

NATIONAL STEEL BRIDGE ALLIANCE

AASHTO/NSBA Steel Bridge Collaboration

Spring Meeting Minutes - Combined

Pittsburgh, PA

April 23 – 25, 2019



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

Group Name	Chair	Chair Company	Chair Email	Vice Chair	Vice Chair Company	Vice Chair Email
Main Committee	Ronnie Medlock	High Steel Structures	rmedlock@high.net	Brandon Chavel	NSBA	chavel@aisc.org
TG 1 Detailing	Brad Dillman	High Steel Structures	bdillman@high.net	Gary Wisch	DeLong's, Inc.	GaryW@delongsinc.com
TG 2 Fabrication	Heather Gilmer	HRV	hgsteelfab@gmail.com	Duncan Paterson	HDR	duncan.paterson@hdrinc.com
TG 4 QC/QA	Jamie Hilton	KTA-Tator, Inc.	jhilton@kta.com			
TG 8 Coatings	Paul Vinik	GPI Construction Engineering	Pvinik@gpinet.com			
TG 9 Bearings	Michael Culmo	CME Engineering	culmo@cmeengineering.com			
TG 10 Erection	Brian Witte	Parsons	brian.witte@parsons.com	Jason Stith	Michael Baker International	Jason.Stith@mbakerintl.com
TG 11 Design	Brandon Chavel	NSBA	chavel@aisc.org	Domenic Coletti	HDR	domenic.coletti@hdrinc.com
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
TG 14 Field Repairs and Retrofits	Kyle Smith	GPI	ksmith@gpinet.com	Jonathan Stratton	Structural Steel Products Corp.	strattonEIW@gmail.com
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 1 – Detailing

Brad Dillman – High Steel Structures

1. Attendee Introductions - All (8:00 AM – 8:05 AM)

There were 18 people in attendance. Brad Dillman was unable to attend this meeting so Gary Wisch filled in to run the meeting.

2. G1.1 Revision Update (8:05 AM – 8:10 AM)

The G1.1 was balloted in 2018. The comments are still being reviewed and it is hoped that document will be ready for publishing in 2020. If so, it would have to be re-balloted and then brought to T14 before December 2019.

3. TG1/TG15 Subtask Group Update – Aaron Costin (8:10 AM – 8:30 AM)

Aaron gave the group an update on the progress and goals of the TG15 group. This included an overview of the benefits of BIM for improving a workflow.

4. Improving Steel Bridge Quality through Communication – Chris Crosby (8:30 AM – 9:00 AM)

Chris Crosby was not able to make it to the meeting and was not able to give his presentation.

5. Cost Effective Steel Details – Gary Wisch (9:00 AM – 9:20 AM)

Gary gave a presentation on best practices for detailing steel bridges which he gave at NASCC this year. This included comparisons of cross frames details and material sizing.

6. Open Discussion – How best to help educate industry on best practices? (9:20 AM – 9:50 AM)

The question was raised regarding the means of obtaining information on best practices. The information that is being sent to states regarding events like webinars is not necessarily being disseminated beyond the state bridge engineer. The other outreach strategies like steel bridge forums, steel day and owner/industry meetings (e.g. Texas Steel Quality Council) should also be considered. It may make sense to write a document outlining the methods of obtaining information related to steel bridges (Solution Center/Webinars/MSC/NASCC/Collaboration/In-person visits). It was brought up that steel is still perceived as unable to meet deadlines and it is the deciding factor in dual bid projects where contractors have purposely chosen the concrete option.

7. Final Discussion and Adjourn (9:50 AM – 10:00 AM)

TG 2 – Fabrication and Repair

Heather Gilmer – HRV

Heather noted that S2.1 will be going away shortly and be absorbed into the AASHTO specification.

Dayi Wang mentioned that the FHWA will be starting work on updating the “Heat Straightening” manual in May 2019. Likely utilizing HDR and/or WSP. Dayi will give update at fall Collaboration meeting.

1. G2.2

- a. Improper preheat: We decided at the Spring 2015 meeting that this is worth addressing. Sometimes no big deal, sometimes it could be. Also could address failure to postheat, and procedural issues such as improper qualification of welders, “inspector wasn’t there to see the welding”, etc. Could discuss Annex G, additional NDE, hardness testing, etc. Miller: cutting out a weld is usually the wrong thing to do. Task group: Monson, Miller, Gilmer, Frank, Hilton, Bustos, Hurt. Also discussed possibility of Modern Steel Construction or other publication to get better exposure for this issue—but don’t want to turn it into license not to bother doing things right. (For G2.2 specifically, we’re already in the context of an NCR, so putting it in this document doesn’t imply procedures don’t need to be followed.) See Attachment A for rough draft. Monson notes that the AWS annex gives very high required preheat for groove welds, and that the European standard referenced in this draft is the updated version of a much older document that the AWS annex references, and it gives much lower required preheats.
- b. Heather requested that everyone review/comment on Attachment A (Improper Preheat for G2.2).
 - i. Karl Frank said a statement is needed that indicates preheat is required on the member/part being welded.
 - ii. A concern was voiced regarding the preheat temperature only being attained at the surface of the steel, and through the thickness sufficient enough. Temperature stick only checks the surface temperature, which can cool rapidly before the weld is completed.
 - iii. Maximum inter-pass temperature monitoring was brought-up, and discussion of how to monitor/regulate/correct if inter-pass temperature requirements are not being met. Plate overheating. This issue is being returned to the Task Group for further review and recommendation.
 - iv. Annex G was mentioned, and that it is not being maintained and updated properly.
2. Framing members too short: For rolled sections or built-up girders that are too short in length, and are to be framed into another member with the use of connection angles: Replace the connection angles at the end of the member with new connection angles having slightly longer outstanding legs, and drill the holes in the new connection angles in the field. The new connection should be checked for the effect of the increased eccentricity. We decided at the Spring 2015 meeting to add this to section 5. Elsayed will draft and make figures.
3. Orthotropic deck repairs: Paterson: FHWA manual has repairs. We can add a reference to the FHWA manual. Gilmer/Paterson to look at the manual.
4. S2.1 new business. Technically, this will be part of the new fab spec, but until there is a document to make changes to, we will continue to make changes to the latest draft of S2.1.

- a. Slip coefficients: Address combining different classes of surfaces in the same connection. Waiting until more research (in progress) is done. (Canam has found galvanizing & metallizing appears to meet Class D.) Any research update?
 - i. Canadian code is planning to update specifications on metallizing.
 - ii. Need to address metallizing regarding pure zinc, zinc/aluminum, and pure aluminum options.
 - iii. Maximum thickness of galvanizing needs to be established.
- b. Scribing/etching of layout marks: TG: McCullough, Haven, Frank, Gilmer
- c. Proposed changes to FDOT language for discussion:
 - i. 460-4.2.2 Match Marking of Members and Assemblies: Match mark all connecting members or parts that have been reamed or drilled while assembled. The fabricator shall submit a diagram showing all marks and clearly indicate the location of all the marks on the shop drawings.
 - ii. Use painted marks, attached metal tags, other durable methods which do not degrade the finish of the piece, plasma etching or low-stress type steel die stamps to identify and match mark pieces. If steel die stamps are used, they must be blunt nosed or interrupted dot dies, manufactured to produce impressions that are rounded at the bottom of the impression. Re-mark coated type markings as necessary to maintain continuity in traceability. Plasma etching may be used to mark the surface of a steel plate when done at precisely 10 amps and at 150 inches per minute. Plasma etching outside of the parameters requires Engineer approval.
 - iii. Impact stylus was mentioned by Karl Frank as a possible option to use, as it leaves a residual compressive stress.
 - iv. Plasma etching was noted to leave a residual tension stress in the surface.
 - v. McCullough stated that plasma etching was readable at 10 amps @ 150 in/min, while also satisfying Category A fatigue stress, so determined to be preferable/acceptable. Question was raised regarding if this acceptable for all steel grades and thicknesses, McCullough was not certain on this.
 - vi. Question was raised on start/stop/orientation recommendations regarding plasma etching. McCullough gave no certain answer.
 - vii. Duncan Paterson commented that the location of the “mark” does matter. For instance, it is not appropriate to be putting match marks at locations of maximum moment, high stress, or locations where the Engineer is depending on Category A fatigue stress. Engineer will likely need to be contacted/consulted to know where these locations are.
 - viii. Lay-out/down marks are typically shallower, as match marks for erection need to be deeper to be legible. Thus, there needs to be restrictions on locations of match-marks, such as not near welded connections to tension members.
 - ix. This document needs to be re-circulated for review/comment.
 - x. Everyone viewed photos of 5, 8, 10, 13, & 15 mm deep plasma etches and agreed that anything greater than 10 mm deep could likely be a structural concern.

TG 4 - QA/QC

Jamie Hilton – KTA-Tator, Inc.

1. Attendee Introductions - All (8:00 AM – 8:10AM)

Roughly 35 attendees Agenda change to address G4.1 Comments

2. Task Group Mission Statement proposed changes – Jon Stratton (8:10 AM – 8:30 AM)

Requirement vs Expectations. Remove supply chain and replace with community.

