

NATIONAL STEEL BRIDGE ALLIANCE

# AASHTO/NSBA Steel Bridge Collaboration

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## Spring Meeting Minutes - Combined

Virtual Zoom Meetings

**March 30 – April 1**



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	Vice Chair	Vice Chair Company
TG 1 Detailing	Brad Dillman	High Steel Structures	Gary Wisch	DeLong's, Inc.
TG 2 Fabrication and Repair	Heather Gilmer	HRV Conformance Verification Associates, Inc.	Duncan Paterson	HDR
TG 4 QC/QA	Jamie Hilton	KTA-Tator, Inc.	Robin Dunlap	High Steel Structures
TG 8 Coatings	Paul Vinik	GPI	Jamie Hilton	KTA-Tator, Inc.
TG 9 Bearings	Michael Culmo	CME Associates, Inc.	Ron Watson	RJ Watson, Inc.
TG 10 Erection	Brian Witte	Parsons	Jason Stith	Michael Baker International
TG 11 Design	Brandon Chavel	NSBA	Domenic Coletti	HDR
TG 12 Design for Constructability and Fabrication	Christina Freeman	Florida Department of Transportation	Russell Jeck	Tutor Perini Corp.
TG 13 Analysis of Steel Bridges	Deanna Nevling	Michael Baker International	Francesco Russo	Michael Baker International
TG 14 Field Repairs and Retrofits	Kyle Smith	GPI	Jonathan Stratton	Eastern Iron Works
TG 15 Data Modeling for Interoperability	Sammy Elsayed	Skanska USA Civil	Aaron Costin	University of Florida
TG 16 Orthotropic Deck Panels	Duncan Paterson	HDR	Sougata Roy	Rutgers University
Main Committee	Ronnie Medlock	High Steel Structures	Christina Freeman	Florida Department of Transportation

## TG 1 – Detailing

**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

**Task Group Vice Chair:** Gary Wisch - DeLong's, Inc.

1. Chairperson's Welcome (8:30 AM – 8:40 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. AISC Antitrust Policy and Meeting Code of Conduct. Reviewed
  - c. Approval of Previous Meeting Minutes. Approved
2. Introduction of New TG17 – Steel Castings – Jennifer Pazdon (8:40 AM – 8:55 AM)
3. AISC Need For Speed & Membership Renewal Update
  - a. Open discussion : A Guide to Executing an Effective Bridge Project regarding shop drawing review and approval process etc.
  - b. Open Discussion:
    - i. Review of Iowa standards for shop drawing review and approval
    - ii. Projects with greater collaboration will lead to fewer issues with approvals and expediate
    - iii. Include Contact Information: Point of contact for point person of all those involved in shop drawing process to help communication
    - iv. Fabricators - Schedule of your shop drawings to the general contractor in a design-bid-build contract- Generally speaking, contractors ask about delivery schedule prior to the project letting date, but don't get into details such as shop drawing schedule until after the project is awarded. , if our customer asks, we try to give them information regarding drawings, raw material, and fabrication schedule within a couple weeks of award.
    - v. Set timeline for approvals
    - vi. Review time for Iowa DOT is typically 30 days
    - vii. A schedule is provided only when the shop drawings are a critical path item and the contractor is therefore active in driving the submittal and return us. Otherwise we remain silent unless specific timing is requested.

- viii. Depends upon size of project and the contractor's schedule. With only one structure we can usually provide a quick drawing submittal schedule. Multiple bridges, and we will usually wait for the contractor to provide a priority schedule
  - ix. Design Build projects have changed and made it more difficult to control project timelines. Staffing and hours become an issue when revised designs comments are returned
  - x. TG1 can be the conduit to help
4. Overview of Joint TG1/TG11/TG12 – Guidelines for Straddle Bents (8:55 AM – 9:00 AM)
    - a. Randy and Bill Lally will reach out to Gerry Sova for TG1 involvement
    - b. Volunteers needed to complete sections of documents
  5. G1.4 Guidelines for Design Details Update (9:00 AM – 10:15 AM)
    - a. Finalize document outline
    - b. Determine owners/teams and schedule for each section
      - Review of G1.4 Guidelines for Design Details Update
      - Assign teams to review existing/new sections which will have a lead
      - Leads will work with teams for first draft of sections
      - dxg Files and comments will be distributed to the teams
      - Goal: First pass/rough draft of each section for the Fall Collaboration
      - Vin to provide list of contact information for each group
  6. Action Items (10:15 AM – 10:30 AM)
  7. Other Business: Congrats to new TG 1 Chair Randy Harrison - AFCO

**AASHTO/NSBA Steel Bridge Collaboration**

**TG1 Detailing**

**G1.4 Guidelines for Design Details Update**

April 1, 2021

Document Intent: Provide guidance for cost effective steel details for design drawings.

Table of Contents:

<b>Section</b>	<b>Existing/New Section</b>	<b>Lead</b>	<b>Team</b>
Structural Steel General Notes	Existing	Brad Dillman	Gary Wisch, Dennis Golabek, Eric Rau, Heather Gilmer
Rolled Beams	New	Brad Dillman	Frank Kingston, Gary Wisch, Sean Peterson, Eric Rau, Jihshya Lin
I-Girders Parallel Flange Haunched	Existing	Gary Wisch	Randy Harrison, Bill Lally, Dusten Olds, Jihshya Lin
Tub Girders (incl lateral bracing)	Existing	Frank Kingston	Randy Harrison, Bill Lally, Jeff Svatora, Dennis Golabek
Straddle Bents	New (w/ Joint Task Group)	Randy Harrison	Bill Lally, Jihshya Lin, Jerry Sova, Dennis Golabek
Bolted Field Splices	Existing	Ask Karl Frank	Gary Wisch, Heather Gilmer, Brad Dillman, Domenic Coletti, Mike Grubb
Diaphragms Rolled Beam Welded Plate Bent Plate	Existing	Brad Dillman	Randy Harrison, Gary Wisch, Jihshya Lin, Heather Gilmer, Brian Watson
Cross Frames One piece Knockdown Lean On	Existing, except for Lean On	Brad Dillman	Randy Harrison, Bill Lally, Domenic Coletti, ask Todd Helwig, ask Jamie Farris

<b>Section</b>	<b>Existing/New Section</b>	<b>Lead</b>	<b>Team</b>
Lateral Bracing for I-Girders	Existing	Randy Harrison	Scott Kingston, Jihshya Lin, Gary Wisch, Domenic Coletti, Mike Grubb
Connection Plates and Transverse Stiffeners	Existing	Gary Wisch	Heather Gilmer, Brad Dillman, Jihshya Lin, Jason Stith
Bearing and Jacking Stiffeners Half Pipe	Existing	Randy Harrison	Mike Grubb, Ask Todd or Karl, Jihshya Lin, Heather Gilmer, Jason Stith,
Longitudinal Stiffeners (incl intersection with transverse stiffers)	Existing	Bill Lally	Domenic Coletti, Mike Grubb, Jihshya Lin, Justin Ocel
Bearings	New	Randy Harrison	Check TG9, Jerry Sova, ask Mike Culmo, Jihshya Lin,
Miscellaneous Details Expansion Joints Handrail Inspection Access/Walkways Drip Bars Utility Supports	Existing, except for Insp Access and Utility Supports	???	Bill Lally, Jihshya Lin, Ahmed Mongi, Jerry Sova, Dusten Olds

## TG 2 – Fabrication and Repair

**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:** Heather Gilmer - TUV Rheinland Industrial Solutions

**Task Group Vice Chair:** Duncan Paterson - HDR, Inc.

### 1. General Business

#### a. Attendance & introductions

Meeting began at 11:35 AM ET and there were 48 people in attendance (at peak). Introductions were limited to chair and vice chair. Anti-trust, code of conduct and meeting conduct rules were then read. The meeting agenda was run out of order and the notes reflect this and are in order of discussion.

#### b. Task Group scope

It is still the intention to replace S2.1 with the AASHTO fabrication document, which is currently under AASHTO T17 review. TG2 will retain a strong role in maintaining the document. G2.2 remains fully under the scope of TG2.

#### c. Need for Speed

The group was reminded of the AISC Need for Speed initiative. AISC continues collective work on several Need for Speed initiatives. Three of these projects relate to the bridge market and include A Guide to Executing an Effective Bridge Project, Revitalize the Use of Uncoated Weathering Steel (UWS), and Standardization of Design for Short Span Bridge Applications. The project execution intends to produce a guide for the effective execution of steel bridge projects and is expected to be completed in October with interim submission through the year. The weathering steel project is primarily intended to develop a reference manual for educational and marketing purposes that can promote the use of, and assist engineers in the design and maintenance of, UWS bridges with a final deliverable next January. At this time, the RFP for the standardization project is still under development with a slight refocus on more general resources like those US Steel provided in the past which people still use to a degree today. For more information visit [www.aisc.org/needforspeed](http://www.aisc.org/needforspeed).



d. Attendance & introductions

TG17 Castings Committee: The Collaboration added a new Task Group, TG 17, to specifically address the use of metal castings in bridge applications. Castings have significant application in complex bridges; however, there is little or no guidance for designers and owners on specifying their use. The first order of business for this new Task Group will be developing that guidance. For more information, contact Jennifer Pazdon ([j.pazdon@castconnex.com](mailto:j.pazdon@castconnex.com)).

e. Next AISC/NSBA committee membership cycle

AASHTO/NSBA Collaboration Task Group and Technical Committee appointments last two years and the current cycle will be ending in December. Existing members were asked to renew their membership by April 16, 2021.

2. G2.2, *Guidelines for Resolution of Steel Bridge Fabrication Errors*

Refocus on previously ongoing work prior to the AASHTO Fabrication specification development. For next edition, expanding the topics covered.

a. Heat-related topics (see prior minutes excerpt in Agenda)

Preheat was insufficient or not applied at all: how do we detect any defects that might have resulted from this? (Separate potential topic not discussed today: insufficient postheat)

- Could split fillets vs. groove welds. For fillet welds, the alternative preheat annex in D1.5 could help, but for groove welds, it probably won't.
- Groove welds get volumetric NDT, but this would only find cracks, not poor material properties that might cause problems in service.
- Could have different responses for tension vs. compression groove welds.
- Can check HAZ hardness at surface but would need mockup to check it at the interface. PQRs do not require hardness testing, so we do not have a baseline from the qualification test. Compare mockups using the proper preheat and the "bad preheat"? Use the area where runoff tabs are removed as mockup? How far would one need to grind the runoff tab removal area to remove the effects of cutting? (Niemann: not too far. Getting 3 values from 3 zones would demonstrate removal of the hardened layer from thermal cutting.) The criterion used for thermal-cut edge hardness is for the ability to achieve surface profile and is not necessarily applicable here. What kind of hardness testing should be performed? The easiest "field"

methods are the least reliable. There are portable ultrasonic hardness testers in the \$4-8k range. Niemann: some rebound testers can be very accurate but are sensitive to surface finish. Speed is a consideration. We don't want to spend more time figuring out whether the weld is OK than we would have cutting it out and rewelding it. Frank: we need data. Ad hoc task group: Ronnie Medlock, Jason Gramlick, Todd Niemann, Jeremy Rice, Karl Frank, and Justin Ocel. Fabricators to create specimens and then experiments can be done with hardness testing.

b. Framing members too short (see prior minutes excerpt in Agenda)

Can solve by replace connection angles with longer legs. An engineering analysis would be necessary, but what is in this document is typically what a fabricator could put in their NCR; engineering analysis is assumed in general in G2.2. Ad hoc task group to identify cases, remediation and commentary: Jeremy Rice, Jon Edwards, Ronnie Medlock, Jason Gramlick.

c. Previously resolved: "Errors" in title will be changed to "Nonconformances"

3. AASHTO Steel Fabrication Specification

Work includes items that had previously been new business items for S2.1, items from the more recent AASHTO document work that were deferred to the next edition, and items that had been intended from the beginning to be added to the AASHTO document only in later editions, such as ancillary structures, bearings, pedestrian bridges, and tubular structures.

a. Slip Coefficients (see past minutes excerpt in Agenda)

Work is being performed in Canada and also at Rutgers that consider hybrid metallizing and galvanized cases connection interfaces. Testing has been done on specific projects and it would be beneficial if there was a new classification or update to slip coefficient tables. Coating on the fastener (e.g., galvanizing) is also something that needs to be considered by any reasearch, because this can affect the performance of the connection through creep. Currently, RCSC slip coefficient testing uses A490 bolts, which cannot be hot-dip galvanized so it is not possible in the current test to capture the effect bolt coatings have on the connection performance. While the hybrid falls somewhere between a Class C and D, it does not include the effect of the bolt coating.

Rutgers research is expected to take 2 years. Frank: The Canadian research (Annan/Chiza) did look at creep.

Medlock: Testing performed on the hybrid connections was similar on the short-term test to metallizing-only connections (Class B), but did not meet the requirements for creep. Separately, there is a move toward using bearing rather than slip-critical connections for crossframes (which would be the most likely location for combined metallized/galvanized connections), which could make this less of an issue.

TG consensus is that there is sufficient confidence in the Canadian research for us to put in commentary that the hybrid connection should meet Class D (similar to the commentary we already have for unsealed metallizing and Class B). Gilmer to draft commentary.

Canadian research is here:

<https://drive.google.com/drive/folders/1KtxeHnt95hwEQ2vFSOXEkNS6m3smKJQ>

b. Scribing/etching/plasma marking of layout marks (see past minutes excerpt in Agenda)

Match-marking already addressed. Medlock: High Steel uses zinc marker.

Consensus: should avoid making marks transverse to tension if they will not be welded over. Gilmer to draft.

## TG 4 - QA/QC

**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.

**Task Group Vice Chair:** Robin Dunlap – High Steel Structures

1. Chairperson’s Welcome (9:00 AM – 9:10 AM)
  - a. Introduce Existing and Welcome New Members.
    - i. New Membership Form to be completed by April 16
  - b. AISC Antitrust Policy and Meeting Code of Conduct.
  - c. Approval of Previous Meeting Minutes.
2. G4.2 – Recommendations for the Qualifications of Structural Bolting Inspectors (9:10 AM – 9:15 AM)
  - a. Status of AASHTO T-17 approval
    - i. Has been Approved, publication this year TBD
  - b. Review of 2020 RCSC to determine if any conflicts with this document
    - i. RCSC- Initial review by Jamie Hilton
    - ii. Discussed RCSC Reference 3148 Bolt Assembly ASTM (new standard)
    - iii. Consider review 2020 RCSC - for applications to add to G4.2 for bolt training.
    - iv. Volunteer for additional review - Jeremy Rice lead with Heather G.
    - v. Larry Kruth can provide additional assistance if required.
3. S4.1 Steel Bridge Fabrication QC/QA Guide Specification (9:15 AM – 10:15 AM)
  - a. Comparison of AISC 207-20, AISC Standard for Certification Programs document to Part A - General, Part B - Quality Control and Part C - Quality Assurance
    - i. TG reviewed side by side comparison that was completed by Heather Gilmer
  - b. G4.4 Sample Owners QA Manual: To be rolled in/incorporated with Part C
    - i. TG to review and consider updates for Fall Meeting
  - c. S4.1 Archive on the NSBA website and provide guidance to users – “buyer beware”:  
Subcommittee of Phil Dzikowski, Ray Monson, Teresa Michalk will address guidance for archiving S4.1 document
    - i. Larry mentioned a way to archive out of date on AISC side.

