

PART 1 – GENERAL

1.01 PURPOSE

- A. It is the intention of The Owner to ensure quality control of building construction materials and their installation methods.. To achieve this goal, the Owner intends to retain the services of a qualified Vendor capable of providing a full range of testing and inspection services including, but not limited to the following: construction materials testing and inspections, building condition inspections, and technical report writing. For services which the Vendor cannot perform with their own personnel, the Vendor shall subcontract such services as required to meet the work scope requirements of Task Orders.
- B. Vendor services shall be provided on an individual Task Order basis, upon request by The Owner.
- C. The Vendor shall provide all labor, supervision, engineering, testing apparatus, materials and equipment for testing, inspections and other services described in this Section.
- D. All testing, inspections and other services provided in approved Task Orders shall include written reports.
- E. The Vendor shall be on-call for any emergency testing and inspection services required by the Owner.

1.02 QUALIFICATIONS OF VENDOR

- A. The Vendor shall be an established company and full service organization with a minimum of five (5) years of experience in construction materials testing and inspection services.
 - B. The Vendor and their Sub-Vendors shall be certified by Washington Association of Building Officials (WABO). WABO certification shall be required as an example for the following:
 - * Reinforced Concrete, Shotcrete
 - * Reinforced Masonry, Spray Applied Fire Proofing
 - * Prestressed Concrete, Structural Steel and Welding
 - * High Strength Bolting,
Soils

All field personnel employed by the Vendor and their Sub-Vendors shall be WABO certified for the category of service performed.

- C. The staff of the Vendor and their Sub-Vendors shall be fully trained and capable of providing supervision, construction materials and testing and inspections, constructions systems evaluations, and technical report writing services.
- D. The Vendor's office shall be local and situated within the Tacoma/Seattle/Olympia region.

1.03 TRANSPORTATION WORKER IDENTIFICATION CARD (TWIC) SUMMARY

- A. TWIC is required for all personnel needing unescorted access to secure and restricted areas of Port facilities subject to 33 CFR 105, including truckers, surveyors, construction personnel, and delivery personnel. Secure areas are those areas with security measures for access control in accordance with a Coast Guard approved security plan; restricted areas are those areas within a secure area that require increased limited access and a higher degree of security protection. New terminals under construction prior to terminal operations may not be designated secure areas. Construction on existing maritime transportation facilities and punchlist or other type of work requirements on facilities that have been certified under 33 CFR will require a TWIC.
- B. The fee for TWIC is \$132.50 per person and the credential is valid for five years. The Contractor is responsible for the TWIC fee.

- C. Contractors should allow a minimum of ninety days after application at an enrollment center for the security threat assessment and issuance of TWIC.

1.04 VENDOR HOURS OF WORK

- A. Vendor hours of work are defined as follows:

- 1. Regular Hours (Straight Time):
 - a. Weekdays, the first 8 hours worked after 7:00 AM and before 5:00 PM.
- 2. Overtime Hours:
 - a. Time and One Half (1 - 1/2 x Straight Time):
 - 1) Weekdays, all hours not included in Straight Time.
 - 2) Saturdays
Double Time
 - 1) Sundays, holidays and any time worked beyond 10 hours in a work shift
 - b. Overtime Hours work will not be allowed unless specifically authorized by the Owner Representative.

- B. The Vendor shall typically perform services specified in Task Orders during Regular Hours. For any services (including emergency service) which cannot be performed during Regular Hours, and only as specifically authorized by the Owner, the Vendor shall perform work on Overtime Hours.

1.05 VENDOR PROJECT MANAGEMENT OF WORK

- A. The Vendor shall designate a Representative who will be assigned account responsibility. The Vendor's Representative, the entire Vendor's office and any Sub-Vendors necessary for performance of the work, shall be available to assist The Owner in identifying and resolving testing and inspection services needs and problems associated with Task Orders. The Owner will designate a contact person who will be responsible for contract management of Vendor Task Orders and emergency service work. As some testing and inspections will be done for projects where the Owner has hired an outside construction management team, the Vendor shall also coordinate their work with the construction management team.
- B. Duties of the Vendor's Representative shall include the following:
 - 1. Consult with the Owner Representative to discuss the scope of work required in Task Orders. The Owner will provide the Vendor with a copy of the project's construction drawings, technical specifications and other information, as applicable.
 - 2. Following Notice to Proceed by the Owner, complete in a timely manner testing, inspections and other services specified in Task Orders.
 - 3. If necessary and only as directed by the Owner's Representative, obtain a permit(s) from the applicable regulatory authorities.
 - 4. Coordinate all testing and inspection schedules and activities with the Owner's Representative
 - 5. For emergency service call-outs, proceed as directed by The Owner's Representative in order to facilitate testing and inspections.
 - 6. As a Task Order progresses, provide timely copies of reports of testing and inspections to The Owner's Representative the Owner's construction management team and any other entity, as directed by the Owner's Representative. At the completion of a Task Order, provide a letter stating that all testing and inspections are completed and in conformance with the construction documents and the applicable regulatory authorities.

