

NATIONAL STEEL BRIDGE ALLIANCE

AASHTO/NSBA Steel Bridge Collaboration

Fall Meeting Minutes - Combined

Tampa, FL

October 24 – 26



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	Randy Harrison	W&W AFCO Steel, Hirschfeld Division	Gary Wisch	DeLong's, Inc.
TG 2 Fabrication and Repair	Heather Gilmer	Pennoni	Duncan Paterson	Alfred Benesch & Company
TG 4 QC/QA	Jamie Hilton	KTA-Tator, Inc.	Robin Dunlap	High Steel Structures
TG 8 Coatings	Paul Vinik	GPI	Johnnie Miller	KTA-Tator, Inc.
TG 9 Bearings	Michael Culmo	CHA Consulting, Inc.	Ron Watson	RJ Watson, Inc.
TG 10 Erection	Brian Witte	Parsons	Jason Stith	Michael Baker International
TG 11 Design	Brandon Chavel	Michael Baker International	Domenic Coletti	HDR
TG 12 Design for Constructability and Fabrication	Christina Freeman	Florida Department of Transportation	Russell Jeck	Siefert Associates
TG 13 Analysis of Steel Bridges	Deanna Nevling	HDR	Francesco Russo	Russo Structural Services
TG 14 Field Repairs and Retrofits	Kyle Smith	GPI	Nick Haltvick	Minnesota Department of Transportation
TG 15 Data Modeling for Interoperability	Aaron Costin	University of Florida	Grant Schmitz	HDR
TG 16 Orthotropic Deck Panels	Sougata Roy	Consultant	Frank Artmont	Modjeski & Masters, Inc.
TG 17 Steel Castings	Jennifer Pazdon	Cast Connex	Jason Stith	Michael Baker International
TG 18 Duplex Stainless Steel	Jason Provines	Virginia Department of Transportation	Nancy Baddoo	Steel Construction Institute
Main Committee	Ronnie Medlock	High Steel Structures	Christina Freeman	Florida Department of Transportation

Past Meeting Notes

Year	Meeting	Link
2018	Spring	Not Available
	Fall	Meeting Notes
2019	Spring	Meeting Notes
	Fall	Meeting Notes
2020	Spring	Meeting Notes
	Fall	Meeting Notes
2021	Spring	Meeting Notes
	Fall	Meeting Notes
2022	Spring	Meeting Notes
	Fall	Meeting Notes
2023	Spring	Meeting Notes
	Fall	This Document

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: Randy Harrison - W&W | AFCO Steel, Hirschfeld Division

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

1. Chairperson's Welcome (8:00 am – 8:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).
2. Continue open discussions on updating G1.4 – Guidelines for Design Details: Pages 113 through 119 - Tub Girders (8:00 am – 11:45 am)
 - a. Review Randy's comments/notes on tub girder production
 - b. Coating prep note for tub girder potentially to be included in G12.1
 - c. Bolted vs welded connection for cross-frame preferred
 - d. Review Heather's comments starting on page 113
 - i. Sheet 113 -Control horizontal geometry
 - ii. Sheet 114- Design effect / Note 7 leave as is
 - iii. Sheet 114 – Not enough space for larger connections to flange for a curved girder
 - iv. Sheet 115 – Note 2 camber at centerline of (straight) tub girder, curved/skewed tub girder camber can differ (separate details/notes for each condition)
 - v. Sheet 116 – Add additional detail for cross frame without gusset plate, include advantage/disadvantage table for designer to decide option.
 - vi. Sheet 116 – Don't show knockdown K-frames for welded option
 - vii. Sheet 116 - Keep T, eliminate strut and add note
 - viii. Sheet 116 - Wording change for Note B under Visual Assembly Sequence. Get at web subassemblies & cross frames for geometry.

- ix. Sub task group with tub girder fabricator to review details for further recommendations.
- x. Sheet 117 – Mike Culmo recommended Northeast standard access hole (w/ 4 slopped stiffeners) detail to replace existing detail on 117 (Reference: Mass Bridge Design Manual).
- xi. Sheet 117 – Remove/Edit Note 1
- xii. AAHSTO 6.11.11.1 Commentary to be taken into consideration.
- xiii. Sheet 118 – Bottom flange lateral stiffening details needs to be on separate page
- xiv. Sheet 118 – Rework Access Door Frame Hinge Detail and material used. (sub task group action item)
- xv. Sheet 119 –Note 2 for Design Drawings: Hatch Grade 36 or better.
- xvi. Sheet 119 - Section C-C optional (Advise with Inspectors).
- xvii. Sheet 119 – Add interior handle option, make hasp optional if not accessible by the public
- xviii. Sheet 120 – Remove General Note 1, address this at beginning of document.
- xix. Sheet 120 – Consider Removal of this sheet as it is too specialized of an example of straddle bents.
- xx. A page is needed on external diaphragms/cross frames and connection details

3. Other Business (11:45 am - noon)

- a. Development of details for three I-girder cap (future TG work)
- b. Revise G1.2 with G1.4 in mind

4. Adjourn

TG 2 Fabrication and Repair

Task Group Mission: This Task Group aims to achieve quality and value in the fabrication of steel bridges through standardization of steel bridge fabrication across the nation.

Task Group Leadership

Chair: Heather Gilmer - Pennoni

Vice Chair: Duncan Paterson - HDR Engineering Inc.

NOTE: Additional supporting materials can be found in Appendix C – Meeting Attachments.

1. Chairperson's Welcome

- a. AISC Antitrust Policy and Meeting Code of Conduct.
- b. Membership.
- c. [Approval of Previous Meeting Minutes](#).

Approved.

- d. Reminder of documents currently under the task group's scope
 - i. AASHTO steel fabrication specification status update

G2.2 Guidelines for Resolution of Steel Bridge Fabrication Errors is still the main document under development by this Task Group. We will sunset S2.1 Fabrication Specification which has been superseded by the new AASHTO Fabrication Specification. This group will still be a source of input and review. What was T14 and T17 are now Steel and Metals committee. They are responsible for Chapter 6 of BDS, D1.5 and AASHTO Fabrication Specification. There will likely be a small standing group on fabrication from the Steel and Metals committee.

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

- a. Updates for D1.5 changes, AASHTO Fab Spec, FC terminology: Need volunteers to review this & the rest. There is a lot.

Heather went through the document and attempted to harmonize the document with the change in terminology and changes in content. At this point, Heather needs someone to help review these changes and ensure that what is stated is still best practices. The following assignments were made.

- Chapter 1 - Duncan Paterson and Jason Lloyd
- Chapter 2 – Eric Rau and Geff Swett
- Chapter 3 - Eric Rau and Geff Swett
- Chapter 4 – Ronnie Medlock and Saeed Doust
- Chapter 5 – Robin Dunlap and Phil D
- Chapter 6 - Gary Wish and Bob Stachel
- Chapter 7 - Robin Dunlap and Jason Lloyd
- Chapter 8 - Mike Tokar, Jamie Hilton, and Kent Nelson

b. Improper preheat

ad hoc task group: Ronnie Medlock, Jason Gramlick, Todd Niemann, Jeremy Rice, Karl Frank, Justin Ocel, David Stoddard, Jason Provines, Sougata Roy

Outline from task group:

The concerns associated with improper preheat are porosity or cracking due to the presence of high hydrogen and high heat affected zone (HAZ) hardness due to rapid cooling. Therefore, the recommended remedy is as follows:

- Do a visual inspection
- Conduct MT
- Check the HAZ hardness of the suspect area
 - Compare with PQR hardness results if they are available, or
 - Compare with similar areas that were properly preheated
- For CJP groove welds, conduct UT

Repair any cracks or other non-conforming discontinuities that are discovered.
Address hard HAZs by annealing.

