

2014 PROPOSED REVISIONS TO MAG SPECIFICATIONS AND DETAILS

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RECOMMENDATION SUMMARY OF THE MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD SPECIFICATIONS AND DETAILS COMMITTEE

October 10, 2014

Detailed information about each case is provided on the 2014 Specs and Details Cases Under Consideration page on the MAG website.

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Most case files include a cover memo listing the purpose of each case and proposed changes. The final version of the working cases are posted, which often include the strike-through changes and other discussion points.

Further discussion on the cases is available in the committee meeting minutes which are posted separately for each meeting. Links can be found on the Standard Specifications & Details Committee page.

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Final summary materials for review of the 2015 Edition of the MAG Specifications and Details for Public Works Construction manual including detailed attendance and voting records are posted on the Specifications & Details Public Works Directors Review Deadline page.

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CASE	DESCRIPTION	PROPOSED BY	MEMBER	SUBMITTAL DATE Last Revision	VOTE DATE	VOTE	
	CARRY FORWARD CASES FROM 2013						
13-15	Case 13-15: Revisions to MAG Sections 101, 601, 603, 615, 618 for installing rigid and flexible pipe. Update Detail 200-1, 200-2 and 212. Update references in Sections 206, 355, 735, 739 and 740.	Chandler/ Water-Sewer WG	Warren White	05/01/2013 09/18/2014	Approved 10/01/2014	13 0 0	Yes No Abstain
Summary	<p>Case 13-15 is a major overhaul and rewrite of the pipe installation specifications. With the addition of new types of flexible pipe, it was determined that a clearer guide that allowed flexibility for different materials was needed. This case was initiated in the Water/Sewer working group, and has had input from industry representatives from the concrete and plastic pipe manufactures, contractors, and agency members. Several major changes were made. One was to incorporate Section 603 for HDPE pipe into Section 601 and make allowances for other types of flexible pipe. To do this, the trench width tables in Section 601 were revised and include dimensions both rigid and flexible pipe. The terminology for the different areas of the pipe zone was also updated to match ASTM standards. This will allow agencies to specify what materials to use for the bedding under the pipe, the haunching area up to the springline, the initial backfill up to 1 foot above the pipe, and the final backfill. The default material is ABC per Section 702; however, allowances were made for other granular fill materials, CLSM, and native fill, based on the zone, pipe type, and agency preference. The compaction requirement for Backfill Type I in Table 601-2 was raised to 95%. The revised Section 601 also restricted water consolidation to jetting, and provided additional restrictions.</p> <p>In addition to the re-written Section 601 that incorporated 603, several changes were made to related sections as listed below:</p> <ul style="list-style-type: none"> • 101 ABBREVIATIONS AND DEFINITIONS – new and revised abbreviations and definitions to match ASTM standards. • 206 STRUCTURE EXCAVATION AND BACKFILL – revisions to coordinate with Table 601-2. • 355 UTILITY POTHOLE-KEYHOLE METHOD – revision to Section 355.3.1 for native backfill and Section 601 changes. • 603 Current Case efforts on flexible spec – Combined into 601 and so 603 is to be deleted. • 615 SANITARY SEWER LINE CONSTRUCTION – Revised materials subsection and referred to Section 601 for trenching. Removed references to 603. • 618 STORM DRAIN CONSTRUCTION – Revised materials subsection and referred to Section 601 for trenching. Removed references to 603. • 735 REINFORCED CONCRETE PIPE – Adjustments made due to revisions in Section 618 and changes approved by Case 14-07. • 739.1 and 740.1 – Changed the 603 reference to 601. • Coordination with other cases making changes to these sections including Case 14-11 to consolidate testing requirements. <p>Finally, there were updates to Detail 200-1, 200-2 BACKFILL, PAVEMENT AND SURFACE REPLACEMENT and Detail 212 UTILITY POTHOLE REPAIR. Detail 200-1 was updated to reference the correct sections and use the updated terminology. There were also minor corrections to some of the hatching and notes. The trench cross-section detail in Detail 200-2 was updated to show the different areas in the pipe embedment zone, and the new terminology based on ASTM standards. The section view of Detail 212 was updated to conform to Section 601.</p> <p>A handout of Section 601 prior to the vote had a few minor corrections and clarifications that were accepted prior to approval.</p>						