- ii. Chris Garrell can provide insight on retired documents to have archived on website.
  - iii. Review S4.1 Stripped document modifications.
  - iv. TG to review S4.1, consider what our next direction for this information and how it can be implemented or archive.
  - v. Teresa Michalk to discuss with subgroup for additional comments.
- 4. Potential revisions to recently published G4.1 document (10:15 AM – 10:25 AM)
  - a. Review and update definitions and replace with the terminology that is referenced in newly published AISC 207-20, AISC Standard for Certification Programs. Volunteers?
    - i. Jamie will organize comments for groups review next meeting.
    - ii. Sub Task Group to review G4.1 and AISC 207 definitions.
    - iii. Led by Jamie including Teresa Michalk, Heather Gilmer & Jeremy Rice
  - b. Section 10.1 PO & Subcontracts
    - i. Functions referenced by AISC for PO & Subcontracts
    - ii. Remove 10.1 title, keep paragraph from 10.1 and renumber sections accordingly.
- 5. New Business?
  - a. No New Business currently
- 6. Adjourn

## TG 8 – Coatings

**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

**Task Group Vice Chair:** Jamie Hilton - KTA-Tator, Inc.

1. Website Check in (1:10 PM – 1:20 PM) - Topics and task leaders:
  - a. Galvanizing - Tom Langill
  - b. Metalizing - Kevin Irving, I Paul Wagar
    - i. AREMA is working on adding information for maintenance for TSC in their manual.
    - ii. Evidently 85/15 adds about \$0.02/lb according to Kevin Irving to the price due to equipment costs
  - c. Duplex coating systems (HDG + wet applied) - Bill Corbett
    - i. Nothing to report
  - d. Washing and cleaning programs – Geoff Swett.
    - i. We will consider adding something here.
  - e. Weathering Steel – Weathering Steel
  - f. General recommendations for website
    - i. Consider adding something for faying surface and friction coefficient
    - ii. Ronnie suggested this. Ronnie will look into it and send to us if he finds something.
    - iii. Consider adding something to website related to cure times for liquid applied systems.
2. Detailing for Coatings - S8.4 - Updates and discussion from each task group: (1:20 PM – 2:00 PM)
  - a. Justin suggested adding a general section on various high level items: parallell structures (Justin Ocel), bearing pads (Paul Vinik), back to back angles (Derrick Castle – there is something in 12.1 on double angles)?,
  - b. Jeff will be document program manager and Chris will help develop blank template for 2 column format. Then Jeff will send out to subtask groups to populate. Jeff will work

with Tom Langill and Ronnie to adapt their galv sections into blank format to send to group as an example.

- c. Weathering Steel/A709-50CR - Jason Lloyd
    - i. Can maybe just refer to UWS manual
    - ii. Jason's task group on this hasn't met yet, but the hope is we can refer to manual. But they still need to develop any content for 50CR.
    - iii. Recommendations for 50 CR in terms of design may be slightly different
  - d. Paint/liquid applied coatings - Derrick Castle
  - e. Galvanizing - Tom Langill
    - i. They have their information together and would like to send out for comment.
  - f. TSC - Kade Kovar – no update
3. Update from NSBA (Garrell or Carlson) on Coating Research (2:00 PM - 2:10 PM)
- a. Work continues at the University of Delaware into the performance of modern corrosion protection systems in different climates. Task 1 compiled data on field performance of different steel corrosion protection systems in different environments. Data has been collected from fabricator and owner records to identify corrosion protection systems followed by a statistical analysis of related National Bridge Inventory (NBI) data. Tasks 2 – 5 entail actual accelerated laboratory corrosion testing. Six corrosion protection systems were chosen for study: Uncoated Grade 50W, Uncoated Grade 50CR, Galvanized, Metalized (85/15), IOZ primer only, and OZ paint. Professor Jennifer McConnell has been working on procedures that align experimental corrosion results with field observed corrosion. Field observations have shown a stabilization of base metal thickness loss with time while past experimental studies have used a straight-line approach where this stabilization never takes place, and the base material continues to deteriorate unabated. The Delaware research team has been tweaking salt exposure times and adding cleaning/rinsing cycles that are more likely to be representative of field observations.
4. New Business: (2:10 PM – 3:00 PM)
- a. Washing and Cleaning Program - WsDOT and interaction with AASHTO T14
    - i. Geoff gave a summary of the washing program in Washington State. How it started, got put on hold, and then started up again.

- ii. They are allowed to do high volume, low pressure washing of all bridges in the state. Low pressure is used to prevent damaging existing coatings. Geoff mentioned a bridge diaper system to catch debris
- iii. Paul asked if there were any before and after pictures illustrating the benefits of washing. Maybe that could be included on the website? And could show the amount of debris when the program got started and now after it's been implemented for many years.
- iv. Could we develop a document for best practices for bridge washing? Pete Ault said that there were a few other states that did washing.
- v. The permit that Washington State uses is something that may be of use to other states.
- vi. Washington may have a best practices document for their program that can maybe be shared and maybe the basis for a TG8 document.
- vii. Is there a need for additional research to help quantify the benefits of washing. Maybe a life cycle cost study???

b. IOZ one coat systems

- i. Ronnie suggested that we involve a NEPCOAT member as part of our group. He suggested Dan Furlani (ConnDOT) and let Willie Felciano (NYSDOT) know about our initiative. Derrick suggest that we involve Jeff Milton from VDOT as well. Paul recommends Jim Swisher. He is highly involved with NTPEP and has a strong voice in the structural steel coatings committee. NEPCOAT is a downstream user of NTPEP. Or both.

- c. We will make a point of providing some time to Rutgers to present their research in the fall meeting.

5. There was a discussion about the S8.3 specification:

- a. S8.3 Hot Dip Galvanizing Specification (Draft)
- b. Ronnie gave a summary of the document and is expecting comments from TG8, with a hope of still getting it to T14 by summer 2021.
- c. Ronnie asked that the committee review this document and add discussion directly to the 3<sup>rd</sup> column. Chris is going to formalize an email with document as an attachment asking for comment. Timeline for document review/comment:
  - i. Chris to send out by April 9



- ii. Ask to send back comments by April 23<sup>rd</sup> (that can be extended to 30<sup>th</sup>)
- iii. Ballot to Galv task group by April 23<sup>rd</sup>.
- iv. Send comments to Ronnie by May 3<sup>rd</sup>.
- v. Then galv task group can review comments and decide next steps based on comments. Task group comments will have to resolved by mid-May.
- vi. Then Collaboration ballot will be sent out by early June and ask to be finished by end of June.

## TG 9 – Bearings

**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 - CHA Consulting, Inc.

**Task Group Vice Chair:** Ron Watson - RJ Watson, Inc.

1. Review of previous action item list and resolution of action items
  - a. Mike notes that the document is complete and just need to revise some dates.
  - b. Publishing dates will be handled at publishing with AASHTO, and the dates in figured can be changed to now.
  - c. We went through action items and agreed that everything has been resolved.
2. Address comments from NSBA committee review
  - a. Mike went through the comments from the balloted document (Committee resolution of AASHTO Ballot)
  - b. We didn't get through all of the comments so will set up another meeting to continue going through comments.
3. Schedule moving forward
  - a. Deadline to address all comments by June 1 to get a draft of this document to T-2 for use at their July annual meeting.
  - b. Internal TG9 meeting set for April 28 from 10:00am to 12:00pm (ET) to continue working through comments. Mike will look through comments and try to have an initial response ready to present to the committee.
4. Other items (11:15am – 11:25am)
5. Closing remarks (11:25am – 11:30am)
6. TG 9 Action Item Summary

Item #	Action Item	Assigned to	Due Date	Status
4.19.01	Review AISI (Red book) and recommend items to incorporate into G9.1	Frank Russo	8/22/19	Complete
4.19.02	Review Steel Bridge Design Handbook – Bearing Design and recommend items to incorporate into G9.1.	Domenic Coletti	8/22/19	Complete
4.19.03	Review FHWA Training document and determine if we can borrow any language/information to include in G9.1	Frank Russo	8/22/19	Complete
4.19.04	Bearing manufacturers will go through section on high load bearings and make	Brad Streeter, Ryan Schade, Phil Gase	8/22/19	Complete

Item #	Action Item	Assigned to	Due Date	Status
	recommendations on how to make language/details more efficient.			
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	8/22/19	Complete
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	Complete
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	Complete (MPC)
4.19.08	Entire committee/group to review current G9.1 and make recommended revisions.	Committee	8/22/19	Complete
6.20.01	Review the AASHTO LRFD BDS Section 14 and get any comments to suggested revisions to Mike Culmo and/or Sougata Roy. He will forward these suggestions to T-2.	Committee	8/22/19	Complete
6.20.02	Forward photos of bearing (production, construction, etc.) to Mike Culmo for incorporation into the guide.	Committee	Spring 2020	Complete
6.20.03	Review old NSBA table regarding bearing applicability. Mike to send out.	Committee	Spring 2020	Complete
6.20.04	Review HLMR bearing tables and make recommendations on increments and any other recommendations.	HLMR Bearing manufacturers	8/22/19	Complete
8.29.01	Mike Culmo to meet with Frank Russo to discuss integration of his information	Mike Culmo Frank Russo	10/22/19	Complete
3.10.01	Jeff will reach out to Carl Puzey to get on T2 agenda to give an update on activities.	Jeff Carlson	3/17/20	Complete
3.10.02	Mike to send the revised HLMR bearing table to manufacturers for review.	Mike Culmo	3/17/20	Complete
3.10.03	Talk to Frank Russo about writing new section 1, bearing selection criteria. Ron Watson and Mike Culmo will add section 1.3 (durability and maintenance)	Mike to ask Frank	5/1/20	Complete
3.10.04	Write old section 1.4.1.2, bearing sizes and shapes	Mike Culmo	5/1/20	Complete
3.10.05	DS Brown to write the old 1.5, 1.6, 1.7, and 1.9	DS Brown – Phil Gase	5/1/20	Complete
3.10.06	Ron Watson to write the old 2.5, 2.6, 2.7, and 2.9	Ron Watson	5/1/20	Complete

Item #	Action Item	Assigned to	Due Date	Status
3.10.07	Mike will write old 2.4.1.1	Mike Culmo	5/1/20	Complete
3.10.08	Mike needs to send Chris Garrell high resolution versions of graphics. Send test version ASAP	Mike Culmo	3/17/20	Complete
3.10.09	Ron is going to take information on isolation and create section 5. Commentary only.	Ron Watson	5/1/20	Complete
10.27.01	The committee is asked to review section 1 since this is a new section.	Committee	11/30/20	Complete
10.27.02	Frank Russo will write section on Method A and Method B.	Frank Russo	11/30/20	See Below
10.27.03	Philip Gase will write section for elastomeric bearings, including inspection and testing.	Philip Gase	11/30/20	Complete
10.27.04	Jihshya Lin will send details from MinnDOT related to walking bearings, anchor rods, and also some text for highly curved bridges.	Jihshya Lin	11/15/20	Complete
10.27.05	Domenic Coletti will write paragraph or two on design of HLMR bearings for bridges large thermal movement.?	Domenic Coletti	11/30/20	Complete
10.27.06	Ron Watson will write section about HLMR installation practice.	Ron Watson	11/30/20	Complete
10.27.07	Ron Watson will talk to Bob Landry about what a designer needs for seismic isolation bearings.	Ron Watson	11/30/20	Complete
10.27.08	Dennis Golabek will share bearing data table. bearing manufacturers to provide input on what they actually need to design bearings.	Dennis Golabek	11/30/20	Complete
10.27.09	Bearing manufacturers will review AASHTO bearing data table and make recommendations for what information is needed for TYPICAL bridges/bearings.	Bearing Manufacturers	11/30/20	On-going
12.01.01	Mike will move Section 2.9 to Section 1 and will rework for all bearing types.	Mike Culmo	1/19/21	Complete
12.01.02	Write paragraph in Section 2.4.1 to explain difference between Method A and Method B. He will also write section 2.4.1.3.	Frank Russo	1/19/21	Complete
12.01.03	Rewrite Section 2.4.1.4	Mike Culmo	1/19/21	Complete
12.01.04	Write Section 2.6	Brad Streeter and Phil Gase	1/19/21	Complete
12.01.05	Write Section 3.4.1.1	Mile Culmo	1/19/21	Complete
12.01.06	Finished Section 3.4.4	Domenic Coletti	1/19/21	Complete
12.01.07	Write Section 4.5 and 4.6. Mike will look at what Ron wrote for HLMR and adapt as	Mike Culmo	1/19/21	Complete

Item #	Action Item	Assigned to	Due Date	Status
	necessary			
12.01.08	Write Section 5.6	Ron Watson	1/19/21	Complete
12.01.09	Committee to send applicable photos and graphics to Mike.	Committee	1/19/21	On-going
03.31.01	Frank Russo to draft text regarding Harness and Shear modulus and their effect on the design process	Frank Russo	4/28/21	Assigned
03.31.02	Develop text for welding procedures for welding stainless steel plates to standard structural steel	Brad Streeter	4/28/21	Assigned

## TG 10 – Erection

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

**Task Group Chair:** Brian Witte - Parsons

**Task Group Vice Chair:** Jason Stith - Michael Baker International

### 1. Chairperson’s Welcome (10:30 – 10:35)

- a. AISC Antitrust Policy and Meeting Code of Conduct. Tony read through Antitrust document, see below. Also reviewed AISC “Need for Speed” initiative regarding steel bridge projects, see below.
- b. Introductions of new attendees. None.
- c. Approval of Previous Meeting Minutes. Approved.
- d. Review action items from previous meeting. Brian noted that he did not schedule/hold an interim meeting on Bearings.

### 2. Introduce TG17 - Steel Castings - Jennifer Pazdon (10:35 – 10:45)

Jason Stith gave castings introduction for Jennifer. Described potential benefits and use of steel castings in steel bridges. TG17 is a new task group being started for castings, and will be evaluating and developing steel casting guidance and recommendations for their use. Anyone interested in joining TG15 should contact Jason.

### 3. Bearing - Section 5 (10:45 – 11:05)

- a. Update from TG9

Brian acknowledged this topic is not advancing/progressing significantly.

Frank Russo suggested that TG10 specification document could just reference the TG9 guideline document. However, this could be problematic since the TG9 document is just a guideline.

Domenic Coletti said the bearing tolerances need to be written in TG10 specification document.

Several people stated that the 1/16” tolerance on beam seat elevations (TG9 document) is too tight, and should be 1/8”. Most everyone seemed to be agreement on this, except for Josh Orton, who thinks its needs to remain at 1/16”, as many bridges will not “fit-up” if bearing seats are out of tolerance by 1/8”, or shims may need be required at bearings.

Jihshya Lin from MnDOT echoed Josh's concerns. Frank contacted Mike Culmo during the meeting and G9 document will be revised to reflect 1/8" tolerance.

There was much discussion on this topic from several people with varying opinions. Although, there was no definitive outcome at this time, draft language will be developed for consideration.

There was considerable discussion on how this topic is an overlap of design/fabrication/erection issues and specifications.

**ACTION: Frank Russo will draft specification language for this section using information from G9.1 with Josh Orton helping to provide initial review and feedback.**

b. Review draft language.

No new language to review at this meeting.

#### 4. Transportation - Section 3 (11:05 – 11:25)

a. Review draft language

Based on past discussions/comments that this group had provided, Brian gave an update on the language he has incorporated into the TG10 Specification document.

It was noted that AASHTO LRFD does not specify load factors for beams during transportation, and that these load factors are needed.

Heather Gilmer informed the group that the AASHTO Construction Specification is being considered for sunseting. If it does occur, we should consider which sections of the construction specification need to be incorporated into the design specifications.

There was considerable discussion on how this topic is an overlap of design/fabrication/erection issues and specifications.

