

February 27, 2013

TO: Members of the MAG Standard Specifications and Details Committee

FROM: Tom Wilhite, City of Tempe, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Wednesday, March 6, 2013 at 1:30 p.m.
MAG Office, Suite 200 (Second Floor), Ironwood Room
302 North 1st Avenue, Phoenix

A meeting of the MAG Specifications and Details Committee has been scheduled for the time and place noted above. Members of the MAG Specifications and Details Committee may attend the meeting either in person, by videoconference or by telephone conference call. If you have any questions regarding the meeting, please contact Committee Chair Tom Wilhite at 480-350-2921 or Gordon Tyus, MAG staff at 602-254-6300.

In 1996, the Regional Council approved a simple majority quorum for all MAG advisory committees. If the MAG Specifications and Details Committee does not meet the quorum requirement, no action can be taken. Attendance at the meeting is strongly encouraged.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Gordon Tyus at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

It is requested (not required) that written comments on active cases be prepared in advance for distribution at the meeting.

MAG Standard Specifications and Details Committee
TENTATIVE AGENDA
March 6, 2013

COMMITTEE ACTION REQUESTED

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| 1. <u>Call to Order and Introductions</u> | |
| 2. <u>Call to the Audience</u> An opportunity is provided to the public to address the MAG Specifications and Details Committee on items that are not on the agenda that are within the jurisdiction of MAG, or non-action agenda items that are on the agenda for discussion or information only. Citizens will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the committee requests an exception to this limit. Please note that those wishing to comment on agenda items posted for action will be provided the opportunity at the time the item is heard. | 2. Information. |
| 3. <u>Approval of February 6, 2013, Meeting Minutes</u> | 3. Review and approve minutes of the February 6, 2013 meeting. |
| 4. <u>Wildlife Mitigation Measures</u> | 4. Scott Sprague, Arizona Game and Fish Dept. |

Cases Carried Forward from 2012

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| 5. <u>Case 12-12:</u> New Section 789: Steel Reinforced Polyethylene Pipe (SRPE) | 5. Information and discussion. Sponsor: Rod Ramos, Scottsdale <i>(See January packet for last revision.)</i> |
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New Cases for 2013

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| 6. <u>Case 13-01 Miscellaneous Corrections:</u> A. Revise title of Section 324 B. Section 505.6.3.3 (4) Typing error correction C. Section 735.4 (D) Delete reference to AASHTO M-315 D. Correction to Detail 501-5 E. Correct typo in Section 311 Title F. Remove reference to Section 702.4 in Subsection 795.8.4 Decomposed Granite | 6. Information and discussion. Sponsors: Bob Herz, Maricopa County Peter Kandar, DGA <i>(Corrections E and F included. See February packet for previous revisions.)</i> |
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| 7. <u>Case 13-02:</u> Revision to Section 337 CRACK SEALING to obtain compatibility with Maricopa County Requirements. | 7. Information and discussion. Sponsor: Bob Herz, Maricopa County <i>(See February packet for last revision)</i> |
| 8. <u>Case 13-03:</u> Revision to Section 321.8.6 Asphalt Concrete Overlay to obtain uniformity with Maricopa County requirements. | 8. Information and discussion. Sponsor: Bob Herz, Maricopa County <i>(See February packet for last revision)</i> |
| 9. <u>Case 13-04:</u> Revision to Detail 120 SURVEY MARKER. | 9. Information and discussion. Sponsor: Bob Herz, Maricopa County <i>(Updated Detail 120 included. See February packet for full case submittal)</i> |
| 10. <u>Case 13-05:</u> New Section 740 Polypropylene Pipe and Fittings for Gravity Storm Drain and Sanitary Sewer. | 10. Information and discussion. Sponsor: Warren White, Chandler <i>(Full case included in packet.)</i> |
| 11. <u>New and Potential Cases for 2013:</u> | 11. Information and discussion. |

General Discussion

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| 12. <u>Working Group Reports</u> | 12. Information and discussion. Water/Sewer Chair: Jim Badowich, Avondale Asphalt Chair: Jeff Benedict Materials Chair: Brian Gallimore Concrete Chair: Jeff Hearne Outside ROW: Peter Kandarlis |
| 13. <u>General Discussion</u> | 13. Information and discussion. |
| 14. <u>Request for Future Agenda Items</u> | 14. Information and discussion. |

Adjournment

MEETING MINUTES FROM THE
MARICOPA ASSOCIATION OF GOVERNMENTS
STANDARD SPECIFICATIONS AND DETAILS COMMITTEE

February 6, 2013

Maricopa Association of Governments Office, Ironwood Room
302 North First Avenue
Phoenix, Arizona

AGENCY MEMBERS

| | |
|------------------------------|------------------------------------|
| Jim Badowich, Avondale | * Javier Setovich, Peoria |
| Craig Sharp, Buckeye (proxy) | Syd Anderson, Phoenix (St. Trans.) |
| Warren White, Chandler | Jami Erickson, Phoenix (Water) |
| Antonio Hernandez | Rodney Ramos, Scottsdale |
| Tom Condit, Gilbert | Jason Mahkovtz, Surprise |
| * Mark Ivanich, Glendale | Tom Wilhite, Tempe, Chair |
| Troy Tobiasson, Goodyear | Harvey Estrada, Valley Metro |
| Bob Herz, MCDOT | * Jim Fox, Youngtown |
| Bob Draper, Mesa | |

ADVISORY MEMBERS

| | |
|----------------------|--------------------------------------|
| Jeff Benedict, ARPA | Jeff Hearne, ARPA |
| Tony Braun, NUCA | Peter Kandarlis, Independent (Audio) |
| Slade Ottney, NUCA | Paul R. Nebeker, Independent |
| Brian Gallimore, AGC | Jacob Rodriguez, SRP |
| Adrian Green, AGC | |

MAG ADMINISTRATIVE STAFF

Gordon Tyus

* Members not attending or represented by proxy.

GUESTS/VISITORS

Arturo Chavarria, Hanson Pipe
John Kanzleamar, Contech
Kelly Kokesh, ADS
Amanda McGennis, Arizona Association of General Contractors (AZAGC)

1. Call to Order

Chairman Thomas Wilhite called the meeting to order at 1:32 p.m. He announced that a short webinar presented on the ASTM web portal was planned for 2:00 p.m. He said he would begin hearing cases, but would switch back to agenda item 4 at the appropriate time.

2. Call to the Audience

Chairman Wilhite opened the call to the audience. Amanda McGennis of AZAGC introduced herself and announced a forum on National Pavement Trends on February 14 at 12:00 p.m. She invited committee members to attend and provided a handout with more information.

3. Approval of Minutes

The members reviewed the January 2, 2013 meeting minutes. Bob Herz had minor corrections. He said for Case 13-01C the abbreviation (PCCP) should be added. For the description of Case 13-02 Crack Sealing, the text would be changed as shown, “update Section 337 to include requirements in the Maricopa County supplements” Mr. Herz introduced a motion to accept the minutes with the corrections he described. Bob Draper seconded the motion. A voice vote of all ayes and no nays was recorded.

4. ASTM Web Portal Update Presentation

Jill Walters of ASTM International provided a remote web-based demonstration of the new ASTM web portal. Some of the main features of the updated site included vastly improved search capabilities that could narrow searches by keyword and category. She also showed how to see the change history, add annotations, and bookmark specifications. Another feature was the ability to setup workgroups and share specifications based on projects via e-mail. Finally, she described the overall process of moving to the new platform by the end of this quarter, but without any disruption in service. Ms. Walters received questions from the committee members including email functions. She would work with Mr. Tyus to facilitate the transition and plan future training opportunities both as live webcasts and recorded tutorials.

