

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
600 FIFTH STREET, N.W.  
WASHINGTON, D.C. 20001

July 24, 2015

AMENDMENT NO. 5  
TO  
INVITATION FOR BID  
FOR  
REHABILITATION OF WMATA PARKING GARAGES AT SHADY GROVE (NORTH), FRANCONIA-  
SPRINGFIELD (EAST), GROSVENOR-STRATHMORE AND COLLEGE PARK  
FQ15090/GG

TO WHOM IT MAY CONCERN:

The Invitation for Bid for IFB FQ15090/GG requesting Bids for the above project is hereby changed in part as listed below.

1. Volume 1 – Bidding and Contracting Requirements

Delete the following pages and in lieu thereof substitute the accompanying pages:


<u>DELETE</u>	<u>SUBSTITUTE</u>	<u>DESCRIPTION</u>
14. Pre-Award Information p.20	14. Pre-Award Information p.20	Revised
2.58 Quality Assurance Compliance	2.58 Quality Assurance Compliance	Revised

2. Volume 2 – Technical Specifications

<u>DELETE</u>	<u>SUBSTITUTE</u>	<u>DESCRIPTION</u>
Section 01400, QC and Assurance Requirements	Section 01400, QC and Assurance Requirements	Revised

3. Acknowledgment

Bidders are required to acknowledge receipt of this Amendment on Bid Form in the spaces provided. Failure to acknowledge all Amendments may cause the Proposal to be considered non responsive to the RFP, which would require rejection of the Proposal.

  
Richard Owens  
Contracting Officer  
Office of Procurement

\* \* \* \* \*

(b) Experience Modification Rating which compares the number of OSHA recordable injuries and illnesses for the bidder to the average for the bidder's standard industry code. **Bidders with an EMR factor greater than 1.2 will be determined to be not responsible.**

(c) Copy of the organizational Health and Safety Program to be followed by the Contractor and all Subcontractors including Resume, First Aid and CPR Certificates for Safety Superintendent

(d) Copy of organizational Temporary Fire Protection Plan to be followed by the prime contractor and all subcontractors.

(e) Name and address of present compensation and liability insurance carrier.

(f) Name, address and telephone number of person in charge of the organizational safety program.

(7) Quality Assurance Program

The bidder shall submit a previously utilized Quality Management System (QMS)/Project Specific Quality Management Plan (PSQMP) from a past, equivalent, project that was modeled on FTA Quality Management System Guidelines- FTA-PA-27-5194-12.1 or ISO 900 1:2008 or equivalent quality control system(s) or plan. **AM5**

(8) Insurance

The bidder shall submit as evidence of insurability a letter from an insurance agent or broker indicating that a commitment, valid for 90 days, exists from a specific insurance carrier or carriers to provide the coverages, with limits and insured as specified therein, can be bound upon award of the contract at a price known and acceptable to the bidder. Failure to establish insurability may result in a determination of non-responsibility.

Doubt as to technical ability, productive capability, "good faith effort - DBE," and financial strength which cannot be resolved affirmatively may result in a determination of non-responsibility by the Contracting Officer

15. Civil Rights (12/03)

The Contractor will be required to comply with all applicable Equal Employment Opportunity laws and regulations of the articles for Civil Rights of this Contract.

16. Opportunity for Disadvantaged Business Enterprises to Bid

- a. It is the policy of the Authority (WMATA), the Federal Transit Administration (FTA) and the U. S. Department of Transportation (US DOT) that Disadvantaged Business Enterprises (DBE's) shall have an equal opportunity to receive and participate in performing federally assisted contracts, including contracts and subcontracts at any tier. The DBE requirements are set forth in Appendix B to this solicitation and are applicable, if the bid/proposal is \$500,000 or more for construction contracts, or if the bid/proposal is \$100,000 or more for supply and service contracts.
- b. If the bidder/proposer is not a DBE, then the DBE goal set forth in Appendix B shall be met by subcontracts or joint ventures with DBE's.
- c. The documentation requirements of Appendix B should be completed and submitted at the time set forth for the submittal of bids/proposals to the Authority. Any bidder/proposer who fails to