**ACTION: Heather and Brian to trade text between and upcoming AASHTO Fab spec and S10 top develop path forward to overlap if possible.**

**ACTION: Bob Cisneros recommended to remove "at any time" regarding calculations for transportation process. Brian to remove.**

**ACTION: Brian requested that people send him additional comments on this section, as it is still a work in progress.**

**ACTION: Although not directly related to Transportation, brief discussion about pre-erection and pre-transportation meetings as best practice. Brian to consider including language in document.**

5. Field Reaming (11:25 – 11:45)

- a. S10 is currently silent. Should we consider adding some language about permissible uses?

Brian reviewed specifications from AASHTO and DOT's regarding this topic. Some DOT's have general guidance on when reaming is acceptable or not. Most say any field reaming must be approved by the Owner or Engineer before proceeding.

Heather Gilmer noted that TXDOT allows reaming for 10% of the holes at a given connection without getting approval of Owner/Engineer. She said this is very helpful during erection. Especially if long bolts are used which have a sweep tolerance themselves.

Discussed reaming in main members vs secondary members, slip critical vs. bearing connections.

Galvanizing also requires bolt holes to be cleaned out after dipping. Sometimes excess zinc buildup in the holes requires it be reamed-out in order for bolts to fit in.

Needs to be defined if reaming has been done in shop and/or field.

Need further discussion on fabricator/erector responsibility for field reaming.

**ACTION: It was agreed that Field Reaming needs to be included in the TG10 Specification document. Eric Rau volunteered author draft language for consideration in Section 6. Jon Edwards offered to help as required.**

6. Wind Load on Girders during Erection (11:45 – 11:55)

- a. Develop path forward to present to AASHTO

Christina Freeman gave update. She gave presentation to AASHTO T5 committee, and they were receptive to making proposed changes. She is currently working on details to get this on the AASHTO ballot in 2022.

**ACTION: Christina solicited for anyone to contact her regarding erection of steel straddle bents.**



7. Bolting for Bolters Update (11:55 – 12:00)

Jason Stith gave update. Everything was set with High Steel just prior to pandemic, but then everything was stopped. Hope is to restart the process this summer. Will give update at fall Collaboration meeting.

After the meeting additional discussions occurred and confirmed RCSC has funded the development of the material and it will be this fall at the earliest that the filming would progress.

8. Beam Clamp Loading (12:00 – 12:10)

- a. Review draft language.

Brian reviewed the draft language he has included in the TG10 Specification document.

Mike Garlich and Bob Cisneros stated that this is a concern, and should be looked at by an engineer during the design/erection process. Mike stated he has seen this issue in the field.

Many lifting clamps impart high localized forces near the outside edges of the beam flange, which can be critical and cause damage.

There was discussion regarding L/b requirement to be less than 85 for lifting erection. This is in the commentary of AASHTO. Some thought the 85 is too high, others thought too low. Bob Cisneros thought 85 was about right. Mike Garlich suggested that it should be lower, say 65. There was discussion regarding if it should be moved out of the commentary and into the specification. Overall, everyone agreed it seems to be appropriate at 85 for the designer to check for field segments.

**ACTION: Jason Stith suggested that including a graphic of a lifting clamp device in the TG10 Specification document commentary might help people understand the situation/concern. Brian will develop graphic.**

**ACTION: Section 6.1 – Lifting Devices (remove “welded” from in front of “lugs”).**

9. S10.1 and OSHA comparison (12:10 – 12:20)

- a. Review language to reference OSHA. Not discussed.

10. Review & assign action items (12:20 – 12:30). Not discussed.

11. Adjourn. Meeting ended at 12:30 PM.

## TG 11 – Design

**Task Group Mission:** This Task Group aims to develop and maintain consensus guidelines to assist with the design of steel bridges and their components.

**Task Group Chair:** Brandon Chavel - NSBA

**Task Group Vice Chair:** Domenic Coletti – HDR

There were 50 people in attendance. Meeting started at 4:05PM ET. There were no comments or discussion regarding the meeting minutes. Other business included reference to the upcoming bridge symposium and international bridge conference, both of which will be virtual.

Chavel reviewed the mission statement and related it to the documents under development. The cross-frame guide and the joint efforts with TG1 and TG12 on a straddle bent document.

TxDOT study, 0-7093, development of refined analysis methods for lean on bracing. A survey was distributed recently to collect experience with lean-on. Anyone wishing to participate in this survey can do so with the following link: [https://utexas.qualtrics.com/jfe/form/SV\\_01fTpYkDhIRVKzc](https://utexas.qualtrics.com/jfe/form/SV_01fTpYkDhIRVKzc)

FDOT study is looking at double composite box girders with concrete located in the tub. A survey was recently distributed on behalf of FDOT looking for fabricators, contractors and designer may have experience with this design concept. Anyone wishing to participate in this survey can do so with the following link:

<https://forms.office.com/Pages/ResponsePage.aspx?id=d1zXYDS9E0mle6LARUGRZ7G6wUEAN4ILsdoj00T3nphURTITV01CTTJZRk1MSTdRQUIZUEVQQ1hKTy4u>

Jennifer Pazdon provided an overview of the new Collaboration Task Group, TG 17, to specifically address the use of metal castings in bridge applications. Castings have significant application in complex bridges, however there is little or no guidance for designers and owners on specifying their use. This first order of business for this new Task Group will be developing that guidance. For more information, contact Jennifer Pazdon (j.pazdon@castconnex.com).

Although the formal document review period has ended, Brandon will provide a last chance to review the document by anyone that did not already submit comments. Comment 2: Cross frames and their participation in the overall bridge stability was resolved with more content specifically relating to bridges with skew and curvature. Comment 10: This was addressed in a similar manner to comment 2, this was addressed with a more detailed description which was broken into straight without skew, and bridges with skew and bridges with curvature may make the document clearer to the reader. Shane recommended that referring to the Steel Bridge Handbook may be a solution also rather than

duplicating the material. Comments 36-38: Clarifications were made regarding K-type cross frames used at the end of a structure for jacking. The group discussed the practicality of this approach for jacking and there was not overwhelming support to including this detail. X-type cross frames were omitted however rather than not mentioning them, the document should mention why they are not recommended or commonly used. Comment 38: Consider finding a photo with a congested connection detail that would be sufficient rather than addressing every special case. Comment 72: Although the document is attempting to recommend a more economical solution, it could inadvertently be causing added expense in the cross-frame to stiffener connection. Russo recommended simplifying the text to remove the economic aspect and state the preference and then give a threshold for when an alternative solution is more appropriate. Comment 78: Brandon is looking for an example of a bent plate connection. Although it is often recommended as a practical design, no-one has an example right now. Figure 24 also shows the connection bolted and not the preferred welded. Guidance might be useful that addresses constructability particularly at the bridge ends. Pipe stiffeners were recommended as a substitute for bent plate connections. Comment 180: Although some of the comments are considered beyond the scope of the document, 0.65 AE per AASHTO C4.6.3.3.4 should be considered. Some comments may also vary from designer to designer so a consensus might be needed before included further comments. Calculations: Brandon is looking to get a sense for how these should be presented in the document, which is currently not uniform, specifically those that are screen shots of Excel spreadsheets. Or should they be presented like the steel bridge handbook? Reworking all the spreadsheet to make them uniform would take a lot of work. If the math could be followed and calculations reproduced by hand, they were good enough. Some believed the variation is a good thing and something that can be used to learn new unique ways to modify or create their own spreadsheets. Draft end of July followed by a review between August and September so that comments can be discussed and resolved at the Fall Collaboration meeting. Final version to be readied in December. May be published as a standalone document or as a chapter of the steel bridge handbook.

Meeting adjourned at 5:45 AM ET.

## TG 12 Design for Constructability and Fabrication

**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:** Christina Freeman - Florida DOT

**Task Group Vice Chair:** Russell Jeck - Tutor Perini Corp.

### Introductions (10 minutes)

The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

### Jennifer Pazdon introduces new Task Group, TG17 - Steel Castings (15 minutes)

Jennifer explained the mission of this new TG and what deliverable they are looking to produce. This TG is still looking to add members.

Castings are not cast iron. Castings are 100% weldable. This needs to be made clear in the guidelines.

Jennifer showed several examples of castings used in bridges, most are international. But showed the Frances Appleton Bridge, in Boston, and recent NSBA prize bridge award winner.

Folks should reach out to Jennifer, or Chris Garrell if you are interested in participating in this TG. [j.pazdon@castconnex.com](mailto:j.pazdon@castconnex.com), or [garrell@aisc.org](mailto:garrell@aisc.org).

### Comments for Next Version of G12.1 (80 minutes)

#### ***Bolted Field Splices: Review and discuss draft text***

Domenic Coletti commented on how much standardization of field splices should designers be doing? Can we address this in G12.1? How much is enough, and how much is too much?

Christina shared the following as a possible addition.

Add after first paragraph in 2.2.5:

Where field splice locations required by design result in lengths greater than 120 feet, consider designing and detailing "Optional Field Splices" in the plans.

If Owner policy allows their use, providing "Optional Field Splices" allows the Contractor more options for shipping and erecting field sections. Providing this flexibility can lead to lower bid costs.

Brian Witte noted that TG10 would be adding more to the transportation portion of S10.1, and would coordinate with this task group.

Brad Dillman noted that depending on the coating (galvanized), or transportation to the job site, then the field section length may be less. Kevin Irving stated that 3.5' to 4' is the depth limit for progressive galvanizing, and 65' +/- is the length limit.

Karl Frank noted that the wording is not exactly correct, as the designers should 1<sup>st</sup> look to adjust their splice locations to keep them under 120'. And then, if they can not get less than 120' +/-, then an optional field splice should be included. Duncan noted that he has specified a location range for this optional splice, when beyond 120'.

Bob Magliola noted that some states allow for up to 135', therefore should we be specifying 120'?

Jordan Warncke noted that NY state DOT allows up to 140' field pieces.

Christina added wording in 2.2.5 noting that shipped lengths are 120-140' (depending on state guidance). TG members agreed with this addition.

Russell Jeck noted that site constraints play a large role. A certain length of beam may not be able to get to a jobsite. Russell said he could draft a few sentences about this topic.

Jon Edwards and Brandon Chavel suggested that the language in the guideline side be more general, and use 120' as a general guide if no owner guidance or delivery method is known.

Frank Russo felt that this optional splice has never happened in his career. He has not had a fabricator or contractor eliminate a splice.

<p>states.</p> <p><u>If field section lengths exceed recommended owner limitations or delivery constraints, then the designer should adjust field splice locations, and if that is not possible, then add optional splices.</u></p>	<p>states.</p> <p><u>If Owner policy allows their use, providing "Optional Field Splices" for field sections longer than 120 ft allows the Contractor more options for shipping and erecting field sections. Providing this flexibility can lead to lower bid costs. Consider this against cost increases due to the girder design.</u></p>
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Christina then shared a developed section for standardization of field splices in a bridge project. This was shared with the TG prior to the meeting. Below summarizes the discussion regarding the sections shown.

**Section 2.2.1.1.1**

Russell Jeck noted that in Figure 2.2.1.1.3-1, the outer plate should be shown continuous over the flange width, and maybe the inner plates should be shown slightly thicker than the outer.

Allan Berry suggested we change the word “generous” in 2.2.1.1.1. Frank Russo noted that we should just make sure that the engineer checks that field splices do not conflict with cross-frames or stiffeners and allow installation of bolts.

Brandon noted G1.4 has a 2” min dimension from the end of the splice plate to anything in conflict. However, Frank Kingston noted that 6” may be a better value, to allow for girder trimming that may occur during fabrication. TG seemed to think 6” clear was a better recommendation. Christina recommended that TG1 adjust this in the G1.4 document, and G12 will refer to G1.4. Clarifying language was added to the commentary that the spacing should be generously estimated during preliminary design.

#### **Section 2.2.1.1.2**

Karl Frank states that going to a larger splice plate does not change the number of bolts needed.

Frank Russo said that minimizing the number of different plate thicknesses for field splices is what makes sense. Try to make splice plates out of thicknesses used elsewhere on the girder itself. Randy Harrison agreed that keeping the material thicknesses the same as much as possible for all field splices in a project is a good recommendation.

The TG agreed that keeping the 7,000 lb limit, as that is a good number.

Brad Dillman noted stocking plate over 1” is not typical, at least for High Steel. HPS is rarely stocked. ¼” up to 1” in 1/8” increments is typical stock thickness for High Steel. Avoid 1/16” increments. 8’x20’ long is typical size of plate that is stocked, and not intended to be used for flanges and webs. Randy Harrison said W&W|AFCO is pretty much the same.

Brad and Randy agreed that linking field splice thickness to plate thickness used elsewhere for girders is a good practice if designers can do this.

The section will be revised to ONLY encourage the standardization of plate thickness and NOT the same exact splice plates, i.e. not the same number of bolts.

#### **Section 2.2.1.1.3**

Karl Frank noted the end distance in a splice plate is very important. We do not want that less than the designed values. Also note that plates for splices are no longer sheared. Mike Grubb noted that the AASHTO LRFD does not have a distinction between flame cut and sheared plates and edge distance anymore. This section needs to be revised according to the current requirements in AASHTO LRFD BDS.

Revise the section so that it applies to both end and edge dimensions.

Randy Harrison notes that including the 1/4” end and edge distance beyond AASHTO minimum would be good. Karl agreed, and noted again important for the end and bearing of bolt.

#### **Last section about the entering and tightening**

Frank Russo asked if “preferable” is correct..... or should it be “permissible.” In fact, this whole paragraph does not seem to make sense. This is more appropriate for bolts nearest the web in the flange, or vice versa.

**Agenda items that did not get discussed:**

Comments from Heather Gilmer

Comment from Jon Edwards: Section 2.1.1.1, the second paragraph is commentary and should be moved there.

Comment from Russ Jeck: Section 1.1 (Rolled vs Plate Girders): consider recommendations or suggestions for proper camber of rolled girders

**Adjourn**

Meeting ended at 10:30 AM (CDT).

## TG 13 - Analysis of Steel Bridges

**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

**Task Group Vice Chair:** Francesco Russo - Michael Baker International

### 1. Introductions (1:00 PM to 1:10 PM)

The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

### 2. General Announcements (1:10 PM to 1:40 PM)

Deanna reviewed the meeting minutes from the fall virtual meeting. There were no outstanding items for discussion from the last meeting, and meeting minutes were approved by the task group.

TG17 – Steel castings – Jennifer Pazdon: Jennifer explained the mission of this new TG and what deliverable they are looking to produce. This TG is still looking to add members. Jennifer noted that castings are not cast iron. Castings are 100% weldable. This needs to be made clear in the guidelines. Jennifer went into detail about castings and their possible use in bridge design and construction.

In the TG17 meeting, Jennifer will give an overview of castings and how they can improve structural performance and efficiency. Jennifer showed several examples of castings used in bridges, most are international. But showed the Frances Appleton Pedestrian Bridge, in Boston, and recent NSBA prize bridge award winner. Reach out to Jennifer, or Chris Garrell if you are interested in participating in this TG. [j.pazdon@castconnex.com](mailto:j.pazdon@castconnex.com), or [garrell@aisc.org](mailto:garrell@aisc.org).

NSBA Update – WSBS is in April, [www.aisc.org/nascc](http://www.aisc.org/nascc). There are several Steel Bridge Forums scheduled for 2021, in virtual settings, [www.aisc.org/nsba/steel-bridge-forum/](http://www.aisc.org/nsba/steel-bridge-forum/). There are also several on-going initiatives: Streamlined Design Guide; Coatings Performance Study; New Construction Market Pricing Study; Steel Bridge Design Handbook Update; Steel Bridge Design Class; Guide to Executing and Effective Bridge Project; Reference Manual for the Design, Detailing, and Maintenance of Uncoated Weathering Steel in Bridges; Standardization of Steel Bridge Design.

