision of each circuit shall be tested.

8. The supervision of all fire alarm circuits shall be tested by introducing a single fault on the circuits that are monitored for integrity, as required by NFPA 72 - 2002. One connection shall be opened at not less than 10 percent of the initiating devices, notification appliances, and controlled devices on every initiating device circuit, notification appliance circuit, and signaling line circuit.

9. Fire alarm system standby batteries shall be tested as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 6, and the manufacturer's testing instructions.

10. One-half of all tests shall be performed on battery standby power.

B. This test shall be coordinated and performed by the Contractor's job foreman, in the presence of the Manufacturer's Specialist, the Senate Office Buildings Fire Protection Engineer, and the AOC Fire Protection Engineering office.

C. At the time of notification, the Contractor shall submit one copy of the approved as-built drawings and the approved Test Plan. The tests shall demonstrate that the operating and installation requirements of this specification have been met.

D. At the Demonstration Test, the Manufacturer's Specialist shall deliver to the Architect an Inspection and Test Report, which shall be completed in conjunction with the Demonstration Test and shall indicate the following:

1. Building information, including name, address, and city.

2. The Contractor's name, address, city and telephone number.

3. The control unit configuration, serial number, access passwords, extent of battery backup, locations of remote annunciators, a description of remote functions, and type of fire department connection.

4. The total quantity of notification appliances, initiating devices, addressable modules, etc.

5. The quantity of notification appliances, fire alarm boxes, and each type of detector in each area. In addition, the connection position of each device shall be indicated, and, further, indicate the test result of each device and any subsequent action taken.

6. Pertinent comments regarding the installation, operation, testing, inspecting, or other aspects of the system.

7. The Manufacturer's Specialist shall print his/her name and affiliation and sign and date the document.

E. During the Demonstration Test, the Contractor shall take the following into consideration:

1. If a TROUBLE signal is displayed at fire alarm system control unit(s) during testing, complete re-testing of the system shall not be required.

2. If system-wide failures or TROUBLE signals are displayed, the Contractor shall be required to investigate, correct the issue, and re-test the core-by-floor equipment.

F. Seven Day "Burn-in". Upon satisfactory completion of the Demonstration Test, the Contractor shall leave the system operating for a minimum of 7 days prior to the Acceptance Test with the AOC Fire Marshal's Division.

1. Failure of ANY acceptance test requires a complete retest of the "core-by-floor equipment.

G. If unsatisfactory results occur during or after the Demonstration Test, the Contractor shall be responsible for any and all additional charges incurred by the Architect with respect to corrective action including but not limited to test monitoring and engineering services during the time it takes to obtain Final Acceptance by the Architect. Final Acceptance by the Architect means that the fire alarm system is completely operational and in conformance with this specification and applicable codes and standards, all documentation has been submitted as required by th ese specifications, and all training as required by these specifications has been completed to the satisfaction of the Architect.

H. When the testing has been completed to the satisfaction of the Contractor's job foremen, the Manufacturer's Specialist, a notarized letter co-signed by each, attesting to the satisfactory completions of said testing, shall be forwarded to the Architect.

3.6 PHASED ACCEPTANCE TEST

A. Before the installation of the core-by-floor equipment shall be considered completed and acceptable by the awarding authority, the Final Acceptance Test shall be performed. This test shall be coordinated and performed by the Contractor's job foreman, in the presence of the Manufacturer's Specialist, the Senate Office Buildings Fire Protection Engineer, the AOC Fire Protection Engineering office, and the AOC Fire Marshal's Division. In order to assure attendance of the necessary representatives, prior to the final test, each representative scheduled to witness the test, shall be provided reasonable notification of the test date by the Contractor (at least 1 week). The test shall not be conducted until all parties agree on the scheduled test date.

1. The Contractors shall provide accurate and up-to-date As-Built Drawings to the AOC Fire Marshal's Division prior to the Acceptance Testing of the core-by-floor installed equipment.

B. The fire alarm system shall be tested in accordance with Chapter 10, "Inspection, Testing and Maintenance" of NFPA 72 - 2002, *National Fire Alarm Code*.

1. Control equipment shall be tested to verify receipt of alarm, supervisory, and trouble signals, operation of evacuation signals and auxiliary functions, circuit supervision including detection of open circuits and ground faults, and power supply supervision for detection of loss of AC power and disconnection of standby batteries, as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 1, and the manufacturer's testing instructions.

2. Spot-type smoke detectors shall be tested as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 13, and the manufacturer's testing instructions. Test spray (aerosol smoke) or some other approved method for ensuring smoke entry in to the sensing chamber of the smoke detectors shall be used. If aerosol smoke is used, the spray must be UL listed for use with the type of detector installed. The Contractor

must furnish this proof to the AOC Fire Marshal's Division, prior to the spray being used.

3. Restorable-type heat detectors shall be functionally tested with a portable heat source, as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 13, and the manufacturer's testing instructions.

4. Manual fire alarm boxes shall be functionally tested by actuating the manual station and resetting the station with the "key-operated" reset feature, as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 13, and the manufacturer's testing instructions.

5. All other fire alarm system initiating devices, notification appliances, control functions, and system interfaces shall be tested, as specified and required by NFPA 72 - 2002, Table 10.4.2.2, and the manufacturer's testing instructions.

6. The Contractor shall operate every building fire alarm device to ensure proper operation, correct annunciation at each remote annunciator (as shown on the drawings) and at the control unit and proper operation of all alarms and auxiliary functions. Where applying heat would destroy any detector, they may be manually operated.

7. The tests shall demonstrate that the entire control system functions as intended. All circuits and devices shall be tested, including initiating devices, equipment shutdown, notification appliances, and auxiliary functions (including elevator recall, elevator power shunt trip, and AHU shutdown). In addition, supervision of each circuit shall be tested.

8. The supervision of all fire alarm circuits shall be tested by introducing a single fault on the circuits that are monitored for integrity, as required by NFPA 72 - 2002. One connection shall be opened at not less than 10 percent of the initiating devices, notification appliances, and controlled devices on every initiating device circuit, notification appliance circuit, and signaling line circuit.

9. Fire alarm system standby batteries shall be tested as required by NFPA 72 - 2002, Table 10.4.2.2, paragraph 6, and the manufacturer's testing instructions.

10. One-half of all tests shall be performed on battery standby power.

C. The Contractor shall provide all the necessary personnel and equipment to conduct the tests.

D. The Contractor shall not schedule the Acceptance Test until satisfactory completion of the Demonstration Test and the Seven Day "Burn-in". During the Acceptance Test, the Contractor shall take the following into consideration:

1. Failure of ANY acceptance test requires a complete retest of the "core-by-floor equipment.

2. The Contractor shall document all known TROUBLE signals that are present in the system (i.e., due to work on other cores, and other floors) prior to the Acceptance Test.

3. Any TROUBLE signal that is displayed at fire alarm system control unit(s) after Acceptance Testing has begun (other than those that are known) constitutes a failure of the test and the Contractor shall be required to investigate, correct the issue, and schedule a re-test of the core-by-floor system equipment.

E. If the Final Acceptance Test fails, the Contractor shall prepay all costs incurred to the Architect for any and all re-acceptance testing. These costs shall be above and beyond any costs incurred by the AOC Fire Marshal's Division for re-acceptance testing.

1. If the Final Acceptance Test fails, all previous testing shall be re-done as required by the AOC Fire Marshal's Division. Prior to scheduling any re-testing, the Contractor shall document what actions were taken to correct the cause for the test failure.

2. Once the system is in the Acceptance Test phase of the project, no work on the core-by-floor system equipment shall be permitted to occur without the prior approval of the AOC Fire Marshal's Division.

E. Upon satisfactory completion of the tests, the Contractor shall leave the fire alarm system in proper working order and without additional expense to the Architect, shall replace any defective materials or equipment provided by the Contractor under this Contract within 1 year from the date of final acceptance by the awarding authority.

3.7 TRAINING REQUIREMENTS

A. The Manufacturer's Specialist shall also be required to instruct designated building and management personnel in the general operation of the system and to give the designated personnel an overview of the system functions when the system is in normal and when the system is processing Alarm signals, Supervisory signals, and Trouble signals, as specified in this specification.

B. U.S. Capitol Police Personnel: Prior to final acceptance of the fire alarm system, the Contractor and Supplier/Manufacturer shall provide operation training to each shift of the Architect's designated personnel. Each training session shall be a minimum of 1 hour and shall be conducted on shift or at a time acceptable to the Architect. Each session shall include an overview of the system and the devices connected to it, emergency procedures (including alarm, trouble and supervisory condition procedures), control unit operation, and safety requirements. Each session shall include a complete demonstration of the system. Dates and times of each training period shall be coordinated through the Architect, not less than 2 weeks prior to the training session.

C. Fire Electronics Shop Technicians: The Contractor shall arrange for manufacturer training representatives to provide the necessary factory training for operation and troubleshooting of the installed equipment to the Architect's designated FE person. This training shall include providing the Fire Electronics personnel with all access codes and written

certification that he is authorized to operate and troubleshoot the equipment supplied by the Manufacturer.

D. AOC Fire Protection Engineering Office: The Contractor shall arrange for manufacturer training representatives to provide the necessary factory training for operation, programming and troubleshooting of the installed equipment to the AOC FPE Office personnel. This training shall include providing the AOC FPE Office personnel with the fire alarm system program, the programming software and any and all access "keys", all access codes and written certification that the AOC FPE Office is authorized to operate, program and troubleshoot the equipment supplied by the Manufacturer.

E. Senate Office Buildings Fire Protection Engineer: The Contractor shall arrange for manufacturer training representatives to provide the necessary factory training for operation, programming and troubleshooting of the installed equipment to the Senate Office Buildings Fire Protection Engineering personnel. This training shall include providing the personnel with the fire alarm system program, the programming software and any and all access "keys", all access codes and written certification that the SOB FPE Office is authorized to operate, program and troubleshoot the equipment supplied by the Manufacturer.

F. The Contractor and Supplier/Manufacturer shall reserve training slots for the next 2 years for a minimum of 5 U.S. Capitol Police Personnel, a minimum of 4 Fire Electronics Shop Technicians, and a minimum of 2 AOC FPE Office personnel.

3.8 CLEANING AND ADJUSTING

A. Remove paint splatters and other spots, dirt, and debris. Touch up scratches and marred finish to match original finish. Clean unit(s) internally using methods and materials recommended by the Manufacturer.

3.9 DEMOLITION OF EXISTING SYSTEM COMPONENTS

A. The Contractor shall coordinate demolition of the existing fire alarm system equipment with the requirements of Division 1 Section "SELECTIVE DEMOLITION" when installation of new fire alarm system equipment has been completed and accepted by the Architect.

B. All fire alarm system control unit equipment shall be demolished, including the console mounted equipment, graphic annunciators, and NA-2 racks installed in the Fire Watch Room, and all duct smoke detector lamp annunciators installed in the electrical closets on every floor in each "wing" of the building.

END OF SECTION 13851

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Sections "GENERAL REQUIREMENTS", apply to this Section.