## **2.58 QUALITY ASSURANCE & QUALITY CONTROL COMPLIANCE**

### **PART 1 GENERAL**

#### **2.58.1 Quality Management System/Project Specific Quality Management Plan**

- A. This Section specifies the Quality Management System (QMS) that shall be established, documented, maintained, and executed by the Contractor for the length of the contract to ensure that the performed work and services conform to the specified requirements. The Contractor shall establish, document, maintain and execute a QMS which contains a Project Specific Quality Management Plan (PSQMP).
- B. The QMS/PSQMP shall be an executable system of Quality Assurance and Quality Controls that address the elements stated in 2.58.1 A of this document. The QMS shall follow the FTA Quality Management System Guideline elements as stated in FTA-PA-27-5194-12.1 along with article 4.0 of the ISO 9001 and ISO 10013 Standards as guides. As a minimum, the QMS/PSQMP Manual shall include all required Policies, Procedures, and the PSQMP describing how this project specific QMS will be documented, implemented, executed and revised as necessary.
- C. The Quality Manual, Policies, Procedures, and PSQMP shall be approved by the person, acting on behalf of the Contractor , then forwarded to WMATA for review and approval.
- D. The QMS/PSQMP shall be established and approved by the Authority prior to implementation.
- E. The Contractor shall not perform any services and work until the Authority approves and validates the QMS and PSQMP meets or exceeds FTA-PA-27-5194-12.1 guidelines; inclusive of all 15 required elements contained within.
- F. Initial submission and subsequent revisions of the Quality Management Manual and Quality Management Procedures shall require Authority approval. In addition, the execution of the QMS shall authorize the Authority to audit any contractor, subcontractor, consultant and/or supplier any time at the Authorities discretion, throughout the term of the Contract.
- G. The purpose for a QMS/PSQMP requirement is to document how the Contractor will execute the work to assure that:
  - 1. Material, equipment, construction, and workmanship are furnished in conformance with the Volume 3, DRAWINGS and Volume 2, TECHNICAL SPECIFICATIONS and with all jurisdictional codes and regulations, including the requirement for certification of Americans with Disabilities Act Accessibility Guidelines (ADAAG) regulations compliance submittal at completion of construction by the Contractor. The Contractor's attention is directed to the fact that all projects are subject to FTA assessment for ADAAG compliance.
  - 2. The work is properly completed, tested, and furnished to the Authority on time as specified in this Contract and WMATA Safety and Security Certification Program Plan.

- H. The QMS/PSQMP shall be revised, updated, and approved as necessary throughout the term of the Contract to reflect changes determined by management review, internal audit and/or Authority audit or Assessment to be necessary to improve the Quality system(s). Any revision of the QMS or PSQMP must be submitted to the Authority for approval.
- I. Certification of the Contractor to ISO 9001 is not required. However, certain suppliers and manufacturers shall be certified as required in the specifications.
- J. The principal role of the Authority, Office of Quality Assurance and Warranty (QAAW), will be oversight of the effectiveness and compliance of the Contractor's QMS including the PSQMP, Quality Assurance, quality control, inspections, testing and all processes and procedures therein. This notice extends to all subcontractors, consultants and suppliers.
- K. At its sole discretion, the Authority may conduct audits, tests, and inspections in addition to those performed by the Contractor. The Authority reserves the right to attendance and oversight of any audit, inspection, and/or testing performed by the Contractor, subcontractor, consultant or supplier. Any deficiencies discovered shall be documented and presented to the immediate attention of the Contractor including written follow-up notification to the Contractor.

## **2.58.2 Project Specific Quality Management Plan**

- A. The PSQMS shall include, at minimum, the following elements and supporting documentation:

### **1. Management Responsibility:**

- a. The Contractor shall define and document a Quality Policy that includes objectives for each specific project and should communicate, implement, and maintain that Policy at all levels of its organization.
- b. The contractor management shall designate a representative, who will have defined authority and responsibility for ensuring that the Quality Management System and Quality Management Plan is established, implemented, maintained, and continually evaluated and improved.
- c. The contractor management shall also identify those persons responsible for the quality assurance functions and shall define, and document the responsibility, authority, and interrelation of those persons.
- d. The contractor Quality Manager shall:
  - i. Have written authority from the contracting Executive to stop work, if necessary, for quality improvement.
  - ii. Have no other assigned duties except to establish, document, implement and maintain the Quality Management System for this contract.
  - iii. Report directly to and be supervised by an Officer of the Contractor at a level above that of the Project Manager responsible for the project.
  - iv. Serve as a liaison officer with WMATA and the jurisdictional agencies on matters relating to the Contractor's quality system
  - v. Be responsible for ensuring that the Quality System is effective in ensuring that the Contract requirements are satisfied.
  - vi. Be responsible for the oversight of onsite and offsite testing by the Contractor, subcontractors and suppliers.

- e. The Contractor shall establish, document, execute and maintain an Authority approved Project Specific Quality Management Plan for the successful completion of this project.

**2. Documented Quality Management System:**

- a. The Contractor shall establish, document, maintain, and execute an operational and Authority approved QMS/PSQMP throughout the term of the Contract to ensure project quality objectives are met and satisfied.
- b. The QMS/PSQMP requirements shall extend to the contractors consultants, sub-contractors, and suppliers as appropriate.