TRB AKB20 Update – The [January 2021 TRB Meeting was Virtual](#), the Committee Meetings was held on 1/11/2021. There was a lectern session on Structural Adhesives in steel bridge construction, and a poster session on innovative research. 2022 Annual Meeting TRB Papers are due August 1, 2021. The



Committee is always looking for Research Needs Statements (due December) as well as looking for Synthesis Statements (accepted any time). RNS and Synthesis Statements should align with AASHTO CBS needs. Committee just voted on current RNS's, and the two top vote getters were "Improved Predictions on Shear Studs for Composite Steel Bridge Design" and "Field Studies of Girder Fit-up." These are forwarded to the Structures section for submission to AASHTO and NCHRP for consideration.

FHWA Update – Dayi noted a few items that FHWA is working on. 4 on-going task orders related to steel bridges. Some are completed but waiting on approval for final publication. No update yet on rule making for Bridge Inspection Standards.

AASHTO T-14 meeting – Frank Russo noted the recent publication of the NCHRP work by UT Austin for cross-frame design. NCHRP Report 962, Proposed Modification to AASHTO Cross-Frame Analysis and Design - <http://www.trb.org/Main/Blurbs/181600.aspx>. This result of this work should reduce the fatigue forces related to cross-frame design. Frank reviewed other items that are in front of the committee for research including fatigue provisions for skewed stiffeners, shear studs, lateral torsional buckling of non-prismatic sections.

### 3. Presentation (1:40 PM to 2:10 PM)

"Limit Analysis for Compression Gusset Plate Evaluation," Lian Duan – California Department of Transportation. Presentation outline included:

- Background on gusset plate analysis.
- Compression Diagonal Gusset plate evaluation in accordance with MBE
- Gusset Plate evaluation example
- Corner plate buckling model and comparisons with tests.

Unfortunately, Lian's connection to the virtual meeting was not good, and he could not complete his presentation. Deanna will look to have Lian present at the next collaboration meeting.

### 4. G13.2 Guidelines for Steel Truss Bridge Analysis (2:10 PM to 3:00 PM)

Frank Artmont discussed secondary stresses. He questioned why we need to have separate models – one with fixed end connections and one with pinned end connections? Is an analysis necessary to determine secondary stresses don't need to be included?

Section 5.2 – A comment was shown by Deanna asking if this section should include some discussion for global buckling/stability analysis, such as buckling of open truss bridges, lateral & torsion buckling with

live loads, ratio of bridge width to span, etc. Frank Russo noted the pony truss as an open truss, similar to many pedestrian bridges out there; and there is general guidance in AASHTO for this for checking the top chord stability.

The next discussion was about the table of “Typical Components Included in the Analysis Models of Trusses.” The components can be done in their own stand-alone models. That is not clear in the table. The analysis can be broken up into multiple 2D type models, and not necessarily one 3D model. Deanna will rework this section to make it clearer.

Frank Artmont asked if we need to consider trussed arches and global buckling? Don White noted that we should possibly make a short statement that says systems such as trussed arches are not considered in this document. Deanna suggested that we could include that, but also include a short section in Chapter 5 about this topic.

Section 4.5.1 Analysis of Truss Panel Members – Frank Artmont noted the comment is a good reason why to consider a fixed end in this analysis, for these conditions noted here (unsymmetric sections).

Deanna discussed the schedule for the G13.2 document:

- April 30 – draft text due
- May 30 – revised document sent for review.
  - Identify three people to focus on reviewing specific sections.
- June 15 – Benchmark Analysis Models ready for review
- August 15 – comments due
- September 15 – Compile comments and identify any additional sections.

5. Adjourn

Meeting ended at 3:00 PM (CDT).

## TG 14 - Field Repairs and Retrofits

**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

**Task Group Vice Chair:** Jonathan Stratton – Eastern Steel Works

1. Chairperson's Welcome (2:00 PM – 2:10 PM)
  - a. Introduce Existing and Welcome New Members
    - i. Larry Kruth reminded everyone of the membership applications due for new or renewing members.
  - b. AISC Antitrust Policy and Meeting Code of Conduct.
  - c. AISC NFS Update: *AISC continues collective work on several Need for Speed initiatives. Three of these projects relate to the bridge market and include A Guide to Executing an Effective Bridge Project, Revitalize the Use of Uncoated Weathering Steel (UWS), and Standardization of Design for Short Span Bridge Applications. The project execution intends to produce a guide for the effective execution of steel bridge projects and is expected to be completed in October with interim submission through the year. The weathering steel project is primarily intended to develop a reference manual for educational and marketing purposes that can promote the use of, and assist engineers in the design and maintenance of, UWS bridges with a final deliverable next January. At this time, the RFP for the standardization project is still under development with a slight refocus on more general resources like those US Steel provided in the past which people still use to a degree today. For more information visit [www.aisc.org/needforspeed](http://www.aisc.org/needforspeed).*
  - d. Approval of Previous Meeting Minutes.
    - i. Approved.
  - e. Christina Freeman is recruiting for support for TG1/TG11/TG12 Straddle Bents for anyone with experience with repairs and retrofits of steel straddle bent pier caps. Contact Christina if you would like to help ([Christina.Freeman@dot.state.fl.us](mailto:Christina.Freeman@dot.state.fl.us)). Another option to consider is to add a Straddle Bent Repair section to G14.2. This will be

discussed between Kyle and Christina and the respective task groups to decide the best home for it.

2. Review Status of G14.1 and Provide Overview (2:10 PM – 2:40 PM): Presented by Jason Lloyd. No questions from the group. (See Appendix for slides.)
3. G14.3 Detail Sample (2:40 PM – 2:50 PM): Presented by Jon Stratton.
  - a. Comment from Dennis Golabek in the Zoom chat window: Have you reviewed NCHRP Synthesis 489 “Expanding Bridge Service Life Through Field Welded Repair and Retrofits”? It has example repairs from 6 states.
  - b. Heather Gilmer asked if G14.3 will be a word searchable database. Yes, that is the intent.
4. G14.2 Discussion (2:50 PM – 4:00 PM): Discussion lead by Kyle Smith
  - a. Goals for 2021
    - i. August 2021 – distribute complete draft for review
    - ii. Fall 2021 Collaboration Meeting (Oct)
      1. Solicit comments and review.
      2. Solicit illustrations.
      3. Solicit Individual Section Reviews
  - b. Review writing assignments and verify commitments: Not discussed.
  - c. Review sections that are substantially complete
    - i. Kyle asked for opinions on a partial girder replacement approach, one with no gap between splicing plates, and one with a gap plate that overlaps the splicing plates. What is the experience and opinion of the group? Christina suggested that it could become a constructability problem if the plates don’t fit exactly. Brian Witte asked about contractor’s perspective on the continuous versus discontinuous plate details. Brian said if the splice plates are attached to the replacement piece before hoisting into place, then the smaller plates would not be necessary. They wouldn’t necessarily be more easily handled. Jason Lloyd suggested that we should offer a bolted and a welded option for states with

different opinions on field welding. Texas DOT could be a good starting point to look for a welded option.

- ii. Kyle asked the group for input on carrier beams and limit states, such as deflections, strength, and LTB. Jihshya Lin suggested Professor Yura's work on global stability for narrow structures. Is there a way to propose a repair using carrier beams that doesn't require rigorous analysis? If so, we'd like to work those out for simplicity, but without compromising safety of course. Domenic said that AASHTO BDS has some threshold checks based on Yura's equations that can give a rough idea if a more rigorous analysis is warranted. **Tabled discussion for next meeting.**
  - iii. Jon Edwards shared an idea to add bolted flange angles below a top flange that was cut during deck removal.
  - iv. Jason Lloyd offered that corner cut details on partial girder replacements be radiused using coring bits to improve fatigue resistance. Not a huge concern, but definitely a best practice.
- d. Discuss comments received.
- i. Comment was reviewed for 2.3.3.1 – plating for strengthening, or plating for aesthetic reasons. Generally, the consensus was that owners are not plating for aesthetic reasons. Engineers from about 4-5 states spoke up on this question. They'll simply clean it up and paint it. Generally, owners on the call agreed that plating is only performed for strengthening purposes. Ahmed Mongi shared that this could be talked about in terms of "condition rating" rather than "aesthetics" saying that WV does plate to improve condition ratings when they're already making other repairs on the bridge. Section will remain in the document and we'll add discussion with regard to other options making sure that engineers are making decisions according to the owner's goals.
  - ii. Comment for 2.3.5.1.3 – watertightness of formwork for UHPC encasement repair. Consensus from the group was to sustain the comment and delete the water tightness comment. Consider the preceding and succeeding sentences as well for rewording.

- iii. Discussion on reorganizing the chapters – flow of the sections was commented on by a couple of reviewers, which prompted another look at the chapters. This led to a reorganizing of several of the chapters. **We will send the reorg out to the steering committee to consider the new chapters.**
- e. Discuss additional information required.
  - i. Hannah Cheng suggested that we add some discussion on preventing sawcut damage, as well, to section 5.5. She will talk with Doug Crampton on the subject. Others suggested financial incentives to contractors to avoid, others use pilot holes to discover girder depths. Camber can complicate the operation. Some states don't allow saw cutting overtop of girders, they can cut between and then by hand over top girder flanges.
  - ii. Todd Neimann suggested adding discussion to chapter 5 on determining the cause of geometric problems that could be a result of nonconforming substructure geometry. **Is this discussed in any other Collaboration documents?**
  - iii. Daniel Beck suggested adding discussion for “unauthorized welding in tension zones” to chapter 5. This could be controversial because some states allow welding in tension zones and some don't.
  - iv. Nick Haltvick wondered if it would be worth adding a section for damage during transportation to the construction site. Some said it has happened, but mostly a concrete girder problem.
- 5. Discuss case studies, including Through-Truss Impact Damage (Time Permitting): Not discussed.

## TG 15 - Data Modeling for Interoperability

**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:** Aaron Costin – University of Florida

**Task Group Vice Chair:** Sammy Elsayed – Skanska

### 1. Chairperson's Welcome

- a. Welcomed new members and self-introductions.
- b. Larry spoke on membership.
- c. Aaron read antitrust.
- d. Need for Speed Initiative discussed.
- e. Approved previous minutes.

### 2. Design to Fabrication Model View Definition (MVD) project overview

- a. BIM for Bridges and Structures Pooled Fund Initiative, Julie Rivera
  - i. Timeframe of project 2018-2023
  - ii. National initiative to establish a software standard.
  - iii. 24 States participating.
  - iv. 2 ballot items in 2022 (IDM and MVD)
- b. Aaron gave overview of MVD
  - i. Updating data dictionary.
  - ii. Next phase integrating into bSDD.
  - iii. Developing use case.
  - iv. Brian Kozy mentioned that FHWA & NBI should be included in process.

### 3. G15 Balloted Document Overview

- a. Aaron introduced process map for ballot.
  - i. Focusing on steel detailing.
  - ii. Passed NSBA but halted at AASHTO T19 (IDM did not have all exchange items listed). On hold for 1 year.
  - iii. Goal this year is to list data requirements.
- b. Ryan Holman talked about the AASHTO publishing/balloting process.
- c. In depth discussion on BIM and how it will be used by all stake holders

### 4. Bridge Data Dictionary

## 5. Closing Discussion



## TG 16 - Orthotropic Deck Panels

**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

**Task Group Vice Chair:** Sougata Roy - Rutgers

1. Chairperson's Welcome (9:30 AM – 9:40 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. AISC Antitrust Policy and Meeting Code of Conduct.
  - c. AISC NFS Update: *AISC continues collective work on several Need for Speed initiatives. Three of these projects relate to the bridge market and include A Guide to Executing an Effective Bridge Project, Revitalize the Use of Uncoated Weathering Steel (UWS), and Standardization of Design for Short Span Bridge Applications. The project execution intends to produce a guide for the effective execution of steel bridge projects and is expected to be completed in October with interim submission through the year. The weathering steel project is primarily intended to develop a reference manual for educational and marketing purposes that can promote the use of, and assist engineers in the design and maintenance of, UWS bridges with a final deliverable next January. At this time, the RFP for the standardization project is still under development with a slight refocus on more general resources like those US Steel provided in the past which people still use to a degree today. For more information visit [www.aisc.org/needforspeed](http://www.aisc.org/needforspeed).*
  - d. Approval of Previous Meeting Minutes. Previous minutes were approved without objection.
2. General updates and announcements review of mission statement: "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."
  - a. Anna Petroski suggested adding an educational/promotional aspect to the mission statement.
  - b. Duncan suggested adding "and promote use of OSD through the committee activities" in order to capture the aspects pointed out by Anna (i.e. white paper, presentations, etc.)
  - c. Ronnie added that committee activities include promoting best practices, as well. This aspect should be part of the mission statement too.
  - d. Duncan changed addition to, "through development of best practices and promotion of OSD through the committee activities."

- e. Jason suggested removing, “through the committee activities”.
- f. Vote was taken. New mission statement was approved. **“This Task Group aims to establish an Orthotropic Steel Deck (OSD) that can be cost effectively produced in the United States for the bridge market through development of best practices and promotion of OSD.”**

3. Presentations:

- a. Presentation from Justin Dahlberg ISU: FHWA Orthotropic Standard Panel project update: expected to complete by Summer/Fall 2021 (See Appendix for presentation slides)
  - i. Anna – how does this work change our goals? Duncan – results can be integrated into our synthesis of best practices. We can put it before the AASHTO committee, etc.
  - ii. Anna – will this replace the existing FHWA manual? Justin – no, this will supplement it. The new manual is a summarized guide without all of commentary. Duncan – this new manual will take a similar approach to concrete design concepts used where with known parameters a standardized design can be selected to meet the needs of a project. Dayi – confirmed that there is a little overlapping with the older and this new manual, but they are meant to complement each other.
  - iii. Terry – TG16, moving forward, can focus on the aspects that the ISU team is not focusing on. There might be sections in our guide that we can put on hold for now and focus energies on other sections. The ISU document is focused on design and ours is focused on fabrication so they can complement each other and help TG16 focus on topics not being covered by the ISU team.
- b. Tentative: Owner experience with OSD bridges – Not discussed.

4. Task Group updates

- a. State of Practice Synthesis Document – Discussion led by Sougata Roy providing some background information on the *Guidelines for Manufacturing Orthotropic Deck Bridges*.
  - i. Review sections and author assignments:
  - ii. Section 2.3 – hold until later (not the focus of the document). Also overlaps content with Section 4 from Ronnie/others
  - iii. Section 2.4 – Discussion held whether to put this on hold or not. ISU team is approaching this topic, but some expressed that the TG16 guide should also address it. Sougata explained that section 2.3 is intended to lead into section 2.4, where together shows a progression of the design considerations. Terry pointed out the

focus of the document if manufacturing; it's meant to help fabricators first and foremost. The ISU project will address design concepts. Then later publications of TG16 document can incorporate more design topics. Duncan reminded of a point made previously by Ronnie that experiences shared in 2.3 build to recommendations in later sections. So it can be on hold, but eventually needs to be written. Consensus to keep working on this section.

- iv. Section 4.4.2 – Used example of “suggesting” edits that track the changes for originator to see what was added to their text.
- v. Section 2.5 – keep working on this one. Hannah has some of the Japanese specifications. Section 2.5.4 on hold for later.
- vi. Section 3 – Paul said that about 50% of this section is written. He's finding a lot of overlap with the FHWA 2012 manual. Comment made by others to tie this into purpose of design and why it's important for fabrication. Paul suggested we take this section in direction of “optimization” instead. Perhaps move this section into other sections (integrating content to avoid rewriting the FHWA manual). Brian Kozy suggested that the TG16 guide focus on fabrication. This is the area that has really developed since 2012 and is the real value to industry with the experts on the TG to do it. Brian suggested adding high level commentary in this section and including results from Lehigh research. Sougata suggested that the focus of this section should be on optimized design guidelines that facilitate orthotropic deck fabrication. Paul will take the new focus of this section and work on a draft. Title changed to “Guidelines for Design and Detailing for Fabrication/Manufacturing” [title a work in progress]

Hannah recommended adding content for specifications. Here or somewhere else in the guide? See existing Section 6.

