

WAQTC EXECUTIVE BOARD

2022 SUMMER MEETING MINUTES

MEETING CALLED BY: LARRY ILG, CHAIR
RECORDER: DESNA BERGOLD, COORDINATOR

DATE: JULY 29, 2022
TIME: 10:00 MDT
LOCATION: TEAMS

ATTENDEES:
 LARRY ILG, ODOT, CHAIR
 L. SCOTT NUSSBAUM, TREASURER, UDOT
 CRAIG WIEDEN, CDOT
 CHAD CLAWSON, ITD
 OAK METCALFE, MDT
 SEAN PARKER, ODOT, QAC CHAIR
 MISTY MINER, MDT, QAC VICE CHAIR
 DESNA BERGOLD, COORDINATOR

Absent:
 MIKE SAN ANGELO, AKDOT & PF, VICE
 CHAIR
 MICHAEL VOTH, CFLHD
 BRIAN IKEHARA, HDOT
 MATT LINNEMAN, NDDOT
 GARRETT WEBSTER, WSDOT

Agenda Items / Objectives:

1. Report on 2020 AASHTO proposals:

- a. *T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens (TS 2c)* – Champion Larry Ilg – 8/2 1:00 pm
 - i. Section 6.2 did not get revised to $77 \pm 2^{\circ}\text{F}$ from $77 \pm 1.8^{\circ}\text{F}$ (informed Allen Myers on 4/16/22) – corrected for 2022 release

2. 2022 Proposed AASHTO revisions from the QAC:

- a. *R 47, Reducing Samples of Asphalt Mixtures to Testing Size (TS 2c)* – Champion Larry Ilg (TS 2c) – revisions in response to TS Ballot of R 76 – 8/2 1:00 pm
- b. *R 76, Reducing Samples of Aggregate to Testing Size (TS 1c)* – Champion Chad Clawson – revisions to address TS Ballot – 8/3 3:15 pm
- c. *T 30; Mechanical Analysis of Extracted Aggregate (TS 2c)* – Champion Scott Nussbaum – 8/2 1:00 pm
- d. *T 112, Clay Lumps and Friable Particles (TS 1c)* – Champion Sean Parker – 8/3 3:15 pm

- 3. Reciprocity questionnaire report
- 4. Scoring and possible new language in the Administration Manual – Oak
- 5. Revisions to the TTQP training materials – QAC
- 6. Request use of Figure 2 of AASHTO T 152 – Approved
- 7. Funding and Budget – Scott Nussbaum
- 8. Kryterion progress – Scott Nussbaum and Desna Bergold
- 9. Website – include ‘Formed 1998,’ on the website – Mike
- 10. Other items
 - a. QAC revisions to the Admin Manual and RPIH

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TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY:
WELCOME	<p>Larry Ilg, ODOT and Executive Board Chair, welcomed everyone to the meeting.</p> <p>The meeting began with an update on the previously proposed revisions to AASHTO Standards.</p>	
REPORT ON PREVIOUSLY PROPOSED REVISIONS		
T 166	<p><i>AASHTO T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens (TS 2c)</i> – Champion Larry Ilg – 8/2 1:00 pm</p> <p>Section 6.2 did not get revised from $77 \pm 1.8^{\circ}\text{F}$ to $77 \pm 2^{\circ}\text{F}$. Allen Myers, AASHTO COMP Technical Subcommittee (TS) 2c Chair, was informed that this location out of the six locations was not revised. Allen said that he would correct it for the for 2022 release. Desna confirmed that this is corrected in the AASHTO Library.</p> <p>Desna also said that this is the final outstanding proposed revision to AASHTO.</p> <p><i>Discussion item, not further action necessary.</i></p>	
CURRENT PROPOSED REVISIONS		
R 47	<p><i>AASHTO R 47, Reducing Samples of Asphalt Mixtures to Testing Size (TS 2c)</i> – Champion Larry Ilg (TS 2c) – revisions in response to TS Ballot of R 76</p> <p>Larry submitted this proposed revision to Allen Myers May 13, 2022. The proposal is on the Annual AASHTO COMP TS 2c Meeting agenda and listed as Attachment 10.</p> <p><i>Larry Ilg will Champion this revision at the Annual COMP Meeting.</i></p>	LARRY ILG
R 76	<p><i>AASHTO R 76, Reducing Samples of Aggregate to Testing Size (TS 1c)</i> – Champion Chad Clawson</p> <p>WAQTC proposed revisions to AASHTO R 76 in 2021. There were significant comments and three negative votes. The QAC and Board addressed the comments and negatives and intend to submit a revised proposal. Chad Clawson, ITD and revision Champion, has not been able to connect with the TS members that voted negative and therefore has not submitted the revised proposal</p>	

TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY:
	<p>The results of the TS Ballot are on the Annual AASHTO COMP TS 1c Meeting agenda. The agenda states, ‘The chair is looking for updates from WAQTC and the three states that submitted the negatives (FL, MS, KS).’</p> <p>Sean Parker, ODOT and QAC Chair, said that he would like to discuss the revised proposal with those members that voted negative and get preliminary approval. Perhaps this could be done by the AASHTO COMP midyear Meeting.</p> <p>Sean said he will speak to Matt Beeson, TS 1c Chair at the upcoming annual meeting. Chad said one of the outstanding issues is use of the term ‘approximately.’ This term was already used in the procedure.</p> <p>Oak Metcalfe, MDT, said that he will speak to AASHTO re:source and ask their take on the term ‘approximately.’</p> <p>Oak announced that he is the new Administrative Task Group (ATG) Chair, which means he is back on the Steering Committee.</p> <p><i>Sean Parker and Chad Clawson will continue to work with TS Members to gain preliminary approval of the revised proposal.</i></p> <p><i>Oak Metcalfe will discuss the term ‘approximately’ with AASHTO re:source.</i></p>	<p>SEAN PARKER CHAD CLAWSON OAK METCALFE</p>
T 30	<p><i>AASHTO T 30; Mechanical Analysis of Extracted Aggregate (TS 2c) – Champion Scott Nussbaum</i></p> <p>Scott Nussbaum, UDOT and WAQTC Treasurer, sent this revision to Alan Myers, TS 2c Chair, April 22, 2022. Alan said that even though the proposed revision is considered editorial, T 30 will appear on an upcoming Technical Subcommittee 2c ballot, and he will add this change. T 30 was TS balloted in June and there were no negative votes.</p> <p><i>No further action necessary,</i></p>	
T 112	<p><i>AASHTO T 112, Clay Lumps and Friable Particles (TS 1c) – Champion Sean Parker</i></p> <p>This was sent to Matt Beeson, TS 1c Chair, April 19, 2022, this is an item on the Annual AASHTO COMP TS 1c Meeting agenda and listed as Attachment 10.</p> <p>Sean pointed out that there are more revisions for this method on the agenda that were proposed by others.</p>	

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TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY:
	<i>Sean Parker will Champion this revision at the Annual COMP Meeting.</i>	SEAN PARKER
OTHER WAQTC BUSINESS		
RECIPROCITY REPORT	<p><i>Reciprocity Questionnaire</i></p> <p>According to the TTQP bylaws, a review of the administration of the TTQP programs in each agency is required every three years. This review was conducted in April as a questionnaire. Desna compiled the submittals and distributed the Reciprocity Responses and a Summary on June 1.</p> <p>Craig Wieden, CDOT, was concerned that some of their responses were not included on the summary. Desna will correct this oversight and revise the summary.</p> <p><i>Desna will correct missing information on the Reciprocity Summary and distribute the revision to the Executive Board.</i></p>	DESNA BERGOLD
ADMIN. MANUAL AND THE NEW SCORING CRITERIA	<p>During the Spring Meeting Oak said that MDT has had a situation with the new scoring. At one point, the criteria were interpreted as a technician had to fail the same module twice or the entire exam twice.</p> <p>Oak shared Annex A, Examination Process, from the <i>Administration Manual</i>.</p> <ul style="list-style-type: none"> • Passing Score - Written/Performance <ul style="list-style-type: none"> Written: <ol style="list-style-type: none"> a. Initial exam (first attempt): An overall score of 70 percent with a minimum of 60 percent on any one test method. b. Re-exam (second attempt): <ul style="list-style-type: none"> An initial exam overall score below 70 percent will require a re-examination on all test methods. An initial exam score above 70 percent overall, but below 60 percent on one or more test methods, will require a re-examination. <p>At the agency's discretion for a partial re-examination:</p>	

TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY:
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	<p>In the case of one test method comprising the re-exam, the examinee must receive a score of 70 percent.</p> <p>In the case of more than one test method comprising the re-examination, the examinee must receive an overall score of 70 percent with a minimum of 60 percent on any one test method.</p> <p>The Board felt that the language and flow of this section is confusing. They discussed how to better reflect the intent. The Board thinks it would be better to revise this section to:</p> <ul style="list-style-type: none"> • Scoring - Written/Performance <ul style="list-style-type: none"> Written: <ul style="list-style-type: none"> c. Initial exam (first attempt): An overall score of 70 percent with a minimum of 60 percent on any one test method. <ul style="list-style-type: none"> An initial exam overall score below 70 percent will require a re-examination on all test methods. An initial exam score above 70 percent overall, but below 60 percent on one or more test methods, will require a re-examination. d. Re-exam (second attempt): <ul style="list-style-type: none"> A re-exam overall score below 70 percent is a failure. A re-exam score above 70 percent overall, but below 60 percent on one or more test methods, is a failure. <p>An agency may allow a partial re-examination:</p> <p>In the case of one test method comprising the re-exam, the examinee must receive a score of 70 percent.</p> <p>The Board decided that they would like to get input from the QAC before implementing the revisions. Desna was asked to send the revisions to the QAC with a two-week response time. If there are no comments or corrections, the Board has approved publishing these revisions.</p> 	
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TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY:
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	<p>Scott made a motion that the new language be published pending comments from the QAC. Motion was seconded. There were no ‘nays.’ Motion carried.</p> <p><i>Desna will send the Executive Board revisions to the QAC and request responses by Aug. 12th. Desna will compile responses and forward them to the Executive Board.</i></p>	<p>DESNA BERGOLD QAC</p>
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<p>ADMIN MANUAL, RPIH REVISIONS FROM QAC</p>	<p>During the Summer Meeting, the QAC determined that most agencies do not require a physical copy of the radiation safety training that is listed as a prerequisite in Annex A, In-Place Density Qualification and Embankment and Base / In-Place Density Qualification Processes. The QAC decided that they would propose a revision to Annex A to read, ‘Proof of Radiation Safety training must be provided for registration.’</p> <p>Larry asked why we are requiring it at all. He said that it is the Radiation Safety Officer’s (RSO) responsibility not TTQP trainers.</p> <p>Sean said that the TTQP program just wants to be able to verify it before class. Misty agreed with Larry and asked if we really need the statement for the training environment. Most training programs use ‘dummy’ gauges for training.</p> <p>Larry said that on the project many people are around the gauge, the safety certification is just for the technician in control of the gauge.</p> <p>Chad said that ITD does not allow people to hover over the gauge unless they have safety training. He said that all their inspectors have safety certification.</p> <p>Scott agreed with Larry. He wondered if it is necessary to require this information as it is the RSO’s responsibility.</p> <p>Misty said that MDT doesn’t assign the dosimeter badge until safety training and certification are done. Scott pointed out that each state is somewhat different. UDOT requires safety training yearly but not dosimeter badges.</p> <p>Both Sean and Misty said a technician will not be issued a TTQP certification until the technician has a safety training certificate.</p> <p>Scott said these two certifications are separate actions. Chad agreed.</p>	
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TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY:
	<p>The Board revised the language in these two Annex A sections to read:</p> <p>Prerequisites for being qualified in Embankment and Base / In-Place Density: None</p> <p>Recommendation:</p> <ul style="list-style-type: none"> • The participant should hold the necessary certification in radiation safety to operate devices containing radioactive material. • The participant should exhibit basic mathematics and reading comprehension skills. <p>Desna said that only one module now has prerequisites, SCC. She asked if it would be cleaner to remove the statement, ‘Meet the prerequisites. (see below),’ when below it say, ‘Prerequisites: None.’ The Board agreed to this revision.</p> <p>Sean said that he didn’t know if the listed Course Length and Course Size is appropriate anymore. Misty suggested that she and Sean review these statements and possibly propose a revision next year.</p> <p>Scott moved to amend the earlier motion to include revisions to this section of the Annex, Craig seconded. There were no nays, the motion carried.</p> <p><i>Desna will send the Executive Board revisions to the QAC and request responses by Aug. 12th. Desna will compile responses and forward them to the Executive Board.</i></p> <p><i>Misty Miner and Sean Parker will review the Examination Processes in Annex A for possible revisions next year.</i></p>	<p>DESNA BERGOLD QAC MISTY MINER</p>
<p>TTQP REVISIONS</p>	<p>Sean summarized the QAC 2022 Proposed Revisions to the WAQTC TTQP Training Materials, attached.</p> <p>Sean pointed out that <i>AASHTO T 11, Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing</i> and <i>T 27, Sieve Analysis of Fine and Coarse Aggregates</i> states that the sample is to be dried to constant mass at 110° C (230° F) but doesn’t give further criteria for drying to constant mass. The AASHTO drying temperature doesn’t allow for gradations to be dried using hot plates or infrared heaters. Many labs have been drying these samples according to the <i>AASHTO T 255, Total Evaporable Moisture Content of Aggregate by Drying</i>, which</p>	

TOPIC	Discussion / <i>Decision</i>	ACTION REQUIRED BY:
	<p>allows a higher drying temperature if the material does not degrade.</p> <p>Sean said that the QAC would like to address revisions to AASHTO T 11 and T 27 during the 2023 QAC Winter Meeting.</p> <p>Sean pointed out a similar issue with <i>AASHTO T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens, Method C, Rapid Drying of Cores</i>. Method C requires cores to be dried at 110° C (230° F). <i>AASHTO T 329, Moisture Content of Asphalt Mixtures by Oven Method</i> allows for temperatures up to Job-Mix Formula (JMF) mixing temperature.</p> <p>Sean said that the QAC would like to address revisions to this method also.</p> <p>When Sean completed the summary and discussion items, Oak made a motion to approve the revisions to the TTQP Training Materials. Scott seconded, there were no nays, the motion carried.</p> <p><i>The QAC proposed revisions to the TTQP Training Materials are approved and will be incorporated by Oct. 1, 2023.</i></p> <p><i>Revisions to AASHTO T 11, T 27, and T 166, will be included on the 2023 QAC Winter Meeting Agenda.</i></p>	DESNA BERGOLD
REQUEST TO USE FIGURE 2	<p>During the Spring Meeting, Oak offered to speak to Casey Soneira, AASHTO, on behalf of the QAC. Oak asked Casey for permission to use the diagram of the Type B Meter (Figure 2) from AASHTO T 152 in the TTQP Training Materials. Oak received a permission letter from Robert Cullen, AASHTO Information Resource Officer. Addition of the Figure is listed in the 2022 Proposed Revisions to the WAQTC TTQP Training Materials.</p> <p><i>No further action necessary.</i></p>	
FUNDING AND BUDGET	<p>Scott presented the WAQTC Funding Summary, July 29, 2022 (attached). He indicated that the Pooled Fund balance has been growing in the last few years because there were no travel expenditures. He also indicated that all the money has been transferred from the old, pooled fund.</p> <p>He asked if the Board wants to consider reducing contributions.</p>	

