NATIONAL STEEL BRIDGE ALLIANCE

AASHTO/NSBA Steel Bridge Collaboration

Fall Meeting Minutes - Combined

Savannah, GA October 22 – 24, 2019



AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS



The AASHTO/NSBA Steel Bridge Collaboration is a joint effort between the American Association of State Highway and Transportation Officials (AASHTO) and the National Steel Bridge Alliance (NSBA) with representatives from state departments of transportation, the Federal Highway Administration, academia, and various industry groups related to steel bridge design, fabrication and inspection. The mission of the Collaboration is to provide a forum where professionals can work together to improve and achieve the quality and value of steel bridges through standardization of design, fabrication and erection.

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Task Group List

		Chair			Vice Chair	
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TG 12 Design for Economy & Constructability	Alan Berry	RS&H	allan.berry@rsandh.com	Christina Freeman	FDOT	christina.freeman@dot.state.fl.us
TG 13 Analysis of Steel Bridges	Deanna Nevling	Michael Baker International	DNevling@mbakerintl.com	Francesco Russo	Michael Baker International	frusso@mbakerintl.com
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TG 15 Data Modeling for Interoperability	Sammy Elsayed	Skanska	sae44@msn.com	Aaron Costin	University of Florida	aaron.costin@ufl.edu
TG 16 Orthotropic Deck Panels	Duncan Paterson	HDR	Duncan.Paterson@hdrinc.com	Sougata Roy	Rutgers	sougata.roy@rutgers.edu

TG 2 – Fabrication and Repair

Heather Gilmer – HRV

Attendee Introductions - All

Sign in sheet was circulated. This meeting made use of Zoom meeting to share documents and facilitate discussion.

Fabrication specification which is 2018 version. G2.2 "Fixes" document. AASHTO is creating a separate replacement for S2.1; this will be an AASHTO document and not a Collaboration document. Until that is published, S2.1 will remain available as states specify it now. There may be a period of time where both exists. TG2 will still play an active role in the maintenance and update of the new AASHTO.

AASHTO Fabrication Spec Draft

Discussion items that were distributed (see "Discussion items 2019.docx" which was emailed with subject "AASHTO/NSBA Steel Bridge Collaboration TG2 meeting info" sent by Heather on October 16) before the meeting were each reviewed and addressed. The following are some key points of discussion.

- 1.1, 4th paragraph, reference to AASHTO FCP in D1.5. Do we need this? Calling out D1.5 (previous paragraph) calls out all its provisions.
- 1.2.6: Definition adapted from AISC but is awkward. ("shall be defined as the documents that define") D1.1 definition: Any codes, specifications, drawings, or additional requirements that are contractually specified by the Owner.
- 1.1/1.2.8: do we want to get into SRMs? Is the definition stable enough?
- 1.3.1, last paragraph: since bearings were excluded from the scope at the last T-17 meeting (to appear in a later edition), should this be deleted? See 1st & last paragraphs of 1.1.

Discussion regarding the inclusion of and appropriateness of definitions of SRM and IRM. SRM and IRM relate to how they are designed and not how they should be fabricated. There is a need to create a unified definition that relates to how it should be fabricated. So, when a fabricator sees either of these terms on their drawings, they need to know how it affects the fabrication. Any definition would be taken right from the definition created by FHWA and not modified.

• 2.1: This text is a placeholder for commentary. Can we live with "should"?

The group also focused on the word "acceptable" and replace it with "effective". A suggestion was made to remove the word entirely.

- 2.2: We put in a minimum in order to have sufficient time to mobilize inspection. Do we need to address notifications that are given so far in advance that they are meaningless ("in the next ten weeks")?
- 2.2: We don't actually require an Owner notice to proceed in this paragraph; it implies that fabrication can begin as long as adequate notice is given. However, in 4.1 we do require approved shop drawings before fabrication begins. Does that suffice?

In regards to design build projects the contractor is often the one to notify the fabricator to proceed even if drawings are not completed or available. There may be a need to differentiate on mobilization based upon the project delivery method. Maybe the document should remain silent and not prescribe an appropriate notification window. Provide states with options in commentary of 2.2 but set a suggested minimum of 2-weeks. However point out that 4.1 requires approved shop drawings which must be completed.

• 3.1: Should we have anything here about the Owner having the right to review and approve such qualifications? Or just having the right to review? Or leave as is and let Owners specify what they want?

Kruth recommended language from AISC which stated that: The following qualification documents shall be available for review by owner in electronic form unless required to be submitted in contract documents.

• 3.2, last paragraph: A DOT reviewer suggests adding "The Verification Inspector shall be allowed to take photographs of the work." In practice, ultimately Owners end up getting their way on this, but it can be a fight to get there.

Include terms such as not showing people or equipment or ability for fabricator to review content ahead of time. Without saying something, interpretation might be too broad, so suggestions should be made that includes the consent of the fabricator. Picture should be isolated to work or issue. Some fabricators are being asked to provide live feeds. Should be a prefabrication meeting discussion.

- 4.2, last paragraph: Suggested by an Owner reviewer, but we may be getting out of our lane here.
- 6, 1st paragraph: A DOT reviewer suggests adding "...and shall be easily accessible to the production staff as well as QC and VI."
- 9.2 & 9.3: 9.2 addresses damage from thermal cutting. 9.3 addresses mill defects internal to the steel and discovered after cutting (or, in the case of Type Z discontinuities, discovered during UT of an adjacent splice, but that case isn't covered here because it's weld-related and left in D1.5).
 9.3 specifically excludes surface defects and refers the user to A6. However, only the welded repair provisions of A6 are of any practical use, as A709 plate is ordered by thickness and so there is practically no (0.01") allowance for grinding something out without welding it up. D1.5 subcommittee is fighting over this right now. Do we need to address this now or leave it exactly as unresolved as D1.5 currently is, and let their task group come up with the language for us to steal later?

Surface defects that are not addressed in D1.5. For example when you can grind. Over-thickness of material versus nominal gauge. It was recommended that ends, edges and surface be covered in the same section. Differentiate between base metal and weld; for example fill pen groove welds on but splices where run-off tabs are being removed.

• 10.2, 1st paragraph: Delete as means and methods? Move to commentary? The radius should be shown on the plans (though sometimes it isn't), and "largest that the part will permit" isn't very enforceable.

Bend radius is decided by the designer and not necessarily something that the fabricator will get to choose. Sentence will be removed.

• 10.2, last paragraph, 7.5t: AREMA got rid of the 1.5 multiplier (7.5t instead of 5t) for bending in the other direction. Do we want to keep it or kill it, and if we keep it, do we want the multiplier to apply to the 1.5t case in the previous paragraph as well? 1.5t in that case was chosen because of geometric limits. At the June T-17 it was decided that this paragraph should be left as is for now but we need to ask Karl Frank about 1.5x1.5

This has some origin in research by Texas DOT. Radius was specified but the method (e.g. heat, cold bending) to get there was not. Previously there was a table of bend radii which would have a multiplier otherwise use 5t. Does rolling direction even matter anymore? MTR based on transverse specimens which is conservative to begin with. The participation of the mills would be helpful in answering this question on charpy testing.

• C10.3, 1st paragraph: Is the location of crack initiation specific to cold-bending?

Remove the word cold as the condition would occur regardless of method of bending.

• C10.3, 2nd paragraph & beyond: We should update the commentary so it's not using A36 as the basis. What is the current recommendation for Gr. 50? Who would know this? Should we just delete the 2nd commentary paragraph? It's means and methods. Should we delete the last three paragraphs?

Usefulness of commentary was questioned and the last 3-paragraphs were recommended for removal.

- 10.4 & 11, various locations: Reference is made to the portions of Article 14 that most specifically apply. If we say, for example, 14.3, does that inadvertently exclude the general provisions of 14.1? If we just say "Article 14" to cover anything applicable, does that give the user enough information to get to the sections they need? (I have a vague memory of discussing this and resolving to use "Article 14".)
- 11, 4th paragraph: Does this paragraph also apply to cold-curving or just to heat-curving?

The paragraph makes specific mention of heat curving, but not cold. Separate cold curving paragraph needs to be added of the section needs to be rewritten to apply to all methods of curving (heat and cold). Add commentary about cold bending along with a reasoning of why the choice was made (for posterity). The end return and/or weld termination is a concern with local buckling when you have cover plates and intend to camber. However, horizontally curved bridges with cover plates are a rare occurrence. So, maybe the 4th paragraph text belongs in the commentary and not in the code which will state historically what was originally in the code and add more discussion.

• Table 14.2.1-1: Do we need to add the A709 QST grades to the table? How about 50CR? Are either of these in the pipeline to be mentioned in BDS? Neither is in D1.5 (either the current edition or the forthcoming 2020 edition), though 50CR is expected to appear in a 2022 supplement.

Focus on steels that are currently being used now and handle modifications with interims. Grade 50CR is in A709 and coming in D1.5 and it was suggested that it be included in the table or handled as future business. Cannot just add stainless to the table without addressing the other issues/concerns that need to be addressed.

C14.2.3 & C14.3.2.1: Both mention the use of two torches on both side for thicker material (C14.2.3 in the context of equipment and C14.3.2.1 in the context of procedure). C14.2.3 gives 1-1/2" as the suggested max for one torch and C14.3.2.1 use 1-1/4". Which should we choose? And should we delete the two-torch reference from C14.2.3 to avoid the potential for conflict in future revisions?

Should add some clarification of what thicker means.

• 14.3.1, 3rd paragraph: Only V heat, not strip or point?

Senior laying out heats and junior performing the heats. When you measure and control the temperature (14.2.4) is important and maybe should be referred to. All other information is technique.

- 14.3.2.2: Richard Sause has been on tap to simplify these provisions. Can that be made to happen? Also, the previous version of the equations was moved from BDS to BCS because those equations were used by the fabricator. Now that the equation have gotten so complex, the Engineer is required to perform the calculation. Is there a pathway to moving them back to BDS, since that's the Engineer's governing document?
 - 14.3.2.2.2: if the rolled beam does NOT satisfy all the following criteria, what exactly is one to do? It's not like they can be cut-curved instead. Should we delete reference to beams? C11.8.3.3.1 implies that rolled beams can just be heat-curved but also there's no non-bending alternative and the restriction makes no sense.

These equations were proposed to be put back into the bridge specification as they are expected to be performed by the engineer and the minimum curvature needs to be indicated on the plans. These new equations were added to handle hybrid girders where they may be cases where you can and cannot heat curve. It was recommended that the NSBA create a spreadsheet for fabricators to use that perform these calculations.

- 14.4, 5th paragraph: does Q&T include Q&ST? Does that matter yet?
- 15.3, 1st paragraph: 100° came from BDS 11.4.11. S2.1 5.8.2 says 120°. Which should we use?
- 16.9.1: Should we have these tolerances apply to any "finish to bear" surface whether it's a stiffener or not?
- 16.9.2: Should we have these tolerances apply to any "tight fit" situation, whether it's a stiffener or not?

At some point consideration should be given to the use of adhesives and epoxy grouts as fillers.

• 17.3, 2nd bullet: This could be taken to mean there is no restriction on punching. Should they be restricted by 17.1.2? How fatigue-sensitive are areas where slotted holes are allowed by design?

(Slots created by NCR to address slightly mislocated holes are not punched.) Crossframes are exempted from those punching restriction but angles connecting floorbeams to girders are not.

Slop in cross-frame connection is not desirable as you want them to hold the geometry of the bridge.