New Statement: This Task Group primarily focuses on the establishment of expectations relating to quality control and quality assurance for all stakeholders in the steel bridge community.

Review G4.1 Comments

Task Group review of submitted comments with proposed resolutions

The following sections have been modified based on the input of the Task Group

Section 3 Plant Requirements- change to bridge components and highway components

Section 5.2 Owner- remove “generally” and add commas for better sentence structure

Section 16 Corrective Action – remove terms “systemic nonconformances”

Document Title Name – Proposed Resolution “Steel Bridge Fabrication Quality System Guidelines”, Chris Garrell will prepare cover page for document submission

Section 3- Revise last paragraph to proposed change by Mary Grieco

(Section 4.2.1- Proposed resolution is to add “*bridge fabrication*” before *inspection experience*

(MA) Section 13.1- Delete both bullet points proposed by Mary Grieco

Section 15, 5TH bullet – delete and reformatting. Revision to be submitted by Jon Edwards

3. Subtask group update: G4.2 Section 5.3 revisions – Heather Gilmer (8:30 AM – 9:00 AM)

No comments at this time.

4. Subtask group update: S4.1 Part C and G4.4 – Phil Dzikowski (9:00 AM – 9:30 AM)

No comments at this time.

5. New business? (9:30 AM – 10:00 AM)

Sammy Elsayed – Future coordination between TG15 Interopibility with TG 4 QA/QC. Intention is to get TG4 involved with TG15 initiative. Work Group/Committee to be established by next meeting. Sammy will provide a brief description of this proposal to Jamie to distribute to all for potential volunteers.

6. Adjourn (10:00 AM)

Joint TG2-TG4-TG10 Collaboration to meet immediately afterwards.

Joint Task Group Meeting (TG 4 & TG 10)

Jason reviewed Bolting Course Outline- Initiative is to “certify” or “qualify” bolters similar to welders.

Videos to be used as educational/training tool to demonstrate that will include the following topics.
(Potential of 3 instructional videos)

1. Bolt Tightening Behavior
 - a. Effect of Lubrication
 - b. Effect of Thread in the Grip
2. Demonstrate Installation Verification – Turn of the Nut
 - a. Issues to discuss with Skidmore (use Skidmore Videos)
 - i. Long bolt extensions
 - ii. Reaction of torque reaction for electric wrenches
 - iii. How to setup Skidmore for various bolt length
 - b. Snugging done at the site with equipment to be used on the job
 - i. Spud wrench, show how easy tension of 10 to 20 kips is attained
 - c. Match Mark
 - d. Rotate required rotation record tension
 - e. Effect of improper snugging using bent plate
 - i. Prebend on plate in single curvature about ½ gap..Both plates ½ in. Use 7/8 in. A325 bolts and tighten in sequence.

High Steel to help with videos and provide materials needed to help with initiative

Larry Kruth will distribute Engineering Journal article for issues regarding short bolt lengths and exclusions of shear plane

Volunteers to meet at High Steel in late June.

Bolting Design table or guide sheet to be produced for designers

Action Items:

Bill of Material to be produced by Ronnie Medlock (Action Items)

Larry Kruth will be point person for Skidmore and coordinate videos for use

TG 8 – Coatings

Anna Petroski – Atema

Anna went through the following topics and high level results from the last meeting with a small group in Chicago the week before and the first ballot on the document resolving over 500 comments:

1. Reorganization
 - a. Informational is at the end of the document and clearly identified as non spec, non mandatory.
 - b. More spec language moved to commentary
2. Galvanizing Friendly Steel/Chemistry

Concept changed to “optimal” range of chemistry...took out "galvanizing friendly" and changed it to optimal ranges, so now there is

 - a. reactive,
 - b. non-reactive and
 - c. optimal range

Material traceability was more specifically defined for primary members and poles and sign structures

3. Galvanizing Thickness Limits General
 - d. Dolly test removed
 - e. Testing still in place for thickness over 20mils
 - f. One coating grade below (related to A123) replace a specific minimum of 3.0, 3.3 or 3.9 mils
4. Galvanizing Thickness Limits Slip Critical
 - g. Potential shift to getting this value from Design (should be addressed directly in AASHTO LRFD 6.13.2.8)
 - h. Potential choice is to be silent on any galvanizing thickness for slip critical connections
 - i. Keep a requirement for a minimum thickness as past research suggests
 - i. a limit of 15mils (RCSC commentary)
 - ii. a limit of 10mils (Connecticut research)

For coatings thicker than this, you should reduce the assumed minimum bolt pretension by 20%.
... a designer would have no control over specifying galvanizing coating thickness so this reduction should be considered for design (does not promote the use of galvanizing)
(galvanizers report there is no control?)

5. Surface Quality/Duplex coating
 - j. Powder coating added
 - k. Prominences definition coming from ASTM D6386
6. Quality Management Systems for Galvanizers

Input from one galvanizer in the small task group meeting

 - l. QMS is now without control of the baths. Control is still present for the zinc kettle.
 - m. Galvanizers suggest removing some quality management system elements such as internal audit, in process inspection, training of process personnel, management responsibility for equipment. Need further input
7. Additional Galvanized Components

Wire mesh, sheet pile, wire rope/cable, embeds were considered but not included.

cross frames and diaphragms on straight structures, appurtenances, expansion joints, drains, scuppers, high mast light towers, camera, light, sign and signal support structures; bridge rail; stairs; walkways; bearings; ballast plates; ~~and mechanical movable bridge equipment~~

- Since moveable bridge equipment is not a “secondary element”
- Cross frames and diaphragms on curved bridges are primary elements

Document discussions

Question about MTRs

- Although the MTR does not “tell the whole story”, Galvanizers still want to get MTRs from Fabricators so they can look for Si levels, may help to determine time in the bath.
- Discussion about paragraph on copper in commentary.

Section 6.2 – Galvanizing Thickness

- Discussed the different alternates for this section. The decision to require testing over 20 mils was preserved. Dolly testing was removed.

Section 6.3 & 6.4 – Faying Surfaces & faying surfaces of slip critical bolted connections.

- Just Ocel (on phone) explained some past research of creep testing and research.
- Todd Helwig discussed his research on clamping force and slip resistance.
- Input from two designers (Modjeski & Masters, Michael Baker) in the room said the choice for galvanizing would not be effected by the need to adjust connection designs for a 20% reduction on clamping force for galvanized bolts.
- Decided that we will be silent on thickness for this section (except for the deposits over 20 mils) and suggest designers to take a reduction. Ronnie advocates that this goes into the commentary. Also, needs to get into RCSC and also AISC.

Section 7 – Surface preparation before galvanizing

- Discussed different alternatives for abrasive blasting
- Non – reactive steel doesn’t flake.
- Ballot alternative 1 was the preferred choice.
- Karl Frank thinks that we need to preblast all cross frames.

Section 11 – Qualification of the galvanizing firm

The requested deletions from one galvanizing firm was presented, there was no comment on the merit of QMS requirements on the

Action Items:

- Karl Frank asked if we have anything in the spec about tin in the galvanizing bath. Anna is going to check. **In process**

- Co-chairs will provide a well-crafted question to be used as a quick survey to mills to see how available A709 plate and shapes with optimal chemistries is typical and readily available. **DONE!**
- *Plate producers: How frequently does plate produced to meet ASTM A709 Gr. 50 and Gr. 50W (345 and 345W) satisfy “galvanizing friendly” chemistry with Si between 0.02 and 0.04% or 0.15 and 0.22%?*
- *Shape producers: For shapes produced to meet ASTM A709 Gr. 50S and frequently used in bridge construction (e.g. W6 through W36, L4x4 through L8x8), what are the typical Si content ranges? What quantity and price extra would be involved to meet “galvanizing friendly” chemistry with Si between 0.02 and 0.04% or 0.15 and 0.22%?*
- Provide words for the design limitations on slip critical connections to Mike Grubb to get into an AASHTO addendum and in the next full document publication. **DONE!** RCSC and also AISC?
- Co-Chairs to incorporate decisions and learning from the meeting into a new document for ballot **In process already!**
- Heather asked about direction on galvanizing welding as they tend to be more reactive. Co-chairs will review recent work by Duane Miller for AISC **to be started**

TG 9 – Bearing

Michael Culmo – CME

1. Attendee Introductions - All (10:00 AM – 10:05 AM)
2. History of the Committee – Mike Culmo (10:05 AM – 10:25 AM)
 - a. Initial Committee Work
 - i. Met in early 2000's
 - ii. Regional committees and national committees
 - iii. Developed "G 9.1 – 2004 Steel Bridge Bearing Design and Detailing Guidelines"
 - iv. Approved by NSBA and AASHTO in 2004
 - v. Available on line through NSBA and AASHTO Bookstore (free download)
 - b. Second Round
 - i. Committee re-formed in 2011
 - ii. Met in Salt Lake City
 - iii. Not sure what happened. It died there.
 - c. Third round
 - i. Today
3. Re-establishment of Committee Mike Culmo (10:25 AM - 10:45 AM)
 - a. Plan and approach: Update G 9.1
 - b. Schedule: To be set depending on scope discussed today
 - i. Goal is to have updated document ready in 1 year.
 - c. Coordination with AASHTO
 - i. Everything needs to be approved by AASHTO
 - ii. T-2 Bearings and Expansion Devices
 - d. Meetings:
 - i. Web based: Quarterly? Monthly?