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CASE	DESCRIPTION	PROPOSED BY	MEMBER	SUBMITTAL DATE Last Revision	VOTE DATE	VOTE	
13-21	Case 13-21: Create a new Section 742 Pre Cast Manhole. Add detail drawings for construction and installation. Update existing manhole details.	Buckeye/ Water-Sewer WG	Craig Sharp	06/05/2013 09/03/2014	Approved 09/03/2014	14 0 0	Yes No Abstain
Summary	<p>The purpose of the case was to create a new Section 742 Precast Manhole Bases with appropriate details. The Town of Buckeye developed specifications and details for the use of precast manholes as an option instead of cast-in place bases. These specifications and details were used as a basis to begin developing this option for use by MAG by the Water/Sewer working group. The case introduced draft installation standards in Section 742 as well as draft details for Precast Manhole Base construction, details and installation. As the case progressed it changed Section 742 to PRECAST MANHOLE to provide specifications for installing the entire precast manhole system including the base.</p> <p>In addition of providing a new Detail 420-2 PRECAST MANHOLE BASE, other manhole details were updated including 420-1, 420-3, 421 and 422. There were numerous updates to these details to match the current production and installation methods. They also removed manhole steps and bricks as part of Case 13-22. Detail 422 MANHOLE FRAME AND COVER ADJUSTMENT was revised to show both options of manholes installed in paved and unpaved areas. It also incorporated a Phoenix supplement to label the spacer types based on required thickness.</p>						
13-22	Case 13-22: Update Sections 625 and 775 to remove references to steps and the use of bricks in manholes. Delete Detail 428 Manhole Steps.	Buckeye/ Water-Sewer WG	Craig Sharp	06/05/2013 09/03/2014	Approved 09/03/2014	14 0 0	Yes No Abstain
Summary	<p>The purpose of the case was to delete references for the use of bricks and steps in sanitary sewer manholes, specifically in Sections 625 and 775. Brick construction of manholes is no longer in practice, so this method will be deleted from the MAG standards. Steps also are no longer required. Due to safety concerns, workers use a safety line rather than internal steps.</p> <p>It was determined to leave the language for bricks in the specification, but only to be referenced for repair of existing brick manholes. All reference to the use of bricks in construction of new manholes was deleted. Section 625 MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS was also revised to take into account changes made in related Case 13-21. The language in the regarding payments in Section 625 was also updated.</p> <p>Finally, Detail 428 MANHOLE STEPS was deleted and other details showing or referencing manhole steps were updated.</p>						

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NEW CASES FOR 2014							
14-01	<p>Case 14-01: Miscellaneous Corrections: A. Change “transverse” to “longitudinal” in Section 321.8.2. B. In section 739.1 delete the extra occurrence of the word ‘Pipe’. C. Delete “OR BRICK” from the title of Section 342. D. Change “forecast” to “for cast” in Section 750.3 Joint Requirements. E. Revise wording in Section 107.11 to match “careful and prudent manner” in Section 101.2. F. Change “off” to “of” in Section 211.3 G. Change “values” to “valves” in 336, 345, and 616. H. Remove steps from Details 429 and 522. Fix notes.</p>	Scottsdale MCDOT Phoenix Buckeye	Rod Ramos Bob Herz Jami Erickson Craig Sharp	01/08/2014 09/24/2014	Approved 10/01/2014	13 0 0	Yes No Abstain
Summary	This case was used as a repository for minor updates such as typographic errors or minor drafting corrections. The changes are listed in parts A-H above. All of the corrections were approved.						
14-02	Case 14-02: Revision to Section 405 Monuments. Update specification to match current details and requirements.	MCDOT	Bob Herz	01/08/2014 05/08/2014	Approved 06/04/2014	12 0 0	Yes No Abstain
Summary	This case made revisions to Section 405 MONUMENTS and Detail 120 to meet current legal requirements. The specification was updated to match current details. The usage note for Type C Monument was deleted. Type B Monument was modified to have the depth recessed six inches below finished grade when located in an unpaved roadway or alley.						
14-03	Case 14-03: Updates to Guardrail Details. Revisions to Section 415 and/or inclusion of MCDOT guardrail details.	MCDOT	Bob Herz	01/08/2014	Carry Forward	0 0 0	Yes No Abstain
Summary	<p>Maricopa County is planning to change to 31” high (instead of 28”) guardrails, based on a recommendation from FHWA. This Midwest Guardrail System has splice points located between posts. It is still a strong post system, but with the splice points locate between the posts the W-beam is less prone to tearing. The new 31” high guardrail system will be used for new installations. Existing 28” high guardrail will remain in place and be maintained; no retrofitting is needed or planned.</p> <p>Since MAG currently refers to the County details, MAG will need to either update the specifications to match the new County details, or add the existing County details into the MAG details; however, the County has not completed the specifications and details for this new system of guardrails, so the case will be carried forward to 2015.</p>						