B. Related Sections include the following:

1. Division 1 Section "GENERAL REQUIREMENTS"
2. Division 1 Sections "SAFETY AND HEALTH"
3. Division 1 Sections "CUTTING, DRILLING, CORING, AND PATCHING"
4. Division 1 Sections "SELECTIVE DEMOLITION"
5. Division 7 Sections "FIRESTOPPING"
6. Division 13 Sections "LEAD ABATEMENT"
7. Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES"
8. Division 13 Sections "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM"

1.2 SCOPE OF WORK

A. The Contractor shall furnish all new metal (and nonmetallic, as required herein) raceway, wiring, outlet boxes, junction boxes, cabinets, labels and similar devices necessary for the complete installation of the fire alarm system. All wiring shall be of the type as specified herein and recommended by the Manufacturer and shall be installed in raceway throughout.

B. All fire alarm system wiring shall be installed in metal raceway (except where required by the AOC SOB Superintendent's Office). The entire wiring and raceway system for the fire alarm system shall be in full accordance with NFPA 70 - 1999, *National Electrical Code*.

1.3 DEFINITIONS

A. ATS: Acceptance Testing Specifications.

B. EPDM: Ethylene-propylene-diene terpolymer rubber.

C. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

A. Product Data: Catalog sheets, specifications and installation instructions.

1. For fire rated construction, prove that materials and installation methods proposed for use are in accordance with the listing requirements of the classified construction.

1.5 QUALITY ASSURANCE

A. Test Equipment Suitability and Calibration: Comply with InterNational Electrical Testing

Association (NETA) Acceptance Testing Specifications (ATS), "Suitability of Test Equipment" and "Test Instrument Calibration."

1.6 COORDINATION

A. Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.

2. To provide for ease of disconnecting the equipment with minimum interference to other installations.

3. To allow right of way for piping and conduit installed at required slope.

4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed.

D. Coordinate electrical testing of electrical, mechanical, and architectural items, so equipment and systems that are functionally interdependent are tested to demonstrate successful interoperability.

PART 2 - PRODUCTS

2.1 RACEWAYS, FITTINGS AND ACCESSORIES

A. Rigid Ferrous Metal Conduit: Steel, hot dipped galvanized on the outside and inside, categorized as Rigid Ferrous Metal Conduit (identified on Listing Mark as Rigid Metal Conduit - Steel or Rigid Steel Conduit), by an NRTL acceptable to the Architect.

B. Intermediate Ferrous Metal Conduit: Steel, galvanized on the outside and enameled on the inside, categorized as Intermediate Ferrous Metal Conduit (identified on Listing Mark as Intermediate Metal Conduit or IMC), by an NRTL acceptable to the Architect.

C. Electrical Metallic Tubing: Steel, galvanized on the outside and enameled on the inside, categorized as Electrical Metallic Tubing (identified on Listing Mark as Electrical Metallic Tubing), by an NRTL acceptable to the Architect.

D. Flexible Metal Conduit: Galvanized steel strip shaped into interlocking convolutions, categorized as Flexible Metal Conduit (identified on Listing Mark as Flexible Steel Conduit or Flexible Steel Conduit Type RW), by an NRTL acceptable to the Architect.

E. Liquid-tight Flexible Metal Conduit: Categorized as liquid-tight flexible metal conduit (identified on Listing Mark as Liquid-Tight Flexible Metal Conduit, also specifically marked with temperature and environment application data), by an NRTL acceptable to the Architect.

F. Surface Metal Raceway, Fittings and Accessories: Follow manufacturer's recommended

raceway capacity and the requirements of NFPA 70, *National Electrical Code* for all types and sizes of conductors.

G. Wireways, Fittings and Accessories: NEMA 1 (Without Knockouts).

H. Connectors and Couplings:

1. Locknuts: UL, steel/zinc electroplate.

2. Couplings (For Rigid Metal and IMC Conduit): Standard galvanized threaded couplings as furnished by conduit manufacturer.

3. Three Piece Conduit Coupling (For Rigid Metal and IMC Conduit): Steel, malleable iron, zinc electroplate.

4. Electrical Metallic Tubing Couplings and Insulated Connectors: Compression type, steel/zinc electroplate.

5. Flexible Metal Conduit Connectors: Nylon Insulated.

6. Liquid-tight Flexible Metal Conduit Connectors:

a. Dry, Damp Locations: Steel, malleable iron, zinc electroplate, insulated throat.

b. Wet Locations: hot-dip/mechanically galvanized or PVC coated.

I. Conduit Bodies (Threaded):

1. Dry, Damp Locations: Zinc electroplate malleable iron or cast iron alloy bodies with zinc electroplate steel covers.

2. Wet Locations: Malleable iron or cast iron alloy bodies and covers with hot dipped galvanized or other specified corrosion resistant finish. Stainless steel cover screws, covers gasketed to suit application.

J. Expansion Fittings:

1. Dry, Damp Locations: Malleable iron, zinc electroplate finish with external bonding jumper; or Electrogalvanized Steel with internal grounding.

2. Wet Locations: Corro-free epoxy powder coated or end type, hot dipped galvanized.

K. Deflection Fittings:

1. Dry, Damp Locations: Listed for such use.

2. Wet Locations: Ductile iron couplings with hot dipped galvanized finish, neoprene sleeve, and stainless steel bands; or bronze couplings, neoprene sleeve, and stainless steel bands.

L. Sealing Fittings:

1. Dry, Damp Locations: sealing compound and fiber filler as required to suit installation requirements and listed for such use.

2. Wet Locations: Malleable iron body with hot dipped/mechanically galvanized finish, neoprene sleeve, and stainless steel bands; or bronze couplings, neoprene sleeve, and

stainless steel bands.

a. Horizontal, Vertical (with Drain), and Other Type Fittings:sealing compound and damming filler as required to suit installation requirements and listed for such use.

M. Sealant for Raceways Exposed to Different Temperatures: Sealing compounds and accessories to suit installation and listed for such use.

O. Vertical Conductor Supports:

1. Dry, Damp Locations: Listed for such use.

2. Wet Locations: stainless steel, tin coated bronze, or hot dipped galvanized finish.

2.2 OUTLET, JUNCTION, AND PULL BOXES

A. Galvanized Steel Outlet Boxes: Standard galvanized steel boxes and device covers.

B. Galvanized Steel Junction and Pull Boxes: Code gage, galvanized steel screw cover boxes.

C. Threaded Type Boxes:

1. Outlet Boxes:

a. For Dry, Damp Locations: Zinc electroplate malleable iron or cast iron alloy boxes with zinc electroplate steel covers to suit application.

b. For Wet Locations: Malleable iron or cast iron alloy boxes with hot dipped galvanized or other specified corrosion resistant finish with stainless steel cover screws, and malleable iron covers gasketed to suit application.

2. Junction And Pull Boxes:

a. For Dry, Damp Locations: Zinc electroplate cast iron boxes with zinc electroplate steel or cast iron cover.

b. For Wet Locations: Cast iron boxes with stainless steel cover screws and cast iron cover gasketed to suit application.

3. Conduit Bodies, Threaded (Provided with a Volume Marking):

a. For Dry, Damp Location: Zinc electroplate malleable iron or cast iron alloy bodies with zinc electroplate steel covers.

b. For Wet Locations: Malleable iron or cast iron alloy bodies with hot dipped galvanized or other specified corrosion resistant finishwith stainless steel cover screws and malleable iron covers gasketed to suit application.

D. Specific Purpose Outlet Boxes: As fabricated by equipment manufacturers for mounting their equipment thereon.

E. Outlet Boxes and Related Products for Fire Rated Construction:

1. Listed Metallic Outlet or Switch Boxes.

2. Wall Opening Protective Materials: As listed for Wall Opening Protective Materials.

2.3 CONDUCTORS AND ACCESSORIES

A. Date of Manufacture: No insulated conductor more than one year old when delivered to the site will be acceptable.

B. Conductors: All fire alarm system wiring shall be solid or stranded copper and shall comply with the appropriate sections of NFPA 70 - 1999. Annealed uncoated copper or annealed coated copper in conformance with the applicable standards for the type of insulation to be applied on the conductor.

C. Types:

1. Power Wiring:

a. General: Rated 600V, NFPA 70 Type FEP, THHN, THW, THW-2, THWN, THWN-2, XHH, XHHW, XHHW-2.

2. Class 1 Wiring:

a. No. 18 and No. 16 AWG: Insulated copper conductors suitable for 600 volts, NFPA 70 types KF-2, KFF-2, PAFF, PF, PFF, PGF, PGFF, PTFF, SF-2, SFF-2, TF, TFF, TFN, TFFN, ZF, or ZFF.

b. Larger than No. 16 AWG: Insulated copper conductors suitable for 600 volts, in compliance with NFPA 70 Article 310.

c. Conductor with other types and thickness of insulation may be used if listed for Class 1 circuit use.

3. Class 2 Wiring:

a. Multiconductor Cables: NFPA 70 Article 725, Types CL2P, CL2R, CL2.

b. Other types of cables may be used in accordance with NFPA 70 Table 725-61 "Cable Uses and Permitted Substitutions", as approved.

4. Class 3 Wiring:

a. Single Conductors No. 18 and No. 16 AWG: Same as Class 1 No. 18 and No. 16 AWG conductors, except that:

1) Conductors are also listed as CL3.

2) Voltage rating not marked on cable except where cable has multiple listings and voltage marking is required for one or more of the listings.

b. Multiconductor Cables: NFPA 70 Article 725, Types CL3P, CL3R, CL3.

c. Other types of cables may be used in accordance with NFPA 70, Table 725-61 "Cable Uses and Permitted Substitutions", as approved.

5. Fire Alarm System Wiring:

a. All signaling line circuits, including all addressable initiating device circuits shall be 16 AWG minimum twisted shielded pair as per manufacturer's requirements. Insulation shall be type FPLP, FPLR, or FPL as permitted in NFPA 70.

b. All 24 VDC auxiliary function circuits shall be 14AWG minimum or per manufacturers requirements.

c. All speaker notification appliance circuits shall be 16AWG minimum twisted shielded pair per manufacturer's requirements.

d. All visible notification appliance circuits shall be 14AWG minimum per manufacturer's requirements.

E. Connectors:

1. General: Connectors specified are part of a system. Furnish connectors and components, and use specific tools and methods as recommended by connector manufacturer to form complete connector system.

2. Splices: All conductor splices shall be made on screw-type terminal blocks – wire nuts, butt, crimp or screw type connectors shall not be used.

2. Gutter Taps: as appropriate and permitted in accordance with NFPA 70.

3. Terminals: Nylon insulated pressure terminal connectors.

4. Lugs:

a. Single Cable (Compression Type Lugs): Copper, one or 2 hole style (to suit conditions), long barrel and color-coded.

b. Single Cable (Mechanical Type Lugs): Copper, one or 2 hole style (to suit conditions) and color-keyed.

c. Multiple Cable (Mechanical Type Lugs): Copper, configuration to suit conditions and color-keyed.

