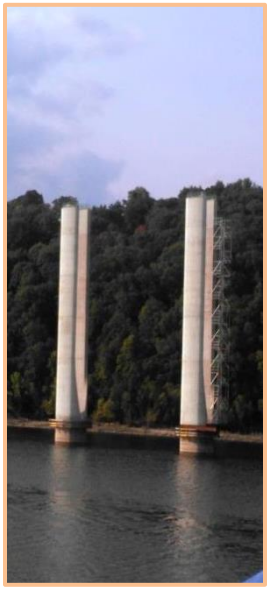
SUBCOMMITTEE ON MATERIALS

100th Annual Meeting – Minneapolis, Minnesota
Wednesday, July 30, 2014
10:15 am – 12:00 pm CST

MINUTES for TECHNICAL SECTION 4a
RIGID PIPE

1. Call to Order and Opening Remarks

2. Roll Call



State	Representative	Present	State	Representative	Present
AL	Steven Ingram	X	PA	Bob Horwhat	X
AK	Michael San Angelo		SC	Merrill Zwanka	X
CA	Phil Stolarski	X	TN	Danny Lane	X
GA	Richard Douds	X	VA	Andy Babish	X
KS	Rick Kreider	X	WV	Aaron Gillispie	X
LA	Christopher Abadie	X	WI	Steven Krebs	X
ME	Richard Bradbury		AASHTO	Evan Rothblatt	X
MA	Clement Fung		AMRL	Maria Knake	
MO	Brett Trautman	X	AMRL	Steve Lenker	
NE	Mick Syslo	X	AMRL	Greg Uherek	
NV	Reid Kaiser	X	FHWA	Dennis Dvorak	X
NJ	Eileen Sheehy		ACPA	Josh Beakley	X
NY	Bob Sack		NCSPA	Mike McGough	
NC	Chris Peoples	X	PPI	Dan Currence	X
OH	Lloyd Welker				

(See **Attachment 1** for a complete listing of attendees.)

3. Approval of Technical Section Minutes

- Motion made by MO, TN. All members were in favor.

4. Old Business

A. Previous Year SOM Ballot Items. Discussed during two video conferences (**Attachment 2**).

B. Task Force Reports.

1. TF 2013-01: NC/ACPA to help resolve NC's negative for M 206.

The M 206 negative has been resolved. They voted negative because the cover in the spigot of the joint was allowed to be reduced to a half a joint instead of a quarter of an inch. Chris worked with Josh (ACPA). M170 had the same language in it for a long time. NC is now okay with how the change came about. NC still has concerns still has concerns about going from a half inch to a quarter inch cover in the joint. This change

was made in ASTM previous to it being adopted through AASHTO. ***This task force will be dissolved.***

2. ***TF 2013-02: Inspection of Precast Concrete Products***

Tim Rulke (FL) has been heading this up. This task force was established last year to look at the acceptance of the precast products. There were 7 conference calls throughout the year. There was a lot of discussion early on about the scope of the task force and the product they were going to deliver. The standard practice for the evaluation and acceptance of precast concrete products was created. This is to look at the defects on precast concrete products. With proper repair, these products can be used while others with major deficiencies would not be able to be used. This standard practice was sent out as a tech section ballot. This document was balloted as a new standard practice. This ballot had one negative from FHWA. The title, is in conflict with AASHTO R10. Section 1.5. indicates the guidelines required for deficient conditions. FHWA is in favor of the scope. RI believes "acceptance" shouldn't be included in the title. NC: The way the title reads now isn't the best and a change should be made to the title. Suggestion from FHWA and RI to: Evaluation of Precast Concrete Products. PennDOT would like to add the word" Drainage" to the title. ***The chair proposes the TF gets together to resolve the concerns with the title and other issues to the benefit of the practice. This will be submitted as a concurrent ballot and needs to be turned around by September 15th.*** FHWA is also concerned with this practice having a lot of potential, but to help users, please provide pictures of each type of distress. These changes do not have to be in this version, but should have this completed for next year. IN DOT manual put together a manual that includes pictures of this type. FL: The drawings in the document are great in the document. FL would like to see high definition pictures of cracking in the document. Standard Practice for Evaluation of Precast Concrete Drainage Products is the suggested title and this TF would review the comments from PennDOT. Motion made by RI, seconded it by NC. All were in favor. PennDOT is concerned with the extent of the honey combing is very significant in this standard practice. Their state does not allow for honeycombing on the inside of the pipe. They aren't sure how these pipes are going to hold up or if they have been repaired. PennDOT provided a manual to the producers as to what standards they need to meet. Bob Horwhat will provide this manual to the TF.

