

February 24, 2016

TO: Members of the MAG Standard Specifications and Details Committee

FROM: Jim Badowich, City of Avondale, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Wednesday, March 2, 2016 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 Jim Badowich at 623-333-4222 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 2, 2016

COMMITTEE ACTION REQUESTED

1. Call to Order and Introductions

Introductions

2. Call to the Audience

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. Re-admittance of Advisory Members

P. Nebeker, Independent

3. **Information, discussion and possible action.**

4. Approval of February 3, 2016, Meeting Minutes

4. **Review and approve minutes of the February 3, 2016 meeting.**

Carry Forward Cases from 2015

5. Case 15-05: Proposed Revisions to Section 616 and Detail 270-2

Update reclaimed water line construction specifications and create NEW Reclaimed Valve Box detail.

5. Information and discussion.
Sponsor: Warren White, Chandler
Updated

6. Case 15-13: Revisions to Section 725

Add text to Section 725.6 to identify what to include in a concrete mix design submittal.

6. Information and discussion.
Sponsor: Jeff Hearne, Concrete Working Group

New Cases for 2016

7. Case 16-01: Misc. Corrections

A. Revise Table 310-1 by deleting "or gradation deficiency" from the Deficiency column for Type IV.

7. Information and discussion
Sponsors: Bob Herz, MCDOT
Arvid Veidmark, AZUCA
Updated

- B. Correct arrow placement on Detail 507:
Encased Concrete Pipe
C. Add bullets back into Table 608-2 to make sure item 3. Surface Survey is included in medium and large projects.
8. Case 16-02: Certificates of Compliance and Analysis
Add requirements for certificate of compliance and certificate of analysis. Add Section 106.2.1 Certificate of Compliance, add Section 106.2.2 Certificate of Analysis, and modify Section 717.2.1.2 Crumb Rubber.
9. Case 16-03: Revision to Detail 251 RETURN TYPE DRIVEWAYS.
Adjust concrete thickness and concrete class for commercial and industrial driveways to match requirements shown on Detail 250.
10. New and Potential Cases.
New sponsored cases, ASTM corrections, other potential cases.
8. Information and discussion
Sponsor: Bob Herz, MCDOT
9. Information and discussion
Sponsor: Bob Herz, MCDOT
10. Information and discussion

General Discussion

11. Working Group Reports
11. Information and discussion.
- Curb Ramp WG Chair: Warren White
02/23/2016 Meeting
 - Water/Sewer Chair: Jim Badowich
02/16/2016 Meeting
 - Asphalt, Materials and Concrete WGs
02/18/2016 Meeting
Chairs: Greg Groneberg, Brian Gallimore and Jeff Hearne
 - Outside ROW Chair: Peter Kandariss
12. General Discussion
Update on proposed HB 2549
12. Information and discussion.
13. Request for Future Agenda Items
13. Information and discussion.
- Adjournment

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

February 3, 2016

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

AGENCY MEMBERS

- | | |
|------------------------------------|-------------------------------------|
| Jim Badowich, Avondale, Chair | Lance Webb, Mesa |
| * Craig Sharp, Buckeye | Dan Nissen, Peoria |
| Warren White, Chandler, Vice Chair | * Leticia Vargas, Phoenix (Streets) |
| Nick Russo (audio) | Jami Erickson, Phoenix (Water) |
| * Wayne Costa, Florence | Rod Ramos, Scottsdale |
| Tom Kaczmarowski, Glendale | David Mobley, Surprise (proxy) |
| Tom Condit, Gilbert | Tom Wilhite, Tempe |
| * Tom Vassallo, Goodyear | * Jonathan Sorrell, Valley Metro |
| Bob Herz, MCDOT | Gregory Arrington, Youngtown |

ADVISORY MEMBERS

- | | |
|-------------------------|------------------------------|
| Greg Groneberg, ARPA | Brian Gallimore, AGC |
| Jeff Hearne, ARPA | Peter Kandarlis, Independent |
| * Arvid Veidmark, AZUCA | Paul R. Nebeker, Independent |
| Tom Brennan, AZUCA | Christina Buckle, SRP |

MAG ADMINISTRATIVE STAFF

Gordon Tyus

- * Members not attending or represented by proxy.

GUESTS/VISITORS

Jim Anderson, Olson Precast Arizona
Troy McGahey, New Horizon Sales

1. Call to Order

Chair Jim Badowich was running late due to traffic so Vice Chair Warren White called the meeting to order at 1:32 p.m.

Vice Chair White asked for introductions of new members. Tom Brennan of Utility West introduced himself as AZUCA's new representative along with Arvid Veidmark (who was unable to attend). Tom Kaczmarowski said he is returning to the committee as Glendale's representative.