7. Provide monthly invoices to The Owner, based upon pricing negotiated and documented in the executed contract.

1.07 QUALITY CONTROL

- A. The Vendor shall perform all testing and inspections work in accordance with all applicable industry and reference standards, codes, ordinances and regulatory authorities.

1.08 ASBESTOS AND HAZARDOUS MATERIALS

- A. Upon encountering asbestos, materials suspected of containing asbestos, or any other toxic or hazardous materials, the Vendor shall immediately stop work and shall not remove, cut, or repair said materials. The Vendor shall not enter or work in any area suspected of containing asbestos or other hazardous materials. The Vendor shall immediately notify the Owner if asbestos or other hazardous materials are encountered during the work.
- B. The Owner will provide for removal or encapsulation of all asbestos or other hazardous materials. The Owner will also be responsible for any required testing, air monitoring and disposal of asbestos or other hazardous materials. The Vendor shall not reenter the area which contained asbestos or other hazardous materials until so directed by the Owner.

PART 2 - PRODUCTS

2.01 GENERAL

- A. The Vendor shall provide any materials necessary to appropriately carry out all testing, inspections and other services outlined in this Section.

PART 3 – EXECUTION

3.01 GENERAL

- A. The Vendor shall provide all required labor, supervision. Sub-Vendors, tools, materials, testing apparatus and equipment necessary for performance of testing, inspections and other procedures specified in Task Orders.
- B. For each type of testing, inspections and other services required in Task Orders, The Vendor shall provide the appropriate work crew(s).

3.02 GENERAL FIELD TESTING, INSPECTIONS AND SERVICES

- A. Concrete Rebound Hammer Test, per ASTM C 805
- B. Concrete Floor Moisture Test
- C. Structural Steel Testing
 1. Ultrasonic
 2. Magnetic Particle
 3. Dye Penetrant
- D. Bolt Pull Testing
- E. Load Testing
- F. Flatness Testing
 1. Floor
 2. Wall
- G. Pachometer Testing
- H. Soils, Nuclear Method, In-Place Density Test, per ASTM D 2922, ASTM D 2950, ASTM C 1040

- I. Fireproofing Density Sample Test, Adherence Testing
- J. Concrete Inspection
 - 1. Reinforced Concrete
 - 2. Pre-stressed Concrete
 - 3. Post-tensioned Concrete
 - 4. Reinforcing Steel
 - 5. Epoxy Anchors
 - 6. Concrete Batch Plant
- K. Shotcrete Inspection
- L. Reinforced Masonry Inspection
- M. Structural Steel Inspection
 - 1. Welding (Visual)
 - 2. High Strength Bolting
- N. Wood Framing and Structures Inspection
 - 1. General Wood Framing Joinery and Condition Inspection
 - 2. Dry, Damp and Insect Wood Rot Inspection
- O. Sprayed-On Fireproofing Inspection
- P. Asphaltic Concrete Inspection
- Q. Piling Inspection
- R. Casting and Curing of Concrete Cylinders
- S. Floor and Pavement Coring
 - 1. Concrete
 - 2. Asphaltic Concrete

3.03 CONCRETE LABORATORY TESTING

- A. Compression Strength Test
 - 1. Cast by Vendor, per ASTM C 39
 - 2. Cast and Delivered by Others, per ASTM C 39
 - 3. Cored Specimen, per ASTM C 42, ASTM C 513
 - 4. Sawed Section, per ASTM C 42
- B. Flexural Strength Test, per ASTM C 78, ASTM C 293
- C. Density Test
 - 1. Normal Concrete
 - 2. Lightweight Concrete
- D. Splitting Tensile Test, per ASTM C 496
- E. Concrete Slump Test, per ASTM C 143

- F. Concrete Air Entrained Test, per ASTM C 231, ASTM C 173
- G. Modulus of Elasticity Test
- H. Grout Flow Test, per ASTM C 939
- I. Air Dry Unit Weight Test
- J. Moisture Emission Test