- vii. Section 4.1 – Sougata said that this section could be used to address the specifications topics mentioned earlier by Anna. It could be recommendations on acceptable tolerances. Commentary on feasibility, deviations, updates, and changes.
- viii. Section 4.1.3 – move content of this section into other sections of 4.1, deleting this subsection as a separate section.
- ix. Section 4.2 – Ronnie and Terry confirmed to continue working on this.

- x. Section 4.3 – Paul confirmed as secondary author. Kade wasn't present to confirm as primary author.
  - xi. Section 4.5 – Terry confirmed to keep him as author.
  - xii. Section 5 – Terry confirmed as author.
  - xiii. Additional sections for consideration – putting this section on hold for now.
  - xiv. Monthly webinar meetings schedule: Not discussed.
- b. White Paper “Tolerance for Tolerances” (working title) – Terry is leading this effort. Paper intended to publish some tolerances that have more recently become acceptable and assuage existing fears with OSD projects. Terry, Duncan and Keith Griesing are taking the first stab at the paper. The paper will then be passed to the task group that was identified for this effort in the Fall 2020 meeting. Once the paper is finalized, Jason can help facilitate publication with AISC/NSBA.
  - c. Short Span Orthotropic Update (SSSBA) collaboration – OSD design concept was initiated, but ultimately WYDOT was not interested in hearing more about it. It would suggest a bias against OSD, something that the white paper is intended to address. Jason will continue to follow up with WYDOT to better understand their position. Karl suggested using the ISU project to help.
  - d. Rib Standardization (see ISU presentation)
- 5. Review Committee Goals
  - 6. Old business and additional discussion
  - 7. Floorbeam and diaphragm details – Some work was done, but it has stalled due to other focuses. This will be removed from future agendas.
    - a. Other
    - b. Review Action Items
  - 8. New chair – Duncan is stepping down as chair after 6 years. Duncan noted that he has not sought input from Sougata about his interest to take over as the Chair. Sougata expressed interest. Duncan solicited nomination from other interested candidates present in the meeting. NSBA leadership consisting of Ronnie Medlock, Chris Garrell and Christina Freeman to decide on the next chair, with due consideration of departing Chair's input. A transition of leadership will take place before the next meeting.
  - 9. Adjourn

## TG 17 – Steel Castings

**Task Group Mission:** The mission of this Task Group will be to develop and disseminate resources specific to the US steel bridge community to support the increased and effective use of castings in steel bridges. The targeted community includes design engineers, DOT professionals, steel fabricators, steel erectors, inspectors, general contractors, and detailers.

**Task Group Chair:** Jennifer Pazdon - CAST CONNEX

**Task Group Vice Chair:** Jason Stith - Michael Baker International

### 1. Chairwoman's Welcome (1:00 PM – 1:20 PM)

- a. AISC Antitrust Policy and Meeting Code of Conduct was read to the group.
- b. Attendee Roster Announcement of existing members introduced themselves and their work experience background. New interested members were introduced to the task group highlighting how they can help with efforts for Steel Castings Design Guide and Specification.
- c. Need For Speed was mentioned to the group for bridge specific projects of interest. AISC continues collective work on several Need for Speed initiatives. Three of these projects relate to the bridge market and include A Guide to Executing an Effective Bridge Project, Revitalize the Use of Uncoated Weathering Steel (UWS), and Standardization of Design for Short Span Bridge Applications. The project execution intends to produce a guide for the effective execution of steel bridge projects and is expected to be completed in October with interim submission through the year. The weathering steel project is primarily intended to develop a reference manual for educational and marketing purposes that can promote the use of, and assist engineers in the design and maintenance of, UWS bridges with a final deliverable next January. At this time, the RFP for the standardization project is still under development with a slight refocus on more general resources like those US Steel provided in the past which people still use to a degree today. For more information visit [www.aisc.org/needforspeed](http://www.aisc.org/needforspeed).

### 2. Steel Castings Presentation (1:20 PM – 2:30 PM)

Carlos de Oliveira gave an insightful overview of Steel Castings presentation. The video of the presentation is available on the TG 17 GDrive at this link

<https://drive.google.com/file/d/1DA03DrdLJ9eWux85YKov4UINlvAjSvqy/view?usp=sharing> along

with the PDF of the slides are also available at this link

[https://drive.google.com/file/d/1285RCrvHTqagPMd\\_Hfwa0E80i\\_TD7teH/view?usp=sharing](https://drive.google.com/file/d/1285RCrvHTqagPMd_Hfwa0E80i_TD7teH/view?usp=sharing). His

presentation highlighted how steel castings are developed and their applications. He also went further into how steel castings can simplify connections and reduce the geometric stress concentrations or stress risers in the welded regions of the casting, by moving the welds to locations of lower stress. Steel castings can also reduce the amount of steel material used for connections and some of the extensive labor involved with CJP welds made by more traditional steel connections. Member cast nodes allow the member selection not to be limited by localized capacities of the connection and allow branch members to be less stressed and the casting can take more of the load. Steel castings can reduce deflections and improve predictability of load-structure-interaction or the flow of forces through the structural system.

Unlike traditional frame analysis models without the consideration for connection flexibility, steel castings can capture the localized connection flexibility. Cast connections replace corners and crevices with generous radii and smooth transitional geometry, improving coating system performance over time. Fabrication and Erection is benefitted by utilizing steel castings for more geometric freedom to improve constructability and eliminating field welding and improving the welding access. Machined casting tolerances and geometric consistency is unmatched for fit in the field. Steel castings also improve fatigue life and performance. Examples of existing bridges (pedestrian, rail, and highway bridges) were shown, and the steel casting locations were highlighted where the castings can apply, which is a great many places and they also look aesthetically pleasing especially at the cast nodes and how the members connect into them. Among the bridges highlighted were the AISC Prize Bridge Award Winner in Boston MA, Frances Appleton Pedestrian Bridge <https://www.aisc.org/nsba/prize-bridge-awards/prize-bridge-winners/frances-appleton-pedestrian-bridge/>.

Steel castings can also be utilized for fracture critical members (FCM's) and can be preferred option for erection and support of the structure with a more critical load path. Warping of welded components by way of a steel casting can also reduce localized distortion of adjoining members. CAST CONNEX has a typical scope of work that is to have prebid services of concept designs and budgetary estimating. Then when under contract they typically design and detail and engineer the castings along with overseeing and assisting with their manufacturing. Generally, steel castings are utilized at complicated connections which include many members framing into a specific location or node. The structural engineer of record (SEOR) typically works with CAST CONNEX and their global finite element model to design the connections. The foundry process engineering was highlighted and showing the quality control for looking at stress as the liquid steel becomes solid and contracts

naturally. Sand casting patterns were shown for the steel casting molds that are made from wood. The sand is applied to help with solidification and control where the cooling is applied to also have more control of the high-stress locations. The chemistry is being checked and verified during the procedure in addition to the castings weldability. The casting can be lifted out of the sand once solidified and then risers are cut or grinded down followed by heat treating the steel casting to alleviate the stress in the steel, and then it goes onto be quenched and tempered. Mechanical testing is then performed including Charpy V-Notch toughness testing, tensile strength, and other important mechanical properties for the integrity of the steel component. NDE is performed also with ultrasonic and magnetic particle testing all over the casting as well. Visual examination or functional dimensional test is then performed based on ASTM applicable standards. After this excavation, weld repair, re-examination, and a final stress relief is performed. Machining touch points are then performed and then also inspected by trained professionals before being loaded and shipped to the specific job site.

3. Short Break (2:30 PM – 2:45 PM)

4. Discussion from Casting Presentation (2:45 PM – 3:00 PM)

AESS surface finish requirements were brought up by Tom Hickman and that steel castings surface finish specifically may not be in alignment with them. Carlo and Jennifer mentioned the surface finish requirements can be addressed to satisfy these requirements. Jennifer mentioned the Modern Steel Construction article she co-authored with Jacinda Collins that answers some of these questions (<https://lsc-pagepro.mydigitalpublication.com/publication/?m=7946&i=669446&p=48>). Karl brought up and asked about how the surfaces of steel castings at CAST CONNEX are roughened for surface coating preparation. They are typically blast cleaned before coatings are applied. Karl mentioned the difficulty in utilizing tubular members for the bridges in the USA currently and expressed rectangular castings may be more beneficial in the current US market.

5. Scope and Deliverables (3:00 PM – 3:55 PM)

Jennifer and Ronnie discussed whether the group should be getting into smaller groups to start to address the example specification and dividing up the work. Decided to not divide at this point but will meet as a smaller group to work on this.

a. NDE Requirement

b. Ronnie brought up what kind of NDE testing should be in the specification and should it be mandated by the ultrasonic or magnetic particle tests demonstrated by Carlos in the

presentation. Carlos thought we should not mandate that absolutely as it could produce false sense of security or highly costly castings.

c. 3rd Party Inspection

- d. Karl brought up the additional parties that are in the bridge world, such as inspectors and owner's representatives that should be considered as part of the specification and the guideline documents the group is working on. Ronnie and Tom Hickman agreed and discussed the fickle nature that can sometimes occur on specific state DOT bridge jobs. Nick Altebrando who worked on the Appleton bridge agreed and mentioned that the process of satisfying MassDOT requirements is what took most of the time for that project, not the steel casting manufacturing and delivery. Keith Griesing agreed with Nick and then familiarizing and educating the industry is most critical for success of steel castings in the US bridge market. Jennifer agreed with Nick and Keith and that we need to keep in mind the building world had the same unfamiliarity of steel castings at one point not that long ago.

Moveable Bridges

- e. Nick brought up that moveable bridges have had steel castings for the last 100 years and that this is not brand new in the bridge world. Nick mentioned a casting design guide that he had, and multiple members expressed interest. Ronnie asked how the Appleton MassDOT steel castings were done for the job. Carlos mentioned they were designed, manufactured, and then delivered to the fabricator. Nick mentioned that there were third party inspections of the steel castings and the welds after the delivery and installation was completed. Nick also mentioned that the MassDOT Appleton bridge had to follow the owner's typical methodology for ensuring quality control and quality assurance.

Process for Castings

- f. Carlo discussed their process for preliminary design and whether or not the connection is viable for a steel casting connection. Jennifer mentioned that SEOR's on the west coast that design the connections themselves and need to account for seismic lateral demands are more interested in using steel castings than engineers who do not design or are responsible for the connections themselves. Jennifer also highlighted the process that CAST CONNEX takes that is on the TG 17 Google Drive for members to understand the flow of typical procedures for them. Jennifer also showed the quick basic steps for developing the custom castings including geometry, loads, manufacturing, and specification in a brief overview.



g. Design Examples and Ideas for Castings

Ronnie then showed an example steel casting bridge plan set that was used for a project and how that was detailed and designed for the castings specifically. The group was commenting on the steel castings shown and how to standardize the casting to be the same and redundant is most advantageous. The orientation of the bolts can change if needed. The structural properties of the castings were specified on the plans shown. Tom Murphy, Jason Stith, and Karl commented on the steel castings in the bridge plan set and how to specify them and utilize them best to the group. The factor of safety for the connection discussed was about a 5 with allowable stress design. Karl showed a very complicated arch rib weldment that could make a great application for steel casting in the US bridge market. The space for the welds was tight and the iron work was labor intensive. Jason also mentioned a pile plug similarly with several heavy welds that was difficult to work and weld together.

These items were not discussed:

6. Guideline Spec Outline
7. Working Group Members and Responsibilities
8. Approval of Mission Verbiage
9. Communications and Outreach
  - a. Update on active projects
  - b. Suggestions for additional activities
10. Action Items for Next meeting
11. Confirm Next Meeting Date
12. Adjourn (3:55 PM – 4:00 PM)

The chair and vice chair thanked everyone who attended the meeting including visitors and mentioned that meeting notes and a survey for scheduling future regular TG 17 meetings will be along shortly in communications and that action items will be included.

## Joint Task Group Meeting (TG1 & TG15)

**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

**Task Group Vice Chair:** Brad Dillman - High Steel Structures

1. Chairperson's Welcome
  - a. Welcomed new members and self-introductions.
  - b. John read antitrust.
  - c. Need for Speed Initiative discussed.
  - d. Approved previous minutes.
2. Design to Fabrication Model View Definition (MVD) project overview
  - a. BIM for Bridges and Structures Pooled Fund Initiative, Julie Rivera
    - i. Timeframe of project 2018-2023
    - ii. National initiative to establish a software standard.
    - iii. 24 States participating.
    - iv. 2 ballot items in 2022 (IDM and MVD)
3. G15 Balloted Document Overview
  - a. Aaron introduced process map for ballot.
    - i. Focusing on steel detailing.
    - ii. Passed NSBA but halted at AASHTO T19 (IDM did not have all exchange items listed).  
On hold for 1 year.
    - iii. Goal this year is to list data requirements.
4. Detail to Fabrication IDM
  - a. This group is going beyond the Pooled fund. We are joining with pooled fund by providing steel information.
    - i. Got good feedback from AASHTO on IDM. Over 2000 lines of concepts and for each case we define what information is needed to import and export. Aaron walked through an explanation of the data needs. Green boxes need to be populated.
    - ii. The next model can be multiple types. BIM model, detailing model, contractor's planning model, fabricator's planning model. We must define the intent, purpose and the final.

## 5. Working Group-Assign Data Requirements

- a. BIM Model
- b. Brad asked about priority of models. Detailing is done. This group is specific to Detailing. Other models may be assigned another joint task force. This group can work on models related to fabrication (CNC, Fabrication model, final fabrication model, etc.). TG1 will stay involved to help where they can.
- c. Aaron wants to attack models all at once.
- d. Next steps to implementation. Relationship between industry user and software. This group will only focus on data. Julie shared a graph/flowchart of draft IDM.
- e. [Julie.rivera@hdrinc.com](mailto:Julie.rivera@hdrinc.com) . Email Julie to sign up for the software advisory group of BIM for Bridges and Structures pooled fund project. This is for software developers. Future meeting will be set up to discuss path forward.
- f. Randy Harrison complemented meeting, spreadsheet, and likes how things are moving forward.

## Joint Task Group Meeting (TG1, TG11 & TG12)

**Task Group Chair:** Christina Freeman - Florida DOT

**Task Group Vice Chair:** Brad Dillman - High Steel Structures

### 1. Introductions (10 minutes)

The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

### 2. Recruit authors and editors for sections of the Guidelines for Straddle Bents outline

which are not yet covered (30 minutes)

Christina noted that we will have an editor/shepherd for each chapter. These editors review the sections of the chapter and try to make sure there is not overlap, and try to push the authors.

The authors originate the material for the section the volunteered to write.

Christina next solicited volunteers as editors,

Section 1.3 - Literature Review – Editor: Allan Berry volunteered

Section 2 – Use, Applicability, and Alternatives – Editor: Tom Eberhardt volunteered.

#### **Section 3**

Section 3 – Analysis and Rating – Editor: Gerry Sova.

Section 3.3.i - FC avoidance for evaluation of existing structures – Author: Frank Russo

#### **Section 4 – Design Considerations**

Editors:

Tom Eberhardt will help Brandon has an editor for Section 4. Dusten Olds volunteered as well to be an editor via chat.

Authors:

4.2.i – Shape of bent according to slope of roadway: Travis Butz

4.3 – Loads: Domenic Coletti; will get help with seismic portion from inside HDR.