2. Call to the Audience

Vice Chair White announced the call to the audience. Jim Anderson of Olson Precast Arizona and Troy McGahey of New Horizon Sales introduced themselves.

3. Re-admittance of Advisory Members

In 2015, Jacob Rodriguez of Salt River Project (SRP) and Paul Nebeker (Independent) failed to meet the attendance requirements for advisory members. According to the committee bylaws, these advisory members are required to submit a letter, have member sponsorship, and a 2/3 vote of the committee for re-admittance. SRP submitted a letter requesting Christina Buckle as their new representative. Jim Badowich, having arrived at the meeting, resumed his place as chair on this agenda item. He agreed to sponsor SRP as did Bob Herz of Maricopa County. Mr. Kaczmarowski moved to reinstate SRP as an advisory member. Mr. Herz seconded the motion. A voice vote of the committee was taken. The motion passed unanimously. Mr. Nebeker said he still needed to submit a letter, but expressed that we would like to continue to serve on the committee. Chair Badowich agreed to postpone action on Mr. Nebeker's membership until the next meeting.

Mr. Badowich also read a certificate of appreciation for former advisory member Jeff Benedict, who served for decades on the committee, and as chair of the Asphalt Working Group from 2008-2015.

4. Approval of Minutes

The members reviewed the January 6, 2016 meeting minutes. Peter Kandarlis noted that there was a typo in item 5 of the minutes. It should say "Don" instead of "Dan" Cornelison. Dan Nissen moved to accept the minutes with the correction as noted above. Bob Herz seconded the motion. A voice vote of all ayes and no nays was recorded.

Carry Forward 2015 Cases

5. Case 15-05: Revise Section 616 Reclaimed Water Line Construction and Add New Reclaimed Valve Box Detail 270-2.

Warren White handed out a revised Detail 270-2 before the meeting. The detail updated the lettering to be raised 1/16" and added 2 lines on the section view where the square to round transition is made. Bob Herz asked how the transition was made, since it seemed unclear on the drawing. Tom Wilhite said typically it is like a plate at the bottom of the square box, with a round hole cut into it where the circular pipe meets. Jim Anderson of Olson Precast opened a sample shop drawing on his iPad to help illustrate one of their boxes. Rod Ramos noted that the top line of the section view should also be shown. Mr. White said he would review the section drafting.

Dan Nissen suggested the word "valve" be removed from the lid to be consistent with other existing boxes. Members agreed since the box may be used for things other than a valve. Mr. White asked Mr. Ramos if the "Nonpotable Water" lid also should remove the word "Valve." Mr. Ramos thought that would be fine. Jami Erickson asked if the box would have the concrete collar around it like existing boxes. Mr. White confirmed that it would. Lance Webb asked if it could have a deeper throat to help keep the lids from popping out. One suggestion was to make the depth dimension of 2-3/4" a minimum to allow for larger sizes. Paul Nebeker confirmed that reclaimed boxes are often used in the street.

6. Case 15-10: Add Subsection 321.10.5.3 "Rehabilitation Work" into the MAG Specifications.

Sponsor Brian Gallimore said that after much discussion with industry and within the working group, they have decided to withdraw this case from consideration. He said the group could not come to a consensus on the language because different owners are handling rehabilitation work cases differently. Contractors felt they were dealt with fairly by agencies working directly with them on a project level. Mr. Badowich agreed that often this kind of work is done on a case by case basis. Mr. Gallimore said it was also a challenge to write an acceptable specification that allowed for what would be considered deficient work on new construction.

7. Case 15-13: Add text to Section 725.6 to Identify what to Include in a Concrete Mix Design Submittal.

Sponsor Jeff Hearne said he had nothing new, but was getting info together to answer some questions from Maricopa County.

New Cases for 2016

8. Case 16-01: Miscellaneous Corrections.

B. Bob Herz submitted a new addition to the Miscellaneous Corrections Case. On Detail 507 the arrowhead should continue down and point to the concrete encased area rather than stopping at the grade level.

Although not a part of the case for this year, Mr. Tyus noted that Rod Ramos found a formatting error on Table 710-5 where the plus or minus symbol before the .02 in row 2 was converted to the wrong characters. Mr. Tyus said they have corrected this typographic error in

the online version of the MAG specifications, but that the printed versions already received would need to make this correction in the book, or print out a replacement page. Mr. Herz reminded Mr. Tyus to be sure to include this revision in next year's update packet so that future printed updates would be correct.