- 17.6.1, 2nd paragraph: What about skewed bridges? Should something be said about not specifying an assembly when a TDLF has been called for a straight skewed bridge?
- 17.7.3.2: Calibration of Skidmore is not mentioned here but is addressed in RCSC section 7. Do we need to call out the calibration in our sections on RC test & DTI PIV, which don't reference that RCSC section? Or is that generally covered by AISC quality manual?
- 20.1: Information about boring a hole down the center seems like it should go to the design code. T-17 was going to talk to T14. We have commentary for why you don't drill the hole for normalized & tempered but not why you do drill the hole for annealed. Do we need to add? Talk to Bob Sweeney (AREMA) about pins. Should holes be included in all pins, for ease of handling? No max hole size is given. We should delete this and send it to design ("If annealed...").
- 24: Should we keep this section? What about nominal weight vs. computed net weight (provisions after Table 24-1)? If we keep 24, do we need computed net weight?

Adjourn

The meeting ended at 4:00 PM.

TG 4 - QA/QC

Jamie Hilton – KTA-Tator, Inc.

Attendee Introductions and AISC Anti-Trust Policy Review

G4.2 – Recommendations for the Qualifications of Structural Bolting Inspectors

G4.2 Section 5.3 revisions

- Subcommittee of Heather Gilmer, Karl Frank and Jaime Hilton will address this and distribute to task group for approval
- Editorial updates and incorporated references in the document

S4.1 Steel Bridge Fabrication QC/QA Guide Specification

Determine the future of the document

- Remove, archive, keep active and update sections such as Part C?
- Part C, Quality Assurance, potentially updated or standalone document (Action Item- Phil Dzikowski will review)

Future of document

- Heather Gilmer mentioned to archive this specification as owners still reference this and needs to be updated. Provide guidance to owners who still reference this doc
- Larry Kruth believes we can archive this document on website and add "disclaimers" as this spec won't be further updated.
- Included cover sheet to provide guidance to inform public for S4.1. (Action Item- Phil Dzikowski, Ray Monson to write guidance for achieving S4.1 document with Teresa Michalk (TXDOT) to help Phil as well)

G4.4 Sample Owners QA Manual

- To be rolled in/incorporated with Part C
- Research States and if they have an Owners QA Manual
- (i.e. Michigan, Florida potentially have this)
- (Action Item- Chris Garrell to create a survey to be distributed to States to see who has QA Manual, Jaime to provide questions, Jaime to find contact list)

New business: Review comments on G4.1 document (Jaime to distribute to TG)

Comment 1.

- DOT Management Responsibilities sections 5.2/5.3 Fabricators response to nonconformance in a timely manner/ provide corrective action plan
- Teresa M. proposed a cross reference to Non conformance section
- TXDOT has spec policy to provide conformance plan within 14 days of non-conformance
- Resolution- Covered in AISC certification language that is referenced throughout the document

Comment 2.

• Page 4 ballot item section 2 definitions

- QA vs QC definitions should reference what terminology the industry uses
- Proposed: Replace "quality control system" with "quality management system". Include definition for quality management system
- Resolution: Add definitions that are referenced with AISC Certifications program document (recently balloted) and then decide if those definitions will be incorporated into this document. Larry Kruth reviewed definitions that are included in AISC document
- Potential Action Item- Jaime proposes to review and update definitions and replace with the terminology that is referenced in AISC document. This is will be done after the AISC document is published, timeline TBD

Comment 3.

- Section 10.1 PO & Subcontracts
- Proposed: Look up functions that is referenced by AISC for PO& Subcontracts
- Solution: Remove of 10.1 title, keep paragraph from 10.1 and renumber sections accordingly

Adjourn

S8.3 Hot Dip Galvanizing Specification Ballot Discussion

Anna Petroski – Atema

Attendee Introductions

Approx. 27 in attendance.

Meeting Goals

Anna Petroski talked about the goals of the document and committee: To make galvanizing a viable option for corrosion protection of steel bridges.

Ballot Discussion

- Tom Langill noted an error in the 10.3 commentary. Instead of SSPC-PA 16, ASTM B201 should be cited to determine the presence of post-galvanizing treatment. He also provided wording changes and noted that ASTM D6386 covers this.
- The definition of primary members should reference the AASHTO LRFD Specifications to avoid conflict.
- Clarification was suggested to address "non-reactive" and "reactive" steels, and when blasting of the steel prior to galvanizing is required. For instance, blasting non-reactive steel is not typically required, as non-reactive steels usually do not have excessive zinc thickness. There was discussion about pre-blasting all members prior to galvanizing in order to reduce the likelihood of excessive zinc thickness.
- It was also noted that grinding/blasting off excessive zinc thickness is very difficult. When zinc flaking is observed at the galvanizer, re-galvanizing may be the best option.
- Per Tom Langill, non-reactive steels will not build a zinc thickness much greater than 6 mils during galvanizing, but others noted that cases of heavier thicknesses have been reported.
- Mike Culmo cited experience with large galvanized truss connections where loss of bolt tension was
 a concern. Their solution was re-torqueing bolted connections in the field after sufficient time for
 creep to have stabilized when there is excessive zinc thickness. This would require access to the
 connection with tightening equipment which may be prohibitive for some locations. (Postscript:
 Mike suggested over a month, but other studies suggest most creep occurs within 1 to 2 weeks.)
- Tom Langill suggested that if a fabricator can prove the steel is non-reactive, no pre-blasting should be required to control excessive zinc thickness. If the fabricator cannot verify by mill test reports or other tests that the steel is non-reactive, pre-blasting could be required in order to limit excessive thickness. Depending upon the materials combined into one plate girder or cross frames, this could result in a mixture of requirements within a project.
- The primary discussion focused on maximum galvanizing thickness on faying surfaces. One suggestion was to not worry about thickness, and just take a 20% reduction in clamping force for potential loss of bolt clamping force due to galvanizing creep. This was also a discussion from the previous meetings. Karl Frank said that there would be some confusion about current language supporting non-reactive steel and mandating blasting for all primary members.
- Adding language in section 7 to pre-blast primary members, unless non-reactive steel is verified was also discussed but consensus was not reached. Commentary about why we don't address other

members because they tend to be smaller members and are usually not a problem was suggested by Heather Gilmer. A problem was thought to be with heavier, thicker members on reactive steel, but Kevin Irving and Tom Langill disagreed.

 By the end of the meeting, the methods and need to control zinc thickness had not been agreed upon. Jon Edwards will make bullet point list of potential language the committee can consider for the issues, seeking points of general agreement. The committee can respond with support for their preferences which can be shared with the committee, and then a conference call meeting can hopefully resolve the issues.

TG 8 – Coatings

Paul Vinik – GPI

Attendee Introductions – All Appx 25 in attendance.

General Notes

- Website task leaders: Paul V. said he would like to see a couple of paragraph summary and then links below.
 - Tom Langill will champion Galvanizing
 - Kevin Irving will champion metallizing. Paul Wagar also volunteered to help.
 - Bill Corbet with KTA will champion duplex coatings
 - We will reach out to some paint companies to start attending
 - Paul will reach out to Jeff Pouliotte (FDOT) to coordinate with NBPP
- We will ask Geoff Swett about washing the cleaning programs
- Jennifer McConnell for weathering steel
- Paul and Pete Ault will handle cathodic protection
- Resurrect detailing for coatings document
- Take another look at S8.1, refresh. Five years old. Could be broadened beyond current scope.
- Does this group want to get into looking into ASTM D5894, and B117? Heather Gilmer asked if this is already being looked at SSPC? Paul said there is a new NCHRP pooled fund initiative to look into testing protocols. Paul will reach out to Derrick Castle about NCHRP initiative for status update. SCDOT Caleb Gunter liked this idea.
- Maybe the protocols need to be developed by this group for individual states to use and test in their own labs.
- Maybe we should address coatings for new steel as well as maintaining existing bridges.
- Can also consider writing sample spec for paints.
- Bill Corbett mentioned that NACE produces document every other year on life expectancy.
- Bill Corbett agreed to reach out to Aimee Beggs at SSPC to start the process of taking a look at the S8.1.
- Ronnie Medlock gave update on Jennifer McConnell's RFP on coating research.
- Ronnie mentioned paint is being developed for increase slip coef. Tom Langill said AASHTO T14 has paint that can go over galvanizing to increase slip coef.
- Discussion around Japanese paint system lasting 50 years.
- Leslie said that proprietary product can now be used per new FHWA ruling.

Action Items

- Assigned individuals for various sections of website information in progress
- Detailing for coatings Jeff Carlson will champion
- Refresh S8.1. Also look at upcoming AREMA changes Bill Corbett will champion

• Get behind NCHRP study for alternative accelerated testing protocols. Check with Jennifer's protocols and coordinate her research with NCHRP proposed study. Paul Vinik will coordinate with Derrick Castle.

Action Items that are tabled until next meeting.

- Aesthetics improve color/gloss retention. Collect data on various colors. Provide better information to owners on color and gloss.
- Developing sample specs for DOTs for materials make it easier for states to spec various coating systems. Develop testing protocol for non-traditional systems that DOTs can use.
- Develop selection guide for different systems. Related to Jennifer's research at Delaware.
- Master Builders color and gloss testing and requirements. Paul Vinik will investigate.

TG 10 - Erection

Brian Witte – Parsons

Attendee Introductions

Tony read the complete AISC Anti-Trust, Conflict of Interest and Conduct document. Attendees all introduced themselves.

S10.1-2019 Status Update

Update on conference call with MnDOT – some items to carry forward S10.1 document is updated and should be ready for publication by December 2019.

Task Group had conference calls with MnDOT to make sure their comments were being properly addressed. Further discussion took place regarding some of the MnDOT comments, specifically the "as-fabricated" girder cambers, and how this information is transferred to the erectors. Several erectors stated that this camber/blocking information from the fabricator is critical in order to get the shoring towers set to the correct elevations. It is also critical for the correct fit-up and bolting of field splices. Erectors stated that they routinely get this "as-fabricated" camber information from the fabricator. John Gast commented that he typically sets his shoring towers a "little high" to compensate for this, as it is always easier to lower girders, if needed, than raise them.

"As-Fabricated" and "As-Drilled" were determined to be the same thing. "As-Built" was defined as after girder erection is completed. It was agreed that these terms need to be defined in the document.

Action Item: Develop definitions for "as-fabricated" for the next edition of S10.1

Action Item: Strike "design" from C9.2.3 "Since there is no vertical tolerance below theoretical, fabricators may elect to slightly increase design cambers to ensure tolerances are met during fabrication."

The provision regarding the minimum number of bolts to be installed in a field splice before crane release was discussed. It was agreed that the provision wording was appropriate indicating that less than 50% of the bolts can be installed if engineering calculations are submitted showing OK.

Section 3.1.1 Shipping Plan, was also discussed. MnDOT commented that this section was weak with little information/requirements shown currently. All agreed that this section needs to be expanded upon to give more guidance to Owners and Engineers.

Action Item: NSBA (Tony) checked with Ronnie Medlock (High Steel Structures) during the morning break to get input, and he suggested contacting Bob Cisneros to provide shipping guidelines from a fabricators perspective.

Bearing seat elevation tolerance was discussed. Tolerance value was discussed, and 0.0625" was suggested, however, there is risk and liability associated with specifying a certain acceptable tolerance value that is acceptable. All agreed that having the bearing seat elevations right-on, is critical to proper fit-up. It was agreed that the current provision wording is likely OK as-is, but the commentary section needs to be expanded (John Yadlosky HDR offered to do this and report to Brian Witte). Incorporating suggested acceptable "corrective actions" into the provisions was also determined to likely be helpful. If the bearing seat elevation is critical to be "right-on", suggest pouring bearing seat slightly high, and then grinding-down to the exact elevation. This topic/issue needs to be in the "concrete bearing seat" portion of the project specifications.

Action Item: Michael Mark and John Yadlosky will work to update Section 5 by the next collaboration meeting. Section 5 of the Specification needs to be clarified/updated/adjusted to address all of the above concerns. Nick Haltvick (MnDOT) offered to share current MnDOT standard spec language as an example how bearing elevation tolerance can be specified.