**3. Design Control (Applicable only if the Contractor performs design work):**

- a. During the development of the project's Design Criteria and/or Design Quality Plan, the designer shall insert Quality Assurance and Quality Control provisions and references to the project's Quality Management System within the Design Quality Plan.
- b. The designer shall establish and maintain procedures in the Project Specific Quality Management plan to control and verify the design of the project in order to ensure that the design criteria, specified requirements, and other requirements of the relevant regulatory agencies are met.
- c. Design Control includes ensuring that the design requirements are understood, planning and scheduling the design interfaces and the design verification activities, executing the design verification activities, and controlling design changes through project completion.

**4. Document Control:**

- a. Procedures for control of project documents shall be established and maintained at all times.
- b. The document control measures and procedures shall ensure that all relevant documents are current and readily available to all users who require them.
- c. Electronic document distribution and management shall be managed and documented in the same manner as hard copy distribution and management.
- d. The following rating scale shall be used for all documents and submittals requiring review:

- i. **Code 1: Approved** (work may proceed)

- ii. **Code 2: Approved as noted** (notations that do not alter the document: i.e.... Grammatical errors)
  - iii. **Code 3: Revise and resubmit** (Do not use until revised and approved)
  - iv. **Code 4: Review not required** (work may proceed)
  - v. All submittals shall be submitted for approval to the Authority.
- e. The Contractor shall use a computerized database to identify and manage the current revision of instructions, procedures, drawings, software revision numbers and specifications.
  - f. The database shall be kept current throughout the term of the Contract. The Contractor shall provide the Authority real-time access to the information in this database through a direct connection or web-page access.

**5. Purchasing:**

- a. The Contractor shall establish documented procedures to ensure that the purchased service(s) or product(s) conforms to the specified requirements of this contract.
- b. The QMS requirements of the Contractor shall extend to suppliers as appropriate; to include audit schedules for the various phases, elements or segments of the project.
- c. When Authority inspection is required, presented in written notification, the Contractor shall add to the purchasing document the following statement:
  - i. **“Authority inspection is required prior to shipment from your plant”.**
  - ii. Upon receipt of this order, promptly notify the Authority’s Representative at the Authority, in writing, so that appropriate planning for Authority inspection can be accomplished.
- d. Purchased material, equipment, and services shall be documented and controlled to ensure that they are properly integrated into the work.
- e. Procedural means shall be included to assure that Contractor sub-consultants, suppliers and subcontractors satisfactorily demonstrate and document an adequate system for managing quality to the Contractor.
- f. The Contractor shall have procedures for providing adequate surveillance of sub consultants, subcontractors and suppliers to assure conformance with the Quality Management System and Specification requirements. This surveillance shall include inspection and audit of

off-site activities of Contractor sub consultants, subcontractors and suppliers.

**6. Product Identification and Traceability:**

- a. Procedures shall be established and maintained within the QMS/PSQMP for identifying and controlling items of production (batch, materials, parts, and components) to prevent the use of incorrect or defective items, nonconformance control, perform effective corrective action(s) and to ensure that only correct and acceptable items are used or installed.

**7. Process Control:**

- a. The Contractor shall establish procedures which identify and plan the production and installation processes that directly affect quality and shall ensure these processes are performed under controlled conditions.
- b. Special processes, the results of which cannot be verified by subsequent inspection and testing of the product, shall be continuously monitored and documented.
- c. The contractor shall ensure that any activities related to the expectations of the Authority or other involved agencies are carefully monitored and controlled by identifying and documenting any necessary specification(s) and determining a method to verify that they are met.

**8. Inspection and Testing:**

- a. Inspection and testing procedures shall be established, planned and executed as necessary to verify quality.
- b. Procedures shall be specified, documented, implemented, and the results documented for receiving incoming products, and for final inspection and testing.
- c. Testing shall be included, where appropriate, in the specifications; including references to testing procedures, frequency and location, requirements for witnessing of tests and necessary "hold points", and where factory inspection and/or testing is recommended prior to shipping.

- d. Procedures shall be established to show as part of any test plan for, specifications, tolerances, type of test, applicable standard, how the tests are to be conducted, recorded and completion status.
- e. The Contractor shall develop, document and implement subcontractor quality oversight; including inspection and testing required by the Contract Documents
- f. Daily Quality Reports shall be provided to the Authority that summarizes the construction activities, record the inspections and tests completed and associated results, and record deficiencies identified during the previous 24 hours.
- g. The Inspection and Test Plans shall include the following:
  - i. A matrix of all tests required by the Contract Documents to be performed by Contractor, suppliers, or subcontractors.
  - ii. Samples of test reports (documentation to be used) - the test reports are to meet the minimum requirements called for in the applicable test standards or specifications.
  - iii. Provisions for coordinating onsite and offsite testing.
  - iv. Provisions for meeting the Authority notification criteria for planned tests and inspections specified to be witnessed by the Authority. Provide the Authority a minimum of 14 calendar days advance notice.
  - v. Test Plans shall delineate the specific inspections and tests required to assure that characteristic design and Contract requirements of structures, components and systems are fully complied with.