3.04 SHOTCRETE LABORATORY TESTING

- A. Compression Test Panel

3.05 AGGREGATE LABORATORY TESTING

- A. Clay Lumps and Friable Particles Test, per ASTM C 142
- B. Cleanliness Value Test, per ASTM C 40
- C. Sand Equivalent Test, per ASTM D 2419, AASHTO T176
- D. Soundness Test, per ASTM C 88
- E. Degradation Test, per WSDOT T113
- F. L. A. Abrasion Test, per ASTM C 131, ASTM C 535, AASHTO T96
- G. Reactivity Test, per ASTM C 289
- H. Sodium Sulfate Soundness Test
- I. Ethylene Glycol Test
- J. Unconfined Compressive Test for Intact Rock Cores, per ASTM D 2938
- K. Sieve Analysis Test
 - 1. Dry, per ASTM C 136, AASHTO T27
 - 2. Wet, per ASTM C 117, AASHTO T27
- L. Aggregate Specific Gravity Test: Aggregate to be submitted to the testing laboratory shall be of a size capable of passing through a #10 sieve.
 - 1. Coarse Aggregate, per ASTM C 127
 - 2. Fine Aggregate, conforming to ASTM C 128
- M. Aggregate Unit Weight Test, per ASTM C 29

3.06 MASONRY LABORATORY TESTING

- A. CMU (except brick) Compression Strength Test, per ASTM C 140
- B. Brick Compression Strength Test, per ASTM C 67, Article 6
- C. Mortar Compression Test, per ASTM C 780
- D. Grout Compression Test, per ASTM C 1019
- E. CMU Prism Test, Grouted/Ungouted, per ASTM E 447
- F. Mortar Prism Test
- G. Grout Prism Test
- H. CMU Dry Shrinkage Test
- I. CMU Absorption, Unit Weight and Moisture Content Test

- J. CMU Flexural Bond Strength Test, per ASTM C 1072
- K. CMU Flexural Bond Test, per ASTM E 518
- L. Mortar Cylinder Test
- M. CMU (Except Brick) Efflorescence Test
- N. Brick Efflorescence Test
- O. CMU Freezing and Thawing Test, per ASTM C 67

3.07 SOILS LABORATORY TESTING

- A. Grain size Analysis
 - 1. Dry Sieve Analysis, per ASTM C 136
 - 2. Wet Sieve Analysis, per ASTM C 117
 - 3. Extra Sieve Points, per ASTM C 136, ASTM C 117
 - 4. Hydrometer Analysis, per ASTM D 422
 - 5. Passing #200 Sieve, per ASTM D 1140
- B. Moisture Density Relationship (Proctors)
 - 1. Granular Soil, per ASTM D 698, ASTM D 1557
 - 2. Cohesive Soil, per ASTM D 698, ASTM D 1557
- C. Sand Cone Density Test, per ASTM D 1556
- D. Sand Equivalent Test
- E. Natural Moisture Content Test, per ASTM D 2216
- F. Organic Content Test, per ASTM D 2974
- G. Permeability Test, Constant Head, per ASTM D 2434
- H. Specific Gravity Test, per ASTM D 854
- I. California Bearing Ratio Test (with Proctor)
- J. R-Value Test
- K. Atterberg Limits Test
 - 1. One Point Method, per ASTM D 4318
 - 2. Three Point Method, per ASTM D 4318
- L. Visual Soil Classification

3.08 ASPHALTIC CONCRETE LABORATORY TESTING

- A. Marshal Stability and Flow Test, per ASTM D 1559, AASHTO T 245
- B. Compression Strength Test, per ASTM D 1074, AASHTO T 167
- C. Rice Density Test, per ASTM D 2041, AASHTO T 245
- D. Bulk Specific Gravity Test
 - 1. Asphalt Specimens, per ASTM D 2726, AASHTO T 166
 - 2. Asphalt Cores, per ASTM D 2726, AASHTO T 166

- E. Bitumin Content by Extraction Test, per ASTM D 2172, AASHTO T 164
- F. Moisture Content of Bituminous Paving Mixture, per ASTM D 1461, AASHTO T 110
- G. Fractured Face Count Test
- H. Core Density Test
 - 1. Effect of Water on Cohesion Test, per ASTM D 1075, AASHTO T 165

3.11 REPORTING SERVICES

- A. General Report Requirements: The Vendor shall review field data and test results and shall prepare written evaluations and reports for Task Orders. All testing and inspections and other services provided by the Vendor shall result in a computer printout(s) and/or report(s).
- B. Reports for Typical Projects:
 - 1. For typical site work and building construction projects, following testing and inspections, the Vendor shall promptly submit report(s) to the Owner Representative. Reports shall indicate the items inspected as being in conformance or not in conformance with the construction documents and regulatory authorities.
 - 2. At the completion of a Task Order, the Vendor shall submit a letter to the Owner Representative stating that all testing and inspections are completed and that all work is in conformance with the construction documents and the applicable regulatory authorities.
- C. Reports for Special Projects: For special projects and work with variable scoping requirements, the Vendor shall provide reports as directed by the Owner Representative.