HAZ hardness can be tested at the weld toe for production welds. Karl Frank suggested requiring hardness values with PQR to establish a baseline, with samples taken a few millimeters below and adjacent to the weld and in the HAZ. The base metal hardness might not be exactly the same as the PQR, but it should be in the ballpark. Include as part of the commentary? Annealing is a possibility if the hardness is unacceptable. Pipeline specifications may already include some language related to this. The bigger question is whether specific values should be included in the document for hardness values or differentials. Maybe consider giving some “ballpark” ranges—how close is close? Survey DOTs/fabs in the TG to see what they’ve been accepting? RDM will get

some data & KHF will check pipeline spec Consider a statistical approach based on mean and standard deviation, though there probably would not be enough data for that.

Karl mentioned that there was an NCHRP 10-95 report on HAZ. As of this meeting the associated data is not available yet.

Add details—temperature, cooling rate—pipeline specs?

TODO: Karl Frank will look at the pipeline specification and report back. TODO: Ronnie Medlock will collect hardness data.

c. Framing members too short: See Attachment A for initial sketches from task group.

Heather reviewed suggested repair details and solicited feedback from the group regarding feasibility. Similar solutions for welded cases should be investigated. A recommendation was made to include a graphic of the “correct” case. All fixes would be in the context of a shop repair and not a field repair. Karl mentioned that bearing may need to be checked given the edge distance.

TG homework to review—include as-designed version for comparison.

KHF: minimum edge distance may not give sufficient bearing capacity.

TODO: Group will look at the details and provide comments back to Heathar.

d. Hydrogen diffusion postheat not performed

Conclusion from last meeting: better to do it after the fact than not at all. Suggestion:

X—HYDROGEN DIFFUSION POSTHEAT NOT PERFORMED	CX
Error: Hydrogen diffusion postheat was required for a critical repair to a member requiring fracture control practice, but the postheat was not performed. Repair recommendation: Perform the postheat as soon as the error is discovered. after postheat is complete and the steel has returned to ambient temperature, restart the waiting period for nondestructive testing and perform the testing even if it was previously performed. <i>If it was a really long time ago no point in heating—how long is long? Never mind, just</i>	Hydrogen diffusion postheat is intended to avoid potential hydrogen cracking by allowing hydrogen to escape the weld more quickly. The requirement in AASHTO/AWS D1.5M/D1.5 is for the postheat to be performed immediately after welding, without the weld being permitted to cool below the required preheat temperature, because hydrogen cracking occurs at relatively cool temperatures (typically below 300°F). If the postheat was not performed, cracking is more likely, but the required nondestructive testing is expected to find any cracks.

require it.	
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Heather posed the question, what is the right amount time that needs to pass that after which if it has not cracked, it will not crack? However, it is likely that something like this would be detected relatively quick, so that the amount of time that would have passed would not likely have been sufficient. Karl Frank recommended preheating regardless. This seemed to be the general opinion of the group. Above writeup will go into the document and this agenda item will be closed until the document is balloted.

- e. New business item (not in official agenda): do we need anything for elements of rolled beams not aligning at a splice?

Case where splices between adjacent rolled beams are misaligned. However, since a rolled member is not fabricated, the error may be more related to mill tolerance. That would mean that is possibly outside the scope of this document. In the case of bolted splices, the misalignment likely will be pulled together or mitigated with fill plates. However, might still be an issue for welded splices.

Do we need anything for elements of rolled beams not aligning at a splice? KHF: this has been an issue for orthotropic deck Do we handle tolerances going in opposite directions in this document? Should we? TG2 was generally not inclined to address this.

3. AASHTO fabrication specification (formerly S2.1)

a. Scribing/etching of layout marks

At the Fall 2022 meeting it was noted that FDOT did not find effects on fatigue from plasma etching, that removing deep marks by grinding is preferable to welded repair, and that typical surface roughness of uncoated weathering steel is close to 1/32".

In earlier meetings it was determined that what we are most concerned about is transverse markings on tension components that are not welded over.

TG2 leaned toward permitting all methods and just having commentary about workmanship.

TG for workmanship commentary: Ronnie Medlock, Teresa Michalk, Tim McCullough, Jeremy Rice

TG has draft

b. Approval of check assembly plans

- a. See current language below (17.5.3). At the last meeting there was not enthusiasm for explicitly adding check assemblies to the procedure list in Article 5 because it was covered

by more general items. However, the highlighted language below was questioned—is this how things are typically done now?

- b. Also, there was an AASHTO ballot comment that was not specifically addressed in earlier meetings: “CNC drilling has to address fabrication dimensional tolerances prior to acceptance.”

17.5.3–Check Assembly for CNC Drilling

When the Fabricator elects to use CNC drilling in lieu of assembly, a check assembly shall be required for each major structural type of each project, unless otherwise designated in the contract documents, and shall consist of at least three contiguous shop sections or, in a truss, all members in at least three contiguous panels but not less than the number of panels associated with three contiguous chord lengths (i.e., length between field splices).

Each check assembly, including camber, alignment, accuracy of holes, and fit of milled joints, shall be approved by the Owner before it is dismantled.

If the check assembly fails in some specific manner to demonstrate that the required accuracy is being obtained, the source of the problem shall be determined and correction shall be determined by further check assemblies, for which there shall be no additional cost to the Owner. The Fabricator also has the option of reverting to traditional assembly techniques.

C17.5.3

Check assemblies should be based on the proposed order of erection, joints in bearings, special complex points, and similar considerations. Special complex points could be the portals of skewed trusses, for example.

The check assemblies should be the first sections of each major structural type to be fabricated, e.g., the first three panels, segments or longitudinal chords; or of the entire first bent, tower face, or rigid frame produced. At least one additional check assembly, ideally selected by the Owner, should be performed further along in the process to verify that the accuracy of the CNC procedures and equipment is being maintained. If problems are found by the second check fit, previously completed connections would need be checked to define the extent of the problem and correct errors to the Owner’s satisfaction.

Issue (1): The intent of the comment was not apparent. **TODO: Heather will revisit comment directly with Minnesota.**

Issue (2): No one in the room had experience with the highlighted scenario above, in which the owner could randomly show up and demand an assembly. Karl Frank mentioned a scenario where a CNC machine may be “off”. If your CNC machine is off, and you fabricate a connection entirely from CNC, you may not catch an error. If the connection is partially CNC and then match drilled, the connection will still fit. The point being CNC does not necessarily mean perfection. Geoff Swett mentioned that their specification was independent of the method of fabrication, but they do not allow CNC + check assemblies in lieu of assembling each connection.

Swett: they wouldn’t just come in and randomly demand an assembly. But they dictate what the required assemblies are. Survey the group?

TODO: Heather will survey the group on the frequency of experience with check versus full assembly.

c. Bend radii

Current exemption from 5t radius for bent connection plates only applies up to $\frac{3}{4}$ ". The old bend radius table is still available in an appendix to ASTM A6. See Attachment B for proposal. (Would also need companion ballot for LRFD BDS commentary.)

The difference between the "new" (2012) radii and the previous radii relate to what radius leads to a change in properties versus simply those that result in cracking. The question is whether to change or eliminate the "3/4", convert the recommendations to a table and include high-strength material. If a table is adopted, provide assumptions in commentary. Consider also including not recommending split pipe stiffener. Consensus was for "Alternative 2" table representation. Ronnie suggested contacting [Ashley Thrall](#) who also investigated bend radii for her INDOT bolted press brake tub research.

Consensus on alternative 2, with commentary about limitations of the table. Potential new business—formed girders with <5t radius

d. Slip coefficients

Do we add metallizing-to-galvanizing to our commentary, or reduce existing commentary as redundant with BDS?

University of Cincinnati is performing a study and Ronnie suggested holding off until that work comes to completion.

Masking: where should we address this? Here? TG8? Heather/Ronnie: Here.

Homework: review the rest of the agenda for next time

END OF MEETING—see agenda for topics not covered.