**9. Inspection, Measuring, and Test Equipment:**

- a. The Contractor shall establish documented inspection, measuring, and test equipment procedures and processes to identify, control, calibrate, and maintain inspection, measuring, and test equipment in order to demonstrate the conformance of work to the specified requirements.
- b. Documented procedures and records shall be made for recalibration of such equipment in a timely manner and documented in the QMS.
- c. A schedule of testing equipment that needs periodic and regularly scheduled recalibration shall be required of the sub-contractor(s) and be checked by the contractor(s) QA personnel.
- d. All contractor(s), subcontractor, consultant or supplier testing equipment shall be calibrated prior to its use on the project.

**10. Inspection and Test Status:**



- a. Means and procedures shall be established and provided for identifying the inspection and test status of work during production and installation. The purpose of this is to ensure that only work that has passed the required inspections and testing is accepted.

**11. Nonconformance:**

- a. Procedures shall be established and maintained for the immediate control of nonconforming work, in order to ensure that such work is not inadvertently used or installed.
- b. Nonconforming work shall be identified, documented, and evaluated to determine appropriate disposition and immediately reported to the Authority, Office of Quality Assurance & Warranty.

**12. Corrective Action:**

- a. Corrective action procedures shall be established, documented, and maintained throughout the term of the project.
- b. These procedures shall include directions for investigation of the root cause of nonconforming work and the corrective action needed to prevent recurrence, and procedures for analysis to detect and eliminate potential causes of nonconforming work.
- c. Qualified Authority personnel shall verify and document that the corrective action has been accomplished.
- d. The Contractor shall determine and document preventive action to eliminate the causes of potential nonconformance(s) in order to prevent their occurrence and shall submit such documentation to the Authority for review.
- e. The Contractor shall implement and document all changes in procedures resulting from preventive action, corrective action, and continual improvement initiatives.
- f. If the corrective action cannot be performed within the 30 days, immediate notification to the Authority shall be made in writing.

**13. Quality Records:**

- a. Procedures shall be established, documented and maintained by the Contractor for all quality records and the security of those records throughout the length of the project.
- b. Quality Record procedures shall identify which records should be kept, responsibility for production and collection, and responsibility for indexing, filing, storage, maintenance, and disposition of quality records.

**14. Quality Audits:**

- a. A Quality audit program shall be established, documented and maintained to ensure that the elements of the QMS and PSQMP are functioning as intended.
- b. Procedures for the audit schedule shall be established, documented and maintained for each required element, phase, test, consultant(s), sub-contractor, and supplier(s), as appropriate.
- c. Internal Quality Audits shall be performed at least quarterly.
- d. The Contractor shall immediately provide the audit results to the Authority Representative and complete required corrective actions within 30 days of the audit. If the corrective action cannot be performed within the 30 days, immediate notification to the Authority shall be made in writing.

**15. Training:**

- a. Procedures shall be established and documented to ensure all training documentation, to include but not limited to, operational manuals, technical manuals, manufacturer documentation, drawings, and technical specifications are delivered to the Authority prior to final payment. Delivery of the above mentioned documents shall be in the form of hard-copy and electronic format.
- b. The Contractor shall provide Authority trainers all necessary training to ensure full understanding and operational knowledge of the product(s), service(s) and system(s).

**B. Quality Assurance Standards applicable to the work include the following:**

1. FTA Quality Management System Guidelines- FTA-PA-27-5194-12.1
2. FTA Quality Assurance and Quality Control Guidelines- FTA-IT-90-5001-02.1
3. ISO 9001: Quality systems - Model for quality assurance in design, development, production, installation and servicing.
4. ISO 10013 - Guidelines for Developing Quality Manuals.

**C. Definitions:**

1. For definitions regarding quality used in this clause 2.58, refer to FTA Quality Management System Guidelines- FTA-PA-27-5194-12.1 and ISO 8402, Quality management and quality assurance - Vocabulary.

**2.58.3 RELATED DOCUMENTS:**

- A. Roadway Worker Protection Manual

**B. Metrorail Safety Rules and Procedures Handbook**

**2.58.4 PROGRAM REQUIREMENTS:**

- A. During the term of the Contract, the Contractor shall exercise positive control over all of the work, including that of sub consultants, subcontractors, fabricators, manufacturers, installers, and suppliers (suppliers and subcontractors) in accordance with the Quality Manual and Quality Procedures described in an approved Contractor Quality Management System.
- B. In addition to the QMS and PSQMP, the Contractor shall develop, implement and update any plan that fundamentally impacts the satisfactory execution of work or production. These plan(s) shall supplement and shall be integral components of the QMS and PSQMP; to be added to the PSQMP within 10 business days of plan approval.

