

WAQTC EXECUTIVE BOARD

2025 SUMMER MEETING MINUTES



MEETING CALLED BY: MIKE SAN ANGELO, CHAIR RECORDER: DESNA BERGOLD, COORDINATOR	DATE: FRIDAY, AUGUST 1, 2025 TIME: 10:00AM – 12:00PM MDT LOCATION: GOOGLE.MEET
ATTENDEES: CRAIG WIEDEN, CDOT, VICE CHAIR LARRY ILG, ODOT BRENT CONNER, ADOT CHAD CLAWSON, ITD PAUL BUSHNELL, MDT AMY BEISE , NDDOT GARRETT WEBSTER, WSDOT MISTY MINER, MDT, QAC CHAIR	GILBERT ARREDONDO, UDOT, QAC VICE CHAIR DESNA BERGOLD, D B CONSULTING, COORDINATOR LORI COPELAND, D B CONSULTING ABSENT: MIKE SAN ANGELO, AKDOT & PF, CHAIR L. SCOTT NUSSBAUM, TREASURER, UDOT MICHAEL VOTH, CFLHD
Agenda Items / Objectives: 1. Welcome 2. Report on 2023 Proposed AASHTO revisions a. <i>T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens (TS 2c)</i> – on COMP Annual meeting agenda 3. Report on 2024 Proposed AASHTO revisions a. <i>R 39, Making and Curing Concrete Test Specimens in the Laboratory (TS 3b)– Champion Larry Ilg- (Craig Weiden follow up) – repropose?</i> b. <i>T 99, Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop (TS 1b) – Champion Scott Nussbaum – published</i> c. <i>T 180, Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop (TS 1b) – Champion Scott Nussbaum – published</i> d. <i>T 134, Moisture–Density Relations of Soil–Cement Mixtures – Champion Scott Nussbaum – published</i> e. <i>T 255, Total Evaporable Moisture Content for Aggregates (TS 1c) – Champion Larry Ilg – published</i> f. <i>T 331, G_{mb} Using Automatic Vacuum Sealing Method (TS 2c) – Champion Oak Metcalf – published</i> 4. 2025 Proposed AASHTO revisions from the QAC AASHTO proposed revisions and letters TS 1a a. <i>T 90, Determining the Plastic Limit and Plasticity Index of Soils – TS 1a – Craig Wieden, Champion – August 4th 3:30 – 5:00</i> TS 1b	

- b. *R 75, Developing Soil Moisture-Density Relations – TS 1b* – Paul Bushnell, Champion – August 7th 10:30 – 12:00

TS 1b

- c. *T 11, Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing – TS 1c* – Amy Beise, Champion – August 6th 3:30-5:00
- d. *T 27, Sieve Analysis of Fine and Coarse Aggregates, – TS 1c* – Amy Beise, Champion – August 6th 3:30-5:00
- e. *T 84, Specific Gravity and Absorption of Fine Aggregate – TS 1c* - Amy Beise, Champion – August 6th 3:30-5:00
- f. *T 85, Specific Gravity and Absorption of Coarse Aggregate – TS 1c* - Amy Beise, Champion – August 6th 3:30-5:00

TS 3b

- g. *R 100, Making and Curing Concrete Test Specimens in the Field – TS 3b* – Larry Ilg, Champion – August 4th 10:30-12:00
- h. *T 351, Visual Stability Index (VSI) of Self-Consolidating Concrete (SCC) – TS 3b* – Larry Ilg, Champion – August 4th 10:30-12:00
- i. *T 345, Passing Ability of Self-Consolidating Concrete by J-Ring – TS 3b* – Larry Ilg, Champion – August 4th 10:30-12:00

TS 5c

- j. *PP 97, Determination of Constant Mass – TS 5c, Propose as a Standard* – Craig Wieden, Champion – August 7th 1:00 – 2:30
- 5. QAC proposed revisions to 2025 Training Materials – Misty for QAC
 - a. Proposal list attached
 - b. Sampling and Reduction (SRTT)
 - i. Add to Admin Manual and RPIH
 - 6. ADA Compliance Workplan
 - 7. Remove dual units – Misty for QAC

Other Items:

- 8. Winter Meeting Topic- AASHTO T 209
- 9. Third Party Exam Delivery – meeting in September
- 10. Pooled fund contributions and concerns
 - a. Reciprocity
 - b. Use of published training materials, exams, and updates.
 - c. Kryterion access
 - d. Committee participation
 - e. Sponsored travel
- 11. Website
- 12. Logo
- 13. 2026 QAC Winter and Summer Meeting locations – Misty for QAC

Page 3		
TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY

WELCOME	Craig Wieden, CDOT and WAQTC Executive Board Vice Chair, welcomed participants to the virtual 2025 Summer Meeting. Mike San Angelo, AKDOT and Executive Board Chair, was unable to attend. Craig will be acting Executive Board Chair.	
---------	--	--