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14-04	Case 14-04: Revision to Detail 552 Concrete Cut-off Walls. Move cut-off walls away from roadway edge and delete design related notes.	MCDOT	Bob Herz	01/08/2014 02/20/2014	Approved 05/07/2014	12 0 1	Yes No Abstain
Summary	<p>This case revises Detail 552 CONCRETE CUT-OFF WALLS. The purpose is to move cut-off walls away from the roadway edge. Scour holes are hazards that form at the edge of cut-off walls. The hazard should not be located at the edge of the roadway but should be no closer than the edge of the roadway shoulder. Other miscellaneous adjustments include the deletion of design related notes from the construction detail.</p> <p>After discussion, it was decided to re-title the detail as something more descriptive, such as FORD CROSSING WITH CUT-OFF WALLS. The detail also incorporated other minor revisions discussed during the meetings.</p>						
14-05	Case 14-05: Revisions to Section 324 Portland Cement Concrete Pavement.	Concrete WG	Jeff Hearne	02/05/2014 07/09/2014	Approved 08/06/2014	12 0 0	Yes No Abstain
Summary	<p>This case made revisions to Section 324 – Portland Cement Concrete Pavement. A summary of the changes is shown below:</p> <ol style="list-style-type: none"> 1) 324.2.2 Concrete Materials – This is a slight deviation from Section 725.3 Aggregates “The average value of 3 successive sand equivalent samples shall not be less than 70 when tested in accordance with ASTM D2419. No individual sample shall have a sand equivalent less than 65.” MCDOT suggests elimination of 324.2.2 and renumbering the following section is 324.2. 2) 324.3.1 General – Grammatical corrections to the first sentence in paragraph two. 3) 324.3.9.1 General – Elimination of the redundant word “all” between “of” and “soil” in the third paragraph. 4) 324.4.2 Pavement Thickness – Add a sentence to the beginning of the second paragraph “Pavement thickness testing shall begin after achieving pavement smoothness compliance.” MCDOT also wanted to change the measurement units in the last sentence in that paragraph – to match the current AASHTO T-148 requirements. It was determined to just eliminate them and let T-148 govern. 5) In reference to the last sentence in paragraph seven of 324.4.2 – MCDOT does not think that the issue of strength deficiency is clearly addressed and wants more clarity. The case proposed to eliminate that sentence which is out of place in the “Pavement Thickness” section and let the applicable requirements of Section 725 that is referenced in 324.2.1 govern over strength determinations and deficiencies – as is the case in all other 300 series sections that utilize concrete specified by section 725. 						
14-06	Case 14-06: Revisions to Section 718 Preservative Seal for Asphalt Concrete.	Asphalt WG	Jeff Benedict	02/05/2014	Carry Forward	0 0 0	Yes No Abstain
Summary	<p>This case is to update Section 718 PRESERVATIVE SEAL FOR ASPHALT CONCRETE to include the most common type of sealants currently in use, and to update the specifications and testing requirements for them as appropriate. This case currently is still under review at the Asphalt working group, and is awaiting additional feedback from industry experts. This case will be carried forward to 2015.</p>						