F. Tapes:

1. Insulation Tapes:

a. Plastic Tape and Rubber Tape, Moisture Sealing Tape, Electrical Filler Tape, and Color Coding Tape: as appropriate and permitted in accordance with NFPA 70.

5. Arc Proofing Tapes:

a. Arc Proofing Tape, Glass Cloth Tape, and Glass-Fiber Cord: as appropriate and permitted in accordance with NFPA 70.

G. Wire-Pulling Compounds: To suit type of insulation as appropriate and permitted in accordance with NFPA 70.

H. Wire Management Products: Cable clamps and clips, cable ties, spiral wraps, etc., as appropriate and permitted in accordance with NFPA 70.

2.4 SUPPORTING DEVICES

A. Fasteners: Furnish all fasteners and hardware compatible with the materials and methods required for attachment of supporting devices.

1. Slotted Type Concrete Inserts: Galvanized pressed steel plate complying with ASTM A 283; box-type welded construction with slot designed to receive steel nut and with knockout cover, hot-dipped galvanized in compliance with ASTM A 123.

2. Masonry Anchorage Devices: Expansion shields complying with FS FF-S-325, as follows:

a. Furnish lead expansion shields for machine screws and bolts 1/4 inch and smaller; head-out embedded nut type, single unit class, Group I, Type l, Class 1.

b. Furnish lead expansion shields for machine screws and bolts larger than 1/4 inch in size; head-out embedded nut type, multiple unit class, Group I, Type 1, Class 2.

c. Furnish bolt anchor expansion shields for lag bolts, zinc alloy, long-shield anchors class, Group II, Type 1, Class 1.

d. Furnish bolt anchor expansion shields for bolts, closed-end bottom bearing class, Group II, Type 2, Class 1.

3. Toggle Bolts: Tumble-wing type, complying with FS FF-B-588C, Type, class and style as required.

4. Nuts, Bolts, Screws, Washers:

a. General: Furnish zinc-coated fasteners, with galvanizing complying with ASTM A 153 for exterior use or where built into exterior walls. Furnish fasteners for the type, grade and class required for the particular installation.

b. Standard Nuts and Bolts: Regular hexagon head type, complying with ASTM A 307, Grade A.

c. Lag Bolts: Square head type, complying with FS FF-B-561C.

d. Machine Screws: Cadmium plated steel, complying with FS FF-S-92.

e. Wood Screws: Flat head carbon steel, complying with FS FF-S-111.

f. Plain Washers: Round, general assembly grade carbon steel, complying with FS FF-W-92.

g. Lock Washers: Helical spring type carbon steel, complying with FS FF-W-84.

B. "C" Beam Clamps:

1. For conduit and threaded rods: as appropriate and permitted in accordance with NFPA 70.

C. Fastener Fittings for Wood and Existing Masonry: as appropriate and permitted in

accordance with NFPA 70.

D. Pipe Straps: Two hole steel conduit straps; as appropriate and permitted in accordance with NFPA 70.

E. Pipe Clamps: One-hole malleable iron type clamps; as appropriate and permitted in accordance with NFPA 70.

F. Channel Support System and Accessories: 12 gage galvanized steel channel and accessories; as appropriate and permitted in accordance with NFPA 70.

G. Supporting Fasteners (Metal Stud Construction): Metal stud supports, clips and accessories as appropriate and permitted in accordance with NFPA 70.

2.5 GROUNDING AND BONDING

A. Ground Clamps (Cable to Pipe; Cable to Rod): as appropriate and permitted in accordance with NFPA 70.

B. Ground Lugs: Copper, one or 2 hole style (to suit conditions), long barrel; as appropriate and permitted in accordance with NFPA 70.

C. Exothermic Type Weld: as appropriate and permitted in accordance with NFPA 70.

E. Compression Connectors: as appropriate and permitted in accordance with NFPA 70.

F. Rod Electrodes: Copper clad (minimum .010 jacket) ground rods minimum 5/8 inches diameter by 8'-0" long.

G. Plate Electrodes: Copper plates minimum 0.06 inches thick by 2'-0" square feet of surface area.

H. Grounding Electrode Conductors and Bonding Conductors: Copper conductors, bare or insulated with THW, THW-2, XHHW, XHHW-2, THWN, THWN-2 or THHN insulation.

I. Hardware: Silicon-bronze bolts, nuts, flat and lock washers etc.

2.6 NAMEPLATES AND TAGS

A. General: Precision engraved letters and numbers with uniform margins, character size minimum 3/16 inch high.

1. Phenolic: Two color laminated engraver's stock, 1/16 inch minimum thickness, machine engraved to expose inner core color (white).

2. Aluminum: Standard aluminum alloy plate stock, minimum .032 inches thick, engraved areas enamel filled or background enameled with natural aluminum engraved characters.

3. Materials for Outdoor Applications: As recommended by nameplate manufacturer to suit environmental conditions.

2.7 SLEEVES FOR RACEWAYS AND CABLES

A Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel,

plain ends.

B Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

C Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch (1.3- or 3.5-mm) thickness as indicated and of length to suit application.

D Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7 Section "FIRESTOPPING"

2.8 SLEEVE SEALS

A Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.

1. Sealing Elements: interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.

2. Pressure Plates: Carbon steel. Include two for each sealing element.

3. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

A. Comply with NECA 1, *Standard Practices for Good Workmanship in Electrical Contracting (ANSI)*.

B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.

E. Right of Way: Give to raceways and piping systems installed at a required slope.

3.2 RACEWAY INSTALLATION

A. General:

1. Raceways containing conductors identified as "Fire Alarm System" conductors shall not contain any other conductors, and no AC carrying conductors shall be allowed in the same raceway with the DC fire alarm detection and signaling conductors. All new fire alarm system raceway shall be "Fire Engine Red" or an equivalent

approved in advance by the Architect.

2. The conductors for the notification appliance circuits shall not be installed in the same raceway as the conductors for signaling line circuits unless written certification from the Manufacturer is supplied to the Architect indicating that the inclusion of these circuits in the same raceway is acceptable and that no additional consideration is needed for these circuits.

B. Raceway Installed Concealed:

1. Install raceway concealed unless otherwise indicated on the drawings.

2. Existing Construction:

a. Install raceway in existing chases and above existing ceilings.

b. If raceway cannot be installed concealed due to conditions encountered in the building, report such conditions and await approval in writing before proceeding.

c. Install raceway in concrete slabs, under slabs (on grade), or under slabs (above finished ceilings) where required. Concrete slabs that are both ceilings and floors shall be treated as floor slabs.

1) Raceway in Slab: Install minimum 3/4 inch raceway in the slab where placement of reinforcement and slab thickness is sufficient to allow 1-1/2 inches of concrete cover over raceway, otherwise install raceway under slab.

a) Install raceway under reinforcement where reinforcement is in upper portion or middle of slab.

b) Install raceway over reinforcement where reinforcement is in lower portion of slab.

c) Install raceway between reinforcement where reinforcement is in upper and lower portions of slab.

d) Separate parallel conduits minimum of 2 inches so that each raceway will be enveloped in concrete.

e) Pass raceway over steel beams, if any, parallel with the reinforcement.

f) Tie down raceway to avoid movement during placement of concrete.

2) Conduit Under Slab on Grade:

a) Install raceway under vapor barrier (if any).

b) Install equipment grounding conductor in each raceway. Bond at boxes and equipment to which raceway is connected.

3) Conduit Under Slab, Above Finished Ceiling:

a) Attach raceway to bottom of slab or structure supporting

the slab.

b) Firestop through-penetrations of the slab.

4. If any portions of the raceway system cannot be installed concealed due to conditions encountered in the building, report such conditions and await approval in writing before proceeding.

C. Raceway Penetrating Concrete Floor Slabs (Concrete slabs that are both ceilings and floors shall be treated as floor slabs):

1. Provide a minimum of 2 inches between conduits that vertically penetrate elevated concrete slabs.

2. Provide firestopping and spray on fireproofing at locations where conduits penetrate surface of floor slab and slab is part of fire rating required for construction.

D. Raceway Installed Exposed:

1. Install raceway exposed where permitted by the Archtect. If not indicated, raceway may be installed exposed, as approved, in:

a. Unfinished spaces, and finished spaces housing mechanical or electrical equipment that is generally accessible only to facility maintenance personnel.

b. Areas where existing raceways have been installed exposed.

c. Areas where raceway cannot be installed concealed.

2. Install raceway tight to the surface of the building construction.

3. Install vertical runs perpendicular to the floor.

4. Install runs on the ceiling perpendicular or parallel to the walls.

5. Install horizontal runs parallel to the floor.

6. Do not install raceway near heating pipes.

7. Installation of raceway directly on the floor will not be permitted.

E. Raceway Size: Not smaller than 3/4 inch electrical trade size. Where type FEP, THHN, THWN, THWN-2, XHH, XHHW, or XHHW-2 conductors are specified for use, the minimum allowable conduit size for new Work shall be based on Type THW conductors.

F. Raceways Exposed to Different Temperatures: Where portions of an interior raceway system are exposed to widely different temperatures, seal interior and exterior of raceway to prevent circulation of air from a warmer to a colder section through the raceway installation.

1. Refrigerated Rooms: Install conduit body or junction box in the raceway system on warm side of refrigerated room. After conductors are installed, seal interior of the raceway at the conduit body or junction box.

2. Heated Areas to Unheated Areas: After conductors are installed, seal interior of the raceway at the nearest conduit body, outlet or junction box in the heated area adjoining the unheated area.

G. Raceway in Waterproofed Floors: Install raceway in waterproof floors to avoid penetrating the waterproofing. Avoid penetration of waterproofing with conduit risers so far as practicable.

1. Where it is necessary to puncture the waterproofing for a conduit riser, install a standard weight steel pipe sleeve extending one inch above the finished floor level. Flash the steel pipe sleeve to the waterproofing with 16 ounce copper. Construct the flashing with a copper tube extending the full height of the sleeve, soldered to a copper base extending 6 inches in all directions from the sleeve.

H. Conduit in Hazardous Areas: Install Work in hazardous areas in accordance with NFPA 70.

1. Install sealing fittings in concealed conduit runs in a recessed box with blank face plate to match other face plates in the area.

2. Fire alarm system wiring installed in the DSOB Telephone Exchange Battery Room (Room HB15), located on the basement floor of the "Core Area" shall be installed in threaded rigid conduit in accordance with the Explosion Protection requirements of NFPA 70 - 1999, Chapter 5.

I. Raceway Schedule:

1. Rigid Ferrous Metal Conduit: Install in all locations unless otherwise specified or indicated on the drawings.

2. Intermediate Ferrous Metal Conduit: May be installed in all dry and damp locations except:

a. Hazardous areas.

b. Where other type raceways are specified or indicated on the drawings.

3. Electrical Metallic Tubing:

a. May be installed concealed as branch circuit conduits above suspended ceilings where conduit does not support fixtures or other equipment.

b. May be installed concealed as branch circuit conduits in hollow areas in dry locations, including:

1) Hollow concrete masonry units, except where cores are to be filled.