3. ***TF 2013-03: National Oversight of Industry Audits***

Rick Kreider is leading this TF. Rick sent out a survey earlier this Spring. 33 states responded to the survey. The results were reviewed during the meeting and will be attached to these minutes. 13 states indicated they felt a review was not needed by AASHTO. Discussion: NC- is okay with no oversight from SOM, but they have a comprehensive program in their state. They do random audits and accompany ACPA on their audits. FL- agrees with NC. They visit the plants themselves. FHWA- during a review done 3 years ago, many of those facilities were audited by the industry associations. From their gut check, they had some concerns with quality and technical items. 40 of the states are relying on third party certification programs. AK-inspects every product. SC is fine with their oversight using the third party certification program. All TS members were in favor of disbanding this TF. ***The Chair eliminated the TF.***

5. New Business

A. 2014 Reconfirmation Ballot Items.

No reconfirmations required in 2014 ballot.

B. Proposed 2014 SOM Ballot Items (**Attachment 3**).
(NOTE: Unless stated otherwise, all changes are reflecting updates to corresponding ASTM specifications/test procedures.)

M 86M/M 86 (C 14M-14/C 14-14) Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
Addition:
2.1 *AASHTO Standards:*
M 194, Specification for Chemical Admixtures for Concrete

Current Version:
6.4. *Admixtures and Blends*—Admixtures and blends shall only be used with the approval of the owner.
Proposed Version:
6.4. Admixtures and blends shall conform to M 194.

Current Version:
6.5. *Synthetic Fibers*—Polypropylene fibers are permitted, at the owner's option, in concrete pipe as a nonstructural manufacturing material. Only Type III synthetic fibers designed and manufactured specifically for use in concrete and conforming to the requirements of ASTM C 1116/C 1116M shall be accepted.
Proposed Version:
6.5. Synthetic fibers and Non-Synthetic fibers shall be allowed to be used, at the manufacturer's option, in concrete pipe as a nonstructural manufacturing material. Synthetic fibers (Type II and Type III) and Non-Synthetic fiber (Type I) designed and manufactured specifically for use in concrete and conforming to the requirements of Specification C1116 shall be accepted.

M 170 (C 76-14) Reinforced Concrete Culvert, Storm Drain and Sewer Pipe
Current Version:
6.2.4.3. Slag modified portland cement only,
Proposed Version:
Remove 6.2.4.3. and shift remaining list up.

Current Version:
8.1.8.1. When splices are welded and are not lapped to the minimum requirements above, pull tests of representative specimens shall develop at least 50 percent of the minimum specified strength of the steel, and there shall be a minimum lap of 2 in. For butt-welded splices in bars or wire, permitted only with helically wound cages, pull tests of representative specimens shall develop at least 75 percent of the minimum specified strength of the steel
Proposed Version:
8.1.8.1 When splices are welded and are not lapped to the minimum requirements above, there shall be a minimum lap of 2 in. and a weld of sufficient length such that pull test of representative specimens shall develop at least 50 % of the minimum specified tensile strength of the steel. For buttwelded splices in bars or wire, permitted only with helically wound cages, pull tests of representative specimens shall develop at least 75 % of the minimum specified tensile strength of the steel.

Current Version:
10.1. *Mixture*—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials and water as will produce a homogeneous concrete mixture of such quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water–cementitious materials ratio not exceeding 0.53 by weight. Cementitious materials shall be as specified in Section 6.2 and shall be added to the mix in a proportion not less than 470 lb/yd3, unless mix designs with a lower cementitious materials content demonstrate that the quality and performance of the pipe meet the requirements of this specification.
Proposed Version:
10.1 *Mixture*—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials, water, and admixtures, if any, to produce a thoroughly mixed concrete of such

quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water-cementitious materials ratio not exceeding 0.53 by weight. Cementitious materials shall be as specified in Section 6.2 and shall be added to the mix in a proportion not less than 470 lb/yd3 unless mix designs with a lower cementitious materials content demonstrate that the quality and performance of the pipe meet the requirements of this specification.