2023 PROPOSED AASHTO REVISIONS FOLLOW UP

T 166	<i>T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens</i>, TS 2c – Champion Oak Metcalfe Scott Nussbaum <u>Status of 2023 revision proposal</u> Desna Bergold, D B Consulting and WAQTC Coordinator, said that WAQTC proposed revisions to AASHTO T 166 in 2023. The 2023 proposal included breaking up large paragraphs with multiple ‘steps’ into individual numbered paragraphs. This was not in the 2025 published version. Scott Nussbaum, UDOT and WAQTC Treasurer, spoke to Allen Myers, Technical Subcommittee (TS) 2c Chair, who said he will include it on the upcoming AASHTO Committee on Materials and Pavement (COMP) Annual Meeting TS 2c agenda. Desna confirmed it is on the distributed agenda. <i>Scott Nussbaum will champion the revisions during the COMP Annual TS 2c meeting.</i>	SCOTT NUSSBAUM
-------	--	-------------------

2024 PROPOSED AASHTO REVISIONS FOLLOW UP

R 39	<i>Laboratory, TS 3b</i> – Larry Ilg, Champion <u>Status of 2024 revision proposal</u> In 2024, WAQTC proposed that the reference to cardboard molds in 7.5.3.1.1, be removed. The referenced specification, <i>M 205, Molds for Forming Concrete Test Cylinders Vertically</i>, does not allow cardboard molds. During the Spring Meeting, Craig said that he will follow up with Jim Reilman, TS 3b Chair, and Wally Heyen, TS 3b Vice Chair. <u>Board discussion</u> Craig reached out to Jim Reilman, TS 3b chair who confirmed it was on the Spring 2025 Ballot. <i>Craig Wieden will send Desna Bergold the ballot.</i>	CRAIG WIEDEN
------	--	--------------

Page 4		
TOPIC	Discussion / Decision	ACTION REQUIRED BY
	The remaining 2024 proposed revisions are published in the 2025 AASHTO Standards. <i>T 99, Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop (TS 1b) – Champion Scott Nussbaum</i> <i>T 180, Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop (TS 1b) – Champion Scott Nussbaum</i> <i>T 134, Moisture–Density Relations of Soil–Cement Mixtures</i> <i>T 255, Total Evaporable Moisture Content for Aggregates (TS 1c) – Champion Larry Ilg</i> <i>T 331, G_{mb} Using Automatic Vacuum Sealing Method (TS 2c) – Champion Oak Metcalf</i> <i>No further action required.</i>	

2025 PROPOSED AASHTO REVISIONS APPROVED DURING THE EXECUTIVE BOARD
 SPRING MEETING ARRANGED BY TECHNICAL SUBCOMMITTEE

TS 1A T 90	<i>T 90, Determining the Plastic Limit and Plasticity Index of Soils – TS 1a – Champion Craig Wieden</i> <u>Proposed revisions</u> • Remove Section 3.6, the oven is included in T 265 • Remove Note 2, the thermometer used to monitor the oven temperature should also be removed • Section 6.4, break into individual steps, creating two additional sections and two subsections. <u>Board discussion</u> Craig said that he did not get the proposal submitted to Andy Babish, TS 1a Chair. Craig said he is unable to present the proposal during the COMP Annual meeting as he will be chairing the TS 5b meeting. Chad Clawson, ITD, volunteered to champion the proposal during the meeting and requested more information.	
---------------------------------	---	--

Page 5		
TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY
	Desna agreed to send the proposal letter and revisions to Chad, who will forward them to the Chair. She will include pertinent meeting minutes excerpts. Misty Miner, Qualification Advisory Committee (QAC) Chair; Gilbert Arredondo, QAC Vice Chair; and Desna will assist with background if needed. Craig proposed requesting a concurrent ballot. The board agreed. <i>Chad Clawson will champion the revisions during the COMP Annual TS 1a meeting.</i>	DESNA BERGOLD CHAD CLAWSON
TS 1B R 75	<i>R 75, Developing Soil Moisture-Density Relations – TS 1b – Champion Paul Bushnell</i> <u>Proposed revisions</u> • Revise the title to ‘<i>R 75, Developing a Family of Curves using Soil Moisture–Density Relations</i>’ • Revert, where appropriate, to 2016 language • Change ‘group’ back to ‘family’ throughout • Note 1, use ‘Intermediate curves’ and remove ‘template’ • Revise title of Figure 1 and relabel ‘incremental curves’ to ‘intermediate curves.’ <u>Board discussion</u> Paul Bushnell, MDT, cannot attend the COMP Annual meeting. Desna said the proposed revisions are not on the COMP Annual Meeting TS 1b agenda. Misty volunteered to champion the revisions and will coordinate with Desna to send the proposal to the TS 1b Chair. <i>Misty Miner will Champion the revisions during the COMP Annual TS 1b meeting.</i>	DESNA BERGOLD MISTY MINER
TS 1c T 11 T 27 T 84 T 85	<i>T 11, Materials Finer Than 75-μm (No. 200) Sieve in Aggregates by Washing – TS 1c – Champion Amy Beise</i> <u>Proposed revisions</u> • Remove Section 5.5, the oven is included in T 255 • Remove Note 1, the thermometer used to monitor the oven temperature <i>T 27, Sieve Analysis of Fine and Coarse Aggregates</i>	