**2.58.5 OVERVIEW OF PROPOSED QUALITY MANAGEMENT SYSTEM:**

- A. WMATA will review Quality Assurance requirements for pre-award data requirements. Refer to Clause 14. Pre-Award Information of Solicitation Instructions of Volume 1, Bidding and Contracting Requirements.

**2.58.6 SUMMARY OF SUBMITTALS**

- A. Quality Management System
  - 1. Finalized Quality Management System (Quality Manual and Quality Procedures) One (1) original and one (1) electronic copy (NTP plus 30 calendar days and when revised)
  - 2. Finalized Project Specific Quality Management Plan One (1) original and one (1) electronic copy (NTP plus 30 calendar days and when revised)
  - 3. Daily Quality Reports One (1) original and one (1) electronic copy (Daily)
  - 4. Summary of Management Review; One (1) original and one (1) electronic copy (monthly during the first six (6) months after NTP; no less than quarterly thereafter)
  - 5. Review and Disposition of Nonconforming Product One (1) original and one (1) electronic copy (as occurring)
  - 6. Report of Audit Results including sub/supplier Audits One (1) original and one (1) electronic copy (within five days of the completion of an audit)
  - 7. Report of Completion of Corrective Actions One (1) original and one (1) electronic copy (within 30 days of an audit). If the corrective action cannot be

performed within the 30 days, immediate notification to the Authority shall be made in writing.

8. Statement of Compliance Quality Certification for Payment Verification One (1) original and one (1) electronic copy (included with each payment request)
9. Inspection and Test Plans One (1) original and one (1) electronic copy (NTP plus 60 calendar days for Civil and Structural work, others minimum thirty (30) calendar days in advance of the covered work scheduled to start).

#### **2.58.7 QUALITY MANAGER**

- A. The Contractor shall provide a full-time Quality Manager. The Quality Manager shall be trained as a Lead Auditor through an approved certification agency (RAB, ASQ, etc...) and shall have 10 years of related experience including 5 years of management positions in a production, manufacturing, or construction environment and experience in QA/QC auditing.
- B. In the event that the Quality Manager is not found to be competent or to have sufficient relevant experience, the Authority will request that the Quality Manager be removed from the project. In that event, the Contractor shall submit a new candidate for consideration within ten (10) calendar days by submitting a resume.
- C. In addition to the Quality Manager, the Contractor shall assign additional trained and experienced staff to fulfill Contract and Contractor requirements for meeting quality. The Contractor shall provide sufficient resources to effectively manage quality related functions including the following:
  1. Quality Management System Administration
  2. Document Review and Control
  3. Construction Quality
  4. Subcontractor Quality
  5. Oversight of Quality Control
  6. Configuration Management
  7. Inspection & Testing

#### **2.58.8 CONTRACT DATA REQUIREMENTS LIST (CDRL)**

- A. The contract data requirements list (CDRL) is a list of authorized data requirements for a specific procurement that forms a part of the contract. CDRLS identify the data and documentation products that shall be formally delivered by the Contractor to the Authority for approval.

**2.58.9 STATEMENT OF COMPLIANCE QUALITY CERTIFICATION FOR  
PAYMENT CERTIFICATION**

- A. The Contractor shall provide the original and six (6) paper copies and an electronic copy of an approved QA/QC Manager's Statement of Compliance Quality Certification with each pay request stating that the PSQMP has effectively ensured that the items requested for payment have been designed or constructed to meet the design requirements, and/or have been inspected and tested as required to comply with Contract requirements including those of the PSQMP.
- B. Work for which satisfactory records for design, drawings, testing, inspection or other quality elements are not available shall not qualify for payment.

**2.59 EXISTING SURFACES**

- a. Existing surfaces shall be carefully protected during placing of concrete and other operations under this Contract to avoid damaging existing surfaces.
- b. Existing surfaces marred or damaged by operations under this Contract shall be repaired or replaced by the Contractor as directed and at no additional cost to the Authority.
- c. The Contractor shall maintain precast concrete protective coverings, if provided under a previous contract, from the completion of the previous contract to the completion of this Contract, at which time he shall remove and dispose of the precast concrete protective covering.

**2.60 EMBEDDED ITEMS**

When reinforcing steel or other items embedded in the concrete are encountered in a drilling or coring operation, the operation shall be stopped. The AR shall be notified and determination made by him whether the embedded item may be cut through. If it is not permissible to cut through the embedded item, the holes shall be drilled in another location and the original holes patched to the AR's satisfaction.