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14-07	Case 14-07: Revision to Section 735 Reinforced Concrete Pipe and Section 618 Storm Drain Construction. Add Elliptical and Arch Reinforced Concrete Pipe.	MCDOT	Bob Herz	04/02/2014	Approved 06/04/2014	12 0 0	Yes No Abstain
Summary	This case made revisions to Section 735 REINFORCED CONCRETE PIPE and Section 618 STORM DRAIN CONSTRUCTION to add Elliptical and Arch RCP. Section 735 specification was modified to include reinforced concrete arch pipe and reinforced concrete elliptical pipe for use with storm and irrigation water. Section 618 was also modified to coordinate with modified Section 735.						
14-08	Case 14-08: New Section 607: Trenchless Installation of Smooth Wall Jacking Pipe. Includes Revisions to Section 618: Storm Drain Construction.	Water/Sewer WG	Jim Badowich	04/02/2014 06/04/2014	Approved 06/04/2014	12 0 0	Yes No Abstain
Summary	A new Section 607 TRENCHLESS INSTALLATION OF SMOOTH WALL JACKING PIPE was created. This case began by removing Section 618.4 Jacking Pipe, from Section 618 and updating it as a new Section 607. The new section includes the latest industry standards for trenchless installation of thirty-inch inside diameter (30" ID) and larger, tongue and groove smooth wall jacking pipe, installed by horizontal earth pipe jacking or hand tunneling. This case began in the Water/Sewer working group and extensive review by industry experts was provided. It includes subsections on Materials, Trenchless Operation, Dewatering, and Measurements and Payments. The case also updates the trenchless installation reference in Section 618.						
14-09	Case 14-09: Revision to Section 726 Concrete Curing Materials. Replace discontinued AASHTO references with current ASTM standards.	MCDOT	Bob Herz	04/02/2014	Approved 06/04/2014	12 0 0	Yes No Abstain
Summary	The case revises Section 726 CONCRETE CURING MATERIALS to replace AASHTO references discontinued in 2010 with current ASTM standards. Other minor language clarifications were included. The final update is as shown below: 726.2 MATERIALS: (A) Waterproof paper, or polyethylene film, shall conform to ASTM C171 . (B) Liquid membrane-forming compounds shall conform to ASTM C309 . Type 1 compound with either a Class A or Class B vehicle shall be used for concrete structures, except bridge decks, approach slabs, and portland cement concrete pavement. Type 2 white pigmented compound, with either a Class A or Class B vehicle shall be used for portland cement concrete pavement, bridge decks and approach slabs.						
14-10	Case 14-10: Include Language to Allow Use of Warm Mix Asphalt. Update Sections 321 and 710.	Asphalt WG	Jeff Benedict	05/07/2014 06/30/2014	Approved 08/06/2014	12 0 0	Yes No Abstain
Summary	This case is to allow the use of "warm mix" asphalt in local agency or MAG projects. This requires some additional language to Sections 321 and 710 to allow for lower production temperatures and changes to require reporting of the use of this technology. The case includes language allowing ADOT to maintain the approved list of technologies. It also shows requirements delineating what are to be included in the mix design.						

