

SECTION 010000 – SUPPLEMENTARY CONDITIONS FOR CONSTRUCTION

PART 1 - PROJECT SUMMARY AND INFORMATION

1.1 PROJECT INFORMATION

A. SF Project No. 1909101

1. Freer/Sackler/AFA/Quad ESS Modernization
2. SI Quadrangle
3. Independence Ave, SW
4. Washington, DC 20560

B. Smithsonian Institution Contacts:

1. Contracting Officer (CO), address for Fed Ex, USPS and UPS delivery:
Smithsonian Institution
Office of Contracting
600 Maryland Avenue, SW
Suite 5001
Washington, DC 20024
2. Contracting Officer's Technical Representative (COTR), address for Fed Ex, USPS, and UPS, delivery:
Smithsonian Institution
Attn: Scott Waizmann
Office of Planning, Design & Construction
600 Maryland Avenue, SW
Suite 5001
Washington, DC 20024

1.2 SUMMARY OF WORK

- A. The Contractor shall furnish all supervision, labor, materials and equipment needed to modernize the Electronic Security System at the Smithsonian Institution's Quadrangle building located on Independence Ave. SW in Washington, DC.
- B. The Work includes, but is not limited to:
 1. Modernizing the Electronic Security System
 2. Relocating the OPS Suite
 3. Modernizing the Command Center
 4. Modernizing Classrooms
 5. New Guard booth

- C. Critical Elements of the Work: The successful Contractor shall be fully qualified to install critical elements of the Work. Upon request of the Contracting Officer, bidders/offerors shall submit a statement of qualifications to address the following critical elements of the Work:

1. Installation of Electronic Security Systems

1.3 CONTRACT TIME FOR COMPLETION

- A. Work under this contract shall begin by the Contractor within ten (10) calendar days after the Notice to Proceed (NTP) and shall be completed within the total contract time of 365 calendar days. All work, including project closeout activities, shall be completed in every respect within the contract time.
- B. The start date and completion date shall be as stated in the Notice to Proceed issued by the Contracting Officer.

1.4 SCHEDULE OF OPTIONS FOR BID/PROPOSAL

- A. The following is a brief statement of the Work identified for bid/proposal options. The complete description of the Work is identified elsewhere in the drawings and specifications.
1. BASE BID/PROPOSAL:
 - a. Modernize Electronic Security System
 2. BID OPTION
 - a. Division 113013 Refrigerator, Microwave
 - b. Division 125120 Furniture

1.5 SCHEDULE OF UNIT PRICES (NOT USED)

1.6 BIDDER/OFFEROR EXAMINATION OF SITE

- A. Every effort has been made to indicate all work necessary to complete the project as identified. All bidders/offerors shall carefully examine the premises during the bid/offer period and satisfy themselves as to the extent, nature and location of the work, general and local conditions, particularly those bearing on transportation, disposal, handling and storage of materials, availability of labor, water, electric power, access routes, uncertainties of the weather, type of equipment and facilities needed for the successful execution of the Work.
- B. Pre-Bid/Pre-Proposal Conference and Site Visit. Before the bid/proposal opening date, a scheduled pre-bid/pre-proposal conference and site visit will be announced by the Contracting Officer. The purpose of the scheduled meeting is to provide an opportunity for all bidders/offerors to review the project site. Any comments, information, or discussion during the site visit shall not modify the contract documents.

- C. This project requires special arrangements for access to a non-public area. Access to the site may be restricted at times other than during the scheduled visit.

1.7 AVAILABILITY OF DOCUMENTS

- A. The solicitation documents are available, at no cost to the *bidder/offeror, from the Contracting Officer.

2.1 UNITS OF MEASURE

- A. All fabrication and installation shall be performed in accordance with the units of measure given in the Contract Documents.
- B. All Contractor and subcontractor personnel working on the site shall possess and use metric measuring equipment for all work shown in metric units. Conversion of dimensions shown on contract drawings to English units for use of non-metric measuring equipment is prohibited.

2.2 NON-PUBLIC, TENANT AND SECURED SPACES

- A. Certain tenant spaces, non-public spaces, utility and equipment rooms and other areas related to or used for purposes of storage, conservation, research, curation of museum collection and artifacts or for scientific research may have restricted access.
- B. The Contractor shall identify to the COTR as soon as possible, but no less than two (2) working days in advance, any occupied areas that the Contractor must access that are located outside the limits of the project site. The Contractor shall identify in writing:
 - 1. Restricted areas to be accessed.
 - 2. Specific reason for needing access
 - 3. Nature of the work to be performed.
 - 4. Date(s) and hours needed to complete construction work activity.

2.3 MUSEUM ARTIFACTS AND SCIENTIFIC RESEARCH MATERIALS

- A. The handling of museum artifacts or scientific research experiments by the Contractor is strictly prohibited without written consent of the Smithsonian. The existing museum artifacts and research related materials may be moved only by authorized Smithsonian museum curatorial personnel. An offender of this clause may be subject to arrest or removal from the premises and project by Smithsonian security officers.
- B. If temporary relocation of artifacts or research experiments is necessary, the Contractor shall give notice to the COTR at least five (5) working days in advance of the time relocation is needed.
- C. Humidity/Temperature Controlled Spaces: The Contractor shall take care to minimize fluctuations in air conditions and quality, particularly in areas containing artifacts and storage collections and laboratories and scientific research experiments. Humidity and temperature-controlled areas require consistency of utility operation.

2.4 COMMITMENT TO SUSTAINABILITY

- A. The Smithsonian Institution is a trust instrumentality of the United States (recognized as a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code) and although not an Executive Branch of the U.S. Government, is committed to planning, designing, constructing, maintaining and operating its owned and leased buildings and facilities consistent with Federal environmental and energy management requirements, as listed in the Smithsonian OFEO Codes, Standards and Guidelines document, dated February 15, 2012, to the maximum extent practical.

2.5 COMMISSIONING

- A. The Smithsonian requires Fundamental Commissioning (as defined by the LEED NC and CI rating systems) of all eligible design and construction projects, even if the project is not eligible to pursue LEED certification. The Smithsonian additionally requires Enhanced Commissioning (as defined by the LEED NC and CI rating systems) for larger projects and projects pursuing LEED certification, based on the size and complexity of the project.

3.1 HOURS OF WORK, WORKDAYS AND GOVERNMENT HOLIDAYS

- A. Work shall be performed, under this contract, during the normal workdays of Monday through Friday, except Smithsonian holidays as specified herein and the normal work hours of 7:00 AM to 3:30 PM.
- B. For each occasion the Contractor intends to work on Saturdays, Sundays or Smithsonian holidays or during hours other than those indicated above, the Contractor shall obtain written permission from the COTR, at least three (3) working days in advance.
- C. The Contractor shall reimburse the Smithsonian Institution for security and inspection services provided by the Smithsonian when the Contractor chooses to work outside the normal workdays and hours, as identified herein. However, the Contractor will not be charged for SI overtime security and inspection services, if in the opinion of the COTR, the work cannot be done during the normal workdays and hours due to requirements of the Smithsonian.
- D. Smithsonian Holidays: For holidays that fall on Saturday, the Smithsonian Holiday is observed on the previous Friday. For holidays that fall on Sunday, the Smithsonian holiday is observed on the following Monday. The Smithsonian Holidays are listed below.

New Year's Day	January 1
Martin Luther King Jr.'s Birthday	January, third Monday
George Washington's Birthday	February, third Monday
Memorial Day	May, last Monday
Juneteenth	June 19
Independence Day	July 4
Labor Day	September, first Monday
Columbus Day	October, second Monday
Veterans' Day	November 11
Thanksgiving Day	November, fourth Thursday
Christmas Day	December 25
President's Inauguration Day	*January 20, 2025

3.2 CONDITIONS AFFECTING CONTRACTOR'S WORK

- A. Existing Occupied Spaces: The premises will be occupied during the performance of the Work. The Contractor shall schedule work activities to minimize interruption of occupants and occupied spaces. Efforts will be made to temporarily move employees and contents out of specific areas under construction, as needed, during the times requested by the Contractor. However, the needs of the Smithsonian Institution take precedence and free access for the Contractor cannot always be guaranteed.

- B. Relocation of Existing Occupants: Contractor's requests for the Smithsonian to temporarily relocate existing occupants or for Contractor's access to secured areas shall be made to the COTR as far in advance as possible, but no less than three working days in advance of the need for relocation.

- C. Space for Contractor Use: The space available for Contractor's use is limited to areas indicated on the Contract Drawings as the project site. Space allocation and availability are subject to change, at the discretion of the Smithsonian, to meet the needs of all parties requiring access and space within the building and the surrounding areas.

3.3 CONTRACTOR DELIVERIES, HAULING AND ACCESS

- A. The Contractor's materials and equipment shall be delivered, received and handled by the Contractor's personnel.

- B. Access to the building for on- and off-loading of all material, structures and equipment shall be made between the hours of 6:00 a.m. and 3:00 p.m.

- C. The Contractor may use the freight elevator for movement of material, structures and equipment within acceptable loading limits.

- D. All hazardous materials shall be transported through the building in secondary containment and properly secured to transport carts to prevent breakage or spills. Consult with COTR on routes for transporting.

3.4 DRESS AND DEPARTMENT

- A. Contractors' personnel shall be fully and appropriately clothed at all times and shall conduct themselves in a manner appropriate to a public place. The COTR may require removal of any individual from the premises and project for unacceptable dress, demeanor or disruptive conduct, if the Contractor superintendent fails to correct conditions in violation of this paragraph.

3.5 CONTRACTOR PARKING

- A. There is no onsite parking at the site for the duration of the project.

3.6 EATING, DRINKING, SMOKING, AND ILLEGAL SUBSTANCE ABUSE

- A. Eating and drinking in Smithsonian buildings or leased space will be allowed only in designated areas. Offenders may be subject to removal from the premises and project should the Contractor's Superintendent fail to correct conditions, which, in the opinion of the COTR, violate this clause.
- B. The consumption of alcoholic beverages by the Contractor's personnel is prohibited in all Smithsonian buildings or leased space.
- C. Vaping, using E-cigarettes and Smoking or carrying lighted tobacco products is prohibited in all Smithsonian buildings or leased space, in exhibition and public spaces, in areas where hazardous materials are stored or handled and in areas undergoing construction, renovation or repair. Acceptable areas for smoking are outside of the building at least 25 feet from any opening, operable window or air intake vent and as designated by the Smithsonian Building Manager.
- D. The possession, sale and/or use of narcotics or other illegal substances or firearms by Contractor employees are strictly prohibited in all Smithsonian facilities and leased space. Contractor employees are strictly prohibited from working on the project under the influence of alcohol and/or illegal substances. Contractor employees in violation of any of the above prohibitions will be removed from the project.

4.1 COORDINATION OF TRADES

- A. The Contractor shall coordinate work of different trades so that interference between mechanical, electrical, architectural and structural work, including existing services, shall be avoided.
- B. Where work by separate entities requires off-site fabrication of products and accurate interfacing of materials to produce the required results, the Contractor shall prepare coordination drawings to indicate how work shown on separate shop drawings will be interfaced, intermeshed and sequenced for installation. Coordination drawings shall be submitted in accordance with the requirements of the "Submissions" section.
 - 1. Work installed prior to approval of coordination drawings shall be at the Contractor's risk. Subsequent relocations required to avoid interferences shall be made without additional expense to the Smithsonian. If an interference develops, the COTR will decide which work shall be relocated, regardless of which was installed first.
- C. Installation of equipment and systems shall allow the maximum practical space for operation, repair, removal and testing, within the limits indicated on the Contract Documents. Pipes, conduit, ducts and other system components shall be installed as close as possible to ceiling slabs, walls and columns to minimize space used while accommodating function and maintenance.