The definition of "inspector" was discussed regarding needing to be expanded upon. There is a concern that the word "inspector" is inferred to always be the Owner, and that this is not always the case. It was agreed that the responsibilities of the "inspector" are likely shared amongst many people from different organizations.

Discuss AASHTO Balloting & Comments/Revisions

No discussion on this point. AASHTO publishing made minor editorial comments.

Presentation - Erecting Steel Girders for NY90 Project - John Gast

This project involves a bridge constructed over RR tracks and under high-tension electrical wires. Two span bridge on 53 degree skew. These are launched steel girders on moving gantries positioned at the RR track level. The RR tracks were shut-down permanently during construction. Typical erection using cranes was not possible due to the overhead electrical wires.

Effects of Wind Load on Girder Erection

This issue was briefly discussed again, but conditioned that it is beyond the scope of this TG, and really is a topic for TG13 (Bridge Analysis) or the bridge industry as a whole. The main issue is that the wind load on a multi-girder bridge can be much greater prior to the deck being constructed, than after the deck/barrier is constructed. It was mentioned that many bridge designers are likely not checking this wind load condition prior to the deck being constructed. This could control the substructure design also. Is this the intent of the new wind load provisions? Are designers and owners aware of this and that it is controlling? This needs to be checked upon. This would be a good article for MSC to educate everyone (article already written by Florida DOT that is available). This affects concrete bridges also.

Action Item: Brian Witte to provide graphic and sample calculations to Brandon Chavel.

Action Item: Brandon Chavel to coordinate white paper/MSC article with background research based on Goliback/Freedman WSBS article and the results of the newest wind provisions by Witte/Percassi.

Interaction with other committees

Bolting for Bolters Update – TG4 & TG10 Joint Task Group

Instructional video/manual for guidance on proper bridge bolting procedures is still in progress and expected to be available by end 2020. This is envisioned to be a one page instructional document that can be given to the bolt installer that includes a reference/link to a bolt installation video.

Ideas for next document

Expand requirements for transportation plan and calculation submittal? Action Item: Bob Cisneros will assist writing from a fabricators standpoint.

Bearing seat tolerances?

Action Item: John Yadlosky and Michael Marks volunteered to take on writing guidance on this section. (Before the spring NSBA Meeting)

Modify Appendix D checklist to provide delineation of tasks between project team?

Action Item: Pat Sieple (Danny's Erection) volunteered to give guidance and supply an initial checklist for this Appendix.

Calculation example for appendix?

Currently there is a checklist, but some erectors/contractors see an advantage of having a calculation example included to demonstrate what should typically be checked, but other erectors do not think it is needed. Consensus was that example calculations should likely not be included in the Appendix.

Girder hitch and influences on flange stress? Beam clamp load amplification?

Brian noted that some of these beam clamps are exerting high loads on the top flanges of plate girders, sometimes deforming them. Several contractors mentioned that it is an issue once in a while (rare cases). Does something need to be added to this specification regarding this issue? Brian tabled it until a later date to be decided.

Post meeting note: Several individuals requested slide from Brian showing the clamp geometry to study issue independently.

Subcommittee on Geometric Tolerances?

Erectors are concerned that they are always being held 100% responsible when the steel does not fit together properly. In reality, the blame can likely be shared among several parties, such as the fabricator and pier contractor (bearing seat construction). Discussion included

Girder web plumbness, what is acceptable and what is not? This differs from state to state. Some have strict requirements and others do not. Girder plumbness is usually evaluated just prior to placing the deck, and if determined unacceptable, sometimes construction is stopped. The issue is, what is acceptable, and how to provide guidance? Note is made that we have had this discussion again for the record. Also, Brian to inform Tony if he wants Tony to possibly poll the state DOT Bridge Engineers to see what their specific policy is on this issue.

Others?

Jason mentioned that members should circulate the S10 document (once distributed) among their engineering peers to get comments/input.

Action Item: Brian Witte to send links to new S10.1 document (once published) to TG10 participants asking to comments.

Presentation - John Szvoren

Overview of steel plate girder erection of two bridges using top flange stiffening trusses and lateral brace to existing bridge in Buffalo NY.

Summary and adjourn

TG 11 - Design

Brandon Chavel – NSBA

Administrative Items

The Task Group Mission

Reviewed current mission statement. *"This Task Group aims to develop and maintain consensus guidelines to assist with the design of steel bridges and their components."* This group was recently renamed to reflect its new focus and direction related to design

Florida DOT Upcoming Research Projects: Christina Freeman to discuss upcoming projects

Funding two steel bridge research projects: Strength and constructability of steel box and effects of shored construction of composite boxes on steel projects. Keep an eye on the vendor bid website for these to be announced if anyone is interested.

Project Presentation

Tony Ream – HDR gave a brief overview of the new box (4-sided) section previsions for design, analysis and rating in AASHTO. Tony gave an overview of a similar presentation that he gave at the AASHTO CBS meeting this year. Project length was approximately 5 years in length. Cross girder, arch rib and other non-composite box guidance did not exist or was spread through the specification. Project developed a unified set of equations for this purpose resulting in approximately 55 new pages to the specification. Portions of the work were previously incorporated into the 8th Edition Specification to align with AISC. A supplemental report, FHWA HIF 19-063, which contains expanded commentary and examples. A flowchart is also provided as a guide through the specification. This flowchart has a "hot lane" feature which is intended to provide a fast path through the specification for "less complex box types". The updates will be part of the 9th Edition Specification expected to be released sometime in 2020.

Guidelines for the Design of Cross Frames progress.

Review status and revisions

Preliminary draft circulated about a year ago. Solicited and address comments to build out missing sections.

Missing Sections

5 outstanding section that remain to be finished such as galvanized cross-frame, design calculation, and pipe stiffeners. Expect to have these completed in the next few weeks. Guide was sent out for a brief review to determine is anything vital is missing. References to the NCHRP study within the document was difficult to locate (20-07 reliable fit-up) and other references/links need to be verified.

Example calculations and how they are presented in the document needs to be standardized. Each tend to look different and make use of different tools like Excel, MathCAD sheet, hand calculations and etc. The question is how to handle the different styles of calculations and how AASHTO might respond to publishing something like this. The general discussion led to whether or not this should be an AASHTO or NSBA publication and what is the advantages of each. Concern of how graphics and detailed calculation would be handled by AASHTO publishing. At some point this would fit well with the Steel Bridge Handbook once FHWA has handed it over. The consensus was to make this an NSBA document. There will be independent review of the calculations in the example.

Timeline for TG review 2nd draft of document

Targeting spring 2020 for a draft version which will likely be after the "spring" Collaboration meeting. Identify a single person per section to review but do not prevent people from reviewing the document in its entirety. Brandon stated that he would like to have 3-people review each of the examples though. Code references should be checked and code numbers associated (constantly) with each calculation.

General time line discussed:

- Complete Draft done by 11/29/19.
- TG Review begins on 12/16/19, due 1/17/20
- Non-editorial comments to section authors by 2/1/20
- Complete section revisions by 2/28/20
- Bring outstanding comments to spring 2020 meeting.

Brandon will be making review task assignments and if the person cannot commit, a replacement will be identified.

General Open Discussion

Bolted Splice Connections and Oversized holes.

Fabricator looking for oversized holes (or a ¼ in over size) where the straightness of the bolt starts to affect the ability to insert bolts into connections. For example, multiple plies of a flange splice connection. A possible suggestion might be to use more plies of thinner plates rather than a single thicker plate. The Tappan Zee also had thicker splice plates and it is possible that American Bridge has some information on how they may have resolved similar issues. Maybe a different type of bolt that is not made traditionally from a coil but a rod would be help resolve the issue. The camber of the bolt starts to increase with diameter. Make the hole in only one of the plates bigger than the others. Around 5 ¼ in of thickness is where the camber of the bolt starts to interfere with the driving of the bolt. Suggest running a parametric study to identify more specifically the effect of thickness of connection to the likelihood of having an issue. Proposed that this be discussed that T14 and contact Tom Macioce to add this to the agenda for January. Bolt manufacturers are not likely to change the method of manufacturing to improve their camber tolerances.

Potential items for the next design TG task.

Design and constructability guide for pier straddle beams and integral pier caps was discussed at TG12. It is suggested that this be considered as a standalone document that addresses both design and constructability guide once the cross-frame guide is completed. Document should

address the internal redundancy and detailing of these also. A joint task group meeting of TG1, 11 and 12 would be advisable. There is also an NCHRP guide on the subject which should be reviewed prior to this effort. Virginia DOT was cited as a user of these types of members and their involvement would be useful. Also, would fit well with the new box specification changes recently adopted by AASHTO and presented by Tony Ream at this meeting.

Adjourn

Meeting ended at 9:40 AM.

TG 12 Design for Constructability and Fabrication

Allan Berry – RS&H

Attendee Introductions

- Allan noted the Walter Gatti was in attendance at the meeting and thanked him for all his contributions to the industry.
- Christina Freeman two RFPs for FDOT projects. Florida vendor bid system will have these; register with My Florida Marketplace. Interested parties need to register at these websites.
 - o Strength and Constructability of a Double Composite Steel Box Girder
 - Evaluate Effects from Shored Construction on Steel Composite Bridges

Updated G12.1 Guidelines

Status of document. Full Collaboration ballot done with comments. Publish in 2020.

- Process and timetable for document review and approval by AASHTO T-14, COBS, and AASHTO publishing.
 - Comments from the Collaboration ballot must be resolved and the document finalized by November 30, 2019. Anything that is not wrapped up, will have to wait until the next edition.
 - The finalized document will then be sent to T-14 by the NSBA on or before December 1, 2019.
 - o T-14 will vote on the finalized document at their January 2020 meeting.
 - Upon approval by T-14 in January, the document will be forwarded by T-14 to COBS where all states will vote.
 - Upon approval by COBS, it will then be sent to AASHTO for publishing. We will review the document for correctness prior to posting.
- Discussion of balloting comments and issues.

Previous review comments that were discussed.

- Comment 26 sag curves
 - New text has been added to the article and the commentary. Text change was approved by the task group.
 - Comment 122 Erection Stresses and Constructability
 - New section added to 1.9, article and commentary
 - Equation references may need to be updated for 9th edition. May want to keep equation references for the 8th edition.
 - Minor editorial adjustments were made in the meeting to the text, and with minor wordsmithing to occur after the meeting.
- Comment 136, 170, 173 section 2.1.2.4 Longitudinal Stiffeners
 - Minor adjustment to the commentary to change "they" and "them" to "longitudinal stiffeners."
 - Remove the statement on "wrapping welds" from the Article to the Commentary, align with the tension zone paragraph.
 - Removal of bullet point 2 was agreed upon.
 - Minor adjustment to stress reversal and tension/tensile.
 - TG is in agreement with the changes

- Comment 141 C1.7 bearings
 - Proposed adjustment to the commentary.
 - Added "guided" in the Article.
 - Approved by the TG
- Comment 151 split pipe stiffener
 - Added in commentary, "not yet in the AASHTO LRFD Bridge Design Specifications."
 - Change "flange" to "flanges."
 - Changes approved by the TG
- Comment 153
 - Approved the changes to 2.2.5
- Comment 162 section 3.6
 - Figure 3.6c remove cost justification from the caption, add into the text if the Article above.
 - Changes approved by the TG.
- Comment 164 Longitudinal stiffener on a splice
 - Change to "Preferably stop the stiffener short of the field splice."
 - Move "splices plates....." to the commentary.
 - Revision approved by the TG.
 - Comment 174 shop assembly for TDLF
 - Revision approved by the TG.
- Comment 175
 - Change "likely" to "will be."
 - Revisions approved by the TG
- Comment 178 same as comment 164: no action needed.
- Comment 137 and 143 2.2.1.2.1
 - \circ $\;$ AASHTO Construction spec... when CNC is used, a check assembly is required.
 - This here says when use CNC, a check assembly is not required; so it is in conflict with the AASHTO Construction Spec.
 - Remove the CNC reference in the Article.
 - Added Drilled Assembly in the commentary
 - Minor adjustments to commentary paragraph on progressive assembly.
 - Figure C2.2.1.2.1 will need to be adjusted for AASHTO publication
 - Section on left should be "previous assembly"; the "carried forward from previous assembly".
 - Adjust "active reaming" in center piece to include drilled assembly.
 - Bill Lally will redraw the sketch here
 - Left side should be light lines, center dark lines, and then right side be dashed
 - The right piece should be called future work
 - The revisions were approved, pending the figure from Bill.
 - Comments about Redundancy, section 3.10
 - Does this really belong here? Probably not. Group decided that it should be removed.