1. Shoot for every 2 months. June 2019 and August 2019
- ii. In person meetings: At collaboration events
4. Re-work of bearing guidelines - All (10:45 AM – 12:00 PM)
 - a. Review of work done in 2011
 - i. Review of March 28, 2011 Meeting Minutes
 1. Not covering design issues as that is covered by AASHTO
 2. Add section on economical bearing sizes – rework table in existing book (think it's RED).
 3. Bearing software covered method B and Chris said he can resurrect it. It's a spreadsheet. Mike's staff can review it.
 - b. Review of approach proposed in 2011
 - i. Review G9.1
 1. Mike will reach out to some on the old committee.
 - c. Revise proposed approach
 - i. New Sections? – Mike went through the sections in Red in G9.1
 - ii. Protection strategies
 - iii. Manufacturing
 - iv. Inspection and Testing
 - v. Bearing sizes? – not sure what we were thinking about for this section
 - vi. Anchor rod vs anchor bolt terminology
 - vii. Frank Russo just finished writing a full document for elastomeric bearings that we may be able to utilize.
 - viii. Dominic would like to see the loading (?) table updated to include all suppliers of the bearings. The table in the details attachment. H1.3

1. Can maybe get rid of metric units table
- ix. Be sure to include some text that we aren't recommending certain bearings.
Just to give guidance on how to handle each type of bearing if you need to use that type.
- x. Revisit the Joe Yura research about paraffine in elastomeric bearings. Revisit vulcanized sole plate? Try to get them simple.
- xi. May want to add something about checking if girder can slide.
- xii. May want to also go through the steel bridge design handbook by FHWA.
- xiii. Whats on the market now:
 1. 1999 AISI Red book – Is this actually online? – “Steel bridge bearing selection and design guide”
 2. G9.1
 3. Steel Bridge Design handbook sunsetting:
 - a. Look into combining G9.1 and Bearing Design from SBDH
 - b. Keep G9.1 and take applicable info from SBDH (steel bridge design handbook)
 - c. Also, may want to bring info from 1999 AISI

Suggestions of additions

1. Performance of Bearings (Durability and maintenance)
2. Bearing type selection – maybe from AISI Red book
5. Lunch Break (12:00 PM – 1:00 PM)
6. NSBA Bearing software? – (1:00PM – 1:30 PM)
 - a. Previous software

- i. Chris can resurrect with some review by Mike C.'s team.
 - ii. Method B usually gives a better answer.
 - iii. Chris will refine B first, then he will tackle Method A
 - b. Is there software out there that we could reference or use?
- 7. Schedule – (1:30 PM – 1:45 PM)
 - a. Overall schedule – still shooting for 12 to 18 months to finish. Goal is to have it to T-14/T2 by August, 2020. Then they could vote for it in summer of 2021. For collaboration vote in Spring 2020.
 - b. Next meeting
 - i. 3pm (ET) on June 20, 2019
- 8. Review/Set Action Items (1:45pm – 2:00 pm)
 - a. Someone go through AIS Red book and SBDH to make suggestions on what to bring into this document.
 - b. Go back to AASHTO T2 to modify bearing suitability table. Or maybe even take it out of AASHTO and into guide.
 - c. Update/incorporate I-A of AISI red book, and charts as well for Summary of capabilities.
 - i. Frank Russo will go through AISI 1999 red book to make recommendations of what to bring into our document
 - ii. Domenic will go through SBDH to make recommendations of what to bring into our document.
 - d. Try to get into T2 committee to explain what we are doing. Jeff will reach out to Carl Puzey to see if we have 5 minutes to make an announcement. Mike C. will make announcement.

- e. Bearing manufacturers will go through High load bearings sections (current section 2) and make any recommendations for revisions and better ways of doing things.
 - f. Bearing manufactures will go through elastomeric bearing section and make recommendations for how to make these more efficient. And what designers can do to be more economical.
 - g. Frank R. will go through FHWA training document and recommend items to include in G9.1
 - h. Mike C. will go through current AASHTO spec to coordinate G9.1 and T2. Will make summary of suggested revisions to T2. Mike will get copy of current (with revisions) of 9th edition of AASHTO from Tom and Carmen.
 - i. Shall remain a “G” vs “S” document.
 - j. Everyone in committee to go through current G9.1 and make suggestions
9. Vice Chair
- a. Ron Watson was nominated and agreed upon.
10. Adjourn
11. Action Item Summary

Item #	Action Item	Assigned to	Due Date
4.19.01	Review AISI (Red book) and recommend items to incorporate into G9.1	Frank Russo	6/20/19
4.19.02	Review Steel Bridge Design Handbook – Bearing Design and recommend items to incorporate into G9.1	Domenic Coletti	6/20/19
4.19.03	Review FHWA Training document and determine if we can borrow any language/information to include in G9.1	Frank Russo	6/20/19
4.19.04	Bearing manufacturers will go through section on high load bearings and make recommendations on how to make language/details more efficient.	Brad Streeter, Ryan Schade, Phil Gase	6/20/19

Item #	Action Item	Assigned to	Due Date
4.19.05	Bearing manufacturers will go through section elastomeric bearings and make recommendations on how to make language/details more efficient.	Brad Streeter, Ryan Schade, Phil Gase	6/20/19
4.19.06	Mike Culmo will go through current AASHTO Specification on bearing design and develop recommendations to take to T-2 for revision. And he will coordinate with T-2	Mike Culmo, Sougata Roy	6/20/19
4.19.07	Jeff will reach out to Carl Puzey to ask if Mike Culmo can have ~5 minutes in AASHTO T-2 Montgomery meeting to update them on our initiative and goals.	Jeff Carlson	5/1/19
4.19.08	Entire committee/group to review current G9.1 and make recommended revisions.	Committee	6/20/19

TG 10 – Erection

Brian Witte – Parsons

1. Attendee Introductions - All (8:00 – 8:15)
2. S10.1 Status Update (8:15 – 8:45)

Jason gave update. Sent version to T14, who sent it out to DOT's for review/comment. Will be on ballot for SCOBS meeting in Montgomery this year for potential incorporation into AASHTO.

Discuss AASHTO/NSBA Collaboration Balloting & Comments

Received comments from various parties and incorporated as determined appropriate. Removed most all references to D1.1. References to D1.5 remained. Section 8.1 was discussed.

Ronnie Medlock asked if temporary welds were specifically addressed in the document. Brian said no, and stated it would be added.

Revisions to Appendix to update and include previous example

Comments from AASHTO T14 - (Chris Garrell)

Reviewed comments from MnDOT and had detailed discussions within the collaboration.

Request for Cover Photos

3. Effects of Wind Load on Girder Erection – Brief Case Study (8:45 – 9:10)

Cumulative wind load discussion. Wind loads on girders during construction. New wind load provisions. Need to define exactly what a “major bridge” is, as wind loads are much higher per code, and tougher to be designed for.

Wind loads are increased dramatically compared to past code provisions, to the degree that the temporary wind loads are greater than the final wind loads. It was noted that the temporary wind loads have a 1.0 load factor, so the safety factor is built into the wind loads given. Concern was noted that these higher temporary wind loads have to be transferred to the piers/supports. These higher temporary wind loads are forcing design engineers to install permanent lateral bracing in the design plans. It was noted that the wind studies have shown that there is not much shielding of wind loads on multiple girder bridges, especially when you get more than 5 girders.

Girder lateral deflections can become critical under these temporary wind loads, 5 feet plus, which questions the validity of the 2d grid analysis being completed. Large deflections can damage bearings. Note that girder stresses can be OK even with these large deflections.

Frank Russo showed a video of the Blennerhasset approach spans laterally deflecting 6'+ during construction under 40 mph winds.

It was suggested that this change in wind load, and how it affects the temporary conditions and design, are being affected.

More discussion is warranted in future meetings. There may be a need to educate the entire bridge community to possible impacts of the current wind requirements.

Are owners and designers familiar with these requirements?

4. Interaction with other committees (9:10 – 9:30)

Bolting for Bolters Update – TG4 & TG10 Joint Task Group

Trying to develop the bolting video yet. NSBA assisting with this.

Subcommittee on Geometric Tolerances

5. Ideas for next document (9:30 – 9:50)

6. Adjourn and summary (9:50 – 10:00)

7. Action Items:

- a. Brian Witte, Jason Stith, Tony Peterson, Ronnie Medlock, and Chris Garrell will meet with MnDOT to review the comments resolution and obtain clarification of comments which were not understood. (tentatively scheduled for May 7th, Chris Garrell to arrange.)
- b. Brian Witte to send email to major TG10 contributors to solicit cover photos/ideas. Jason Stith to assist with development/review of cover.
- c. Brian Witte to develop communication plan to increase education/impacts to bridges from the AASHTO Guide Spec for Wind on Bridges during Construction.
- d. Brian Witte to develop list of ideas to consider for inclusion into future. (ie transportation checklist, others).
- e. Main meeting action - Brian Witte and Jason Stith to review TG12 membership list.