4.4 – Skew effects: Frank and Allan noted that the “beauty of straddle bents” is that skew gets taken out of picture in most cases. Travis Butz noted he has seen some heavily skewed caps. Travis Butz will author this section.

4.6.iv & 4.6.v – IRM and SRM – Frank Russo and Baker volunteers.

4.7 Stability – Gerry Sova – adapt language from section 5.m.i.(previous) that he already wrote.

4.9 Camber – Natalie McCombs

4.10 Longitudinal Connections – Natalie McCombs

4.11.i Internal diaphragms and compression plates -

4.12 Straddle bent field splices – Brad Dillman and Domenic Coletti

### **Section 5 Preferred Details**

Editors: Brad Dillman and Randy Harrison, Frank Kingston

Authors:

5.6 – Standard Details for Erection – Russell Jeck

5.7 – Bearing Details – Tom Eberhardt

5.8 – Design Details for Seismic – Need an Author

5.11 – Repair and retrofit details – Kyle Smith to ask about in TG14. / Russel Jeck agreed to author this section.

5.12 – Details for future inspection – Gerry Sova

### **Section 6 Erection and Construction**

Editor: Brian Witte and Steve Percassi

6.2 Tolerances – Brian Witte and will work with TG10 to get an author.

6.3 Cap to Column - Brian Witte and will work with TG10 to get an author.

6.4 Safety – Brad Dillman

### **Section 7 Design Example**

Christina noted that our TG will hold off on this and decide later if an example(s) is needed.

3. Review writing which has been sent in and collect comments/suggestions (30 minutes)

Christina reviewed what has been submitted already and asked if any TG members have any comments that need to be discussed at the meeting.

Nick Cervo asked if NSBA publish the MnDOT reports on FC analysis on its website? Brandon Chavel to check on this.

Nick also asked if NSBA has plans available for FC straddle bent designations. Brandon Chavel to check in this and work with Randy and Brad on obtaining a variety of straddle bent examples.

Christina then led a discussion about whether we should have this document as 1 or 2 column format. Allan Berry stated he believed that a one column format seems more reasonable for this document.

Brad Dillman noted the approach taken for G1.1, one column format with any commentary provided in a shaded document. Jason Stith noted we can flip this, and any recommendations can be put a gray box.

No one was pushing a 2-column format, and the TG decided to go with one column format.

#### 4. Adjourn

Meeting ended at 11:45 AM (CDT).

## Collaboration Main Committee

**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

**Task Group Vice Chair:** Christina Freeman - Florida DOT

### Welcome and Introductions.

There were about 44 people in attendance.

### Task Group Reports

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

#### *TG 1 - Brad Dillman (High Steel Structures)*

Brad is stepping down as chair of TG1. Good discussion surrounding need for speed as it related to project execution document. Shop drawing review process was discussed and the importance of quick review. Iowa was mentioned as a state which has a list of what should and should not be check on shop drawings by engineers. This is something that engineers find useful and would lead to faster check times. Currently working on G1.4 which was last published back in 2006. Teams were created to break the work up. First review is planned for in the fall meeting. Randy Harrison will be taking the role of TG1 chair. Gary Wisch will continue as vice chair. Ronnie asked if there was any overlap or duplication between G1.4 and G12.1. The group will consider that as they perform the update of G1.4 and that also goes for the new straddle bent document being developed now. Freeman states that they had converted some duplication in G12.1 to references to the TG1 documents.

#### *TG 2 - Heather Gilmer (TUV Rheinland Industrial Solutions)*

In the past, time has been occupied working on the AASHTO Fabrication specification which is going to replace Collaboration S2.1 and most of AASHTO construction specification chapter 11. Now shifting back to G2.2 common non conformances and resolutions and thing you put in an NCR as a repair. Adding new topics on pre-heat to verify that the joint is ok rather than having to cut it out and replacement. A sub task group was formed to evaluate such nondestructive testing. The group is also looking at sip coefficients for hybrid connections where you have metalizing and galvanizing interfaces. However, this likely belongs in the BDS. Piece marking was also discussed which was a good option when not used in a tension zone where the mars would not be consumed in a weld. Group will start looking at other structures and components like pedestrian bridges.

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

Jamie Hilton met Tuesday morning. G4.2 for qualification of bolting was approved by T14 which is now before the members of CBS. Initial comments are expected early in May which will have to be reviewed and considered by TG4. The G4.4 has not been updated since 2006 and it will be reviewed and updated as needed. It is not expected that there will be many changes necessary.

The group will also be looking at an update of G4.1 which was published recently to include some new business items.

*TG 8 - Paul Vinik (GPI Construction Engineering)*

Working on website guidance on galvanizing, washing, weathering steel, duplex. Working on the S8.3 galvanizing document and hope to have it updated in time for 2022. Group also reviewed work that is ongoing at the University of Delaware. Then discussed bridge washing, practicality, cost and benefits specifically what Washington state is doing. John Gast had a question of responsibility for cleaning excess galvanizing from bolt holes. This may be something the group needs to investigate.

*TG 9 - Michael Culmo (CHA Consulting, Inc.)*

G9.1 is under a complete rewrite. The group has been processing the comments that were received in the recent Collaboration ballot. There were over 200 comments that need to be resolved. A follow-up meeting will take place between now and October to address any of the comments that Mike Culmo could not resolve himself. Get document to T2 meeting for their review sometime mid to late summer. Added corrosion protection and seismic isolation among other new chapters and graphics and figures. Need to make sure either T14 or T2 takes the lead on sponsoring the document next year. Hannah Cheng stated that the document should go to T3 also since it includes seismic isolation bearings. Ronnie will take the lead on forwarding it to T2, T3 and T14 to see which group wants to sponsor the document.

*TG 10 - Brian Witte (Parsons)*

Spent time discussing bearing which are carry over from comments received from CBS when the document was last published. Mike Culmo provided some language on the subject that will be added to S10.1 however it will include discussion on items like tolerances. Transportation was another subject that was initially authored by Bob Cismarios. It was another topic that carried over from the previous CBS comments. A more detailed discussion about field reaming is also being developed. Christina provided an update on wind loads on bridges. Bolting for bolters is currently on hold until in-person meetings can take place again. Bob Shaw was awarded a contract and would perform filming at High Steel. Currently, he is thinking fall at the earliest. This project is funded by RCSC and it should be noted that this is not in jeopardy from the delay. Ronnie asked whether the topic of broken fasteners should be discussed. Maybe the TG could provide some guidance on what should happen when a fastener is broken. Ideally, the video will hopefully reduce the occurrence of overtightening and broken bolts. Another consideration might be in instances where a bolt breaks from hydrogen embrittlement.

*TG 11 - Brandon Chavel (NSBA)*

Two studies, one on lean-on and the other on double composite tubs where discussed. Both studies are looking for input from designers. Group need to spend time on uniformity of the calculation. The document will be an NSBA white paper or made into a portion of the steel bridge handbook.



*TG 12 - Christina Freeman (Florida DOT)*

A bulk of the discussion was on optional field splices and a deeper discussion on length of shipping pieces. Also, hot dip galvanizing lengths restrictions was also discussed. The length was added to the commentary so that it is not seen as a fixed number. Then the group discussed standard field splice designs which was intended to be a part of a G12.1 update. Standardize the splice plates was a place to focus on.

*TG 13 - Deanna Nevling (Michael Baker International)*

Document is now looking more like it will be published in 2023.

*TG 14 - Kyle Smith (GPI Construction Engineering)*

Jason Lloyd provided an update and overview of the status of G14.1 which is currently being considered by AASHTO CBS.

## Main Committee Operations Discussion

*Publication schedule*

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

*Upcoming meetings*

The fall 2021 meeting will take place on October 26 – 28 and there is a probability that it will also be virtual. Be on the lookout for a survey to identify dates for 2022.

## Appendix A – Attendee Registration List

First Name	Last Name	Company
Hossam	Abdou	Benesch
Benjamin	Allis	GAI Consultants Inc.
Octavio	Alquicirez	
Nicholas	Altebrando	STV Inc.
Devin	Altman	AISC
CARL	ANGELOFF	Con Serv Inc.
Frank	Artmont	Modjeski & Masters, Inc.
Jerome	Atchison	ABS Structural Corporation
James	Ault	Elzly Technology Corporation
Vin	Bartucca	AISC
Shane	Beabes	AECOM
Daniel	Beck	Maryland Transportation Authority
Billy	Belcher	Stupp Bros., Inc.
JEFF	BELLOWS	W&W   AFCO Steel
Caroline	Bennett	University of Kansas
Allan	Berry	RS&H
frank	blakemore	Garver
Art	Bustos	AISC
Travis	Butz	Burgess & Niple, Inc.
Terry	Cakebread	LUSAS
Jeff	Carlson	AISC
Derrick	Castle	Sherwin-Williams
Nicholas	Cervo	HDR
Brandon	Chavel	AISC
Xiaohua	Cheng	NJDOT
Hannah	Cheng	NJDOT
James	Chronister	Stupp Bros., Inc.
Robert	Cisneros	High Steel Structures LLC
Domenic	Coletti	HDR
William	Collins	Kansas University
Aaron	Costin	University Of Florida
Doug	Crampton	Wiss, Janney, Elstner Associates, Inc.
Rodney	Crowley	Stupp Bros., Inc.
Michael	Culmo	CHA Consulting, Inc.
Terry	Cummings	
Justin	Dahlberg	Iowa State
Diana	David	SFSA
Carlos	de Oliveira	CastCONNEX
Nicholas	Dean	University of Delaware
Nicholas	Dean	Delaware Department of Transportation
Brad	Dillman	High Steel Structures LLC
Jason	Dreyer	Oates Associates, Inc.

<b>First Name</b>	<b>Last Name</b>	<b>Company</b>
Lian	Duan	CA DOT (Caltrans)
Robin	Dunlap	High Steel Structures LLC
Tom	Eberhardt	HDR
Jon	Edwards	DOT Quality Services
Sammy	Elsayed	Skanska USA Civil
Jamie	Farris	Texas Department of Transportation
Alana	Fossa	American Galvanizers Association
Karl	Frank	Consultant
Christina	Freeman	FDOT Structures Research Center
Pavan	Gadicherla	Nucor
Michael	Garlich	Collins Engineers, Inc.
Chris	Garrell	NSBA
Philip	Gase	DS Brown
John	Gast	CONWELD
Heather	Gilmer	TUV Rheinland Industrial Solutions
Dennis	Golabek	WSP USA, INC.
George	Gorrill	Michael Baker International, LLC
Jason	Gramlick	CA DOT (Caltrans)
Keith	Griesing	Hardesty & Hanover, LLC
Michael	Grubb	M.A. Grubb & Associates, LLC
Caleb	Gunter	South Carolina Department of Transportation
Christian	Haberle	Haberle Steel
Michael	Hagos	Manitoba Infrastructure and Transportation
Nick	Haltvick	MN DOT - Bridge Office
Randy	Harrison	W&W   AFCO Steel
Gregory	Hasbrouck	Parsons
John	Hastings	AISC
Thomas	Hickman	Hickman Consulting
Nate	Hicks	HDR
Jamie	Hilton	KTA-Tator, Inc.
Ryan	Holman	AASHTO Publishing
Mark	Hudson	Sherwin-Williams
Mark	Hurt	Kansas DOT
Kevin	Irving	International Zinc Association
Russell	Jeck	Tutor Perini Corp.
Ryan	Jenkins	HDR
Tiffany	Joseph	Stupp Bros., Inc.
Saeed	Karimi	HNTB Corporation
Zane	Keniston	QMC Contract Auditors
Frank	Kingston	ABS Structural Corporation
Scott	Kingston	ABS Structural Corporation
Jack	klimp	Cianbro Fabrication and Coating Corp
Sri	Kotha	PGH Wong Engineering, Inc.

First Name	Last Name	Company
Brian	Kozy	Michael Baker International, LLC
Lawrence	Kruth	AISC
Larry	Kruth	AISC
Bill	Lally	Tensor Engineering
Thomas	Langill	American Galvanizers Association
Kris	Lark	North American Stainless
michael	laviolette	HDR
Jason	Lewis	Alfred Benesch & Company
Alex	Lim	Oregon Department of Transportation
Jihshya	Lin	MN DOT - Bridge Office
Nate	Lindell	Project + Quality Solutions, LLC
Daniel	Linzell	University of Nebraska-Lincoln
Jason	Lloyd	NSBA
Patrick	Loftus	Industrial Steel Construction
Terry	Logan	Atema, Inc.
Kara	Lorenz	High Steel Structures LLC
Robert	Magliola	Parsons
Natalie	McCombs	HNTB Corporation
Ronnie	Medlock	High Steel Structures LLC
Teresa	Michalk	Texas Department of Transportation
johnnie	miller	Texas Department of Transportation
Bryan	Miller	Pennsylvania Department of Transportation
Ahmed	Mongi	WVDOT Div. of Highways
Thomas	Murphy	Modjeski & Masters, Inc.
Glenn	Myers	Atkins
Deanna	Nevling	Michael Baker International, LLC
Thanh	Nguyen	RS&H
Todd	Niemann	Fickett Structural Solutions
Douglas	Nims	University of Toledo
Michael	Noernberg	W&W   AFCO Steel
Justin	Ocel	FHWA
Kyle	O'Daniel	Stupp Bros., Inc.
Dusten	Olds	HDR
Joshua	Orton	Brasfield & Gorrie, LLC
Duncan	Paterson	HDR
Jennifer	Pazdon	CastCONNEX
Andrew	Pennoni	Pennoni Associates, Inc.
Stephen	Percassi	Bergmann Associates
Anthony	Peterson	AISC
Anna	Petroski	Atema, Inc.
Manuel	Portillo	Portillo Y Young, S.C.
Chris	Poynter	Stupp Bros., Inc.
Carl	Puzey	IL DOT

<b>First Name</b>	<b>Last Name</b>	<b>Company</b>
Brian	Raff	AISC
Ryan	Rapp	HNTB Corporation
Eric	Rau	HDR
Tony	Ream	HDR
John	Reese	HDR
Jeremy	Rice	Veritas Steel
Julie	Rivera	HDR
Sougata	Roy	Rutgers, The State University of New Jersey
Francesco	Russo	Michael Baker International, LLC
Joe	Saunders	Lehigh University
Phil	Sauser	U.S. Army Corps of Engineers
Brian	Schlenker	Stupp Bros., Inc.
Grant	Schmitz	HDR
Ryan	Sherman	Georgia Institute of Technology
Kyle	Smith	Greenman-Pedersen, Inc.
Michael	Snodgrass	Stupp Bros., Inc.
Dan	Snyder	AISI
Gerard	Sova	Hardesty & Hanover, LLC
Robert	Stachel	HRV Conformance Verification Associates, Inc.
Daniel	Stancescu	
Jason	Stith	Michael Baker International, LLC
David	Stoddard	SSAB North American Division
Jonathan	Stratton	Eastern Steel Works, Inc.
Brad	Streeter	Scougal Rubber Corporation
Michael	Sullivan	CHA Consulting, Inc.
Jeff	Svatora	HDR
Geoff	Swett	WSDOT - Bridge and Structures Office
Paul	Tsakopoulos	HNTB Corporation
Gregory	Turco	Texas Department of Transportation
Paul	Vinik	GPI
Scott	Walls	Delaware DOT
Dayi	Wang	FHWA
Jordan	Warncke	Hardesty & Hanover, LLC
Brian	Watson	HDR
Ronald	Watson	RJ Watson
Donald	White	Georgia Institute of Technology
Douglas	Whittaker	Michael Baker International, LLC
Michael	Wiersch	Stupp Bros., Inc.
Gary	Wisch	DeLong's, Inc.
Brian	Witte	Parsons
Brian	Wolfe	Maryland Transportation Authority
Matthew	Yarnold	Texas A&M University

