Afghanistan Builders Association
Building Afghanistan Together

اتحادیه شرکت های ساختمانی افغانستان
بیایید افغانستان را با هم بسازیم

Laboratory Certification For

Build Afghanistan Engineering Services (BAES) Laboratory

Lab ID: LCP-017

Issue date: Oct 5, 2016
Expiry date: April 4, 2017

This Extension letter confirms the completion of inspection and certification for the BAES Laboratory, which is located at House # 23, Southern Street of Habibiya High School, Darulaman Road, 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 7, 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 following individuals while without their oversight, the laboratory will require recertification:
   1. Samiullah Stanikzai the laboratory manager; and
   2. Other Senior Technicians who were inspected and certified during the inspection, a list of certified technicians can be provided upon request;
B. If the calibration certificates of equipments expire or become invalid as per the relevant ASTM or AASHTO 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.html. The inspection and certification process for the BAES 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.

Regards,

Naeem Yassin

President of Afghanistan Builders Association (ABA)

BAES Certified Laboratory Tests

Table 1. List of Certified Soil Tests for BAES

No	Test Method	Test Procedure Title
1	ASTM C 136	Particle Analysis of Soils
2	ASTM D 421	Standard Practice for Dry Preparation for Particle Size Distribution & Soil Constants
3	ASTM D 422	Standard Test Method for Particle Size Analysis of Soils
5	ASTM D 558	Moisture- Density (Unit Weight) Relation of Soil-Cement Mixtures
6	ASTM D 698	Standard Test Method for Compaction Characteristics by Standard Effort
7	ASTM D 854	Standard Test Method for Specific Gravity of Soils by Water Pycnometer
8	ASTM D 1140	Standard Test Method for Amount of Material in Soils Finer than 75 mm (No. 200) Sieve
9	ASTM D 1556	Standard Test Method for Density & Unit Weight of Soils in Place by Sand-Cone Method
10	ASTM D 6938	In-Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth)
11	ASTM D 1557	Standard Test Method for Laboratory Compaction Characteristics by Modified Effort
12	ASTM D 1883	Standard Test Method for California Bearing Ratio (CBR) of Laboratory Compacted Soil
13	ASTM D 2216	Standard Test Method for Laboratory Determination of Water(moisture) Content of Soil and Rock By Mas
14	ASTM D 4643	Lab Determination of Water (Moisture) Content of Soil by Microwave oven heating
15	ASTM D 2487	Standard Practice for Classification of Soils for Engineering Purpose (Unified Soil Classification System)
16	ASTM D 2488	Standard Practice for Description & Identification of Soils (Visual-Manual Procedure)
17	ASTM D 4318	Standard Test Methods Liquid & Plastic Limits & Plasticity Index
18	ASTM D 4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
19	ASTM D 6951	Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications
20	ASTM D 2487	Classification of Soil and Soil Aggregate Mixtures for Highway Construction Purposes

Table 2. List of Certified Aggregate (Fine and Course) Tests for BAES

No	Test Method	Test Procedure Title
1	ASTM C 29	Standard Test Method for Unit Weight and Voids in Aggregate
2	ASTM C 70	Standard Test Method for Surface Moisture in Fine Aggregate
3	ASTM C 88	Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate Method
4	ASTM C 117	Standard Test Method for Material Finer than 75 µm (No. 200) Sieve
5	ASTM C 127	Standard Test Method for Specific Gravity & Absorption in Coarse Aggregate
6	ASTM C 128	Standard Test Method for Specific Gravity & Absorption in Fine Aggregate
7	ASTM C 131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
8	ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
9	ASTM C 142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
10	ASTM C 566	Standard Test Method for Total Evaporation Moisture Content of Aggregate by Drying
11	ASTM C 702	Standard Practice for Reducing Samples to Testing Size
12	ASTM D 75	Standard Practice for Sampling Aggregate
13	ASTM D 2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
14	ASTM D 4791	Standard Test Method for Flat Particles, Elongated Particles, Flat and Elongated Particles in Coarse Aggregate
15	ASTM D 4944	Standard Test Method for Field Determination of Water (Moisture) Content of Soil by The Calcium Carbide Gas Pressure Tester
16	ASTM D 5821	Percentage of Fractured Particles in Coarse Aggregate
17	CRD-C 171	Percentage of Crushed Particles in Aggregate
18	BS 812 Section 105.1	Testing Aggregates. Methods for Determination of Particle Shape Flakiness Index
19	BS-812-105.2	Testing Aggregates , Methods for Determination of Particle Shape, Elongation Index for Coarse Aggregate
20	BS-812-110	Method for Determination of Aggregate Crushing Value (ACV)
21	BS-812-111	Method for Determination of 10 % Fineness Value (TFV)
22	ASTM D 5079	Standard Practice for Preserving and Transporting Rock Core Samples
23	ASTM C 1252	Uncompacted Void Content of Fine Aggregate
24	CRD-C 171	Method for Determination of Aggregate Impact Value (AIV)