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	<p>Larry asked if there is a problem with carrying too high a balance. Scott said he didn't think so, just that it is incumbent on the WAQTC to use tax money wisely.</p> <p>Larry is concerned that reduction in funding may be difficult to raise back up if the need arises. Scott suggests watching the balance and determine if there is need for future adjustments</p> <p><i>Discussion item.</i></p>	
<p>KRYTERION PROGRESS</p>	<p>Desna reported that the WAQTC has a contract with Kryterion to deliver written exams electronically. Randy Mawdsley, WSDOT and QAC Member, and Desna presented the recent developments to the QAC during the Summer Meeting.</p> <p>Desna showed the Board the branded website that WAQTC candidates will use to create a new account, sign on, and register for exams.</p> <p><i>Discussion item.</i></p>	
<p>WEBSITE</p>	<p>Mike San Angelo, AKDOT and Executive Board Vice Chair, suggested in an email that the year WAQTC was formed be included on the website.</p> <p>The Board all though it was a good idea. Oak then suggested, 'Established in 1998.' All concurred.</p> <p><i>WAQTC.org will be revised to include 'Established in 1998' in the next website update.</i></p>	<p>DESNA BERGOLD</p>
<p>UPCOMING QAC MEETINGS</p>	<p>The QAC proposes the Phoenix/Mesa area of Arizona for the Winter Meeting. Sean said that he has contacted Jesús Sandoval, ADOT, who is interested in attending for a part of the meeting. Desna said the QAC had mentioned that airfare to Phoenix is inexpensive. Sean agreed and said that WAQTC may see significant savings with that.</p> <p>The QAC proposes Helena, Montana for the Summer Meeting. Misty said that she already has a location in mind.</p> <p>The Board approved these locations.</p> <p><i>The 2023 Winter Meeting will be held Jan. 30th through Feb. 3rd in Phoenix/Mesa AZ.</i></p> <p><i>The 2023 Summer Meeting will be held July 17th through the 21st in Helena MT.</i></p>	<p>SEAN PARKER MISTY MINER DESNA BERGOLD</p>

QAC 2022 Proposed Revisions to the WAQTC TTQP Training Materials

General files

Terminology

- Add definitions for Fracture criteria

Aggregate (AgTT)

FOP for AASHTO R 90, Sampling Aggregate Products

FOP

- New date
- Add 'and mix thoroughly' after combining increments in all methods and locations

Review Questions

- New date
- Remove 'power equipment such as backhoe,' the FOP discusses use of a loader, not other equipment

Performance Exam Checklists

- New date
- Add 'Increments combined and mixed to form a single sample.' In all Methods and locations.
- Remove 'General' statement

PowerPoint

- Revisions to match FOP

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

FOP

- Define 'tarp' and use the term instead of 'sheet' or 'canvas' (editorial)

Performance Exam Checklist

- New date
- Use 'tarp'
- Revise Method B Quartering Step 6 to better address use of the 'tarp.'
- Remove italicized statement and include in Method B Quartering Step 6

PowerPoint

- Revisions to match FOP

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

FOP

- New date
- New AASHTO date
- Apparatus add
 - Heat source: **thermostatically** controlled, **capable of maintaining $110 \pm 5^{\circ}\text{C}$ ($230 \pm 9^{\circ}\text{F}$).**
 - Heat source, uncontrolled, **for use when allowed by the agency, will not alter the material being dried, and close control of the temperature is not required.**
- Sample Preparation add
 - **If necessary, reduce to moisture content sample size according to the FOP for AASHTO R 76.**
- Procedure add
 - In 'Caution' statement add, **'and crack and explode.'**

PowerPoint:

- Revisions to match the FOP revisions.

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

FOP:

- New date
- New AASHTO Date
- Procedure Method A
 - Steps 1 and 10 add, 'Dry the sample to constant mass **at 110°C (230°F)'**
 - Step 14 and Calculations, rewrite 'check sum' to agree with AASHTO, 'is **not more than** 0.3 percent'
- Procedure Method B
 - Step 1 and Step 10 add, 'Dry the sample to constant mass **at 110°C (230°F)'**
 - Steps 15, 20, and Calculations, rewrite 'check sum' to agree with AASHTO, 'is **not more than** 0.3 percent'
- Procedure Method C
 - Step 1 and Step 18 add, 'Dry the sample to constant mass **at 110°C (230°F)'**
 - Steps 7, 22, and Calculations, rewrite 'check sum' to agree with AASHTO, 'is **not more than** 0.3 percent'

PowerPoint:

- Revisions to match the FOP revisions.

FOP for AASHTO T 335, Determining the Percentage of Fracture in Coarse Aggregate

FOP:

- New date
- Add, 'Fractured criteria: Determined by the agency to define a fractured particle,' in Terminology.

Performance Exam Checklist

- New date
- Add a new Step 4, 'Each particle examined to determine if the particle meets the fracture criteria?'

PowerPoint

- Revisions to match the FOP revisions.

FOP for AASHTO T 176, Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test

FOP

- New date
- New AASHTO date
- Apparatus
 - Title 'Manual Shaker'
 - Add, 'Sieve: 4.75-mm (No. 4) sieve meeting the requirements of the FOP for AASHTO T 27/T 11.'

Performance exam Checklist

- Add steps for other shaker methods

PowerPoint

- Revisions to match the FOP revisions.

Written exams

Editorial revisions include the use of the term, 'tarp.' Replacing a specification question with a 'check sum' question.

Asphalt (AsTT I and II)

FOP for AASHTO R 97, Sampling Asphalt Mixtures

FOP

- Attached Sampling Devices
 - Move ‘once in each direction’ from opening paragraph to Step 2 (editorial)

FOP for AASHTO T 329, Moisture Content of Asphalt Mixtures by Oven Method

FOP

- New date
- New AASHTO date
- Apparatus
 - Changed thermometer range to meet 2022 AASHTO