## Appendix B – Document Release Schedule and Status

Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
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	Released	2020	1	Detailing	Shop Drawings Approval Review/Approval Guide
G1.3	Update - In-Progress	2022	1	Detailing	Shop Detail Drawing Presentation Guidelines
G1.4	Update - In-Progress	2022	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
G2.2.2016	Released	2016	2	Fabrication and Repair	Guidelines for Resolution of Steel Bridge Fabrication Errors
G2.2	Update - In-Progress	2022	2	Fabrication and Repair	Guidelines for Resolution of Steel Bridge Fabrication Errors
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	Released	2019	4	QC/QA	Steel Bridge Fabrication QC/QA Guidelines
G4.1	Update - Not Started	2022	4	QC/QA	Steel Bridge Fabrication QC/QA Guidelines

<b>Document</b>	<b>Status</b>	<b>Year Completed/Targeted</b>	<b>Task Group</b>	<b>Task Group Name</b>	<b>Document Title</b>
G4.2.2021	Submitted to T14 for Ballot	2021	4	QC/QA	Recommendations for the Qualification of Structural Bolting Inspectors
G4.4	Update - Not Started	2022	4	QC/QA	Sample Owners Quality Assurance Manual
S8.1-2014	Released	2014	8	Coatings	Guide Specification for Application of Coating Systems
S8.1	Update - In-Progress	2022	8	Coatings	Guide Specification for Application of Coating Systems
S8.2-2017	Released	2017	8	Coatings	Thermal Spray Coating Guide
S8.3	Failed Collaboration Ballot	Unknown	8	Coatings	Galvanizing Guide Specification
G8.4	New - In-Progress	2022	8	Coatings	Detailing for Coatings and Weathering Steel
G9.1.2004	Released	2004	9	Bearings	Steel Bridge Bearing Design and Detailing Guidelines
G9.1	Update - In-Progress	2022	9	Bearings	Steel Bridge Bearing Design and Detailing Guidelines
S10.1-2019	Released	2019	10	Erection	Steel Bridge Erection Guide Specification
G11.1	New - In-Progress	2021	11	Design	Guidelines for the Design of Cross-frame and Diaphragm Members
G11.2	New - In-Progress	Unknown	11	Design	Guidelines for Straddle Bents
G12.1.2020	Released	2020	12	Design for Constructability and Fabrication	Guidelines to Design for Constructability and Fabrication
G13.1.2019	Released	2019	13	Analysis of Steel Bridges	Guidelines for Steel Girder Bridge Analysis
G13.2	New - In-Progress	2022	13	Analysis of Steel Bridges	Guidelines for the Analysis of Trusses

<b>Document</b>	<b>Status</b>	<b>Year Completed/Targeted</b>	<b>Task Group</b>	<b>Task Group Name</b>	<b>Document Title</b>
G14.1.2021	Submitted to T14 for Ballot	2021	14	Field Repairs and Retrofits	Maintenance Actions to Address Fatigue Cracking in Steel Bridge Structures
G14.1	New - In-Progress	2021	14	Field Repairs and Retrofits	Maintenance Actions to Address Fatigue Cracking in Steel Bridge Structures
G14.2	New - In-Progress	2022	14	Field Repairs and Retrofits	Guidelines for Field Repairs and Retrofits of Steel Bridges
G14.3	New - In-Progress	2023	14	Field Repairs and Retrofits	Database of Sample Field Repair and Retrofit Details for Steel Bridges
G15.10	Completed Collaboration Ballot	Unknown	15	Data Modeling for Interoperability	BrIM Process Model Definition for Steel Bridge Erection
G15.1	Start Collaboration Balloting	2021	15	Data Modeling for Interoperability	Designer / Fabricator Exchange
G16.1	New - In-Progress	2022	16	Orthotropic Deck Panels	Guidelines for the Manufacture of Orthotropic Decks and State of Practice
G16.2	New - Not Started	2023	16	Orthotropic Deck Panels	Cost Effective Orthotropic Decks



**Appendix C – Meeting Schedule and Agendas**

## Schedule Overview

NOTE: All times are shown as Central Time Zone

### Tuesday, March 30

Track	Meeting	Secretary	Chair	Vice Chair	Start (CT)	End (CT)
1	TG 12 Design for Constructability and Fabrication	Brandon Chavel	Christina Freeman	Russell Jeck	8:30 AM	10:30 AM
2	TG 4 QC/QA	Vin Bartucca	Jamie Hilton	Robin Dunlap	9:00 AM	10:30 AM
1	Combined TG 1 Detailing, TG 11 Steel Bridge Handbook, TG 12 Design for Constructability and Fabrication	Brandon Chavel	Christina Freeman	Brad Dillman	10:30 AM	12:30 PM
2	TG 2 Fabrication and Repair	Christopher Garrell	Heather Gilmer	Duncan Paterson	10:30 AM	12:30 PM
1	TG 13 Analysis of Steel Bridges	Brandon Chavel	Deanna Nevling	Francesco Russo	1:00 PM	3:00 PM
2	TG 8 Coatings	Jeff Carlson	Paul Vinik	Jamie Hilton	1:00 PM	3:00 PM
1	TG 11 Design	Christopher Garrell	Brandon Chavel	Domenic Coletti	3:00 PM	5:00 PM

### Wednesday, March 31

Track	Meeting	Secretary	Chair	Vice Chair	Start (CT)	End (CT)
1	TG 15 Data Modeling for Interoperability	John Hastings	Aaron Costin	Sammy Elsayed	8:30 AM	10:30 AM
2	TG 9 Bearings	Jeff Carlson	Michael Culmo	Ron Watson	8:30 AM	11:30 AM
1	Combined TG 1 Detailing, TG 15 Data Modeling for Interoperability	John Hastings	Aaron Costin		10:30 AM	12:30 PM

<b>Track</b>	<b>Meeting</b>	<b>Secretary</b>	<b>Chair</b>	<b>Vice Chair</b>	<b>Start (CT)</b>	<b>End (CT)</b>
2	TG 17 Steel Castings	Devin Altman	Jennifer Pazdon	Jason Stith	1:00 PM	4:00 PM
1	TG 14 Field Repairs and Retrofits	Jason Lloyd	Kyle Smith	Jonathan Stratton	2:00 PM	4:00 PM

**Thursday, April 1**

<b>Track</b>	<b>Meeting</b>	<b>Secretary</b>	<b>Chair</b>	<b>Vice Chair</b>	<b>Start (CT)</b>	<b>End (CT)</b>
1	TG 1 Detailing	Vin Bartucca	Brad Dillman	Gary Wisch	8:30 AM	10:30 AM
2	TG 16 Orthotropic Deck Panels	Jason Lloyd	Duncan Paterson	Sougata Roy	9:30 AM	12:30 PM
1	TG 10 Erection	Anthony Peterson	Brian Witte	Jason Stith	10:30 AM	12:30 PM
2	MC Main Committee	Christopher Garrell	Ronnie Medlock	Christina Freeman	1:00 PM	4:00 PM



## AASHTO/NSBA Steel Bridge Collaboration

Spring 2021 “Virtual” Meeting

### TG 1 Detailing

**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 Leadership**

**Chair:** Brad Dillman - High Steel Structures (bdillman@high.net)

**Vice Chair:** Gary Wisch - DeLong’s, Inc. (GaryW@delongsinc.com)

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

#### **Zoom Information**

##### **Meeting Link:**

[https://us02web.zoom.us/meeting/register/tZwkduippjorG9M0Yg9ygikO\\_RcPjI83fmUa](https://us02web.zoom.us/meeting/register/tZwkduippjorG9M0Yg9ygikO_RcPjI83fmUa)

**Zoom Meeting ID:** 889 1118 1117

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 4/1/2021 (8:30 AM - 10:30 AM CT)**

8. Chairperson’s Welcome (8:30 AM – 8:40 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
9. Introduction of New TG17 – Steel Castings – Jennifer Pazdon (8:40 AM – 8:55 AM)
10. Overview of Joint TG1/TG11/TG12 – Guidelines for Straddle Bents (8:55 AM – 9:00 AM)
11. G1.4 Guidelines for Design Details Update (9:00 AM – 10:15 AM)
  - a. Finalize document outline
  - b. Determine owners/teams and schedule for each section
12. Action Items (10:15 AM – 10:30 AM)



- ii. Unifying requirements for repair by grinding for various situations & combining the sections. Chair recommendation: wait until publication of fabrication specification
- iii. Applying A6 Table X4.2 (the old radii we used to have) to the 1.5t case for bending connection plates. Or maybe no  $\frac{3}{4}$ " limit? Compare AREMA. This is T 14 issue first.
- iv. Transverse members in assembly for skewed as well as curved—currently not in S2.1 or current fabrication specification draft. T-14 issue first.

5. Adjourn



## AASHTO/NSBA Steel Bridge Collaboration

Spring 2021 “Virtual” Meeting

TG 4 QC/QA

**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 Leadership**

**Chair:** Jamie Hilton - KTA-Tator, Inc. (jhilton@kta.com)

**Vice Chair:** Robin Dunlap - High Steel Structures (rdunlap@high.net)

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

### **Zoom Information**

**Meeting Link:** [https://us02web.zoom.us/meeting/register/tZMsf-mhpjwvHdb1I79fKt\\_WcUWyX-kY0kxF](https://us02web.zoom.us/meeting/register/tZMsf-mhpjwvHdb1I79fKt_WcUWyX-kY0kxF)

**Zoom Meeting ID:** 871 8098 7572

**Zoom Meeting Dial-in:** (312) 626-6799

### **Meeting Agenda: 3/30/2021 (9:00 AM - 10:30 AM CT)**

7. Chairperson’s Welcome (9:00 AM – 9:10 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
8. G4.2 – Recommendations for the Qualifications of Structural Bolting Inspectors (9:10 AM – 9:15 AM)
  - a. Status of AASHTO T-17 approval
  - b. Review of 2020 RCSC to determine if any conflicts with this document
9. S4.1 Steel Bridge Fabrication QC/QA Guide Specification (9:15 AM – 10:15 AM)
  - a. Comparison of AISC 207-20, AISC Standard for Certification Programs document to Part A - General, Part B - Quality Control and Part C - Quality Assurance
  - b. G4.4 Sample Owners QA Manual: To be rolled in/incorporated with Part C
  - c. S4.1 Archive on the NSBA website and provide guidance to users – “buyer beware”: Subcommittee of Phil Dzikowski, Ray Monson, Teresa Michalk will address guidance for archiving S4.1 document
10. Potential revisions to recently published G4.1 document (10:15 AM – 10:25 AM)
  - a. Review and update definitions and replace with the terminology that is referenced in newly published AISC 207-20, AISC Standard for Certification Programs. Volunteers?

- b. Section 10.1 PO & Subcontracts
  - i. Functions referenced by AISC for PO & Subcontracts
  - ii. Remove 10.1 title, keep paragraph from 10.1 and renumber sections accordingly.
- 11. New Business?
- 12. Adjourn





## AASHTO/NSBA Steel Bridge Collaboration

Spring 2021 “Virtual” Meeting

### TG 8 Coatings

**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 Leadership**

**Chair:** Paul Vinik - GPI (Pvinik@gpinet.com)

**Vice Chair:** Jamie Hilton - KTA-Tator, Inc. (jhilton@kta.com)

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

#### **Zoom Information**

##### **Meeting Link:**

[https://us02web.zoom.us/meeting/register/tZ0oceqvrDojHd0Zv7pxGGWmLtJa\\_2J9FNJg](https://us02web.zoom.us/meeting/register/tZ0oceqvrDojHd0Zv7pxGGWmLtJa_2J9FNJg)

**Zoom Meeting ID:** 895 6372 1979

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/30/2021 (1:00 PM - 3:00 PM CT)**

1. Chairperson’s Welcome (1:00 PM – 1:10 PM)
  - a. [AISC Antitrust Policy and Meeting Code of Conduct.](#)
  - b. Approval of [Previous Meeting Minutes.](#)
2. Website Check in (1:10 PM – 1:20 PM) - Topics and task leaders:
  - a. Galvanizing - Tom Langill
  - b. Metalizing - Kevin Irving, I Paul Wagar
  - c. Duplex coating systems (HDG + wet applied) - Bill Corbett
  - d. Washing and cleaning programs – Geoff Swett.
  - e. Weathering Steel – Weathering Steel
3. Detailing for Coatings - S8.4 - Updates and discussion from each task group: (1:20 PM – 2:00 PM)
  - a. Weathering Steel/A709-50CR - Jason Lloyd
  - b. Paint/liquid applied coatings - Derrick Castle
  - c. Galvanizing - Tom Langill
  - d. TSC - Kade Kovar
4. Update from NSBA (Garrell or Carlson) on Coating Research (2:00 PM - 2:10 PM)
5. New Business: (2:10 PM – 3:00 PM)
  - a. Washing and Cleaning Program - WsDOT and interaction with AASHTO T14

- b. IOZ one coat systems
- 6. Adjourn

**Additional Meeting Information:**

For reference, following are links to draft copies of the current S8.3 hot dip galvanizing specification which will be discussed during this meeting.

- [S8.3 Hot Dip Galvanizing Specification \(Draft\) - ChangeTrack](#)
- [S8.3 Hot Dip Galvanizing Specification \(Draft\)](#)



## AASHTO/NSBA Steel Bridge Collaboration

### Spring 2021 “Virtual” Meeting

### TG 9 Bearings

**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 Leadership**

**Chair:** Michael Culmo - CME Engineering (mculmo@chacompanies.com)

**Vice Chair:** Ron Watson - RJ Watson, Inc. (rwatson@rjwatson.com)

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

#### **Zoom Information**

##### **Meeting Link:**

<https://us02web.zoom.us/j/82632259757>

**Zoom Meeting ID:** 826 3225 9757

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/31/2021 (8:30 AM - 11:30 AM CT)**

7. Chairperson’s Welcome (8:30 AM – 8:45 AM)
  - a. [AISC Antitrust Policy and Meeting Code of Conduct.](#)
  - b. Approval of [Previous Meeting Minutes.](#)
8. Review of previous action item list and resolution of action items (8:45am -10:00am)
9. Status of NSBA G9.1 Ballot (10:00am – 10:15am)
10. Break (10:15am – 10:30am)
11. Address comments from NSBA committee review (10:30am – 11:00am)
  - a. Go over comments
  - b. Assign action items
12. Schedule moving forward (11:00am -11:15am)
13. Other items (11:15am – 11:25am)
14. Closing remarks (11:25am – 11:30am)



## AASHTO/NSBA Steel Bridge Collaboration

### Spring 2021 “Virtual” Meeting

### TG 10 Erection

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

#### **Task Group Leadership**

**Chair:** Brian Witte - Parsons (brian.witte@parsons.com)

**Vice Chair:** Jason Stith - Michael Baker International (Jason.Stith@mbakerintl.com)

**Secretary:** Anthony Peterson - NSBA (peterson@aisc.org)

#### **Zoom Information**

##### **Meeting Link:**

[https://us02web.zoom.us/join/joinMeeting/register/tZAtfuysqjlqHdIZKAypkvkNjR\\_JFN31aDsO](https://us02web.zoom.us/join/joinMeeting/register/tZAtfuysqjlqHdIZKAypkvkNjR_JFN31aDsO)

**Zoom Meeting ID:** 840 9544 9076

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 4/1/2021 (10:30 AM - 12:30 PM CT)**

1. Chairperson’s Welcome (10:30 AM– 10:35 AM)
  - a. [AISC Antitrust Policy and Meeting Code of Conduct.](#)
  - b. Approval of [Previous Meeting Minutes.](#)
  - c. Review action items from previous meeting.
2. Introduce TG17 - Steel Castings - Jennifer Pazdon (10:35 AM – 10:45 AM)
3. Bearing - Section 5 (10:45 AM – 11:05 AM)
  - a. Update from TG9
  - b. Review draft language
4. Transportation - Section 3 (11:05 AM – 11:25 AM)
  - a. Review draft language
5. Field Reaming (11:25 AM – 11:45 AM)
  - a. S10 is currently silent. Should we consider adding some language about permissible uses?
6. Wind Load on Girders during Erection (11:45 AM – 11:55 AM)
  - a. Develop path forward to present to AASHTO
7. Bolting for Bolters Update (11:55 AM – 12:00 PM)
8. Beam Clamp Loading (12:00 PM – 12:10 PM)
  - a. Review draft language

9. S10.1 and OSHA comparison (12:10 PM – 12:20 PM)
  - a. Review language to reference OSHA
10. Review & assign action items (12:20 PM – 12:30 PM)
11. Adjourn



## AASHTO/NSBA Steel Bridge Collaboration

### Spring 2021 “Virtual” Meeting

### TG 11 Design

**Task Group Mission:** This Task Group aims to develop and maintain consensus guidelines to assist with the design of steel bridges and their components.