4.2 QUALITY CONTROL

- A. The Contractor shall provide for quality control, inspections, testing and re-testing as necessary for all work, including that of Subcontractors, to assure compliance with the contract documents.
- B. Contractor Quality Control (CQC) System: The Contractor shall provide a quality control organization and system to perform quality control, inspections, testing and re-testing as necessary for any item of work, including that of Subcontractors, to assure compliance with the contract documents.
- C. CQC Representative Designation and Authority: The Contractor shall provide a CQC Representative, supplemented as necessary by additional personnel, who shall be on the jobsite at all times during progress, with complete authority to take any action necessary to ensure compliance with the contract documents. The CQC Representative shall be appointed by a letter addressed to him/her and signed by an officer of the firm and shall not be the same individual as, or be subordinate to, the job superintendent or project manager.
- D. CQC Plan Requirements: The Contractor shall submit for review/approval a CQC Plan within thirty (30) calendar days after Contract Award to the COTR for approval. The Plan shall detail the procedures, instruction and reports to be used to assure compliance with the contract documents. As a minimum, the Plan shall include the following:

1. Designation of the CQC Representative: Identify the person and list duties, responsibilities and authority.
 2. Organization Chart: Show CQC staff and its relationship with other staff members and Subcontractors.
 3. Personnel Matrix: For each specification section, identify who is the authorized submittal reviewer, who will inspect the work, what testing laboratory or person will perform on-site testing, who will perform factory inspections and testing and who will certify the documentation.
 4. Responsibility and Authority: State the responsibility and authority for each individual in the CQC system.
 5. Personnel Qualifications: Provide resumes and descriptions of prior experience on similar work.
 6. Inspection Procedures and Schedule: Identify the inspection and testing procedures and scheduled dates as reflected on the CPM project schedule, organized by technical specification section.
 7. Submittal Review Procedures and Schedule: Provide submittal log in accordance with the Submissions section. For each specification section, identify the name(s) of person(s) authorized to review and sign submittals for compliance.
 8. CQC Documentation: Identify the procedures for documenting quality control operations, inspection and testing. Provide samples of each type of required documentation - all forms, logs, reports, etc. Include a testing log listing all tests and inspections required by the contract documents and stating the action to be taken by the Contractor and/or the Smithsonian.
- E. CQC Staffing Requirements: The following listing of minimum staff requirements in no way relieves the Contractor of meeting the basic requirements of the Contractor Quality Control System for this project. The Contractor shall ensure an adequate staff to meet the CQC requirements at all times during construction. When necessary for a proper CQC organization, the Contractor shall provide additional staff at no cost to the Smithsonian.
1. CQC Representative: The CQC Representative shall be a graduate engineer or architect with a minimum of seven (7) years of construction experience on projects similar to this one, including three (3) years experience in Quality Control.
 2. CQC Submittals Assistant: The Contractor shall assign an assistant, to work until submittals are 95% complete, whose sole duty shall be to assist the CQC Representative in maintaining files and logs for submittals.
 3. CQC Specialized Supplemental Personnel: The Contractor shall provide, as a minimum, a different person in each of the areas listed below to assist and report to the CQC Representative. Supplemental personnel shall be responsible for ensuring that the construction complies with the contract documents in their areas of responsibility. They shall be on the jobsite during all installation and testing in their areas of responsibility and shall be responsible for performing inspections and witnessing testing as required by the contract documents.
- F. CQC Inspection Requirements: As a minimum, the inspection procedures shall include the following:
1. Preparatory Inspection: Preparatory inspection shall be performed before beginning work and before beginning each segment of work. Preparatory inspection shall include a review of the contract requirements, complete review of shop drawings and other submittals for

conformance with contract documents, confirmation that all required testing will be provided, physical examination of all materials and equipment for conformance with approved shop drawings and submittals and verification that all required preliminary work has been completed.

2. Initial Inspection: Initial inspection shall be performed as soon as a representative segment of the particular item of work has been accomplished. Initial inspection shall include checking of all dimensions, careful inspection of workmanship, and performance of required testing, performance of corrective actions as necessary and approval or rejection of the initial segment of the work.
 3. Follow-up Inspections: Follow-up inspections shall be performed daily or more frequently, as necessary, and shall include continued testing and examinations to assure continued compliance with the contract requirements.
 4. Special Inspection and Documentation: In addition to the above inspection requirements, certain Special Inspection and Documentation requirements may be contained within the technical specification sections. Each Special Inspection shall be performed and documented as required and documentation shall be submitted as soon as possible after performance unless otherwise indicated.
 5. Factory Inspection by the Contractor: The Contractor shall arrange and perform all factory inspections specifically required in the technical specifications sections.
 6. Non-Compliance Check-Off List: The CQC Representative shall maintain a check-off list of work that does not comply with the contract, stating specifically what is non-complying, the date the faulty work was originally discovered and the date the work was corrected. The CQC Representative shall not allow the Contractor to add to or build upon non-complying work unless, in the opinion of the COTR, correction can be made without disturbing the continuing work. The CQC Representative shall submit a copy of the check-off list to the COTR on a monthly basis. Items corrected on the day they are discovered do not need to be included on the submitted list.
 7. Completion and Inspection of Work: The CQC Representative shall sign the written request for Substantial Completion Inspection (discussed in the Project Closeout Requirements section).
- G. Testing Requirements: Except as specifically stated otherwise, the Contractor shall be responsible for all field sampling and in-place testing required by the contract documents.
1. Independent Testing Laboratory: The Contractor shall provide an independent, commercial testing laboratory to perform all sampling and testing services required, unless otherwise specified. The testing services shall be on- or off-site as required. Submit complete documentation of all tests performed in connection with the construction contract.
 2. Smithsonian Acceptance of Laboratories: Except for factory tests, all field sampling and testing normally performed by commercial laboratories shall be performed by an independent commercial laboratory employed by the Contractor and accepted by the COTR. The Contractor shall submit the following information to the COTR for approval:
 - a. Name, registration number and engineering discipline of the Registered Professional Engineer in charge of the laboratory.
 - b. Affidavit of compliance and certification that the laboratory performs work in accordance with requirements as stated in the contract documents.
 - c. A list of testing equipment proposed for each test procedure including latest calibration data.
 - d. A copy of the latest Laboratory Inspection Report by an independent agency with laboratory certification that deficiencies (if any) have been corrected.

- e. Names and qualifications of persons actually performing testing and sampling. Changes in personnel shall be approved by the COTR prior to performance of work under this contract.
 3. Factory Tests: Unless otherwise specified, the Contractor shall arrange for factory tests when they are required under the Contract. Certified copies of test reports showing that the materials to be incorporated into the work conform to the contract documents will be acceptable, provided they are performed by the manufacturer or by agencies or laboratories acceptable to the COTR.
 4. Test Results: Test results shall cite the contract requirements, the test or analytical procedures used, the actual results and include a statement that the item tested or analyzed conforms or fails to conform to specification requirements. The cover sheet for each report shall be conspicuously stamped in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, as the case may be. All test reports shall be signed by a testing laboratory representative authorized to sign certified test reports. The Contractor shall arrange for immediate and direct delivery of the signed reports, certifications and other documentation to the COTR.
- H. Documentation: The CQC shall prepare or assist with the preparation of the following documents:
1. Daily Reports: The Contractor's Daily Report, as discussed in the section Contractor Correspondence and Daily Reports, shall be signed by the CQC Representative as well as the Superintendent. The CQC Representative's signature certifies that, to the best of his or her knowledge, the report is complete and correct and that all materials, equipment and work described on the report are in compliance with the contract plans and specifications, except as noted otherwise.
 2. Special Inspection and Documentation: Reports of Special Inspections shall be signed by both the CQC Representative and the CQC Specialized Supplemental Person who witnessed the test or inspection certifying compliance with the specific contract requirement.
 3. As-Builts: The CQC Representative shall ensure that all requirements for as-built record drawings and specifications are met. The CQC Representative or Specialized Supplemental Personnel assigned to inspect that particular portion of work shall initial each as-built drawing or technical specification section to certify its accuracy prior to submission in accordance with the Project Close-Out Requirements section.

4.3 PERMITS, LICENSES & FEES

- A. The Contractor shall obtain and pay for all applicable permits and licenses required by regulating agencies, including but not limited to: permits for pedestrian and road markings, construction fences, sidewalk cuts, utility company connections, elevator certificates, waste containers, etc.
- B. The Contractor shall pay all duties, fees, taxes and other charges and give all notices necessary and incidental to the due and lawful execution of the work.

- C. The Contractor shall keep the Smithsonian indemnified against all penalties and liability for breach of provisions of any national, provincial, district or city statute, ordinance or law and the regulations and by-laws of any local or other duly constituted authority, which may be applicable to the Work and with such rules and regulations of public bodies and companies.

4.4 UTILITY SERVICE INTERRUPTIONS AND NEW CONNECTIONS

- A. Any planned interruption in utility service must be approved by and coordinated through the COTR. The Contractor shall submit a written request as far in advance of scheduled interruption as possible, but no less than two (2) full working days in advance. The Contractor shall make the necessary temporary provisions to supply continuous electrical power, HVAC space conditioning and security as required during periods when service is interrupted.
- B. The Contractor's work efforts to restore service shall be continuous until the interrupted utility is back in service.

4.5 SALVAGE

- A. The Smithsonian Institution assumes no responsibility for salvage value or any loss or damage to materials or structures on the site for which the Contractor may have reflected a salvage value in his or her proposal or bid.
- B. Except as specifically stated in the contract documents, construction materials, equipment or other items that are to be removed and neither re-used under this contract nor reserved as property of the Smithsonian Institution shall become the property of the Contractor and shall be removed from the premises by the Contractor.

4.6 CUTTING, PATCHING AND MATCHING EXISTING WORK

- A. Existing work shall be cut, drilled, altered, removed or temporarily removed and replaced as necessary for performance of work under the contract. Work that is replaced shall match similar existing work. Structural members shall not be cut or altered, except where noted on drawings, without authorization of the COTR. Work to remain in place, which is damaged or defaced during this contract shall be restored to match the conditions existing at the time of award of the contract, at no additional cost to the Smithsonian.
- B. Conditions exposed by removal of existing work that do not match new finishes or align with new work shall be called to the COTR's immediate attention. Necessary corrective work directed by the COTR will be subject to adjustment provisions as stated in the General Conditions of the contract.

5.1 PROTECTION OF THE SITE

- A. The Contractor shall provide adequate protection for all parts of the building, including interior and exterior surfaces, its occupants and contents and grounds wherever work under this contract is performed.
- B. Plan for Protection of the Site: The Contractor shall submit a plan for protection of the site to the COTR for approval. As a minimum, the Plan shall describe:
1. Proposed method, location and construction of temporary enclosures.
 2. Routes of access and egress, including those for people with disabilities.
 3. Location and maintenance of emergency exits.
 4. Methods of protection of existing surfaces and occupants.
 5. Means of connection of temporary enclosures/surfaces to existing historic materials.
- C. Erosion and Sedimentation Control (ESC) Plan: If the work under this contract involves disturbance of the site grounds, the Contractor shall prepare an Erosion and Sedimentation Control (ESC) Plan conforming to the erosion and sedimentation requirements of the most recent version of the EPA Construction General Permit OR local erosion and sedimentation control standards and codes, whichever is more stringent, and shall submit the Plan to the COTR prior to the start of construction for approval. The Plan shall describe the measures implemented to accomplish the following:
1. Prevention of loss of soil during construction by storm water runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
 2. Prevention of sedimentation of storm sewers and receiving streams.
 3. Prevention of air pollution from dust and particulate matter.
- D. During construction, temporary enclosures shall be constructed to prevent unauthorized access or egress. Dust and fume barriers shall be constructed, as needed or as determined by the COTR, to seal and isolate the work area from the remainder of the interior areas while the work is in progress. Wood used for protection of the site shall be pressure-impregnated, fire-retardant. All plastic sheeting shall be fire retardant 6-mil polyethylene. Submit product data to the COTR for review and approval.
- E. The Contractor shall submit information describing the proposed construction of temporary enclosures and methods of installation to the COTR for approval. Any connections to existing structures must be accomplished in such a way as to minimize disturbance of existing surfaces.