Review of 2012 Carry Forward Cases

5. Case 12-12: Steel Reinforced Polyethylene Pipe

Add new Section 739 for Steel Reinforced Polyethylene (SRPE) Pipe. Sponsor Rod Ramos said he believed the water/sewer working group discussed this case. Jim Badowich summarized how the case had initiated a larger look at the installation specifications for both flexible and rigid pipe, as well as determining such things as trench widths, and terminology. John Kanzlemar of Contech was in attendance and would provide further revisions to the case.

New 2012 Cases

6. Case 13-01 A-C: Miscellaneous Corrections

Bob Herz reviewed the correction cases previously submitted.

A) Revise title of Section 324 by removing the word “Street” and adding the abbreviation (PCCP).

Jamie Erickson noted that they should keep the abbreviation so that is not confused with a type of pipe material.

B) Correct a typographic error in Section 505.6.3.3 (4)

Mr. Herz noted that this error was corrected in the 2013 revision, so this correction was no longer necessary.

C) Delete obsolete reference of AASHTO M315 in Section 735.4 (D)

D) Correct depicted distance B and E shown on the plan view of Detail 501-5

Bob Herz introduced a new correction case. He noticed that the dimension lines for B and E should stop at the inside of the basin wall, not the outside as currently shown.

E) Correct typo in Section 311 Heading to read “Construction”

Peter Kandaris caught a typographic error where the letter ‘i’ was missing in the word ‘Construction’ and introduced this case to make the correction.

7. Case 13-02: Revision to Section 337 CRACK SEALING

Obtain compatibility with Maricopa County requirements. Bob Herz said the case was discussed at the last asphalt working group meeting. One of the issues brought up was the change in the range for crack sizes from 1/4” – 1” to 1/8” to 1-1/2”. Another issue was the revised Brookfield Viscosity that the county uses, and a third was the issue of measurements and payments. Currently payment is by the ton, but the county goes by the square yard. Mr. Herz asked for feedback from the committee on these issues.

Rod Ramos asked why change from payment by the ton to square footage? Mr. Herz said they wanted to try and avoid waste, and to make sure the sealant went into the cracks and the contractor did not leave thicker amounts of material on the road surface. Mr. Herz suggesting having both options as is allowed for asphalt paving. Payment by linear foot was also mentioned as an option. Jim Badowich said Avondale has tried all three methods and have gone back to payment by weight, but noted that inspection was important to reduce waste. The payment method can be specified in the contract documents.

The width allowed for crack sealing was also discussed. Several members preferred to leave the dimensions as the currently are in MAG. Mr. Hernandez and Mr. Tobiasson felt that 1-1/2” was too large for crack sealant, and should be repaired using other methods such as chip seal or special grout. Mr. Ramos said Scottsdale has experimented with several methods. Many members felt a separate specification for larger cracks was needed. Jim Badowich questioned whether it was necessary to fill cracks as small as 1/8 inch. Adrian Green said that during the working group meeting the county expressed the issue of contractors stopping crack sealing

operations when the crack width varied, rather than just continuing along the crack and doing a better job of sealing it.

Finally the issue of changing the viscosity was addressed. The county suggested changes, lowering the temperature of the Brookfield viscosity test to match the temperature which it is applied. At the working group meeting, a manufacturer said this would cause them to change their testing methods just for this region. Bob Herz said due to this, the county currently pays a premium.

Troy Tobiasson asked when other jurisdictions make repairs. Goodyear typically does them in winter due to the contraction of asphalt. Jim Badowich says they have to do them year-round.

In summary Bob Herz said these were the three major issues that he needed feedback on, and asked members to review them with their technical people. The asphalt working group was also going to continue to work on the case and provide feedback.

8. Case 13-03: Revision to Section 321.8.6 ASPHALT CONCRETE OVERLAY

Obtain compatibility with Maricopa County requirements. Bob Herz said the case reorganizes the section and incorporates the county supplements. Tom Wilhite asked about pavement repair as a separate pay item. Mr. Herz said this was done so the repair is done and paid for separately before the overlay is done. Mr. Wilhite suggested duplicating the language in the Measurements and Payments subsection. Brian Gallimore noted the language about not driving on the tack coat should be modified to make exceptions for the dust control language added in the last update. Mr. Herz asked for members to send him further comments.

9. Case 13-04: Revision to Detail 120 SURVEY MARKER

Revise detail to prevent installation of survey markers that do not comply with requirements of ARS 33-103. Bob Herz presented a new case to update Detail 120: Survey Marker to comply with state law requiring the markers to be located magnetically. To do this, he proposed replacing the Type A monument with MCDOT's Type E, and the Type B monument with Type D. The packet included letters from the MCDOT Survey Chief, a response from the Arizona Professional Land Surveyors Association, a copy of the state law, ARS 33-103, and the Arizona Boundary Survey Minimum Standards. Mr. Herz also handed out a new Detail 120 that replaces MAG details 120-1 and 120-2 and includes the new markers A and B. Mr. Herz explained that right now MAG's details require adding a washer to make it detectable, but often this washer is missing.

Jim Badowich notices that the chamfer on the Type B detail would make it difficult to fill in the asphalt around the top chamfer. Bob Herz agreed and said he could remove the chamfer. Besides Maricopa County, surveyors from Mesa and Tempe support the change.

Mr. Herz said he left the Type C marker on the detail but questioned the need for it. Bob Draper said Mesa uses them in subdivisions on rare occasions and suggested leaving it in.

10. Case 13-05: New Section 740 Polypropylene Pipe and Fittings for Gravity Storm Drain and Sanitary Sewer

Propose new material section for Polypropylene Pipe materials and modify installation sections as necessary. Warren White presented a new case for a polypropylene pipe material that they have used in Chandler. This case is similar to Case 12-12 for the steel-reinforced plastic pipe in that it is introducing a new material specification based on Section 338 (HDPE). Mr. White handed out information on the sections (including 618 and 615) that were changed in Chandler's supplement to allow use of this material. Copies showing both a red-lined version of Section 338 and a new Section 340 were handed out. He explained that this information would also continue to be reviewed by the water/sewer working group as the group develops revised specifications for pipe installation methods. Kelly Kokesh of ADS introduced some of the properties and uses for this type of pipe, including the fact is stiffer than HDPE and had longer bells to allow a double gasket seal. She said it also meets ASTM and AASHTO standards that are part of the proposed specification.

Mr. White said Chandler has used this for a storm drain, but not yet for sanitary sewer. Mr. Herz asked about connections to manholes. Ms. Kokesh said they had several options and would share this information. She also said the material is typically for larger 12" to 60" lines, and was used onsite by Intel.

11. Potential Cases for 2013

Chairman Wilhite asked the members to report on potential cases for 2013. Troy Tobiasson said he was reviewing specifications regarding water testing procedures including water loss formulas. Harvey Estrada of Valley Metro brought up the issue of steel casing. He said METRO has a supplement to use HDPE under light rail lines to avoid stray current problems with steel casing. Jamie Erickson said Phoenix used the HDPE casing on the NW light rail extension project. Bob Herz said the typically only use it under railroads, and the railroad companies determine what to use.

Tom Wilhite handed information he compiled relating to research on the liquidated damages table. He said MAG's liquidated damages table hasn't been updated in the last 21 years. The tables he provided compared MAG's liquidated damages to ADOT and the California DOT. Mr. Wilhite also provided copies on requirements from the Federal Transit Authority (FTA). He asked members to review and send him feedback.

12. Working Group Reports

Chairman Wilhite asked for reports from the working groups. He also suggested the working groups provide him a paragraph on the topics of the working group meetings, so he could formulate an email notice that could be forwarded to interested parties in the MAG agencies.

a. **Water/Sewer Issues Working Group**

Jim Badowich said the group met January 22nd at 1:30 at the MAG office. (Notes included in packet.) He said the meeting was more of an overview on what he wanted to accomplish during the year, and to encourage participation. He was happy to report that he had support from Warren White, Troy Tobiasson and Craig Sharp on projects, as well as industry representatives from the concrete and flexible pipe manufacturers who are helping revise the specifications for sections 601 and 603. In addition to revising these specifications for pipe installation and materials, Mr. Badowich has a goal of updating the manhole details and adding the precast bases. Mr. Herz asked about outreach to ACED – it was a typographical error meant to be ACEC. Ms. Erickson said there was discussion about ACEC involvement during the meeting, but it was difficult to get them involved. Mr. Draper said he was meeting with an official from ACEC and would talk to him about contributing to working groups.