**2.61 PROTECTIVE DEVICES**

- a. General requirements:
  - (1) Wherever necessary, shown or specified, the Contractor shall erect and maintain signs, fences, barricades and pedestrian bridges and provide watchmen for the protection of public travel, the work site, adjoining property and adjoining public places.
  - (2) The Contractor shall take positive measures to prevent entry into the site of the work and storage areas by children, animals and unauthorized adults and vehicles.
  - (3) Protective devices shall be in accordance with the regulations of the jurisdictional agencies.
- b. Fences - Not Used
- c. Barricades - The Contractor shall provide and maintain during the stinger installation a fall warning device system along all adjacent shop floor pits.

**SECTION 01400****QUALITY CONTROL AND ASSURANCE REQUIREMENTS****PART 1 GENERAL****1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for quality control.
- B. The Contractor shall employ an independent Quality Control Engineering Firm to perform the quality control testing and inspection activities described herein. The independent Quality Control Engineering Firm shall report directly to the AR and be represented at the job site at all times during construction activities associated with this Contract.
- C. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's quality control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality control services required by the Contract Documents or authorities having jurisdiction are not limited by provisions of this Section.
- D. For Quality Assurance requirements refer to Special Provision Article 2.58  
QUALITY ASSURANCE COMPLIANCE

**1.2 DEFINITIONS**

- A. Quality Control: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with Contract requirements. Services do not include contract enforcement activities performed by the AR.
- B. Quality-Assurance: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- C. Mockups or Sample Panels: Physical example assemblies to illustrate finishes and materials. Mockups and Sample Panels are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation. Mockups and Sample Panels establish the standard by which the Work will be judged.

- D. Quality Control Engineering Firm: An entity licensed in the Commonwealth of Virginia and the state of Maryland retained by the Contractor to perform specific tests, inspections, or both as required by the Contract Documents, codes and/or jurisdictional agencies. The Quality Control Engineer shall work independently of the Contractor and shall report directly to the AR. Quality Control Engineer, testing laboratory or testing agency or similar language used in the Contract Documents shall mean the same as Quality Control Engineering Firm.

### **1.3 DELEGATED DESIGN**

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated. Design professional retained shall be licensed in the Commonwealth of Virginia and the state of Maryland.

### **1.4 REGULATORY REQUIREMENTS, CODES AND STANDARDS**

- A. Copies of Regulations, Codes and Standards: Obtain copies of the regulations, codes and standards referenced in the Contract Documents and retain at project site to be available for reference by parties who have a reasonable need to reference the information.
- B. Quality Assurance Standards: Refer to Special Provision Article 2.58.

### **1.5 SUBMITTALS**

- A. Qualification Data for Quality Control Engineer specified in this Section to demonstrate their capabilities and experience. Include proof of qualifications in the form of a current certification of the inspection of the Quality Control Engineering Firm by one of the agencies listed. Submit individual resumes outlining experience, registration and certifications required for the Professional Engineer, full time field inspector, and additional field inspectors to be assigned to the project in accordance with the following requirements.
- B. The individuals submitted and approved shall not be replaced on the project without prior written approval of the Authority. The minimum requirements for the Quality Control Engineering Firm shall be as follows:
1. At least one Quality Control Engineer on the Quality Control Engineering team/Firm directly associated with this Contract shall be Quality Certified by an accredited Quality Society or Association (i.e. ASQ)
  2. The Quality Control Engineering firm shall have an in-house construction materials laboratory equipped, experienced and staffed to perform the testing outlined in the Contract Documents. The Quality Control Engineering firm shall have at least one Professional Engineer licensed in the Commonwealth of Virginia and the state of Maryland permanently stationed in the office of the Quality Control Engineering Firm providing services for the project. The Professional Engineer shall be in responsible charge of all work performed by the Quality Control Engineering firm on the project. Professional Engineer and Quality Control Engineer can be the same individual as long as the requirements of this Section 01400 are met.
  3. The Quality Control Engineering Firm's construction materials laboratory shall be certified by one of the following agencies. The certification shall be current and remain in force for the duration of the project.
    - a. Washington Area Council of Engineering Laboratories (WACEL).