Attachment A. Framing members too short

See Appendix C – Meeting Attachments - TG 2 Fabrication and Repair – Short Member Sketches

Current language in AASHTO Fab Spec:

10.2–Minimum Plate Bending Radius

Unless otherwise permitted herein, the minimum bend radius, measured to the concave face of the plate, shall be taken as $5.0t$, regardless of direction of rolling, for all grades and thicknesses of steel conforming to ASTM A709/A709M (AASHTO M 270M/M 270) where t is the thickness of the plate in inches. For all other grades of steel, the minimum bend radii recommendations from the plate producer shall be followed, but the radius shall not be less than the minimums specified herein.

For cross-frame or diaphragm connection plates up to $\frac{3}{4}$ in., the minimum bending radius may be taken as $1.5t$. If the bend lines for the connection plates are parallel to the direction of final rolling, the minimum bend radius shall be increased to $2.25t$. Web splice plates, fillers, gusset plates not serving as chord splices, connection plates, and web stiffeners shall not be included in this rolling direction requirement.

Proposed:

10.2–Minimum Plate Bending Radius

Unless otherwise permitted herein, the minimum bend radius, measured to the concave face of the plate, shall be taken as $5.0t$, regardless of direction of rolling, for all grades and thicknesses of steel conforming to ASTM A709/A709M (AASHTO M 270M/M 270) where t is the thickness of the plate in inches. For all other grades of steel, the minimum bend radii recommendations from the plate producer shall be followed, but the radius shall not be less than the minimums specified herein.

For cross-frame or diaphragm connection plate thicknesses up to ~~$\frac{3}{4}$~~ 1 in., the minimum bending radius may be taken as $1.5t$, and for thicknesses greater than 1 in and up to 2 in., the minimum binding radius may be taken as $2t$. If the bend lines for the connection plates are parallel to the direction of final rolling, the minimum bend radius shall be ~~increased to $2.25t$~~ multiplied by 1.5. Web splice plates, fillers, gusset plates not serving as chord splices, connection plates, and web stiffeners shall not be included in this rolling direction requirement.

See alternatives next page.

Alternative 1, using the old table in full:

For cross-frame or diaphragm connection plates ~~up to $\frac{3}{4}$ in.~~, the minimum bending radius may be ~~taken as $1.5t$ determined in accordance with Table X.~~ If the bend lines for the connection plates are parallel to the direction of final rolling, the minimum bend radius shall be ~~increased to $2.25t$ multiplied by 1.5.~~ Web splice plates, fillers, gusset plates not serving as chord splices, connection plates, and web stiffeners shall not be included in this rolling direction requirement.

	Thickness, in. (t)			
	Up to $\frac{3}{4}$	Over $\frac{3}{4}$ to 1, incl	Over 1 to 2, incl.	Over 2
ASTM A709/A709M (AASHTO M 270M/M 270) Grades				
36	$1.5t$	$1.5t$	$1.5t$	$2.0t$
50, 50S, 50W, or HPS 50W	$1.5t$	$1.5t$	$2.0t$	$2.5t$
HPS 70W	$1.5t$	$1.5t$	$2.5t$	$3.0t$
HPS 100W	$1.75t$	$2.25t$	$4.0t$	$4.0t$

Omitting QST grades because they haven't been incorporated into LRFD BDS or D1.5 yet. Could also put this in terms of F_y rather than grade names.

Alternative 2, building multiplier into simplified table incorporating likely configurations:

For cross-frame or diaphragm connection plates ~~up to $\frac{3}{4}$ in.~~, the minimum bending radius may be ~~taken as $1.5t$ determined in accordance with Table X.~~ ~~For W~~web splice plates, fillers, gusset plates not serving as chord splices, connection plates, and web stiffeners, ~~shall not be included in this rolling direction requirement~~ the value in Table X for bend lines perpendicular to the direction of rolling may be used.

Plate thickness, t	Bend radius, in	
	Bend line perpendicular to direction of final rolling	Bend line parallel to direction of final rolling
$t \leq 1$	$1.5t$	$2.25t$
$1 < t \leq 2$	$2t$	$3t$

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.

Vice Chair: Robin Dunlap - High Steel Structures

1. Chairperson's Welcome (10:00 am – 10:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).
2. G4.2 – Guidelines for the Qualifications of Structural Bolting Inspectors (10:15 am – 10:30 am) - Address Main Committee ballot comments
 - a. Section 2-4 - Replace bulleted dashes with letters
 - b. Addressed additional editorial comments
 - c. Replace "Responsible Party" in document with "name of trainer" and "trainer's organization."
 - d. 5.2.6 – Bolt Length/Grip - Discussion on threads in/out the shear plane (comment withdrawn, address in future editions)
 - e. Jamie Hilton to rebalot changes to the TG only
3. S4.X – Owners Inspection Requirements (10 am – 11:45 am) - Review updated document
 - a. Section 4- Replace FC with "Fracture Control Practice" according to AASHTO changes
 - b. 6.3.2.5.2- Move to commentary
 - c. 6.3.2.6 - Editorial updates
 - d. 7.4.1- Photographs should include captions
 - e. Commentary for good practice for photographs in reports – Halim Bas
 - f. Section 7.2 Required Documents edited
 - g. Action Item: Review 8.6.3 for technical clarity – Bob Stachel

- h. Action Item: Review 8.2.1 for technical clarity – Kent Nelson
 - i. Action Item: Review 8.4.1 for technical clarity – Phil Dzikowski
 - j. Reconsider the use of the term “verify” versus monitor or observe.
- 4. G4.1 - Steel Bridge Fabrication QC/QA Guidelines (11:45 am – 11:55 am)
 - a. Status of review for the 2024 update - Reviewed up to section 5.
 - b. Action Item: All TG members to finish the review of proposed changes in document including the Introduction (updated) and from section 5.2 to the end.
- 5. New Business?
 - a. 5.2.2.1 Material Grades – Potential future changes to strength grades of bolts.
- 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 Leadership

Chair: Paul Vinik - GPI

Vice Chair: Johnnie Miller - KTA-Tator, Inc.

1. Chairperson's Welcome (8:00 am – 8:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).
2. Single Coat IOZ Synthesis Update (8:15 am to 8:20 am)
 - a. Jeff gave a quick update on this project and where we were. Geoff Swett mentioned that they have awarded a new steel project that will utilize IOZ and it will be erected sometime in the spring of 2024. Repair procedures were discussed and the group agreed that repairing an IOZ is the hinderance to the system.
3. Performance Study – Phase 1 and Phase 2 (8:20 am to 8:30 am)
 - a. Travis gave an update on phase 1 of the University of Delaware performance. He shared that the report is available on the NSBA website. And he shared the systems to be used in Phase 2. Derrick gave several examples of where the systems have been used in the field.
4. Group discussion on the feasibility on a single coat of OZ as the sole corrosion protection system (8:30 am to 8:40 am)
 - a. Would be a mistake to not include UV exposure in any OZ testing. Derrick shared that he thought that DOTs will be hesitant to accept the Udel testing procedure because it is different from what they are used to.