M 170M (C 76M-14) Reinforced Concrete Culvert, Storm Drain and Sewer Pipe

Current Version:

6.2.4.3. Slag modified portland cement only,

Proposed Version:

Remove 6.2.4.3. and shift remaining list up.

Current Version:

8.1.8.1. When splices are welded and are not lapped to the minimum requirements above, pull tests of representative specimens shall develop at least 50 percent of the minimum specified strength of the steel, and there shall be a minimum lap of 50 mm. For butt-welded splices in bars or wire, permitted only with helically wound cages, pull tests of representative specimens shall develop at least 75 percent of the minimum specified strength of the steel

Proposed Version:

8.1.8.1 When splices are welded and are not lapped to the minimum requirements above, there shall be a minimum lap of 50 mm and a weld of sufficient length such that pull test of representative specimens shall develop at least 50 percent of the minimum specified tensile strength of the steel. For buttwelded splices in bars or wire, permitted only with helically wound cages, pull tests of representative specimens shall develop at least 75 percent of the minimum specified tensile strength of the steel.

Current Version:

10.1. *Mixture*—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials and water as will produce a homogeneous concrete mixture of such quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water–cementitious materials ratio not exceeding 0.53 by mass. Cementitious materials shall be as specified in Section 6.2 and shall be added to the mix in a proportion not less than 280 kg/m^3, unless mix designs with a lower cementitious materials content demonstrate that the quality and performance of the pipe meet the requirements of this specification.

Proposed Version:

10.1 *Mixture*—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials, water, and admixtures, if any, to produce a thoroughly mixed concrete of such quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water-cementitious materials ratio not exceeding 0.53 by mass. Cementitious materials shall be as specified in Section 6.2 and shall be added to the mix in a proportion not less than 280 kg/m^3 unless mix designs with a lower cementitious materials content demonstrate that the quality and performance of the pipe meet the requirements of this specification.

M 206M/M 206 (C 506M-13a/C 506-13a) Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe

Current Version:

6.2.4.3. Slag modified portland cement only,

Proposed Version:

Remove 6.2.4.3. and shift remaining list up.

Current Version:

6.2.4.8. A combination of portland pozzolan cement and fly ash, provided the fly ash added does not exceed 25 percent by weight of the portland pozzolan cement.

Proposed Version:

6.2.4.8. A combination of portland pozzolan cement and fly ash.

Chair's Commentary:
Required changes to 6.2.4.8. were inadvertently missed when removing the "does not exceed 25 percent" on fly ash addition from the specification last year.

M 207M/M 207 (C 506M-13a/C 506-13a) Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe

Addition:
2.2 *ASTM Standards:*
C1602/C1602M Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete

Current Version:
6.2.4.3. Slag modified portland cement only,
Proposed Version:
Remove 6.2.4.3. and shift remaining list up.

Current Version:
6.2.4.8. A combination of portland pozzolan cement and fly ash, provided the fly ash added does not exceed 25 percent by weight of the portland pozzolan cement.
Proposed Version:
6.2.4.8. A combination of portland pozzolan cement and fly ash.
Chair's Commentary:
Required changes to 6.2.4.8. were inadvertently missed when removing the "does not exceed 25 percent" on fly ash addition from the specification last year.

Current Version:
8.1.6.1. When splices are welded and are not lapped to the minimum requirements above, pull tests of representative specimens shall develop at least 50 percent of the minimum specified ultimate strength of the circumferential wire, and there shall be a minimum lap of 50 mm [2 in.] with sufficient weld length to develop the required strength. For butt welded splices in bars or wire, permitted only in helically wound cages, pull tests of representative specimens shall develop at least 75 percent of the minimum specified ultimate strength of the circumferential wire.
Proposed Version:
8.1.6.1 When splices are welded and are not lapped to the minimum requirements above, there shall be a minimum lap of 50 mm [2 in.] and a weld of sufficient length such that pull tests of representative specimens shall develop at least 50 percent of the minimum specified tensile strength of the steel. For butt welded splices in bars or wire, permitted only in helically wound cages, pull tests of representative specimens shall develop at least 75 percent of the minimum specified tensile strength of the steel.