Mr. Badowich said the top three issues to be worked on at the next meeting were the manholes, the new pipe material cases, and revisions to the pipe installation and trenching sections. The next meeting is tentatively scheduled for February 19th at 1:30 p.m. at the MAG office.

b. **Asphalt and Materials Working Groups**

Brian Gallimore filled in for Jeff Benedict who had to leave early. He said much of what the asphalt working group discussed was previously covered during the discussions on the cases for the crack seal and the asphalt concrete overlay. He said the group was also working on the penalty table and getting feedback on a warm mix job. Bob Herz said they would wait for ADOT to come up with specifications first and build on them. The next meeting is scheduled for February 21st at noon at the ARPA offices.

For the materials working group, Mr. Gallimore said they were reviewing the detail for raising and lowering manholes for overlay. He also noted that a material specification for crushed granite referenced in the landscaping section would need to be added back in. He said Bob Herz had already done work on this, and it would be introducing a case. The next materials working group meeting will follow the asphalt meeting on the 21st.

c. **Concrete Working Groups**

Jeff Hearne said the meeting was held after the asphalt/materials working group and was a convenient time for agency members to stay and participate. He said notes and a list of attendees were in the packet. Mr. Wilhite said he saw a presentation on pervious concrete and asked if the working group was looking at this material as it relates to low-impact development. Mr. Hearne said the group has discussed it in the past, but it is lower on the current list of priorities and may be more appropriate for outside right-of-way use. Rod Ramos said when the pervious pavement is plugged up, then what do you do? Mr. Hearne said regular maintenance was important.

The three top issues the group is currently working on are:

- 1) Revising Section 340 (Curb, Gutter, Sidewalk, ramps, Driveway and Alley Entrances) that Peter Kandarlis has been updating

- 2) Reviewing Section 324 (Portland Cement Concrete Pavement) and
- 3) Directional sidewalk ramp details. Mr. Hearne said Peoria originally submitted drawings of ramps they have developed, but he was waiting for them to create CAD drawings more similar to the MAG details. Mr. White said Chandler is also working on directional ramps.

The next meeting is scheduled for February 21st at ARPA beginning around 1:30 p.m.

d. **Outside Right-of-Way Working Group**

Since Peter Kandaris left the audio conference Gordon Tyus summarized the January 29th meeting. He said that Mr. Kandaris updated the list of MAG specifications and details based on progress made during the past two years. He said Mr. Kandaris also updated a draft paper (included in the packet) that outlines the Outside Right-of-Way sections to be updated. He hoped to get feedback from the committee on the format of the document, and reenlist the participation from members and industry representatives to focus on the outside ROW issues rather than updating the MAG book.

Mr. Wilhite agreed to send out an email with information on the upcoming meetings like he did previously, since several members commented that they appreciated the information and could share it with others in their organization.

13. General Discussion

Bob Herz announced seminars provided by LTAP on the design and construction of ADA facilities. He said the first workshop was full, and he saw only one opening for the next workshop on February 23rd, however, if they saw more interest he thought they may add another seminar date.

14. Future Agenda Items

Chairman Wilhite said the presentation on wildlife crossing was rescheduled for March. Mr. Tyus said in his communications with the presenters for Arizona Fish and Game Department that they were tailoring a presentation that focused more on structures and issues pertinent to the committee members.

15. Adjournment:

The chair adjourned the meeting at 3:46 p.m.

2013 PROPOSED REVISIONS TO MAG SPECIFICATIONS AND DETAILS

(Updated information can be found on the website: <http://www.azmag.gov/Committees/Committee.asp?CMSID=1055>)

| CASE | DESCRIPTION | PROPOSED BY | MEMBER | SUBMITTAL DATE Last Revision | VOTE DATE | VOTE | |
|-------|--|-------------|----------------------------|---------------------------------|-----------|-------------|----------------------|
| | CARRY FORWARD CASES FROM 2012 | | | | | | |
| 12-12 | Case 12-12: New Section 789 – Steel Reinforced Polyethylene Pipe (SRPE) | Scottsdale | Rod Ramos | 07/11/2012 08/09/2012 | | 0 0 0 | Yes No Abstain |
| | NEW CASES FOR 2013 | | | | | | |
| 13-01 | Case 13-01: Miscellaneous Corrections A. Revise title of Section 324 B. Section 505.6.3.3 (4) Typing error correction C. Section 735.4 (D) Delete obsolete reference to AASHTO M-315 D. Correction to Detail 501-5 E. Correct typo in Section 311 Title | MCDOT | Bob Herz Peter Kandariz | 01/02/2012 03/06/2012 | | 0 0 0 | Yes No Abstain |
| 13-02 | Case 13-02: Revision to Section 337 CRACK SEALING to obtain compatibility with Maricopa County requirements. | MCDOT | Bob Herz | 01/02/2012 | | 0 0 0 | Yes No Abstain |
| 13-03 | Case 13-03: Revision to Section 321.8.6 Asphalt Concrete Overlay to obtain uniformity with Maricopa County requirements. | MCDOT | Bob Herz | 02/06/2012 | | 0 0 0 | Yes No Abstain |
| 13-04 | Case 13-04: Revision to Detail 120 SURVEY MARKER. | MCDOT | Bob Herz | 02/06/2012 03/06/2012 | | 0 0 0 | Yes No Abstain |
| 13-05 | Case 13-05: New Section 740 Polypropylene Pipe and Fittings for Gravity Storm Drain and Sanitary Sewer. | Chandler | Warren White | 02/06/2012 | | 0 0 0 | Yes No Abstain |
| 13-06 | | | | | | | |

SECTION 311

PLACEMENT AND CONSTRUCTION OF CEMENT TREATED SUBGRADE

311.1 DESCRIPTION:

This item shall consist of a cement treated subgrade composed of a mixture of local soil, Portland cement, and water compacted at optimum moisture content.

311.2 MATERIALS:

Portland cement and water shall comply with Sections 725. The soil for the mixture shall consist of the material in the area to be paved. The material shall not contain more than 5 percent gravel or stone retained on a 3 inches sieve. It shall be demonstrated by laboratory tests that the plasticity and strength characteristics as defined in Section 311.4.5 of the soil will be adequately modified by the specified cement content.

311.3 EQUIPMENT:

An ample number of machines, combination of machines and equipment shall be provided and used to produce the complete soil cement treated layer meeting the requirements for soil pulverization, cement distribution, water application, incorporation of materials, compaction, finishing, and for application of the curing material as provided in these specifications.

Mixing shall be accomplished by means of multiple-pass soil-cement mixer, single-pass soil-cement mixer or central plant mixer.

Water may be applied through the mixer or with the water trucks equipped with pressure sprays. Water trucks providing fine fog-type sprays shall be furnished for finishing and curing. Properly adjusted garden type nozzles on a pressure bar may be used to produce fog spray if approved by the Engineer.

Cement spreader shall be a specially constructed device to distribute bulk cement at the specified rate. The spreader shall have the ability to maintain a consistent spread rate over variable travel speeds.

311.4 CONSTRUCTION METHODS:

Prior to construction, the contractor shall remove all deleterious material, organic material, and particles retained on the 3 inch sieve from the area to be treated. The soil shall be brought to a compacted condition, true to line and grade as directed by the Engineer or as shown on the plans. The compacted soil and surface shall be approved by the Engineer prior to proceeding with mixing.

The material shall be scarified, pulverized, mixed with water and cement, compacted, finished and cured in lengths permitting the full roadway width to be complete in not more than 4 hours from the time that cement is exposed to water. Such lengths will generally be not less than 600 feet or the length of one City block and preferably more. Where a gutter section exists the material shall be pulled back from the gutter face for the full depth of the course before processing.