- b. Kristin asked why don't TSC and galvanizing systems have to go through NTPEP testing. Derrick said that they are welcome to go through the testing, but there have been other methods for acceptance (such as NCHRP).
 - c. How much UV exposure is appropriate? D5894 utilizes about 12,000 hours of UV. Paul said that maybe we consider 2 or 3 coats of OZ as they will help the film build.
 - d. Kristin shared that the Udel testing may be good, it may be good to compare it with B117 or D5894. Derrick said that the ammonium sulfate is used in D5894 as a pH adjustment because some coatings manufacturers didn't think the pH in B117 was correct.
 - e. Jeff shared that it seems like there are certain tests that are intended to be used for testing on certain systems. And while some states may be slow to adopt a new testing protocol that is appropriate for all systems, it would be great if we were able to develop a new testing protocol that was appropriate for all systems and was accepted by DOTs. And we should write a testing standard that accounts for different exposure environments.
- 5. Presentation on Steel Bridge Coating Evaluation Protocols (8:40 am to 9:00 am)
 - a. Paul went through the NTPEP workplan, and focused on the performance tests (B117 and D5894). B117 is a legacy test and is simply salt fog analysis. So unless the real life specimen is in San Francisco, it isn't representative of the real world.
 - b. Kristin asked if we were considering EIS testing. Johnnie agreed that testing open circuit impedance was really where the testing should go.
- 6. Discuss the proposed revisions for S8.1 (9:00 am to 9:30 am)
 - a. Heather gave a brief update of what is changing. She also asked voting members to vote on the changes in the balloting system.
- 7. G8.4 – Detailing for Corrosion Protection Systems Update (9:30 am to 9:45 am)
 - a. Members of the other corrosion protection groups are:
 - i. Uncoated weathering steel/50CR – Heather Gilmer, Jason Lloyd, Jeff Carlson

- ii. Thermal spray – Paul Wagar, Heather Gilmer, Ronnie Medlock, Dave Johnson, Bernardo Duran, Kevin Irving
 - iii. Galvanizing – Rich Collins, Ronnie Medlock,
 - iv. Liquid applied coatings – Derrick Castle, Johnnie Miller, Bill Corbett, Brian Fridley
- 8. Open discussion/New business (9:45 am to 10:00 am)
 - 9. Adjourn

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: Mike Culmo - CHA Consulting, Inc.

Vice Chair: Ron Watson - RJ Watson, Inc.

1. Chairperson's Welcome (3:00 pm – 3:15 pm)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).

Reviewed Antitrust Policy and Meeting Code of Conduct, introductions given, no previous meeting.

2. Old Business (3:15 pm – 3:40 pm)
 - a. G9.1 Document
 - b. Published in 2022
 - c. Available for free from AASHTO and NSBA
 - d. Marketing of this document from our TG?

Reviewed G9.1 document and most recent changes. Discussed how to increase the awareness of the document. Ideas included MSC article, webinar, advocate inclusion in State DOT design documents, NSBA steel bridge forum topic, and university coursework.

3. New Business (3:40 pm – 5:00 pm)
 - a. Future work of the Task Group
 - i. Updates of current sections?
N/A.
 - ii. Potential additions?
Guidance for constructability and construction engineering (e.g., designing for wind forces during construction before full dead load is applied) – might be more appropriate for TG 10 Erection.

Domenic suggested a section on maintenance, repair, and replacement guidance. Mike suggested he develop a rough outline of this section before the next meeting.

Ron brought up the issue of joints and if they should be mentioned in the document.

iii. Development of design spreadsheet?

There is an existing NSBA draft spreadsheet with macros. Chris G. has offered to de-macro the spreadsheet. The group consensus was that this would be beneficial. Once developed, TG is asked to review and beta test it.

b. Collaboration with AASHTO Technical Committees

i. Proposed New Committee Structure – Impact on TG-9

Went over the new AASHTO COBS Technical Committee structure. Most relevant committee to TG 9 is Bridge Components.

ii. Friends of the Committee

This is a new component to the committee structure. The idea is to promote collaboration with the committee. The number of Friends can be up to the number of committee members. The Friends cannot vote.

iii. Liaison volunteers

Mike proposed that TG 9 increase its relationship with the new Bridge Components committee (formerly T-2).

c. Other new business for future meetings

The decision to meet at the next Collaboration meeting will depend on if the previously discussed bearing design spreadsheet is in a state that is ready for review.

4. Adjourn

Meeting adjourned at 4:26 pm.

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

Vice Chair: Jason Stith - Michael Baker International

10. Chairperson's Welcome (1:00 pm – 1:15 pm)

- a. AISC Antitrust Policy and Meeting Code of Conduct.
- b. Introductions (as needed).
- c. Approval of Previous Meeting Minutes.
- Reviewed antitrust policy and code of conduct, introductions provided, previous meeting minutes approved.

11. Update on publication of S10.1-2023 (1:15 pm – 1:20 pm)

- Brian provided an update on the status of S10.1. Publication is imminent. POST MEETING NOTE – S10.1-2023 was posted on NSBA website on October 26.
- Jason provided an update on the RCSC structural bolting instructional video, which will be released soon.

12. Brief discussion about Wind Load on Girders during Construction (1:20 pm – 1:30 pm)

- Brian gave a presentation at IBC. He raised the possibility of developing a memo via AISC/NSBA to present to AASHTO.

13. Working session on UPCOMING G10.2 guideline document (1:30pm – 3:00 pm)

- a. Working title - Field Observations during Steel Girder Erection
- b. Discuss purpose and audience of the document
- c. Review and revise draft outline
- d. Assign writing / drafting tasks
- e. Other topics for discussion

- Brian raised the concept of this new guideline document, which was conceptualized at a previous Collaboration meeting. He asked for ideas and possible authors for this document. The current working title is “Behavior of Steel Girders during Erection”.
- Current outline with volunteers to start drafting sections:
 1. Introduction
 - Volunteers: Sammy Elsayed, Jason Stith
 2. Bridge Geometry
 - See G13.1 for inspiration
 - Volunteers: Domenic Coletti, Tom Eberhardt, Allan Berry
 3. Fundamental Behaviors
 - 3a - Matt Hellenthal
 - 3b – Domenic Coletti, Saeed Doust
 - 3c - Domenic Coletti, Saeed Doust
 - 3d - Bob Cisneros, Nick Haltvick
 - 3e – Matt Hellenthal
 - 3f – Bret Clark, Nick Haltvick – consider moving to section 4?
 - 3g - Chris Russo
 - 3h - Bob Cisneros, Doug Crampton
 - 3i - Nick Haltvick, Jihshya Lin, Mike Tokar, Jarett Kasan
 - 3j - Deck Casting Sequence – Eric Rau
 4. Behavior of Various Bridge Types
 - Multiple people volunteered to develop one or two examples to convey this information and present at subtask meeting. We want to get consensus on look and feel before we start mass production.
 - Graphics and CADD Volunteers: Mike DiArcangelo, Bret Clark, Russ Jeck for 3D figures, Doug Crampton has some examples.
 5. Field Measurements (including web plumbness, bearing gap, sweep, point to other documents when applicable, photos and case studies are great)
 - Volunteers: Jarett Kasan, Dusten Olds

6. Common issues and how to resolve them (use borrow text from G14.2 as starting point)
 - Volunteers: Brian Witte, Nick Haltvick, Saeed Doust, Steve Percassi, David McBride
7. Case Studies – good and bad
8. References
- An example erection document from MnDOT was shown as a starting point.
 - If this model is followed, erection stage drawings need to be clear as to whether they show displacements, camber diagrams, etc. as to not confuse the reader.
 - Strategically use 3d graphics to show specific complicated behaviors and concepts (Don White).
- Intent, goals, and purpose of the document:
 - Key intentions are to reduce RFIs, when to (and when not to) bring attention to items, provide a baseline education and reference point.
 - Sammy E: Need to set what level of minimum knowledge is expected from the reader. Who is this NOT for? This TG, prequalified PM, prequalified erector. Who is this for? Inspector that may not see steel bridges on a regular basis, entry-level inspector with 2-year degree and certification. (See what NICET certification includes for reference.)
 - This is for new inexperienced field personnel to help the new inspector, engineer, designer better know what to expect in the field.
 - Should focus on standard (not unusual?) bridges.
 - Recommend disclaimer that this document is NOT a substitute for engineering or development of properly engineered plan.
 - Possible Tiers of target group: 1) Doers, 2) inspectors, 3) supervisors/engineers. Possibly target the 2nd tier as the main audience.
 - Prerequisite is that the reader must be able to read and interpret plans.
- Other topics to not identified in outline above to consider include:

- Issues with bearing placement and alignment are common problems. Issues may occur if starting away from fixed bearings (Russ Jeck).
- Girders not aligning with the anchor rods. Pre-erection anchor bolt and bearing survey is critical. (Bob Cisneros).
- Staged line construction and deflection (Doug Crampton).
- Hoisting – curved girders may roll while hoisting and still be ok
- Items for inclusion could be checking blocking locations, check list of items, etc. Some of this information may already be in S10.1 so reference when appropriate.
- How much deflection is too much (both vertical and lateral)? (Bob Cisneros)
- Observations may include sounds, deflections, deformed members. Banging, groans, and popping sounds may or may not be ok. How to tell?
- General safety (see NHI course on bridge stability); when to stop, walk away, and think; (Bob Cisneros)
- Crane pad pressures, ground bearing pressure, and where to stand and not to stand when hoisting- check NHI 130-102 for reference (Bob Cisneros).
- Falsework towers and pads. Good ground preparation and drainage are important.
- Jacking (Don White)
- Temporary blocking and bracing (vertical and lateral)
- What should be moving and not moving?
- Shored vs. unshored construction
- Appendix of figures
- Domenic Coletti asked the group to provide any example photos. Jason Stith asked for any additional references that people know of.

14. Adjourn

- Brian to schedule subtask group meeting, possibly in December.
- Meeting adjourned at 2:54 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 Leadership

Chair: Brandon Chavel – Michael Baker International

Vice Chair: Domenic Coletti - HDR Engineering Inc.

1. Chairperson's Welcome (8:00 am – 8:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).

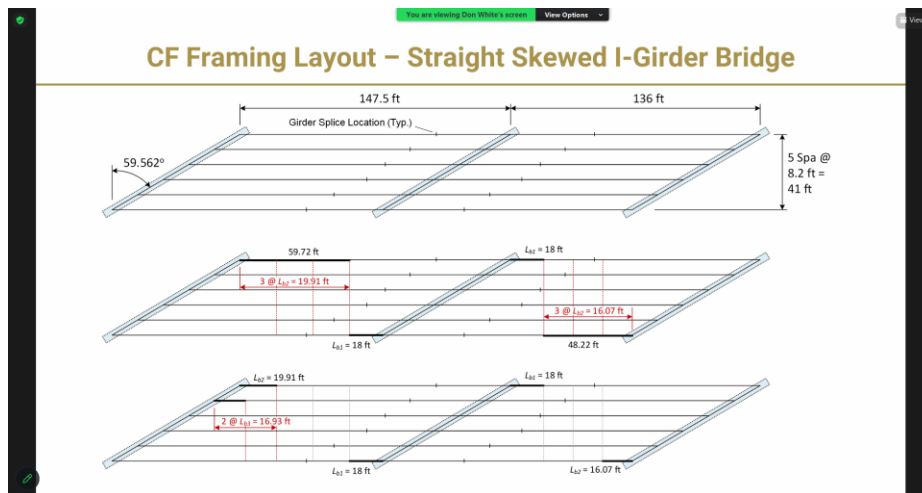
No comments. Notes approved.

2. Announcements and Administrative Items (8:15 am to 8:20 am)

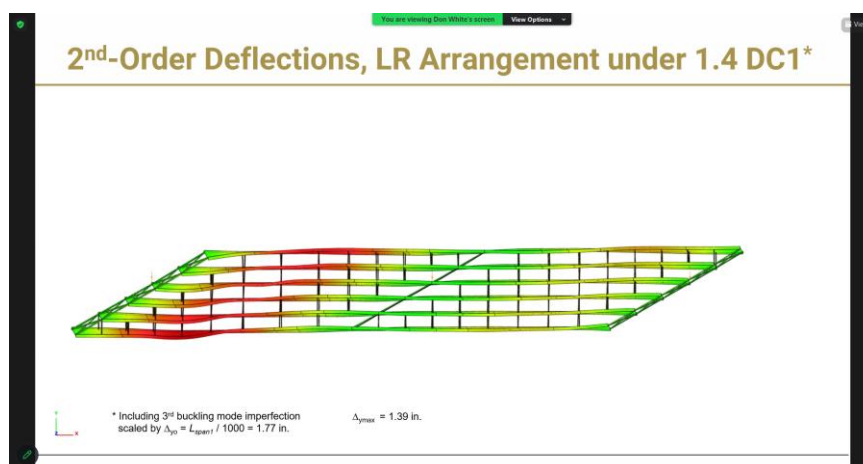
Brandon Chavel was unable to attend. Domenic Coletti ran the meeting in his absence.

3. Presentation (8:20 am to 8:50 am) – “Effective Cross-Frame Arrangements for Straight Skewed I-Girder Bridges” – Don White (Georgia Tech)

Alternative to contiguous cross-frames that can eliminate unnecessary or optimize cross-frame layout for greater economy and speed. This work complements existing work by Todd Helwig and guide under development by this group. Don spoke about the computational tools during TG13. He spoke more about the design method itself in TG11 beginning with the method for layout. Offset from obtuse corners as far as possible, then extend a line perpendicular from that point, then equally divide lengths into unbraced lengths. Generally try to achieve a uniform distribution of cross-frames across bridge; avoid having cross-frames bunched together, especially in the obtuse corners, since such a framing pattern will attract forces.



Don then demonstrated this method with actual numbers. Current practice is to then put contiguous cross-frames across the bridge. However, it can be seen as wasteful. He then explained how to create a “subway tile” layout by eliminating about a quarter of the cross-frames in the bridge, resulting in smaller cross-frame forces and fewer cross-frames. In comparison, applying lean-on in a checkerboard scheme can also result in a significant reduction in cross-frames. Don then presented some examples from Texas. Comparing a subway tile layout to a checkerboard, while there are more full cross-frames in the subway tile, overall there are fewer cross-frames (including strut type) overall. Don then presented effect of the layout on global buckling and deflection of the system. He also compared the cross-frame forces of both layout methods; all configurations were working well. Don also compared the lateral bending forces for each system.



He then went on to discuss a straight non-skewed bridge. The checkerboard method began with removal of every other cross-frame in a typical contiguous layout. Don then compared the that to what would be the result for lean-on and presented the analysis results of both schemes. Global stability needs to be considered at longer spans as was demonstrated by Frank Russo while he was developing the NSBA Bridge Standards. Don concluded his presentation by answering questions.

4. Guidelines for the Design of Cross Frames & Diaphragms (8:50 am to 9:30 am)

- a. Discussion on any outstanding topics
- b. Timeline
- c. Push to Collaboration Ballot

Domenic reviewed revisions and updates of the document since the last meeting. The goal is to release this as an AASHTO document, balloted by COBS. At this point the target for this document would be a 2025 publication. A good target for beginning the COBS balloting process would be July 2024. The document recently went through an informal review by select TG members. Domenic reviewed the comments and changes resulting from that. While incorporating comments, he also performed an editorial review and edit. At this point the document is fairly complete and will be shared with some select Collaboration members outside of TG11 before a formal ballot occurs. The following suggestion resulted from discussion during this meeting:

- Work points and work lines: Suggest including (more) sketches. Coordinate with TG1 and consider additions to G1.4 that discusses detailing of work points. Review and revise Figures 3, 4, 5, 20, 24, and 28 to show the preferred work point locations (on gusset plate, not at CL of girder web). While the document discusses the different methods for defining work lines and work points, it does not state a preference and only encourages or discourages general practices, such as discouraging locating work points off gusset plate or out in space (e.g., discourage locating work points at CL of girder web).