#### **Task Group Leadership**

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

**Vice Chair:** Domenic Coletti - HDR (Domenic.Coletti@hdrinc.com)

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

#### **Zoom Information**

**Meeting Link:** <https://us02web.zoom.us/j/83500781776>

**Zoom Meeting ID:** 835 0078 1776

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/30/2021 (3:00 PM - 5:00 PM CT)**

1. Introductions (3:00 PM to 3:10 PM)
  - a. Introduce Existing and Welcome New Members
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
2. Announcements and Administrative Items (3:10 PM to 3:15 PM)
  - a. The Task Group Mission
3. Guidelines for the Design of Cross Frames & Diaphragms (3:15 PM to 4:45 PM)
  - a. Review Major comments and incorporation into Guidelines
  - b. Section Assignments for addressing remaining comments
  - c. Timeline Discussion
4. General Open Discussion (4:45 PM to 5:00 PM)
  - a. Design issue discussions
  - b. Other potential items for the next design TG task.
5. Adjourn



## AASHTO/NSBA Steel Bridge Collaboration

### Spring 2021 "Virtual" Meeting

### TG 12 Design for Constructability and Fabrication

**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 Leadership**

**Chair:** Christina Freeman - Florida DOT (Christina.Freeman@dot.state.fl.us)

**Vice Chair:** Russell Jeck - Tutor Perini Corp. (russjeck619@gmail.com)

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

#### **Zoom Information**

##### **Meeting Link:**

<https://us02web.zoom.us/meeting/register/tZcodeuvrzMvGtCZnWGcphTq0sKpiseKsxi8>

**Zoom Meeting ID:** 835 2271 8504

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/30/2021 (8:30 AM - 10:30 AM CT)**

1. Chairperson's Welcome (8:30 AM – 8:40 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
2. Jennifer Pazdon introduces new Task Group, TG17 - Steel Castings (8:40 AM – 8:55 AM)
3. Comments for Next Version of G12.1: (8:55 AM – 10:15 AM)
  - a. Bolted Field Splices: Review and discuss draft text
  - b. Comments from Heather Gilmer:
    - i. Section 1.3: "increased corrosion resistance durability" Why is "durability" there?
    - ii. C1.4.1: "encouraged to be aware" seems odd. Hard for them not to be aware once we've pointed it out. "Should be aware" or "encouraged to consider"
    - iii. In general, delete "note that" from various locations in document
    - iv. Section 2.1.1.2 technically those aren't "connection stiffeners". "Connection plates and intermediate stiffeners".
    - v. Section C2.1.2.6: not editorial; please consider as new business (I assume too late for this edition so next time): if you're going to mention FC in the context of stiffeners (2nd bullet), please note that typically bracing

members are not considered FC. Wouldn't want anyone to interpret this to mean FC bearing stiffeners should be a thing!!

vi. Section C3.7: as new business for next edition, consider explaining why WTs are preferred and maybe have a figure illustrating the weld access.

vii. Section 4.4: This is a guide and shouldn't have "shall". If it's required in AASHTO. note that AASHTO requires it.

c. Comment from Jon Edwards: Section 2.1.1.1, the second paragraph is commentary and should be moved there.

d. Comment from Russ Jeck: Section 1.1 (Rolled vs Plate Girders): consider recommendations or suggestions for proper camber of rolled girders

e. Action Items from Last Meeting:

i. Top Lateral Truss Layout (Partial Top Lateral Bracing)

ii. Internal Cross Frame Layout (Locate at every other panel point)

iii. Weld Access for WT stiffeners

4. Adjourn





## AASHTO/NSBA Steel Bridge Collaboration

Spring 2021 “Virtual” Meeting

### TG 13 Analysis of Steel Bridges

**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 Leadership**

**Chair:** Deanna Nevling - Michael Baker International (DNevling@mbakerintl.com)

**Vice Chair:** Francesco Russo - Michael Baker International (FRusso@mbakerintl.com)

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

#### **Zoom Information**

**Meeting Link:** <https://us02web.zoom.us/meeting/register/tZAud-IsrTopHNPv7yBmR2Z2japOmfc2pYce>

**Zoom Meeting ID:** 843 0143 1367

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/30/2021 (1:00 PM - 3:00 PM CT)**

1. Chairperson’s Welcome – (1:00 PM – 1:15 PM)
  - a. Introduce Existing and Welcome New Members
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of Previous Meeting Minutes – Virtual October 27, 2020
2. General Announcements (1:15 PM – 1:40 PM)
  - a. TG17 - Steel Castings: Jennifer Pazdon
  - b. Conferences/Research/Publications
  - c. NSBA Update – Brandon Chavel
  - d. FHWA Update – Dayi Wang, FHWA Steel Specialist
  - e. TRB AKB20 (Steel Bridges Committee) Update – Brandon Chavel Secretary
  - f. AASHTO Bridge Update (T-14 Structural Steel Design) – Frank Russo
3. Presentation (1:40 PM – 2:10 PM) “Limit Analysis for Compression Gusset Plate Evaluation,” Lian Duan – California Department of Transportation
4. G13.2 Guidelines for Steel Truss Bridge Analysis (2:10 PM – 3:00 PM)
  - a. Discuss Changes to Document Layout
  - b. High Level Comment Review
  - c. Volunteer Authors
5. Adjourn (3:00 PM)



## AASHTO/NSBA Steel Bridge Collaboration

Spring 2021 “Virtual” Meeting

### TG 14 Field Repairs and Retrofits

**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 Leadership**

**Chair:** Kyle Smith - GPI (ksmith@gpinet.com)

**Vice Chair:** Jonathan Stratton - Eastern Steel Works (strattonEIW@gmail.com)

**Secretary:** Jason Lloyd - NSBA (lloyd@aisc.org)

#### **Zoom Information**

**Meeting Link:** [https://us02web.zoom.us/meeting/register/tZwtc-ugpjlRtTrXR4c33oH-SpwwdNVHF9F](https://us02web.zoom.us/join/zoom-join?zmt=0&zoom-join=1)

**Zoom Meeting ID:** 880 4288 9180

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/31/2021 (2:00 PM - 4:00 PM CT)**

1. Chairperson’s Welcome (2:00 AM – 2:10 AM)
  - a. Introduce Existing and Welcome New Members
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
2. Review Status of G14.1 and Provide Overview (2:10 PM – 2:40 PM)
3. G14.3 Detail Sample (2:40 PM – 2:50 PM)
4. G14.2 Discussion (2:50 PM – 4:00 PM)
  - a. Review writing assignments and verify commitments
  - b. Review sections that are substantially complete
  - c. Discuss comments received
  - d. Discuss additional information required
5. Discuss case studies, including Through-Truss Impact Damage (Time Permitting)



## AASHTO/NSBA Steel Bridge Collaboration

### Spring 2021 “Virtual” Meeting

### TG 15 Data Modeling for Interoperability

**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 Leadership**

**Chair:** Aaron Costin - University of Florida (aaron.costin@ufl.edu)

**Vice Chair:** Sammy Elsayed - Skanska (sae44@msn.com)

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

#### **Zoom Information**

**Meeting Link:** <https://us02web.zoom.us/j/89341114325>

**Zoom Meeting ID:** 893 4111 4325

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/31/2021 (8:30 AM - 10:30 AM CT)**

1. Chairperson’s Welcome (8:30 AM – 8:40 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
2. Design to Fabrication Model View Definition (MVD) project overview (8:40 AM – 9:00 AM)
3. G15 Balloted Documents Overview (9:00 AM – 9:20 AM)
4. Bridge Data Dictionary (9:20 AM – 10:20 AM)
  - a. Overview
  - b. Updates
  - c. Next steps
5. Closing Discussion (10:20 AM – 10:30 AM)
6. Adjourn



## AASHTO/NSBA Steel Bridge Collaboration

Spring 2021 “Virtual” Meeting

### TG 16 Orthotropic Deck Panels

**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 Leadership**

**Chair:** Duncan Paterson - HDR (Duncan.Paterson@hdrinc.com)

**Vice Chair:** Sougata Roy - Rutgers (sougata.roy@rutgers.edu)

**Secretary:** Jason Lloyd - NSBA (lloyd@aisc.org)

#### **Zoom Information**

**Meeting Link:** <https://us02web.zoom.us/j/88386251507>

**Zoom Meeting ID:** 883 8625 1507

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 4/1/2021 (9:30 AM - 12:30 PM CT)**

1. Chairperson’s Welcome (9:30 AM – 9:40 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
2. General updates and announcements review of mission statement: “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.”
3. Presentations:
  - a. Presentation from Justin Dahlberg ISU: FHWA Orthotropic Standard Panel project update
  - b. Tentative: Owner experience with OSD bridges
4. 10 min break (optional)
5. Task Group updates
  - a. State of Practice Synthesis Document
    - i. Review sections
    - ii. Review author assignments
    - iii. Monthly webinar meetings schedule
  - b. White Paper “Tolerance for Tolerance” (working title)
  - c. Short Span Orthotropic Update (SSSBA) collaboration
  - d. Rib Standardization (see ISU presentation)

6. Review Committee Goals
7. Old business and additional discussion
8. Floorbeam and diaphragm details
  - a. Other
  - b. Review Action Items
9. Adjoin



## AASHTO/NSBA Steel Bridge Collaboration

Spring 2021 “Virtual” Meeting

### TG 17 Steel Castings

**Task Group Mission:** The mission of this Task Group will be to develop and disseminate resources specific to the US steel bridge community to support the increased and effective use of castings in steel bridges. The targeted community includes design engineers, DOT professionals, steel fabricators, steel erectors, inspectors, general contractors, and detailers.

#### **Task Group Leadership**

**Chair:** Jennifer Pazdon - CAST CONNEX (j.pazdon@castconnex.com)

**Vice Chair:** Jason Stith - Michael Baker International (Jason.Stith@mbakerintl.com)

**Secretary:** Devin Altman - NSBA (altman@aisc.org)

#### **Zoom Information**

**Meeting Link:** [https://us02web.zoom.us/meeting/register/tZUtd-2uqzkvE9YkuAJWzcclIT1m9UEJys4r](https://us02web.zoom.us/join/https://us02web.zoom.us/meeting/register/tZUtd-2uqzkvE9YkuAJWzcclIT1m9UEJys4r)

**Zoom Meeting ID:** 810 0465 2592

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/31/2021 (1:00 PM - 4:00 PM CT)**

1. Chairwoman’s Welcome (1:00 PM – 1:20 PM)
  - a. Attendee Roster Announcement
  - b. [AISC Antitrust Policy and Meeting Code of Conduct.](#)
  - c. Approval of Previous Meeting Minutes
2. Introductions: Existing and New Members (1:20 PM – 1:50 PM)
3. Approval of Mission Verbiage (1:50 PM – 2:10 PM)
4. Scope and Deliverables (2:10 PM – 3:30 PM)
  - a. Guideline Spec Outline
  - b. Working Group Members and Responsibilities
5. Communications and Outreach (3:30 PM – 3:50 PM)
  - a. Update on active projects
  - b. Suggestions for additional activities
6. Action Items for Next meeting (3:50 PM - 4:00 PM)
7. Confirm Next Meeting Date
8. Adjourn





## **AASHTO/NSBA Steel Bridge Collaboration**

### **Spring 2021 “Virtual” Meeting**

### **Joint TG 1 Detailing, TG 15 Data Modeling for Interoperability**

**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 Leadership**

**Chair:** Aaron Costin - University of Florida (aaron.costin@ufl.edu)

**Vice Chair:** Brad Dillman - High Steel Structures (bdillman@high.net)

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

#### **Zoom Information**

**Meeting Link:** <https://us02web.zoom.us/meeting/register/tZMof-ihpzwqH9Pt37daqVw-wOHxtzlfqgWm>

**Zoom Meeting ID:** 875 8199 7057

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 3/31/2021 (10:30 AM - 12:30 PM CT)**

1. Chairperson’s Welcome (10:30 AM – 10:40 AM)
  - a. Introduce Existing and Welcome New Members.
  - b. [AISC Antitrust Policy and Meeting Code of Conduct](#).
  - c. Approval of [Previous Meeting Minutes](#).
2. Design to Fabrication Model View Definition (MVD) project update (10:40 AM – 10:50 AM)
3. G15 Balloted Documents Update (10:50 AM – 11:00 AM)
4. Detail to Fabrication IDM Development (11:00 AM – 11:45 AM)
  - a. Overview
  - b. Defining the model definitions
  - c. Identifying the next model to assign data requirements
5. Working Group- Assign Data Requirements (11:45 AM – 12:30 PM)
  - a. Data Requirements
  - b. Discussion
6. Adjourn





## AASHTO/NSBA Steel Bridge Collaboration

### Spring 2021 “Virtual” Meeting

### Collaboration Main Committee

**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 Leadership**

**Chair:** Ronnie Medlock - High Steel Structures (RMedlock@high.net)

**Vice Chair:** Christina Freeman - Florida DOT (Christina.Freeman@dot.state.fl.us)

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

#### **Zoom Information**

**Meeting Link:** <https://us02web.zoom.us/j/6urj8uEtA1HBLKjCaiWu0IHijP7MHf>

**Zoom Meeting ID:** 828 4760 4484

**Zoom Meeting Dial-in:** (312) 626-6799

#### **Meeting Agenda: 4/1/2021 (1:00 PM - 4:00 PM CT)**

1. Chairperson’s Welcome (1:00 PM – 1:10 PM)
  - a. [AISC Antitrust Policy and Meeting Code of Conduct.](#)
  - b. Approval of [Previous Meeting Minutes.](#)
2. Operations (1:10 PM – 1:30 PM)
  - a. Membership – 2022/2022 New Applicant and Renewal Period
  - b. Review Publication Schedule (see **Error! Reference source not found.**).
3. Task Group Reports - Approximately five minutes each (1:30 PM – 4:00 PM)
  - a. TG 1 - Brad Dillman (High Steel Structures)
  - b. TG 2 - Heather Gilmer (TÜV Rheinland)
  - 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 - Christina Freeman (FDOT)
  - i. TG 13 - Deanna Nevling (Michael Baker International)
  - j. TG 14 - Kyle Smith (GPI Construction Engineering)
  - k. TG 15 - Aaron Costin (University of Florida)
  - l. TG 16 - Duncan Paterson (HDR)

- m. TG 17 - Jennifer Pazdon (CAST CONNEX)
- n. Joint TG 1 Detailing, TG 11 Design, TG 12 Constructability – Christina Freeman (FDOT)
- o. Joint TG 1 Detailing, TG 15 Data Modeling for Interoperability – Aaron Costin (University of Florida)

Adjourn