5.2 PROTECTION OF FLORA, FAUNA AND CENTRAL COMPUTER CONTROLLER IRRIGATION SYSTEM

- A. Flora Protection: The Contractor is expressly prohibited from collecting plant materials on Smithsonian property.

- B. The Contractor shall not store materials inside the drip-line of trees or shrubs. Prior to the start of the work on site, the Contractor shall surround trees within the project site and adjacent areas with a protective fence ("snow fence"), 1.4 m high (minimum), 300 mm outside the drip line (minimum). The protective fencing shall be constructed of heavy-duty metal posts or pressure-treated 100 mm X 100 mm wooden posts, 1 m on center, with a top and bottom stringer of 50 mm X 100 mm members. The fencing fabric shall consist of 40 mm X 13 mm slats, pressure-treated.
- C. Vehicular traffic inside the drip-line of trees, on turf areas or on flowerbeds is not permitted without prior approval of the Smithsonian Gardens through the COTR. If flowerbeds must be crossed by vehicles, bridging is required. Bridging shall be 2 layers of ¾ inch exterior grade plywood or 2" x 10" or 1" protective plastic decking such as Bravo mat or equal to help prevent soil compaction of the soil in the lawn areas and flowerbeds. No parking on the turf will be permitted at any time.
- D. Where aerial work is being performed above flower/shrub beds, the Contractor shall protect them with an approved protective framework installed at least 300 mm above the tops of the plant materials. The Contractor shall submit the proposed method of protection to the COTR and Smithsonian Gardens for approval. Trees and shrubs shall only be tied back with the approval of the COTR and Smithsonian Gardens.
- E. Any damage to the existing irrigation systems during construction shall be repaired by the Contractor within two calendar days from when the damage occurred. All repairs to the irrigation system shall be made by a certified irrigation contractor to work on Rain Bird Maxicom computer controlled irrigation systems. Certification is required.
- F. Damaged piping shall be replaced using approved materials per section Division Two, "Site Work, Irrigation Systems."
- G. The Contractor shall bear all costs for repairs to the damaged irrigation system. Where the low voltage control wiring is damaged due to construction, then said wiring shall be replaced from the zone valve to controller. No splicing will be permitted.
- H. Identification tape, when damaged, shall be replaced with an identification wire from valve to controller.
- I. All damaged irrigation piping shall be cleared of debris prior to making the permit connections.
- J. The Contractor shall bear all costs for replacement of damaged plant materials. Replacement plant materials shall meet the criteria established by the Smithsonian Gardens Division of the Office of Facilities Management and Reliability.

- K. Plant material removed by the Contractor for reuse shall be balled, bagged and protected in accordance with instructions prepared by the Smithsonian Gardens.

- L. Turf areas damaged during construction shall be repaired by the Contractor by rototilling a minimum depth of 6 inches, backfilled with sandy-loam topsoil. Sod shall be certified sod, none netted and a minimum of one year old. Sod shall be 90:10, consisting of a minimum of three varieties tall fescues and one Kentucky Bluegrass. Smithsonian Gardens, through the COTR, must approve the source of the sod. The Contractor shall bear all costs for these repairs. Suggested sources are:

Oakwood Sod Farm, Inc.
29307 Waller Road
Delmar, MD 21875
Phone: (410) 896-4009
Toll-Free: (800)379-8488

Collins Wharf Sod
25361 Collins Wharf Rd
Eden, MD 21822
Phone: 410-334-6676
Fax: 410-749-3815
cwsod@collinswharfsod.com

Summit Hall Sod Farm
21300 River Road
Poolesville, MD 20837-9114
Phone: 301-948-2900
Fax: 301-349-2668

- M. The Contractor shall be responsible for the daily removal of trash and construction debris from turf and flower/shrub beds within the limits of construction.

- N. Any plant material destroyed and/or damaged by the Contractor during construction shall be replaced with like genus and species of the same size, at no additional cost to the Smithsonian. The damaged plant materials must be replaced prior to final payment. The same applies to artifacts or furniture collection pieces. Smithsonian Gardens requires five (5) working days notice should any of the artifacts or furniture collection need to be removed to facilitate construction.

- O. Any construction scaffolding on turf and planted beds must be coordinated with the Smithsonian Gardens through the COTR to ensure that its installation will not damage or destroy existing plant materials or turf area or interfere with daily maintenance of the grounds. Trees may be tied back to permit scaffolding erection, no more than 4 feet if possible. The tying back must be performed by a certified Arborist with the approval of Smithsonian Gardens and the COTR. Where scaffolding is necessary to facilitate construction, Smithsonian Gardens requires a three (3) workday notice for said work.

- P. Due to structural weight limits, vehicular traffic is permitted inside the Smithsonian's Enid A. Haupt Garden only with prior approval by the COTR and Smithsonian Gardens. SI analysis assumes that a contractor will not physically disturb the existing waterproofing system for the facility and that large amounts of soils or stone not be piled up on the structure, in addition to the vehicle weights. The allowable live load on the existing structure is 100 pounds per square foot. The following load values should not be exceeded without prior SI review:
1. The first is the Gross Axle Weight Rating (GAWR) of 9,000. pounds. This is the maximum allotted load on one vehicle axle or piece of equipment axle. This includes summation of the vehicle or equipment weight, the load carried and personnel on the individual axle.
 2. The second is the Gross Vehicle Weight Rating (GVWR) of 14,000. pounds. This is the maximum allotted overall vehicle weight or equipment weight that includes the summation of the total vehicle or equipment weight, the total amount of material carried and personnel weights.
 3. The following is a list of common equipment models, which embody the maximum sizes of vehicle or equipment conforming to the weight ratings above:
 - a. Deere Landscape Loader 210LJ
 - b. Deere Tractor J165M
 - c. Caterpillar Compact Wheel Loader 906H
 - d. Ford Truck F350
 - e. Ford Truck F450
 4. Before either of the two listed load values (GAWR or GVWR) is exceeded by a truck or piece of equipment, the Office of Planning, Design and Construction (OPDC) shall be contacted for review. All cranes or lifts must also be reviewed by OPDC before using them in the area.
- Q. Fauna Protection: The Contractor is prohibited from hunting, collecting or feeding animals on Smithsonian property. All food and food wrapping brought on the premises must be properly disposed of in approved containers, which are secured from animals.
- R. If a generator is placed on the turf, SG must have approval of its placement. Generator shall be placed on anti-compactor boards. The generator must be placed in a drip containment basin.
- S. A schedule of values for plant material is not required.
- T. Topsoil: ASTM D 5268, fertile, naturally sandy loam as defined by USDA Handbook no. 18, Figure 38. It shall be natural, surface soil in a friable condition and contain less than 3% subsoil. The topsoil shall be free of hardpan material, stones and clods larger than ½ inch in diameter, sticks, tree or shrub roots, debris, toxic substances (e.g. Residual herbicides) and other material detrimental to plant growth. The area and the topsoil shall be free of plant or plant parts of undesirable plants such as, but not limited to, Bermuda grass, nut sedge, mugwort, Johnsongrass, Quackgrass, Canada Thistle or noxious weeds as set forth in the Federal Seed Act. It shall be certified free of Southern Blight.
1. Contractor shall notify COTR of location of all sources of the topsoil and furnish the COTR a certified report from the agricultural experiment station or approved agricultural laboratory of an analysis performed not more than 60 days prior to the date of submission. The topsoil shall be certified to meet the following requirements:

- a. Shall be a natural, original surface soil of a sandy loam texture with a mechanical analysis of 60-65% sand, 15-25% silt and 10-15% clay.
 - b. Shall have at least 2%, but not more than 5%, organic matter.
 - c. Soil pH shall be 5.5 to pH 6.5 inclusive unless otherwise specified.
 - d. Soil salinity by electrical conductivity measurement shall not exceed 600 parts per million (ppm) as determined by Black, Editor "Method of Soil Analysis," Part 2, published by the American Society of Agronomy, 1965.
 - e. The soil nutrient level shall be greater than 100 lbs./acre of magnesium, 150 lbs./acre of phosphorous and 120 lbs./acre of potassium.
2. Agricultural limestone at not more than 5 pounds per cubic yard of top soil may be used to adjust an acidic condition provided it is well mixed in a manner, which does not destroy the structure of the soil.
 3. Topsoil that has been synthesized by blending materials which individually do not meet the requirements of this specification will not be accepted even though the resulting blend meets the organic matter, mechanical analysis, pH and soluble salts requirements.
 4. The COTR reserves the right to inspect and sample all topsoil at the source and at the time of delivery. These inspections will be made without cost to the Contractor.
 5. Topsoil must not be delivered or handled in a frozen or muddy condition.
 6. Shipment and Delivery - All soil must be approved by the COTR before delivery to the site. Any material not meeting requirements of this specification will be rejected on or after delivery.

U. Screened Leaf Mold

1. As available through Maryland Environmental Services, 2020 Industrial Drive, Annapolis, MD 21401 (301/261-8596) or approved equal, completely composted and free from all materials such as glass, paper, plastics, etc. Composted sewage sludge shall not be used.

V. Soil Mix Aggregate

1. Aggregate shall be Solite 3/8 as manufactured by Solite Corp., 2508 Chamberlayne Avenue, Richmond, VA or approved equal. Lightweight aggregate shall be expanded shale or slate expanded by the rotary kiln process. The aggregate shall meet the requirements of the American Society of Testing Materials C331-81 and C33-80.

W. Backfill

1. When existing soil is acceptable for use: Existing topsoil shall be used unless so directed otherwise by the COTR. The following mixture in accordance with the specifications herein, thoroughly mixed by volume shall be used as backfill:
 - a. 6 parts existing soil
 - b. 2 parts leaf mold
 - c. 2 parts solite #388
2. When existing soil is not acceptable for use: If so determined by the COTR that the existing soil is not acceptable for use, the Contractor shall excavate all soil to a depth of 24 inches and disposed of off-site. The following backfill mixture, thoroughly mixed by volume in accordance with the specifications herein, shall replace the excavated soil:
 - a. 60% sandy loam topsoil
 - b. 20% Solite #388
 - c. 20% Composted leaf mold

3. Backfill shall be mixed off site. If requested, backfill shall be mixed in the presence of the COTR. Backfill must be approved by the COTR before delivery to the job site.

X. Ground Limestone

1. Lime: ASTM C 602, Class T, agricultural limestone containing a minimum 80% calcium carbonate equivalent with a minimum 99% passing a No. 8 (2.36 mm) sieve and a minimum 75% passing a No. 60 (250 micrometer) sieve.
 - a. Provide lime in the form of dolomitic limestone.

5.3 DEBRIS CONTROL AND DAILY CLEANUP

- A. The Contractor shall regularly clean up the work areas and shall, at all times, maintain the project in as neat and orderly a manner as is consistent with normal operations. Debris resulting from construction operations shall be removed from the site daily by the Contractor. The Contractor shall keep all access, haul routes and site areas free of dirt, debris and other materials resulting from construction activities.
- B. Under no circumstances shall any rubbish or waste be dropped or thrown from one level of scaffolding to another or within or outside the building. Rubbish may be lowered by way of chutes, taken down on hoists or lowered in receptacles.
- C. Trash receptacles: The Contractor shall provide enclosed trash receptacle(s) in quantity and size necessary to meet project needs, located as approved by the COTR. Trash receptacles shall not be placed.
- D. Refer to MasterSpec (AIA) Division 01 section on Construction Waste Management and Disposal following this section 010000.