311.4.1 Pulverizing: Prior to application of cement, soil to be processed shall be scarified to depth of base. The material shall be damp at time of scarifying to reduce the dust generation and to aid in pulverization. Soil shall be pulverized until not less than 80 percent, exclusive of gravel or stone, will pass a No. 4 sieve.

311.4.2 Application of Cement: The quantity of cement shall be by weight as a percentage of the dry weight of the soil as determined by the laboratory and/or as directed by the Engineer and shall be applied uniformly on the soil in a manner satisfactory to the Engineer. The allowable deviation in uniformity shall not exceed 10 percent. The entire operation of spreading and mixing shall be conducted in such a manner as will result in a uniform soil cement and water mixture for the full design width and depth.

The percentage of moisture in the soil, at the time of cement application, shall not exceed the quantity that will permit a uniform and intimate mixture of the soil and cement during mixing operations, and it shall not exceed the specified optimum moisture content for the soil cement mixture.



MARICOPA COUNTY
Department of Transportation

MEMORANDUM

Date: February 20, 2013

To: MAG Specifications and Details Committee

From: Robert Herz, MCDOT Representative

Subject: Correction to Section 795.8.4

Case 13-01 F

PURPOSE: Delete non-existent reference located within Section 795 LANDSCAPE MATERIAL. The testing that was required in the 2012 specification section 702.4 is not needed when decomposed granite is used for general landscaping purposes.

REVISION:

795.8.4 Decomposed Granite: ~~Decomposed granite shall be as per Subsection 702.4 with the following exceptions.~~ All material used for a specific project or location shall be from a single source and shall present a uniform appearance. The gradation shall be as shown below. If a specific color or type is required, it will be so indicated in the Contracting Agency's specifications.

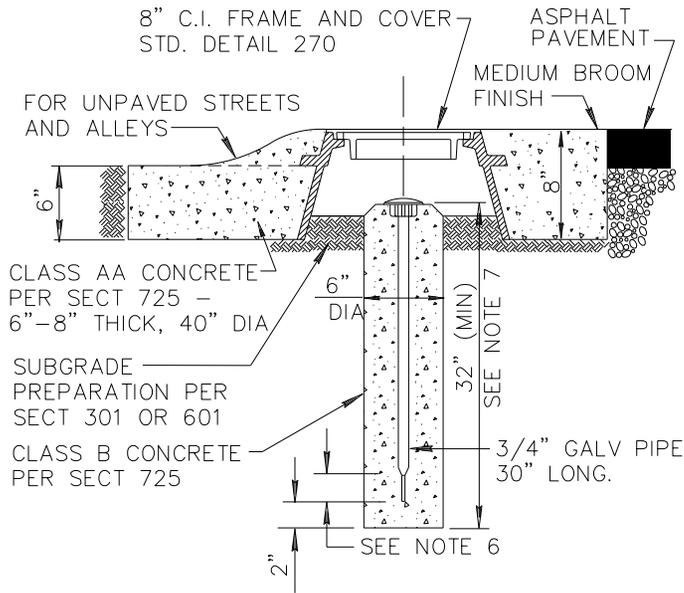
| Sieve Size | Percent Passing |
|-------------------|------------------------|
| 3/4 inch | 100% |
| 1/2 inch | 60-70 |
| No. 40 | 5-20 |

NOTES:

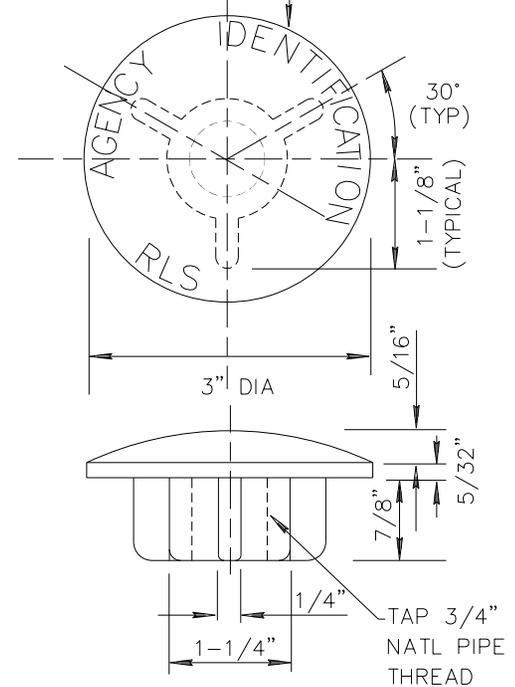
1. TYPE 'A' TO BE USED AT INTERSECTIONS OF MAJOR STREETS & COLLECTOR STREETS, SECTION CORNERS, SECTION 1/4 CORNERS, CENTER OF SECTIONS, AND AT OTHER POINTS AS SHOWN ON PLANS.
2. TYPE 'B' TO BE USED (EXCEPT WHERE TYPE 'A' IS SPECIFIED) AT INTERSECTION OF STREET CENTERLINES, PC'S AND PT'S OF CURVES, AND PI'S OF CURVES WHEN LOCATED IN PAVEMENT, SECTION 1/16 CORNERS, AND SUBDIVISION CORNERS AND CHANGE IN ALIGNMENT OF SUBDIVISION BOUNDARIES.
3. TYPE 'C' TO BE USED AT CORNERS OF AND CHANGE IN ALIGNMENT OF SUBDIVISION BOUNDARIES WHERE CORNERS OR CHANGES IN ALIGNMENT FALL OUTSIDE OF PAVED AREAS OR UNPAVED ALLEYS AND STREETS.
4. CAP TO BE CONSTRUCTED OF RED BRASS OR BRONZE.
5. LETTERS TO BE APPROX. 1/32" WIDE & 1/32" DEEP.
6. FLATTENING THE BOTTOM 2" OF THE GALVANIZED PIPE IS OPTIONAL.
7. TOP OF CONCRETE POST IS CHAMFERED 3/4" EXCEPT WHEN SET FLUSH WITH PAVEMENT.
8. THE CAP SHALL SHOW THE POINT SURVEYED BY A PUNCH MARK OR SCRIBED CROSS AND THE CAP SHALL BE STAMPED WITH THE YEAR AND THE REGISTERED LAND SURVEYOR'S (RLS) REGISTRATION NUMBER.
9. WHEN APPLICABLE, THE CAP SHALL BE STAMPED WITH THE APPROPRIATE PUBLIC LAND MARKING PER CURRENT MANUAL OF INSTRUCTIONS FOR THE SURVEY OF PUBLIC LANDS OF THE UNITED STATES, PREPARED BY THE BUREAU OF LAND MANAGEMENT.
10. SUBMIT TO THE ENGINEER A COPY OF THE RECORDED CORNER RECORD OR RESULTS OF SURVEY TO DOCUMENT COMPLIANCE WITH THE ARIZONA BOARD OF TECHNICAL REGISTRATION REQUIREMENTS.

1/16" BORDER FROM EDGE OF CAP TO TOP OF 1/4" LETTERING.

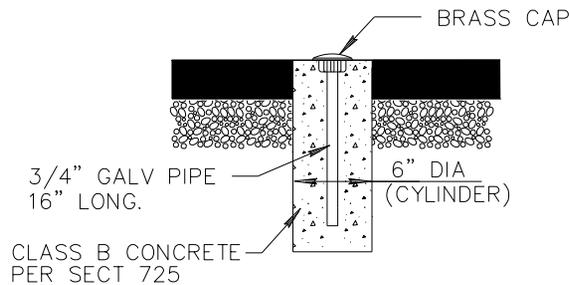
**CASE 13-04
(02-22-2013)**



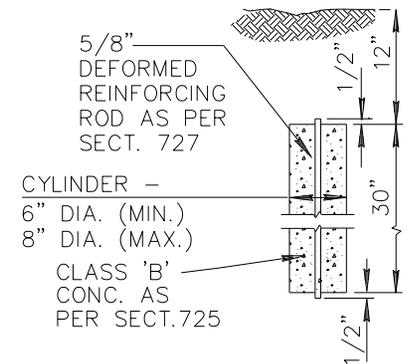
TYPE 'A'
(WITH FRAME)



CAP DETAIL



TYPE 'B'
(WITHOUT FRAME)



TYPE 'C'

DETAIL NO.