9. Case 16-02: Add Section 106.2.1 Certificate of Compliance, add Section 106.2.2 Certificate of Analysis, and modify Section 717.2.1.2 Crumb Rubber.

Bob Herz said this case was discussed at the Asphalt/Materials Working Group meeting. The feedback he received from the working group was that many agencies do not need these certificates and suggested that they only be supplied when requested by the Engineer. Ms. Buckle asked what if the engineer is expecting the certificate, but doesn't get it.

Jeff Hearne said the working group suggested it be changed to "upon request" to help eliminate unnecessary paperwork. He said agencies could use the ADOT approved materials list. If not, cities would have to do all the same work themselves. He said some options were to: request a certificate, use a material on the ADOT list, or have it specifically approved by the engineer. He noted that agencies are not currently receiving certificates. Peter Kandaris said there are some materials that would require certificates because they are determined by the batch of materials used, rather than through an annual review.

Mr. Herz said the MAG specs still need to clarify what is included on a Certificate of Compliance and Certificate of Analysis, and that they need to look at sections of MAG where it makes sense to allow a request rather than require it. Jeff Hearn said that he would like the process to be more flexible, noting the ADOT uses a preapproved list and the suppliers go through a yearly process.

Mr. Herz said he would continue to work with the working group on this case, and expects a revision next month.

10. Case 16-03: Revision to Detail 251 RETURN TYPE DRIVEWAYS to adjust concrete thickness and concrete class for commercial and industrial driveways to match requirements shown on Detail 250.

Bob Herz passed out a revised Detail 251 that would change the concrete thickness from 6" to 9" for commercial and industrial driveways. One of the main changes to the drawing was showing the thickness differences for the residential and commercial driveways in the section view. He clarified for Mr. Gallimore that the 2' section noted on the detail was to be paid as curb and gutter, similar to Detail 240.

Warren White asked about the 10' maximum radius. He said they often use larger radii. Mr. Herz said he could remove the maximum and leave the minimum. Jim Badowich suggested removing the default radius minimum and just note it as in plans, since the dimension varies depending on the project. Rod Ramos said Scottsdale has their own set of details for driveways. Bob Herz said he needed to also fix Note 1, since the initial line "Expansion joints

shall comply” was accidentally deleted. There were also questions about the 4’ dimension for expansion joint area. Mr. Herz said he could remove that dimension and just label the joints.

11. Case 16-04 Adjustment to Section 340.2.1 for withdrawn ASTM C1028 reference.

Bob Herz submitted a new case to make a correction for an ASTM reference that was withdrawn. ASTM C1028, regarding friction testing, is only referenced in Section 340.2.1 Detectable Warnings. He said he searched ADA references and found no mention of this test as a requirement, only that it not be a “slippery surface.” He thought it would be fine to delete the ASTM reference in 340.2.1. As he reviewed this section, he thought it could be summarized and worded a little more clearly, so this case also includes the revisions shown in red on the handout. The back page of the case had the final language. He asked members to read it and see if his changes made sense.

Peter Kandarlis said that an industry representative helped draft the current version, but he didn’t have a problem with the revisions. Jim Badowich thought that the last sentence of the first paragraph should add “and alignment” to read: “Detectable warning panels shall be installed so the dome spacing **and alignment are** maintained across adjoining panels.” He said he had an issue with this on a job in Avondale.

On a separate question, Mr. Herz said that ADA and MUTCD require detectable warnings across the full width of sidewalks and other pedestrian pathways crossing of railroad tracks not within a paved road.

12. New or Potential Cases.

Lance Webb of Mesa said they have a potential case regarding Section 106.4 for the use of alternative materials. He thinks there is a potential conflict of the MAG spec, which does not allow alternate materials before bidding, with state law 34-104, that requires any alternative materials be approved and released eight days prior to the final due date for bid proposals. He said changing Section 106 would help eliminate issues after the bid. Rod Ramos said Scottsdale uses its own process which includes this provision. Mr. Badowich said many agencies do, but that smaller agencies may rely on MAG specs. Tom Kaczmarowski said for some specialized equipment, you may need to specify a sole source without equal. There was also discussion about what cities have approved materials lists that include what are considered “equal” or acceptable substitutes. Chair Badowich suggested Mr. Webb submit a case.

13. Working Group Reports

Chair Badowich asked for reports from the working group chairs.

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

Jim Badowich said the group met January 19th and the meeting notes were included in the packet. He said Arvid Veidmark was doing a roadshow on the horizontal directional drilling case and felt that it was being well received. Peter Kandarlis said a Canadian research group and other states have shown interest in this specification.