TG 11 – Design

Brandon Chavel – NSBA

1. Introductions: First time attendees? (3:00 PM to 3:10 PM)

There were 39 people in attendance.

2. Administrative Items (3:10 PM to 3:15 PM)

a. The Task Group name has been changed to “Design”.

It was noted that the group name was changed since the group’s responsibility is beyond just the Steel Bridge Handbook.

b. New Vice-Chair – Domenic Coletti

3. Internal Redundant Member Presentation and Introduction to NSBA’s IRM Tool - Jason Lloyd (3:15pm to 3:45 PM)

The NSBA recently posted a new evaluation tool called the IRM Evaluator. The internal redundancy guide specification can be used by any state however until the FHWA issues its technical advisory, it cannot be implemented. Jason provided an overview of the IRM guide specification and explained the scope of its usage (e.g. built-up members) and the process to defining a member as internally redundant and then a special inspection interval (based upon the faulted state). The process would begin with a screening of the member and then establishing strength checks when fractured and positive fatigue life remaining in the faulted state. An example use of the IRM Evaluator was shown for the pacific highway interstate bridge. A tool for flexural members is currently being developed and is anticipated for release next year.

4. Guidelines for the Design of Cross Frames progress. (3:45 PM to 4:45 PM)

a. Review status and revisions, and open comments from 1st draft.

b. Timeline for 2nd draft of document

c. Have a full 2nd draft ready for Fall 2019 meeting to review and comment on prior to meeting.

i. Use a due date of August 9, 2019 for the assigned sections.

There remain about 10 sections that need to be written and only a few comments on the existing work that has been completed. The resulting document is not expected to be an official AASHTO document, but rather an NSBA white paper. A draft is expected in August so that new comments can be worked through at the next meeting in October. Brandon reviewed the major sections of the existing draft document. Beyond simply being a guide, the document is expected to also supply design example(s).

ii. Open Discussion about progress so far

Some select sections that still require work are: z-cross-frames (TNDOT style) eccentric welds, tee-sections, seismic, removal of existing and temporary cross-frames, galvanizing, modeling and obtaining member forces in analysis, example of tubes and WF section (i.e. end diaphragm), bent plate, and pipe stiffeners. Volunteers are still being solicited for completing these remaining sections. The question was raised regarding the targeted version of the AASHTO specification which will be the 9th edition. John Hastings was volunteered for the z-cross-frame section and Frank Russo volunteered for the WT section, Josh Orton volunteered for the removal and temporary cross-frames. Garrell volunteer to assist with the details for galvanizing. The use of tubes was removed from the scope of the document, however mention will be made as to why one may not want to consider them. Submission of work assignments needs to be completed by July 26. Brandon will post the current version of the document for the group on Collaboration Google Drive.

d. Interim meetings between Collaboration Meetings, Web-meetings. Dates to be scheduled.

5. General Open Discussion (4:45 PM to 5:00 PM)

6. Adjourn

TG 12 Design for Constructability and Fabrication

Allan Berry –RS&H

Document has gone to the full Collab for ballot. Have not had a lot of comments to date.

Allan explained the balloting process, with a goal of publishing 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.
 - The finalized document will then be sent to T-14 by the NSBA on or before December 1, 2019.
 - 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.

Previous review comments that were discussed.

New Comment 24. Shane noted there was an owner that had text in their manual about camber for sag curve, and eliminating negative camber. The issue becomes “user comfort” or “perception.” Shane – design into the haunches, and not into the cut curve of the web. A large haunch would be a very significant concern. Shane will put a short paragraph together. It should be more than a commentary, so that the designer is cognizant of the issue. Mainly an aesthetic concern and not a structural concern, unless you end up with a significant haunch. Look to include in section 1.8, Haunch.

New Comment 30. Fab shops use both, decimals and fractions on an inch. But what should be shown on the design drawings? TG agreed decimals may be better for presentation on the camber drawings. Two decimal points for inches, and three decimals for feet. Designer may be requested to send a spreadsheet to the fabricator and detailer. May want to note this.

New Comment 112. Integral Steel Bent Caps. Bob Cisneros will talk with Brad Dillman about this, and see if they still want to develop the section. Frank Russo noted a concern that if we follow what one state does, we will have open season on comments and incorporating what all owners may want. Bill Lally noted he has received many calls on what good details may be for this, so this would be a good topic on showing preferred details. Bill will coordinate with Brad.

New comment 122. Allan will follow up with Steve Percassi and Russel Jeck.

New comment 136. Concern over the figures for C2.2.2.4a, and they do not match what is shown in AASHTO LRFD BDS 6.6.1.2.4. Frank Russo noted the AASHTO LRFD BDS has the proper figures and should be referenced in the text. TG decided to eliminate the figure and make sure the text matches the AASHTO LRD BDS.

New Comment 137. Section 2.2.1.2.1. Frank Russo – has this been addressed in the AASHTO LRFD Construction Spec? The major change is the commentary. Ronnie – has concerns over just referring to virtual assembly. Should still include CNC in the spec side. Dennis – does this appear in the fab spec? Bill – this statement in 2.2.1.2.1 is good to allow for virtual assembly, for those that can do it. 11.5.2 of the Construction Spec has language about assembly. Christina made a revision to the section while in the meeting.

Cisneros noted the NY State spec about assembly has a requirement for hitting the bearing points on final geometry within 1/8" +/-, and "not worry" about what happens in the span.

Coletti noted that the real emphasis of this section should be that the engineer does not put too many requirements in the plans for assembly, and engineers should be made aware of the geometric control methods that fabricators can use.

Dennis and Ronnie – should we just point to TG8 fab spec? Need to compare with TG8 document.

Allan – will coordinate with Heather Gilmer to coordinate this section with TG8 and AASHTO LRFD Construction Spec.

Coletti – may be able to refer to TG8 in spec side here, and then keep parts of the current 2.2.1.2.1 commentary.

Figure in this section probably needs revised.

New comment 138 – 2.2.6.4. Lou Ruzzi asked if fabricators like just using rectangular gusset plates? Cisneros suggest that they like to limit the uniqueness of the cross frame gussets as much as possible. Bill Lally noted that they try make things as uniform as possible. Wording may be "limit protruding corners" for safety issue.... Or just break the edge. Also need to be aware of sealing requirements.

Figure 2.2.6.4.E – Need a fill plate, if this is not weathering steel and need to get a coating in between the WTs. May want to show a detail with a fill plate.

This section is all new, and should be read and reviewed by the TG.

New Comment 139. Frank will put language into the spec side about FHWA Memo and the new AASHTO Guide Spec for System Redundancy. FHWA is still working on a twin tub girder redundancy memo.

New Comment 140. Improved tub girder details. Dennis has questioned why we are referring to details that are not vetted by the industry. Just because one owner approves, does not mean other owners will be on board. The TG needs to review to determine if we want to put this in the guide.

Todd Helwig will send a presentation to Allan, and then send out to review by the TG.

Mike Grubb – noted that the AASHTO LRFD Spec does not allow the tub girder top flange to be non-centered.

Frank – Because this research has not been adopted by T-14, and no spec provisions have been modified, this should not be inserted into this. This TG document should not provide something that is not currently accepted by the Design Spec.

Allan – proposed to table this section. Have Todd give the presentation. And then wait for the LRFD spec to be updated, and then update the TG Guide Spec.

Comment 134. 0.25 to 0.33 is practical. Very large overhangs become difficult when too large, with regard to overhang brackets.

Comment 135. Section 1.5.3. TG suggested using 1/16" less than what is needed for an unstiffened web.

Comment 141. Section C1.7. Frank Russo suggested -- It is common to have bridges with a defined point of fixity (estimated point of thermal origin)..... However, designs with no true point of fixity have also been used. Lou Ruzzi noted that we should include something with regard to transferring the load to the substructure. Frank Russo is going to look at revising this section, and coordinate with other documents.

Comment 142. Section C1.8. Cisneros suggested removing "as falsework dead load accumulates."

Comment 143. Section C2.2.1.2.1. To be addressed by Frank in his review of the section.

Comment 145. Section 2.2.7. TG agreed to add the words "expansion joint."

Comment 147. Section 1.3. Previously discussed in Comment 75. Change to just flat bar. There are some fab shops that still use bar stock. Ronnie questioned why include "owner acceptance." This was removed. Bill Lally suggested that change "facilitate" to "allow". TG also decided to move the statement back over to the commentary.

Comment 150. Section 2.1.2.6. Dennis proposed to add language about connection plates and cross frames for intermediate cross frames. TG agreed.

Comment 151. Concern is the weld of the flat skewed connection plate to the flanges. The concern is the fatigue category detail and not currently shown in the AASHTO LRD BDS. Greg Turco noted that for TxDOT has used these, mainly at end supports. Todd Helwig noted it is recommended to not weld the flat skewed connection plate to the flange, as noted in the report. TG wants to keep the detail, and remove the reference to the TXDOT standard drawing. Cisneros suggested not allowing pipe stiffeners when galvanizing.