5.4 DUST AND QUALITY CONTROL

- A. The Contractor will execute the Work by methods that minimize dust, vapors and gases raised by construction operations. The Contractor will utilize engineering controls and work practices to prevent airborne dust, vapors, gases and objectionable odors from dispersing into the atmosphere and from being drawn into existing air-intake louvers, ductwork and adjacent elevator shafts. A work plan of methods and means for this section shall be submitted to the COTR for review and approval.
- B. Dust barriers shall be erected, where necessary, to protect adjacent areas from dust infiltration as required by the COTR. Dust barriers shall be rigid and visually opaque and shall seal the work area by affixing to the structure on all sides (i.e. ceiling, walls and floor). Wood used for dust barriers shall be pressure-impregnated, fire-retardant treated lumber. All plastic sheeting shall be fire-retardant 6-mil polyethylene. Submit product data for review and approval to the COTR.

- C. Means of connection of dust barriers to existing structures shall not damage the building fabric. Details of barriers shall be submitted for approval to the COTR.
- D. No open fires or burning of trash are permitted.

5.5 NOISE CONTROL

- A. The Contractor shall comply with the regulations of the District of Columbia and OSHA Standards 1926.52 and 1910.95 and all other regulations relative to safety noise control.
- B. Activities that generate excessive noise or vibration and interrupt museum functions or create public disturbances may be required to be performed during off-hours at the discretion of the COTR.
- C. The Contractor shall provide sound attenuation to maintain acoustic level below 75 dBA at a distance of 15 m or below 75 dBA in occupied staff areas if less than 15 m away from noise source.

5.6 VERMIN, PEST AND RODENT CONTROL

- A. The Contractor shall develop an Integrated Pest Management (IPM) plan and provide regularly scheduled inspection services by a licensed Pest Management Professional to manage and, when possible, to eliminate insects, rodents, birds, arachnids and other miscellaneous pests invading the project site or premises for the duration of the project. In general, preventative pesticide applications are prohibited. Preventative pesticide applications may be made when there is a surveillance-based indication of pest infestation. Such applications shall be made on a case-by-case basis and only upon written approval of the COTR prior to such application. The IPM plan must address all the specific IPM requirements listed in the Leadership for Energy and Environmental Design (LEEDTM) Existing Buildings: Operations & Maintenance Indoor Environmental Quality (IEQ) Credit for Green Cleaning: Indoor Integrated Pest Management, including preferred use of nonchemical methods, the use of least toxic pesticides as identified by San Francisco Tier 3 Low Hazard pesticides (SF Pesticide Hazard Screening List), the definition of emergency conditions (defined as a threat to landscape, building integrity or human occupancy after non-chemical methods have been exhausted) and universal notification (advance notice of not less than 72 hours under normal conditions and 24 hours in emergencies before a pesticide, other than a least toxic pesticide, is applied in a building or on surrounding grounds that the building management maintains). Any outdoor IPM plan must also be integrated with any indoor IPM plan for the building, as appropriate.
- B. Throughout the term of this contract, all Contractor personnel providing on site pest control service must maintain pesticide certification(s) as a Commercial Pesticide Applicator in the appropriate EPA category (Industrial, Institutional, Structural and Health Related Pest Control).

Minimum pesticide certification is to include General Pest Control and Rodent Pest Control categories.

- C. The Contractor shall describe methods and procedures to be used for identifying sites of pest harborage and access and for making objective assessments of pest population levels throughout the term of the contract.
- D. The Contractor shall provide photocopies of state-issued Commercial Pesticide Applicator certificates for every Contractor employee who will be performing on site pest management services under this contract, as well as current Pesticide Business Licenses for the state(s) in which these services are to be performed.
- E. All employees of the Contractor performing pest control services on the site(s) specified in this solicitation shall carry with them, as required by law, their personal pesticide identification card.
- F. Other employees of the Contractor who are not certified in any applicable pest control category shall, as a condition to performing pest management services under this contract, meet one of the following requirements:
 - 1. Shall perform pest management services under the direct and immediate supervision of the Contractor's certified pesticide applicator(s).
 - 2. Will have obtained a written waiver of this provision from the COTR based upon the employees' special qualifications and /or exigent circumstances. The COTR shall have complete discretion to approve or disapprove such waiver.
- G. The Contractor shall be responsible for advising the COTR about any structural, sanitary or procedural modifications that would reduce pest food, water, harborage or access.
- H. The Contractor shall obtain the approval of the COTR prior to any application of sealing materials or other structural modifications to prevent the introduction of pests into the project site or premises.
- I. The Contractor shall be responsible for carrying out work according to an approved pest management plan. The Contractor shall receive concurrence of the COTR prior to implementing any subsequent changes to the approved pest management plan, including additional or replacement pesticides and on-site service personnel.
- J. On occasion, the COTR may request that the Contractor perform corrective, special or emergency pest control services that occur outside routine service hours. The Contractor shall respond to all such requests within four (4) hours after receipt of the request.
- K. The Contractor shall submit the following information to the COTR for approval at least ten (10) working days prior to the use of any pesticide or chemical:

1. Material Safety Data Sheets (MSDSs) for the pesticide or chemical being used.
 2. Written description of each proposed type of use, targeted species and restrictions on use of the area treated during and after application.
- L. The Contractor shall remove dead rodents from the premises within 24 hours. Dead rodents in inaccessible areas may be treated with dilute sodium hypochlorite, neutroleum alpha or similar disinfecting or deodorizing agent. Trapping devices are the preferred method for the control of commensal rodents. The Contractor shall be responsible for disposing of all trapped rodents and all rodent carcasses in an appropriate manner. END OF SECTION 010000.
- M. The Contractor shall use the safest means to protect Smithsonian property during pest management operations. If damage to artifacts, collections or any SI property occurs, the Contractor must not attempt any remedial action. The collections manager, COTR and/or building manager must be notified immediately.
- N. Pesticides that constitute an extreme hazard to the environment, such as rodenticides, shall be placed in locations not accessible to children, pets and non-target wildlife or in EPA approved “tamper-resistant” bait boxes. Tamper-resistant boxes shall be constructed of sturdy materials, have a means for locking lids and be capable of being anchored securely to prevent unauthorized efforts to move the box or to displace its contents.
- O. All bait boxes shall be maintained in accordance with EPA regulations, with an emphasis on the safety of non-target organisms. The Contractor shall adhere to the following points regarding bait box policy:
1. All bait boxes shall be placed out of the general view, in locations where they will not be disturbed by routine operations.
 2. The lids of all bait boxes shall be securely locked or fastened shut.
 3. All bait boxes shall be securely attached or anchored to the floor, ground, wall or other immovable surface, so that the bait box cannot be picked up or moved.
 4. Rodenticide bait shall always be secured in the feeding chamber of the bait box and never placed in the runway or entryways of the bait box.
 5. All bait boxes shall be labeled on the inside with the Contractor’s business name, address and dated by the Contractor’s service specialist at the time of installation and with each service.
- P. Application of rodenticide outside of buildings shall emphasize direct treatment of rodent burrows, with the application of tracking powder favored over application of anticoagulant type rodenticides.
- Q. The Contractor shall minimize the use of and potential exposure to pesticide wherever possible through the use of nonchemical control methods and materials.
- R. When it is determined that a pesticide must be used in order to obtain adequate control, the Contractor shall utilize the least hazardous material, most precise and species-targeted application and the minimum quantity of pesticide necessary to achieve control.

- S. The Contractor shall be required to maintain an accurate, up-to-date pest activity logbook(s) to document pest sightings, pest control procedures and any communications to staff regarding IPM or pesticide use. The logbook(s) shall be kept on site and maintained on each visit by the Contractor.

- T. The Contractor shall observe all pesticide safety precautions throughout the performance of this contract. All work shall be in strict accordance with all applicable Federal, State and Local safety and health regulations. Where a conflict between applicable regulations arises, the most stringent will apply.

- U. The Contractor is prohibited from storing any pesticide product in the buildings specified in this contract.

- V. The Contractor shall establish a complete Quality Control (QC) program to assure the requirements of the contract are provided as specified in accordance with this solicitation. The QC program shall include at least the following items:
 - 1. Inspection System: The Contractor's quality control inspection system shall cover all the services stated in this contract. The purpose of the QC program is to detect and correct deficiencies in the quality of workmanship before the level of performance becomes unacceptable and/or the COTR identifies the deficiencies.
 - 2. A quality control checklist shall be used in evaluating contract performance during regularly scheduled and unscheduled inspections. The checklist shall include every building or site serviced by the Contractor as well as every required task.
 - 3. A Quality Control (QC) file shall contain a record of all inspections conducted by the Contractor and any corrective actions taken. The QC file shall be maintained throughout the term of the contract and made available to the COTR or authorized SI staff personnel, upon request.
 - 4. The Contractor shall state the name(s) of the individual(s) responsible for performing the Quality Control (QC) inspections.

5.7 DRILLING, WELDING AND TORCH CUTTING

- A. Daily Permits: When welding, torch cutting or other heating operations are to occur inside existing structures, the Contractor shall obtain a daily HOT WORK PERMIT from the Building Manager's Office. Permit must be obtained no more than 24 hours in advance, including for days following holidays, Mondays and off-hours (night) work. Reference attached Hot Work Permit form and General Instructions for required permit process. The PAI (Permit Authorizing Individual) will be available in the Building Management Office and/or throughout the Facility. Building Management Office hours are from 8am to 4pm. The permit must be posted at the job site prior to beginning the scheduled work. During the course of the Work, all existing smoke and heat detectors and sprinklers heads must remain operable. Coverings may be applied to protect them from spray coatings or other hazardous conditions only during the actual operations. Coverings must be removed immediately after the operations have concluded, but at the end of each working day at a minimum. When work produces dust or other airborne contaminants, e.g. spray painting, that could impair existing fire suppression or detection system(s) or when the system itself is otherwise impaired (drained down, etc.), the Contractor shall obtain a daily FIRE

SYSTEM IMPAIRMENT PERMIT. Fire System Impairment Permit must be obtained a minimum of 48 hours in advance. Reference attached Fire System Impairment Permit form and General Instructions.

- B. Fire Watch: No welding or torch cutting shall be performed unless adequate fire protection is provided. The Contractor shall maintain a fire watch for the duration of welding, cutting and heating operations and for at least 30 minutes after the 'hot' work has stopped. A fire extinguisher (minimum 10 pounds, dry-chemical type, typical) shall be on hand when drilling, welding or cutting.

- C. Use of Impact Hammers: The use of impact hammers or other equipment causing vibration, noise and dust may be harmful to collections and/or building occupants. The Contractor shall request approval from the COTR at least five (5) working days before beginning this type of work to ensure adequate time for notification of building occupants and protection of objects and collections.

- D. Ventilation: The Contractor shall provide adequate ventilation to prevent air contamination or the accumulation of toxic materials. Take necessary measures to prevent welding fumes from passive transfer to adjacent areas and from entering mechanical ventilation systems, including sealing all adjacent ducts and equipment openings with plastic. Where transfer is deemed likely or verified by the COTR, utilize local exhaust ventilation with HEPA filtration to control welding fumes. The Contractor shall submit means and methods for controlling air contamination to the COTR for review and approval.

6.1 CONTRACTOR FIELD OFFICES

- A. Not applicable.

6.2 STAGING, STORAGE AND WORK AREAS

- A. The Contractor shall provide adequate storage and protection of materials and equipment delivered to the site to prevent theft, weather damage, mold infiltration, moisture damage and other physical damage.
- B. Plan for Staging, Storage & Work Areas: The Contractor shall submit a drawing of areas proposed for construction operations for approval by the COTR at least five (5) working days prior to mobilization or at the Preconstruction Meeting, whichever is first. The drawing shall show buildings, utilities, temporary toilet facilities, temporary utility extensions, temporary interior walls and barriers to limit unauthorized intrusion and to control noise and dust, pedestrian walkways, vehicular access, temporary fencing, trailers, sheds, storage areas and the Contractor's desired route for access and egress to the premises and to the project site.
- C. All wood used for temporary, interior construction shall be pressure-impregnated with a "Dricon" treatment or an equal treatment approved by the Smithsonian Institution. All pieces must bear the UL "FR-S" stamp. Intumescent (fire-retardant) paint shall not be used. All plastic sheeting shall be fire retardant 6-mil polyethylene. Submit product data to the COTR for review and approval.
- D. Fencing: The Contractor shall install a "snow fence" to define the temporary work limits for construction around exterior staging, storage and work areas at no additional cost to the Smithsonian. The snow fence shall consist of 40 mm x 13 mm slats, preservative treated, 1.2 m high with 12 gage wire and 50 mm spacing between slats, on 1.8 m steel pickets with 1.8 m on center spacing.