- Comments 112 and 113 topics on Tie girders
 - This will not be added to the G12 document. It will be reviewed by the TG, for publication in a future revision of this Guide.
 - Should we consider a combined design and constructability document? Something between TG11 and TG12. Promote non FC details and use the IRM/SRM guide specs.
 - o The TG reviewed some of the details provided in the initial document for tie girders

TG 13 - Analysis of Steel Bridges

Deanna Nevling – Michael Baker International

Attendee Introductions

There were approximately 50 people in attendance. Approximately ten people were first time attendees.

Housekeeping

- Sign-in Sheet was circulated.
- Meeting Minutes Pittsburgh, PA April 23, 2019 Meeting minutes were reviewed from the last meeting in Pittsburgh, PA. There is no outstanding business from the Pittsburgh meeting.

General Announcements

Conferences/Research/Publications

- International Accelerated Bridge Construction (ABC) Conference Dec. 11 13 | Miami, Florida
- TRB Annual Meeting January 12 16 | Washington, D.C.
- NASCC The Steel Conference April 22 24 | Atlanta, Georgia
- WTS International Conference May 20 22 | Phoenix, Arizona
- International Bridge Conference June 8 11 | Pittsburgh, Pennsylvania

FDOT Steel Bridge Research Projects – Christina Freeman

- Two RFPs for FDOT projects. Florida vendor bid system will have these.
 - o Strength and Constructability of a Double Composite Steel Box Girder
 - o Evaluate Effects from Shored Construction on Steel Composite Bridges

NSBA Update – Brandon Chavel

- Steel Bridge Design workshop the day before the NASCC/WSBS in Atlanta.
- Next Collaboration Meeting on March 10-12, 2020 in Salt Lake City.
- FHWA Bridge Welding Manual AISC Webinar Dec 3rd.
- FHWA Update Dayi Wang, FHWA Steel Specialist
- Refined Analysis Manual is published and on the website.
- TRB AFF20 (Steel Bridges Committee) Update Domenic Coletti, Chair
- Two podium sessions this year
- Should be a call for presentations from AFF20(1) Analysis
- No workshop this year.
- Webinar in the spring, Todd Helwig, lean on bracing design
- AASHTO Bridge Update (T-14 Structural Steel Design) Frank Russo
- Briefed the Task Group on changes to be seen in the 9th edition.

G13.1 Guidelines for Steel Girder Bridge Analysis - Domenic Coletti

Path Forward - Adjusting some graphics to be compliant with AASHTO. The sooner we can get them the graphics the sooner it can be resolved.

Presentation: "Stability Analyses for Multi-Span Tied Arch" – Jon Eberle, AECOM

Discussed use of Eigenvalue analysis to get the resistance available for the arch rib. AECOM used GT Strudl and LUSAS, and eigenvalue analysis. Michael Baker performed an independent check using MIDAS and the direct analysis method.

G13.2 Guidelines for Steel Truss Bridge Analysis

Review Current Document and Comments

Volunteer Authors

Deanna will send some reminders as to who signed up for what, as well as new schedule. Deanna will try to send out a draft 1 month before the next meeting.

Review of Comments and current status of the document

- Reminder of intent of document. Analysis only. Vehicular trusses only.
- Reviewed and discussed Tier 1 comments.
- Remove the capacity calculations, and only have section property calculations for latticed and laced members Frank Russo to address section 4.3.4.
- Section 2 review the comments and revise the text as necessary Mike Sullivan.
- Redundancy Section Frank Russo
- Remove text for methods of joints, methods of sections just refer readers to general structural engineering textbooks.
- Section 3.3. 3.4 Sketches and model screen captures would be helpful. Label the name of the component and the type of element. Deanna will send out a request for model screen captures that can be labeled and used for this section
- Bearing section 4.4.1.1. When is necessary to have a spring constant, or not? When do you need to step up the level of refinement, or not?
 - o Colleti will take the 4.4.1 section
 - Orton Section 4.4.2.
- For gusset plates just refer to the AASHTO LRFD spec. Include how to pull forces from the analysis model. Concurrent forces versus non-concurrent forces. George Gorrill.
- Shane when is a connection a pinned or fixed should be in sections 4.4.2.2 and 4.4.2.3.
- Tony Ream section 4.5 up to 4.5.5
- Frank Russo will take on fatigue section. Analyzing for these loads, and how they are added to the model.
- Suggestion How is load transferred thru the connection would be a decent topic. Possibly put into the gusset plate section. (Distribution of forces thru the plate).

Path Forward: Submit New and Revised Text by January 31, 2020

- Revised Document Sent out for Review by March 1, 2020
- Comments Complied and Discussed During Spring 2020 Meeting

TG 14 - Field Repairs and Retrofits

Kyle Smith – GPI

Attendee Introductions

Antitrust announcement by Jason Lloyd and followed with introductions .

Discuss mission and general progress of TG 14

Reminder of the TG mission and progress update by Kyle

Overview of the survey

Review survey makeup and any preliminary survey results

Anyone that received the survey, but did not respond, can you tell us why or what you thought of the survey?

- Jason Stith felt like the questions should provide more detail about what we want to get from the survey. Can we give a little more guidance at the text fields as to what we want? The "brief description" and size of the text box implied that the response might be too concise to be sufficiently descriptive.
- When we ask for website in the survey, maybe we should ask for a link to the details instead? Make something specific for the person to provide a link to their details.
- Can hand-sketches be used for illustrative purposes? Yes, and other people who did not submit the repair but who have experience with the repair, these other people can submit photos or drawings of a similar or the same repair.
- Matt Yarnold if there was a way to upload photos that would be easier to show the repair rather than attempting to describe it.
- Mr. Yadlaski was not in the room to address his comment suggesting that HDR would have a lot of material to offer.
- Hussam Mahmoud suggested carbon fiber repairs that USACE has been implementing and that he has been involved with testing. He agreed to fill out the survey for these repair types
- Have we defined "Effective" and "Ineffective"? If not, should we define that in the survey?
- Brian Witte suggested changing the survey to
 - Description of the repair with "effective, "ineffective" or "promising" selection
 - Then add "Do you have another repair" if they want to share another one.
- Can we include cost? No, we won't be able to quantify costs on repairs due to market/regional variance but will evaluate the relative cost effectiveness.
- Patricia Bush at AASHTO can send the survey out to their database for us
- We should be careful to not email the survey several times to the same person...this will require some distribution list filtering, etc.
- Mike Culmo suggested something they used for the ABC document is to establish some particular criteria to use to evaluate the repair details. If they detail meets those criteria (whatever they are) then they qualify to be included in the G14.1.

Evaluate potential adjustments to the G14.1 outline

- Hossam Abdou suggested adding something to the section loss topic that relates it to inspection rating. Said he could see if the Chicago DOT has guidance for G14.1
- Alex Bardow mentioned a study that is concluding soon that developed equations to aid in calculation of capacity of member with section loss. Said he could provide that report to TG14.
- It was suggested that we add a paragraph or page of context giving some very basic guidelines on how to decide when repairs should be made. Something to help guide the thinking process for deciding for repair. Mike Culmo volunteered to help write it.
- Josh Orton suggested adding question to the survey to see if the repair increased condition rating and by how much. Josh volunteered to write it.
- Should we include widenings? Group determined it does not belong here, and didn't come to a consensus of where it does belong?

Open Discussion

- Mike Culmo volunteered to join the group calls and help write an introductory section.
- In defining "effective" we should consider cost...is it cost-effective? Did it meet intended result? Is it durable enough (e.g., sometimes we can accept a lower durability if we don't need the repair to last as long)?
- Constructability should be considered in the effectiveness of the repair detail.
- Gr50CR weld in to replace sections of plate girders under joints, etc., where section loss is a problem.
- Virginia DOT is performing retrofits using A1010 material. Document should address durability improvements through material selection.
- A discussion related to pros/cons of various contracting methods should be added.
- Ronnie volunteered to help write a field welding section.

Adjourn

TG 15 - Data Modeling for Interoperability

Sammy ElSayed - Skanska

- Approximately 32 people in attendance
- Distributed Membership Guidelines
- Distributed Attendance Sheet
- Welcome/ intro
- Discussed mission statement
- Read anti-trust
- Discussed membership and diversity, want different stake holders (engineers, fabricators, contractors, etc.)
- Read minutes of last meeting in Pittsburg. Committee is working with Brad Dillman on detailing exchange. It is important to work with other TG groups on exchanges. Would like to work with TG4 next.
- Need to work on work flow. Even when on design builds with engineer working for contractor, it doesn't help the work flow/ exchanges (between designers, detailers, etc.). Exchange is in scope of pooled fund, according to Ronnie. A proposal may help to clarify exchanges. Each company must confirm to standard data format in order to adopt.
- Need to get owner buy in when a standard project, design-bid-build. There is currently about 18 states in pooled fund.
- Discussed what a data dictionary is. All task groups need to be consistent with definitions. Group is currently trying to focus only on plate girders with exchanges. We opened up dictionary and looked at layout, definitions, attributes sets, etc. It was taken from University of Buffalo and committee tried to reduce it for information between designer and erector. Group is currently trying to reduce the dictionary for the designer and detailer for the exchange. The approved column (m= mandatory, o=option) was shown and the goal is to discuss this and reduce it. There are many trades involved and should we eliminate them? We briefly discussed some of the attribute sets. There is currently 2000 lines in the file.
- John Yadlosky asked how to update the dictionary; he noticed an item missing for steel bridges.
- Aaron gave background on the data dictionary/BIM. Exchange model is dependent on the user and you must identify what is needed. Three terms Taxonomy, Ontology, and classification. Enumerative Taxonomy and Faceted were discussed.
- The purpose of this group is to define the information needed.
- Two things: take Global file and simplify that, then a file to reference to when we go to an exchange. A file will be sent to the group with instructions to fix. We need the differences between states (i.e. names, labels, etc.). We do need to reorganize it but we need currently only want to make sure data is in the correct spot (i.e. reorganize it like, put bearing with girders and not substructure). When sending out the document, make sure the scope is clear.