Page 6		
TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY
	<u>Proposed revisions</u> - Remove Section 5.4, the oven is included in T 255 - Remove Note 3, the thermometer <i>T 84, Specific Gravity and Absorption of Fine Aggregate</i> <u>Proposed revisions</u> - Remove Section 5.5, the oven is included in T 255 - Remove Note 1, the thermometer used to monitor the oven temperature should also be removed - Section 7.1.1 add, dry ‘to constant mass according to T 255’ - Sections 8.3 and 8.3.1 add ‘dry to constant mass according to T 255’ <i>T 85, Specific Gravity and Absorption of Coarse Aggregate – TS 1c</i> <u>Proposed revisions</u> - Remove Section 6.6, the oven is included in T 255 - Remove Note 1, the thermometer used to monitor the oven temperature <u>Board discussion</u> Amy Beise, NDDOT, sent the proposed revisions to the TS 1c Chair in April. These revisions are on the COMP Annual Meeting TS 1c agenda. <i>Amy Beise will champion the revisions during the COMP Annual TS 1c meeting.</i>	AMY BEISE
TS 3B R 100 T 351	<i>R 100, Making and Curing Concrete Test Specimens in the Field – TS 3b – Champion Larry IIg</i> <u>Proposed revisions</u> - Table 3, remove the ‘equal to’ for vibrating - Change Table 4 to ‘See Section 9.3.’ <i>T 351, Visual Stability Index (VSI) of Self-Consolidating Concrete (SCC) – TS 3b– Champion Larry IIg</i>	

Page 7		
TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY

	<u>Proposed revisions</u> - Revise Section 7.9 to ‘Using the criteria in Section 8 Table 1, rate the stability of the mixture on a scale of 0 to 3 by visual examination,’ <i>T 345, Passing Ability of Self-Consolidating Concrete by J-Ring – TS 3b– Champion Larry Ilg</i> <u>Summary of 2025 QAC Winter Meeting revisions discussion</u> - Remove Note 2 reference in 7.8 - Remove the note designation on Note 2 and create 7.8.1 <u>Board discussion</u> Larry Ilg, ODOT, sent the proposed revisions to the TS 3b Chair on August 1. He will not be able to attend the COMP Annual meeting to support the proposal. Craig volunteered Eric Prieve, CDOT Concrete Engineer, to present the proposal. Misty, Gilbert, and Desna will be present to help. <i>Eric Prieve, CDOT Concrete Engineer will Champion the revisions during the COMP Annual TS 3b meeting.</i>	ERIC PRIEVE
TS 5C PP 97	<i>PP 97, Determination of Constant Mass – TS 5c</i> <u>Proposed revision</u> Promote the provisional practice to a full standard. <u>Board discussion</u> The board agreed to propose promoting the provisional practice to a full standard. <i>Craig Weiden will move to promote the provisional practice during the COMP Annual TS 5c meeting.</i>	CRAIG WEIDEN

REVISIONS TO THE 2025 TRAINING MATERIALS AND WAQTC ADMINISTRATION MANUAL AND RPIH

2025 QAC PROPOSED REVISIONS	<i>Revisions to the Training Materials, Administration Manual, and RPIH</i> Misty, Gilbert, and Desna presented the list of revisions to the training materials the QAC is proposing. Full list attached. Larry moved to approve the proposed revisions; Chad Clawson, ITD, seconded. The motion carried unanimously.	
-----------------------------------	--	--

Page 8		
TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY

	<i>Proposed revisions to the training materials will be incorporated into the 2025 Training Materials and Organization Documents.</i>	D B CONSULTING
SAMPLING AND REDUCTION MODULE	<i>Sampling and Reduction Testing Technician (SRTT)</i> The QAC is requesting approval to create a new training and qualification module, Sampling and Reduction Testing Technician (SRTT). The proposed Sampling and Reduction module will include these Field Operating Procedures (FOP): - FOP for AASHTO R 90, Sampling Aggregate Products - FOP for AASHTO R 76, Reducing Samples of Aggregate to Testing Size - FOP for AASHTO R 97, Sampling Asphalt Mixtures - FOP for AASHTO R 47, Reduction of Asphalt Mixtures to Testing Size - FOP for AASHTO R 66, Sampling Asphalt Materials <u>Board discussion</u> Misty presented the proposal for the new Sampling and Reduction Testing Technician (SRTT) Module. Larry questioned the purpose of an oral-only performance exam. Misty clarified that while oral options currently exist for sampling methods, reduction methods require a practical performance component. Desna noted that the written exam consists of only five questions, with a passing threshold of three correct answers. She emphasized that the oral practical exam provides a comprehensive assessment of the methods. Craig shared that CDOT uses a small stockpile and conveyor system for physical sampling and supports the oral exam format, provided it is not open-book. Currently, WAQTC Performance exams are open-book. Paul asked about the value of including reduction procedures. Misty explained that Alaska proposed this addition due to the need for splitting field samples in remote locations before they are sent to laboratories. Larry moved to approve the addition of the proposed module. Chad seconded. The motion passed unanimously.	