2) Drywall construction with sheet metal studs, except where studs are less than 3-1/2 inches deep.

c. May be installed exposed as branch circuit conduits in dry non-hazardous locations at elevations over 10'-0" above finished floor where conduit does not support fixtures or other equipment.

4. Flexible Metal Conduit: Install equipment grounding conductor in the flexible metal conduit and bond at each box or equipment to which conduit is connected:

a. Use for final conduit connection to recessed lighting fixtures in suspended ceilings. Use 4 to 6 feet of flexible metal conduit (minimum size ½ inch) between junction box and fixture. Locate junction box at least 1 foot from fixture and accessible if the fixture is removed.

b. Use 1 to 3 feet of flexible metal conduit for final conduit connection to:

1) Equipment subject to vibration (dry locations).

2) Equipment requiring flexible connection for adjustment or alignment (dry locations).

5. Liquid-tight Flexible Metal Conduit: Install equipment grounding conductor in liquid-tight flexible metal conduit and bond at each box or equipment to which conduit is connected:

a. Use 1 to 3 feet of liquid-tight flexible metal conduit (listed and marked suitable for the installation's temperature and environmental conditions) for final conduit connection to:

1) Equipment subject to vibration (damp and wet locations).

2) Equipment requiring flexible connection for adjustment or alignment (damp and wet locations).

6. Surface Metal Raceway: Use as exposed raceway system in finished spaces at locations indicated on the drawings.

a. Use surface metal raceway system of size required for number of wires to be installed therein. (Use specific size when indicated on the drawings).

b. Do not run raceway through walls that have a plaster finish nor through masonry walls or floors. Install a pipe sleeve, or a short length of conduit with junction boxes or adapter fittings for raceway runs through such areas. Run raceway along top of baseboards, care being taken to avoid telephone and other signal wiring. Where raceway crosses chair railing or picture molding, cut the chair railing or picture molding to permit the raceway to lie flat against the wall. Run raceway around door frames and other openings. Run raceway on ceiling or walls perpendicular to or parallel with walls and floors.

c. Secure one piece raceway every 30 inches alternately with 2 hole straps, and support clips (2 hole strap, support clip, 2 hole strap, etc.). Secure 2 piece raceway every 30 inches alternately with 2 hole straps and fasteners through back of raceway (2 hole strap, fastener through back, 2 hole strap, etc.).

d. Install separate equipment grounding conductor for grounding of equipment. The raceway alone will not be considered suitable for use as an effective path to ground.

e. Outlet box covers for pendant mounted fluorescent fixtures may be omitted if the fixture canopy is notched to receive the raceway and the canopy fits snugly against the ceiling.

f. Where equipment is mounted on an outlet box and the equipment base is larger than the outlet box, provide finishing collar around equipment base and outlet box or provide finishing collar/outlet box:

1) Finishing Collar: Same finish and peripheral dimensions as the equipment base, including provisions for mounting, slots to fit over raceway and of depth to cover outlet box and extend back to ceiling or wall.

2) Combination Finishing Collar/Outlet Box: Same finish and peripheral dimensions as the equipment base to be mounted thereon, gage or thickness of metal as required by National Electrical Code, including provision for mounting and knockouts for entrance of raceway.

7. Wireways: May be used indoors in dry locations for exposed raceway between grouped, wall mounted equipment.

J. Fittings and Accessories Schedule:

1. General:

a. Use fittings and accessories that have a temperature rating equal to, or higher than the temperature rating of the conductors to be installed within the raceway.

b. Use zinc electroplate or hot dipped galvanized steel/malleable iron or cast iron alloy fittings and accessories in conjunction with ferrous raceways in dry and damp locations, unless otherwise specified or indicated on the drawings.

c. Use malleable iron or cast iron alloy fittings and accessories having hot dipped/mechanically galvanized finish or other specified corrosion resistant finish in conjunction with ferrous raceways in wet locations, unless otherwise specified or indicated on the drawings.

d. Use insulated grounding bushings or grounding wedges on ends of conduit for terminating and bonding equipment grounding conductors (when required) if cabinet or boxes are not equipped with grounding/bonding screws or lugs.

e. Use caps or plugs to seal ends of conduits until wiring is installed (to exclude foreign material).

f. Use insulated grounding bushings on the ends of conduits that are not directly connected to the enclosure (such as stub-ups under equipment, etc.), and bond between bushings and enclosure with equipment grounding conductor.

g. Use expansion fittings where raceways cross expansion joints.

h. Use deflection fittings where raceways cross expansion joints that move in more than one plane.

I. Use 2 locknuts and an insulated bushing on end of each conduit entering sheet metal cabinet or box in dry or damp locations.

1) Plastic bushing may be used in lieu of insulated bushing on ½ and 3/4 inch conduit.

2) Terminate conduit ends within cabinet/box at the same level.

2. For Rigid and Intermediate Metal Conduit: Use threaded fittings and accessories. Use 3 piece conduit coupling where neither piece of conduit can be rotated.

3. For Electrical Metallic Tubing: Use compression type connectors and couplings.

4. For Flexible Metal Conduit: Use flexible metal conduit connectors.

5. For Liquid-tight Flexible Metal Conduit: Use liquid-tight connectors.

6. For Surface Metal Raceway: Use raceway manufacturer's standard fittings and accessories.

7. For Wireways: Use wireway manufacturer's standard fittings and accessories.

3.3 OUTLET, JUNCTION AND PULLBOX INSTALLATION

A. Mounting Position of Wall Outlets For Wiring Devices: Unless otherwise indicated, install boxes so that the long axis of each wiring device will be vertical.

B. Height of Wall Outlets: Unless otherwise indicated, locate outlet boxes with their center lines at the elevations permitted and/or required by the applicable NFPA code (i.e., NFPA 72, NFPA 70, NFPA 101, etc.).

C. Supplementary Junction and Pull Boxes: In addition to junction and pull boxes indicated on the drawings and required by NFPA 70, provide supplementary junction and pull boxes as follows:

1. When required to facilitate installation of wiring.

2. At every third 90 degree turn in conjunction with raceway sizes over 1 inch.

3. At intervals not exceeding 100 feet in conjunction with raceway sizes over 1 inch.

D. Box Schedule for Concealed Conduit System:

1. Non-Fire Rated Construction:

a. Depth: To suit job conditions and comply with NFPA 70 Article 370.

b. For Junction and Pull Boxes: Use galvanized steel boxes with flush covers.

2. Recessed Boxes in Fire Rated (2 hour maximum) Bearing and Nonbearing Wood or Steel Stud Walls (Gypsum Wallboard Facings):

a. Use listed single and double gang metallic outlet and switch boxes. The surface area of individual outlet or switch boxes shall not exceed 16 square inches.

b. The aggregate surface area of the boxes shall not exceed 100 square inches per 100 square feet of wall surface.

c. Securely fasten boxes to the studs. Verify that the opening in the wallboard facing is cut so that the clearance between the box and the wallboard does not exceed 1/8 inch.

d. Separate boxes located on opposite sides of walls or partitions by a minimum horizontal distance of 24 inches. This minimum separation distance may be reduced when wall opening protective materials are installed according to the requirements of their classification.

e. Use wall opening protective material in conjunction with boxes installed on opposite sides of walls or partitions of staggered stud construction in accordance with the classification requirements for the protective material.

3. Other Fire Rated Construction: Use materials and methods to comply with the listing requirements for the classified construction.

E. Box Schedule for Exposed Conduit System:

1. Dry and Damp Locations: Use zinc electroplate or hot dipped galvanized threaded type malleable iron or cast iron alloy outlet, junction, and pullboxes or conduit bodies provided with a volume marking in conjunction with ferrous raceways unless otherwise specified or indicated on the drawings.

a. Galvanized steel boxes may be used in conjunction with conduit sizes over 1 inch in non-hazardous dry and damp locations.

b. Galvanized steel boxes may be used in conjunction with electrical metallic tubing where it is allowed (specified) to be installed exposed as branch circuit conduits at elevations over 10'-0" above finished floor.

2. Wet Locations: Use threaded type malleable iron or cast iron alloy outlet junction, and pullboxes or conduit bodies (provided with a volume marking) with hot dipped galvanized or other specified corrosion resistant coating in conjunction with ferrous raceways unless otherwise specified or indicated on the drawings.

a. Use corrosion resistant boxes in conjunction with plastic coated rigid ferrous metal conduit.

3. Finishing Collar or Combination Finishing Collar/Outlet Box (Surface Mounted Equipment Used With Exposed Raceway):

a. Use finishing collar where surface mounted equipment is installed on an exposed raceway outlet box and the equipment base is larger than the outlet box.

b. Use combination finishing collar/outlet box where surface mounted equipment is not indicated to be installed on an exposed raceway outlet box, but raceway cannot be run directly into equipment body due to equipment design.

F. Specific Purpose Outlet Boxes: Use to mount equipment when available and suitable for job conditions. Unless otherwise specified, use threaded type boxes with finish as specified for exposed conduit system, steel (painted) for surface metal raceway system and galvanized steel for recessed installations.

G. Terminal cabinets with hinged, lockable red covers shall be provided at all junction points. All terminals within a terminal cabinet shall be properly and permanently labeled. All junction box covers shall be painted red. Contractor shall permanently label all terminals and circuits entering the terminal cabinets.

3.4 CONDUCTOR INSTALLATION

A. Install conductors in raceways after the raceway system is completed.

B. Do not change, group or combine circuits other than as indicated in Division 13 Section "FIRE ALARM AND EMERGENCY VOICE EVACUATION SYSTEM" and permitted

by NFPA 70.

C. All existing wiring permitted by the Architect to be reused shall be tested for stray voltage, ground faults, short-circuit faults and loop resistance, in accordance with the requirements of Table 10.4.2.2, paragraph 11 (Conductors/Metallic Wiring) of NFPA 72 - 2002, prior to reuse. To ensure all wiring to be reused meets this requirement, the wiring shall be tested by the Contractor. The testing results shall be recorded, signed by the Contractor and forwarded to the Manufacturer's Specialist and the Architect. No connections to the FACU shall be made until the system wiring has been accepted by the fire alarm Manufacturer's Specialist.

1. All installation conductors shall be tested with a volt/ohmmeter to verify that there are no stray (unwanted) voltages between installation conductors or between installation conductors and ground. Unless a different threshold is specified by the fire alarm system Manufacturer, as published in the fire alarm system equipment specifications, the maximum allowable stray voltage shall not exceed 1 volt AC/DC.

2. All installation conductors other than those intentionally and permanently grounded shall be tested for isolation from ground per the fire alarm system Manufacturer's published specifications.

3. All installation conductors other than those intentionally connected together shall be tested for conductor-to-conductor isolation per the fire alarm system Manufacturer's published specifications. These same circuits shall be tested for conductor-to-ground isolation.

4. With each initiating and indicating circuit installation conductor pair short-circuited at the far end, the resistance of each circuit shall be measured and recorded. It shall be verified that the loop resistance does not exceed the installed equipment Manufacturer's specified limits.