Joint Task Group Meeting (TG1 & TG15)

Aaron Costin – University of Florida

- There were 17 people present.
- In order to develop the IDM, we have to write out the process. Read the scope for info need by fabricator and detailer. The assumptions are defined at the end of the document. The document defined the phases and stake holders.
- We need to finalize and submit the data. The document has been revised about 5 times since Pittsburg. Started with biding letting.
- A.1.1 bid model. They send the bid model then receive comments. No comments
- A.1.2 Award Contract no model is passed. No comments
- A.1.3 Approved Contract. No comments
- B.1.1 Evaluate RFIs. No comments
- B.1.2 Review and approve contractor's planning model with Fabrication. Revise definition. Revised description to Final Contractor's model and approve instead of confirm
- C.1.1 Evaluate RFIs during Fabrication. Changed name to respond to RFIs during Fabrication. Brad stated that documents are needed in this process (i.e. QA/QC records prior to shipping.) This took us to C.6.3
- C.6.3 Fabrication was updated to included shop inspection documents. Shop inspection documentation is included to be sent to the owner.
- B.6.1 Evaluate Fabrication. Was reviewed and changed to Plan Fabrication
- B.7.1 Evaluate Detailing was changed to Plan Detailing
- B.6.2 updated description
- B.7.3 was updated to Prepare or Revise shop drawings for owner approval.
- B.6.3 Incorporate Models changed to Incorporate Models
- C.7.1 CNC Development. In description "exported" changed to "developed"
- C.6.1 CNC Development Updated name to Finalize CNC Development. Completely updated description.
- C.7.1 CNC Development. Changed for in house fabrication to for fabrication. Updated to description for possibility of CNC file not being developed.
- C.6.2 Removed
- C.6.3 Fabrication. Added "..and inspected by both the fabricator and owner" to description.
- C.1.2 Inspect Fabricated Components. Created
- D.3.1 Construction. Changed drawings to model in description.
- D.7.1 Field Modifications. Updated description.
- D.6.1 Field Modifications updated description.

TG 16 - Orthotropic Deck Panels

Opened to Floor (Terry Logan & Ronnie Medlock): 50BC Update

- International representation. Japan has 720 OSD bridges. Lots of good technical discussions. Robert Connor presented results from PAUT research from NCHRP research.
- Japan & Korea suggested that OSD can be used for other things, not just long continuous span bridges. Saw a company welding 5 panels at a time using a machine that runs two welders simultaneously down the interior of an open rib.

Open Discussion:

- Thinking about partnering with IBC to provide some technical content for that conference
- Several comments on fabricating with a thicker deck plate to avoid many problems from fatigue to roadway flexibility and riding quality.
- Dayi talked to Rob who said that the OSD's are not cracking in service so maybe that means we can simplify design and have modular standardized designs
- Hannah can TG16 probe the owners to see what their attitudes toward OSDs is to see if there is a market for it
- Duncan the CJP weld at the cutout rib weld came from John Fisher, although it's a better weld, maybe we already had good-enough that was more easily manufactured. We can hard code manufacturability into the guide spec.
- Terry Logan maybe instead of chasing the bridge with 1000 panels, we should chase 1000 short span bridges having design standards in place. What if we put a lip on the rib and fillet weld it to the deck like they do in Japan? Should our committee focus more on the short span bridges? (2, 4 or even 1-panel bridges)
- Terry Logan suggested we use the HNTB report, find the average short span bridge and figure out how to tackle that span with 2 to 4 panels, and get rid of field welds.
- Can we look at typical overpass designs using 2-4 80' panels, use thicker deck, thicker ribs, get rid of fatigue details, reduce inspection requirements, standardize a nice design and look at what this costs per ton to build? This becomes a life cycle cost comparison where OSD can become very competitive.
- Bill this committee was stood up 7 years ago because NY Port authority thought they couldn't purchase the OSD. This committee has long overlooked short span market thinking we couldn't compete with concrete precast, but while we won't take over the market, we can take pieces of it back. DOTs are not generally interested in life cycle costs. They are interested in how many bridges they can build now. They are concerned with upfront costs. This committee should refocus to short span applications for OSD.
- We need to get this to a catalog selection for engineers to be competitive, similar to grid deck design.
- What is the committee's first step toward this? We need to scope our steps through a design project that is funded for a full-time focus. We need to find the regions where this can be competitive and provide a solution for them to look at.

- Duncan a task group to put together the steps we need to take this discussion into action. 1 2 pages with scope and budget. Terry Logan, Christian Haberle, David Stoddard, Ronnie Medlock, Karl Frank, Frank Artmont, & Camille Bernier. We have to prioritize the states and go after the best opportunities.
- Draft complete within 6 weeks (roughly first week of December 2019)
- Duncan disagrees with Terry about stopping the committee document development and adapting the HNTB report. Maybe the committee can shift goals of the document toward the short span bridge (having a focus shift), but this needs to be talked to with Sougata first.
- Steps of the design process need to be put into a guide for designers, even if they are selecting from a chart. It has to be something through AASHTO that shows how the tables were designed.

Collaboration Main Committee

Welcome and Introductions There were about 45 people in attendance.

Task Group Reports

Each TG Chair was asked to provide a brief summary of their meetings.

TG 1 - Brad Dillman (High Steel Structures)

Brad shared his experience on the B2P trip which prevented him from attending the spring meeting. The group met to discuss ballot responses on G1.1 shop drawing review document. The group is in the final steps of finalizing these comments so that it can be given to AASHTO T14 for consideration at CBS in 2020. G1.2 and G1.4 will be the next two document that the group will focus on.

TG 2 - Heather Gilmer (HRV Conformance Verification Associates, Inc.)

TG2 met for 7 hour. The original meeting continued into the AASHTO T17 meeting to continue the discussion on AASHTO Fabrication Specification (which will supersede S2.1) comments. The effort centralizes the fabrication related specification language that has, until now, been distributed among different specifications. The document is only focused on vehicular bridges; other types will be added in time. AASHTO T17 will continue to meet with the Collaboration each fall. If the comments are resolved by January, the goal is to have this new Fabrication Specification balloted at the 2020 CBS meeting.

TG 4 - Jamie Hilton (KTA-Tator, Inc.)

G4.1 has completed the publication stages and will be posted on both AASHTO and NSBA websites shortly. This document replaces the S4.1. The group is addressing new business items. G4.2 is being revised and hopefully for ballot in 2020. The group also wanted to administer a survey of the DOTs.

Aside, RCSC Executive Committee was given a proposal to fund the bolter training videos. A conference call is expected to resolve the issue. Once the committee approves the item then work should start sometime this year. The joint TG meeting was cancelled until this approval happens.

TG 8 - Paul Vinik (GPI Construction Engineering)

There were about 30 attendees of which 6 were owners. TG Corrosion protection systems website. Drafting a new document on detailing for corrosion protection systems; this group will want to coordinate with TG1. The intent is to update the S8.1 in the near future.

The galvanizing document is still in process with the coating thickness being the most difficult issue to resolve. Not all of the comments were resolved in this meeting so a conference call will be scheduled to address the additional comments and sticking points.

TG 9 - Michael Culmo (CME Associates, Inc.)

G9.1 is being updated which was last published in 2004. There is more additions than deletions and modifications. Targeting a collaboration ballot in 2020 and publishing by 2021. AISI previously had a document which is no longer in print so the update to G9.1 will include some of the material from the AISI document. It was made clear that this document is not intended to be a design guide. However, the group will look at changes in AASHTO since initial publishing that are not currently addressed in G9.1.

TG 10 - Brian Witte (Parsons)

The group is addressing comments from Minnesota which came in from the S10.1 AASHTO Committee review prior to CBS this year. Bearing seat elevations are a concern for steel bridges which the group feels needs to be strengthened. The thought might be that there is a place for some guidance in G12.1 regarding bearing elevations; for example the use of a grout pad or a secondary pedestal. John Gast gave a presentation on a bridge erection using travelling gantries. The group is uncertain if wind load effects is widely known among designers. The plan is to develop a Modern Steel Construction article on the subject.

TG 11 - Brandon Chavel (NSBA)

The group reviewed the new cross-frame document which is expected to be completed in the next few weeks. The document will be sent out for review (especially the design examples). Tony Ream gave an overview of the new specifications for non-composite box section that will be in the 9th Edition Specification. The group is leaning towards this being an NSBA document at this time or a chapter of the Steel Bridge Handbook. Constructability, detailing and design guide is being considered for straddle bents and pier caps. This would likely be a combined effort of TG1, TG11 and TG12.

TG 12 - Alan Berry (RS&H)

The group discussed the status of the G12.1 and addressed the comments received from the recent ballot. The intents to provide this to AASHTO T14 for review at their meeting in January. There are only a few items that will need to be resolved outside of the meetings this week. Allan Berry will be stepping down as chair of the group at the March meeting. Christina Freeman will be replacing Allan.

TG 13 - Deanna Nevling (Michael Baker International)

There were about 10 new attendees. The meeting started with updates from various organizations. G13.1 is currently being finalized by AAHTO Publishing pending the correction of images containing text that was un-editable. The group assigned tasks for the new truss document at this meeting. While the progress has been slow, progress continues to be made.

TG 14 - Kyle Smith (GPI Construction Engineering)

The group has added four new volunteers and is intending to distribute a survey to DOTs for best practice repair details. The results of the survey will be a point of discussion at the next meeting.

TG 15 - Sammy Elsayed (Skanska USA Civil)

The group discussed importance of developing a better membership base. The documents originally developed by University at Buffalo were reviewed and select exchanges were identified. Currently the exchange between designer and fabricator (or detailer) is being developed. The group is also looking at reducing the complexity of the UB work so that it is more fitting a steel bridge superstructure specific workflow. TG4 will be another group that TG 15 would like to work with. This group intends to continue playing an active role with the T19 Pooled Fund study on BIM.

TG 16 - Duncan Paterson (HDR)

Sougata Roy was unable to attend the meeting. Two panel orthotropic deck project was presented which made use of PAUT on 100% of the welds. Rob Connor discussed his work on PAUT. The upcoming international orthotropic deck conference was discussed along with the normal use of orthotropic decks in Japan. The group is re-focusing on the broader use of orthotropic decks and will evaluate short span applications. A need statement for cost-effective orthotropic deck details for short span standards was drafted; this will be finalized after the meeting, and funding will be pursued. This might cost \$100k.

Main Committee Operations Discussion

Publications schedule

See Appendix B – Document Release Schedule and Status for future publication dates and new documents.

Latest on membership

Membership rosters have been submitted by TG chairs, and will be entered into the committee center after which acceptance letters will be sent to each member. Going forward, travel reimbursement will be provided to DOTs and academics. The choices were to pair back the committees and pay travel for every member or keep the membership open and limit reimbursement.

Upcoming meetings

The spring meeting is scheduled for March 9 - 11 in Salt Lake City, UT. The fall meeting is being planned.

Ideas and suggestions for improved operations

This was the first meeting that used Zoom system. There were some challenges with connections given limitations with the hotel WIFI, but otherwise it worked great, and the group strongly supported its continued (provided sufficient bandwidth is provided). There was a comment regarding making the zoom meeting links available sooner as long as the agendas are provided sooner. The group wants to consider whether or not they want have remote people conference in.