Gary Wisch presentation for It's All in the Details

Gary gave his presentation he gave at the WSBS.

Can NSBA get maximum plate lengths, with width and thickness available from the mills?? Look at Chris' MSC article on this.

Gary asked how do we get the information out there so that designers can make informed decisions. Brandon noted that NSBA is working on this, and getting the word out that these documents are available for use.

TG 13 - Analysis of Steel Bridges

Deanna Nevling – Michael Baker International

1. Attendee Introductions - All (1:00 PM – 1:15 PM) There were approximately 37 people in attendance. Approximately ten people were first time attendees.
2. Housekeeping (1:15 PM – 1:30 PM)
 - a. Sign-in Sheet
 - b. Turn Off/Mute Cell Phones and Type Softly on Computers
 - c. Meeting Minutes – Austin, TX – October 10, 2018 Meeting minutes were reviewed from the last meeting in Austin, Texas. No outstanding business from Austin.
3. General Announcements (1:30 PM – 2:00 PM)
 - a. Conferences/Research/Publications
 - i. WTS May 2019
 - ii. IBC June 2019
 - iii. AASHTO CBS June 2019
 - b. NSBA Update
 - i. WSBS is now annual
 - ii. Bridge prize award season will be 2020
 - iii. NSBA Networking event Tuesday at AASHTO CBS
 - iv. NSBA IRM Evaluator is online
 - v. NSBA Splice spreadsheet - now does analysis and design (to check existing or user-designs)
 - c. FHWA Update – Dayi Wang, FHWA Steel Specialist See slides attached to the minutes Manual for Refined Analysis final release soon FHWA-HIF-18-046
<https://www.fhwa.dot.gov/bridge/pubs/hif18046.pdf>. Steel Bridge Program Update: New “Manuel for Refined Bridge Analysis” which was developed by M&M. Currently in draft and likely to be release “soon”. Target audience if engineers with at least 4-years of experience. Main purpose is FEA application consistency. Consists of 9 chapters which includes 7-examples.
 - d. Update on FHWA FC Memo and TAs. Updates to FC memo and TA’s that reflect designs that require no complex analysis if the design satisfies pre-defined rules and characteristics.
 - i. SRM Guide Spec
 - ii. Endorsed by FHWA not required
 - iii. Looking for Simple rules, i.e. deemed to satisfy, maybe "no modeling" analysis and other simplified analyses
 - e. TRB AFF20 (Steel Bridges Committee) Update – Domenic Coletti, Chair. Annual meeting was in January in Washington DC. The Sunday morning workshop was on analysis software comparison of common model evaluation (benchmark). Mid-year meeting will likely be sometime in July. This meeting will address the call for papers, research needs statements. Next workshop topic will be on adhesives. Although the group was looking to do a webinar that extended the Sunday workshop, it was decided that it would be “to commercial”.
 - i. Discussed analysis workshop at Jan meeting

- ii. Webinar meeting this summer
 - iii. Call for papers likely in May
 - iv. RNS from 2019 top item making its way through the AASHTO process
 - v. 2020 workshop intended to be on adhesives
- f. AASHTO SCOBS Update (T-14 Structural Steel Design) – Frank Russo. New box. Design provision for WT to harmonize with AISC design code. Need for haunched girder transverse stiffener at transition calculation/check. Also the splice design errata will be brought officially into the code.
 - i. Russo, Grubb, Ream provided update on AASHTO T-14 ballot items such as Non Comp
 - ii. Boxes, WT in compression, miscellaneous updates such as splice errata inclusion
- 4. G13.1 Guidelines for Steel Girder Bridge Analysis – Domenic Coletti (2:00 PM – 2:30 PM). Domenic spoke to the comments that were received from T14 and the other states before AASHTO CBS meeting. The comments received were superficial and responses are ready to send back to Tom Macioci. Before publishing, which should occur by the end of the year, the list of TG13 contributors and the cover page should be updated.
 - a. Path Forward: Comments from IN and MN. Discussion begins with MN. IN comments editorial Publication of 13.1 3rd edition. As soon as it passes in June at CBS it will go through the AASHTO publication process. G13.1 - next steps No new business. Come prepared to discuss any new topics at the Oct. 2019 meeting
- 5. Presentation: “2nd Avenue Bridge Analysis,” – Julie Rivera and Michael LaViolette. Analysis of un-braced network tied arch in Detroit for Michigan DOT. Design driven by underpass height requirements (i.e. over-height vehicles). Replacing bridges from the 50’s/60’s. Bridge to be built in weekend replacement so the bridge was built in an adjacent parking lot. Given the skew, an arch with bracing would not be aesthetically pleasing so un-braced was recommended. Bridge included post tensioned (PT) concrete end diaphragms at arch ends, PT tie girder and steel floor beam system and bracing. Julie reviewed the 3D modeling approach for the bridge.
- 6. G13.2 Guidelines for Steel Truss Bridge Analysis (3:00 PM – 4:00 PM). The group is evaluating whether the document still has a merit given the limited number of trusses that are designed these days. However with the loss of skill in the design community due to retirements, this document would help fill that (eventual) gap. The group is going to re-evaluate the direction of the guide and look to address the more fundamental concepts. Tasks assignments were made and captured by Deanna in her assignment spreadsheet.
 - a. Review current document and add volunteers and bullet points for topics that do not have draft text Group discussion about whether or not to move forward with the document. Consensus was yes, the document will be useful. Document revisions will be made to focus on basic analysis steps for trusses.
 - b. Path Forward: Submit new and revised sections by June 30, 2019
 - i. Revised document sent out for review by August 15, 2019
 - ii. Comments compiled and discussed during Fall 2019 meeting
- 7. Adjourn (4:00 PM)

TG 14 - Field Repairs and Retrofits

Kyle Smith – GPI

1. Attendee Introductions - All (10:00 AM – 10:10 AM)
2. Administrative Items (10:10 AM – 10:15 AM)
 - a. The Task Group name and number update
 - b. Review Task Group Mission.
3. Jason Lloyd – NSBA Internal Redundancy Tool (10:15 AM – 10:25 AM)
4. Jon Stratton – Survey (10:25 AM – 10:45 AM)
 - a. Previous survey results from last incarnation of TG-14
 - b. Draft document of survey & discussion
5. Draft Outline for G14.1 (10:45 AM – 12:00 PM)
 - a. Overview of draft outline (hard copies distributed)
 - b. Open Discussion and Solicit Writing Assignments for G14.1
 - c. It was suggested that we use a paragraph (narrative) format, which tends to work better for guideline
 - d. Take a look at new AWS document targeted to be published within the next year
 - e. It was suggested that we draft a typical section to send to people as an example to follow.
 - f. Collaboration ballot to publication process takes at least a year. So target publication for the Group's first draft of the guideline should consider this time period.
 - g. Should "Additional service life associated with various repair types/technologies" be brought into each repair section as part of the general writing approach?
 - h. It was suggested to look into pack rust mitigation. Oregon used pressurized water methods to clean pack rust and some have used epoxy fillers. Texas DOT tried to use penetrating sealers and didn't like the results. May be worth looking into as a lesson learned.
 - i. Recommended to add orthotropic deck repair topic to the list of repairs to be included in the guideline.
 - j. Should we look at sending the survey to county engineers, transit authorities, port authorities, turnpike authorities who may have more steel inventory than some DOTs perhaps might have. DOTs might have local agency contacts that they can send the survey to, as well.
 - k. It was suggested to give general discussion in the guideline about load rating the repaired section of the structure or at least pointing the reader to existing references on the subject.
 - l. Rob Connor was suggested as a source for pack rust due to ongoing research looking at the effects of pack rust. Jason Lloyd was assigned to talk to Rob about participating.
 - m. It was recommended to send the new survey to multiple people within the DOT, not just the state bridge engineer to help ensure we get a response. Perhaps send the survey through T-18 to help get a better response.
 - n. Most states have county engineer organizations that the Group could try to send surveys to.
 - o. Survey Monkey or Google Forms can be used to create survey and compile results
 - p. Add parenthetical clarifications to the survey questions to help ensure correct reading and objectives.