Page 9		
TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY
	Misty expressed appreciation for the board's support and commended the QAC for their collaborative efforts in developing the certification. <i>Desna Bergold will draft the proposed qualification for QAC review.</i>	DESNA BERGOLD
ADMINISTRATION MANUAL AND RPIH	<i>Administration Manual and Registration, Policy, and Information Handbook (RPIH)</i> Sampling and Reduction Module will be added to the Sampling and Testing Qualification List and Annex A: Qualification Process and Mandatory Test Methods. Larry moved to approve the proposed addition to Administration Manual and RPIH. Chad seconded. The motion passed unanimously. <i>The revisions to the WAQTC Administration Manual and Registration, Policy, and Information Handbook (RPIH) will be included in the 2025 annual updates.</i>	DESNA BERGOLD
ADA COMPLIANCE WORKPLAN	<i>QAC 2025 Summer Meeting update:</i> Desna began revising some concrete FOPs to meet accessibility standards. She found that only minor changes were needed, mainly adding alternative text to images in the student files. However, she noted that she needs to better understand how to ensure accessibility in Adobe PDFs. Madeline Enright, CDOT and QAC member, provided guidance on the Adobe PDF accessibility process during the QAC Summer Meeting and offered more help when needed. Desna stated that she will continue tracking the steps and time required to make the concrete FOPs accessible. This data will be used to develop a formal workplan. <i>The QAC will continue to develop a work plan to begin addressing one training module for accessibility.</i>	QAC
DUAL UNITS	<i>QAC 2025 Summer Meeting Proposal</i> <u>QAC proposal</u> Misty presented the QAC's proposal to remove dual units from the FOPs to align with the PowerPoint presentations used for training and the written exams. The recommendation is to use	

Page 10		
TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY

	the most commonly accepted single unit, Imperial or metric, depending on context. <u>Board discussion:</u> Larry supports using a single unit, noting that field personnel are more familiar with measurements like 90 lbs. rather than metric equivalents. Craig expressed concern about potential confusion when referencing AASHTO standards. Misty responded that using both units can also cause confusion and that training materials already use single units without issue. Craig recommended staying consistent with AASHTO and asked if dual units have caused issues. Misty explained that the mobile mixer example prompted the proposal, and the QAC prefers using real-world units over conversions. Paul advocated for retaining dual units to accommodate diverse workforces and maintain consistency with AASHTO standards. Garrett Webster, WSDOT, agreed with Paul and suggested clarifying the preferred unit at the beginning of training presentations. Garrett moved to keep dual units in the FOPs. Paul seconded. The motion passed unanimously. <i>No further action at this time.</i>	
--	--	--

OTHER ITEMS

WINTER MEETING TOPIC: T 209 AND SHORT TERM AGING	<i>AASHTO T 209, Theoretical Maximum Specific Gravity (G_{mm}) and Density of Asphalt Mixtures</i> During the QAC proposed revision discussion on the FOP for AASHTO T 209, Chad mentioned that he is seeking information on curing asphalt mixtures before testing. <u>Board discussion:</u> Chad says that AASHTO T 209 indicates that plant produced samples may be short term conditioned according to R 30 but does not give more guidance than that. He volunteered to work on some revisions to the AASHTO standard addressing short term aging. Chad will consult with Isabelle Panos, ITD and QAC member, to draft language and send it to the board members for review before Isabelle submits it to the QAC for the 2026 QAC Winter Meeting.	
---	--	--

Page 11		
TOPIC	Discussion / Decision	ACTION REQUIRED BY
	<i>Chad Clawson will propose revisions to AASHTO T 209 to address short term aging for board members to review.</i> <i>Isabelle Panos will present the revision during the 2026 QAC Winter Meeting.</i>	CHAD CLAWSON ISABELLE PANOS
THIRD-PARTY EXAM DELIVERY	Desna told the board that Kryterion has requested a Quarterly Business review meeting for some time in September. Dan Gettman, AKDOT, Scott Nussbaum, Chad Clawson, Garrett Webster, and Kevin Burns, WSDOT, have requested to attend the meeting. <u>Board Discussion</u> Craig proposed delivering state-specific exams through Kryterion. The board supports this proposal. <i>Desna Bergold will add this topic to both the Kryterion September meeting agenda and remaining Executive Board Summer Meeting Agenda for further discussion.</i>	DESNA BERGOLD
MEETING ADJOURNED	The board decided that the remainder of the agenda items should be tabled, and another time scheduled to continue the meeting. Craig asked Desna to poll the board members for a time to meet after COMP to finish up the agenda items. He asked for the dates to be the week immediately after COMP or the week after that. <i>Desna Bergold will poll the board members for a date and time for another meeting.</i>	DESNA BERGOLD



QAC 2025 Proposed Revisions to the WAQTC Training Materials

General files

Preface

- Revise Mission Statement to match Mission Statement in the Administration manual.
- Editorial edits in the Background and Objectives sections

Terminology

- Add definition of 'smartly' in Terminology - 'quickly and usually done with force.'