Last Name	First Name	Company
Abdou	Hossam	Alfred Benesch & Company
Angeloff	Carl	Con Serv Inc.
Artmont	Frank	Modjeski and Masters
Bardow	Alexander	MassDOT
Barthelemy	Rob	Florida Structural Steel
Bartucca	Vin	NSBA
Beabes	Shane	AECOM
Bennett	Caroline	University of Kansas
Bernier	Camille	Canam Bridges
Berry	Allan	RS&H
Brayley	Allan	Flatiron Constructors, Inc.
Butz	Travis	Burgess and Niple, Inc.
Cameron	Randy	Gerdau
Carlson	Jeff	NSBA
Chavel	Brandon	NSBA
Cheng	Xiaohua "Hannah"	NJDOT
Coletti	Domenic	HDR
Collins	William	University of Kansas
Conso	Matthew	MassDOT
Corbett	Bill	KTA-Tator, Inc.
Costin	Aaron	University of Florida
Crampton	Douglas	Wiss, Janney, Elstner Associates, Inc.
Culmo	Michael	CME Associates, Inc.
Cummings	Terry	TRC Engineers, Inc
Daugherty	Leslie	Alaska DOT&PF
Dillman	Brad	High Steel Structures, LLC
Dunlap	Robin	High Steel
Dzikowski	Philip	Wood E&IS
Eberle	Jonathan	AECOM
Edwards	Jon	DOT Quality Services
Elsayed	Sammy	Skanska USA
Frank	Karl	Consultant - NSBA
Freeman	Christina	FDOT
Garrell	Chris	NSBA
Gase	Phil	D.S. Brown
Gast	John	Con Weld
Gatti	Walter	Tensor Engineering
Gilmer	Heather	HRV
Golabek	Dennis	FDOT
Gorrill	George	Michael Baker International
Griesing	Keith	Hardesty & Hanover, LLC
Grubb	Michael	M.A. Grubb & Associates, LLC

Appendix A – Attendee Registration List

Last Name	First Name	Company
Gunter	Caleb	SCDOT
Haberle	Christian	Haberle Steel
Haberle	Craig	Haberle Steel
Haltvick	Nickolas	MnDOT
Harrison	Randy	W&W AFCO Steel
Hasbrouck	Greg	Parsons
Hastings	John	NSBA
Hebdon	Matt	Virginia Tech
Hewins	Michael	MassDOT
Hickman	Tom	vigor Works
Hilton	Jamie	KTA-Tator, Inc.
Irving	Kevin	International Zinc Association
Ison	Dale	Florida Structural Steel
Jacobi	Steven	Oklahoma DOT
Kotha	Sri	PGH Wong Engineering
Lally	Bill	Tensor Engineering
Landry	Robert	New Hampshire DOT
Langill	Thomas	American Galvanizers Association
Lindell	Nate	Project & Quality Solutions
Lloyd	Jason	NSBA
Loftus	Pat	Industrial Steel Construction
Logan	Terry	Atema
Lorenz	Kara	High Steel
Mahmoud	Hussam	Colorado State University
Marks	Michael	EIC Group LLC
Medlock	Ronnie	High Steel Structures LLC
Michalk	Teresa	TxDOT
Monson	Raymond	Pennoni Associates
Nevling	Deanna	Michael Baker International
Orton	Joshua	CDM Smith
Paterson	Duncan	HDR
Peterson	Anthony	NSBA
Petroski	Anna	DOT Quality Services
Rao	Kotha	PGH Wong
Rapp	Lourdes	HNTB
Rapp	Ryan	HNTB
Ream	Tony	HDR
Ronning	Mike	Danny's Construction Company, LLC
Rosamilia	Gene	Rosewich Engineering
Russell	Jeck	AECOM
Russo	Francesco	Michael Baker International
Sauser	Phil	US Army Corps of Engineers
Seiple	Patrick	Danny's Construction Company, LLC

Last Name	First Name	Company
Sherman	Ryan	Georgia Institute of Technology
Smith	Kyle	GPI
Sova	Gerard	Consultant
Stachel	Robert	HRV
Stine	Tabitha	AISC
Stith	Jason	Michael Baker International
Stoddard	David	SSAB Americas
Stone	Eric	HNTB
Stratton	Jonathan	Consultant
Streeter	Brad	D.S. Brown
Sullivan	Michael	CME Associates, Inc.
Szvoren	John	BVR Construction, Inc.
Tayarani	Maury	Pennoni
Thomas	Josh	Augusta Iron & Steel Works
Turco	Gregory	TxDOT
Vinik	Paul	GPI
Wagar	Paul	Grillo
Wang	Dayi	FHWA
Watson	Ron	R, J. Watson, Inc.
Wichman	Sean	Rosewich Engineering
Wills	Robert	AISI
Wisch	Gary	DeLong's, Inc.
Witte	Brian	Parsons
Wolfe	Brian	MDTA
Yadlosky	John	HDR
Yarnold	Matthew	Texas A&M University

Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
G1.1.2000	Released	2000	1	Detailing	Shop Drawings Approval Review/Approval Guide
G1.3.2002	Released	2002	1	Detailing	Shop Detail Drawing Presentation Guidelines
G1.2.2003	Released	2003	1	Detailing	Design Drawing Presentation Guidelines
G1.4.2006	Released	2006	1	Detailing	Guidelines for Design Details
G1.1.2020	Update - In-Progress	2020	1	Detailing	Shop Drawings Approval Review/Approval Guide
G1.3.2020	Update - In-Progress	2020	1	Detailing	Shop Detail Drawing Presentation Guidelines
G1.4.2021	Update - In-Progress	2021	1	Detailing	Guidelines for Design Details
G2.2-2016	Released	2016	2	Fabrication and Repair	Guidelines for Resolution of Steel Bridge Fabrication Errors
S2.1-2018	Released	2018	2	Fabrication and Repair	Steel Bridge Fabrication Guide Specification
G2.2.2020	Update - In-Progress	2020	2	Fabrication and Repair	Guidelines for Resolution of Steel Bridge Fabrication Errors
S4.1-2002	Released	2002	4	QC/QA	Steel Bridge Fabrication QC/QA Guide Specification
G4.2.2006	Released	2006	4	QC/QA	Recommendations for the Qualification of Structural Bolting Inspectors
G4.4.2006	Released	2006	4	QC/QA	Sample Owners Quality Assurance Manual
G4.1-2019	Submitted to AASHTO Publishing	2019	4	QC/QA	Steel Bridge Fabrication QC/QA Guidelines

Appendix B – Document Release Schedule and Status

Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
G4.2.2021	New - Not Started	2021	4	QC/QA	Recommendations for the Qualification of Structural Bolting Inspectors
G4.1-2022	Update - Not Started	2022	4	QC/QA	Steel Bridge Fabrication QC/QA Guidelines
S8.1-2014	Released	2014	8	Coatings	Guide Specification for Application of Coating Systems
S8.2-2017	Released	2017	8	Coatings	Thermal Spray Coating Guide
S8.3.2019	Failed Collaboration Ballot	2020	8	Coatings	Galvanizing Guide Specification
G8.4	New - Not Started	Unknown	8	Coatings	Detailing for Coatings and Weathering Steel
G9.1.2004	Released	2004	9	Bearings	Steel Bridge Bearing Design and Detailing Guidelines
G9.1.2021	Update - In-Progress	2021	9	Bearings	Steel Bridge Bearing Design and Detailing Guidelines
S10.1-2014	Released	2014	10	Erection	Steel Bridge Erection Guide Specification
S10.1-2019	Submitted to AASHTO Publishing	2019	10	Erection	Steel Bridge Erection Guide Specification
G11.1	New - In-Progress	2020	11	Design	Guidelines for the Design of Cross- frame Members
G12.1-2016	Released	2016	12	Design for Constructability and Fabrication	Guidelines for Design for Constructability
G12.1.2020	Passed Collaboration Ballot	2020	12	Design for Constructability and Fabrication	Guidelines for Design for Constructibility and Fabrication
G13.1-2014	Released	2014	13	Analysis of Steel Bridges	Guidelines for Steel Girder Bridge Analysis

		Year			
Document	Status	Completed/Targeted	Task Group	Task Group Name	Document Title
G13.1.2019	Submitted to AASHTO Publishing	2019	13	Analysis of Steel Bridges	Guidelines for Steel Girder Bridge Analysis
G13.2.2021	New - In-Progress	2021	13	Analysis of Steel Bridges	Guidelines for the Analysis of Trusses
G14.1	New - In-Progress	Unknown	14	Field Repairs and Retrofits	Guidelines for Field Repairs and Retrofits of Steel Bridges
G15.1	New - Not Started	Unknown	15	Data Modeling for Interoperability	Designer / Fabricator Exchange
G15.10	New - In-Progress	Unknown	15	Data Modeling for Interoperability	BrIM Process Model Definition for Steel Bridge Erection
G16.1.2020	New - In-Progress	2020	16	Orthotropic Deck Panels	Guidelines for the Manufacture of Orthotropic Decks and State of Practice

Appendix C – Meeting Schedule and Agendas

AASHTO/NSBA Collaboration Meeting





Fall 2019 Meeting October 22 – 24, 2019 – Savannah, GA

The Fall AASHTO/NSBA Steel Bridge Collaboration meeting has been scheduled for Tuesday, October 22 from 8:00 AM - 6:00 PM, Wednesday, October 23 from 8:00 AM - 5:00 PM and Thursday, October 24 from 8:00 AM - 3:00 PM at the Holiday Inn Historic Savannah. Please note there is also a Holiday Inn Express in the area which is not involved with the Collaboration

Meeting Schedule

The following Task Groups are scheduled for this up-coming meeting. Note that in addition to their respective individual meetings, there will be a combined TG 1 and TG 15 meeting on Tuesday and a combined TG 2, TG 4, and TG 10 meeting on Thursday. All times are approximate and subject to change.

Time	Meeting	Room Name
7:00 am – 8:00 am	Breakfast (Provided)	Buffet in Foyer
8:00 am - 10:00 am	TG 15 Data Modeling for Interoperability	Bonaventure A
10:00 am - 12:00 pm	Joint Task Group Meeting (TG 1 & TG 15)	Bonaventure A
10:00 am - 12:00 pm	TG 13 Analysis of Steel Bridges	Bonaventure B
12:00 pm – 1:00 pm	Lunch (Provided)	Buffet in Foyer
1:00 pm – 3:00 pm	TG 14 Field Repairs and Retrofits	Bonaventure A
1:00 pm - 3:00 pm	TG 4 QC / QA	Bonaventure B
3:00 pm - 6:00 pm	TG 9 Bearings	Bonaventure A
3:00 pm - 6:00 pm	TG 16 Orthotropic Deck Panels	Bonaventure B

Tuesday, October 22 (7:00 am – 6:00 pm)

Wednesday, October 23 (7:00 am - 5:00 pm)

Time	Meeting	Room Name
7:00am – 8:00 am	Breakfast (Provided)	Buffet in Foyer
8:00am – 12:00pm	TG 10 Erection	Bonaventure A
8:00am – 12:00pm	TG 2 Fabrication and Repair	Bonaventure B
12:00pm – 1:00pm	Lunch (Provided)	Buffet in Foyer
1:00pm – 5:00pm	TG 12 Design for Constructability and Fabrication	Bonaventure A
1:00pm – 5:00pm	AASHTO T17 Technical Committee on Metals Fabrication	Bonaventure B
6:00pm – 9:00pm	Off-site Dinner (Registration Requested)	The Grove

Meeting Schedule (con't)

Time	Meeting	Room Name
7:00 am – 8:00am	Breakfast (Provided)	Buffet in Foyer
8:00 am – 10:00am	TG 11 Design	Bonaventure A
8:00 am – 10:00am	S8.3 Hot Dip Galvanizing Specification Ballot Discussion	Bonaventure B
10:00 am – 12:00pm	TG 1 Detailing	Bonaventure A
10:00 am – 12:00pm	TG 8 Coatings	Bonaventure B
12:00pm – 3:00pm	Collaboration Main Committee (A working lunch will be provided)	Bonaventure A

Thursday, October 24 (7:00 am – 3:00 pm)

Meeting Registration

All collaboration meetings are free and open to anyone interested in attending. So that we can better scheduling the event we request that you **register** using the link below **before September 30th**.

Meeting Registration Link

Hotel Information

The meeting will take place at the Holiday Inn Historic Savannah.

Address: 520 W Bryan Street, Savannah, GA 31401

Rate: \$116.00 per night plus applicable taxes

Reservations: Room Block Reservation Link

Cutoff Date: Monday September 30, 2019

Contact Information

For questions regarding meeting times, attendance plans, or hotel information, please contact <u>mcconnell@aisc.org</u>. All other questions can be directed to <u>nsbacollaboration@steelbridges.org</u>

About the Collaboration

The mission of the Collaboration is to achieve quality and value in steel bridges by standardization of design, fabrication, and erection and by the sharing of resources. Through the Collaboration, steel bridge professionals work together in a spirit of cooperation and mutual respect to develop details, specifications and practices and to exchange knowledge, technology and expertise.