6. Breakout Sessions for G14.1 (time permitting)
7. Adjourn

TG 15 - Data Modeling for Interoperability

Sammy ElSayed - Skanska

1. Attendee Introductions - All (1:00 PM – 1:05 PM)
 - a. There were about 19 people in attendance.
2. Overview of the group (1:05PM – 2:00 PM)
 - a. Sammy reviewed the upcoming changes with respect to membership. He went through the purpose of having a balance of stakeholders and the expectation for attendance at meetings.
 - b. Purpose of Task Group
 - c. Sammy reviewed the mission statement for the task group.
 - d. Future directions
 - e. Future coordination will be looked at to support the other exchange types. Currently both TG1 and TG15 are having coordinated meetings to evaluate the exchange between designer and detailer. In the past TG10 and TG15 have worked together to develop the exchange between erectors and designers. The question was raised regarding ownership of the database of information. It was clarified that the purpose of the group is to develop the schema that describes the properties and interactions of each stakeholder. The group will directly solicit the input from the stakeholder to help define the database (i.e. schema). How do the software vendors fit into the goals of this task group? Currently there is no software vendor participation in TG15 and it would be valuable to have someone start participating. However, give-and-take is important so that the exchanges are actually implemented.
 - f. Aaron, provided a brief review of the basics of Building Information Modeling (BIM) along with a comparison to the current paper workflow. He reviewed the limitations of the existing workflow and the benefits BIM brings to the workflow. The process used to develop the TG10/TG15 exchange and define the data was reviewed. A similar approach would also be used to define the other exchanges. The data definitions development by the group would then be used as the basis of implementation in IFC which has become the preferred file format.
 - g. Document management
 - h. Collaboration mechanisms
3. Design to Fabrication Model View Definition (MVD) project overview (2:00PM – 2:10 PM)
4. Data Requirements- BrIM Data Dictionary (2:10 PM – 2:55 PM)
 - a. Sammy reviewed the existing data dictionary that was developed for the exchange from designer to erector. The origins of the data dictionary lead back to the BrIM work that was done at the University at Buffalo which was set to define most common “workhorse” bridges. Currently this information is housed in an Excel file which has a specific layout and stylization. Aaron went through the reasoning for the format and the color scheme chosen and how it relates to overloaded terms and clearly defining them (e.g. bridge and beam). It is important to use the same terms in the same way.
 - b. Overview of current version

- c. Future modifications and maintenance
- 5. Discussion (2:45 PM – 2:55 PM)
 - a. State adoption and the fears associated with it was a point of discussion.
- 6. Adjourn

Joint Task Group Meeting (TG1 & TG15)

1. Attendee Introductions - All (3:00 PM – 3:05 PM)

There were 12 people in attendance

2. Overview- Design to Fabrication Model View Definition (MVD) (3:05PM – 3:35 PM)

Julie provide overview of the Transportation Pool Fund project is to develop a national standard for open exchange of modeled bridge and structure data to be used for design to construction and fabrication. IFC delivery method was chosen to facilitate the modeling. The pool fund is a 4 year project that is 4 months in with 16 states currently participating lead by a consultant team. Priorities of the pool fund project initiative is the following - 1) Investigation and Explorations, 2) IFC MVD Development (Review and update process map), 3) Industry involvement, 4) Stake holder engagement. As these priorities continue to progress, the goal is to have a beta test by years end.

3. Working Group- Design to fabrication Model View Definition (MVD) (3:35PM – 4:35 PM)

Aaron reviewed the fabrication process map & model and discussed how information/activity is shared and exchanged between stakeholders throughout the Design-Bid-Build project life cycle.

Various edits were made on the fabrication process map based on input from Task Group.

Updated Fabrication Process Model & Map will be distributed by Aaron Costin reflecting today's updates.

Larry Kruth will share a guide with Aaron that is currently being developed by AISC for Building BIM Standard Projects to help facilitate a current process map for Bridges.

4. Next Steps- Assign Data Requirements (4:35 PM – 4:45 PM)

BrIM Data Dictionary was briefly discussed in TG15 meeting.

5. Discussion (4:45 PM – 5:00 PM)

This period was used to further edit the process map with the input of the task group.

6. Adjourn

TG 16 - Orthotropic Deck Panels

Duncan Paterson – HDR, Inc.

1. Attendee Introductions - All (2:00 PM – 2:10 PM)
2. General updates and announcements, review of previous meeting minutes (2:10 PM – 2:15 PM)
3. Presentations:
 - a. Dr. Sougata Roy, Rutgers University, Welding of Orthotropic Decks (2:15PM – 2:45PM)
 - b. Dr. Richard Sause, Lehigh University, Orthotropic Deck Floorbeam to Rib welding (2:45 PM – 3:15 PM)
 - i. Comment: What is the maximum gap we can have? Can we get to $\frac{1}{8}$ " - Reply: We don't have the data from Lehigh testing to answer that question.
 - ii. Comment: We need to make this process easier for fabricators.
 - c. Presentation Q/A (3:15PM – 3:45PM)
4. Committee Goals
 - a. State of TG 16 - How are we got to now
 - i. How can we help domestic fabricators?
 - ii. We are stuck with standards for very large bridges, but can we explore details for smaller bridges with lower ADTT that would facilitate fabrication?
 - iii. Why can't we buy ortho deck like a commodity? Can the design be standardized for designers to order, similar to open grid deck? Can we set up ortho to work similar to the way prestress design works with set parameters driving a standardized ortho deck section that can simply be purchased? Apparently this type of practice is done in Europe.
 - iv. Is there somewhere a designer can go to find the most economical design practices? It seems they would need to do their own synthesis. Maybe this committee can compile a "best practices" guideline/manual.
 - v. Have we decided that open rib decks should be pursued or forgotten? Reply: open rib was not received well with AASHTO just because it wasn't a priority.
 - vi. The commodity ortho deck idea is good, but this group does not have cash flow to fund a prototype or development of a commodity deck section.
 - vii. What about opening the ribs up to make room for fillet welding inside the rib? This could be a big savings in fabrication.
 - viii. Can we get away from partial and full pen welds to reduce testing requirements to improve economics?
 - ix. Accomplishments: We've shown that we don't need bulkhead plates and that we can use fillet welds, penetration of the rib-to-deck weld isn't important
 - x. Can we use AISC/NSBA funds to pay a consultant to develop an (or a couple) economical ortho deck details (a standard panel)? Then we take those to an owner or two and try to convince them to try the decks. Perhaps design it for a target bridge type that might limit the design iterations required, but that could be expanded on later.

- xi. Let's find a way to get every domestic fabricator automation capability; find a way to give them the means to do this. Reply: we don't need to provide equipment to fabricators, we need to help develop a steady market so that fabricators can feel safe investing in the automation for themselves.
 - xii. Should this TG produce a 1 or 2 page paper for lobbyists to persuade government support to help domestic fabricators stay/become competitive for non-Buy America Act projects?
 - xiii. Should the TG make a couple subtask groups to tackle these different ideas? Reply: Yes.
 - xiv. Details for a grade separation bridge would be different than for a redecking project, so these should be focused on separately.
 - xv. Anna Petroski will lead effort on the letter for lobbying for government support.
 - xvi. Duncan will put together a subtask group to start working on a target bridge design. Maybe fund it through Innovative Bridge program?
 - b. Review of Future Topics, invited presentations
 - i. Eric Levesque volunteered to present some "modest" recent projects to the TG at next collaboration meeting
 - ii. Terry Logan volunteered to present his 5th OBD presentation too.
5. Task Group updates (3:45 PM – 4:30 PM)
- a. Rolled formed ribs
 - b. State of Practice Synthesis Document
 - i. Terry Logan - presented current work to date.
 - ii. Daniel Stanceson - is waiting for comments on his draft document. Sougata will download Daniel's draft and email to the TG as Word file for comment.
 - iii. Eric Levesque will talk with Duncan and Sougata after the meeting to find a section or two to help draft.
 - iv. TG reviewed the writing assignments and updated goals.
6. Old business and additional discussion (4:30 PM – 5:00 PM)
- a. Floorbeam and diaphragm details
 - b. Rib Standardization
7. Adjourn

Collaboration Main Committee

The membership requirements were a point of discussion and there needs to be a second review of the nominations to ensure that any that person who has not regularly attended meetings really should be reconsidered. Allow special class of member for owner entities who can be members but not be subject to the attendance requirements.

Ronnie proceeded to go through the Task Group roll call and each chair briefly reviewed there meetings.

- Mike Culmo had an addition to the TG13 notes regarding the benefits of 3D modeling when it comes to floor-beam truss interactions.
- Should the fabrication documents start being routed through TG17. G2.2 is still under development and a new release is not expected until after 2020. Fixes documents might benefit from use of “non-conformance” rather than “errors”. Ronnie Medlock will discuss with Tom Macioci – T14.
- G8.3 items that related specifically to design consideration need to be evaluated to determine if a new document is needed guide designers on best practices for detailing and design.
- A new cover and title page needs to be added to the G4.1 before it is sent back to T14 to address their comments before CBS meeting.
- TG15 has proposed to work with TG4 to look at the development of a BIM exchange between detailers and fabricators. Aaron Costin continues to have conference call every two weeks to discuss the designer-to-fabricator exchange.

The 2019 documents received comments from CBS via T14 which were addressed in each meeting. There will be a special meeting to address the TG10 related comments in a separate conference call with Minnesota DOT between now and May 20.