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14-11	Case 14-11: Delete the use of Asbestos-Cement Pipe in Valve Box Installations. Revise Details 391-1, 391-2 and 392.	MCDOT	Bob Herz	06/04/2014 08/14/2014	Approved 09/03/2014	14 0 0	Yes No Abstain
Summary	<p>Delete the use of Asbestos-Cement Pipe (ACP) in new Valve Box Installations. Revisions include:</p> <ol style="list-style-type: none"> 1. Replaced ACP with PVC C900 pipe or approved equal. 2. Pictorial adjustments made to Details 391-1, 391-2, and 392. 3. Deleted the brick alternative for supporting the valve box riser pipe as requested by the committee. 4. Deleted requirement for a 12" riser pipe for lengths greater than 10' as requested by the committee. 5. Additional revisions to the details as noted below: <ul style="list-style-type: none"> • Detail 391-1: Added Note 4: Cut riser pipe to length in field. Caution: If existing riser is asbestos-cement pipe (ACP) follow OSHA guidelines for working with ACP. • Detail 391-2: Revised the first sentence of Note 2 to read: If two or more sections of pipe are used to make the valve box riser, they shall be coupled or bonded to form debris-tight joints. • Detail 392: Deleted from the end of note 1 the following: "Once installed the cap must withstand, without slippage, a minimum vertical force of 50 pounds at a loading rate of 1 inch/minute." 						
14-12	Case 14-12: Proposed Revisions to Sections 336.3 and 336.4. Add pavement removal criteria to prevent full depth pavement cuts from being located within a lane wheel path and to prevent creation of narrow pavement edge strips.	MCDOT	Bob Herz	06/04/2014	Carry Forward	0 0 0	Yes No Abstain
Summary	<p>The case proposed revisions to Sections 336.3 and 336.4 to add pavement removal criteria to prevent full depth pavement cuts from being located within a lane wheel path and to prevent creation of narrow pavement edge strips.</p> <p>There was quite a bit of discussion about creating language that identified the wheel path without requiring contractors to determine design issues in the roadway. There was also concern about increasing the amount and cost of pavement replacement. The case will be carried forward to 2015 for further discussion and clarification of language.</p>						
14-13	Case 14-13: Revisions to Section 321. Incorporate MCDOT enhancements to Section 321 PLACEMENT AND CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT into the MAG Specifications.	MCDOT	Bob Herz	06/04/2014 09/10/2014	Approved 10/01/2014	12 1 0	Yes No Abstain
Summary	<p>The purpose of the case was to incorporate MCDOT enhancements to Section 321 PLACEMENT AND CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT into the MAG Specifications. There was little disagreement with the proposed changes except in the acceptance portion, and a revision to the wheel path language proposed in Case 14-12. The case approved all the other MCDOT supplements to Section 321 that were outlined on the case cover memo.</p>						

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14-14	Case 14-14: Consolidate all testing requirements in a new Section 611.	Phoenix	Jami Erickson	06/04/2014 08/10/2014	Approved 09/03/2014	14 0 0	Yes No Abstain
Summary	<p>This case changes Section 611 DISINFECTING WATER MAINS into WATER, SEWER AND STORM DRAIN TESTING by consolidating all water/sewer-related testing requirements into one section.</p> <p>In addition to the requirements previously in Section 611, it adds testing sections for Hydrostatic Testing (from 610.15), Sewer Line Testing (from 615.11), and Post Installation Inspection of New Mainline Storm Drains (from 618.5).</p> <p>It also reorganized the Section and adds appropriate references to Section 611 in the sections where the testing specs were moved from. This new section will allow additional testing procedures to be updated in the future. Finally the language "evaluated and appropriate remedy, if any, shall be performed" was added to provide a remedy if the deflection or video tests fail.</p>						
14-15	Case 14-15: Move Hydrostatic Testing from Section 610 to Section 611; update Table 610-1 consistent with AWWA; place Section 610 into sequential order.	Water/Sewer WG	Jim Badowich	06/04/2014 08/26/2014	Approved 09/03/2014	14 0 0	Yes No Abstain
Summary	<p>The purpose of the case was to move Hydrostatic Testing from Section 610 to Section 611; to update Table 610-1 consistent with AWWA; and to place Section 610 into sequential order. Revisions include:</p> <ol style="list-style-type: none"> 1. Removed Hydrostatic Testing from Section 610 for incorporation into Section 611. 2. Updated Table 610.1 (Polywrap sizes) to be consistent with current (2005) AWWA C105-05 – includes updated sizing and addition of larger sizes per AWWA C105. 3. Combined “Restrains” section with “Blocking” section; renamed section “Blocking and Restraints” 4. Reorganized Section to improve sequential flow and renumbered subsections accordingly. 						
14-16	Case 14-16: Revision to Section 310 - Placement and Construction of Aggregate Base Course. Change rock correction method to be consistent with Section 301.	Materials WG	Brian Gallimore	07/09/2014	Approved 09/03/2014	14 0 0	Yes No Abstain
Summary	<p>Revised Section 310 Placement of Construction of Aggregate Base Course to Change rock method correction to be consistent with Section 301. Section 310.3 COMPACTION will reference ARIZ-227C instead of AASHTO T.</p>						
14-17	Case 14-17: Create New Section 322 Asphalt Stamping. Provide specifications for materials and methods.	Materials WG	Brian Gallimore	07/09/2014	Carry Forward	0 0 0	Yes No Abstain
Summary	<p>The case proposed creating a new SECTION 322 ASPHALT STAMPING. The specification was based on a supplement created by the Town of Gilbert. Revisions to the draft included discussions on including a warranty period, questions about requiring prequalification of contractors, concern about the age of pavement when stamping, and the potential for oil to streak onto the painted surface. This case was recommended to carry forward to 2015 to review in the working group and address these concerns.</p>						