5. Megger Testing. Based on the requirements of the AOC Fire Marshal's Division, the Contractor shall megger test all new installed circuits and any existing circuits that are to be re-used that will have all existing devices removed as part of this project (i.e., smoke detector initiating device circuits where the 2-wire detectors are to be removed and addressable detectors are to be installed in their place).

6. The AOC Fire Marshal's Division shall be notified prior to all existing wiring testing and shall be invited to be present at such testing.

D. Connections for initiating devices using existing circuits:

1. New splices or junctions shall not be created by the addition of a new fire alarm system equipment to an existing circuit. Where new fire alarm system equipment is connected to existing circuits, new wiring shall be used to connect the new device to the closest existing device on the existing circuit. The new wiring shall be run to the backbox required for that device, and the connection shall be made at the existing device terminals.

2. New splices or junctions shall not be created by the deletion of existing fire alarm system equipment from an existing circuit. Where existing equipment is deleted from an existing circuit, new wiring shall be used to connect between the 2 devices closest to the deleted device on the existing circuit. The new wiring shall be run to the backbox required for those devices, and the connections shall be made at the existing device terminals.

E. Connections for notification appliances:

1. Fire alarm system speaker circuit risers shall be installed Class A (Style Z) and shall meet the survivability requirements of NFPA 72 - 1999.

   a. Where multiple fire alarm system risers are to be installed feeding circuits on a floor, the risers shall be installed as remote as possible from one another, and shall be separated by at least a one-hour fire rated enclosure. The feed and return for a system riser shall be installed in 2 separate raceways, at least 10 feet apart.

F. Common Neutral Conductor:

1. A common neutral may be used for 2 or 3 branch circuits where the circuits are indicated on the drawings to be enclosed within the same raceway, provided each branch circuit is connected to a different phase in the panelboard.

G. Conductor Size: Install conductors of size shown on drawings. Where size is not indicated, the minimum size allowed is:

1. For Power Branch Circuits: No. 12 AWG.

2. For Class 1 Circuits:

   a. No. 18 and No. 16 AWG may be used provided they supply loads that do not exceed 6 amps (No. 18 AWG), or 8 amps (No. 16 AWG).

   b. Larger than No. 16 AWG: Use to supply loads not greater than the ampacities given in NFPA 70 Section 310-15.

3. For Class 2 Circuits: Any size to suit application.

4. For Class 3 Circuits: No. 18 AWG.

5. For Fire Alarm System Circuits:

a.	Power Supply Conductors (Primary/Secondary)	No. 12 AWG
b.	Signaling Line Circuit Conductors	No. 18 AWG
c.	LCD Remote Alarm Annunciators	No. 18 AWG
d.	Notification Appliance Circuits	No. 14 AWG
e.	Speaker Circuits	No. 16 AWG

6. Contractor shall verify the size of all wiring and shall document any deviations from the sizes specified. Contractor shall present the documented deviations to the Architect for review.

E. Color Coding: The Contractor shall verify the color coding of all wiring and shall document any deviations from the colors specified. The Contractor shall present the documented deviations to the Architect for review. The Color coding of **NEW** conductors shall be approved by the Architect. Unless otherwise indicated, the color code for all **NEW** fire alarm system conductors shall be as follows:

1. Signaling line circuits and initiating device circuits shall be red and black. Red shall be positive and black shall be negative.

2. Notification appliance circuits shall be blue and white. Blue shall be positive and white shall be negative (NAC).

3. Sprinkler/standpipe circuits shall be red and black. Red shall be positive and black shall be negative.

4. Smoke detector power circuits shall be brown and violet. Violet shall be positive and brown shall be negative.

5. Auxiliary remote power supply circuits shall be brown and violet. Violet shall be positive and brown shall be negative.

6. Electro-magnetic door hold-open circuits shall be gray and gray.

7. HVAC shut-down circuits shall be orange and yellow.

8. Remote annunciator circuits shall be violet and numbered at each end.

9. Bond wires from the control unit to the building ground and all required bonding conductors shall be green.

10. AC supply circuit to the main FACU shall be white, black and red. The black shall be one phase, and the red shall be the opposite phase, if required. The white shall be the neutral. If a separate feed is required for the battery charger, it shall be black and white unless the main FACU requires only one AC feed. In that case, the conductors to the battery charger shall be red and white.

G. Identification: Use tags to identify feeders and designated circuits. Install tags so that they are easily read without moving adjacent feeders or require removal of arc proofing tapes. Attach tags with non-ferrous wire or brass chain.

1. Interior Feeders: Identify each feeder in pullboxes and gutters. Identify by feeder number and size.

2. Exterior Feeders: Identify each feeder in manholes and in interior pullboxes and gutters. Identify by feeder number and size, and also indicate building number and panel designation from which feeder originates.

3. Street and Grounds Lighting Circuits: Identify each circuit in manholes and lighting standard bases. Identify by circuit number and size, and also indicate building number and panel designation from which circuit originates.

4. Fire Alarm Circuits: Identify each circuit in all junction boxes. Identify by circuit number and size, and also indicate building number and panel designation from which circuit originates.

H. All wiring within the fire alarm control unit shall be neatly served in the panel gutters and be secured by means of Thomas & Betts "Ty-Raps" or by other approved means.

I. Use wire management products to bundle, route, and support wiring in junction boxes, pullboxes, wireways, gutters, channels, and other locations where wiring is accessible.

J. Equipment Grounding Conductor:

1. Install equipment grounding conductor:

a. Where specified in other Sections or indicated on the drawings.

b. In conjunction with circuits recommended by equipment manufacturers to have equipment grounding conductor.

2. Equipment grounding conductor is not intended as a current carrying conductor under normal operating circumstances.

K. Arc Proofing: Arc proof feeders installed in a common pullbox or manhole as follows:

1. Arc proof new feeders.

2. Arc proof existing feeders that are spliced to new feeders.

3. Arc proof each feeder as a unit (except feeders consisting of multiple sets of conductors).

4. Arc proof feeders consisting of multiple sets of conductors by arc proofing each set of conductors as a unit.

5. Arc proof feeders with half-lapped layer of 55 mils thick arc proofing tape, random wrapped or laced with glass cloth tape or glass-fiber cord. For arc proofing tape less than 55 mils thick add layers to equivalent of 55 mils thick arc proofing tape.

L. Connector Schedule - Types And Use:

1. Temperature Rating: Use connectors that have a temperature rating, equal to, or greater than the temperature rating of the conductors to which they are connected

3.5 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.

B. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7 Section "FIRESTOPPING"

C. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.

D. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.

E. Rectangular Sleeve Minimum Metal Thickness:

1. For sleeve cross-section rectangle perimeter less than 50 inches (1270 mm) and no side greater than 16 inches (400 mm), thickness shall be 0.052 inch (1.3 mm).

2. For sleeve cross-section rectangle perimeter equal to, or greater than, 50 inches (1270 mm) and 1 or more sides equal to, or greater than, 16 inches (400 mm), thickness shall be 0.138 inch (3.5 mm).

F. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.

G. Cut sleeves to length for mounting flush with both surfaces of walls.

H. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.

I. Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed or unless seismic criteria require a different clearance.

J. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.

K. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.

L. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials. Comply with Division 7 Section "FIRESTOPPING."

M. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.

N. Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.

O. Underground, Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch (25-mm) annular clear space between raceway or cable and sleeve for installing mechanical sleeve seals.

3.6 SLEEVE-SEAL INSTALLATION

A. Install to seal underground, exterior wall penetrations.

B. Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.7 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 7 Section "FIRESTOPPING."

B. Where penetrations of floor slabs, fire-resistance rated walls and/or smoke barrier walls are made, the wiring shall be sleeved in metal raceway (except where required by the AOC SOB Superintendent's Office) and the penetrations shall be fire-stopped with a through-penetration firestop assembly material approved or listed by an NRTL acceptable to the Architect.

1. All fire alarm system raceway and wiring penetrations through the 2-hour fire resistance rated electrical closet walls shall be firestopped with through-penetration firestop systems that are listed by a NRTL acceptable to the Architect and are rated to maintain the fire resistance rating of the 2-hour walls.

3.8 FIELD QUALITY CONTROL

A. Inspect installed sleeve and sleeve-seal installations and associated firestopping for damage and faulty work.

END OF SECTION 16050

SECTION HAZMAT - LIMITED HAZARDOUS MATERIALS EVALUATION - ADDENDUM

PART 1 - GENERAL

Jenkins Environmental, Inc. (JEI) was engaged by Hughes Associates, Inc., in 2004 to provide a limited lead-based paint and asbestos evaluation in the Core Area of the Basement level Dirksen Senate Office Building. The purpose of this investigation was to complete an inspection of the presence and condition of hazardous materials prior to planned renovations. Mr. Larry Jenkins is an AHERA certified Asbestos Inspector and Management Planner and a licensed Lead Based Paint Risk Assessor.

This assessment only identified the existence of hazardous material conditions at the time of the investigation. Neither HAI nor JEI assume responsibility for the discovery and elimination of potential hazards that could cause accidents, injuries, or damage. The assessment includes conditions, operations and practices as observed during the time of the site survey. Changes, procedural modifications or facility renovations made after the site assessment are not included. The final report was issued in September of 2004 by JEI.

Lead Based Paint

There were 48 separate readings taken on the interior surfaces on this site, 6 of which were calibration checks, and 7 of which were taken in the Tunnel. All lead paint was tested using an X-Ray Fluorescence (XRF) Analyzer (LPA-1) manufactured by RMD, Inc. of Waltham, Massachusetts.

XRF results are identified as positive, negative, or inconclusive by the following rules, as designated by the Architect of the Capitol:

> **"POSITIVE"** refers to a sample that has a lead concentration of greater than or equal to 0.7 mg/cm^2.
>
> **"NEGATIVE"** refers to a sample that has lead concentration less than 0.7 mg/cm^2.

Please see the Limited Hazardous Materials Evaluation (Asbestos and Lead Based Paint), prepared by Jenkins Environmental, Inc. in September of 2004 for the exact results.

There was one positive lead paint reading of a 0.8 mg/cm^2 found in the front carpentry room on the door casing to the West wall double doors (Sample 10). This sample was repeated and found to be 0.0 mg/cm^2.

This testing result was discussed with George Moore (AOC) in an email correspondence between Mr. Jenkins (JEI) and Mr. Moore (AOC) on Thursday 05/17/2007 at 5:02 PM and an email correspondence between Mr. Moore (AOC) and Mr. Belliveau (HAI) on Friday 06/01/2007 at 9:44 AM. In both emails, the opinion was that there was no lead based paint present in the buildings.

However, if the Contractor is working in any area that has not been tested and/or is suspected to contain lead based paint, the Contractor shall contact the AOC immediately and discuss the location and appropriate action to be taken. If lead based paint is suspected or found to exist, the Contractor shall refer to specification Division 13 Sections "LEAD ABATEMENT"located in these design documents. An abatement plan is required to be developed by the Contractor and submitted to the AOC for review and approval.

Prior to any abatement activities, the Contractor must submit all certifications to George Moore (AOC) for review and approval to assure that only qualified persons are conducting the required abatement work.