More Information

Visit: www.steelbridges.org/CollaborationStandards



NSBA Collaboration – Fall 2019 TG 15 Data Modeling for Interoperability Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: This Task Group's primary focus is on facilitating the development of bridge industry consensus standards for data description, modeling, and interoperability for integrated design, construction, and lifecycle management of bridges (i.e. BIM).

Task Group Chair: Sammy Elsayed - Skanska (sae44@msn.com) Task Group Vice Chair: Aaron Costin - University of Florida (aaron.costin@ufl.edu) Task Group Secretary: John Hastings - NSBA (hastings@aisc.org)

Zoom Meeting Link: https://zoom.us/j/311433416?pwd=ZGhFVm1CUjZSaklER3FlcGpXQWhhdz09

Meeting Agenda - Tuesday, October 22 (8:00 AM to 10:00 AM)

- 1. Attendee Introductions All (8:00 AM 8:10 AM).
 - a. Purpose of Task Group. Reviewed the mission statement for the task group.
- 2. TG15 membership list review and confirmation (8:10 AM 8:40 AM).
- 3. Data Dictionary: Modified Version development (8:40 AM 9:40 AM).
- 4. Discussion. (9:40 AM 9:55 AM).
- 5. Adjourn. Join TG1/TG15 Designer to Detailer exchange.



Joint Task Group TG 1 / TG 15 Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: This Joint Task Group's focus is to produce the data requirements needed for the development of Model View Definitions (MVDs) related to steel bridge detailing and fabrication that will be used in the Industry Foundation Classes (IFC).

Task Group Chair: Aaron Costin - University of Florida (aaron.costin@ufl.edu) Task Group Vice Chair: Brad Dillman - High Steel Structures (bdillman@high.net) Task Group Secretary: John Hastings - NSBA (hastings@aisc.org)

Zoom Meeting Link: https://zoom.us/j/122849177?pwd=VFE1KzRrVzRybDFLLzlqaTBvN0RUQT09

Meeting Agenda - Tuesday, October 22 (10:00 AM to 12:00 PM)

- 1. Attendee Introductions All (10:00 AM 10:05 AM)
- 2. Overview- Design to Fabrication/Detailing Model View Definition (MVD) (10:05 AM 10:30 AM)
 - a. Quick overview of project and status
 - b. Future goals of Information Delivery Manuals (IDM)
 - c. Questions and discussion
- 3. Final Review of the Design to Fabrication/Detailing Process Map (10:30 AM 11:00 AM)
 - a. Process Map
 - b. Activities
- 4. Working Group- Assign Data Requirements to the Detailing Model (11:00 AM 12:00 PM)
 - a. Detailing Model overview and scope
 - b. BrIM Data Dictionary
 - c. Discussion
- 5. Adjourn (12:00 PM)



TG 13 Analysis of Steel Bridges Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure B

Task Group Mission: This Task Group focus has been the development of guidance on the issues related to steel girder bridge analysis and to educate Engineers so that they can better make decisions for their own projects.

Task Group Chair: Deanna Nevling - Michael Baker International (DNevling@mbakerintl.com) Task Group Vice Chair: Francesco Russo - Michael Baker International (FRusso@mbakerintl.com) Task Group Secretary: Brandon Chavel - NSBA (chavel@aisc.org)

Zoom Meeting Link: https://zoom.us/j/246590280?pwd=K1YwUTAzQ2o3aE1vekw1WDFYVDIBZz09

Meeting Agenda - Tuesday, October 22 (10:00 AM to 12:00 PM)

- 1. Attendee Introductions All (10:00 AM 10:05 AM)
- 2. Housekeeping (10:05 AM 10:10 AM)
 - a. Sign-in Sheet
 - b. Meeting Minutes Pittsburg, PA April 23, 2019
- 3. General Announcements (10:10 AM 10:25 AM)
 - a. Conferences/Research/Publications
 - b. FDOT Steel Bridge Research Projects Christina Freeman
 - c. NSBA Update
 - d. FHWA Update Dayi Wang, FHWA Steel Specialist
 - e. TRB AFF20 (Steel Bridges Committee) Update Domenic Coletti, Chair
 - f. AASHTO Bridge Update (T-14 Structural Steel Design) Frank Russo
- 4. G13.1 Guidelines for Steel Girder Bridge Analysis Domenic Coletti (10:25 AM 10:30 AM)
 - a. Path Forward

- Presentation: "Stability Analyses for Multi-Span Tied Arch," John Eberle (10:30 AM 11:00 AM)
- 6. G13.2 Guidelines for Steel Truss Bridge Analysis (11:00 AM 12:00 PM)
 - a. Review Current Document and Comments
 - b. Volunteer Authors
 - c. Path Forward: Submit New and Revised Text by January 31, 2020
 - i. Revised Document Sent out for Review by March 1, 2020
 - ii. Comments Complied and Discussed During Spring 2020 Meeting
- 7. Adjourn (12:00 PM)



TG 14 Field Repairs and Retrofits Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: This Task Group primarily focuses on providing practical solutions for design and implementation of field repairs and retrofits of existing steel bridges.

Task Group Chair: Kyle Smith - GPI (ksmith@gpinet.com) Task Group Vice Chair: Jonathan Stratton - Structural Steel Products Corp. (strattonEIW@gmail.com) Task Group Secretary: Jason LLoyd - NSBA (lloyd@aisc.org)

Zoom Meeting Link: https://zoom.us/j/810553244?pwd=a1ltRm1zSjdON25HSEp3TnQ4VVBXdz09

Meeting Agenda - Tuesday, October 22 (1:00 PM to 3:00 PM)

- 1. Attendee Introductions (1:00 PM 1:05 PM)
- 2. Discuss mission statement and general progress of TG 14 (1:05 PM 1:15 PM)
- 3. Overview of survey (1:15 PM 1:30 PM)
- 4. Present/discuss preliminary survey results (1:30 PM 2:30 PM)
- 5. Evaluate potential adjustments to the G14.1 outline (2:30 PM 2:45 PM)
- 6. Open discussion (2:45 PM 3:00 PM)
- 7. Adjourn



TG 4 QC/QA Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure B

Task Group Mission: This task Group primarily focuses on the requirements for a Fabricator?s quality control program, with emphasis on the development and implementation of a quality control plan and minimum requirements for an Owner?s quality assurance program.

Task Group Chair: Jamie Hilton - KTA-Tator, Inc. (jhilton@kta.com) Task Group Vice Chair: Tim McCullough - Florida DOT (timothy.mccullough@dot.state.fl.us) Task Group Secretary: Vin Bartucca - NSBA (bartucca@aisc.org)

Zoom Meeting Link: https://zoom.us/j/735021556?pwd=MThWMitpQTZGMSs5YjY0cG9zWW4zdz09

Meeting Agenda - Tuesday, October 22 (1:00 PM to 3:00 PM)

- 1. Attendee Introductions (1:00 PM 1:10PM)
- 2. G4.2 Recommendations for the Qualification of Structural Bolting Inspectors finish what we started:
 - a. G4.2 Section 5.3 revisions (1:10 PM 2:00 PM)
- 3. S4.1 Steel Bridge Fabrication QC/QA Guide Specification (2:00 PM 2:30 PM)
 - a. Determine the future of the document remove, archive, keep active and update sections such

as Part C?

- 4. G4.4 Sample Owners QA Manual (2:30 PM 2:45 PM)
- 5. New business? (2:45 PM 3:00 PM)
- 6. Adjourn (3:00 PM)



TG 9 Bearings Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: This Task Group is specifically responsible for the creation and maintenance of guidelines and best practices for steel bridge bearings.

Task Group Chair: Michael Culmo - CME Engineering (culmo@cmeengineering.com) Task Group Vice Chair: Ron Watson - RJ Watson, Inc. (rwatson@rjwatson.com) Task Group Secretary: Jeff Carlson - NSBA (carlson@aisc.org)

Zoom Meeting Link: <u>https://zoom.us/j/460782491?pwd=WFg0cWs2V2UrVG5SVjhFNTFVN0ttdz09</u>

Meeting Agenda - Tuesday, October 22 (3:00 PM to 6:00 PM)

- 1. Attendee Introductions All (3:00 PM 3:05 PM)
- 2. Review of Previous Meeting Minutes Mike Culmo (3:05 PM 3:20 PM)
 - a. Review notes
- 3. Committee Membership (3:20 PM 3:30 PM)
 - a. New Members?
 - b. Members leaving?
- 4. Review of previous Action Items Mike Culmo (3:30 PM 4:00 PM)
- 5. Start Editing the Outline of the Document All (4:00 PM to 5:30 PM)
 - a. Sections to be deleted
 - b. Finalize new sections and titles of section
 - c. Assign sections to write to Task Group Members
- 6. Next steps (what is needed) All (5:30PM 5:45 PM)
 - a. Ideas from the group
- 7. Schedule (5:45 PM 5:50 PM)
 - a. Overall schedule

- b. Next meeting
- 8. Review/Set Action Items (5:50 PM 6:00 PM)
- 9. Adjourn



TG 16 Orthotropic Deck Panels Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure B

Task Group Mission: This Task Group aims to establish an Orthotropic Steel Deck (OSD) panel design that can be cost effectively produced in the United States for the bridge market.

Task Group Chair: Duncan Paterson - HDR (Duncan.Paterson@hdrinc.com) Task Group Vice Chair: Sougata Roy - Rutgers (sougata.roy@rutgers.edu) Task Group Secretary: Jason Lloyd - NSBA (lloyd@aisc.org)

Zoom Meeting Link: https://zoom.us/j/468946776?pwd=T09HRTRyYXJJTjJERGVmRmNET3FLQT09

Meeting Agenda - Tuesday, October 22 (3:00 PM to 6:00 PM)

- 1. Attendee Introductions All (3:00 PM 3:10 PM, all times local)
- 2. General updates, announcements, review of previous meeting minutes (3:10 PM 3:15 PM)
- 3. Presentations tentative:
 - a. Paul Tsakopoulos (3:15PM 3:45PM)
 - b. Camille Bernier (3:45 PM 4:15 PM)
 - c. Sougata Roy: 5OBC Update
 - d. Presentation Q/A (4:150PM 4:30PM)
- 4. Short Break (4:30PM 4:45PM)
- 5. Task Group updates (4:45 PM 5:30 PM)
 - a. State of Practice Synthesis Document
- 6. Review Committee Goals
- 7. Old business and additional discussion (5:30 PM 6:00 PM)
 - a. Floorbeam and diaphragm details
 - b. Rib Standardization
- 8. Adjourn



TG 2 Fabrication and Repair Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure B

Task Group Mission: This Task Group aims to achieve quality and value in the fabrication of steel bridges through standardization of steel bridge fabrication across the nation. Historically, State Departments of Transportation (DOTs) have written their specifications based on AASHTO standards and their own individual experiences.

Task Group Chair: Heather Gilmer - HRV (hgsteelfab@gmail.com) Task Group Vice Chair: Duncan Paterson - HDR, Inc. (Duncan.Paterson@hdrinc.com) Task Group Secretary: Christopher Garrell - NSBA (garrell@aisc.org)

Zoom Meeting Link: <u>https://zoom.us/j/277678511?pwd=QXVNeWZVVTJlaTBJVVMzYVVmNGgydz09</u>

Meeting Agenda - Wednesday, October 23 (8:00 AM to 12:00 PM)

- 1. Attendee Introductions All (8:00 PM 8:10 PM)
- 2. AASHTO Fabrication Spec Draft (8:10 AM 9:30 AM)
- 3. Break (9:30 AM 10:00 AM)
- 4. AASHTO Fabrication Spec Draft Continued (10:00 AM 12:00 AM)
- 5. Adjourn

NOTE: AASHTO T-17 will be joining us for this meeting. We are also invited to attend the T-17 meeting from 1 to 5 PM on the same day. We will probably continue the AASHTO fabrication spec discussion as one of T-17's agenda items.