Current Version:
10.1 Mixture—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials and water as will produce a homogeneous concrete mixture of such quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water-cementitious materials ratio not exceeding 0.53 by mass. Cementitious materials shall be as specified in Section 6.2 and shall be added to the mix in a proportion not less than 280 kg/m3 [470 lb/yd3], unless mix designs with a lower cementitious materials content demonstrate that the quality and performance of the pipe meet the requirements of this specification.
Proposed Version:
10.1 *Mixture*—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials, water, and admixtures, if any, to produce a thoroughly mixed concrete of such quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water-cementitious materials ratio not exceeding 0.53 by mass. Cementitious materials shall be as specified in Section 6.2 and shall be added to the mix in a proportion not less than 280 kg/m3 [470

lb/yd3], unless mix designs with a lower cementitious materials content demonstrate that the quality and performance of the pipe meet the requirements of this specification.
10.1.1 *Mixing Water*—Water used in the production of concrete shall be potable or non-potable water that meets the requirements of ASTM C1602/C1602M.

M 242M/M 242 (C 506M-13a/C 506-13a) Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe

Addition:
2.2 *ASTM Standards:*
C1602/C1602M Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete

Current Version:
6.1.2.4. c) Slag modified portland cement only,
Proposed Version:
Remove 6.1.2.4. c) and shift remaining list up.
Chair's Commentary:
Required changes to 6.1.2.4. were inadvertently missed when removing the "does not exceed 25 percent" on fly ash addition from the specification last year.

Current Version:
6.2.1. *Mixture*—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials and water as will produce a homogeneous concrete mixture of such quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water-cementitious materials ratio not exceeding 0.53 by mass. Cementitious materials shall be as specified in Section 6.1 and shall be added to the mix in a proportion not less than 280 kg/m^3 [470 lb/yd^3] unless mix designs with a lower cementitious material content demonstrate that the quality and performance of the pipe meet the requirements of this specification.
Proposed Version:

6.2.1 Mixture—The aggregates shall be sized, graded, proportioned, and mixed with such proportions of cementitious materials, water, and admixtures, if any, to produce a thoroughly mixed concrete of such quality that the pipe will conform to the test and design requirements of this specification. All concrete shall have a water-cementitious materials ratio not exceeding 0.53 by mass. Cementitious materials shall be as specified in Section 6.1 and shall be added to the mix in a proportion not less than 280 kg/m3 [470 lb/yd3] unless mix designs with a lower cementitious material content demonstrate that the quality and performance of the pipe meet the requirements of this specification.
6.2.1.1 Mixing Water—Water used in the production of concrete shall be potable or nonpotable water that meets the requirements of ASTM C1602/C1602M.

C. Correspondence: 2 videoconferences, 1 request for presentation.

D. New Standard: Standard Practice for The Evaluation and Acceptance of Precast Concrete Products

E. Presentation by Mr. Josh Beakley and Dr. Abolmaali: Proposed AASHTO Specification for Thin Wall Concrete Pipes with Synthetic Fiber

6. Open Discussion

- Presentation given by Dr. Abolmali titled Proposed AASHTO Specification for Thin Wall Concrete Pipes with Synthetic Fiber.
- Kim Spahn with ACPA provided a QCAST report to the TS members.

- Problem statement for Fundamental Correlation of Highway Drainage Systems Design and Service Life Limit States, which came from TRB ASF 17. Motion made by NC, seconded by PA to move this problem statement forward to the entire SOM to be a problem statement backed by TS4a.
- Rick Kreider is stepping down as TS 4a. Bob Horwhat has accepted the position of TS 4a chair, which needs to be approved by the SOM Executive Committee.

7. Adjourn- Motion made by CA, seconded by PA. **Concluded at 12:05pm.**

NOTE: The state of Florida has requested to join TS4a (see sign-in sheet).