Table 3. List of Certified Cement, Grout, Mortar, & Concrete Tests for BAES

No	Test Method	Test Procedure Title
1	ASTM C 109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in or [50-mm] Cube Specimens)
2	ASTM C 184	Fineness of Hydraulic Cement by #100 and # 200 Sieves
3	ASCTM C 185	Standard Test Method for Air Content of Hydraulic Cement Mortar
4	ASCTM C 187	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
5	ASCTM C 188	Standard Test Method for Density of Hydraulic Cement
6	ASCTM C 191	Standard Test Method for Time Setting of Hydraulic Cement by Vicat Needle
7	ASTM C 204	Standard Test Methods for Fineness of Hydraulic Cement by Air- Permeability Apparatus
8	ASTM C 359	Standard Test Method for Early Stiffening of Hydraulic Cement (Mortar Method)
9	ASTM C 430	Fineness of Hydraulic Cement by Sieve No .325
10	ASTM C 451	Standard Test Method for Early Stiffening of Hydraulic Cement(Paste Method)
11	BS-4550P.3	Soundness of Portland Cement by Le Chatlier Method
12	ASTM C 31	Standard Practice for Making and Curing Test Specimens in the Field
13	ASTM C 1019	Standard Test Method for Sampling and Testing Grout
14	ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Specimens
15	ASTM C 42	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
16	ASTM C 138	Standard Test Method for Density (Unit Weight), Yield and Air Content (Gravimetric) of Concrete
17	ASTM C 143	Standard Test Method for Slump of Hydraulic- Cement Concrete
18	ASTM C 1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
19	ASTM C 172	Standard Practice for Sampling Freshly Mixed Concrete
20	ASTM C 174	Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
21	ASTM C 192	Standard Practice for Making and Curing Test Specimens in Laboratory
22	ASTM C 231	Standard Test Methods for Air Content of Freshly Mixed Concrete by the Pressure Method
23	ASTM C 567	Determining Density of Structural Light Weight Concrete
24	ASTM C 617	Standard Practice for Capping Cylindrical Specimens
25	ASTM C 642	Test Method for Specific Gravity , Absorption and Voids in Hardened Concrete
26	ASTM C 805	Standard Test Method for Rebound Number of Hardened Concrete
27	ASTM C 1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete

Table 4. List of Certified Asphalt Cement and Asphalt Concrete Tests for BAES

No	Test Method	Test Procedure Title
1	ASTM D 5	Standard Test Method for Penetration of Bituminous Materials
2	ASTM D 36	Standard Test Method for Softening Point
3	ASTM D 70	Standard Test Method for Density of Semi-Solid of Bituminous Materials
4	ASTM D 92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
5	ASTM D 113	Standard Test Method for Ductility of bituminous Materials
6	ASTM D 140	Standard Practice for Sampling Bituminous Materials
7	ASTM D 242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
8	ASTM D 979	Standard Practice for Sampling Bituminous Paving Mixtures
9	ASTM D 2041	Standard Test Method for Theoretical Maximum Specific Gravity & Density (Rice)
10	ASTM D 2172	Standard Test Methods for Quantitative Extraction
11	ASTM D 2489	Estimating Degree of Particles Coating of Bituminous- Aggregate Mixtures
12	ASTM D 2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
13	ASTM D 3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
14	ASTM D 3549	Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
15	ASTM D 5361	Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing
16	ASTM D 5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
17	ASTM D 6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
18	ASTM D 6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
19	ASTM D 1664	Coating and Stripping of Bituminous Aggregate Mixtures
20	CRD-C 649	Standard Test Method for Unit Weight, Marshall Stability, and flow of Bituminous Mixtures
21	CRD-C 650	Standard Method for Density and Percent Voids of Compacted Bituminous Paving Mixtures
22	CRD-C 652	Standard Test Method for Measurement of Reduction in Marshal Stability of Bituminous Paving Mixtures Caused by Immersion in Water
23	AASHTO T 230	Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
24	AASHTO T 275	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Paraffin' s Coated Specimen
25	MS-2	Complete Designing Bituminous Paving Mixtures (JMF)

Table 5. List of Certified Bricks & Masonry Units Tests for BAES

No	Test Method	Test Procedure Title
1	ASTM C 67	Sampling and Testing Brick and Structural Clay Tile
2	ASTM C 140	Standard Test Methods for Sampling and Testing Concrete Masonry and Related Units
3	ASTM C 170	Standard Test Method for Compressive Strength of Dimension Stone
4	ASTM C 1019	Compressive Strength of Dimension Stone
5	ASTM C 1552	Standard Practice for Capping CMU/Related Units/Masonry Prisms for Compression Testing

Table 6. List of Certified Advance Soil Tests for BAES

No	Test Method	Test Procedure Title
1	ASTM D 3080	Direct Shear Test of Soil under Consolidated Drained Condition
2	ASTM D 2166	Unconfined Compressive Strength
3	ASTM D 4767	Consolidated Undrained Triaxial Compressive Test for Cohesive Soil

Table 7. List of Certified Steel Tests for BAES

No	Test Method	Test Procedure Title
1	ASTM A 325	Structural Bolts, Steel , Heat Treated 830 Mpa Minimum
2	ASTM F 1554	Structure Anchor Bolts Tension and Yield Test
3	ASTM A 370	Test Methods and Definition for Mechanical Testing for Steel Products
4	ASTM A 490	High Strength Steel Bolts, Classes 10.9 and 10.9.3 for Structural Steel Joints
5	ASTM A 615	Deformed and Plain Carbon- Steel Bars for Concrete Reinforcement
6	ASTM A 709	Carbon and High Strength Low-Alloy Structural Steel Shapes, Plates , Bars, Quenched , Tempered Alloy Structural Steel Plates for Bridge
7	ASTM E 8	Tension Testing of Metallic Materials
8	AASHTO T 285	Bend Test of Bars for Concrete Reinforcement