Appendix A – Meeting Agendas



NSBA Collaboration – Spring 2019
TG 2 Fabrication and Repair
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Admiral

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: Tony Peterson - NSBA (peterson@aisc.org)

Meeting Agenda - Tuesday, April 23 (8:00 AM to 12:00 PM)

1. Attendee Introductions - All (8:00 AM – 8:05 AM)
2. G2.2
 - a. Review of draft for improper preheat in G2.2 (8:05 AM – 8:35 AM)
 - b. Framing of members too short (possible presentation) (8:35 AM – 9:00 AM)
3. S2.1
 - a. Research update on connections with mixed slip coefficients (9:00 AM – 9:15 AM)
 - b. Plasma etching: review FDOT requirements and assess for addition to S2.1 (9:15 AM – 9:45 AM)
4. Break (9:45 AM – 10:00 AM)
5. AASHTO fabrication spec draft (10:00 –noon)
6. Adjourn



NSBA Collaboration – Spring 2019
TG 12 Design for Constructability and Fabrication
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Reflections

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: John Hastings - NSBA (hastings@aisc.org)

Meeting Agenda - Tuesday, April 23 (8:00 AM to 12:00 PM)

1. Attendee Introductions - All (8:00 AM – 8:10 AM)
2. Updated G12.1 Guidelines to Design for Constructability and Fabrication – Allan Berry, RS&H (8:10 AM – 10:00 AM)
 - a. Status of document. Full Collaboration ballot. Publish in 2020.
 - b. 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.

3. Break (10:00 AM – 10:15 AM)
4. Updated G12.1 Guidelines to Design for Constructability and Fabrication – Allan Berry, RS&H
(10:15 AM – 11:30 AM): Discussion of balloting comments and issues (cont.).
5. Presentation: Things Engineers do that Drive Fabricators Crazy – Gary Wisch, DeLong’s Inc.
(11:30 AM – 12:00 PM)
 - a. Plate size selection.
 - b. Secondary members.
 - c. Connection details.
 - d. Coatings.
 - e. Questions.
6. Adjourn



NSBA Collaboration – Spring 2019
TG 8 Coatings
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Reflections

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)

Meeting Agenda - Tuesday, April 23 (1:00 PM to 3:00 PM)



NSBA Collaboration – Spring 2019
TG 15 Data Modeling for Interoperability
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Admiral

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)

Meeting Agenda - Tuesday, April 23 (1:00 PM to 3:00 PM)

1. Attendee Introductions - All (1:00 PM – 1:05 PM)
2. Overview of the group (1:05PM – 2:00 PM)
 - a. Purpose of Task Group
 - b. Future directions
 - c. Document management
 - d. Collaboration mechanisms
3. Design to Fabrication Model View Definition (MVD) project overview (2:00PM – 2:10 PM)
4. Data Requirements- BrIM Data Dictionary (2:10 PM – 2:45 PM)
 - a. Overview of current version
 - b. Future modifications and maintenance
5. Discussion (2:45 PM – 3:00 PM)
6. Adjourn



NSBA Collaboration – Spring 2019
TG 11 Design
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Reflections

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)

Meeting Agenda - Tuesday, April 23 (3:00 PM to 5:00 PM)

1. Introductions: First time attendees? (3:00 PM to 3:10 PM)
2. Administrative Items (3:10 PM to 3:15 PM)
 - a. The Task Group name has been changed to “Design”.
 - b. New Vice-Chair – Domenic Coletti
3. Internal Redundant Member Presentation and Introduction to NSBA’s IRM Tool - Jason Lloyd
(3:15pm to 3:45 PM)
4. Guidelines for the Design of Cross Frames progress. (3:45 PM to 4:45 PM)
 - a. Review status and revisions, and open comments from 1st draft.
 - b. Timeline for 2nd draft of document
 - c. Have a full 2nd draft ready for Fall 2019 meeting to review and comment on prior to meeting.
 - i. Use a due date of August 9, 2019 for the assigned sections.
 - ii. Open Discussion about progress so far
 - d. Interim meetings between Collaboration Meetings, Web-meetings. Dates to be scheduled.
5. General Open Discussion (4:45 PM to 5:00 PM)
6. Adjourn



NSBA Collaboration – Spring 2019
Joint Task Group TG 1 / TG 15
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Admiral

Task Group Mission: This Joint Task Group's focus is to produce the 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 Secretary: John Hastings - NSBA (hastings@aisc.org)

Meeting Agenda - Tuesday, April 23 (3:00 PM to 5:00 PM)

1. Attendee Introductions - All (3:00 PM – 3:05 PM)
2. Overview- Design to Fabrication Model View Definition (MVD) (3:05PM – 3:35 PM)
 - a. Quick overview of project and status
 - b. Questions and Discussion
3. Working Group- Design to fabrication Model View Definition (MVD) (3:35PM – 4:35 PM)
 - a. Review process map and notation
 - b. Discussion
4. Next Steps- Assign Data Requirements (4:35 PM – 4:45 PM)
 - a. BrIM Data Dictionary
5. Discussion (4:45 PM – 5:00 PM)
6. Adjourn



NSBA Collaboration – Spring 2019
TG 1 Detailing
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Admiral

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)

Meeting Agenda - Wednesday, April 24 (8:00 AM to 10:00 AM)

1. Attendee Introductions - All (8:00 AM – 8:05 AM)
2. G1.1 Revision Update (8:05 AM – 8:10 AM)
3. TG1/TG15 Subtask Group Update – Aaron Costin (8:10 AM – 8:30 AM)
4. Improving Steel Bridge Quality Through Communication – Chris Crosby (8:30 AM – 9:00 AM)
5. Cost Effective Steel Details – Gary Wisch (9:00 AM – 9:20 AM)
6. Open Discussion – How best to help educate industry on best practices? (9:20 AM – 9:50 AM)
 - a. Industry is losing expertise in all areas—Owners, Designers, Fabricators, Detailers, Erectors. How do we best ensure we are educating/mentoring to continue best practices?
 - i. TG1 Guide Specifications? Are they effective?
 - ii. Steel Bridge Forums with NSBA? How to organize, participate?
 - iii. AISC Webinars?
 - iv. Other?
7. Final Discussion and Adjourn (9:50 AM – 10:00 AM)



NSBA Collaboration – Spring 2019
TG 10 Erection
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Reflections

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)

Meeting Agenda - Wednesday, April 24 (8:00 AM to 10:00 AM)

1. Attendee Introductions - All (8:00 – 8:15)
2. S10.1 Status Update (8:15 – 8:45)
 - a. Discuss AASHTO/NSBA Collaboration Balloting & Comments
 - b. Revisions to Appendix to update and include previous example
 - c. Comments from AASHTO T14 - (Chris Garrell)
 - d. Request for Cover Photos
3. Effects of Wind Load on Girder Erection – Brief Case Study (8:45 – 9:10)
 - a. Are owners and designers familiar with these requirements?
4. Interaction with other committees (9:10 – 9:30)
 - a. Bolting for Bolters Update – TG4 & TG10 Joint Task Group
 - b. Subcommittee on Geometric Tolerances
5. Ideas for next document (9:30 – 9:50)
6. Adjourn and summary (9:50 – 10:00)



NSBA Collaboration – Spring 2019
TG 9 Bearings
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Reflections

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 Secretary: Jeff Carlson - NSBA (carlson@aisc.org)

Meeting Agenda - Wednesday, April 24 (10:00 AM to 2:00 PM)

12. Attendee Introductions - All (10:00 AM – 10:05 AM)
13. History of the Committee – Mike Culmo (10:05 AM – 10:25 AM)
 - a. Initial Committee Work
 - i. Met in early 2000's
 - ii. Regional committees and national committees
 - iii. Developed "G 9.1 – 2004 Steel Bridge Bearing Design and Detailing Guidelines"
 - iv. Approved by NSBA and AASHTO in 2004
 - v. Available on line through NSBA and AASHTO Bookstore (free download)
 - b. Second Round
 - i. Committee re-formed in 2011
 - ii. Met in Salt Lake City
 - iii. Not sure what happened. It died there.
 - c. Third round
 - i. Today
14. Re-establishment of Committee Mike Culmo (10:25 AM - 10:45 AM)
 - a. Plan and approach: Update G 9.1
 - b. Schedule: To be set depending on scope discussed today

- c. Coordination with AASHTO
 - i. Everything needs to be approved by AASHTO
 - ii. T-2 Bearings and Expansion Devices
 - d. Meetings:
 - i. Web based: Quarterly? Monthly?
 - ii. In person meetings: At collaboration events (will include web attendance)
- 15. Re-work of bearing guidelines - All (10:45 AM – 12:00 PM)
 - a. Review of work done in 2011
 - i. Review of March 28, 2011 Meeting Minutes
 - b. Review of approach proposed in 2011
 - c. Revise proposed approach
 - i. New Sections?
- 16. Lunch Break (12:00 PM – 1:00 PM)
- 17. NSBA Bearing software? – (1:00PM – 1:30 PM)
 - a. Previous software
 - b. Is there software out there that we could reference or use?
- 18. Schedule – (1:30 PM – 1:45 PM)
 - a. Overall schedule
 - b. Next meeting
- 19. Review/Set Action Items (1:45pm – 2:00 pm)
- 20. Adjourn



NSBA Collaboration – Spring 2019
TG 14 Field Repairs and Retrofits
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Admiral

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)

Meeting Agenda - Wednesday, April 24 (10:00 AM to 12:00 PM)