120



STANDARD DETAIL
ENGLISH

SURVEY MARKER

REVISED

01-01-2014

DETAIL NO.

120



Chandler • Arizona
Where Values Make The Difference

MEMORANDUM

Case # **13-05**

DATE: February 6th, 2013

TO: MAG Specifications and Details Committee Members

FROM: Warren White, City of Chandler Representative

SUBJECT: Proposed MAG Section 740, Polypropylene Pipe and Fittings for Gravity Storm Drain and Sanitary Sewer

The City of Chandler began accepting polypropylene pipe for storm drain applications in 2010. Our acceptance was based a number of key factors including stiffness, maintenance, and installation. We adopted new supplements to MAG which included modifications to the following Sections:

Section 618 Storm Drain Construction, Section 739 HDPE Pipe & Fittings for Storm Drain and Sanitary Sewer and Section 615 Sewer Line Construction. See attached.

The preference is to incorporate changes into MAG standards allowing us to remove these supplements in favor of MAG. This Case includes the proposed MAG Section 740 (a modified Section 738) as a starting point. Other cases (or additions to this Case) may spinoff based on the guidance of the working group.

SECTION 618

STORM DRAIN CONSTRUCTION

618.1 DESCRIPTION: is changed to read:

This section covers concrete, polypropylene and high density polyethylene (HDPE) pipeline construction used for the conveyance of irrigation water and storm drainage in streets, easements, and alley rights-of-way, under low hydrostatic heads.

618.2 MATERIALS: is changed to read:

Polypropylene pipe and fittings shall be in accordance with COC Supplement Section 739 - Polypropylene pipe & Fittings for Storm Drain and Sanitary Sewer.

Pipe bedding for polypropylene pipe shall be ABC in accordance with Section 701.

618.3 CONSTRUCTION METHODS: is changed to add:

Water stops will be required when connecting HDPE and polypropylene pipe to concrete structures, manholes, etc.

Lateral service taps for polypropylene pipe shall be made utilizing standard manufacturer fittings.

Backfilling and compaction shall be in accordance with Section 601 and ASTM D2321 for polypropylene pipe.

SECTION 739

POLYPROPYLENE PIPE & FITTINGS FOR STORM DRAIN AND SANITARY SEWER

739.1 GENERAL:

This specification presents the requirements for polypropylene pipe utilized for gravity flow, low pressure storm drain and sanitary sewer systems.

739.2 MATERIALS:

Pipe and fittings shall be double wall, smooth interior, with annular exterior corrugations in conformance to ASTM F-2736 for pipe diameters up to and including 24". Pipe and fittings shall be triple wall, smooth interior and exterior, with annular inner corrugations in conformance to ASTM F-2764 for pipe diameters 30" to 60".

739.3 JOINTING SYSTEMS:

Pipe shall be joined with a gasketed integral bell and spigot joint. The joint shall be water-tight in accordance with ASTM D-3212. Sanitary sewer pipe shall have dual gaskets. Gaskets shall conform to ASTM F-477. They shall be installed by the pipe manufacturer and covered with a removable protective wrap to ensure the gasket is free of debris. A manufacturer-recommended joint lubricant shall be applied during assembly. The pipe bells shall be reinforced with a polymer composite band installed by the manufacturer.

739.4 FITTINGS:

Lateral pipes shall be connected to the main by manufactured fittings. Water stops in accordance with ASTM C-923 shall be installed at structures. Water stops, joint seals, field repair couplers, and connections to dissimilar pipe shall be in accordance with manufacturer's recommendations, and shall be submitted to the City for approval prior to use.

SECTION 615

SEWER LINE CONSTRUCTION

615.1 DESCRIPTION: is modified to add:

Polypropylene pipe shall conform to Section 739.

615.4 LAYING PIPE: is changed to read:

HDPE, polypropylene, and PVC pipe and fittings shall be installed in accordance with ASTM D-2321.

Pipe bedding for polypropylene pipe shall be ABC in accordance with Section 701.

615.6.2 Water Stops is changed to read:

Water stops will be required when connecting HDPE and polypropylene pipe to concrete structures, manholes, etc.

615.7 SANITARY SEWER SERVICE TAPS: is modified to add:

Sanitary sewer service taps for polypropylene pipe shall be made utilizing standard manufacturer fittings.

615.10 BACKFILLING: is modified to add:

Backfilling and compaction shall be in accordance with Section 601 and ASTM D2321 for polypropylene pipe.

615.11 TESTING (C) is changed to read:

(C) Deflection Test for HDPE, Polypropylene, and PVC Pipe

In addition to the tests prescribed above, the Contractor shall perform a deflection test on the system as directed by the Engineer. Any part of the installation which shows deflection in excess of 5% of the nominal inside diameter per Section 738 for HDPE pipe, or in excess of 5% of the minimum inside diameter per ASTM F-2736 or F-2764 for polypropylene pipe, or in excess of 5% of the average inside diameter per ASTM D-3034 for PVC pipe, shall be corrected.

SECTION 738XXX

HIGH DENSITY POLYETHYLENE/POLYPROPYLENE PIPE & FITTINGS FOR STORM DRAIN & SANITARY SEWER

738.1 GENERAL:

This specification covers the requirements of ~~profile reinforced and corrugated~~ profile wall (both dual wall and triple wall) (Type S or Type D) ~~high density polyethylene (HDPE)- polypropylene (PP)~~ pipe manufactured per ASTM F894, AASHTO M 252 or AASHTO M 294 ASTM F2736, ASTM F2764, AASHTO MP21-11 for gravity flow, low pressure storm drain and sanitary sewer systems. When noted on the plans or in the special provisions, gravity flow, low pressure storm drains and sanitary sewers may be constructed using HDPE-PP pipe. The HDPE-PP pipe will be of the sizes 8-12 inch diameter through 420-60 inch diameter. For the purpose of this specification, low pressure is defined as the test pressures of 3.5 psi of air or 4 feet of water as specified in Section 615.11.

All pipe joints shall conform to the controlled pressure lab test of 10.8 psi of air or 25 feet of water as stipulated in ASTM D3212.

The size ~~and class~~ of the HDPE-PP pipe to be furnished shall be designed by the Engineer and shown on the plans or in the project specifications. ~~At no time will the class designed be less than RSC 63 for profile pipe, or minimum equivalent Pipe Stiffness (PS) for corrugated pipe per the requirements of AASHTO M 252 or AASHTO M 294.~~

738.2 MATERIALS:

738.2.1 Base Material Composition: Profile pipe base material and fittings shall meet polypropylene materials requirements as stated in Section 4, Table 1 of ASTM F2736, Section 5, Table 1 of ASTM F2764 or Section 6, Table 1 AASHTO MP21-11, in accordance with ASTM F894, be made from a PE plastic compound meeting the requirements of Type III, Class C, Category 5, Grade P34 as defined in ASTM D1248 and with established hydrostatic design basis (HDB) of not less than 1250 psi for water at 73.4 degrees F° as determined in accordance with Method ASTM D2837. Materials meeting the requirements of cell classification PE 334433 C or higher cell classification, in accordance with ASTM D3350 are also suitable. Corrugated pipe base material shall comply with the requirements of AASHTO M 252 (Type S) or AASHTO M 294 (Type S or D) and have a minimum cell classification PE335420C.

~~**738.2.2 Other Pipe Materials:** Materials other than those specified under Base Materials shall comply with ASTM F894, AASHTO M 252 or AASHTO M 294.~~

738.2.3 Gaskets: Rubber gaskets shall be manufactured from a natural rubber, synthetic elastomer or a blend of both and shall comply in all respects with the physical requirements in ASTM F477, unless the project specifies a special gasket, such as nitrile.