PowerPoint

- Revisions to match FOP

FOP for AASHTO T 308, Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method

FOP

- Apparatus
 - Changed Ignition Furnace Temperature and range to match 2022 AASHTO
 - Change Note 2 to not a Note, ‘The furnace shall be designed to permit the operator to change the ending mass loss percentage from 0.01 percent to 0.02 percent.’
 - Added container and large flat pan.
- Procedure Method A
 - Rearrange Steps 3 and 13
 - Rewrite Steps for calculating sample mass, ‘Calculate the mass of the sample by subtracting the mass of the sample basket from the mass of the sample and sample basket assembly and record to the nearest 0.1 g.’
 - Include Note from AASHTO, ‘Differences greater than 5 g or failure of the furnace scale to stabilize may indicate that the specimen basket assembly is contacting the furnace wall.’
- Procedure Method B
 - Rearrange Steps 6, 10, 15, and 18

- Rewrite Steps for calculating sample mass, ‘Calculate the mass of the sample by subtracting the mass of the sample basket from the mass of the sample and sample basket assembly and record to the nearest 0.1 g.’
- Gradation
 - Change ‘flat pan’ to ‘container’
- Report
 - P_b to the nearest 0.01 percent or per agency standard

Performance Exam Checklist

- Add Step 8b, ‘Internal scale reading zero?’
- Add ‘cool to room temperature’ in Step 8 and 9

PowerPoint

- Revisions to match FOP

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

FOP

- New date
- New AASHTO date
- Apparatus to match 2022 AASHTO
 - Revise range of vacuum pump and vacuum measurement device
 - Thermometers: Thermometric devices accurate to 0.25°C (0.5°F) and with a temperature range of at least 20 to 45°C (68 to 113°F).
- Test Sample Preparation
 - Add, ‘Plant-produced samples may be short-term conditioned according to R 30 as specified by the agency.’
 - Add Note 1 (Note 8 from 2022 AASHTO) ‘Short-term conditioning at the specified temperature is especially important when absorptive aggregates are used. This short-term conditioning will ensure the computation of realistic values for the amount of asphalt absorbed by the aggregate and void properties of the mix. Plant-produced asphalt mixtures should be evaluated to make sure short-term conditioning has taken place during production and delivery.’
 - Revise ‘Allowable variation’ of two increments of a large sample from 0.014 to 0.013 due to new precision and bias statement.
- Procedure – General, revise 15 ±2 minutes to 15 ±1 minutes
- Annex A

- Editorial revisions
- Add moving average language for labs that check the bowl standardizations frequently

Performance Exam Checklist

- New Step 1, ‘O-ring wet or petroleum gel used?’
- Revise 15 ±2 minutes to 15 ±1 minutes

PowerPoint

- Revisions to match the FOP revisions.

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

FOP

- New date
- New AASHTO date
- Apparatus Method A
 - Revise oven temperature range to $52 \pm 3^{\circ}\text{C}$ ($126 \pm 5^{\circ}\text{F}$)
 - Revise thermometer range to 15 to 45°C (59 to 113°F)
- Apparatus Method B
 - Add, ‘Water bath: For immersing the specimen in water, capable of maintaining a uniform temperature at $25 \pm 1^{\circ}\text{C}$ ($77 \pm 2^{\circ}\text{F}$).
 - Revise oven temperature range to $52 \pm 3^{\circ}\text{C}$ ($126 \pm 5^{\circ}\text{F}$)
 - Revise thermometer range to 15 to 45°C (59 to 113°F)
- Procedure Method B
 - Add water bath temperature to Step 3
 - Move ‘At the end of the ten-minute period,’ from Step 6 to Step 4 to align with 2022 AASHTO
 - Steps 5 and 11, add ‘and water’ when determining filled pycnometer mass
- Apparatus Method C
 - Add Section and include, ‘Oven: Capable of maintaining a temperature of $110 \pm 5^{\circ}\text{C}$ ($230 \pm 9^{\circ}\text{F}$) for drying the specimens to a constant mass.
- Procedure Method C Rapid Method
 - Change oven temperature for drying specimen in Step 4 from, ‘a minimum of 105°C (221°F). Do not exceed the Job Mix Formula mixing temperature,’ to, **‘ $110 \pm 5^{\circ}\text{C}$ ($230 \pm 9^{\circ}\text{F}$).’**

Performance Exam Checklist

- Change temperature for drying specimen in Steps 4a and 6a from, 'a minimum of 105°C (221°F)' to, '110 ± 5 C (230 ± 9 F).'
- Revise 77 ± 1.8°F to 77 ± 2°F

PowerPoint

- Revisions to match the FOP revisions.

FOP for AASHTO T 30, Mechanical Analysis of Extracted Aggregate

FOP

- New date
- Add wetting agent in Apparatus
- Steps 4 and 9 change, 'detergent, dispersing agent, or other wetting solution,' to 'wetting agent'
- Step 15 and Calculations, rewrite 'check sum' to agree with AASHTO, 'is **not more than** 0.2 percent'

PowerPoint

- Revisions to match the FOP revisions

FOP for AASHTO T 312, Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor

FOP

- New date
- New AASHTO date
- Revise temperature range to match 2022 AASHTO

WAQTC TM 13, Volumetric Properties of Asphalt Mixtures

Student FOP (editorial)

- Add 'and reduce according to the FOP for AASHTO R 47'

Written Exams

- New year
- Revisions to match FOP revisions

PowerPoint

- Revisions to match FOP

Concrete (CTT)

FOP for AASHTO T 309, Temperature of Freshly Mixed Portland Cement Concrete

FOP

- New date
- New AASHTO date
- Apparatus
 - Revise container to active voice
 - Change 'Temperature Measuring Device and the definition to, 'Thermometer: Capable of measuring the temperature of the concrete throughout the temperature range likely to be encountered, at least -18 to 50°C (0 to 120°F), and readable to $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$) or smaller.'
 - Remove reference measuring device
 - Add Note 1 on suitable thermometer types from 2022 AASHTO
- Change 'Calibration' to 'Standardization.'