Mr. Badowich said one area of focus this year will be on water/sewer testing (Section 611). Areas of focus include flushing, chlorination, and additional testing such as the BAC-T tests used by Goodyear, Phoenix, Tempe and Mesa. Bob Herz suggested starting with one of those city's specifications. Mr. Badowich thought addressing the orifice size for flushing was important, and noted that the fire code has minimum sizes depending on the diameter of the line being flushed. Mr. Nebeker said the best method is size-on-size flushing as Scottsdale requires. Mr. Badowich said a minimum velocity is needed; otherwise you may clean the rocks, but still have them in the line which could cause problems with valves and maintenance. He said Avondale provided a 4" water meter and backflow preventer for flushing. Mr. Badowich asked Mr. Ramos if Scottsdale had some specifications, and if he could share them with Jami Erickson to work on this issue.

The last thing discussed at the working group meeting was polymer lids for boxes, as an alternative to cast iron lids currently in the MAG specs. He said the next meeting is scheduled for Tuesday, February 16th, at 1:30 in the MAG Cottonwood room.

b. Curb Ramp Working Group

Warren White said the group met January 25th and first reviewed a presentation showing different alignments for directional and radial dual ramps. This presentation is available online here: <https://www.azmag.gov/Events/Event.asp?CMSID=8478>

Mr. White said he and Brandon Forrey were making revisions to the aligned and directional ramp details, and they plan to have them ready to present as a case in March. These details will be sent out to working group members to be reviewed at their next meeting on Monday, February 22nd, at 1:30 in the MAG Cottonwood room. Mr. White said they are starting with these details, but other options may be submitted as future cases.

c. Asphalt, Materials and Concrete Working Groups

Greg Groneberg said much of what was discussed during the January 21st meeting has been covered already in discussions of Case 15-10 and 16-02. For Case 16-02, he repeated that the working group recommends using an approved list, and clarify it in the MAG specs so there is a process to be approved, and that certificates would be sent "on request." He said they also reviewed the list of out-of-date ASTM references and have assigned members to review them for correction. They are also looking into the specifications for the green paint now being used for bike lanes. He said Don Cornelison is also working on revisions to Section 710.

On the concrete side, Jeff Hearne said they were part of the discussion on Case 16-02, and will propose a minor revision to the CLSM ASTM reference. He said they would like to continue to use the test method in the old ASTM. In response to a question from Mr. Wilhite, he said he is continuing to work behind the scenes on the pervious concrete specifications, but is having trouble getting the industry reps in this area together.

The next meeting of the joint Asphalt/Materials and Concrete Working Groups is scheduled for Thursday, February 18th, at noon. The meetings will be held in the ARPA office, 916 W Adams Street, Phoenix.

d. **Outside ROW Working Group**

Peter Kandaris handed out a sheet with suggested outside right-of-way standards and details priority listing (high or low). This was based on his assessment of feedback on different issues and asked the committee to comment if they had different views. He said he planned to attend working group meetings to have them report on the status of these different issues. He said he still had questions about what to do with “orphaned” specs that didn’t fall into current working group focus areas. He likely will be unable to attend the water/sewer group this month due to a conflict with a geo-structural conference, but plans to attend the next asphalt/materials meeting, and would like to make it a topic of the working groups for future assignments.

Specifications that were added to the list include backflow preventers, water trucks, rainwater harvesting and grease traps. Grease traps are an issue because they typically are handled on the building-side, but the work is normally done by a utilities contractor rather than a plumber. Chandler has created some guidelines.

Mr. Kandaris said he has volunteers to work on site-related improvements, and the Geotech Institute will help review cases. Warren White asked if he knew anyone specializing in landscaping. Jami Erickson had questions about backflow preventers.

14. General Discussion

Bob Herz provided an update on the guardrail details. He said MAG currently references the county standards, but the county is moving to the 31” Midwest Guardrail System. This system has the rails spliced between posts rather than on them. The new details will use the 3100 numbers, the existing guardrail details will still be available but the detail numbers are changed to the 2800 numbers to be consistent with the 28” guardrail height. He said the end treatments must be MASH compliant by 2017. Mr. Herz hopes to have details ready for the new system by January of next year. He expects changes to the MAG specs will need to be made, but the system needs to be designed first before he can know exactly what the changes should be.

The next item Mr. Herz wished to discuss was House Bill 2549. This proposed bill would affect agencies’ choices on what type of pipe materials can be selected if state funds are used on a project. Jami Erickson of Phoenix has been forwarding links to other agencies and said Phoenix is opposed to this bill. Other members such as Lance Webb of Mesa agreed. Ms. Erickson asked members to review the links she sent, including opposition expressed by the American Water Works Association. She felt the bill would remove the cities’ ability to choose materials based on project needs other than lowest cost pipe. There was also some confusion as to what constituted the use of “state funds” for such things as HURF road projects that included utility work, state-shared revenues and so forth.

