## Laboratory Certification For

## Shakib Dastaggir Construction & Design Company (S-CAD)-KBL

**Lab ID: LCP-031**

**Issue date: Aug16th, 2017**
**Expiry date: Feb 15th, 2018**

This letter confirms the completion of inspection and certification for the S-CAD Lab, which is located at street # 19, Eistgahe Danish, Hesa 3 of Khair Khana, District 15, Kabul, Afghanistan. This laboratory should now be considered as certified for use by the US Army Corps of Engineers Transatlantic Afghanistan District (USACE TAA) and other clients, for all tests listed in Table 1 to Table 5, as attached to this letter. This certification will be included with records that are maintained at the ABA and USACE TAA Headquarters in Bagram Airbase, Afghanistan. Retaining the certification will require yearly inspections by the ABA. This certification is also contingent upon the following conditions:

A. Continued employment of the below individual while without his oversight, the laboratory will require recertification:
    a. Eng. Ghulam Dastaggir the laboratory manager;
B. If the calibration certificates of equipments expire or become invalid as per the relevant standard;
C. If the laboratory is moved to a new location, it will require recertification; and
D. If the laboratory fails to comply by the approved lab quality management plan, safety standards, and other criteria set forth in the most up-to-date ABA lab certification manual, the lab certification may be suspended.

For verification and good standing of this certification please check our online directory of laboratories at http://aba.af/lcp_directory.php. The inspection and certification process for the S-CAD adhered to procedures outlined by the Materials Testing Center (MTC), which is located at the Geotechnical and Structures Laboratory (GSL), U.S. Army Engineer Research and Development Center (ERDC) in Vicksburg, Mississippi, USA. The MTC is the USACE-authorized agency for certifying laboratories for use in quality control testing for USACE construction projects. To facilitate construction in Afghanistan, the USACE TAA has authorized the ABA to conduct laboratory certifications with strict adherence to MTC protocol. Qualifications of the authors for conducting these certifications include: 12 years of laboratory experience, 12 years of teaching classes on construction materials, and six years of teaching university-level construction classes.

Certified to perform 50 tests, as shown on attached sheets and summarized as:

Table 1: 10
Table 2: 8
Table 3: 16
Table 4: 11
Table 5: 5

**Regards,**

**Mowdood Popal**

**President of Afghanistan Builders Association (ABA)**

## S-CAD-KBL Certified Laboratory Tests

**Table 1. List of Soil Tests**

| No | Test Method | Test Procedure Title |
|---|---|---|
| 1 | ASTM D 421 | Dry Preparation for Particle Size Distribution & Soil Constants |
| 2 | ASTM D 422 | Standard Test Method for Particle-Size Analysis of Soils |
| 3 | ASTM D 854 | Specific Gravity of Soils |
| 4 | ASTM D 1556 | Density & Unit Weight by Sand Cone |
| 5 | ASTM D 1557 | Compaction Characteristics by Modified Effort |
| 6 | ASTM D 1883 | California Bearing Ratio (CBR) |
| 7 | ASTM D 2216 | Water Content |
| 8 | ASTM D 4318 | Liquid & Plastic Limits & Plasticity Index |
| 9 | ASTM D 4944 | Standard Test Method for Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester Method |
| 10 | ASTM D 6938 | In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Method ( Shallow Depth) |

**Table 2. List of Aggregate (Fine and Course) Tests**

| No | Test Method | Test Procedure Title |
|---|---|---|
| 1 | ASTM C 29 | Unit Weight and Voids in Aggregate |
| 2 | ASTM C 117 | Material Finer than 75 μm (No. 200) Sieve |
| 3 | ASTM C 127 | Specific Gravity & Absorption in Coarse Aggregate |
| 4 | ASTM C 128 | Specific Gravity & Absorption in Fine Aggregate |
| 5 | ASTM C 131 | Los Angeles Abrasion Resistance on Small-Size Coarse Aggregate |
| 6 | ASTM C 136 | Sieve Analysis of Aggregates |
| 7 | ASTM C 566 | Total Moisture Content |
| 8 | BS 812 Section 105.1 and Section 105.2 | Testing Aggregates. Methods for Determination of Particle Shape Flakiness Index and Elongation Index for Coarse Aggregate. |

**Table 3. List of Concrete Tests**

| No | Test Method | Test Procedure Title |
|---|---|---|
| 1 | ASTM C 31 | Making and Curing Test Specimens in the Field |
| 2 | ASTM C 39 | Compressive Strength of Cylindrical Specimens |
| 3 | ASTM C 143 | Slump |
| 4 | ASTM C 172 | Standard Practice for Sampling Freshly Mixed Concrete |
| 5 | ASTM C 231 | Standard Test Methods for Air Content of Freshly Mixed Concrete by the Pressure Method |
| 6 | ASTM C 1064 | Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete |
| 7 | ASTM C 42 | Obtaining and Testing Drilled Cores and Sewed Beams of Concrete |

| No | Test Method | Test Procedure Title |
|---|---|---|
| 8 | ASTM C 78 | Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading) |
| 9 | ASTM C 174 | Measuring Thickness of Concrete Elements Using Drilled Concrete Cores |
| 10 | ASTM C 192 | Making and Curing Test Specimens in Laboratory |
| 11 | ASTM C 511 | Water Storage Tanks |
| 12 | ASTM C 617 | Capping Cylindrical Specimens |
| 13 | ASTM C 642 | Standard Test Method for Density, Absorption, and Voids in Hardened Concrete |
| 14 | ASTM C 684 | Standard Test Method for Making, Accelerated Curing, and Testing Concrete Compression Test Specimens |
| 15 | ASTM C 805 | Rebound Number of Hardened Concrete |
| 16 | ASTM C 1602 | Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete |

**Table 4. List of Bituminous Tests**

| No | Test Method | Test Procedure Title |
|---|---|---|
| 1 | ASTM D 2172 | Quantitative Extraction |
| 2 | ASTM D 2726 | Bulk Specific Gravity and Density |
| 3 | ASTM D 2950 | Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods |
| 4 | ASTM D 3203 | Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures |
| 5 | ASTM D 4125 | Standard Test Methods for Asphalt Content of Bituminous Mixtures by the Nuclear Method |
| 6 | ASTM D 5444 | Standard Test Method for Mechanical Size Analysis of Extracted Aggregate |
| 7 | ASTM D 979 | Sampling Bituminous Paving Mixtures |
| 8 | ASTM D 3549 | Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens |
| 9 | ASTM D 5361 | Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing |
| 10 | ASTM D 6926 | Preparation of Bituminous Specimens Using Marshall Apparatus |
| 11 | ASTM D 6927 | Marshall Stability and Flow of Bituminous Mixtures |

**Table 5. List of Masonry & Cement Tests**

| No | Test Method | Test Procedure Title |
|---|---|---|
| 1 | ASTM C 140 | Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units |
| 2 | ASTM C 188 | Standard Test Method for Density of Hydraulic Cement |
| 3 | ASTM C 1019 | Standard Test Method for Sampling and Testing Grout |
| 4 | ASTM C 1552 | Standard Practice for Capping Concrete Masonry Units, Related Units and Masonry Prisms for Compression Testing |
| 5 | ASTM C 170 | Standard Test Method for Compressive Strength of Dimension Stone |