PowerPoint

- Add Note 1 to the Notes of Slide 1
- Revisions to match the FOP revisions.

FOP for AASHTO T 119; Slump of Hydraulic Concrete

FOP (editorial)

- Remove redundancies in Steps 4 and 6
- Reformat slump measuring Steps

PowerPoint

- Revisions to match FOP

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

FOP

- Add Type B Meter figure from the AASHTO method (with permission)
- Remove Step 6 on inclining the air meter while filling with water
- Add, 'Jar the meter gently until all air is expelled from this same petcock,' to Step 5
- Add new Step 6, 'Verify that water is present in both petcocks.'

Annex A

- Step 5 remove rocking the meter

Performance Exam Checklist

- Change rocking the air meter while water is injected to jarring.

PowerPoint

- Revisions to match FOP

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

FOP

- New AASHTO date
- New date
- Apparatus
 - Nom. Max. aggregate size for 4 in. beams will be changed to 1 in.
 - Remove 'for use with low slump concrete' from vibrator in apparatus
 - Add to Thermometer, 'meeting the requirements for FOP for AASHTO T 309'
- Final Curing add ambient temperature range to third bullet

PowerPoint

- Revisions to match the FOP revisions

Written Exams

No revisions

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

Basics of Compaction and Density Control

- Add Section on Backfill and Structural Backfill

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

FOP

- New AASHTO date
- New date
- Apparatus, add:
 - Heat source, **thermostatically** controlled, **capable of maintaining $110 \pm 5^{\circ}\text{C}$ ($230 \pm 9^{\circ}\text{F}$).**
 - Heat source, **uncontrolled, for use when allowed by the agency, will not alter the material being dried, and close control of the temperature is not required.**
- Sample preparation add
 - **If necessary, reduce to moisture content sample size according to the FOP for AASHTO R 76.**
 - **'Moisture content'** before samples
- Procedure
 - Move determine and record mass up
 - Add 'crack or explode' to Caution statement.

PowerPoint

- Revisions to match those in 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 AASHTO date
- New date
- Apparatus
 - Fix internal reference
 - Tables 1 and 2, add range in 'Rammer Drop'
- Procedure

- Step 7 remove ‘or better’
- Italicize all ρ throughout
- Step 11 add ‘w’ variable
- Annex A
 - Bold ρ_f

PowerPoint

- Revisions to match the FOP revisions.

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

FOP

- New AASHTO date
- New date
- Procedure
 - Italicize all ρ throughout
 - Step 7 remove ‘or better’
 - Step 9 add variable ‘ ρ_w ’
 - Step 10 remove redundant ‘one of the cut faces’
 - Step 11 add ‘w’ variable
 - Calculations change ‘wet density’ to ‘ ρ_w ’

PowerPoint

- Revisions to match the FOP revisions.

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

FOP

- New AASHTO date
- New date

FOP for AASHTO T 310, In-place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods

FOP – Student

- Add ‘backfill’ and ‘Performance of this test method in trenches and near structures requires a trench moisture offset correction.’

FOP (both)

- New AASHTO Date

- New Date
- Procedure
 - Add Step 1d, ‘Correct for trench wall effect according to manufacturer’s correction procedures if the test site is closer than 600 mm (24 in.) to vertical projection. See Note 2.’
 - Add Note 2, ‘To perform moisture and density tests in a trench or against a large solid object, it is necessary to perform a trench offset correction to adjust the gauge, or it may read a falsely high moisture content. Moisture present in the walls can thermalize neutrons which return to the gauge and are read as moisture by the detector in the gauge.’
- Percent compaction – replace ‘WSDOT’s TM 606’ with ‘WAQTC TM 5’
- Calculations - Italicize all ρ throughout

Review questions

- Add, ‘When is a trench offset correction required?’

PowerPoint

- Revisions to match the FOP revisions.
- Pictures on the slide with the Procedure Step it is illustrating
- New pictures

FOP for AASHTO T 355, In-place Density of Asphalt Mixtures by Nuclear Methods

FOP

- New AASHTO date
- New date
- Flip figures so direction of roller pass is up

PowerPoint

- Revisions to match FOP

Written Exams

- Italicize ρ . Bold ρ_f
- Replace Question 4 on exam 3
- Add variables in Question stems

Self-Consolidating Concrete Testing Technician (SCCTT) Module

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

Test Method

- New ASTM date
- New date
- Procedure – Step 11 add, ‘Remove, clean, and dry the penetration apparatus.’

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

Test Method

- New ASTM date
- New date
- Procedure
 - Add after Step 5, ‘Complete the following in 20 min. or less.’
 - Step 13 and 14, change ‘through’ to ‘on’
- Revise Calculation, ‘2 x’

Performance Exam Checklist

- New Step 11, ‘Complete the following in 20 min. or less.’

Exams

- Revise Calculation, ‘2 x’

PowerPoint

- Revisions to match FOP

FOP Library

AASHTO T 84, Specific Gravity and Absorption of Fine Aggregate

FOP

- New date
- New AASHTO date
- Addition of the oven in Apparatus
- Procedure
- Adding a new Step 12f that includes the action taken if the material slumps on the first attempt

TM 15, Laboratory Maximum Dry Density of Granular Soil and Soil/Aggregate

Test Method

- New date
- Use of G_{sa} throughout
- Apparatus, add the following:
 - 'Small Mold Assembly: includes mold, mold base, and mold follower,' with dimensions for Mold and Mold Base.
 - 'Large Mold Assembly: includes mold, mold base, and mold follower,' with dimensions for Mold and Mold Base.
 - 'Mold Follower' with dimensions
 - 'Manually operated rammer: 2.5 kg (5.5 lb.) rammer meeting the requirements of the FOP for AASHTO T 99/T 180.'
 - 'Miscellaneous tools including pans, spoon, trowel, mechanical mixer (optional), etc.