- Slip Critical Connections: Domenic suggested removing definitions of different slip classes and instead referring readers to the AASHTO LRFD BDS for consistency. Attendees were in agreement.
- Section 2.3.1: Add some discussion cautioning against making gusset plates too big when addressing unbalanced welds.
- Phased Construction: Domenic added some clarification to closure pours and added a graphic. He also added 3-options for connecting cross-frames between existing and new construction to deal with any differing deflection between the two. Brian Witte and Shane Beabes volunteered to review the revised guidance, specifically with regard to recommendations about if/when to install closure bay cross-frames. G13.1 has some further information about analysis for phased construction while G12.1 has information regarding details.
- General: Remove language in the G11.1 guideline that is already presented in the AASHTO LRFD BDS.
- Seismic Loads: Domenic noted that this section has been rewritten and vastly improved, and he thanked the rewrite author.
- Fit Condition: Domenic is not sure the current draft of G11.1 includes a basic discussion of the Fit Condition. He recommended adding a very brief, simple definition of the three fit cases and then referencing the NSBA Steel I-Girder Bridge Fit documents, rather than providing a full discussion of the Fit Condition topic in G11.1.

To keep the G11.1 document on track for 2025 release by AASHTO, target the following deadlines:

1. Brandon to incorporate Domenic's recent edits and comments by mid-December.
2. Conduct a private review by a select few people (a review with "Track Changes" editing occurring in a single, shared copy of the G11.1 guideline), completed no later than end of January or February.
3. Task Group 11 ballot completed no later than end of March (before the spring Collaboration meeting in April).

4. Main Committee ballot completed no later than end of May.
5. Send to AASHTO Committee on Steel and Metals no later than mid June.
5. General Open Discussion (9:30 am to 10:00 am)
 - a. Next potential items for the next design TG task.

- i. Lateral Bracing

Include discussion and guidance in light of upcoming stability bracing provisions being added to the AASHTO LRFD BDS. Concern was raised when it comes to erection and whether it is properly addressed anywhere. Similarly, wind load effects should be considered. Bob Cisneros mentioned a PennDOT [BD620M](#) that may address erection and/or be a good reference. Someone mentioned NYSDOT recommendations (45 deg angle for layout, fill plates to keep lateral bracing below SIP metal forms). Brian Witte mentioned the need to consider when lateral bracing is installed; if framing plan shows lateral bracing only in the exterior bays, and the erector erects from Girder 1 to Girder X, there may be a case where all but the last exterior girder is erected but only one bay's worth of lateral bracing is in place.

- ii. Good Steel Girder Design – Using the new NSBA Standard Designs

Brandon suggested developing guidance on how to best use the NSBA Standard Designs that Frank Russo is working on. As of this meeting, the development of the NSBA Standard Designs is still ongoing.

- iii. Construction Investigations by Designers

Develop guidance on how to check constructability (as required by the AASHTO LRFD BDS), as well guidance for designers about investigating other issues and considerations associated with construction of steel girder bridges.

6. Adjourn

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 - FDOT

Vice Chair: Russell Jeck - Siefert Associates

1. Chairperson's Welcome (8:00 am – 8:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).
2. Designer and Fabricator Perspective on Railroad Bridge Replacement Project - Benjamin Weaver (Jacobs), Christopher Braden (Jacobs), and Dale Ison (Precision Build) (8:15 am – 8:55 am)

The Florida Department of Transportation, along with CSX Transportation, is replacing the railroad bridge crossing over I-4 in Lakeland. The bridge is located 1200 feet west of the Kathleen Road (SR 539)/I-4 interchange (Exit 31) and about 400 feet east of the West Bella Vista Street overpass. The existing 250-foot, single track bridge will be replaced with dual, four-span, skewed, steel plate thru-girder bridges. The total bridge length is 400' with a maximum span length of 145', which is in the upper limits of a thru-plate girder bridge. Each girder is composed of a 1" thick, 10'-4" deep web with 3" x 30" flanges. The longer dual bridges provide for CSX double tracking and will accommodate future expansion of I-4 without the need to disrupt traffic and reconstruct the bridges again.

Benjamin Weaver, PE, SE, is a bridge engineer with Jacobs Engineering Group working in the transportation engineering industry on various highway and transit/rail structural design projects. Ben's experience includes and design and detailing activities related to structural steel design as well as prestressed concrete / post-tensioned concrete.

Christopher Braden, PE, SE, has 19 years of experience working on a variety of structural design projects and specializes in bridges with Jacobs Engineering Group. Chris has experience with prestressed and post-tensioned concrete, segmental construction, and structural steel girders for projects both domestically and internationally.

Chris/Ben presented second. The bridge is owned by FDOT. They described the overall project background, need, and preliminary/final design. Build first bridge adjacent to existing bridge, then demolish existing bridge, and build second bridge in its place. Designed in accordance with AREMA and FDOT specifications. Each through girder weighed approximately 100 tons. Uncoated weathering steel. Knee braces spaced at 12'. Floorbeams spaced at 3'. Spans were fully assembled in the shop and delivered to site for erection. Constructability was/is a challenge. Many temporary tall retaining walls were required. Tied-back retaining wall type is used. CSX has many geometric requirements during construction that made things complicated and difficult. Construction is currently in progress. The steel superstructures will be lifted into place fully assembled. The larger span unit is approximately 325 tons. SPMT's are planned to be used. The top flanges are squared-off at the ends (no wrapping/curving down). Knee braces are not connected to the top flange (1" gap).

Dale Ison is the Executive Vice President of Advanced Technical Services for Florida Structural Steel working as Precision Build (also known as Tampa Tank), where he has worked for 46 years. Dale has been a member of the NSBA Executive Council for over 15 years. He has also served as an advisor for the AASHTO/AWS D1.5, AASHTO/AWS D1.7, and Qualification & Certification Committees for many years. Dale is also a past recipient of AISC's Special Achievement Award.

Dale presented first. He reviewed the fabrication/shipping procedure for these bridges showing multiple photos. Overall, he indicated that the fabrication/shipping process went fine, pretty standard. Although, he indicated that CSX railroad in general is very difficult to work with. He did note that full penetration welds are required between flange/web, and CSX did not allow them to be changed to fillet or partial-penetration welds.

3. Closing Remarks (8:45 am – 9:00 am)
4. Adjourn

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 - HDR

Vice Chair: Francesco Russo - Russo Structural Services

NOTE: Additional supporting materials can be found in Appendix C – Meeting Attachments.

1. Chairperson's Welcome (1:00 pm – 1:15 pm)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).

Deanna reviewed the TG13 mission statement and the current document under development and the software validation survey. The meeting minutes from the previous meeting were discussed and approved.

2. General Announcements (1:15 PM – 1:30 PM)
 - a. Conferences/Research/Publications

Deanna reviewed dates for key conference coming up in 2024. They are:

- TRB: January 7 – 11 (Washington, DC)
- AASHTO Steel and Metals Committee: January 25 – 26 (New Orleans, LA)
- NASCC: March 20 -22 (San Antonio, TX)
- WTS International Conference: May 8 -10 (New Orleans, LA)
- International Bridge Conference: June 3 -5 (San Antonio, TX)

- b. NSBA Update – Chris Garrell

Reviewed the new Heat Curve Calculator tool. Went over the status of various Collaboration documents. Then discussed upcoming conferences and bridge forums. See appendix for slides.

- c. FHWA Update – Dayi Wang, FHWA Steel Specialist

Dayi was not present and no update was provided.

d. TRB AKB20 (Steel Bridges Committee) Update – Jamie Ferris

Deanna went over the purpose of AKB20. This meeting will take place January 9 Workshop on redundancy on Sunday January 7. There will also be two lecturn sessions. Complex Connections, Bridge Resilience, and Improved Shear Performance; Field Investigations, Rehabilitation, and Preservation . There was a webinar this past June.

e. AASHTO Bridge Update (AASHTO Steel and Metals Committee) – Tony Ream

AASHTO Combined T14 and T17 which is now the new Steel and Metals Committee. This past meeting was the first meeting of this new group. COBS is scheduled for June and the next Steel and Metals Committee will take place in January in New Orleans. Mike Culmo discussed the reorganization of the COBS committees. He mentioned that part of this change now allows for “friends” of the committee which have to be approved by COBS.