Asbestos

The Core area was constructed in conjunction with the Hart Building in 1982. Asbestos containing building material had been banned at this time since 1973-1978. Three samples were taken of suspect materials within the Core area and all samples were found to be negative for asbestos. Please see the Limited Hazardous Materials Evaluation (Asbestos and Lead Based Paint), prepared by Jenkins Environmental, Inc. (JEI) in September of 2004 for the exact results.

Additionally, JEI investigated the tunnels leading from the Dirksen Senate Building to the US Capitol Building. The sprayed ceiling insulation has been identified earlier on numerous occasions as asbestos. The asbestos sprayed insulation in the tunnels has been encapsulated multiple times and generally does not present a hazard. However, there are a few locations where there has been impact and disturbance to the integrity of the mass. If any renovations are to be done in this area, the ceiling is to be treated as asbestos and care should be taken.

Any white mastic and/or floor mastic and other suspect hidden materials not specifically sampled as part of the 2004 evaluation must be addressed as required by the AOC specifications and applicable regulations.

If the Contractor is working in any area that has not been tested and/or is suspected to contain asbestos, the Contractor shall contact the AOC immediately and discuss the location and appropriate action to be taken. If asbestos is suspected or found to exist, the Contractor shall refer to specification Division 13 Sections "ASBESTOS ABATEMENT PROCEDURES" located in these design documents. An abatement plan is required to be developed by the Contractor and submitted to the AOC for review and approval.

Prior to any abatement activities, the Contractor must submit all certifications to George Moore (AOC) for review and approval to assure that only qualified persons are conducting the required abatement work.

END OF SECTION HAZMAT ADDENDUM

LIMITED HAZARDOUS MATERIALS EVALUATION (ASBESTOS AND LEAD BASED PAINT)

Fire Alarm System Demolition
Basement Floor – Core Area
Dirksen Senate Office Building
Washington D.C. 20240

JEI Job No.: 2004-152

September, 2004

Prepared for:
Mr. Leonard Belliveau, Jr.
Hughes Associates, Inc.
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Prepared by:
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Larry D. Jenkins, Project Manager
Chairman, CEO

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1.0 INTRODUCTION

Jenkins Environmental was engaged by Hughes Associates, Inc. to provide a limited lead-based paint and asbestos evaluation in the Core Area of the Basement level Dirksen Senate Office Building. The purpose of this investigation was to complete an inspection of the presence and condition of hazardous materials prior to planned renovations. Mr. Larry Jenkins, an AHERA certified Asbestos Inspector and Management Planner, and licensed Lead Based Paint Risk Assessor.

This assessment is only designed for identification of hazardous material conditions at the time of this investigation. JEI does not assume responsibility for the discovery and elimination of potential hazards that could cause accidents, injuries, or damage. This assessment includes conditions, operations and practices as observed during the time of the site survey. Changes, procedural modifications or facility renovations made after the site assessment are not included.

2.0 SAMPLING METHODS

Lead Based Paint (LBP)

All lead paint was tested using an X-Ray Fluorescence Analyzer (LPA-1) manufactured by RMD, Inc. of Waltham, Massachusetts. The use of a portable, non-destructive testing device was selected due to its quick analysis and efficiency when compared to laboratory analysis. This report includes all readings, both positive and negative. Actual readings appear on an LCD display and are recorded on site while a data logger can generate a final report once downloaded.

XRF results are identified as positive, negative, or inconclusive by the following rules:

"POSITIVE" refers to a sample that has a lead concentration of greater than or equal to 0.7 mg/cm²

"NEGATIVE" refers to a sample that has lead concentration less than 0.7 mg/cm²

3.0 SURVEY RESULTS

Lead Survey Report

A total of 48 surfaces were tested for lead, 6 of which were calibration checks. The results are summarized in the following table.

Bulk Sampling Report

A total of 3 samples were taken. The results are summarized in the following table.

LEAD BASED PAINT – XRF INSPECTION DATA

Client: Hughes Associates, Inc. **Project: 2004-152 Dirksen Building – Basement Core Area**
Date: 9/16/04 **Inspector: L. Jenkins** **XRF: RMD/LPA-1# 01554**
Confirmed Lead Paint: ≥0.7 mg/cm^2 **BL = Below State Lead Level (<0.7 mg/cm^2)**

No.	Wall	Room/Location	Substrate	Condition Satis./Unsatis.	Color	Lead (mg/cm^2)
1		calibration check				**1.1**
2		calibration check				**1.2**
3		calibration check				**1.1**
4	N	tunnel wall	C	S	WH	0.1
5	N	tunnel wall	C	S	WH	0.3
6	N	tunnel wall	C	S	WH	0.0
7	N	tunnel wall entrance	C	S	WH	0.2
8	N	carpentry front room wall	CB	S	WH	0.0
9	W	carpentry front room wall	CB	S	WH	0.2
10	W	carpentry front room door casing	M	S	WH	**0.8**
11	W	carpentry front room door jamb	M	S	WH	0.3
12	W	carpentry front room door casing	M	S	WH	0.0
13	W	carpentry front room door hinge	M	S	WH	0.4
14	E	carpentry back room wall	CB	S	WH	0.0
15		carpentry back room ceiling	C	S	WH	0.3
16	W	carpentry back room wall	C	S	WH	-0.1
17	E	carpentry back room wall	CB	S	WH	0.1
18	W	carpentry front room wall next to saw dust room doors	CB	S	WH	0.1
19	E	carpentry main office wall	DW	S	WH	-0.1
20	E	wall just outside lounge	DW	S	WH	0.1
21	E	wall inside lounge	B	S	WH	0.2
22	N	carpentry office #2 wall	P	S	WH	-0.1
23	W	carpentry office #2 wall	CB	S	WH	-0.1
24	S	carpentry office #2 door	M	S	WH	-0.1
25	W	key office wall	CB	S	WH	0.5
26	N	corridor	CB	S	WH	0.0

LEAD BASED PAINT – XRF INSPECTION DATA

Client: Hughes Associates, Inc. **Project: 2004-152 Dirksen Building – Basement Core Area**
Date: 9/16/04 **Inspector: L. Jenkins** **XRF: RMD/LPA-1# 01554**
Confirmed Lead Paint: ≥0.7 mg/cm² **BL = Below State Lead Level (<0.7 mg/cm²)**

No.	Wall	Room/Location	Substrate	Condition Satis./Unsatis.	Color	Lead (mg/cm²)
27	N	inventory management wall	CB	S	WH	-0.1
28	W	inventory management door jamb	M	S	BR	0.0
29		inventory management ceiling	C	S	WH	0.0
30	N	main inventory management office wall	P	S	WH	-0.1
31	E	main inventory management office wall	P	S	WH	0.1
32	W	inventory management office #1wall	P	S	WH	0.0
33	N	storage area wall	CB	S	WH	0.1
34	S	inventory management office #2 wall	P	S	WH	0.1
35	W	inventory management main office door jamb	M	S	WH	0.1
36	E	IMD office wall	CB	S	WH	0.3
37	W	IMD office wall	CB	S	WH	0.1
38	W	storage area wall	CB	S	WH	-0.1
39		capital support column in tunnel	C	S	GR	-0.1
40		capital support column in tunnel	C	S	GR	0.1
41		Russell / Dirksen tunnel junction wall	C	S	WH	0.0
42		tunnel wall under Tennessee plaque	C	S	WH	0.1
43		tunnel curb under Tennessee plaque	C	S	GR	0.0
44		tunnel wall under Nevada plaque	C	S	WH	0.2
45		tunnel curb under Montana plaque	C	S	GR	-0.1
46		calibration check				**1.2**
47		calibration check				**1.1**
48		calibration check				**1.1**

Substrate		Key	Color	
DW = dry wall W = wood M = metal C = concrete CB = concrete block G = glass	P = plaster B = brick S = steel CM = ceramic SR = sheetrock		WH = white GR = gray BR = brown B = black BL = blue Y = yellow	R = red OR = orange GN = green T = tan P = pink

JENKINS ENVIRONMENTAL, INC.

BULK SAMPLING SURVEY REPORT

DATE: September 16, 2004

PROJECT: "Core Area" Basement Dirksen Senate Office Building

JEI PROJECT NO.: 2004-152

COLLECTED BY: Larry D. Jenkins

SAMPLE ID	QUANTITY SF/LF	HOMOGENEOUS AREA (LOCATION)	PHOTO NO.	SAMPLE ANALYSES		
				FIBROUS	NONFIBROUS	% ASBESTOS
DR-1	80 SF	12" Brown floor tile – Small office in Inventory Mgt.		3% SYNT	97% QRTZ & OTHR	--
DR-2	80 SF	2 x 4 Ceiling tile – Small office in Inventory Mgt.		45% CELL 45% FBGL	10% OTHR	--
DR-3	936 SF	2 x 4 Ceiling tile – IMD Office		45% CELL 45% FBGL	10% OTHR	--

ANALYST: Michael J. Cirri
Jenkins Environmental, Inc. (AIHA #10182)

ANALYTICAL PROCEDURE: Polarized Light Microscopy as per Appendix A, 40 CFR 763

4.0 CONCLUSION

Jenkins Environmental was requested to evaluate the presence and condition of hazardous materials at various proposed sites for Fire Alarm System Demolition. This building was accessed on September 16, 2004.

Lead Based Paint

There were 48 separate readings taken on the interior surfaces on this site, 6 of which were calibration checks, and 7 of which were taken in the Tunnel. Please see the chart in Section 3 for exact results. Examination of floors, ceilings, casings, frames, and walls was completed. Readings collected are representative of similar material throughout the various areas. There was one positive lead paint reading of a 0.8 mg/cm² found in the front carpentry room on the door casing to the West wall double doors. This sample was repeated and found to be 0.0 mg/cm².

Floor plans of the Core area are also enclosed, each number noted represents the area in which the X-Ray Fluorescence Analyzer was used to test for lead based paint. The 7 readings done in the Tunnel have not been noted on the floor plans due to the Tunnel not being on the drawings we've received. The exact results and locations for the lead based paint done within the Tunnel are located under Section 3, numbers 39-45.

There is no lead based paint present within the project boundary.