Peter Kandarlis said the Governor's budget proposed moving the Geologic Survey Institute back under ASU as one of its research areas. He said it was originally moved away from ASU to better serve the research needs of the entire industry, and he thinks moving it back may be detrimental to receiving the funding it needs to meet the needs of industry.

Tom Kaczmarowski suggested the water/sewer working group review how utilities such as manholes and structures may fall under the EPA's National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements regarding the handling of asbestos. He said Scott McDonald at Maricopa County is developing guidelines. He thinks other agencies should have internal discussions about this issue.

15. Future Agenda Items

Chair Badowich asked the committee for any possible future agenda items. None were announced.

16. Adjournment

Seeing no further business, chair Badowich adjourned the meeting at 3:20 p.m.

2015 PROPOSED REVISIONS TO MAG SPECIFICATIONS AND DETAILS

(Updated information can be found on the website: <http://www.azmag.gov/Projects/Project.asp?CMSID=1055&CMSID2=7154>)

| CASE | DESCRIPTION | PROPOSED BY | MEMBER | SUBMITTAL DATE Last Revision | VOTE DATE | VOTE | |
|-------|---|--------------|-----------------------------|---------------------------------|-------------------------|-------------|----------------------|
| | CARRY FORWARD CASES FROM 2015 | | | | | | |
| 15-05 | Case 15-05: Proposed Revisions to Section 616 Reclaimed Water Line Construction and NEW Reclaimed Valve Box detail 270-2. Update Detail 270-1. | Chandler | Warren White | 03/04/2015 02/23/2016 | | 0 0 0 | Yes No Abstain |
| 15-10 | Case 15-10: Add subsection 321.10.5.3 "Rehabilitation Work" into the MAG Specifications. | Materials WG | Brain Gallimore | 06/03/2015 07/23/2015 | Withdrawn 02/03/2016 | 0 0 0 | Yes No Abstain |
| 15-13 | Case 15-13: Add text to Section 725.6 to identify what to include in a concrete mix design submittal. | Concrete WG | Jeff Hearne | 06/03/2015 | | 0 0 0 | Yes No Abstain |
| | NEW CASES FOR 2016 | | | | | | |
| 16-01 | Case 16-01: Miscellaneous Corrections: A. Revise Table 310-1 by deleting "or gradation deficiency" from the Deficiency column for Type IV. B. Correct arrow placement on Detail 507: Encased Concrete Pipe C. Add bullets back into Table 608-2 to make sure Item 3. Surface Survey is included in medium and large projects. | MCDOT | Bob Herz, Arvid Veidmark | 01/06/2016 03/02/2016 | | 0 0 0 | Yes No Abstain |
| 16-02 | Case 16-02: Add requirements for certificate of compliance and certificate of analysis. Add Section 106.2.1 Certificate of Compliance, add Section 106.2.2 Certificate of Analysis, and modify Section 717.2.1.2 Crumb Rubber. | MCDOT | Bob Herz | 01/06/2016 | | 0 0 0 | Yes No Abstain |
| 16-03 | Case 16-03: Revision to Detail 251 RETURN TYPE DRIVEWAYS. Adjust concrete thickness and concrete class for commercial and industrial driveways to match requirements shown on Detail 250. | MCDOT | Bob Herz | 01/06/2016 02/04/2016 | | 0 0 0 | Yes No Abstain |
| 16-04 | Case 16-04: Review and adjust Section 340.2.1. for withdrawn ASTM C1028 reference. | MCDOT | Bob Herz | 02/03/2016 02/04/2016 | | 0 0 0 | Yes No Abstain |

608.4 RECORD DOCUMENTS AND SUBMITTAL REQUIREMENTS:

Submittal requirements are based on the bore size classification as shown in Table 608-2. The required items contained in items 1 through 10 shall be submitted prior to the authorization to commence field construction. Copies of all documents shall be maintained at the construction site and be available for inspection.

| TABLE 608-2 | | | |
|--|---------------------------------|---------------|--------------|
| SUBMITTAL REQUIREMENTS | | | |
| Required Record Document | Bore Size Classification | | |
| | Small | Medium | Large |
| 1. Agency Approved Plans | • | • | • |
| 2. Personnel Qualifications | • | • | • |
| 3. Surface Survey | | • | • |
| 4. Bore Plan/Profile | | • | • |
| 5. Drilling Fluid Management Plan | | • | • |
| 6. Equipment & Site Setup | | | • |
| 7. Drilling Fluid Pressure Calculations | | | • |
| 8. Pipe Stress and Pullback Calculations | | | • |
| 9. Bore Data | • | • | • |
| 10. As-Built | • | • | • |

608.4.1 Agency Approved Plans: The facility owner shall submit plans for approval to the Agency in whose right-of-way the facility owner is proposing to install the new utility. Any changes from the approved plans will require a re-submittal of plans and re-approval. Plans are to identify the location of all property lines, right-of-way, and easements within the project construction limits. No work is to take place outside of the construction limits as shown on the agency approved plans.