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TS 4a
Rigid Pipe
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Attendance Sheet

Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
Kreider, Richard E.	Kansas Department of Transportation	richard.kreider@ksdot.org	785 296 1195	☒	☐
Kaiser, Reid	Nevada Department of Transportation	rkaiser@dot.state.nv.us	775 888-7520	☒	☐
Rothblatt, Evan	American Association of State Highway and Transportation Officials	erothblatt@aashto.org	202-624-3648	☐	☐
Knake, Maria	AASHTO Material Reference Laboratory	mknake@amrl.net		☐	☐
Lenker, Steven E.	AASHTO Material Reference Laboratory	slenker@amrl.net		☐	☐
Uherek, Greg	AASHTO Material Reference Laboratory	guherek@amrl.net		☐	☐
Ingram, Steven STUGART, ROBERT	Alabama Department of Transportation	ingrams@dot.state.al.us stugartr@dot.state.al.us	334 206-2309	☐	☐
San Angelo, Michael	Alaska Department of Transportation and Public Facilities	michael.sanangelo@alaska.gov		☐	☐
Stolarski, Phil J PJS	California Department of Transportation	phil.stolarski@dot.ca.gov	9162277254	☑	☐
Dvorak, Dennis V	Federal Highway Administration	dennis.dvorak@dot.gov	708-283-3542	☒	☐
Douds, Richard Chuck Hasty	Georgia Department of Transportation	rdouds@dot.ga.gov chasty@dot.ga.gov	404.608.4708	☐	☐
Abadie, Christopher David	Louisiana Department of Transportation and Development	Chris.Abadie@la.gov	225 248 4131	☒	☐
Bradbury, Richard L	Maine Department of Transportation	Richard.Bradbury@maine.gov		☐	☐
Fung, Clement W.	Massachusetts Department of Transportation	clement.fung@mhd.state.ma.us		☐	☐

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Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
Syslo, Mick	Nebraska Department of Roads	Mick.Syslo@nebraska.gov	402-479-4250	☑	☐
Sheehy, Eileen	New Jersey Department of Transportation	eileen.sheehy@dot.state.nj.us		☐	☐
Peoples, Christopher A.	North Carolina Department of Transportation	cpeoples@ncdot.gov	919329-4000	☑	☐
Horwhat, Robert D	Pennsylvania Department of Transportation	rhorwhat@pa.gov	717 705 3841	☑	☐
Zwanka, Merrrill E	South Carolina Department of Transportation	zwankame@scdot.org	803-737-6681	☑	☐
Trolinger, Bill	Tennessee Department of Transportation	bill.trolinger@tn.gov		☐	☐
Babish, Charles A.	Virginia Department of Transportation	andy.babish@vdot.virginia.gov	804-328-3102	☑	☐
Gillispie, Aaron C.	West Virginia Department of Transportation	aaron.c.gillispie@wv.gov		☐	☐
Krebs, Steven W	Wisconsin Department of Transportation	steven.krebs@dot.wi.gov		☒	☐
Beakley, Josiah W	American Concrete Pipe Association	jbeakley@concrete-pipe.org		☒ Friend	☐
McGough, Michael J	National Corrugated Steel Pipe Association	mmcgough@ncspa.org		☐	☐
Currence, Daniel	Plastics Pipe Institute	dcurrence@plasticpipe.org	816 916-3470	☒ Friend	☐
Ruelke, Tim	FDOT	timothy.ruelke@dot.state.fl.us	(352) 955 6620	☐	☑
Ahmad Ardani	FHWA	ahmad.ardani@dot.gov		☐	☐
Crista McNish	ADS	crista.mcnish@ads-pipe.com	419-424-9305	☐	☐
Brian Chestnut	Lane Enterprises, Inc	bchestnut@lane-enterprises.com	717805-0009	☐	☐
DAN FIGOLA	ADS	dfigola@ads-pipe.com	630 760 2988	☐	☐