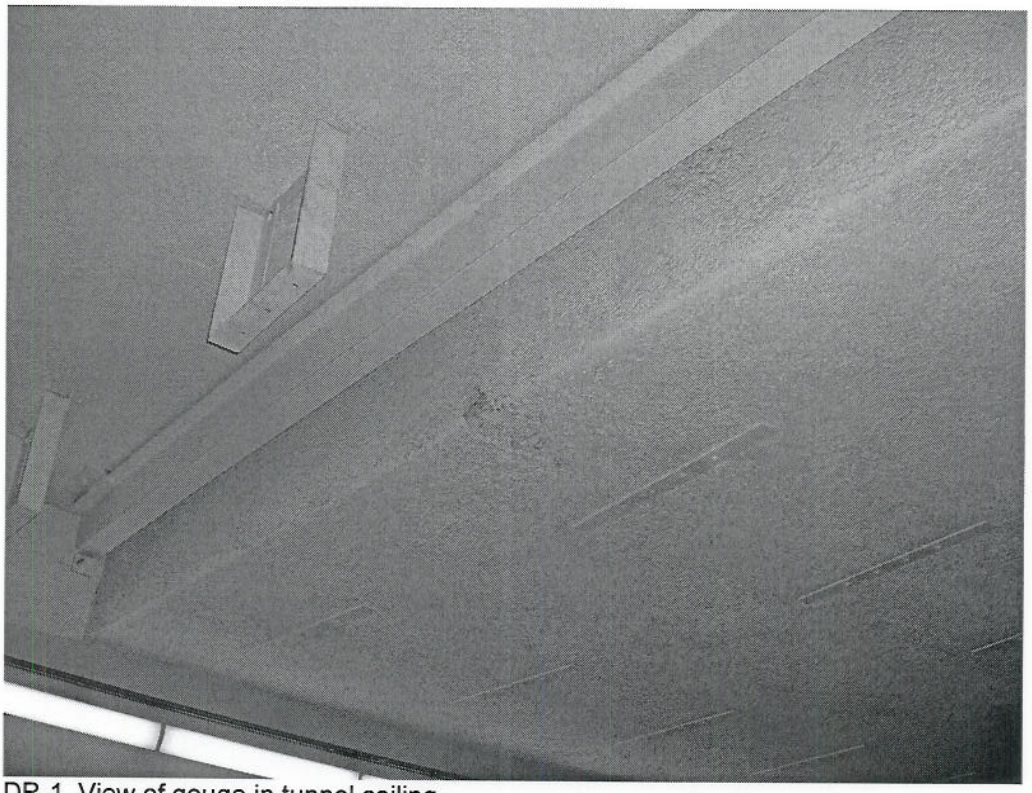
Asbestos

This Core area was constructed in conjunction with the Hart Building in 1982. Asbestos containing building material is not present in this area. Fiberglass, pipe insulation, and duct insulation is present throughout. Asbestos had been banned at this time since 1973-1978. However, three samples were taken of suspect materials within the Core area and all samples were found to be negative for asbestos. Exact results are found under Section 3.

Our scope also included investigation of the tunnels leading from the Dirksen Senate Building to the US Capitol Building. This sprayed ceiling insulation has been identified earlier on numerous occasions as asbestos. This asbestos sprayed insulation in the tunnels has been encapsulated multiple times and does not present a hazard at this time. However, there are a few locations where there has been impact and disturbance to the integrity of the mass. Please see photos for details. If any renovations are to be done in this area, the ceiling is to be treated as asbestos and care should be taken.

5.0 PHOTOGRAPHS

DR-1 shows a gouge found in the ceiling of the tunnel between the Capitol Building and the Dirksen Building. DR-2 shows a close up view of the same gouge. This particular gouge is located approximately 75 feet from the Capitol Building and hosts approximately 1 square foot of damage. Other very minor gouges were found in the ceiling but none were severe enough to warrant a picture being taken.



DR-1. View of gouge in tunnel ceiling.

DR-2. Close up view of gouge in tunnel ceiling. Shown is the sprayed ceiling insulation as mentioned in the conclusion on page 9.

General Decision Number: DC070003 07/20/2007 DC3

Superseded General Decision Number: DC20030003

State: District of Columbia

Construction Type: Building

County: District of Columbia Statewide.

BUILDING CONSTRUCTION PROJECTS (Does not include single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	02/09/2007
1	05/04/2007
2	05/11/2007
3	05/18/2007
4	06/08/2007
5	06/15/2007
6	06/22/2007
7	06/29/2007
8	07/06/2007
9	07/20/2007

ASBE0024-001 10/01/2006

	Rates	Fringes
Asbestos Worker/Heat and Frost Insulator Includes the application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems	$ 27.13	13.13

ASBE0024-002 10/01/2006

	Rates	Fringes
Hazardous Material Handler Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems	$ 18.00	6.45

ASBE0024-005 10/01/2006

	Rates	Fringes

Fire Stop Technician
Includes the application of materials or devices within or around penetrations and openings in all rated wall or floor assemblies, in order to prevent the passage of fire, smoke or other gases. The application includes all components involved in creating the rated barrier at perimeter slab edges and exterior cavities, the head of gypsum board or concrete walls, joints between rated wall or floor components, sealing of penetrating items and blank openings.....$ 22.00 6.24

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* BRDC0001-001 04/30/2007

	Rates	Fringes
BRICKLAYER	$ 25.90	6.19

CARP0132-006 05/01/2007

	Rates	Fringes
Carpenter (Including Drywall Hanging)	$ 24.37	6.15
Piledriver	$ 22.87	6.85

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* ELEC0026-003 09/04/2006

	Rates	Fringes
Communication Technician	$ 22.05	3%+6.87

SCOPE OF WORK: Includes low voltage construction, installation, maintenance and removal of teledata facilities (voice, data and video) including outside plant, telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, railroad communications, micro waves, VSAT, bypass, CATV, WAN (Wide area networks), LAN (Local area networks) and ISDN (Integrated systems digital network).

WORK EXCLUDED: The installation of computer systems in industrial applications such as assembly lines, robotics and computer controller manufacturing systems. The installation of conduit and/or raceways shall be installed by Inside Wiremen. On sites where there is no Inside

Wireman employed, the Teledata Technician may install raceway or conduit not greater than 10 feet. Fire alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit. All HVAC control work.

ELEC0026-016 06/04/2007

	Rates	Fringes
Electrician (Excluding Communication-Low Voltage Wiring)	$ 33.45	11.35+a

a. PAID HOLIDAYS: New Year's Day, Martin Luther King Jr.'s Birthday, Inauguration Day, Memorial Day, Fourth of July, Labor Day, Veterans Day, Thanksgiving Day, the day after Thanksgiving and Christmas Day or days designated as legal holidays by the Federal Government.

ENGI0077-009 05/01/2007

	Rates	Fringes
Power equipment operators:		
Boom Trucks	$ 26.47	6.82+a+b
Cranes (35 tons and above)	$ 27.64	6.82+a+b
Cranes (under 35 tons)	$ 27.18	6.82+a+b
Forklifts	$ 19.90	6.82+a
Piledrivers	$ 27.18	6.82+a

a. PAID HOLIDAYS:
New Years Day, Inaugural Day, Decoration Day, Independence Day, Labor Day, Martin Luther King's Birthday, Veterans Day, Thanksgiving Day, Friday after Thanksgiving and Christmas Day.

b. PREMIUM PAY:
Tower cranes and cranes 100-ton and over to receive $1.00 per hour premium over Group One.

IRON0005-001 06/01/2006

	Rates	Fringes
Ironworkers:		
Structural, Ornamental and Chain Link Fence	$ 25.68	11.345

IRON0201-003 05/01/2007

	Rates	Fringes
Ironworker, Reinforcing	$ 24.80	12.08

LABO0657-001 06/01/2006

	Rates	Fringes
Laborer:Skilled	$ 18.41	3.84

FOOTNOTE: Potmen, power tool operator, small machine operator, concrete labor including concrete preparation, signalmen, laser beam operator, waterproofer, open caisson, test pit, underpinnig, pier hole and ditches, laggers and all work associated with lagging that is not expressly stated, strippers, operator of hand derricks, vibrator operators, pipe layers, or tile layers (tile laid on road construction projects ONLY), operators of jackhammer, paving breakers, spaders or any machine that does the same general type of work, scaffold builders, operators of towmasters, scootcretes, buggymobiles and other machines of similar character, operators of tampers and rammers and other machines that do the same general type of work, whether powered by air, electric or gasoline builders of trestle scaffolds over one tier high and sand blaster, power and chain saw operators used in clearing, installers of well points, wagon drill operators, acetylene burners and licensed powdermen.

LABO0657-002 06/01/2006

	Rates	Fringes
Laborers:		
Mason Tenders, Brick	$ 13.91	3.84
Mortarmen, Scaffold Builders	$ 14.65	3.84

MARB0002-002 05/01/2007

	Rates	Fringes
Marble & Stone Mason	$ 31.00	11.52

INCLUDES pointing, caulking and cleaning of All types of masonry, brick, stone and cement structures; EXCEPT pointing, caulking and cleaning of exisiting masonry, brick, stone and cement (restoration work)

MARB0003-001 05/01/2007

	Rates	Fringes
Mosaic & Terrazzo Worker, Tile Layer		
Marble Mason and Tile Layer	$ 24.67	8.78
Terrazzo Worker	$ 25.42	8.78

MARB0003-004 05/01/2007

	Rates	Fringes
Marble, Tile & Terrazzo		

Finisher.....$ 19.84 7.90

PAIN0051-004 06/01/2007

	Rates	Fringes
Glazier		
Contracts $2 million and under.....	$ 24.12	7.46
Contracts over $2 million...	$ 26.34	7.46

PAIN0051-010 06/01/2007

	Rates	Fringes
Painters:		
Brush, Roller, Spray and Drywall Finisher.....	$ 23.31	7.31

PLAS0891-003 05/01/2007

	Rates	Fringes
Cement Mason.....	$ 26.15	6.01

PLUM0005-007 08/01/2006

	Rates	Fringes
Plumber		
Apartment Buildings over 4 stories (except hotels), schools, colleges and speculative office buildings, strip shopping centers, churches, water coolers, room air conditioning units, appliances, packaged ice machines and light commerical refrigeration and/or air conditioning systems serving a single business in a single story building and not to exceed 5. h.p. or tons, self-contained package unit up to including 5 h.p. or tons.	$ 20.64	8.08+a
ALL Other Work.....	$ 31.52	12.59+a

a. PAID HOLIDAYS: Labor Day, Veterans' Day, Thanksgiving Day and the day after Thanksgiving, Christmas Day, New Year's Day, Martin Luther King's Birthday, Memorial Day and the Fourth of July.

PLUM0602-006 08/01/2006

	Rates	Fringes
Steamfitter, Refrigeration & Air Conditioning Mechanic (Including HVAC Pipe Work)	$ 31.27	12.82+a

a. PAID HOLIDAYS:
New Year's Day, Martin Luther King's Birthday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and the day after Thanksgiving Day and Christmas Day.

SFDC0669-001 01/01/2007

	Rates	Fringes
Sprinkler Fitter	$ 27.45	13.40

SHEE0100-002 07/01/2007

	Rates	Fringes
Sheet Metal Worker (Including HVAC Duct Work)	$ 31.54	11.65

SUDC2000-001 04/12/2000

	Rates	Fringes
Laborer, Unskilled	$ 11.83	2.23
Pointer, caulker and cleaner INCLUDES pointing, caulking and cleaning of existing masonry, brick, stone and cement structures (restoration work); EXCLUDES pointing, caulking and cleaning of new or replacement masonry, brick, stone and cement	$ 20.00	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations

indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

BID BOND *(See instructions on reverse)*	DATE BOND EXECUTED *(Must not be later than bid opening date)*	OMB NO.:9000-0045

Public reporting burden for this collection of information is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (MVR), Federal Acquisition Policy Division, GSA, Washington, DC 20405.