6.3 SANITARY FACILITIES

- A. Contractors' personnel will be permitted to use designated restrooms located on the premises. If, in the opinion of the COTR, the Contractors' personnel fail to maintain acceptable dress and conduct appropriate to a public place, permission to use the public restrooms may be rescinded.

6.4 TEMPORARY UTILITY SERVICES AND EXTENSIONS

- A. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations for COTR review and approval.
- B. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations COTR review and approval.

6.5 SCAFFOLDING AND PLATFORMS

- A. The Contractor shall erect temporary scaffolding in accordance with OSHA 29 CFR 1926.451 and ANSI A10.8. The Contractor shall provide landing platforms with stairways or ladders for proper access and egress to all work areas.
- B. For all frame scaffolding greater than 4 m in height, the Contractor shall submit working drawings to the COTR a minimum of ten (10) working days in advance of scaffolding erection. Working drawings submitted by the Contractor shall be certified by a registered Professional Engineer.
- C. During non-working hours, the Contractor shall close and lock the scaffolding with a physical barrier to prevent access by unauthorized persons.

6.6 PROJECT SIGNS

- A. All signs, including signs identifying the Contractors, shall be submitted at least five (5) working days prior to erection for approval by the COTR. The Contractor shall maintain and relocate the signs, as necessary, during the progress of the Work. The Contractor shall remove all signs, framing and foundations at the completion of the Work.
- B. Construction Site Information and Direction: Informational signs required to indicate the location of the Contractor's office and directional signs for safety, vehicular control, pedestrian right-of-ways, detours to facilities, etc. shall be furnished and installed by the Contractor as requested and approved by the COTR.

7.1 PRECONSTRUCTION MEETING

- A. A Preconstruction Meeting will be scheduled with the Contractor before any work is started at the site. As soon as possible after the Date of Award, the COTR will contact the Contractor to arrange a time, date and place for the conference. Items to be discussed at the Preconstruction Meeting include, but are not limited to:
1. Contract Time: Notice to Proceed date and Completion date;
 2. Scheduling and Submittals;
 3. Mobilization and Staging;
 4. Access to the Premises, Haul Routes, Loading Dock;
 5. Contractor Deliveries;
 6. Security Requirements/List of Contractor's Personnel;
 7. Emergency Procedures and Phone Numbers;
 8. Protection of Site and Historic Preservation;
 9. Fire Protection and Safety Requirements;
 10. Utility Interruptions, Rough-in Inspections, Testing;
 11. Applications for Payment;
 12. Pre-Condition Survey of the Site;
 13. Accessibility Requirements;
 14. Sustainability Requirements;
 15. Building Systems Commissioning;
 16. Quality Control

7.2 PRE-CONDITION SURVEY OF THE SITE

- A. After the Preconstruction Meeting and before the start of work on the site, the project site (i.e. building, its contents, grounds and equipment) shall be inspected by the Contractor, major Subcontractors, COTR and other Smithsonian Institution personnel as may be required for the purpose of verification of the existing conditions. Any damages or defective equipment will be noted at this time and this survey will serve as the basis for the establishment of the pre-contract conditions. The identification of pre-contract conditions will be jointly established by the Contractor and Smithsonian Institution.
- B. Written and photographic documentation: The Contractor shall prepare a typewritten and photographic report in PDF format to identify damages or defects of materials, equipment and the site. The Contractor shall submit report electronically to the Contracting Officer and the COTR.

7.3 PROJECT MEETINGS

- A. Progress Meetings: The COTR will lead regular progress meetings with an interdisciplinary integrated management team consisting of representatives of the Contractor, Smithsonian, Architect/Engineer Commissioning Provider, major Subcontractors and other critical Subcontractors and suppliers. The purposes of these meetings are to expedite the work,

coordinate and schedule the Work and coordinate the work with Smithsonian activities. Progress meetings shall be held weekly unless otherwise directed by the COTR. The time and place of the meetings will be established at the Preconstruction Meeting. The Contractor shall ensure that all required Subcontractors and suppliers attend the Progress Meetings and the COTR will ensure that all necessary SI personnel attend.

- B. Special-Topic Meetings: At the discretion of the COTR, additional meetings may be scheduled to address issues of quality control, sustainability requirements, coordination between contractors on the premises, coordination with other agencies, scheduling of the work, application for payments, etc. The Contractor's staff and Subcontractors or Suppliers shall attend.

8.1 SUBMITTAL DEFINITIONS

- A. Submittals are defined to include shop drawings, product data, samples and additional data required for submission to the COTR for review and approval prior to incorporation into the work.
1. Shop Drawings: Detailed drawings, schedules, diagrams and illustrations prepared specifically for this project by the Contractor or any subcontractor, manufacturer, supplier or distributor to illustrate fabrication and/or installation of a portion of the Work.
 2. Schedule: A detailed tabulation of components, items or parts to be furnished for use on this project.
 3. Statement: An affirmation prepared by the Contractor, the installer or manufacturer of a material, product or system, to satisfy a requirement defined in a technical section.
 4. Factory Test Report: A written report of the findings of a test performed by the Contractor on an actual portion of the Work or prototype prepared for this project before it is shipped to the site.
 5. Field Test Report: A written report of the findings of a test performed by the Contractor on a portion of the Work during or after installation.
 6. Certificate of Compliance: A written statement, signed by an authorized official of the manufacturer of a product or system or supplier of a material attesting that the product, system or material meets the requirements of the contract documents. The certificate of compliance must be dated after the award of this Contract and must name the project and cite the specification section, paragraph and requirements, which it is intended to address.
 7. Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, manufacturer's descriptive literature and catalog information illustrating a material, product or system to be installed on this project, including all data related to LEED requirements, such as recycled and regional content information, Volatile Organic Compound (VOC) product schedules, Forest Stewardship Council (FSC) chain-of-custody documentation and other documentation as requested by the COTR.
 8. Color Charts: Pre-printed brochures showing the color range of a material.
 9. Test Reports: Reports verifying that a material, assembly, system, process or laboratory meets requirements established in the Contract Documents. Reports shall indicate compliance by naming and describing the test method and test results. Testing must have occurred within three (3) years of the date of award of this contract.
 10. Samples: Physical examples of materials, equipment, assemblies or workmanship establishing standards for evaluating finished Work.
 11. Color/Texture Selection Sample: Samples of an available range of textures and/or colors of a material formed of the actual finish material over a substrate identical to that which will be used in the field.
 12. Mock-up: An assembly or sample panel constructed in accordance with specifications to show construction details, finished appearance and/or performance.
 13. Material Safety Data Sheets: Instructions, warnings and recommended and required handling and use procedures for individual hazardous materials published by the product manufacturer.

8.2 SUBMITTALS AND REVIEWS

- A. Contractor Responsibility for Submittals: The Contractor shall provide all required submittals, by technical specification section, in accordance with the contract documents. All submittals, with the exception of mockups or samples, are to be submitted electronically in PDF format, using e-mail, the Smithsonian's I-Manage portal, or a contractor-sponsored FTP site, as directed by the COTR. The Contractor shall clearly indicate, on the submittal, that it has been reviewed by the Contractor and found to meet the project requirements. Any items submitted as substitutions shall be clearly identified as such on the submittal and the transmittal document. If shop drawings show variations from the contract documents because of standard shop practices or for other reasons, the Contractor shall provide a separate, written description of variations along with the submittal. The Contractor shall:
1. Review each submittal for conformance with requirements of the contract documents and coordination with related work.
 2. Determine and verify all field measurements, required material quantities, method of assembly or erection, installation requirements and proper connection to adjoining materials installed by others.
 3. Assure that all submittals use the appropriate units of measure. All drawings and technical data shall be in SI (metric) units for projects designed in SI units. Preprinted literature in other units shall be accompanied by documentation to show conformance to project requirements.
 4. Transmit all required submittals for a technical specification section at the same time unless prior written waiver of this requirement has been provided by the COTR.
 5. Transmit submittals to the COTR in a logical and orderly sequence in accordance with the Submittal Schedule to prevent project delays or adversely impact work by the Smithsonian Institution or other contractors.
 6. Correct and resubmit submittals according to response from Smithsonian Office of Planning, Design & Construction.
 7. Commence work on items requiring submittals only after all related submittals are reviewed and approved by the Smithsonian. All Work shall conform to approved submittals.
- B. Submittal Schedule and Control Log: The Contractor shall submit, to the COTR, a schedule of work-related submittals using the Smithsonian OPDC Submittal Log form within *fourteen (14) calendar days after the effective date of the Notice to Proceed. (Submittal Log form is available on computer disk upon request.) Submittals shall be listed in the order they are scheduled to be submitted and the following information shall be given:
1. Project Name, Project Number, Contractor Name, Contract Number;
 2. Technical Specification Section for each submittal;
 3. Unique Submittal Number;
 4. Description of item to be submitted, as listed in the specifications;
 5. Date item must be submitted to the Smithsonian in order to support the project schedule;
 6. Subcontractor providing submittal (in "Comments" column).
- C. Quantities for Submittals: Unless otherwise noted in the technical specification, the Contractor shall deliver to the COTR:
1. Shop Drawings: Submit electronic copy of shop drawings in PDF format. Submittal will be forwarded electronically to the AE for review. After submittal review, submittal will

be returned to the Contractor electronically, in PDF format. Submit in DWG format, if requested.

2. Product Data, Test Reports, Color Charts, etc.: The Contractor will make submittals in electronic format, preferably PDF.
 3. Color/Texture Samples: Submit two (2) samples, minimum size 600 mm by 600 mm, unless otherwise specified. After submittal review, one (1) sample may be retained by the Smithsonian.
 4. Mock-up and Sample Installations: Unless otherwise specified, minimum size shall be as noted to complete a panel section or normal break in the work.
 5. Written Text Documents, Plans and Reports: Submit electronic copy of written text documents, plans and reports in PDF format. Submittal will be forwarded electronically to the AE for review. After submittal review, submittal will be returned to the Contractor electronically, in PDF format.
- D. Submittal Reviews by the Smithsonian: Reviewed submittals will be marked "Approved," "Approved as Noted," "Resubmit" or "Disapproved." Submittal approval by the Smithsonian shall not relieve the Contractor of responsibility for submittal errors, omissions or deviations from the contract documents. Approval of submissions does not constitute acceptance of substitutions except as covered under sub-paragraph entitled "Contract Requests for Substitutions."
- E. Submittal Review Period: The Contractor shall transmit, to the COTR, all submittals sufficiently in advance of the time necessary for fabrication and installation to allow for review by the Smithsonian and return to the Contractor, including any time needed for correction and resubmission by the Contractor. The expected time required by the Smithsonian for review of initial submission is *14 calendar days. No extension of the Contract Time will be granted for the Contractor's failure to allow sufficient time for review and processing, including resubmission of items, which initially rejected due to improper submission or non-compliance with the Contract Documents.
- F. Contractor Requests for Substitutions: Contractor requests for items identified by manufacturer, brand name, make, catalog number, etc. in the contract documents shall be submitted to the Contracting Officer for approval prior to contract award, in accordance with the General Conditions. After award of the contract, contractor requests for substitutions may be considered and accepted by the Smithsonian at the discretion of the Contracting Officer.