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14-18	Case 14-18: Change all occurrences of the term “sidewalk ramp” in Section 340 to “curb ramp” to prevent confusion.	MCDOT	Bob Herz	07/09/2014 08/06/2014	Approved 09/03/2014	14 0 0	Yes No Abstain
Summary	This case changes the term “sidewalk ramp” in Section 340 to “curb ramp.” This is to conform to ADA nomenclature and be consistent with the various 235 Details. The case includes a search and replace of these terms throughout Section 340. Initially the case proposed to also modify the second paragraph of Section 340.5 to prevent confusion regarding the curb and gutter pay item associated with valley gutters (Detail 240). The committee could not come to a consensus on how the curb and gutter was measured and decided to not include this modification in the approved case.						
14-19	Case 14-19: Revisions to Section 325 and 717. Add provisions for terminal-blended asphalt-rubber binder.	Materials WG	Brian Gallimore	07/09/2014 09/18/2014	Approved 10/01/2014	13 0 0	Yes No Abstain
Summary	<p>The purpose of the case was to incorporate revisions to Section 325, “PLACEMENT AND CONSTRUCTION OF ASPHALT-RUBBER ASPHALT CONCRETE” and Section 717, “ASPHALT-RUBBER ASPHALT CONCRETE” to include the following revisions:</p> <ul style="list-style-type: none"> • 325.2.1: Added provisions for terminal-blended asphalt-rubber binder (ARB). Added and revised wording to improve clarity. The word “terminal” was replace with “facility” to differentiate wet process ARB from “Terminal Blend” modified binder. • 325.2.2 and 325.5: Added and revised wording to improve clarity. • 325.7.2: Minor wording revisions. Specified end dumps as the default truck type. Added language that will allow the Engineer to approve Belly dumps in certain circumstances. • 325.7.3: Correction of referenced Section number. • 325.8: Removed redundant wording and revised wording for clarity. • 325.9.1: Incorporated MCDOT’s language for Acceptance Criteria section introduction. • 325.9.2: Added wording to address additional means of performing acceptance testing (allow grade samples to be used for acceptance testing) to provide flexibility to agencies. The section was divided into 2 subsections; one for plant obtained samples, one for grade obtained samples. Removed Air Void criteria from this section because it is independent of where the sample was obtained. Gradation table moved to this section. • 325.9.2.1: This section addresses sampling from the plant and testing of ARAC via nuclear method. • 325.9.2.2: This section is new and addresses sampling from the grade and testing of ARAC via ignition method and adding language for ignition calibration protocol. The allowable ARB range is the same as plant based samples, however an ARB penalty table was included to address ARB deficiencies since the plant can’t be adjusted during production (unlike plant-based sampling). The penalties were modeled after table 321-4. • 325.9.3: Added and revised wording to improve clarity. Updated table number reference. • 325.9.4: Added language for referee testing the requirements associated. • 325.9.5.2.1: Added and revised wording to improve clarity. Added sentence that provides the Engineer with the option to core. • 325.9.5.2.2: Removed requirement that the nuclear gauge used be a thin lift style. Added sentence that giving Engineer with the option to core. • 717.2.1: Added and revised wording to improve clarity. The word “terminal” was replace with “facility” to differentiate wet process ARB from “Terminal Blend” modified binder (PG 76-22 TR+). • 717.2.1.2: The term “asphalt-rubber binder” was replaced with “ARB”. There are several similar occurrences in the document. • 717.2.1.4 and 717.3.2: Added and revised wording to improve clarity. 						