Sampling and Reduction

- FOP for AASHTO R 90, Sampling Aggregate Products
- FOP for AASHTO R 76, Reducing Samples of Aggregate to Testing Size
- FOP for AASHTO R 97, Sampling Asphalt Mixtures
- FOP for AASHTO R 47, Reducing Samples of Asphalt Mixtures to Testing Size
- FOP for AASHTO R 66, Sampling Asphalt Materials

Aggregate (AgTT)

Front

- Cover – new logo
- Tabel of Contents – remove 'Mineral' from title of T 11
- Objectives – remove 'Mineral' from title of T 11

FOP for AASHTO R 90, Sampling Aggregate Products

FOP:

- New revision date
- Active voice revisions in Procedure – General: Rephase removing “shall” and correcting to active voice.
- Method B (From the Belt Discharge): Rephrased Step one moving the second sentence into the title area as general and rephrased sub steps for once in each direction, without

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

overfilling and maintaining constant speed during process. Renumbered from 4 to 3 steps.

Performance Exam Checklist (editorial):

- Removed 'at least twice' and bracketed 'once in each direction' in Method B Step b.

PowerPoint:

- Slide 14 numbering fixed.
- Revisions to match the FOP

FOP for AASHTO R 76, Reducing Samples of Aggregate to Testing Size

FOP:

- New revision date
- Active voice revisions in Apparatus: Rephrased apparatus referring to splitter design, eliminating 'shall' and moved to the top of apparatus.
- Add new Step 1 'Place the splitter on a level surface' to Step 1 procedure Mechanical Splitter.'
- Reformat Method B Quartering: Combine Procedure Method B Quartering Surface Steps and Tarp Steps. Match new Method B Sectoring format.
- Removed underline from 'two diagonally opposite'

Performance Exam Checklist:

- New revision date
- Update title for Method A and Method B to match title in FOP
- Add 'splitter on level surface' to Method A Mechanical Splitter

PowerPoint:

- Revise slides 34, 36, and 37 to include the Steps.
- Revisions to match the FOP

FOP for AASHTO T 255, Total Evaporable Moisture Content of Aggregate by Drying

FOP:

- New revision date
- New AASHTO date
- Apparatus
 - Balance description: change 'accurate' to 'readable'
 - Revise heat source description

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

- Procedure
 - Move 'Table 2 Methods of Drying' to from end of Procedure to after Step 9.

Performance Exam Checklist:

- New revision date
- Revise Step 10 and add Step 11 to separate mass determination and constant mass determination.

PowerPoint:

- Revisions to match the FOP

FOP for AASHTO T 27 /T 11, Sieve Analysis of Fine and Coarse Aggregates and Materials Finer Than 75- μ m (No. 200) Sieve in ~~Mineral~~ Aggregates by Washing

FOP:

- New revision date
- New AASHTO date
- New title (remove the word mineral)
- Revise Note 1 to active voice
- Revise Sample Sieving bullet 4 to active voice
- Add note 'See AASHTO T 11 *Annex A for Mechanical Washer Comparison* if there is potential aggregate degradation.'
- Sample Sieving fourth bullet revised to active voice
- Calculations
 - Method C calculation 'Mass in Pan' correction
 - Revised values to update check sum

Performance Exam Checklist:

- New revision date
- Title Revision

PowerPoint:

- Revisions to match FOP revisions.

Exams:

- New title to the FOP for AASHTO T 27/T 11 to reflect title change of AASHTO T 11
- New exam questions added to replace specific Method calculations.

- Return to 3 exams instead of 9

Asphalt (AsTT I and II)

FOP for AASHTO R 47, Reducing Samples of Asphalt Mixtures to Testing Size

FOP:

- New revision date
- Apparatus
 - Add 'Mechanical Splitter Type A (Quartermaster): having four equal-width chutes that discharge the material into four appropriately sized sample containers, designed with a receiving hopper to hold the asphalt mixture field sample until a handle releases the material to fall through a divider and distribute it into four equal portions without restriction or the loss of material.'
- Selection of Procedure (Method)
 - Add 'Type A (Quartermaster) Method
- Procedure
 - Active voice revisions: Remove 'it shall be heated' replace with 'heat'
 - Add reduction statement 'If the reduced sample mass does not fall within the test sample size limits, continue reducing to achieve the correct sample mass. Do not adjust sample mass by adding or removing material after reduction.'
 - Remove redundant sample size statement
 - Add 'Type A (Quartermaster)' procedure
 1. Place the splitter on a level surface.
 2. Clean the splitter and apply a light coating of approved release agent to the surfaces that will contact asphalt mixture.
 3. Close and secure hopper gates.
 4. Position the four sample receptacles under the splitter chutes to collect all the material.
 5. Remove the sample from the agency-approved container(s) and place it in the mechanical splitter hopper. Avoid segregation, loss of asphalt mixture, or addition of foreign material.
 6. Release the handle, allowing the asphalt mixture to drop through the divider chutes and discharge into the four receptacles.