Procedure

- Revise Step 7 to include Step 7c, 'Obtain a representative sample of the remaining material and determine the apparent specific gravity (G_{sa}) according to AASHTO T 84 or Annex B.
- Revise Step 8 to include Step 8c, 'Obtain a representative sample of the remaining material and determine the apparent specific gravity (G_{sa}) according to FOP for AASHTO T 85 or Annex B.
- Remove Apparent Specific Gravity section
- Revise 'cap' to 'follower' throughout.

Spreadsheet

- Truncate volume values
- Add columns for another density determination

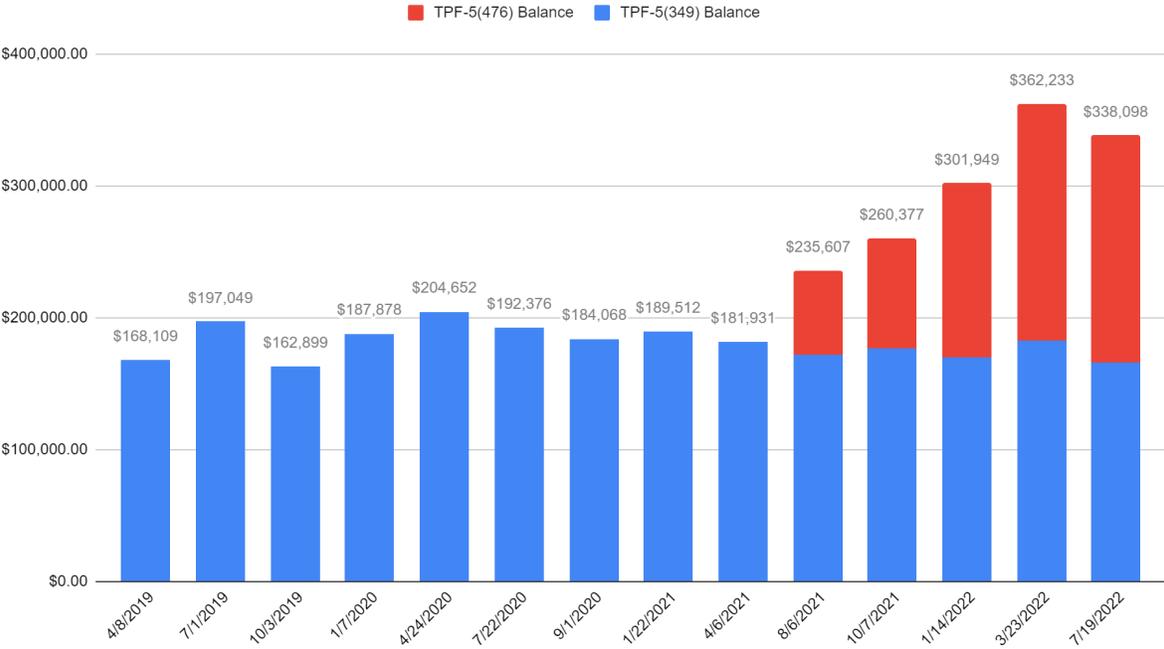
WAQTC Funding Summary

July 29, 2022



Summary Chart

Pooled Fund Balance



Commitments and Contributions

July 19, 2022

Federal Fiscal Year	Agency	Commitments (Posted)		Received Funds	
		TPF-5(349) 2017-2021	TPF-5(476) 2021-2025	TPF-5(349) 2017-2021	TPF-5(476) 2021-2025
2017	Alaska			\$75,000	
2018	Alaska			\$12,000	
2019	Alaska			\$12,000	
2020	Alaska				
2021	Alaska				
2022	Alaska		\$12,000		
2023	Alaska		\$12,000		
2024	Alaska				
2025	Alaska				
2017	Colorado			\$27,519	
2018	Colorado				
2019	Colorado				
2020	Colorado			\$25,000	
2021	Colorado		\$12,000		\$12,000
2022	Colorado		\$12,000		\$12,000
2023	Colorado		\$12,000		
2024	Colorado		\$12,000		
2025	Colorado		\$12,000		
2017	Hawaii	\$12,000		\$12,000	
2018	Hawaii	\$12,000		\$12,000	
2019	Hawaii	\$12,000		\$12,000	
2020	Hawaii	\$12,000		\$12,000	
2021	Hawaii				
2022	Hawaii		\$12,000		\$12,000
2023	Hawaii		\$12,000		
2024	Hawaii				
2025	Hawaii				
2017	Idaho	\$12,000		\$12,000	
2018	Idaho	\$12,000		\$12,000	
2019	Idaho	\$12,000		\$12,000	
2020	Idaho	\$12,000		\$12,000	
2021	Idaho		\$12,000		\$12,000
2022	Idaho		\$12,000		\$12,000
2023	Idaho		\$12,000		
2024	Idaho		\$12,000		
2025	Idaho		\$12,000		