8.3 CRITERIA FOR PRODUCT SELECTION

- A. To the greatest extent possible, subject to the restrictions of the Buy American Act, provide products, materials or equipment of a singular generic kind from a single source. Where more than one choice of a product or material is available for Contractor's selection, select an option, which is compatible with other products and materials already selected.
- B. Provide products complete with accessories, trim, finish, safety guards and other devices and details needed for complete installation for intended use and effect.

- C. Products, which, by nature of their application, are likely to be needed at a later date for maintenance and repair or replacement work, shall be current models for which replacement parts are available.

- D. Product selection shall be done in accordance with the following requirements:
 - 1. Standards, Codes and Regulations: Select from among products that are in compliance with the project requirements, as well as with construction standards, all applicable codes and regulations and LEED requirements.
 - 2. Performance Requirements: Provide products that comply with specific performances indicated and are recommended by the manufacturer (in published product literature or by individual certification) for the application indicated.
 - 3. Prescriptive Requirements: Provide products that have been produced in accordance with prescriptive requirements, using specified ingredients and components and complying with specified requirements for mixing, fabricating, curing, finishing, testing and other operations in the manufacturing process.
 - 4. Visual Matching: Where matching with an established sample for color, pattern and/or texture, the COTR shall determine whether a proposed product matches the sample.
 - 5. Avoidance of banned materials: The Contractor will commit to not using the following toxic and hazardous materials:
 - a. Products containing asbestos, urea formaldehyde, polychlorinated biphenyls (PCBs) and/or chlorinated fluorocarbons;
 - b. Products containing lead content, including older or flux containing more than 0.2 percent lead; domestic water pipe or pipe fittings containing more than 8 percent lead; and paint containing more than 0.06 percent lead.

8.4 PROGRESS PHOTOGRAPHS

- A. The Contractor shall provide photographs of the project site and construction activities throughout the progress of the Work, produced by a commercial photographer, acceptable to the Smithsonian Institution. The COTR shall determine the vantage points from which photographs will be taken.

- B. At least 24 color progress photographs shall be taken monthly. The actual number and location of views shall be directed by the COTR. Photographs shall be taken at the start and finish of various elements of construction designated by the COTR.

- C. Within ten (10) working days of taking photographs, the Contractor shall submit to the COTR, via email or other electronic means, JPEG files for all photographs taken.

8.5 CONTRACTOR CORRESPONDENCE AND DAILY REPORTS

- A. The Contractor shall correspond with the COTR for all matters related to this construction project, unless otherwise directed. All correspondence shall be signed and dated by the Contractor and shall reference the project, project number and contract number.

- B. The Contractor shall maintain daily reports using the Smithsonian Institution Contractor's Daily Report form. Reports shall be numbered consecutively and all sections shall be completed or noted as "not applicable." Reports shall contain detailed remarks each day, including but not limited to progress on the job, problems discovered and discussions with Smithsonian staff. Reports shall be submitted to the COTR each day for the previous workday.

- C. All correspondence with the Smithsonian Institution shall be in the English language.

9.1 JOBSITE SAFETY

- A. Safety Coordinator: The Contractor shall designate a person responsible for safety at the project site for the duration of the project.
- B. Jobsite Safety Plan: The Contractor shall submit a Jobsite Safety Plan within *30 calendar days of the Contract Award and at least *10 calendar days prior to mobilization to the site for approval by the COTR. As a minimum, the plan shall detail the procedures, designated persons, instructions and reports to be used to assure jobsite safety for all contractors, subcontractors, Smithsonian personnel, the public and others on the site.
- C. Occupational Safety and Health: This contract is subject to Title 29 of the Code of Federal Regulations, Part 1910 "Occupational Safety and Health Standards" and Part 1926 "Safety and Health Regulations for Construction" pursuant to the Occupational Safety and Health Act (OSHA) of 1970 administered by the US Department of Labor, Occupational Safety and Health Administration.
- D. Emergency Assistance: The Contractor shall post, at the site, telephone numbers for reporting emergencies, including the Smithsonian Office of Protection Services (OPS), ambulance, police, fire department, gas utility, electric utility, water/sewer utility, poison prevention aid and hazardous-waste handling. This information shall be posted in a conspicuous location within the project area prior to the start of any work at the site.
- E. Safety Signs: The Contractor shall post legible accident prevention signs in construction areas in accordance with OSHA standards. Safety signs shall conform to ANSI 235.1 and 235.2 Vehicular traffic control devices, barricades and signals shall conform to ANSI D6.1.
- F. Report of Accident or Illness: In the event of any accident or illness for which medical assistance is required, any criminal action or any fire, the Contractor shall notify the appropriate authority (Ambulance, Police, Fire Dept.), Smithsonian Security and the COTR.
- G. Emergency Evacuation: The Contractor shall post evacuation routes and facility emergency/self-protection plans at the site, train all employees in emergency procedures and document such training. In the event of a fire, the Contractor shall immediately activate the alarm at the nearest fire alarm pull station and notify building security. Upon the activation of the audible alarm, the building will be evacuated. No personnel shall reenter the facility until security personnel signal that the building is safe.
- H. Contractor Personnel to be Contacted: The Contractor shall submit a written list of emergency telephone numbers and names of persons to contact for the General Contractor superintendent and for each major sub-contractor working on the project site. The initial list shall be submitted

to the COTR at the Preconstruction Meeting. The list shall be updated and resubmitted to the COTR as needed.

9.2 TOXIC AND HAZARDOUS SUBSTANCES

- A. The Contractor shall submit to the COTR for approval, at least ten (10) working days prior to their intended use, a written list of toxic and hazardous substances that will be used on the project. The Contractor shall submit a "Material Safety Data Sheet" similar to OSHA Form No. 20 for these substances to identify the following information:
1. Product Identification;
 2. Hazardous Ingredients;
 3. Physical Data;
 4. Fire and Explosion Hazard Data;
 5. Health Hazard Data;
 6. Emergency and First Aid Procedures;
 7. Reactivity Data;
 8. Spill or Leak Procedures;
 9. Special Protection Information;
 10. Special Precautions;
 11. Volatile Organic Compound (VOC) Content.
- B. The Contractor shall monitor the use of all toxic and hazardous substances to ensure that exposure to their workers from airborne concentration of, or physical contact with, these substances does not exceed applicable regulatory worker health and safety exposure limits.
- C. The Contractor shall monitor the use of all toxic and hazardous substances to ensure that exposure to Smithsonian Institution employees and visitors from airborne concentrations of, or physical contact with, these substances is maintained as low as reasonably achievable. Under no circumstances shall exposure exceed the established Short-Term Exposure Limit or 50% of the established Threshold Limit Values or Permissible Exposure Limits (whichever is less) as specified in either:
1. "Threshold Limit Values and Biological Exposure Indices" of the American Conference of Governmental Industrial Hygienists, latest revision or
 2. Title 29 CFR Part 1910, Subpart Z - "Toxic and Hazardous Substances" of the Occupational Safety and Health Standards, latest revision.
- D. The Contractor shall provide methods, means and facilities to prevent contamination of soil, water and atmosphere from discharge of noxious, toxic substances and pollutants produced by construction operations. The removal of contaminated waste shall be in compliance with applicable laws and regulations.
- E. To achieve compliance with the requirements of this section, administration or engineering controls shall first be implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or other protective measures shall be used to keep exposure of all persons within the prescribed limits. Descriptions of equipment or technical

measures to be used for this purpose must be submitted to the COTR for approval. The Contractor's requirements for compliance with all applicable Local, Federal and State regulations remain in force.

- F. The SI may reject any product that poses a high risk of fire or health hazard to staff, visitors or the building, based on flammability criteria (e.g. low flashpoint) or established toxicity data (e.g. designation as a human carcinogen).
- G. The Contractor shall submit, to the COTR, a list of the hazardous materials to be stored on site and the manner in which they will be stored. All containers and storage cabinets shall be approved by the COTR and labeled as to hazard and content.
- H. The SI has made every effort to identify and to notify the Contractor of hazardous materials that may be encountered during the work. However, if suspected asbestos-containing material, lead-based paint or other suspected hazardous materials are encountered during demolition or other phases of the work, the work involving the suspected material shall cease and the Contractor shall notify the COTR immediately. Prior to disturbance, asbestos-containing materials are to be abated in accordance with SI Specification 028200 "Asbestos Abatement" and applicable DC and OSHA requirements. Prior to impaction, lead-based paint is to be managed in accordance with SI Specification 028300 Work Activities Impacting Lead-Containing Materials.

9.3 PERSONAL PROTECTIVE EQUIPMENT

- A. Personal protective equipment for eyes, face, ears, nose, head, extremities and/or full body shall be provided, used and properly maintained by the Contractor whenever necessitated by reasons of hazards encountered in a manner capable of causing illness, injury or impairment in the function of any part of the body.
- B. Persons required to use personal protective equipment shall be thoroughly trained. Training programs shall, as a minimum, meet OSHA and EPA requirements where applicable. The Contractor shall submit proof and criteria for employee training as requested.

9.4 BARRICADES, BARRIERS AND WALKWAYS

- A. The Contractor shall provide safety barricades in accordance with the District of Columbia Building Code and applicable OSHA regulations. The Contractor shall also provide barricades, subject to approval by the COTR, to deter passage of persons and/or vehicles into construction areas as specified or necessary.
- B. The Contractor shall install temporary barriers, in a manner satisfactory to the COTR, to contain and secure the site from unauthorized entry and to minimize the adverse affects of noise, dust and vapors generated by construction activities on surrounding areas. Barriers shall be constructed of

pressure-impregnated fire-retardant treated wood, with fire-retardant 6-mil polyethylene as necessary. Submit all product data to the COTR for review and approval.

- C. If the work interferes with public or employee access to the facility or parts of the facility, as determined by the COTR, the Contractor shall provide personnel barriers and signage to create easily identifiable, accessible (to people with handicaps) walkways around the work. Signs shall be posted at decision points to prevent unnecessary travel along changed routes and to dead ends. The barriers shall be erected and dismantled in phases so that a clear route is always available. The COTR and Contractor personnel shall have access through the barriers to the work areas. The Contractor may use hardware on the barrier doors to prevent entry by unauthorized persons.
 - 1. Interior barriers shall be of standard drywall partition construction, painted and terminated at the underside the existing ceilings. All requirements for fire protection shall be maintained.
 - 2. Exterior barriers shall be of dimensional lumber and plywood, painted on both sides and supported to prevent overturning. Barriers shall be repainted and maintained as necessary to remain in good condition as long as they are required.

- D. Unless specifically indicated otherwise, barricades, barriers and associated signs shall be removed upon completion of the Work. The Contractor shall coordinate the dismantling and removal with the COTR.

9.5 EXISTING FIRE PROTECTION SYSTEMS

- A. During the course of the Work, all existing smoke and heat detectors and sprinkler heads are to remain operable to the maximum extent possible. Where specific work will or may adversely affect these devices, coverings shall be applied to protect them from dust, paint overspray or other hazardous conditions for the duration of each task. Written permission shall be obtained in advance of work from the COTR. A qualified person shall remain on site during operations while heads are covered. Coverings must be removed immediately after the operations have concluded for that day. Damaged detectors and sprinkler heads shall be replaced immediately by the Contractor at no additional cost to the Smithsonian Institution. The Contractor shall use accepted procedures to test replaced detectors and sprinklers after installation to the satisfaction of the COTR.

10.1 GENERAL SECURITY REQUIREMENTS

- A. The Contractor and his employees must comply with security requirements imposed by the Smithsonian Institution, including any necessary security clearances. Failure to inspect the site or obtain knowledge of security regulations shall not relieve the Contractor from security requirements or from performance of any part of the work.
- B. Prior to the start of work on the site, the Contractor shall submit, to the COTR for approval, a list of the names, social security numbers and addresses of all employees and subcontractor employees. The list shall identify the Prime Contractor and each subcontractor and trade. It shall be updated, as necessary, to accurately identify all workers who will be working on the site during the project.
- C. The name and telephone number of the Contractor's Superintendent and authorized alternate individual who can be reached on a 24-hour basis shall be provided to the COTR at the Preconstruction Meeting.