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

7. Remove asphalt mixture retained on the surface of the splitter and place into the appropriate receptacle.
 8. Close and secure the hopper gates.
 9. Reduce the remaining asphalt mixture as needed by this method or a combination of the following methods as approved by the agency.
 10. Combine the material contained in the receptacles from opposite corners and repeat the splitting process until an appropriate sample size is obtained.
 11. Retain and properly identify the remaining unused portion of the asphalt mixture sample for further testing if required by the agency.
- Add new Step 1 'Place the splitter on a level surface' to Mechanical Splitter Type B (Riffle) Method.
 - Add 'of the sheeting' in Step 4 of the Incremental Method remove 'either'

Performance Exam Checklist:

- New revision date
- Add steps for Mechanical Splitter Type A (Quartermaster) Method to match FOP addition.
- Add new Step 1 'Splitter placed on a level surface?' to Mechanical Splitter Type B (Riffle) Method

PowerPoint:

- Revisions to match the FOP

[FOP for AASHTO T 308, Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method](#)

FOP:

- New revision date
- New AASHTO date
- Annex
 - Reworked calculating the asphalt binder content correction factor.
 - Add example of Correction Factor calculation.

Performance Exam Checklist:

- New revision date

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

- Add step 14 'All residual fines cleaned from the basket(s)?'

PowerPoint:

- Revisions to match the FOP

FOP for AASHTO T 209, Theoretical Maximum Specific Gravity (G_{mm}) and Density of Asphalt Mixtures

FOP:

- New revision date
- New AASHTO date
- Apparatus
 - Revise thermometer requirements 'An immersion thermometer readable to at least 0.5°C (1°F) and with a temperature range of at least 20 to 45°C (68 to 113°F).
 - Add New note about water bath circulator to Water Bath 'Note 1: The water bath may be equipped with a circulator and heater or chiller to maintain constant temperatures throughout the bath. If a circulator is used, turn it off before any masses are recorded.'
- Procedure – General
 - Added warning statement 'do not exceed Job Mix Formula (JMF) compaction temperature' in parentheses
 - Move and revise last sentence of Step 11 'Complete steps 12B through 16B within 10 ±1 minute.' to Procedure – Pycnometer or Volumetric Flask

- Renumber notes

PowerPoint:

- Revisions to match the FOP

FOP for AASHTO T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens

FOP:

- New revision date
- New AASHTO date
- Apparatus
 - Add New note about water bath circulator to Water Bath 'Note 1: The water bath may be equipped with a circulator and heater or chiller to maintain

constant temperatures throughout the bath. If a circulator is used, turn it off before any masses are recorded.'

- Change title of Method C (Rapid Test for Method A and B)

PowerPoint:

- Revisions to match the FOP

FOP for AASHTO T 30, Mechanical Analysis of Extracted Aggregate

FOP:

- New revision date
- New AASHTO date
- Procedure
 - Add 'If necessary, dry the sample to constant mass according to the FOP for AASHTO T 255.'
 - Add new Note 1: If more than 24 hr. has passed after completion of the FOP for AASHTO T 308, the sample may have absorbed moisture.'
 - Add 'This is not more than 0.1 percent therefore the results can be used for acceptance purposes.' to Example Mass Verification.
- Annex B Overload Determination
 - Rephrase 'The amount of material retained on a sieve may be regulated by:
 - adding a sieve with larger openings immediately above the given sieve
 - sieving the sample in multiple increments
 - sieving the sample over a nest of sieves with a larger sieve-frame dimension.
 - Move below table
 - For sieves with openings smaller than 4.75 mm (No. 4), the mass retained on any sieve shall not exceed 7 kg/m² (4 g/in²) of sieving surface.
 - For sieves with openings 4.75 mm (No. 4) and larger, the mass, in grams shall not exceed the product of 2.5 × (sieve opening in mm) × (effective sieving area). See Table B1.
- Renumber notes

PowerPoint:

- Add New Note 1 to Instructor's Notes

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

- Revisions to match FOP

Exams:

- Exam 1, Replace Question 5 T/F with formerly approved question.
- Revised and replaced multiple distractors
- Revision in Exam 2

Concrete (CTT)

WAQTC TM 2, Sampling of Freshly Mixed Concrete

FOP:

- Scope
 - Add 'and continuous mixing equipment as described in *AASHTO M 241, Concrete Made by Volumetric Batching and Continuous Mixing.*'
- Procedure
 - Remove 'the very' and 'very' in step 1
 - Active voice revision to 'Sampling from stationary mixers' third sentence.
 - Add 'Sampling from continuous mixers (volumetric batching or mobile mixers)

Obtain two or more increments after all the mixture proportioning adjustments have been made and at least $\frac{1}{4} \text{ m}^3$ ($\frac{1}{4} \text{ yd}^3$) has been discharged. Obtain increments at regularly spaced intervals during the discharge of the middle of the batch. Obtain increments by repeatedly passing a receptacle through the entire discharge stream or by completely diverting the discharge into a receptacle.