608.4.2 Personnel Qualifications: The Contractor shall provide a competent and experienced individual familiar with the equipment and the type of HDD operations to be performed. The individual shall be present onsite while HDD operations are being performed and be in direct charge and control of the HDD operations. Documentation of experience and appropriate training evidenced by a certificate of attendance from a training program shall be provided upon request.

608.4.3 Surface Survey: A surface survey is not required for small bores unless specified by contract or permit documents. A surface survey requires the contractor prior to starting the drilling operation to submit to the Engineer a surface survey of elevations along the planned bore alignment, the maximum interval between elevations shall be ten feet (10'). Upon completion of the installation of the product pipe, the Contractor shall have a second survey performed and shall have the elevations compared with the pre-bore survey elevations. The second survey and the comparative results shall be submitted to the Engineer. Any change in elevation of a paved surface greater than 1/2" shall be considered excessive and shall be repaired at the Contractor's expense. Any elevation deviation of a paved flow line that is greater than 1/4" shall be considered excessive and shall be repaired at the Contractor's expense.

608.4.4 Bore Plan/Profile: A scaled plan and profile drawing of the proposed pilot bore shall be submitted by the Contractor. The bore plan/profile shall show existing surface features and grade, the proposed pilot bore size and path, and all existing utilities with dimensioned vertical and horizontal clearances.

608.4.5 Drilling Fluid Management Plan: Indicate the type and amount of the drilling fluid planned to be used on the project. Include safety data sheets for the identified drilling fluid components and additives. The drilling fluid plan is developed based upon the anticipated soil conditions, and a sufficient supply of fluid is to be available to enable successful completion of the bore. Indicate the intended method of disposal of spent drilling fluids and

Curb Ramp Working Group Meeting

Meeting Notes
February 22, 2016

Opening:

The meeting of the Specifications and Details Curb Ramp Working Group was called to order by Warren White on February 22, 2016, at 1:30 p.m. in the MAG Cottonwood Room.

1. Attendance

Bob Herz (MCDOT), Craig Sharp (Buckeye), Gordon Tyus (MAG), Warren White (Chandler)

2. Radial Curb Ramp Draft Details (Details 236-1, 236-2)

Warren White provided an updated Detail 236-1 for radial dual ramps, and also a new Detail 236-2 showing radial ramps for a detached sidewalk, that was marked up by Bandon Forrey. Mr. White then discussed comments from others in Chandler and discussed with the group cross slopes, ramp grades, and wing slopes. Members discussed what the default values should be for each, as well as minimum and maximum values. It was thought to use default values with built-in tolerances on the detail drawings with the minimum and maximum ADA slope requirements stated in Section 340 specifications and reference to maximum grades mentioned in note no. 2. There was specific discussion on when cross slopes were allowed to increase from 2% to 5% – at street crossings without yield or stop control (PROWAG sections 302.6.1 and 304.5.3). Other recommendations were to move the section line A-A and clarify the slopes in the notes.

The draft Detail 236-2 showed options for wings on one side with a curb instead of a wing on the other. There was discussion on how agencies would specify what option to use. Mr. Sharp said contractors in the field generally go by the detail drawing in hand. Mr. Herz suggested that there be an option to transition for 6” curb to 4” to allow for shorter ramp lengths. Mr. Tyus said in the detail he drew to scale for 6” curbs, the wings of the ramp were closer to a 45 degree angle. Mr. Sharp said Buckeye typically transitions from 4” roll curb to 6” vertical curb at the returns, however they have built 4” vertical curb around the radius to help minimize the elevation change in the ramp slopes when drainage isn’t affected. Mr. White said the ramp area on the detail was drawn larger than needed. Other revisions included: centering the right-of-way line, including the curved and straight line options for the back of landing area, showing where the joints would be, and removing the dashed line of the wing on the curbed side.