- b. American Association of State Highway and Transportation Officials (AASHTO).
    - c. Department of the Army, Corps of Engineers.
    - d. Cement and Concrete Reference Laboratory (CCRL).
  - 4. The Quality Control Engineering firm shall provide one field inspector for each parking garage where the construction work is in progress, to be stationed on site full time for the duration of the project. The minimum qualifications of the full time field inspector shall be certifications held by the assigned individual. At least one of the following certifications shall be held by the individual and remain in force for the duration of the project:
    - a. WACEL Structural Inspector
    - b. American Concrete Institute; Concrete Construction Inspector
    - c. National Institute for Certification in Engineering Technologies (NICET); Construction Level 3.
  - 5. The Quality Control Engineering Firm shall provide additional field inspectors to assist the full time field inspector as required by the work activities or the AR to ensure that the testing and inspection requirements are fulfilled. A minimum of two (2) field inspectors shall be on site during all concrete pours. The minimum qualifications of the additional field inspectors shall be certifications held by the assigned individual. At least one of the following certifications shall be held by each individual and remain in force for the duration of the project.
    - a. WACEL: Concrete Level II.
    - b. American Concrete Institute: Concrete Field Testing Technician – Grade I.
    - c. NICET: Construction Level II.
  - 6. The Quality Control Engineer Firm shall provide at least one field inspector to inspect structural steel fabrications and field welding performed as part of the work. This inspector may be assigned to the project of a part-time basis but shall be responsible for the monitoring and inspection of all work involving structural steel and welding. The minimum qualifications of the additional field inspectors shall be certifications held by the assigned individuals. At least one the following certifications shall be held by the individual and remain in force for the duration of the project:
    - a. WACEL: Structural Steel.
    - b. American Welding Society: AWS QC1.
- C. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to the Contractor to be designed or certified by a design professional, indicating that the products, materials and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services. The design professional shall be a Professional Engineer or Architect (based on the specific design discipline requirements) licensed in the Commonwealth of Virginia and state of Maryland. Submittals requiring seals shall be sealed and signed by the responsible design professional.
- D. Schedule of Tests and Inspections: Schedule of tests and inspections shall be developed jointly between the Contractor and Quality Control Engineer based on the



requirements of the Contract Documents. The schedule shall be submitted within 30 days of the Notice to Proceed. The schedule shall be formatted in tabular form and include the following:

1. Specification Section number and title.
2. Description of test and inspection.
3. Identification of applicable standards.
4. Identification of test and inspection methods.
5. Number of tests and inspections required.
6. Time schedule or time span for tests and inspections.
7. Entity responsible for performing tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality control service.

E. Reports: The Quality Control Engineer shall prepare daily activity reports and test reports for the project. Daily reports shall be delivered to the AR at the end of each day's work. Daily reports and test reports shall be forwarded to the office of the Quality Control Engineer, reviewed by the Professional Engineer, certified and written reports delivered within five (5) working days of the test or inspection activity. Daily reports and test reports that include the following:

1. Date of issue.
2. Project title, correspondence, number, and Contract number. Follow the format provided by the Authority.
3. Name, address, and telephone number of Quality Control Engineering firm.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Ambient conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Documents requirements.
12. Punch list where required.
13. Recommendations on retesting and re-inspecting.
14. Name and signature of field or laboratory inspector.
15. Name and signature of the AR.
16. Signature and Seal of the Professional Engineer in responsible charge.
17. Two copies shall be delivered directly to the AR and one copy shall be delivered to the Contractor.

F. Permits, Licenses, and Certificates: For the Authority's records, submit copies of permits, inspection releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

**1.6 CONTRACTOR QUALITY ASSURANCE**

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Manufacturer's Representative Qualifications: An AR of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance. Where required, submit copies of manufacturer's certifications held by Installer.
- D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified and licensed to practice in the Commonwealth of Virginia and state of Maryland, and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for inspection and testing, installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

**1.7 QUALITY ASSURANCE COMPLIANCE**

- A. Project Specific Quality Management Plan (PSQMP) shall be developed per Quality Assurance requirements of Special Provision Article 2.58
- B. To assure the Contractor's compliance with and conformance to the approved Contractor's Quality Assurance Program, the program will be subject to quality audits. Audits will be scheduled by the Authority Representative as required.
- C. Field Samples and Mock-Ups:
  - 1. When specified, provide Samples and mock-ups that illustrate functional and aesthetic characteristics similar in every way to the actual materials or equipment to be incorporated into the work.
    - a. Provide office Samples of sizes and quantities that clearly illustrate the full color range and functional characteristics of products and materials, including attachment devices.
    - b. Furnish required Samples and mock ups at no additional cost to the Authority.
  - 2. Erect field Samples and mock-ups at the Work Site as specified in individual Specification Sections, and as may be necessitated by the Contractor submitting value engineering proposals, at locations acceptable to the AR.