3. G13.2 Guidelines for Steel Truss Bridge Analysis (1:30 PM – 1:45 PM) - Comments discussion

Deanna reviewed the purpose of the document. It recently completed Task Group balloting. There were over 200 comments to resolve. It will go to ballot by the Main Committee the week of October 30.

4. Software Validation and Checking Complex Models (1:45 PM – 2:00 pm) - Progress updates

Develop a standard of care for validating structural analysis software. The survey has been readied and will be distributed by AISC to bridge engineers. The results will be used as a point of discussion with software vendors as it comes to validation. Participation by the sofwtare vendors was very good. Comments from the Chicago meeting were addressed. The survey will need a quick internal review by AISC before being sent out via direct email sometime in November. Once the results start to come in, Deanna will setup meetings to

discuss. Mike Culmo mentioned that this has been a goal of the TRB AKB20 committee for a long time. He commended TG13 for completing this work. A whitepaper will be developed that defines the standard of care which software vendors will be asked to acknowledge and follow. The software vendors will also assist with distribution of the survey. Deanna did a brief review of the survey going over the Jotform.

5. “Streamlined Rigorous Eigenvalue Buckling and Geometric Nonlinear Load-Deflection Analysis Aimed at Checking Stability Bracing and Global Stability,” Don White (2:00 pm – 2:45 PM)

Elimination or reduction of contiguous cross-frames is an opportunity for significant reduction of cross-frames. Questions were raised about erection and deck casting. See TG11 meeting notes for more information.

6. New document topics (2:45 pm - 3:00 pm)
 - a. Buckling and Global Stability Analyses
 - b. Other topics
7. Adjourn

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

Vice Chair: Jonathan Stratton - Eastern Steel Works, Inc.

1. Chairperson's Welcome (3:00 pm – 3:15 pm)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).

Reviewed antitrust policy and code of conduct, introductions made, previous meeting minutes approved.

2. Announcements and Administrative Items (3:15 pm – 3:20 pm)

Kyle went over the TG mission statement, the existing TG documents (G14.1), pending TG documents (G14.2), and TG documents under development (G14.3).

3. G14.3 Discussion (3:20 pm – 5:00 pm)

The group consensus was that figures need to be resized and possibly added to an appendix. Natalie suggested that repair procedures be included with a detail when appropriate. A minimum level of detail quality needs to be established.

There was a discussion of what types of details to include, e.g., common details, poor details, and one-off details. Geoff raised the idea of providing conceptual details rather than in-depth/fine-tuned details. It is acceptable to provide multiple details for the same repair type. The goal is to have the repair details posted on the NSBA website with search and keyword functions. Doug suggested that post-repair photos be included if possible. The TG will follow-up with owners and ask for photos. The TG will need to decide how to refer to G14.2 sections, e.g., specific section numbers, section titles, or just the chapter. The TG will target around 50 details for the initial document.

Volunteers to help develop details: Nick Haltvick, Natalie McCombs, Travis Butz, Doug Crampton.

4. Adjourn

Meeting adjourned at 1:17 pm.

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

Vice Chair: Grant Schmitz - HDR

1. Chairperson's Welcome (1:00 pm – 1:15 pm)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).
 - d. Vice Chair to step down, looking to fill position
2. Pooled Fund Projects Update (1:15 pm – 1:25 pm)
 - a. BIM for Bridges
 - i. 5 year project, Phase 1 ends Jan 2024
 - ii. Phase 2 to begin Feb 2024, scope on-going
 - b. BIM for Infrastructure
3. Task Group Objectives (1:25 pm – 3:00 pm)
 - a. Overview
 - i. Presentation for context of Task Group
 - b. Discussion
 - i. Future Exchanges or focus for TG
 - ii. Looking to a DOT for collaboration on test case of fabrication exchange model (Ronnie Medlock action item)
 - iii. Flow Chart to define tasks and stakeholders for fabrication exchange model test case (A.Costin action item)
4. Adjourn

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: Sougata Roy - FHWA

Vice Chair: Frank Artmont - Modjeski & Masters, Inc.

1. Chairperson's Welcome (9:00 am – 9:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct policies were read
 - b. Attendees introduced themselves
 - c. Previous meeting minutes were approved

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.”

Terry suggested we modify the overall mission statement. The group deliberated and agreed to the following revised mission statement:

“This Task Group aims to establish and promote the use of Orthotropic Steel Deck (OSD) that can be cost effectively produced for the United States bridge market.”

3. Review of Committee Goals
 - a. Develop a standardized design for orthotropic deck panel.
 - i. Terry felt that there has been significant progress made in the design of cost-effective OSD and felt we should discuss revisiting our goals.
 - b. Karl feels this group should focus on developing a single document that a bridge engineer or owner can reference to design an entire short span OSD bridge (superstructure only).
 - c. It sounds as if there is enough data/information to develop some content (including a ppt) to share with decision makers. But perhaps there are some gaps, which would warrant the development of a Collaboration document or tool that brings everything together.

- d. Funding exists for two demonstration projects from FHWA.
- e. Justin Dahlberg from ISU said that Buchanan county Iowa is interested in one of these demonstration projects- using an open rib solution, and there is some back and forth to determine how much it would cost and where funding is likely to come from.
- f. The group had a discussion about a new focus. The summary of that discussion is below:

TG16 New Focus - Strategy Discussion

- Dissemination of OSD Information
 - Objectives
 - Introduce those unfamiliar to OSD solutions
 - Educate regarding state of the art for OSD
 - Dispel existing misconceptions
 - Reinforce advantages, e.g.:
 - Extended service life of 100 years
 - ABC
 - Seismic application
 - Develop use cases, e.g.:
 - ABC
 - Movable bridges
 - Audience
 - Owners
 - Designers
 - Fabricators
 - Action Items for Dissemination
 - Develop presentations (Powerpoint)
 - 3 presentations, 1 for each of the target audiences
 - 20 minutes max length
 - Uniform presentation template to be used
 - First drafts by February 1, 2024
 - Final drafts by April 16, 2024 (next collaboration meeting)
 - Sougata Roy to review drafts for the following
 - Standardized terminology
 - Uniformity in message
 - Responsibilities
 - Owner-focused presentation
 - Sougata Roy (lead), Terry Logan

- Designer-focused presentation
 - Frank Artmont (lead), Justin Dahlberg, Keith Greising, Sougata Roy
 - Fabricator-focused presentation
 - Terry Logan (lead), Chris Haberle, Ronnie Medlock
- Presentations to become a session for IBC/OBC in June 2024
- Develop Modern Steel Construction Article
 - Frank Artmont (lead), Iowa State group to assist
 - Use FHWA L1 document as guidance
 - Rough draft due by **November 30, 2023**
- Additional Articles
 - ENR, Informed Infrastructure, others?
 - To be pursued after MSC article
- NSBA Website
 - Jeff Carlson/NSBA (lead)
 - Develop content based on content developed for presentations and MSC article
 - One-pager or white paper with links to key documents
- Develop Social Media presence
 - YouTube shorts
 - LinkedIn posts
- Marketing
 - NSBA to assist with marketing all content creation
- Conferences
 - Next OBC occurring in conjunction with IBC
 - (Who?) to write to Brian Kozy, General Chair of IBC, requesting session in IBC (if OBC does not materialize)
- Fill Knowledge Gaps
 - Currently, no good guidance for how to take information in FHWA L1 guide and obtain a bridge design
 - Possibility of creating a design example (or multiple examples)
 - Design workflow (checklist and flowcharts)
 - Integration between OSD and superstructure framing
 - Field splices
 - Wearing surface
 - Table of standard designs
 - Funding already exists to do some of this through FHWA L1 additional tasks
 - Justin Dahlberg to check with Dayi Wang about the scope of existing FHWA task order