3. Directional Curb Ramp Draft Details (Detail 237-1, 237-2)

The directional curb ramp details were also updated and included Detail 237-2 for a detached sidewalk. The group discussed the slopes and ramp placement for the details. It was noted that the blow-up view at the back of curb should not show the detectable warning, and the ½” change in elevation between the gutter flowline and back of curb should be deleted. The group discussed the difficulties of determining proper grades for the concrete section between the detectable warnings and the gutter flow line. Mr. Herz said he would like to see spot elevations on the corners of the concrete area between the detectable warnings and gutter flowline that would accommodate gutter slopes of 2% grade in both directions. The group also recommended having one corner of the detectable warning meet the back of curb, move the

section line to the other ramp, and remove the 5' max dimension from the section and show it on the plan view. Mr. Tyus suggested moving the 2' detectable warning dimension from the section view to the plan view.

Other items discussed included the maximum slopes for the wings, and how the placement of the ramps would affect the slope. Similar comments would apply to the detail with the detached sidewalk.

4. Next Steps

Warren White said he would discuss the changes with Brandon Forrey and try to incorporate comments and feedback to update the draft details and the changes needed in Section 340. His plan is to have the materials ready to present at a case at the March 2nd MAG Specs and Details Committee meeting. The next working group meeting is scheduled for Monday, March 15th in the MAG offices.

5. Adjournment

The meeting was adjourned at 3:17 p.m.

Water/Sewer Working Group Meeting

Meeting Notes

February 16, 2016

Opening:

A meeting of the Specifications and Details Water/Sewer Working Group was called to order by chair Jim Badowich on February 16, 2016, at 1:30 p.m. in the MAG Chaparral Room.

1. Introductions/Attendance

Tony Ayala (Avondale), Jim Badowich (Avondale), Tom Brennan (Utility West), Bob Herz (Maricopa County), Troy McGahey (New Horizon Sales), Paul Nebeker (Pipe Right Now), Craig Sharp (Buckeye), Brian Sitarz (Oldcastle), Raffi Soghomonlan (Armorcast), Matt Stoltenborg (Oldcastle), Gordon Tyus (MAG), Arvid Veidmark (SSC Boring), and Kenny Watkins (Oldcastle).

2. Case 16-01: Misc. Corrections

Jim Badowich asked if anyone had any related blooper cases to discuss. Arvid Veidmark said that Table 608-2 was missing dots for the medium and large projects for Item 3 – Surface Survey. He said Warren White noticed the error. Mr. Tyus said he would include it as correction C in Case 16-01 at the next committee meeting.

3. Case 15-05: Reclaimed Valve Boxes

Mr. Badowich said the case was hammered out at the last committee meeting. Mr. Herz said he was waiting to see the changes from Warren White. Jim Badowich said one of them was removing the word “VALVE” from the covers. Paul Nebeker asked if there needed to be two sizes similar to what is used for water valves depending on if they are using Detail 391-1 or 391-2. He also asked if a locking lid option should be included. There was also a question as to which grade adjustment detail (270 or 391) should be used. Mr. Badowich said he would bring it up at the March committee meeting.

4. Spec Section 611: Water, Sewer and Storm Drain Testing

Mr. Badowich then discussed possible new cases. He would like to focus on is the testing procedures in Section 611, including disinfecting/chlorination and flushing. He said he liked the NFPA flushing specs for fire lines. Paul Nebeker said most agencies do not have a large enough tie-in for flushing. He said due to the nature of the business, waterlines get dirty during installation, and he recommended size-on-size for flushing pipe similar to Scottsdale’s practice. Mr. Badowich said the contractor needs to meet a performance standard for testing, and if they are paying for water they have an incentive to help keep the pipe clean. Mr. Nebeker replied that agencies need to allow the contractor enough water to do the job. Mr. Badowich discussed flushing of fire lines and noted that the agencies are guardians of the public water system and they have to be weigh common-sense practices, but also make sure the potable water stays safe, and the chlorination can help keep algae from growing in unused fire lines. Mr. Nebeker agreed, thinking that it should be tested.

Tony Ayala handed out copies of testing procedures from Avondale, Goodyear, Mesa, and Tempe. Mr. Badowich said he wanted to keep the flushing and disinfection specs separate. Mr. Nebeker said AWWA has a chlorination specification. Bob Herz suggested that these specs be compiled into a draft standard for the group to review.