- 
- a. Do not incorporate the Sample or mock-up material or equipment into the Work until approval to do so is received from the AR.
- D. Preconstruction Testing: Quality Control Engineer shall perform preconstruction testing for compliance with specified requirements for performance and test methods.
- 1. Contractor responsibilities include the following:
    - a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with performance requirements.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Fabricate and install test assemblies using installers who will perform the same tasks for the Project.
    - d. When directed by the AR, remove assemblies; do not reuse materials on Project.
  - 2. Quality Control Engineer Responsibilities: Submit a certified written report of each test, inspection, and similar quality control service directly to the AR, with copy to the Contractor. Reports shall be submitted within five (5) working days after the activity. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- E. Mockups/Sample Panels: Before installing portions of the Work requiring mockups and/or sample panels, build mock ups and/or sample panels for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
- 1. Build mockups in location and of size indicated or, if not indicated, as directed by the AR
  - 2. Notify AR seven (7) days in advance of dates and times when mockups and/or sample panels will be constructed.
  - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
  - 4. Obtain AR's approval of mockups or sample panels before starting work, fabrication, or construction.
  - 5. Maintain mockups and/or sample panels during construction in an undisturbed condition as a standard for judging the completed Work.
  - 6. Demolish and remove mockups when directed by the AR

## 1.8 QUALITY CONTROL

- A. Authority Responsibilities: The AR will review the activities of the Quality Control Engineer.
- B. Contractor Responsibilities: Unless otherwise indicated, provide quality control services specified by the Contract Documents and required by authorities having jurisdiction through the Quality Control Engineer.

1. All quality control services are to be provided through the Quality Control Engineering Firm.
2. Notify the Quality Control Engineer and AR at least 48 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Testing and inspecting requested by Contractor and not required by the Contractor Documents and Contractor's responsibility.
4. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
5. Allow the Quality Control Engineer to remove material samples as required for testing.
6. Furnish any labor necessary to assist the Quality Control Engineer in obtaining and handling samples.
7. Provide water or electric power for quality control sampling, testing and inspections as required.
8. Provide access to the Work including scaffolding and walk boards as required for quality control sampling, testing and inspection.
9. Repair all damage or labels made on work surfaces as part of quality control sampling, testing and inspections.
10. Provide and maintain, including temperature control, for the sole use of the Quality Control Engineer, adequate facilities for the safe storage and proper curing of the concrete test specimens on the project site for the first 24 to 48 hours as required by ASTM C31.
11. Do not place concrete or cover portions of the Work until all inspections and testing have been completed and all deficiencies have been corrected to the Quality Control Engineer's and AR's satisfaction. Work, which is performed prior to the Quality Control Engineer's and AR's approval, is subject to removal and replacement at the Contractor's expense.
12. Additional sampling, testing and inspection shall be performed at the Contractor's expense when required by the AR due to:
  - a. Changes in materials or proportions, changes in work sequencing, or changes in curing times or methods as requested by the Contractor.
  - b. Testing of materials or concrete, which, due to failure by previous test or inspection, do not meet the Contract requirements.
  - c. Failure by the Contractor to execute the Work as detailed or specified in the Contract Documents.

C. Quality Control Program:

1. The Contractor is responsible for all quality control for the Contract, with the exception of those tests or inspections specifically identified as being performed by others.
2. Omissions and errors in the Contract Document descriptions do not relieve the Contractor of his responsibility to perform all tests/inspections required within the scope of this Contract.
3. Inspections and tests performed by the AR are for the Authority's Quality Assurance and do not relieve the Contractor from the responsibility of meeting the specified requirements.
  - a. Inspections and tests performed by the AR are not to be considered a guarantee for acceptance of materials that will be delivered subsequent to the time the items were inspected or tested.
4. At no increase in Contract Price, bear the cost for the Contractor Quality Control

---

inspections and tests required in accordance with the requirements of General Provisions.

- D. **Manufacturer's Field Services:** Where indicated, engage a manufacturer's representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing to the AR within five (5) working days after the activity.
- E. **Quality Control Engineer's Responsibilities:** Cooperate with the AR and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. The Quality Control Engineer shall perform all services independent of the Contractor and shall report directly to the AR. The services performed are for the benefit of the Authority and shall be executed in strict accordance with the Contract Documents.
  2. The Quality Control Engineer shall be responsible for performing all Quality Control testing and inspection requirements specified in the Contract Documents, required by code, and required by jurisdictional agencies.
  3. The Quality Control Engineer shall report all testing and inspection results directly to the AR independent of the results provided by copy to the Contractor.
  4. Notify AR and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  5. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  6. Submit a certified written report, in duplicate, of each test, inspection, and similar quality control service directly to the AR. One copy shall be provided to the Contractor.
  7. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
  8. Do not perform any duties of the Contractor or AR.
  9. The Quality Control Engineer shall perform quantity verifications as directed by the AR.
- F. **Cooperate with agencies performing required tests, inspections, and similar quality control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:**
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field-curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. **Coordination:** Coordinate sequence of activities to accommodate required quality

control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

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

## **PART 3 EXECUTION**

### **3.1 REPAIR AND PROTECTION**

- A. General: On completion of testing, inspecting, sample taking, and similar services, the Contractor shall repair damaged construction and restore substrates and finishes.
- B. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
- C. Protect construction exposed by or for quality control service activities.
- D. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality control services.

**END OF SECTION**