After obtaining the composite sample, wait at least two min. but not more than five min. before beginning tests.

Note 2: The waiting period before beginning testing is necessary because the mix water is input seconds before discharge from the continuous mixer.'
- Convert units from 140 L (5 ft³) to $\frac{1}{4} \text{ m}^3$ ($\frac{1}{4} \text{ yd}^3$)
- Renumber notes.

Performance Exam Checklists:

- New revision date
- Add continuous mixer (volumetric batching or mobile mixers)

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

- Add 'Which portions of the batch are avoided when obtaining sample? From first or last portions of the batch.' (oral)
- Reformat steps

PowerPoint:

- Revisions to match FOP

FOP for AASHTO T 309, TEMPERATURE OF FRESHLY MIXED PORTLAND CEMENT CONCRETE

FOP:

- Remove 'or smaller' from Thermometer in Apparatus
- Move 'Complete the temperature measurement of the freshly mixed concrete within 5 minutes of obtaining the sample.' From step 5 to header in Procedure

Performance Exam Checklist:

- Rewrite the new Step 6 'Temperature measurement completed within 5 minutes of obtaining sample?'

PowerPoint:

- Revisions to match the FOP

FOP for AASHTO T 119, Slump of Hydraulic Concrete

FOP:

- New revision date
- Procedure
 - Revise Step 3 'Stand on both foot pieces to hold the mold firmly in place' to 'Secure both foot pieces, holding the mold firmly in place until removal of the mold.'
 - Revise Step 11 'Clean overflow concrete away from the base of the mold' to 'Clean excess concrete away from the base of the mold without allowing the mold to shift.'

Performance Exam Checklist:

- New revision date
- Add 'without allowing it to shift' to Step 14 of Procedure.

PowerPoint:

- Revisions to match the FOP

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

FOP for AASHTO T 121, Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete

FOP:

- New revision date
- New AASTO date
- Remove 'FOP for' from WAQTC TM 2 references.
- Add reference for Measure in Apparatus 'Standardized according to FOP for AASHTO T 121 Annex Standardization of Measure.'
- Correct the ounce to milliliters conversion in Table 2

PowerPoint:

- Add 'For thorough consolidation of a concrete layer, increase or decrease the amount of force from the mallet for each tap around the perimeter to close the voids and release trapped air,' to Slide 14
- Revisions to match the FOP

FOP for AASHTO T 152, Air Content of Freshly Mixed Concrete by the Pressure Method

FOP:

- New revision date
- Added 'When the needle stabilizes' and removed 'and then' in Step 15 of Strike off and Air Content.

Performance Exam Checklist:

- New revision date
- Added 'When the needle stabilizes' to Step 25 in Using a Type B Meter.

PowerPoint:

- Add 'For thorough consolidation of a concrete layer, increase or decrease the amount of force from the mallet for each tap around the perimeter to close the voids and release trapped air,' to Slide 18
- Revisions to match the FOP

FOP for AASHTO R 100, Casting and Curing Concrete Strength Test Specimens in the Field

FOP:

- New revision date
- New title, FOP for AASHTO R 100, ~~Making~~ Casting and Curing Concrete **Strength** Test Specimens in the Field.
- Revise max/min thermometer from 'registering' to 'recording'.

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

- Remove 'FOP for' in front of WAQTC TM 2.
- Change 'making' to 'casting' throughout
- Revise Consolidation Selection to a that a slump of 1 in. can either be rodded or vibrated and Table 1 to match
- Add Table 2 for diameter of cylinder, number of layers and number of strokes or insertions per layer.

Performance Exam Checklist:

- New revision date
- New title
- Change 'Making' to 'Casting' in Step 3 of Procedure.

PowerPoint:

- Add 'For thorough consolidation of a concrete layer, increase or decrease the amount of force from the mallet for each tap around the perimeter to close the voids and release trapped air,' to Slide 18
- Corrected 6 x 12 and standardized unit designation.
- Revisions to match the FOP

Front and Appendix

Revise references to the FOP for AASHTO R 100 to reflect the name change.

Exams:

- Revisions to multiple exam questions

Embankment/ Base and In-place Density (E&B/IPD)

FOP for AASHTO T 255/T 265, Moisture Content of Aggregate and Soil

FOP:

- New revision date
- New AASHTO date
- Balance description changed to 'readable'
- Heat source description revised.
- Table 3 moved to Step 9
- Separate Table 3 into two tables, one for aggregate and one for soils

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

Performance Exam Checklist:

- New revision date
- Break Step 12 to two steps and include mass loss.