10.2 IDENTIFICATION BADGES

- A. Controlled Access: Contractor employees shall sign in and out with the security officer on a daily basis for the duration of the Contract Time. Access to the building will be granted only to Contractor employees who sign the Building Entry and Departure Register at designated entrances and who wear a Contractor Identification Badge or Day Pass in plain view for inspection. Photo identification badges with serial numbers and information about allowed access may be issued by the Smithsonian to some Contractor employees.
- B. ID Processing: Contractor personnel will be issued identification badges for use while on the premises.
 - 1. ID badges will be provided by the Smithsonian at no cost to the Contractor. Smithsonian reserves the right to not issue ID badges to those Contractor employees who fail to meet security requirements.
 - 2. The Contractor shall submit, to the COTR, a written request for approval of each employee who will be working on site and was not on the original list. Each application must be submitted at least five (5) working days before the employee is scheduled to begin on the project.
- C. ID Pickup: Contractors personnel reporting for work shall be required to sign the building entry and departure register and to exchange a driver's license or some other photo identification for the Contractor Identification Badge or Day Pass. The personal identification exchanged for the badge or pass will only be returned to its owner when the credential is returned.

- D. Accountability for ID: Contractors who are issued an identification badge or day pass are strictly accountable for it and for following established access control procedures. Misuse of the credential, noncompliance with access control procedures or failure to return the ID badge or day pass upon leaving the premises shall be reported to the COTR.

- E. Lost ID: If a Contractor or subcontractor employee loses an ID badge or day pass, the Contractor shall report the loss immediately to the COTR. The Contractor shall submit to the COTR, within two (2) calendar days, a written report detailing how, where and when the credential was lost. A request to the COTR for authorization of a replacement credential, if necessary, shall accompany this report. The Contractor shall bear the cost for replacement of the lost badge or pass.

- F. Ownership of ID: The Contractor Identification Badge or Day Pass shall remain the property of the Smithsonian and it shall not be taken off the premises. The badge will be issued to the person it identifies when he reports to the work site for duty and it must be returned to the security guard station whenever the person it identifies leaves the premises.

10.3 SECURITY OF TEMPORARY OPENINGS

- A. Any temporary opening in the building perimeter or between non-public and public interior spaces must be closed and secured with means acceptable to the COTR at the end of each workday. A clear and safe path shall be maintained at all times to allow museum visitors entrance into the museums. The Contractor shall secure his facilities and equipment during non-working times at his own expense. Authorized Smithsonian personnel shall have access to the work site.

10.4 EXISTING BUILDING ALARM SYSTEMS

- A. The Contractor shall notify the COTR prior to disturbing any alarm wiring, device, system, etc. The Contractor shall coordinate planned disturbances at least two (2) working days in advance of the scheduled work. Any alarm wiring, device or system that is broken or disturbed for any reason must be reported to the Building Manager, COTR and the Building Security Control Room within three (3) minutes of the occurrence.

- B. If any system or component is damaged by Contractor employees, the Smithsonian Institution Office of Protection Services will determine the procedures for repairing the damage to existing building alarm systems and who will perform the repair work. The cost to repair the system and any related overtime costs for Smithsonian personnel shall be borne by the Contractor.

10.5 SECURITY GUARD DUTY CHARGES

- A. If the Contractor is required to accelerate the work in order to complete the project within the specified Contract Time or if other conditions arise as a result of the Contractor's management of the work, which require that construction be accomplished during other than the normal workdays

and hours defined for this project, the Contractor will be required to assume the cost of any additional inspection and guard services at overtime rates.

- B. The current overtime hourly rate charged for each Smithsonian guard is \$42.00. This rate is subject to change during the Contract Time without notice.

11.1 SCHEDULES OF VALUES

- A. The Contractor shall submit, to the COTR, a schedule of estimated values of all parts of the work. The breakdown of costs on the Schedule of Values shall follow the divisions used in the project specifications and shall reflect major items and groups of items shown on the Contractor's project schedule. All values shall be in US dollars.

- B. Wages: The contractor shall verify wages and comply with regulated wage scales, i.e. Davis-Bacon, Service Contract Act, etc.

11.2 SCHEDULING AND PAYMENTS / BARCHART

- A. Project Schedule: The Contractor shall submit to the COTR for approval a Gantt bar chart project schedule within *fourteen (14) calendar days after the date of contract award. Submit Project Schedule in both PDF format and original scheduling software format. No work shall start at the site until the project schedule has been approved by the COTR. The approved bar chart will represent a baseline schedule on which the monthly construction progress will be indicated and submitted to the COTR. The baseline project schedule shall comply with the following:
 - 1. Weekly breakdown of work activities shall be provided, including interaction between building trades, subdivided by items of work and areas of the project. Items of work shall be grouped and subdivided according to the divisions of the Construction Specifications Institute (CSI) format.
 - 2. The start date and completion date shall be consistent with the Contract Time established by the Contracting Officer. Any intermediate deadline dates needed to meet specific requirements for Smithsonian use of portions of the work shall be shown.
 - 3. Project condition survey activities shall be scheduled not later than the 14th calendar day of the contract time and prior to the start of any site work.
 - 4. Project closeout activities shall be scheduled for completion in accordance with the requirements for the Contract Time for Completion.
 - 5. Order dates and projected delivery dates shall be shown for equipment, special devices, hardware, products or other items requiring long lead-time.
 - 6. Required delivery dates for items to be furnished by Smithsonian and installed by the Contractor shall be shown, as well as items to be furnished and installed by Smithsonian, which will affect the Contractor's work.
 - 7. Review periods for all submittals and time required for all necessary inspection and/or testing shall be shown.
 - 8. Dates shall be given for ordering, delivery, installation and testing of major equipment and special materials and equipment.

- B. Revisions to Baseline Schedules: The Contractor shall submit, to the COTR for approval, all revisions to the approved baseline project schedule. The Contractor shall submit a proposed revision to the schedule as necessary along with proposals for construction changes, clearly indicating modifications to the schedule based on the proposal. The Contractor shall also submit, for review and approval, any proposed changes to the schedule due to inability to accomplish the

work as planned, for any reason. Approved changes to the schedule shall be incorporated into the Project Schedule and it shall be resubmitted as necessary or as requested by the COTR.

- C. Progress Behind Schedule: If it becomes apparent to the COTR that the overall progress of the project is behind the approved project schedule, then the COTR will notify the Contractor in writing. The Contractor shall submit to the COTR for approval a Recovery Schedule and Plan to describe how the Work will be accelerated to meet the Contract Time requirements in accordance with the General Conditions contract clause entitled "Commencement, Prosecution and Completion of the Work." The Recovery Schedule shall be superimposed on the approved baseline project schedule to demonstrate that proposed recovery activities will accomplish completion of the work by the approved completion date.
- D. Reporting Progress and Applying for Payment: Each month, the Contractor shall apply for payment and submit a report of the actual construction progress as follows:
1. By the 25th of each month, the Contractor and the COTR shall have inspected the work to determine percentages complete for each item, projected through the end of the month. The parties shall attempt to reach agreement on each item, but if they cannot reach an agreement the COTR will determine percent complete.
 2. By the last day of the month, the Contractor shall submit an Application for Payment based on the determined percentages complete for each item. The application shall be submitted in triplicate on the Smithsonian standard Application for Payment form. Each copy of the Application for Payment shall be accompanied by the following:
 - a. A Progress Schedule identifying the cumulative progress superimposed on the latest revision of the approved Project Schedule. The net progress for the month and applicable dates shall be clearly indicated.
 - b. A complete set of copies of certified weekly-payroll data for the period.
 - c. Waste Management Log
 - d. Progress Photos
- E. Response to Application:
1. Payment shall be made only for progress agreed upon by the COTR, performed on original Contract Work or approved modifications, in accordance with the current, approved Project Schedule. Failure to submit the Application in accordance with the specifications will prevent the processing of payments.
 2. Payments will be mailed to the Contractor's address as identified in the contract documents on record with the Contracting Officer. Any changes of address or requests for wire transfer of progress payments must be made in writing, signed by the Contractor's authorized person and submitted to the Contracting Officer.

11.3 ASSIGNMENT OF CLAIMS

- A. Assignment of Claims are subject to the approval of the Contracting Officer. Any Assignment of Claim or subsequent re-assignment shall meet the requirements of the General Conditions contract clause entitled "FAR 52.232-23 Assignment of Claims."

- B. All documents for assignments shall be written in the English language and shall be original ink signatures of the Contractor and assignee. All monies shall be identified in US dollars.

12.1 PROJECT CLOSEOUT

- A. Definition: Project closeout is a scheduled process for fulfillment of remaining contract requirements at the end of the project in preparation for final acceptance, final payment, normal termination of contract, beneficial occupancy and establishment of the warranty period(s).

12.2 SUBSTANTIAL COMPLETION

- A. Definition: The date of Substantial Completion of a project or specified part of a project is the date, as confirmed by inspection by the COTR, when the construction is at least 95% complete and ready for beneficial occupancy, so that the Smithsonian can take possession of that area or part of the work. Portions of the work that are specified to be phased for completion, areas required for Smithsonian's use prior to completion of the total project or items of work identified by the COTR as necessary for partial beneficial occupancy may be inspected for substantial completion separately from the rest of the Work.
1. The Smithsonian Institution reserves the right to occupy or install equipment in completed areas of the building prior to substantial completion provided that such occupancy does not interfere with the completion of the work. Such partial occupancy shall not constitute acceptance of any part of the work.
- B. Request for Substantial Completion Inspection: The Contractor shall submit a written request to the COTR for an inspection to establish Substantial Completion status. This request shall specify areas or parts of the work to be considered and shall include a listing of all exceptions to the request, that is, items not considered to be substantially complete.
- C. Submission of Operation and Maintenance Manuals: Prior to requesting Substantial Completion Inspection, the Contractor shall submit, to the COTR, three (3) sets of manuals for all systems and equipment, as specified in the technical sections of this specification. The manuals shall be bound in letter-sized, three-ring, loose-leaf binders with durable plastic covers. They shall be organized into suitable volumes of manageable size using the divisions of the Specifications as a guide. Each manual shall have a table of contents and shall be assembled to conform to the table of contents with tab sheets locating each subject. The instructions shall be legible and easy to read. Where oversize drawings are necessary, they shall be folded to be not greater than letter-size. The words "Operation and Maintenance Manual," the name and location of the project, project number, contract number, date and the name of the general contractor, shall appear on the cover. Data shall be specific to the equipment that is installed and reflect all approved changes and substitutions. Data shall also reflect any required or recommended seasonal adjustments or inspections. Include electronic copy of manual, in PDF format, on CD/DVD. Manuals shall include, as a minimum, the following data:
1. Detailed description of each system and each of its components, including layout showing piping, valves, controls and other components and including diagrams and illustrations where applicable.

