CCRL
Cement and Concrete
Reference Laboratory

www.ccrl.us

August 31, 2012

Dr. Stacy Williams
Director of CTTP
University of Arkansas
700 Research Center Boulevard, Suite 3515
Fayetteville, Arkansas 72701

Subject: Inspection of Concrete Testing Laboratory

Dear Dr. Williams:

Enclosed is a confirmatory report on Inspection Number K-353, which was completed in your testing laboratory at Fayetteville, Arkansas, on July 27, 2012, by representatives of the Cement and Concrete Reference Laboratory.

This letter, and the accompanying report, provide written evidence that your laboratory has been inspected during the 35th Inspection Tour.

CCRL has recently changed the report format. Attention is invited to the next page titled *Inspection Report Introduction.*

Very truly yours,

Steven E. Lenker, P.E.
Director, Construction Materials Reference Laboratories
Cement and Concrete Reference Laboratory

Enclosure

Inspection Report Introduction

This report covers the concrete inspection conducted in the laboratory of University of Arkansas, at Fayetteville, Arkansas. This inspection, designated as Inspection Number K-353, was completed in the laboratory on July 27, 2012.

Inspections generally cover three areas: quality systems; testing equipment; and procedures. Under all material types inspected there will be a Summary of Findings and a Footnote Section. The Summary of Findings will denote items examined, which may include: documents, equipment and procedures performed by the laboratory. Entries in the Summary of Finding Section cover availability, physical condition, and/or conformance to specification requirements. These items, when checked, will indicate whether the items conformed to the ASTM standard or will state briefly any deviation from the standard and will be listed in the Footnote Section. The Footnote Section is also used to convey observations, recommendations or explanations of conditions found. When a footnote of this nature appears in a report it is labeled as an "Informational Footnote" in bold font. These informational footnotes do not require deficiency corrections.

Corrections of minor deficiencies are encouraged during the course of each inspection. In the interest of brevity, any adjustments of this nature which may have been made have not been mentioned in the report.

Several pieces of apparatus in the laboratory have been assigned CCRL identification numbers. Some of these numbers are listed in the Summary and Footnote Sections.

For a more in-depth description of the scope of each inspection, please see www.ccrl.us/Lip/lip.htm. The inspection was conducted using the most recent version of the applicable Book of ASTM Standards available at the time of the inspection, unless otherwise indicated in the Footnote Section of this report.

This report confirms the condition of the laboratory on the inspection date noted above. It does not approve, certify or accredit this laboratory; therefore, publicizing the inspection without offering a review of this report is prohibited.

CONCRETE SUMMARY OF FINDINGS

Quality System

Inspection Item	Status
Quality System C1077-11a	
• Organization	Satisfactory
• Human Resources	Satisfactory
• Operations	Satisfactory
• Quality Assurance	Satisfactory
• Equipment	See footnote (a)

Apparatus

Curing Facilities C511-09	
• Water Storage Facilities	Satisfactory
Cylinder Type(s) Presented for Inspection: 6" x 12" and 4" x 8"	
Compression Test Apparatus C39-10 and E4-10	
• Compression Testing Machine:	
• Maker: Test Mark	
• Serial Number: 100317 Capacity: 500,000 lbf	
• Accuracy of Indication:	
· Range: 500,000 lbf From: 50,000 to 200,000 lbf	Satisfactory
• Mechanical Condition	Satisfactory
• Design	Satisfactory
• Bearing Blocks for Cylinders	Satisfactory
Molds for Concrete Testing C31-10 and C470-09	
• Cylinder Molds	Satisfactory
Specimen Shipping Containers C31-10	See footnote (b)
Capping Equipment and Materials C617-10	
• Capping Equipment	Satisfactory
• Capping Material	Satisfactory
• Conditions of Caps	Satisfactory
• Qualification for Design Strengths Greater than 7000 psi	See footnote (c)
Unbonded Caps C1231-10a	
• Retaining Rings	Satisfactory
• Pads	Satisfactory
• Accessory Apparatus	Satisfactory
• Qualification for Design Strengths Greater than 7000 psi	See footnote (c)
Slump Cone(s) C143-10a	Satisfactory
Tamping Rod(s) C31-10	Satisfactory
Temperature of Concrete C1064-08	Satisfactory
Reference Temperature Measuring Devices C511-09 and C1064-08	
• Reference Thermometer(s) - C511	Satisfactory
• Reference Thermometer(s) - C1064	Satisfactory

Inspection Item	Status
Unit Weight Apparatus C138-10b	
• Unit Weight Measure(s)	Satisfactory
• Accessory Apparatus	Satisfactory
• Scale or Balance	Satisfactory
Air Content Apparatus (Volumetric) C173-10b	
• Air Meter(s)	Satisfactory
• Accessory Apparatus	Satisfactory
Air Content Apparatus (Pressure) C231-10	
• Air Meter(s)	Satisfactory
• Accessory Apparatus	Satisfactory
• Aggregate Correction Factors	See footnote (d)

Procedures

Test	Method Reference	Technique in Exact Agreement With Standard Practice
Slump of Concrete	C143-10a	Yes
Unit Weight of Concrete	C138-10b	Yes
Air Content (Volumetric Method)	C173-10b	Yes
Air Content (Pressure Method)	C231-10	Yes
Fabrication of Cylinders	C31-10	Yes
Sampling Freshly Mixed Concrete	C172-10	Yes
Measuring Temperature of Concrete	C1064-08	Yes
Curing of Cylinders	C31-10	Yes
Bonded Caps:		
• Capping of Cylinders	C617-10	Yes
• Cylinder and Cap Checks	C617-10	Yes
Unbonded Caps:		
• Cylinder and Pad Cap Checks	C1231-10a	Yes
• Alignment Checks	C1231-10a	Yes
Cylinder Measurements	C39-10	Yes
Compressive Strength of Cylinders	C39-10	Yes

CONCRETE FOOTNOTE SECTION

Quality System (C1077-11a):

(a) Equipment: The inventory list in the laboratory did not include the next calibration or verification date for items on the list as required in Section 10.1.1.4 of C1077.

Specimen Shipping Containers (C31-10):

(b) **Informational Footnote:** It was understood that, normally, laboratory personnel did not fabricate cylinders outside the laboratory; therefore, containers for transporting cylinders from the field to the laboratory were not maintained.

Miscellaneous:

(c) **Informational Footnote:** When testing cylinders with a design strength greater than 7000 psi, the laboratory grinds the ends of the specimen to 0.002 inch.

Air Content Apparatus (Pressure) (C231-10):

(d) It was understood that the aggregate correction factors had not been determined for the aggregates.

CLOSURE

This inspection was performed by Maranda Nemeth and Carole Mertes. While the work was in progress, many of the details covered by this report were discussed with laboratory personnel. At the conclusion of the inspection the special work sheets, on which all observations were recorded, were made available for review by members of the laboratory staff, and all of the entries thereon were discussed in detail.

Identification of the testing equipment used by the CCRL inspector during the inspection can be found on the CCRL website at www.ccrl.us under the heading of traceability.

It is recommended that this report be compared with the report of the preceding inspection which was made in September 2009. For further reference the CCRL laboratory number is 3188.

This report does not approve, certify or accredit this laboratory. Publicizing the inspection without full disclosure of this report is not permitted.

Cement and Concrete Reference Laboratory

A. Carole Mertes

A. Carole Mertes
Inspector II

Report Approved By:

Jan A. Prowell