PowerPoint:

- Revisions to match the FOP

FOP for AASHTO T 99, Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop and
T 180, Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

FOP:

- New revision date
- New AASHTO date
- In Procedure Step 2b, add stand for at least 12 hrs.'
- Calculation example, to the nearest 0.005 lb.
- Balance description changed to 'readable'
- Heat source description revised.
- Table 3 moved to Step 9
- Separate Table 3 into two tables, one for aggregate and one for soils

Performance Exam Checklists:

- None

PowerPoint:

- Revisions to match the FOP

FOP for AASHTO R 75, Developing Soil-Moisture Density Relations (Family of Curves)

FOP (editorial):

- Add (Family of Curves) after the title
- Add (Family of Curves) on graph

Performance Exam Checklist:

- Add (Family of Curves) after the title

PowerPoint:

- Add (Family of Curves) after the title
- Add (Family of Curves) on all graphs

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

- Revise Slide 9 to include steps to remove curves
- Slide 10 will include label to remove extra points
- Slide 12 will have them removed
- Revisions to match the FOP

FOP for AASHTO T 272, One-point Method for Determining Maximum Dry Density and Optimum Moisture

FOP:

- New revision date
- Add Table 1, Field Selection of Apparatus – English
- Add shaded areas on the graph for the that show the area that the one-point must fall within
- Revise Step 1 in the Maximum Dry Density and Optimum Moisture Content Determination Using an Individual Moisture – Density Curve section
- Change title of the 'Reference Curve' to 'Individual Reference Curve'

Performance Exam Checklist:

- None

PowerPoint:

- Add shaded area to graphs
- Revisions to match the FOP

FOP for AASHTO T 85, Specific Gravity and Absorption of Coarse Aggregate

FOP:

- New revision date
- New AASHTO date
- Remove 'The aggregate is considered "dry" when it has been maintained at a temperature of $110 \pm 5^{\circ}\text{C}$ ($230 \pm 9^{\circ}\text{F}$) for sufficient time to remove all uncombined water,' from the absorption definition

Performance Exam Checklist:

- None

PowerPoint:

- Revisions to match the FOP

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

Exams

- Revisions to multiple exam questions

Self-Consolidating Concrete Testing Technician (SCCTT) Module

FOP for AASHTO T 345, Passing Ability of Self-Consolidating Concrete by J-Ring

FOP:

- New revision date
- New AASHTO date
- Revise apparatus dimensions
- Crop Figure 1 to match AASHTO revision

Performance Exam Checklist:

- None

PowerPoint:

- Revisions to match the FOP

WAQTC TM 18, Penetration Test for Static Segregation Resistance of Self-Consolidating Concrete (SCC)

FOP:

- New revision date
- New ASTM date

Performance Exam Checklist:

- None

PowerPoint:

- None

WAQTC TM 19, Static Segregation of Self-Consolidating Concrete (SCC) Using the Column Method

FOP:

- New revision date
- New ASTM date
- Add steps to strike off the middle and bottom sections

Performance Exam Checklist:

- Add steps to strike off the middle and bottom sections

PowerPoint:

QAC 2025 PROPOSED REVISIONS TO THE WAQTC TRAINING MATERIALS

- Revisions to match the FOP

Written Exams Update (Concrete)

- Exam 1 Q 1,5,6,7,12, 16, 23, 26 New questions
- Exam 2 Q 1, 3, 6, 7, 11, 12, 16, 17, 25, 26, 30 New questions.
- Exam 3 Q 1, 4, 6, 11, 12, 16, 18, 19, 23, 26, 27 New questions.

FOP Library

FOP for AASHTO R 60, Sampling Freshly Mixed Concrete, Misty Miner

- Add *Concrete Made by Volumetric Batching and Continuous Mixing* after M 241 in the Scope.

FOP for AASHTO T 331, G_{mb} Using Automatic Vacuum Sealing Method, Champion Mark Willoughby

FOP:

- New revision date
- Add Note 1: referencing water bath to Apparatus
- Thermometer revisions 'Readable to 0.1°C(0.2°F), with maximum permissible error of $\pm 0.5^\circ\text{C}$ in Apparatus
- Revisions for small bag, 241mm (9.50 in.) to 235mm (9.25 in.) in Apparatus.
- Procedure step 4 a. specimen size for large bag, 50mm (2in.) to 75mm (3in.)

WAQTC TM 15, Laboratory Maximum Dry Density of Granular Soil and Soil/Aggregate, Champion Mark Willoughby

- New dimensions and criteria for the small and large mold assemblies in Apparatus
- Add two subheadings under Step 3 drying by air and drying by oven
- Add new Step 3b: Only Manufactured Coarse Base or Manufactured Fine Aggregate material may be dried to friable condition using a controlled heat source (oven) at $110 \pm 5^\circ\text{C}$ ($230 \pm 9^\circ\text{F}$).

WAQTC Administration Manual and Registration, Policies, and Information Handbook (RPIH)

- Add Sampling and Reduction Testing Technician (SRTT)