

## 2015 CDOT Field Materials Manual Introduction

The purpose of this manual is to provide an official guide to CDOT Field forces for the sampling and testing of materials on construction projects and the subsequent documentation. It is not the intent to publish a complete summary of all sampling and testing methods and procedures. Further relevant information may be found in either the applicable AASHTO or ASTM manuals. Published herein are some select AASHTO Procedures concerning materials testing that may not be readily available to Field personnel.

The Manual is published in dual units using the Standard English units and the International System of Units (SI Modernized Metric).

The testing frequency as shown in the QA Frequency Guide Schedule for Minimum Materials Sampling, Testing, and Inspection is considered to be the minimum necessary to have the degree of control desired. The Sampling and Testing Procedures have in many cases been modified to make them more applicable to Field testing conditions. Further unauthorized modifications should not be attempted. If a valid reason exists, a shortage of tests can be explained and the work accepted. However, improper test procedures cannot be explained nor accepted.

The testing frequency as shown in the IA Frequency Guide Schedule for Evaluation of QA Sampling and Testing is to be established by the Region Materials Engineer.

It is not our intention to discourage efforts to find better or faster methods of testing. Many of the Colorado Procedures are the result of suggestions from field materials personnel. However, before using a procedure other than that listed, it must be approved by the Materials Advisory Committee (MAC) and the FHWA. In addition, the procedure used must be the same as that specified in the project specifications. If this rule is not followed, the acceptance or rejection action cannot be supported and may result in legal rulings against the Division in cases of litigation.

The Frequency Guide Schedule for Minimum Materials Sampling, Testing, and Inspection current at the time of contract advertisement shall apply during the full course of that particular project.

We realize the critical importance of materials and the associated personnel, whether they are Quality Control (QC), Quality Assurance (QA), or Independent Assurance (IA) to any construction project. It is our intent to create a Field Materials Manual (FMM) that always reflects the most current and best procedures, and is as user friendly as possible. Please take the time to review and read this publication, and provide us with the CP Comment Form or the FMM & CDOT Materials Forms Comment / Correction Form at any time.

The use of the current Materials forms as referenced by date in Appendix O is required.



Bill Schiebel  
CDOT Materials Engineer

- NOTE 1:** A centralized location for all CDOT Materials related documents and publications is at: <http://www.coloradodot.info/business/designsupport/materials-and-geotechnical/>
- NOTE 2:** **Materials Advisory Committee (MAC) information:** <http://internal.dot.state.co.us/MAC/>
- NOTE 3:** General correspondence (letters and envelopes), large packages, bulk mail samples of materials, and nuclear gauges should be addressed to or delivered to:  
Attn: (Individual's Name), CDOT, 4670 North Holly Street, Unit A, Denver, CO 80216-6408
- NOTE 4:** If you have any questions concerning this manual please contact:  
Editor @ (303) 398-6566.

## 2015 CDOT Field Materials Manual Dedication

**Front Cover:** The scenes on the cover of the 2015 CDOT Field Materials Manual are from US 34 at MP 81.6 and 82.3. They depict the destruction that occurred to the roadway from the flood waters of September 14, 2013 and the repair that took place. The photographs were provided by CDOT Project Engineer Gray Currier of Region 4.

**Special Thanks to:** Jim Wickland for creating the front cover design. Leslie Kochis for volunteering to review all CDOT Materials forms and utilize her extensive experience to suggest changes to improve them and make them SiteManager Materials compatible. To Jim Wickland again for rebuilding over 52 forms in a short timeframe to ensure their inclusion into the 2015 FMM.

**FMM Documents:** A special thank you is extended to the members and participants of the MAC Meetings and the associated task forces who are constantly striving to improve testing methodology and CDOT specifications so that the roads in Colorado are progressively built better and are safer for the motoring public.

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### Listed Revisions, Additions, and Deletions

**Changes from the 2014 FMM:** Changes of significance within a particular CP or chapter will contain a “- 15” at the end of the title to coincide with this FMM. Changes to specific text from the previous year will have a solid black side-bar in either the left or right applicable margin. The revised Sections &/or Subsections:

- QA Procedures: Subsection 2.1-2.5, 3.9, 3.16, 5.2.1-5.2.2, 7.3, 7.4, 7.6.1,7.9, 7.10, 11.6, 11.12.1-11.12.3, 13.2, 14.3, 16.5
- Documentation Chapter: pages 1-6, 8-11, 15, 19
- Special Notice to Contractors: 4.1F, 4.1G, 6.2, 7.3.b, 7.3.c, 7.3.d, Examples pages 12-14
- QA Schedule and IA Schedule: significant revisions, but black-bars in the margins are not feasible due to space constraints
- CP 10: 6.9, Field Lab & Personnel Qualification Checklist
- CP 11: page 1, page 3, page 9-11, page 13, page 19-20
- CP 12A: 2.1
- CP 12B: 2.1, 3, 10
- CP 15: page 2
- CP 16: pages 3-10
- CP 17: 3.2, 4.5, 5, page 5
- CP 22: Note: Deleted but still referenced in the Spec Book, use AASHTO T 191
- CP 51: 3.1, all Notes renumbered, 10
- CP 52: 3.2.1, Note 1, 3.2.2, 3.3, 4.2, Note 2
- Chapter 200: page 10
- Chapter 400: page 5
- Chapter 600: page 7
- Chapter 800: page 7
- QC & QA Software: contact info
- Inspections: page 1, 3-8, 12-14
- Appendix: page 7, 12-15, 37-39

Any errors that may still exist within this manual are solely the oversight of the Editor.

**2015 Field Materials Manual (FMM)**  
**Colorado Procedure (CP) Comment Form**

Mail or Fax to: Colorado Department of Transportation  
Materials & Geotechnical Branch  
Documentation Unit  
4670 North Holly Street, Unit A  
Denver, Colorado 80216-6408  
FAX: (303) 398-6504

Name \_\_\_\_\_ Phone No. (\_\_\_\_\_) \_\_\_\_\_ Date \_\_\_\_\_  
Company or CDOT Office \_\_\_\_\_

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Thank you for your help in making the CDOT Field Materials Manual a better publication by notifying us of errors or points of confusion that require clarity.