2. Wiring and control diagrams with data to explain detailed operation and control of each component.
 3. Control sequence describing start-up, operation and shutdown.
 4. Procedures for starting, operating and shutdown.
 5. Installation instructions.
 6. Maintenance and overhaul instructions.
 7. Lubricating schedule, including type, grade, temperature range and frequency.
 8. Emergency instructions and safety precautions.
 9. On-site acceptance test results for equipment installed under this contract.
 10. Approved product data, shop drawings and system as-builts.
 11. Copies of approved certifications and laboratory test reports (where applicable).
 12. Notarized copies of warranties (originals to be provided as required by "Warranties and Guarantees").
 13. Written instructions for test procedures.
 14. Performance curves and rating data.
 15. Parts list, including source of supply, recommended spare parts and service organization convenient to Smithsonian.
 16. Name, address and telephone number of each subcontractor who installed equipment and systems, local representative for each type of equipment and each system.
 17. Other pertinent data applicable to the operation and maintenance of particular systems or equipment and/or other data as specified Divisions 2 through 16 of the Specifications.
- D. **Other Prerequisites for Substantial Completion Inspection:** The Contractor shall also complete the following prior to requesting inspection for certification of substantial completion:
1. Testing and start-up of systems.
 2. Installation of all signage, including accessibility related signs, equipment instructions, identification labels and permanent directional signs.
 3. Submission of spare parts, tools and surplus materials as required in technical specifications. Submit to the COTR an MSDS for each surplus material that contains toxic or hazardous substances. Surplus materials that the SI determines not to retain shall be removed and properly disposed of by the Contractor according to all applicable regulations.
 4. Scheduling of training sessions for Smithsonian personnel.
 5. Removal of all waste, rubbish and temporary facilities and services. Means of access to all areas of the work to be inspected by the COTR shall be maintained.
 6. Disposition of samples and mock-ups not incorporated into the work.
 7. Arrangement for permanent utility connections and billing responsibility transfer to Smithsonian's Office of Facilities Operations (OFO).
 8. Arrangement for transfer of security responsibility for the project site and changeover of locks by Smithsonian's Office of Protection Services (OPS).
 9. Hazardous Waste Disposal: Submit copies to the COTR of the following hazardous waste records for hazardous waste generated on SI property and disposed of by contract personnel.
 - a. Hazardous Waste Manifests
 - b. Notification and Certification Forms
 - c. Material Profile Sheet or characterization
 - d. Container Content Sheets
 - e. Certificates of Disposal
- E. **Scheduling of the Substantial Completion Inspection:** Within seven (7) calendar days after receipt of the Contractor's written request, the COTR will either schedule an inspection or advise the

Contractor of work that must be completed or prerequisites that must be met prior to scheduling the Substantial Completion Inspection. In that case, another written request for Substantial Completion Inspection must be submitted when all requirements have been met.

- F. The Substantial Completion Inspection: The Substantial Completion Inspection will be performed by representatives of the Smithsonian Institution led by the COTR. During the inspection, the COTR will prepare a punch list of deficiencies in the work. If the punch list becomes too extensive the COTR may cancel the inspection and require additional work to be performed for a repeat inspection.
1. For satisfactory inspection results, the COTR will issue the written punch list to the Contractor as soon as possible after the inspection. Items on the punch list must be completed prior to final acceptance of the total project work.
 2. For unsatisfactory inspection results, the COTR will, within three (3) calendar days, give written notice to the Contractor that the Work or portion of the Work is not substantially complete in accordance with the contract documents and therefore does not meet Substantial Completion status. Requests for re-inspection shall meet all requirements for the original request for Substantial Completion inspection.
- G. Punch List: Incomplete contract requirements identified during the Substantial Completion Inspection will form an initial basis for a punch list for final acceptance. All punch list items must be completed by the Contractor within the Contract Time. If additional days are needed to complete the punch list items beyond the Contract Time, then the Contractor shall submit, prior to the end of the Contract Time, a written request to the Contracting Officer stating:
1. Items requiring additional time;
 2. Amount of time needed to complete each item;
 3. Reasons why the items cannot be completed by the contract completion date.

12.3 FINAL COMPLETION AND ACCEPTANCE

- A. Definition: The date of final completion of a project is the date, as confirmed by inspection by the COTR, when the Work is satisfactorily completed and accepted in accordance with the contract documents, as amended and/or modified.
- B. Request for Final Completion Inspection: When all items on the punch list have been corrected to the satisfaction of the COTR and additional requirements as described below have been satisfied, the Contractor shall submit a written request for Final Completion Inspection.
- C. Prerequisites for Final Completion: Prior to requesting the inspection for certification of Final Completion, the Contractor shall complete the following:
1. Submission of a copy of a prior punch-list stating that each item has been completed or otherwise resolved for acceptance.
 2. Provision of Instructions to Smithsonian Personnel -where instructions to Smithsonian personnel are specified in other sections, furnish, without additional expense to the Smithsonian, the services of competent instructors, who will give full instruction in the

- care, adjustment and operation of the systems and equipment to designated Smithsonian employees.
- a. Each instructor shall be familiar with all parts of the system on which he or she is to give instruction and shall be knowledgeable about the systems' operation and required maintenance. Factory trained instructors shall be employed wherever practical and available.
 - b. Unless otherwise required or approved, the instruction shall be given during the regular workweek after the equipment has been accepted and turned over to the Smithsonian for regular operation. Where significant changes or modifications in equipment are made under the terms of the contract, additional instruction shall be provided as may be necessary to acquaint the operating personnel of the changes or modifications. Unless otherwise stated, at least half of the time allocated for instruction shall be "hands-on," using the actual system installed.
 - c. Upon completion the Contractor shall obtain written acknowledgment from the COTR that the required instruction was completed.
3. Posting of operating instructions approved by the COTR for each system and each principal piece of equipment. Include wiring and control diagrams showing the complete layout of the entire system including equipment, piping, valves and control sequence framed under clear laminated plastic and posted where directed by the COTR. Printed or engraved operating instructions for each principal piece of equipment including start-up, proper adjustment, operating lubrication, shut-down safety precautions, procedure in the event of equipment failure and any other necessary items of instruction as recommended by the manufacturer of the unit shall be attached to or posted adjacent to the piece of equipment. Operating instructions exposed to the weather or wet or humid conditions shall be made of weather-resisting materials or shall be suitably framed and enclosed to be weather protected. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling. The Contractor shall coordinate the location of posted instructions with the COTR.
 4. Provision of equipment demonstrations for each equipment item. The Contractor shall coordinate scheduling of all demonstrations through the COTR.
 5. Submission of original warranties for all products, equipment and systems.
 - a. The Contractor shall assemble original warranty certificates or notarized copies of warranty certificates executed by the Contractor, Subcontractors, suppliers and manufacturers in a tab-indexed, three-ring loose-leaf binder with a durable plastic cover. Provide electronic copy, in PDF format, on CD. The table of contents shall identify the item covered, the location of the item, the date of Substantial Completion, expiration date of the warranty and the supplier, vendor and installing contractor. Duplicate notarized copies of warranties shall be provided as required by "Manuals for Operation, Maintenance and As-Built Product Data."
 - b. Each warranty certificate or bond shall identify the date(s) for:
 - 1) Substantial Completion status in accordance with project closeout requirements.
 - 2) Beginning and ending of the warranty period.
 - 3) The Contractor shall provide any coincidental product warranty, which is available on a product incorporated in the Work, but for which the warranty is not specifically required by the contract documents.
 - c. Warranty of Construction: The Contractor shall warrant that the work performed under this contract conforms to the contract requirements and is free of any defect in equipment, materials, design furnished or workmanship performed by the Contractor or any subcontractor or supplier at any tier. Unless otherwise stated in the technical sections of the Specifications, the warranty of the Work shall continue

for a period of one (1) year from the date of Final Completion status. If the Smithsonian takes partial occupancy before Final Completion, then the warranty for that portion shall be in effect for a period of one (1) year beginning on the date of Substantial Completion for that portion of the Work.

6. Submission of construction progress photographs and negatives, property survey and similar final record information.
 7. Arrangement for changeover locks through the COTR and Smithsonian Office of Protection Services as required for security for Smithsonian occupancy.
 8. Submission of evidence of payment and transfer date of utility company accounts for those utilities previously billed to the Contractor during construction, as necessary.
 9. Submission of evidence that all regulatory agency permit and code requirements have been completed and recorded, as necessary.
 10. Submission of a signed, written statement that no damage has occurred to the site as documented by the pre-condition survey report.
 11. Final clean up, including:
 - a. Sweep and dust all surfaces and wash all finished surfaces to appear new and free of all stains, soil marks, dirt and other forms of defacement.
 - b. Remove labels that are not required as permanent labels.
 - c. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances that are noticeable as vision-obscuring materials. Replace broken glass and damaged transparent materials.
 - d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of dust stains, films and similar noticeable substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
 - e. Wipe surfaces of equipment clean. Remove excess lubrication and other substances.
 - f. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 - g. Wet-mop concrete and clean other hard-surface floors according to manufacturers' recommendations.
 - h. Vacuum clean carpeted surfaces and similar soft surfaces.
 - i. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.
 - j. Clean project site (yard and grounds) of litter and foreign substances. Sweep exterior paved areas to a broom-clean condition; remove stains, petro-chemical spills and other foreign deposits. Rake grounds, which are neither planted nor paved, to a smooth, even textured surface.
- D. Inspection of the Work for Final Completion: Upon receipt of the Contractor's written notice that the work has been completed, the COTR will inspect the work to confirm Final Completion status and acceptance of the work. As soon as possible after inspection, the COTR will either provide written acknowledgment of final acceptance or advise the Contractor of work not completed or obligations not fulfilled as required for final completion and acceptance.
- E. Application for Final Payment:
1. Application for Final Payment shall be submitted only after Final Acceptance has been certified in writing to the Contractor by the COTR. Application shall include final labor data and progress schedule update.

2. Final Payment will be approved when Final Acceptance has been certified and the following conditions have been met:
 - a. Certification signed and submitted by the Contractor that all contract requirements, including contract modifications, have been met.
 - b. Final Release of Claims submitted.
 - c. Release of assignment of claims or consent of surety submitted, as necessary.
 - d. All security ID badges and parking permits returned to Smithsonian.
 - e. **As-Built Record Drawings Submitted:** During the progress of the work the Contractor shall maintain a complete and up-to-date set of record prints, open to inspection by the COTR at any time. These prints shall provide a complete and accurate as-built record of all changes to the Contract Drawings, including rerouting of runs, relocation of items or control points and all other modifications. The exact location of pipes, conduit or other features concealed underground, under concrete, in chases or above ceilings shall be shown by perpendicular dimensions from at least two available landmarks. As-built drawings shall be neatly marked with colored pencils or ink, marked "As-Built" and signed and dated by the Contractor. Upon completion of the Work and before final payment, the Contractor shall submit the following to the COTR: photographically produced as-built record drawings on 4-mil, double matte, mylar sheets, sized the same as the contract drawings; electronic copies of as-built record drawings in PDF and DWG formats.
 - f. **As-Built Record Survey of Underground Utilities Submitted:** If outside or underground utilities are part of the work, the Contractor shall furnish, to the COTR for approval, an acceptable and accurately dimensioned survey showing location and elevation of underground storage tanks, all utility lines for water, gas, electrical, sewer, steam, etc., including valves, connections and changes in direction, as installed under the contract, within the property lines and outside the building walls. Points where utility lines emerge from the building shall be located from lot monuments. The survey shall be made to scale and must be marked "As-Built" and signed and dated by the Contractor. The Contractor shall furnish a scanned, digital copy to the COTR as well as a copy on a 3-mil, double matte, mylar sheet or sheets the same size as the contract drawings.
 - g. **As-Built Record Specifications Submitted:** The Contractor shall submit one (1) hard copy and one digital (scanned) set of project specifications with annotations to identify any changes made during construction, referencing modification numbers, dates and originators of authorizing letters or memos and other sources of changes. The cover shall be marked "As-Built" and signed and dated by the Contractor.
 - h. **Close-out Conditions Text and Photographic Documentation Submitted:** The Contractor shall prepare a typewritten text and photographic report of observations made during the inspections for project closeout regarding conditions of new work and adjacent items that were examined for the pre-condition survey report. Any defects shall be identified and the Contractor's operations on the defect shall be described. Within ten (10) calendar days after the Final Inspection, the Contractor shall submit the text and photographic report in PDF format to the Contracting Officer and the COTR and retain a copy of each for the Contractor's files.

END OF SECTION 010000