TG 10 Erection Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: This Task Group develops guidelines that establish and define the basic, minimum requirements for the transportation, handling and erection of steel bridge components to ensure safe and accurate steel erection as well as quality and value in the completed bridge structure.

Task Group Chair: Brian Witte - Parsons (brian.witte@parsons.com) Task Group Vice Chair: Jason Stith - Michael Baker International (Jason.Stith@mbakerintl.com) Task Group Secretary: Tony Peterson - NSBA (peterson@aisc.org)

Zoom Meeting Link: https://zoom.us/j/790897638?pwd=eWxCVUFRU1Q1Y2h0ZUY1elF1N1dBQT09

Meeting Agenda - Wednesday, October 23 (8:00 AM to 12:00 PM)

- 1. Attendee Introductions All (8:00 8:10)
- 2. S10.1-2019 Status Update (8:10 9:40)
 - a. Update on conference call with MnDOT some items to carry forward
 - b. Discuss AASHTO Balloting & Comments/Revisions
- 3. Presentation Erecting Steel Girders for NY90 Project John Gast (9:40 to 10:00)
- 4. Break (10:00 10:15)
- 5. Effects of Wind Load on Girder Erection (10:15 10:30)
- 6. Interaction with other committees (10:30 10:45)
 - a. Bolting for Bolters Update TG4 & TG10 Joint Task Group
- 7. Ideas for next document (10:45 11:30)
 - a. Expand requirements for transportation plan and calculation submittal?
 - b. Bearing seat tolerances?
 - c. Modify Appendix D checklist to provide delineation of tasks between project team?
 - d. Calculation example for appendix?

- e. Girder hitch and influences on flange stress? Beam clamp load amplification?
- f. Subcommittee on Geometric Tolerances?
- g. Others?
- 8. Presentation John Szvoren (11:30 11:50)
- 9. Summary and adjourn (11:50 12:00)



NSBA Collaboration – Fall 2019 TG 12 Design for Constructability and Fabrication Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: This Task Group primarily focuses on addressing the questions that have been and are continually asked concerning the constructability of steel bridges according to the latest practice for steel mills, fabrication, detailing, erection, and design.

Task Group Chair: Allan Berry - RS&H (allan.berry@rsandh.com) Task Group Vice Chair: Christina Freeman - Florida DOT (Christina.Freeman@dot.state.fl.us) Task Group Secretary: Brandon Chavel - NSBA (chavel@aisc.org)

Zoom Meeting Link: https://zoom.us/j/425532847?pwd=VGRTUGova1RPTi9mZWkva1I1VDFldz09

Meeting Agenda - Wednesday, October 23 (1:00 PM to 5:00 PM)

- 1. Attendee Introductions All (1:00 PM 1:10 PM)
- 2. Announcement Regarding Two Upcoming FDOT Research Projects Christina Freeman -

FDOT (1:10 PM - 1:15 PM)

- Updated G12.1 Guidelines to Design for Constructability and Fabrication Allan Berry, RS&H and Christina Freeman - FDOT (1:15 PM – 3:00 PM)
 - a. Status of document. Full Collaboration ballot done with comments. Publish in 2020.
 - Process and timetable for document review and approval by AASHTO T-14, COBS, and AASHTO publishing.
 - i. Comments from the Collaboration ballot must be resolved and the document finalized by November 30, 2019.
 - ii. The finalized document will then be sent to T-14 by the NSBA on or before December 1, 2019.
 - iii. T-14 will vote on the finalized document at their January 2020 meeting.

- iv. Upon approval by T-14 in January, the document will be forwarded by T-14 to COBS where all states will vote.
- v. Upon approval by COBS, it will then be sent to AASHTO for publishing. We will review the document for correctness prior to posting.
- c. Discussion of balloting comments and issues.
- 4. Break (3:00 PM 3:15 PM)
- 5. Updated G12.1 Guidelines to Design for Constructability and Fabrication Allan Berry, RS&H

(3:15 PM - 5:00 PM):

- a. Discussion of balloting comments and issues (cont.).
- b. Break up into writing groups, if required.
- c. Presentation of writing group results and discussion, if required.
- 6. Adjourn



TG 11 Design Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: TBD

Task Group Chair: Brandon Chavel - NSBA (chavel@aisc.org) Task Group Vice Chair: Domenic Coletti - HDR (Domenic.Coletti@hdrinc.com) Task Group Secretary: Christopher Garrell - NSBA (garrell@aisc.org)

Zoom Meeting Link: https://zoom.us/j/613647427?pwd=emk0R3JJblUrSThEZkR0UFl6ckJaZz09

Meeting Agenda - Thursday, October 24 (8:00 AM to 10:00 AM)

- 1. Introductions (8:00 AM to 8:10 AM)
- 2. Administrative Items (8:10 AM to 8:15 AM)
 - a. The Task Group Mission
- 3. Florida DOT Upcoming Research Projects (8:15 AM to 8:25AM)
 - a. Christina Freeman to discuss upcoming projects
- 4. Project Presentation TBD (8:25 AM to 8:55 AM)
- 5. Guidelines for the Design of Cross Frames progress. (8:55 AM to 9:45 AM)
 - a. Review status and revisions
 - b. Missing Sections
 - c. Timeline for TG review 2nd draft of document
- 6. General Open Discussion (9:45 PM to 10:00 AM)
 - a. Bolted Splice Connections and Oversized holes.
 - b. Potential items for the next design TG task.
- 7. Adjourn



NSBA Collaboration – Fall 2019 S8.3 Hot Dip Galvanizing Specification Ballot Discussion Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure B

Task Group Mission: This group will discuss and resolve the comments that were received from the 2nd round of balloting of the S8.3 document.

Task Group Chair: Anna Petroski - DOTQS (a.petroski@dotqs.com) Task Group Vice Chair: Jon Edwards - DOTQS (j.edwards@dotqs.com) Task Group Secretary: Tony Peterson - NSBA (peterson@aisc.org)

Zoom Meeting Link: <u>https://zoom.us/j/926053778?pwd=UkdjRndpdEFUTWUyamx3eTFBL2hZZz09</u>

Meeting Agenda - Thursday, October 24 (8:00 AM to 10:00 AM)

- 1. Attendee Introductions All (8:00 AM 8:05 AM)
- 2. Discussion and Resolution of Second Round Ballot Responses (8:05 AM 10:00 AM)
- 3. Adjourn



TG 8 Coatings Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure B

Task Group Mission: This Task Group primarily focuses on the functions, operations, requirements and activities needed to achieve consistent quality in steel bridge coatings. At the same time the group acknowledges the need for a cooperative approach to quality, where the Owner?s and Contractor?s representatives work together to meet their responsibilities, resulting in efficient steel bridges coatings that meeting all contractual requirements.

Task Group Chair: Paul Vinik - GPI (Pvinik@gpinet.com) Task Group Vice Chair: Jamie Hilton - KTA-Tator, Inc. (jhilton@kta.com) Task Group Secretary: Jeff Carlson - NSBA (carlson@aisc.org)

Zoom Meeting Link: <u>https://zoom.us/j/976921212?pwd=d0tabGJnMkZtMmVoZjJTM1Ryck5CUT09</u>

Meeting Agenda - Thursday, October 24 (10:00 AM to 12:00 PM)

- 1. Attendee Introductions All (10:00 AM 10:05 AM)
- 2. Existing business (10:05 AM 10:40 AM): Discuss comments on TG8.3 ballot: Galvanizing

Specification for Bridge and Highway Structures.

3. Website Update (10:40 AM – 11:10 AM)

NSBA will be updating the website and including brief discussions/explanations of corrosion

protection systems used on bridges including the following:

- a. Wet applied coatings
- b. Thermal Sprayed coatings
- c. Hot dip galvanizing
- d. Duplex coating systems (HDG + wet applied)
- e. Washing and cleaning programs
- f. Alternative alloys (stainless and weathering steel)

- 4. What is next for TG-8? Suggestions? (11:10AM 12:00 PM)
 - a. Recommendations for coating systems based on life expectancy and cost
 - i. IZEU
 - ii. Galvanizing
 - iii. TSC
 - iv. Single coat IOZ (or other)
 - v. Two coat systems
 - b. Single Coat IOZ
 - i. Performance/service life
 - 1. Ideal climate/environment
 - 2. AASHTO/NTPEP testing
 - 3. Research
 - Completed
 - New
 - Case studies
 - Funding
 - ii. Aesthetics
 - 1. Available colors and finishes
 - 2. Color/gloss retention
 - c. Single Coat products other than IOZ
 - d. Two Coat systems
 - i. Products available
 - ii. Performance/service life

- 1. Systems that have gone through AASHTO/NTPEP testing
- 2. Systems approved by any DOTs
- e. Fluorourethane finish coats
- f. Coatings chemical classifications and the inherent misconception
- 5. Adjourn



TG 1 Detailing Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: This Task Group is specifically responsible for the creation and maintenance of guidelines and best practices for the creation of clear concise design and fabrication drawings.

Task Group Chair: Brad Dillman - High Steel Structures (bdillman@high.net) Task Group Vice Chair: Gary Wisch – DeLong's, Inc. (GaryW@delongsinc.com) Task Group Secretary: Vin Bartucca - NSBA (bartucca@aisc.org)

Zoom Meeting Link: https://zoom.us/j/899413151?pwd=RU13OWQ3THF0K0NxUkduM2RtYUphZz09

Meeting Agenda - Thursday, October 24 (10:00 AM to 12:00 PM)

- 1. Attendee introductions (10:00 AM 10:10 AM)
- 2. Bridges to Prosperity Trip Presentation Brad Dillman (10:10 AM 11:00 AM)
- 3. G1.1 Revision Update (11:00 AM 11:50 AM)
 - a. Resolution of outstanding comments
 - b. Next steps
- 4. G1.2 Revision Next steps (11:50 AM 12:00 AM)
- 5. Adjourn



Collaboration Main Committee Holiday Inn Historic Savannah Savannah, GA Room Name: Bonaventure A

Task Group Mission: The Collaboration Main Committee provides oversight and guidance for all Task Groups. A meeting of the Main Committee will take place at the end of each Collaboration meeting.

Task Group Chair: Ronnie Medlock - High Steel Structures (RMedlock@high.net) Task Group Vice Chair: - TBD Task Group Secretary: Christopher Garrell - NSBA (garrell@aisc.org)

Zoom Meeting Link: https://zoom.us/i/648898987?pwd=SnJyWUZpNIFFZEZkeDFXL3FsSEh6UT09

Meeting Agenda - Thursday, October 24 (12:00 PM to 2:00 PM)

- 1. Welcome and Introductions (12:00 PM 12:05 PM)
- 2. Task Group Reports Approximately five minutes each, with some slightly longer (12:05 PM -

1:35 PM)

- a. TG 1 Brad Dillman (High Steel Structures)
- b. TG 2 Heather Gilmer (HRV Conformance Verification Associates, Inc.)
- c. TG 4 Jamie Hilton (KTA-Tator, Inc.)
- d. TG 8 Paul Vinik (GPI Construction Engineering)
- e. TG 9 Michael Culmo (CME Associates, Inc.)
- f. TG 10 Brian Witte (Parsons)
- g. TG 11 Brandon Chavel (NSBA)
- h. TG 12 Alan Berry (RS&H)
- i. TG 13 Deanna Nevling (Michael Baker International)
- j. TG 14 Kyle Smith (GPI Construction Engineering)
- k. TG 15 Sammy Elsayed (Skanska USA Civil)
- I. TG 16 Duncan Paterson (HDR)

- 3. Main Committee Operations Discussions (1:35 PM 2:00 PM)
 - a. Publications schedule
 - b. Latest on membership
 - c. Upcoming meetings
 - d. Ideas and suggestions for improved operations
- 4. Adjourn