738.2.4 Water Stops: Water stops shall be manufactured from a natural or synthetic rubber and shall conform to the requirements of ASTM C923. The water stop shall have expansion rings, a tension band, or a take-up device used for mechanically compressing the water stop against the pipe.

738.2.5 Thermal Welding Material: The material used for thermally welding the pipe material shall be compatible with the base material.

738.2.6 Lubricant: The lubricant used for assembly shall comply to manufacturer's recommendations and have no detrimental effect on the gasket or pipe.

738.3 JOINING SYSTEMS:

738.3.1 Gasket Type: Joints for the piping system and fittings shall consist of an integrally formed bell and spigot gasketed joint. The joint shall be designed so that when assembled, the elastomeric gasket located on the spigot is compressed radially on the pipe or fitting bell to form a water tight seal. The joint shall be designed so to prevent

displacement of the gasket from the joint during assembly and when in service. The elastomeric gasket shall meet the provision of ASTM F477.

All pipes shall have a home mark on the spigot end to indicate proper penetration when the joint is made.

The bell and spigot configurations for the fittings shall be compatible to those used for the pipe.

Joints shall provide a seal against exfiltration and infiltration. All surfaces of the joint upon which the gasket may bear, shall be smooth and free of any imperfections, which would adversely affect sealability. The assembly of the gasketed joints shall be in accordance with the pipe manufacturer's recommendations.

~~738.3.2 Thermal Weld Type: The pipe ends shall consist of an integrally formed bell and spigot, with or without the elastomeric centering gasket, which join together to form an interface between bell and spigot, such that it is suitable to seal by thermal weld using the extrusion welding process, in accordance with the manufacturer's recommended procedure.~~

~~Thermal welded joints may be effected by welding from inside the pipe or outside, or both.~~

~~The assembly of the welded joints shall be in accordance with the manufacturer's recommendations.~~

~~Thermal welded joints shall be used only when specified on plans or in specifications.~~

738.4 FITTINGS:

Fittings for ~~HDPE-PP pipe profile wall or corrugated pipe~~ may include tees, elbows, manhole adapter rings, plugs, caps, adapters and increasers. Fittings shall be joined by gasket type ~~or thermal weld~~ type joints in accordance with Subsection 738.3.

A clamp gasket or approved method shall be provided at manhole entry or connection to reduce infiltration and exfiltration. Where precast manholes are used, entrance holes must be large enough to allow for proper grouting around the manhole gasket. A non-shrink grout shall be used for grouting.

738.5 CERTIFICATION:

The manufacturer shall furnish an affidavit (certification) that all materials delivered shall comply with the requirements of ASTM ~~F894 or AASHTO M-252~~ F2736, ASTM F2764 or AASHTO MP21-11.

~~Pipe and resin producers that manufacture according to AASHTO M-294 shall be certified according to the Plastic Pipe Institute protocol for their Third Party Certification Program.~~

738.6 DIMENSIONS AND TOLERANCES:

~~Profile wall HDPE Polypropylene pipe dimensions shall comply with dimensions given in Section 6.2 of ASTM F2736, Section 6.2 of ASTM F2764 or Section 7.2 of AASHTO MP21-11. Table 1 of ASTM F894. The average or nominal inside diameter of profile wall HDPE pipe shall not deviate from its normal pipe size by more than as specified in Table 1 of ASTM F894. Corrugated HDPE pipe dimensions shall be nominal inside diameter dimensions and shall not deviate from its nominal pipe size by more than the minimum and maximum tolerances as described in AASHTO M-252 or AASHTO M-294, Section 7.2.3.~~

~~Profile pipe shall have a Ring Stiffness Constant (RSC) or Pipe Stiffness (PS) as shown on the plans. The minimum RSC for profile HDPE pipe shall be RSC-63. The minimum PS for corrugated pipe shall be as shown in AASHTO M-252 (Section 7.5) or AASHTO M-294 (Section 7.4) and tested per ASTM D2412. In no case shall the minimum PS be less than the equivalent PS value for RSC-63.~~

738.7 CLASSIFICATIONS:

~~HDPE profile reinforced pipe products shall be made in four standard Ring Stiffness Constant (RSC) classifications, 40, 63, 100 and 160. These are referred to as RSC 40, RSC 63, RSC 100 and RSC 160. The RSC test shall be conducted in accordance with ASTM D2412 with the exceptions listed in accordance with ASTM F894. HDPE PP corrugated pipe (Type S or Type D) shall meet the minimum Pipe Stiffness (PS) requirements of ASTM F2736, ASTM F2764 or AASHTO MP21-11. AASHTO M 252 or AASHTO M 294. The PS test shall be conducted in accordance with ASTM D2412 with the exceptions listed in accordance with AASHTO M 252 or AASHTO M 294. ASTM F2736, ASTM F2764 and AASHTO MP21-11.~~

738.8 MARKINGS:

Markings on pipe shall be per ASTM ~~F894~~F2736, ~~AASHTO M 252~~ASTM F2764 or AASHTO M-~~294~~P 21-11. These markings shall be clearly shown on the pipe at intervals of approximately 12 feet and include but not limited to the following: the manufacturers name or trademark, nominal size, the specification designation, plant designation code, date of manufacture or an appropriate code. All fittings shall be marked with the designation number of the specification and with the manufacturers identification symbol. ~~In addition, manufacturers of corrugated HDPE, AASHTO M 294, shall print on or affix the appropriate Plastic Pipe Institute Program Mark on each length of pipe produced that meets the requirements of the program.~~

738.9 CARE OF PIPE AND MATERIALS:

Care of pipe materials shall comply with Subsection 736.5.

~~HDPE profile reinforced RSC type pipe in shipping or storage shall not be stacked higher than three rows for pipes 21 inches in diameter or less, nor higher than two rows for pipes 24 to 36 inches in diameter inclusive. Pipe shall not be stacked, shipped, or stored with weight on the bells of the pipe.~~

~~Corrugated HDPE pipe in shipping and storage shall be stacked per manufacturers recommendation, but in no case higher than 5 rows for pipe 24 inches or less in diameter, or 3 rows for pipe greater than 24 inches in diameter.~~

Pipe that is gouged marred or scratched forming a clear depression shall not be installed and shall be removed if damaged in the installation.

- End of Section -

SECTION 740

POLYPROPYLENE PIPE & FITTINGS FOR STORM DRAIN & SANITARY SEWER

740.1 GENERAL:

This specification covers the requirements of profile wall (both dual wall and triple wall) (Type S or Type D) polypropylene (PP) pipe manufactured per ASTM F2736, ASTM F2764, AASHTO MP21-11 for gravity flow, low pressure storm drain and sanitary sewer systems. When noted on the plans or in the special provisions, gravity flow, low pressure storm drains and sanitary sewers may be constructed using PP pipe. The PP pipe will be of the sizes 12 inch diameter through 60 inch diameter. For the purpose of this specification, low pressure is defined as the test pressures of 3.5 psi of air or 4 feet of water as specified in Section 615.11.

All pipe joints shall conform to the controlled pressure lab test of 10.8 psi of air or 25 feet of water as stipulated in ASTM D3212.

The size of the PP pipe to be furnished shall be designed by the Engineer and shown on the plans or in the project specifications.

740.2 MATERIALS:

740.2.1 Base Material Composition: Profile pipe base material and fittings shall meet polypropylene materials requirements as stated in Section 4, Table 1 of ASTM F2736, Section 5, Table 1 of ASTM F2764 or Section 6, Table 1 AASHTO MP21-11.

740.2.3 Gaskets: Rubber gaskets shall be manufactured from a natural rubber, synthetic elastomer or a blend of both and shall comply in all respects with the physical requirements in ASTM F477, unless the project specifies a special gasket, such as nitrile.