PRINCIPAL *(Legal name and business address)*

TYPE OF ORGANIZATION *("X" one)*

☐ INDIVIDUAL ☐ PARTNERSHIP

☐ JOINT VENTURE ☐ CORPORATION

STATE OF INCORPORATION

SURETY(IES) *(Name and business address)*

PENAL SUM OF BOND					BID IDENTIFICATION	
PERCENT OF BID PRICE	AMOUNT NOT TO EXCEED				BID DATE	INVITATION NO.
	MILLION(S)	THOUSAND(S)	HUNDRED(S)	CENTS	FOR *(Construction, Supplies, or Services)*	

OBLIGATION:

We, the Principal and Surety(ies) are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

CONDITIONS:

The Principal has submitted the bid identified above.

THEREFORE:

The above obligation is void if the Principal - (a) upon acceptance by the Government of the bid identified above, within the period specified therein for acceptance (sixty (60) days if no period is specified), executes the further contractual documents and gives the bond(s) required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by the principal; or (b) in the event of failure to execute such further contractual documents and give such bonds, pays the Government for any cost of procuring the work which exceeds the amount of the bid.

Each Surety executing this instrument agrees that its obligation is not impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government. Notice to the surety(ies) of extension(s) are waived. However, waiver of the notice applies only to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

WITNESS:

The Principal and Surety(ies) executed this bid bond and affixed their seals on the above date.

PRINCIPAL

SIGNATURE(S)	1. *(Seal)*	2. *(Seal)*	3. *(Seal)*	*Corporate Seal*
NAME(S) & TITLE(S) *(Typed)*	1.	2.	3.	

INDIVIDUAL SURETY(IES)

SIGNATURE(S)	1. *(Seal)*	2. *(Seal)*
NAME(S) *(Typed)*	1.	2.

CORPORATE SURETY(IES)

SURETY A	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT ($)	*Corporate Seal*
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) *(Typed)*	1.	2.		

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Previous edition is usable

STANDARD FORM 24 (REV. 10-98)
Prescribed by GSA - FAR (48 CFR) 53.228(a)

SURETY B	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT ($)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY C	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT ($)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY D	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT ($)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY E	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT ($)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY F	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT ($)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY G	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT ($)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		

INSTRUCTIONS

1. This form is authorized for use when a bid guaranty is required. Any deviation from this form will require the written approval of the Administrator of General Services.

2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.

3. The bond may express penal sum as a percentage of the bid price. In these cases, the bond may state a maximum dollar limitation (e.g., 20% of the bid price but the amount not to exceed _____ dollars).

4. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitation listed therein. where more than one corporate surety is involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)." In the space designed "SURETY(IES)" on the face of the form, insert only the letter identification of the sureties.

(b) Where individual sureties are involved, a completed Affidavit of Individual surety (Standard Form 28), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal"; and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.

6. Type the name and title of each person signing this bond in the space provided.

7. In its application to negotiated contracts, the terms "bid" and "bidder" shall include "proposal" and "offeror."

*****NOTICE*****

TO: ALL VENDORS/CONTRACTORS/CONSULTANTS

FROM: THE OFFICE OF THE ARCHITECT OF THE CAPITOL

Due to requirements set forth in the DEBT COLLECTION IMPROVEMENT ACT OF 1996 (PUBLIC LAW 104-134), all payments made to vendors and consultants doing business with the Federal Government must be made by Electronic Funds Transfer (EFT) directly to your financial institution. If you are currently enrolled under EFT with the Architect of the Capitol, no further action is necessary other than to report changes.

EFT payments are cost effective, enabling prompt, convenient and reliable payments directly to a designated bank account.

The Architect of the Capitol, in making EFT payments, supplies the financial institution with identifying information (i.e. invoice number), which accompanies each transaction. The financial institution in turn can supply this information to the account holder.

Therefore to accomplish the mandate of P. L. 104-134, it is necessary that the attached sheet; PAYMENT INFORMATION FORM ACH VENDOR PAYMENT SYSTEM be completed and returned within three (3) working days of award as set forth in Section G or Solicitation Conditions of the contract. Again, this requirement applies only if you are <u>not</u> enrolled in the EFT system with the Architect of the Capitol.

PAYMENT INFORMATION FORM
ACH VENDOR PAYMENT SYSTEM

This form is used for ACH payments with an addendum record that carries payment-related information. Recipients of these payments should bring this information to the attention of their financial institution when presenting this form for completion. The information will be transmitted in the CCD+ format to the designated financial institution.

Debt Collection Improvement Act of 1996

PAPERWORK REDUCTION ACT STATEMENT

The information being collected on this form is pursuant to Public Law 104-134, which mandated Electronic Funds Transfer for recipients of all federal payments (excluding IRS tax refunds) beginning July 24, 1996. This information will be needed by the Treasury Department to transmit payments and related data.

COMPANY INFORMATION	
NAME:	
ADDRESS:	
CONTRACT NUMBER: AOC-_____	TAXPAYER IDENTIFICATION NUMBER (TIN):
CONTACT PERSON NAME:	TELEPHONE NUMBER: ( ) FAX NUMBER: ( )

AGENCY INFORMATION	
NAME: ARCHITECT OF THE CAPITOL - FORD HOUSE OFFICE BUILDING	
ADDRESS: ACCOUNTING DIVISION, ROOM H2-205	
WASHINGTON, D.C. 20024	FAX NUMBER: (202) 225-7321
CONTACT PERSON NAME: MR. JAMES JARBOE	TELEPHONE NUMBER: (202) 226-2552

FINANCIAL INSTITUTION INFORMATION	
BANK NAME:	
BRANCH LOCATION: (If applicable)	
CONTACT NAME:	TELEPHONE NUMBER: ( )
NINE DIGIT ROUTING TRANSIT NUMBER: __ __ __ __ __ __ __ __ __	
DEPOSITOR ACCOUNT NUMBER:	
TYPE OF ACCOUNT: ____ CHECKING ____ SAVINGS ____ LOCKBOX	
SIGNATURE AND TITLE OF REPRESENTATIVE:	TELEPHONE NUMBER:

UNITED STATES CAPITOL POLICE
WASHINGTON, D.C. 20510-7218

CP-491
(4-04)

REQUEST FOR CHECK OF CRIMINAL HISTORY RECORDS

Please report with: (1) A valid form of photo identification, (2) and this form to the Fairchild Building located at 499 South Capitol Street SW Washington, D.C., Room 127 between the hours of 7am until 3pm Monday through Friday for processing.

1. *Name:* (Last, First, Middle)

Address:
Street & No. _____
City & State: _____
Zip: _____ Tele: _____

2. *Other Names Ever Used:* (e.g. maiden name, nickname, ect. *If you have never used another name write "None".)*

3. *Date of Birth:* (Month, Day, Year)

4. *Birthplace:* (City and State or Country)

5. *Social Security Number:*

6. *Gender:*
Male Female

7. *Race:*

8. *Height:*

9. *Weight:*

10. *Eye Color:*

11. *Hair Color:*

SIGNATURE AND RELEASE OF INFORMATION:

READ THE FOLLOWING CAREFULLY BEFORE YOU SIGN:

- I understand that the information provided above will be used to check the criminal history records of the Federal Bureau of Investigation (FBI).
- I consent to the use of the information provided in making a security determination concerning me.
- I certify that, to the best of my knowledge and belief, all of the information provided above is true, correct, and complete, made in good faith.

12. **Signature:** _____

13. **Date:** _____

PAST PERFORMANCE QUESTIONNAIRE FOR SOLICITATION NUMBER AOC RFP 070108

The contractor listed below is being considered for a contract award by the Architect of the Capitol, Washington, DC. Your name has been provided as a customer reference regarding performance under a past contract with your agency/company. Your comments are considered Source Selection Sensitive, therefore, you are advised that your response will be safeguarded to the extent cited in the Federal Acquisition Regulation (FAR) 42.1503. FAR prohibits the release of past performance evaluations to other than other Government personnel and the contractor whose performance is being evaluated during the period the information may be used to provide source selection information.

In order to maintain the integrity of the source selection process, respectfully request that you do not divulge the name of the contractor nor discuss your comments on this questionnaire with any other individuals.

Your completion of this form will be greatly appreciated. Upon completion, please fax this form to: (866) 813-9541, Attn: Matt Hazlinsky.

Past Project Information:

1. Contractor (Prime):_____

2. Project Title :_____

1. Name: Agency/Company, POC _____Date: _____
2. Phone No.:_( )_____ Fax No. ( )_____
3. Address:_____
4. Position held or function in relation to project:_____

Ratings: Please evaluate the contractor's performance using the following ratings:

"O" Outstanding	The contractor's performance clearly exceeded the contract requirements.
"S" Satisfactory	The contractor's performance met the contract requirements.
"M" Marginal	The contractor's performance met the minimum contract requirements but with difficulty.
"U" Unsatisfactory	The contractor's performance was poor and/or did not satisfy contract requirements.

Please rate and provide supporting information for the following. If the rating is Outstanding or Unsatisfactory, please provide specific contract/job performance areas which were exceeded or not performed in accordance with the contract's minimum requirements. (Use additional sheets as needed.)

1. The relationship between the contractor and owner's contract team/Contracting Officer/COR?.

_____ **Rating:** _____

2. The contractor's on-site management and coordination of subcontractors.

_____

_____ **Rating:** _____

3. The contractor's overall corporate management, integrity, reasonableness and cooperative conduct.

_____

_____ **Rating:** _____

4. Performance in meeting delivery/completion schedules. _____

_____ **Rating:** _____

5. If there were any schedule problems, what did the contractor do to resolve the problems?

_____ **Rating:** _____

6. If there were any problems other than schedule, what did the contractor do to resolve the problems? What corrective action was taken to resolve problems?

_____

_____ **Rating:** _____

6. The contractor's quality control (CQC).

_____

_____ **Rating:** _____

7. The contractor's performance in delivering quality work in accordance with the contract:

_____

_____ **Rating:** _____

8. The contractor's ability to provide the required work at a reasonable total price.

_____

_____ **Rating:** _____

9. The contractor's compliance with labor standards, if applicable.

_____

_____ **Rating:** _____

10. The contractor's compliance with safety standards.

_____

_____ **Rating:** _____

11. Has the contractor been given any of the following: cure notice, show cause, letters of reprimand, suspension of payments, termination? If yes, please explain.

_____ **Rating:** _____

12. Would you award another contract to this contractor? If no, please state reasons for not recommending this contractor for additional work. _____

_____ **Rating:** _____

13. Was the customer satisfied with the end product? _____

_____

14. Has the contractor been provided an opportunity to discuss any negative performance ratings? If so, what were the results? _____

15. Has the contractor filed any claims?_____ How many? _____
And to what extent?_____
Claims outstanding/why?_____

16. **OVERALL RATING** **Rating:** _____

_____

_____

17. Please provide any additional comments:_____

_____

_____

_____

_____

_____

NAME/TITLE:_____
AGENCY/COMPANY:_____
PHONE NUMBER:_____DATE:_____