Commitments and Contributions

July 19, 2022

Federal Fiscal Year	Agency	Commitments (Posted)		Received Funds	
		TPF-5(349)	TPF-5(476)	TPF-5(349)	TPF-5(476)
		2017-2021	2021-2025	2017-2021	2021-2025
2017	Montana	\$12,000		\$12,000	
2018	Montana	\$12,000		\$12,000	
2019	Montana	\$12,000		\$12,000	
2020	Montana	\$12,000		\$12,000	
2021	Montana		\$12,000		\$12,000
2022	Montana		\$12,000		
2023	Montana		\$12,000		
2024	Montana		\$12,000		
2025	Montana		\$12,000		
2017	North Dakota				
2018	North Dakota				
2019	North Dakota				
2020	North Dakota	\$12,000		\$12,000	
2021	North Dakota	\$12,000	\$12,000		\$12,000
2022	North Dakota		\$12,000		\$12,000
2023	North Dakota		\$12,000		
2024	North Dakota		\$12,000		
2025	North Dakota		\$12,000		
2017	Oregon	\$12,000		\$12,000	
2018	Oregon	\$12,000		\$12,000	
2019	Oregon	\$12,000		\$12,000	
2020	Oregon	\$12,000		\$12,000	
2021	Oregon	\$12,000	\$12,000		\$24,000
2022	Oregon		\$12,000		
2023	Oregon		\$12,000		\$12,000
2024	Oregon		\$12,000		
2025	Oregon		\$12,000		
2017	Utah	\$12,000		\$12,000	
2018	Utah	\$12,000		\$12,000	
2019	Utah	\$12,000		\$12,000	
2020	Utah	\$12,000		\$12,000	
2021	Utah		\$12,000	\$12,000	
2022	Utah		\$12,000		\$12,000
2023	Utah		\$12,000		
2024	Utah		\$12,000		
2025	Utah		\$12,000		

Commitments and Contributions

July 19, 2022

Federal Fiscal Year	Agency	Commitments (Posted)		Received Funds	
		TPF-5(349)	TPF-5(476)	TPF-5(349)	TPF-5(476)
		2017-2021	2021-2025	2017-2021	2021-2025
2017	Washington State	\$12,000		\$12,000	
2018	Washington State	\$12,000		\$12,000	
2019	Washington State	\$12,000		\$12,000	
2020	Washington State	\$12,000		\$12,000	
2021	Washington State		\$12,000		\$12,000
2022	Washington State		\$12,000		\$12,000
2023	Washington State				
2024	Washington State				
2025	Washington State				
2017	Western & Central Federal Lands				
2018	Western & Central Federal Lands			\$10,000	
2019	Western & Central Federal Lands				
2020	Western & Central Federal Lands				
2021	Western & Central Federal Lands			\$20,000	
2022	Western & Central Federal Lands				\$12,000
2023	Western & Central Federal Lands				
2024	Western & Central Federal Lands				
2025	Western & Central Federal Lands				

Balances and Expenditures

July 19, 2022

[TPF-5\(349\)](#)

	Federal ePM	Other ePM	Mat's ePM	Mat'ls Inv.	Mat'ls IDT
Totals:	\$219,000.00	\$259,518.97	\$48,000.00	\$2,671.00	\$21,329.00
Spent:	\$219,000.00	\$117,464.32	\$24,000.00	\$2,671.00	\$21,329.00
Remaining:	\$0.00	\$142,054.65	\$24,000.00	\$0.00	\$0.00

Contributions

\$526,518.97 Total Funds Obligated in ePM

\$24,000.00 Total Funds Used From UDOT Materials Budget (separate from ePM)

\$550,518.97 Total Funds Placed in the Pooled Fund

Expenditures

\$298,081.23 Contract Expenditures, Contract 179182 (FINET)

\$81,098.54 Contract Expenditures, Contract 218438 (FINET)

\$5,284.55 Additional Expenditures (Ph. 01D, In-house Cons. Svcs)

\$384,464.32 Total Pooled Fund Expenditures (compare with above)

\$166,054.65 Total Remaining in the Pooled Fund (incl. remaining contract encumbrances)

Encumbrances

\$0.00 Encumbrance Outstanding, Contract 179182

\$0.00 Encumbrance Outstanding, Contract 218438

\$0.00 Total Remaining Encumbrances

Balances

\$166,054.65 Pooled Fund Balance (obligated in PIN 15004 and not yet on contract)

This balance will be transferred to PIN 19538

Balances and Expenditures

July 19, 2022

[TPF-5\(476\)](#)

	Federal ePM	Other ePM	Materials ePM
Totals:	\$96,000.00	\$72,000.00	\$12,000.00
Spent:	\$3,502.51	\$4,453.85	\$0.00
Remaining:	\$92,497.49	\$67,546.15	\$12,000.00

Contributions

\$180,000.00	Total Funds Obligated in ePM
\$0.00	Total Funds Used From UDOT Materials Budget (separate from ePM)
<hr/>	
\$180,000.00	Total Funds Placed in the Pooled Fund

Expenditures

\$7,956.36	Contract Expenditures, Cotntract 229061
\$0.00	Additional Expenditures (Ph. 01D, In-house Cons. Svcs)
<hr/>	
\$7,956.36	Total Pooled Fund Expenditures (compare with above)
\$172,043.64	Total Remaining in the Pooled Fund (incl. remaining contract encumbrances)

Encumbrances

\$103,304.51	Encumbrance Outstanding, Cotntract 229061 (original contract)
\$0.00	
<hr/>	
\$103,304.51	Total Remaining Encumbrances

Balances

\$68,739.13	Pooled Fund Balance (obligated in PIN 15004 and not yet on contract)
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