740.2.4 Water Stops: Water stops shall be manufactured from a natural or synthetic rubber and shall conform to the requirements of ASTM C923. The water stop shall have expansion rings, a tension band, or a take-up device used for mechanically compressing the water stop against the pipe.

740.2.5 Thermal Welding Material: The material used for thermally welding the pipe material shall be compatible with the base material.

740.2.6 Lubricant: The lubricant used for assembly shall comply to manufacturer's recommendations and have no detrimental effect on the gasket or pipe.

740.3 JOINING SYSTEMS:

740.3.1 Gasket Type: Joints for the piping system and fittings shall consist of an integrally formed bell and spigot gasketed joint. The joint shall be designed so that when assembled, the elastomeric gasket located on the spigot is compressed radially on the pipe or fitting bell to form a water tight seal. The joint shall be designed so to prevent displacement of the gasket from the joint during assembly and when in service. The elastomeric gasket shall meet the provision of ASTM F477.

All pipes shall have a home mark on the spigot end to indicate proper penetration when the joint is made.

The bell and spigot configurations for the fittings shall be compatible to those used for the pipe.

Joints shall provide a seal against exfiltration and infiltration. All surfaces of the joint upon which the gasket may bear, shall be smooth and free of any imperfections, which would adversely affect sealability. The assembly of the gasketed joints shall be in accordance with the pipe manufacturer's recommendations.

740.4 FITTINGS:

Fittings for PP pipe may include tees, elbows, manhole adapter rings, plugs, caps, adapters and increasers. Fittings shall be joined by gasket type joints in accordance with Subsection 738.3.

A clamp gasket or approved method shall be provided at manhole entry or connection to reduce infiltration and exfiltration. Where precast manholes are used, entrance holes must be large enough to allow for proper grouting around the manhole gasket. A non-shrink grout shall be used for grouting.

740.5 CERTIFICATION:

The manufacturer shall furnish an affidavit (certification) that all materials delivered shall comply with the requirements of ASTM F2736, ASTM F2764 or AASHTO MP21-11.

740.6 DIMENSIONS AND TOLERANCES:

Polypropylene pipe dimensions shall comply with dimensions given in Section 6.2 of ASTM F2736, Section 6.2 of ASTM F2764 or Section 7.2 of AASHTO MP21-11.

740.7 CLASSIFICATIONS:

PP pipe (Type S or Type D) shall meet the minimum Pipe Stiffness (PS) requirements of ASTM F2736, ASTM F2764 or AASHTO MP21-11. The PS test shall be conducted in accordance with ASTM D2412 with the exceptions listed in accordance with ASTM F2736, ASTM F2764 and AASHTO MP21-11.

740.8 MARKINGS:

Markings on pipe shall be per ASTM F2736, ASTM F2764 or AASHTO M-P 21-11. These markings shall be clearly shown on the pipe at intervals of approximately 12 feet and include but not limited to the following: the manufacturers name or trademark, nominal size, the specification designation, plant designation code, date of manufacture or an appropriate code. All fittings shall be marked with the designation number of the specification and with the manufacturers identification symbol.

740.9 CARE OF PIPE AND MATERIALS:

Care of pipe materials shall comply with Subsection 736.5.

Pipe that is gouged marred or scratched forming a clear depression shall not be installed and shall be removed if damaged in the installation.

- End of Section -

Water/Sewer Working Group Meeting

Meeting Notes
February 29, 2013

Opening:

A meeting of the Specifications and Details Water/Sewer Working Group was called to order by chair Jim Badowich on February 19, 2013, at 1:35 p.m. in the MAG Cholla Room.

1. Introductions/Attendance

Tony Ayala (Avondale), Jim Badowich (Avondale), Arturo Chavarria (Hanson), Bill Davis (ADS), Jami Erickson (Phoenix), Mike Hook (ACPA), Jason Jackson (Oldcastle), John Kanzlemar-via audio (Contech), Kelly Kokesh (ADS), Alvin Robertson (Chandler), Craig Sharp (Buckeye), Gordon Tyus (MAG), Warren White (Chandler).

2. Precast Manhole Specifications

Jim Badowich handed out sample precast manhole material specifications that were updated by Buckeye. Since Section 740 is being used by a current case, determining where to put the spec was discussed, including whether it made more sense to put it in the 600 section for manhole installation, or possibly a 500 section for structures. Jason Jackson of Oldcastle described the manufacture of precast units, and some advantages including manufacturing in a controlled environment using a monolithic pour. There was also discussion about being able to complete the installation in one day, saving time the road was closed. The base preparation was also discussed including its subgrade preparation, and potential for settling. Craig sharp agreed to make revisions to the proposed specification.

3. Manhole Revisions/Update

Jim Badowich discussed updates needed to the other manhole details. It was thought that 420-1 would show the manhole risers, 420-2 could be the cast-in-place base option, and 420-3 would be the new pre-cast base detail. Jami Erickson asked about the steps, and Mr. Badowich agreed that they should be removed since crews use ladders and tripods now. Jason Jackson said there are some agencies that include them, because they are still shown on the details. Mr. Badowich also wants to add specifications for standard coating and/or linings. Several types were discussed. It was also determined that the brick manhole could be removed from Detail 422, and the cover adjustment detail moved to a more appropriate section.

4. Pipe Materials and Installation Specifications

Jim Badowich asked John Kanzlemar (on audio) to provide an update on the steel-reinforced polyethylene (SRPE) pipe case. (Proposed Section 739) He said once the revisions to the flexible pipe section 603 were done, he could make the necessary updates to the materials spec. Mike Hook questioned allowing sizes up to 120" diameter since only 36" has been approved for ASHTO and 60" through ADOT. Mr. Kanzlemar said they have used 120" pipe in Chandler and Scottsdale (although not in the public ROW) and that ASTM has specs up to 120".

Warren White of Chandler also has a similar case for polypropylene pipe, (Proposed Section 740) and they have all been working together with Kelly Kokesh of ADS to update the installation specifications. Ms. Kokesh provided several handouts. The first was a table done by

Mr. White that categorized the sections to be revised based on excavation, installation and materials for both rigid and flexible pipe types. Next was a revised Section 603 that incorporated the trenching and installation specs for all flexible pipe types, and included relevant parts of 601 so referring back to this section was no longer necessary. The trench width table was updated to meet ASTM requirements for all flexible pipe types. She also provided a handout of a simplified trench section detail that matched ASTM terminology and would replace the detail on 200-2. Terminology and changes to the section were discussed.

Mr. Badowich asked about expanding the jacking pipe section to include sleeves. Mr. Tyus mentioned that the representative from Valley Metro discussed to revising sleeves at the last full meeting. The working group thought it may be better to make these changes in a separate case.

The group discussed the best way of defining what was included as rigid and flexible pipes. Most members agreed that a definition as well as a listing of the pipe types was needed and possibly adding the definitions to the 100 section of MAG as well. Ductile iron pipe was determined to fall into the rigid category although it does flex.

5. Water Testing/Flushing

Mr. Badowich said Phoenix was looking into testing and flushing issues as was Troy Tobiasson of Goodyear, and said the specs need to be updated. Issues included keeping the pipe clean during installation and methods of leak detection. Comparing them to the AWWA specifications would also be useful. Jami Erickson said Phoenix does combined leak/absorption tests. Warren White suggested agency member bring back their supplements to review at a future meeting.

6. Other Issues

Jim Badowich mentioned a possible case to update the polywrap sizes table. Ms. Erickson asked members for methods of locating tracing wire up manholes. Mr. White suggested a separate box.

7. Next Meeting Date

The next meeting of the Water/Sewer working group is tentatively scheduled for Tuesday, March 19th at 1:30 p.m. at the MAG office.

The meeting was adjourned at 3:05 p.m.

**Report to MAG Technical committee
Meeting on February 21th 2013 Working Group meeting
By chairman, Jeff Benedict**

The meeting was called to order at noon on February 21st.