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Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
John Kurdziel	ADS	john.kurdziel@ads-pipe.com	614-658-0211	☐	☐
Greg Bohn	ADS	GREG.BOHN@ADS-PIPE.COM	(614) 588-6830	☐	☐
Greg Boyle	ADS	greg.boyle@ads-pipe.com	614-658-0236	☐	☐
Doug Baker	Springfield Plastics	dbaker@spipipe.com	219-438-6167	☐	☐
Brian Korschgen	AASHTO	bKorschgen@aashto.org	202-624-8566	☐	☐
Kathryn Makosky	AASHTO	KmaloskY@aashto.org		☐	☐
Shawn Coombs	ADS - Foltz	shawn.coombs@ads-pipe.com	704 451 8844	☐	☐
MARIO PAREDES	FDOT/AASHTO	MPAREDES@AASHTO.COM	352-231-0992	☐	☐
Kim Spahn	ACPA	KSpahn@concrete-pipe.org		☐	☐
Mcatt Childs	ACPA	MChilds@Concrete-pipe.org	214-796-4955	☐	☐
MARK FELAG	RIDOT	mark.felag@dot.ri.gov		☐ Industry	☐
RICK TRAYLOR	RINKER MATERIALS	rick.traylor@cemex.com	281 352 4735	☐	☐
Ali Abolmaali	Univ. of Texas at Arlington	abolmaali@uta.edu	817-272-3817	☐	☑
Jeff Hite	Rinker Materials	jefferya.hite@cemex.com	813 220-4076	☐	☐
Steve Krebs	Wisconsin DOT	steven.krebs@dot.wi.gov	608 246-7930	☑	☐
BILL BAILEY	VIRGINIA DOT	BILL.BAILEY@VDOT.VIRGINIA.GOV	804-328-3106	☐	☐
Mike Sullivan	Miss DOT	msullivan@mdot.ms.gov	601 359 1666	☐	☐
BARRY BAUER	OLDCASTLE Precast	barry.bauer@oldcastle.com	678 209 9287	☐	☑

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Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
DENIS BOISVERT	NHDOT	DBOISVERT@DOT.STATE.NH.US	603-271-1545	☐	☐
JOHN F. STATON	MICHIGAN DOT	statonj@michigan.gov	517-322-5701	☐	☐
Gerry Counol	HDOT	gerobin.carnate@hawaii.gov	808 832-3405 x13	☐	☐
TORE ARNESEN	Vector Corrosion	TORE@Vector-corrosion.com	303 465-5806	☐	☐
Dave Kuniega	Penn DOT	Dkuniega@pa.gov	717 787-3966	☐	☐
RICHIE CHARPENTIER	LOUISIANA DOTD	RICHIE.charpentier@la.gov	225 2484217	☐	☑
Erica Ezekwenbe	FHWA	nnaemeka.ezekwemba@dot.gov	651 291 6108	☐	☐
DAVID MCDONALD	EIG-CRSI	dmcdonald@epoxy-crsi.org	847 5325762	☐	☐
HEIDI HELMINK	BEKAERT (DRAMIX)	HEIDI.HELMINK@BEKAERT.COM	404.453.6823	☐	☑ FRIEND
JEFF SEIDERS	RKI	jseiders@rkci.com	512-904-9177	☐	☑ FRIEND
Greg Schieber	Kansas DOT	gregs@ksdot.org	785-291-3856	☐	☐
Scott Seiter	Oklahoma DOT	SSeiter@odot.org	405-521-2186	☐	☐
Moe Jamshidi	Nebraska DOR	Moe.Jamshidi@nebraska.gov	402 430.4241	☐	☐
Greta Smith	AASHTO	gsmith@AASHTO.org	202 624-5815	☐	☐
Colin Franco	RIDOT	Colin.franco@dot.ri.gov	401 222 3030 x4111	☐	☐
Michael Black	Ky Transportation Cabinet	michael.black@ky.gov	502-564-3160	☐	☐

L - Katheryn Mazlusky

S - Russell Dabbs

Brian Korschgen

Derick Leith Kentucky Transportation Cabinet Derick.Leith@ky.gov 502.564.3730

Andy Mergenmeier FHWA andy.mergenmeier@dot.gov

Chet Davidson Pensco chet@pensco.com

Barry Bauer

Kurt Williams WSDOT williak@wsdot.wa.gov