5. MAG Detail 320: Meter Boxes

Mr. Badowich wanted to review Detail 320 Concrete Water Meter Boxes and the lid details to see if there are standardized dimensions between manufacturers for the lids and boxes when made of new materials. Representative from Oldcastle and Armorcast were present to provide information on MAG meter box details, and options for different materials that they are using. Mr. Soghomonlan of Armorcast said MAG boxes are unique in that the radius in the corner tends to be smaller than typical. A MAG lid won't fit on a box in Tuscon, for example. Mr. Badowich said he didn't want to change dimensions, but wanted to make sure that lids would be interchangeable with boxes regardless of manufacturer or material. Industry reps said they would like define what a "traffic-rated" box would be. Mr. Soghomonlan said the ones they designed would cost approximately 15% more. Representatives from Oldcastle said they came up with a 20K spec which was 20,000 lbs. per a 10x10 square. It was noted the Mesa used a different design for traffic rated boxes that are not size compatible with the MAG details. Bob Herz said they were looking at traffic rated boxes for ITS projects.

Gordon Tyus asked industry reps if the MAG details could be simplified since materials other than concrete are used for boxes, and the cast-iron lids are no longer manufactured. The industry reps wanted to keep the same dimensions, but agreed that other than things such as the lettering height, many of the manufacturing dimensions were not needed.

Besides concrete boxes, materials now used include concrete/polymer, HDPE, and other composite polymers/fibers including Armorcast's Rotocast and Oldcastle's Fiberlite. Steel lids can still be used but they are moving away from them due to theft. Reps from Oldcastle suggested having a third party do the testing. MAG currently does not have any performance requirements for the boxes or lids. Bob Herz requested that the companies provide their info to MAG. Jim Badowich said they could email it to him.

6. House Bill 2549 Regarding Pipe Materials Purchasing

Mr. Badowich brought up the issue which was discussed at the last committee meeting. Gordon Tyus said he received an email that morning forwarded by Stew Waller from State Representative Vince Leach stating, "Please know that Pipe Bill HB2459 will not be moving forward. An agreement has been worked out so there is no need for the bill." Mr. Tyus said he believed this was related to the city of Phoenix considering the use of plastic pipe in the future. He also thought there were issues with what constitutes state funding on agency projects. Mr. Badowich said Avondale has an enterprise fund for their utilities.

7. Asbestos Testing in Manholes

Mr. Badowich said this issue was brought up by Tom Kaczmarowski at the last committee meeting. He did not think it was applicable to new manholes since asbestos is no longer used. He didn't think it was used in the past either, and asked the group if they knew. Mr. Tyus mentioned the possibility of asbestos pipe in manhole retrofits. Mr. Herz said Phoenix and Maricopa County got sued for asbestos-related issues, and their department of environmental quality is reviewing the issue.

8. Next Meeting

The next meeting will be at 1:30 on March 15th at the MAG offices.

10. Adjournment

The meeting was adjourned at 3:00 p.m.

**Report to MAG Technical Committee
Meeting February 18th, 2016
Asphalt and Materials Working Group meetings
By Chairmen, Greg Groneberg, Brian Gallimore**

The meeting was held on noon on February 18th, 2016 at the ARPA offices.

Present at the meeting: Greg Groneberg (S.W. Asphalt), Robert Herz (MCDOT), Scott Thompson (AMEC F.W.), Brian Gallimore (WSP), Gordon Tyus (MAG), Alex Carter & Lloyd Glover (Vulcan)

Cases / Items Reviewed and discussed:

Case 16-02 Certificates of Compliance

Brief discussion for comments on the case in its current state. Added wording “upon request” to many

ASTM Revisions

| ASTM REFERENCES | | |
|------------------------|-----------------|---|
| ASTM | PERSON | NOTES |
| D6276 | DON CORNELISON | Withdrawn with no replacement. We need to either reference the 1999 version or eliminate this portion of the procedure. Let's talk. |
| A82, A185, A496 | JEFF HEARNE | A82, A185, and A496 replaced by A1064 |
| D2006 | SAM HUDDLESTON | Waiting on comment(s) |
| D6103 | JEFF HEARNE | Will be referenced as D6103-04 in Section 728 |
| D3406 | BRIAN GALLIMORE | Identified a new pourable sealant. Expect to have more info, including any ASTM standards by next working group meeting |
| D234 | BRIAN GALLIMORE | Remove Linseed reference? |
| D260 | BRIAN GALLIMORE | Remove Boiled Linseed reference? |
| D13 | BRIAN GALLIMORE | Remove Turpentine reference? |
| D605 | BRIAN GALLIMORE | Remove Talc reference? |

Miscellaneous Items

A. Continued discussion on “bike lane green” and continuing to gather data (Ennis, 3M)

B. MAG 710 discussion on high volume / low volume references for design

Next meeting is March 17th, 2016 at noon in the ARPA offices
This meeting was adjourned at approximately 12:38PM