1. Attendee Introductions - All (10:00 AM – 10:10 AM)
2. Administrative Items (10:10 AM – 10:15 AM)
 - a. The Task Group name and number update
 - b. Review Task Group Mission.
3. Jason Lloyd – NSBA Internal Redundancy Tool (10:15 AM – 10:25 AM)
4. Jon Stratton – Survey (10:25 AM – 10:45 AM)
 - a. Previous survey results from last incarnation of TG-14
 - b. Draft document of survey & discussion
5. Draft Outline for G14.1 (10:45 AM – 12:00 PM)
 - a. Overview of draft outline (hard copies distributed)
 - b. Open Discussion and Solicit Writing Assignments for G14.1
 - c. Breakout Sessions for G14.1 (time permitting)
6. Adjourn



NSBA Collaboration – Spring 2019
TG 13 Analysis of Steel Bridges
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Admiral

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: Christopher Garrell - NSBA (garrell@aisc.org)

Meeting Agenda - Wednesday, April 24 (1:00 PM to 4:00 PM)

1. Attendee Introductions - All (1:00 PM – 1:15 PM)
2. Housekeeping (1:15 PM – 1:30 PM)
 - a. Sign-in Sheet
 - b. Turn Off/Mute Cell Phones and Type Softly on Computers
 - c. Meeting Minutes – Austin, TX – October 10, 2018
3. General Announcements (1:30 PM – 2:00 PM)
 - a. Conferences/Research/Publications
 - b. NSBA Update
 - c. FHWA Update – Dayi Wang, FHWA Steel Specialist
 - d. TRB AFF20 (Steel Bridges Committee) Update – Domenic Coletti, Chair
 - e. AASHTO SCOBS Update (T-14 Structural Steel Design) – Frank Russo
4. G13.1 Guidelines for Steel Girder Bridge Analysis – Domenic Coletti (2:00 PM – 2:30 PM)
 - a. Path Forward
5. Presentation: “2nd Avenue Bridge Analysis,” – Julie Rivera and Michael LaViolette (2:30 PM – 3:00 PM)

6. *G13.2 Guidelines for Steel Truss Bridge Analysis* (3:00 PM – 4:00 PM)
 - a. Review Current Document and Add Volunteers and Bullet Points for Topics that do not have draft text
 - b. Path Forward: Submit New and Revised Section by August 1, 2019
 - i. Revised Document Sent out for Review by August 15, 2019
 - ii. Comments Complied and Discussed During Fall 2019 Meeting
7. Adjourn (4:00 PM)



NSBA Collaboration – Spring 2019
TG 16 Orthotropic Deck Panels
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Reflections

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)

Meeting Agenda - Wednesday, April 24 (2:00 PM to 5:00 PM)

1. Attendee Introductions - All (2:00 PM – 2:10 PM)
2. General updates and announcements, review of previous meeting minutes (2:10 PM – 2:15 PM)
3. Presentations:
 - a. Dr. Sougata Roy, Rutgers University, Welding of Orthotropic Decks (2:15PM – 2:45PM)
 - b. Dr. Richard Sause, Lehigh University, Orthotropic Deck Floorbeam to Rib welding (2:45 PM – 3:15 PM)
4. Presentation Q/A (3:15PM – 3:45PM)
5. Task Group updates (3:45 PM – 4:30 PM)
 - a. Rolled formed ribs
 - b. State of Practice Synthesis Document
6. Old business and additional discussion (4:30 PM – 5:00 PM)
 - a. Floorbeam and diaphragm details
 - b. Rib Standardization
7. Adjourn



NSBA Collaboration – Spring 2019
TG 4 QC/QA
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Haselton

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 Secretary: Vin Bartucca - NSBA (bartucca@aisc.org)

Meeting Agenda - Thursday, April 25 (8:00 AM to 10:00 AM)

1. Attendee Introductions - All (8:00 AM – 8:10AM)
2. Task Group Mission Statement proposed changes – Jon Stratton (8:10 AM – 8:30 AM)
3. Subtask group update: G4.2 Section 5.3 revisions – Heather Gilmer (8:30 AM – 9:00 AM)
4. Subtask group update: S4.1 Part C and G4.4 – Phil Dzikowski (9:00 AM – 9:30 AM)
5. New business? (9:30 AM – 10:00 AM)
6. Adjourn (10:00 AM) (Joint TG2-TG4-TG10 Collaboration to meet immediately afterwards)



NSBA Collaboration – Spring 2019
Main Committee
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
Room Name: Ellwood

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: Brandon Chavel - NSBA (chavel@aisc.org)

Task Group Secretary: Christopher Garrell - NSBA (garrell@aisc.org)

Meeting Agenda - Thursday, April 25 (1:00 PM to 4:00 PM)

1. Attendee Introductions - All (1:00 PM - 1:10 PM)
2. General Collaboration Business - Medlock and Garrell (1:10 PM - 1:30 PM)
3. Review of recent and in-progress Ballot items, items in T-14 review - Chris Garrell (1:30 PM - 1:40 PM)
4. Task Group Chair Updates, 10 min each. (1:40 PM - 3:30 PM)
5. Review of items to be going to Ballot - Medlock and Garrell (3:30 PM to 3:45 PM)
6. Open Discussion, New Business, General Review and Comment for this meeting - Medlock (3:45 PM to 4:00 PM)
7. Adjourn

Appendix B – Attendee Registration List

Last Name	First Name	Company
Adragna	Frank	TRC Engineers Inc.
Ahmed	Annus	Stantec
Allis	Benjamin	GAI Consultants, Inc.
Avery	June	Acme Power Co.
Barthelemy	Robert	Florida Structural Steel
Barthelemy	Robert	Florida Structural Steel
Bartucca	Vin	National Steel Bridge Alliance
Beabes	Shane	AECOM
Berman	Henry	PennDot
Bernier	Camille	Canam Bridges
Berry	Allan	RS&H
Blakemore	Frank	Garver
Bustos	Art	AISC
Butz	Travis	Burgess and Niple
Carlson	Jeff	NSBA
Cervo	Nicholas	HDR
Chavel	Brandon	NSBA
Coletti	Domenic	HDR
Collins	Rich	V&S Galvanizing
Corbett	William	KTA-Tator, Inc.
Costin	Aaron	University of Florida
Crosby	Chris	Cianbro
Culmo	Michael	CME Associates, Inc.
DeStefano	Ralph	Pennsylvania Department of Transportation
Eckenrode	Lance	PennDOT
FEEMAN	JOHN	V&S GALVANIZING LLC
Francis	Martin	ArcelorMittal
Frank	Karl	NSBA
Freeman	Christina	FDOT
Garlich	Michael	Collins Engineers, Inc
Gilbert	Danny	McNary Bergeron & Associates
Gilmer	Heather	HRV Conformance Verification Associates, Inc.
Golabek	Dennis	WSP
Grubb	Michael	M.A. Grubb & Associates, LLC
Gunter	Caleb	South Carolina Department of Transportation
Harrison	Randy	W&W Afco Steel LLC
Hawkins	Chad	SCDOT
Helwig	Todd	University of Texas at Austin
Hilton	Jamie	KTA-Tator, Inc
Horwhat	Robert	TRC

Last Name	First Name	Company
Jamshidi	Amir	Supreme Group
Knoll	Douglas	Pennsylvania Department of Transportation
Koller	William	Penn DOT
Koller	William	PA DOT District 1
Kotha	Srinivasa	PGH Wong Engineering
Kruth	Larry	AISC
Lally	Bill	Tensor Engineering
Langill	Tom	American Galvanizers Association
Levesque	Eric	Canam-Bridges
Lewis	Jason	Alfred Benesch & Company
Lindell	Kevin	Delaware Department of Transportation
Lloyd	Jason	NSBA
Loftus	Pat	Industrial Steel Construction
Logan	Terry	Atema
Lorenz	Kara	High Steel Structures
Macioce	Tom	PennDOT
McCombs	Natalie	HNTB
McConnell	Jennifer	University of Delaware
McKenna	Rob	HDR
Medlock	Ronnie	High Steel
Myers	Eric	Nucor
Nevling	Deanna	Michael Baker International
O'Daniel	Kyle	Stupp Bridge Company
Orton	Joshua	CDM Smith
Paterson	Duncan	HDR Inc
Percassi	Stephen	Bergmann
Peterson	Anthony	NSBA
Petroski	Anna	DOT Quality Services
Professori	Joe	Heartland Fabrication
Ream	Anthony	HDR
Rivera	Julie	HDR
Rivera	Julie	HDR
Russo	Francesco	Michael Baker International
Sauser	Phil	US Army Corps of Engineers
Schoedel	Richard	Michael Baker International
Schoedel	Richard	Michael Baker International
Schueck	Patrick	Lexicon, Inc.
Sheppard	Ted	The DuRoss Group
Smith	Kyle	GPI
Snyder	Dan	SMDI
Sokol	Mike	Pennsylvania Department of Transportation-District 11
Sova	Gerard	Hardesty & Hanover, LLC

Last Name	First Name	Company
Stith	Jason	Michael Baker International
Stoddard	David	SSAB Americas
Stratton	Jonathan	Structural Steel Products Corp.
Streeter	Brad	D.S. Brown
Szalankiewicz	Shane	PennDOT
Tayarani	Maury	Pennoni
Tayarani	Maury	Pennoni
Wisch	Gary	DeLong's, Inc.
Witte	Brian	Parsons
Wolfe	Brian	Maryland Transportation Authority