In attendance: Scott Thompson (ATC), Tom Struve (Avondale), Mike Whitman (WTI), Mo Rahman (Paramount), Brian Gallimore (WSP), Bob Draper (Mesa), Ed Myers (Crafco), John Allen (Scottsdale), Phil Feliz (WTI), Rob Godwin (Goodyear), Brian Barnes (Goodyear), Chris Brien (Palo Verde Const.), Syd Anderson (Phoenix), Peter Kandarlis (DGA Consulting), Jeff Hearne (SRMG) and Gordon Tyus (MAG)

Introductions were made and goals were reviewed.

Case 13-02 Changes to crack seal specifications were discussed. The working group decided to keep the existing material specification and adopt the all of the remaining changes to the proposed case. The representative from CRAFCO recommended the current spec, due to its uniform performance, wide spread use, and it's cost effective nature. The group liked the changes to the rest of the document.

Case 13-03 Asphalt concrete overlay section 321.8.6 was discussed and no changes were made. It was felt that it is ready for the main group to discuss.

A discussion on 321's penalty tables took place and Bob Draper (Mesa) volunteered to bring a case to the next working group meeting for review and discussion. The draft of the City of Mesa's was reviewed and it was viewed as a good starting point. The group further decided that in lieu of an "engineering analysis" a third party lab evaluation be included.

Warm mix was discussed and it was decided that too many advantages were available to wait for ADOT. It was discussed that a draft proposal is needed to get this started.

A desire to have a section on polymer modified asphalt to be included in the MAG was clearly desired by the group.

The meeting was adjourned at 1:10pm.

The next working group meeting will be March 21st 2013 at 12:00 at the ARPA meeting room.

Report to MAG Technical Committee
Meeting on February 21st, 2013 Materials Working Group Meeting
By Chairman: Brian Gallimore

The meeting was called to order at 1:10pm on the 21st. In attendance: Scott Thompson (ATC), Tom Struve (Avondale), Mike Whitman (WTI), Mo Rahman (Paramount), Bob Draper (Mesa), Ed Myers (Crafco), John Allen (Scottsdale), Phil Feliz (WTI), Rob Godwin (Goodyear), Brian Barnes (Goodyear), Chris Brien (Palo Verde Construction), Syd Anderson (Phoenix), Peter Kandarlis (PGA Consulting), Jeff Hearne (SRMG) and Gordon Tyus (MAG).

The materials working group talked about the proposed changes to MAG 309 specification and is entertaining to break into 2 specs one for lime stabilizing and one for lime modification. Materials Group is soliciting comment before moving forward.

The next working group meeting will be March 21st, 2013 after the Asphalt Working Group at the ARPA meeting room.

MAG Concrete Working Group

Thursday, February 21, 2013, 1:30 pm at the ARPA Offices

Meeting Notes

Present:

See attached attendance sheet.

Discussion:

- 1) MAG Section 340 Draft Revision – Peter Kandaris. We reviewed the last revision and discussed some additional clarification wording to several items – particularly Section 340.3.2 on Subgrade Preparation and 340.6 on Payment. Peter will revise and resubmit to the Working Group one more time for final review before bringing to the MAG Committee for Case introduction.
- 2) Potential new case – Revision of Section 324 on Portland Cement Concrete Street Paving – Jeff Hearne. We reviewed the current Section 324 with the intent of reducing or eliminating some of the existing wording by using appropriate references to other Sections – primarily Section 725. Several items were discussed that need additional review are field performance criteria and appropriate measurement determinations – probably from a Contracting/Agency point of view. Several options were discussing regarding the acceptance and payment criteria.
- 3) Peoria/Chandler Potential New Potential Case- Directional Sidewalk Ramp – No progress.

Date for Next Meeting:

The next meeting is scheduled for **March 21, 2013 @ 1:30 pm** in the ARPA offices.
(Following the Asphalt and Materials Working Group meetings)

Any and all participants are welcome and encouraged to be involved.

Attendance
Initials

MAG Concrete Working Group

Thursday, February 21, 2013

| | | | | | |
|-----------|-----------------|--------------------|-------------------------------------|--------------|--|
| GT | Gordon Tyus | MAG | Maricopa Association of Governments | 602-254-6300 | GTyus@azmag.gov |
| | Bob Herz | McDOT | Maricopa County | 602-506-4760 | rherz@mail.maricopa.gov |
| | John Shi | McDOT | Maricopa County | | johnshi@mail.maricopa.gov |
| | Jacob Rodriguez | Utility | Salt River Project | 602-236-8613 | jacob.rodriguez@srpnet.com |
| SA | Syd Anderson | Municipality | City of Phoenix | 602-495-2047 | syd.anderson@phoenix.gov |
| | Don Hansen | Municipality | City of Chandler | 480-215-9264 | don.hansen@chandleraz.gov |
| BD | Bob Draper | Municipality | City of Mesa | 480-644-3822 | bob.draper@mesaaz.gov |
| RG | Rob Godwin | Municipality | City of Goodyear | 623-693-2457 | rob.godwin@goodyearaz.gov |
| | Troy Tobiasson | Municipality | City of Goodyear | 623-882-7979 | troy.tobiasson@goodyearaz.gov |
| BB | Brian Barnes | Municipality | City of Goodyear | 623-882-7501 | brian.barnes@goodyearaz.gov |
| | Scott Zipprich | Municipality | Town of Buckeye | 623-547-4661 | scott@scoutten.com |
| | Brandon Forrey | Municipality | City of Peoria | 623-773-7201 | brandon.forrey@peoriaaz.gov |
| BG | Brian Gallimore | Contractor | WSP Inc | 623-434-5050 | bgallimore@wspinc.net |
| | Kwigs Bowen | NUCA | Fishel Contracting | 480-775-3943 | hlbowen@teamfishel.com |
| JH | Jeff Hearne | Producer | Salt River Materials Group | 480-850-5757 | jhearne@srmaterials.com |
| | Mike Kohout | Producer | Cemex | 602-220-5631 | mkohout@cemexusa.com |
| RB | Robert Barkley | Producer | Hanson Aggregates of Arizona | 602-685-3436 | robert.barkley@hansen.biz |
| | Tom Romero | Producer | CPC Southwest Materials | 520-744-3222 | tromero@calportland.com |
| | Adrian Green | Producer | Vulcan Materials | 602-528-8692 | greenaj@vmcmail.com |
| TV | Tom Villa | Producer | Drake Materials | 480-607-3999 | tvilla@drakematerials.com |
| | Angelo Trujillo | Producer | BASF Admixtures | 480-824-3733 | angelotrujillo@cox.net |
| | Charles Moses | Producer | Jensen Precast | 775-287-7275 | cmoses@jensenprecast.com |
| | David Allen | Producer | Boral Materials | 602-861-5100 | david.allen@boral.com |
| JB | Jeff Benedict | Producer | Valero Energy Corp | 520-777-2456 | Jeff.Benedict@valero.com |
| | Nathan Angel | Producer | Superlite Block | 602-818-3937 | Nathan.Angel@oldcastle.com |
| | Charles Taylor | Producer | Oldcastle | 770-715-8901 | chuck.taylor@oldcastle.com |
| | Matthew Marcus | Testing Laboratory | Ninyo & Moore | 602-243-1600 | mmarcus@ninyoandmoore.com |
| | William Smith | Testing Laboratory | Terracon | 480-897-8200 | whsmith@terracon.com |
| ST | Scott Thompson | Testing Laboratory | Cardno ATC | 602-290-0840 | scott.thompson@cardno.com |
| | Don Cornelison | Testing Laboratory | Speedie and Associates | 602-997-6391 | dcornelison@speedie.net |
| | Raphael Tixier | Testing Laboratory | Western Technologies Inc. | 602-437-3737 | r.tixier@wt-us.com |
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| PF | Phillip Feliz | Testing Laboratory | Western Technologies Inc. | 602-437-3737 | phil.f@wt-us.com |
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