- Justin Dahlberg to provide plans to fabricators for preliminary cost estimate by **December 31, 2023**
- 4. Discussion on State of Practice Synthesis Document
 - a. Review sections
 - i. Terry shared his screen for the sections of the document he drafted.
 - ii. Terry said he was going to work on his sections and try to have them to Sougata by the next meeting.
- 5. Short Span Orthotropic Update (SSSBA) collaboration update
- 6. General update on ongoing projects/research
- 7. Old business and additional discussion
 - a. Sougata asked Keith to present on Johnson Street bridge during the next meeting, and Keith accepted.
 - b. Karl suggested that we look at the rib misalignment and what is acceptable and not. Laboratory testing suggests that the prescribed tolerances on misalignment are too stringent.
- 8. Review Action Items
- 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 Leadership

Chair: Jennifer Pazdon - Cast Connex

Vice Chair: Jason Stith - Michael Baker International

1. Chairperson's Welcome (8:00 am – 8:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).
2. Review of Mission, Goals and Timeline (8:10 am – 8:15 am)
3. Review Draft Guide Specification (8:15 am – 9:45 am)
 - a. Jennifer went through the draft guide specification and the comments.
 - b. Carlos discussed the responsibilities of the fabricator and castings engineer and foundry. Whomever takes the responsibility of the casting supplier needs to understand what that means. And it is preferred that the fabricator not take that responsibility. The group discussed that this might be similar to elastomeric bearings. The fabricator may want to review the geometry of the castings but not the engineering of the casting.
 - c. Jennifer shared a Cast Connex example that they use to give to engineering for how to specify a casting. Jason noted that it would be helpful to include something like this as an appendix in the guide document.
 - d. Jason felt that it would be helpful if they could include an example of the castings design report so that the owner knows what to expect to review. They thought that maybe MassDOT would be willing to share info on one of their projects (Fanny Appleton). Carlos said it would be even better to include the contract document where the castings is called for, then also include the castings design report, the shop drawings, etc.

- e. The group discussed whether or not production welding requires adherence to AWS. Carlos and Jennifer explained that production welding is inherent to the production process and it is governed by ASTM A488. Not AWS.
 - f. Karl Frank asked what inspection criteria the casting is subject to. Carlos summarized that there are a lot of inspection protocols that are followed for castings and the castings engineer would dictate what inspection procedures are followed.
 - g. There is a flowchart format from TG15 that may be useful for this document.
- 4. Next Steps and Action Items (9:45 am – 10:00 am)
 - 5. Adjourn

TG 18 Duplex Stainless Steel

Task Group Mission: This Task Group will include experts from the carbon steel and stainless steel communities and will work together to develop standalone material, design, welding, fabrication, and construction guide specifications for using duplex stainless steel for vehicular plate girder bridges. These guide specifications will be largely based on existing duplex stainless steel design and fabrication specifications (such as AISC 370), but will be revised to provide the same formatting and flow as the standards typically used in the steel bridge community, such as AASHTO LRFD or AASHTO/AWS D1.5.

Task Group Leadership

Chair: Jason Provines - Virginia Department of Transportation

Vice Chair: Nancy Baddoo - Steel Construction Institute

1. Chairperson's Welcome (1:00 pm – 1:15 pm)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#). Approved.
2. Review of TG18 Mission and Purpose (1:15 pm - 1:25 pm)
 - Types of duplex stainless steel:
 - Lean duplex steel – less corrosion resistance (less nickel/chromium).
 - Standard duplex steel – more corrosion resistance (workhorse in USA). The common standard duplex alloy is 2205 (S32205).
 - Super duplex steel – greater corrosion resistance (more nickel/chromium). Also higher strength.
 - Widely used in oil/gas, shipping and power industries.
 - 50 – 60 bridges duplex stainless steel bridges built throughout the world.
 - 65 ksi yield strength. Overall similar properties to A709 steel.
 - Ideal for use in situations where uncoated weathering steel (UWS) is not appropriate.
 - Duplex SS can be welded/bolted onto UWS in areas where corrosion is severe. Would need a paint/coating in the interface area to prevent galvanic corrosion problems. This is a dissimilar metal solution. TG18 will explore dissimilar metal welded and bolted connections (carbon steel, weathering steel, 50CR).
 - Duplex SS advantages are high strength, great corrosion resistance, good toughness, and reasonable cost.
 - Ideally a single type of duplex SS bolt will be identified that is domestically produced and available for use and has similar strength properties to ASTM A325 bolts. An RCSC/AISC Design guide on stainless steel bolted connections is being prepared by SCI and Jason Provines.

3. Review of Duplex Guide Materials Spec (1:25 pm - 1:55 pm)

- Note that this is for plate only. A parallel spec for duplex stainless steel sections will be prepared as soon as the plate spec is finalised.
- It was discussed why such high toughness is being required, 50 – 70 lb-ft @ -40 degrees F, compared to A709 steel. Karl Frank suggested to consider using 50 lb-ft for all thicknesses.
- Ted Bush commented “we will work on getting some commentary to discuss the CVN issue and how it is related to welding”.
- Ronnie Medlock agreed to review the example order which is included in the plate specification.
- Consideration should be given to presenting the material specification to the Collaboration Main Committee for developing/adoption into an official Collaboration Specification document. Coordination would need to be done on this with AASHTO.

4. Review of Duplex Guide Design Spec (1:55 pm - 3:35 pm)

- The spec provisions have been updated to align with the 10th Ed of AASHTO BDS. It is nearly complete now, just a few pending issues need resolving including:
 - Shear resistance of bolted connections
 - Flexural resistance of composite beams with compact steel I-girders
 - Resistance of shear connectors (likely not to adopt 10th Ed rules)
- “Duplex” is also a term used for painted/galvanized carbon steel coating systems. To avoid confusion, we should always use the term “duplex stainless steel”.

5. Other Guide specifications and other business (3:35 pm – 4:00 pm)

- The draft duplex SS welding specification needs to be coordinated with AWS D1.5.
- It is proposed to use austenitic stainless steel shear studs with duplex stainless steel plates. Duplex studs are harder to find and more difficult to weld.
- Karl Frank suggested that the SS stud sizes available should be documented.
- Mike Grubb has been asked to undertake a review of the design spec. Nancy and Jason will have a call with him in November.
- A side-by-side I-girder design example using duplex & carbon steel will be prepared (SCI will coordinate with Chris Garrell about funding for a consultant to prepare/review).
- Other complementary design aids which might be useful to prepare include information on procurement, availability, lead times and optimization guidelines.
- SS bolting challenges:
 - If austenitic steel bolts, galling is likely an issue.
 - Need to have rotational/capacity testing done to verify tension/friction/torque.

- Need to verify friction coefficients and blasting material/process.
- Overall it is important to have this design guide made and available to bridge engineers. A one stop shop for guidance/answers.
- Potential to build a prototype duplex SS bridge?
 - Needs to be Owner initiated.
 - They will rely upon all the documents this group is developing.

6. Adjourn

Combined TG 1 Detailing, TG 11 Steel Bridge Handbook, TG 12 Design for Constructability and Fabrication

Task Group Mission: This group is focused on the development of guidance for the detailing, fabrication, design and construction of steel straddle bents.

Task Group Leadership

Chair: Christina Freeman - FDOT

1. Chairperson's Welcome (9:00 am – 9:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#). Officially approved.

Several attendees requested that the current document be sent to all attendees for their information, and comment if necessary. Brad will check with Christina on this, and it will likely be done.
2. Discuss comments on G12.2 – Guidelines for Steel Bent Caps (9:15 AM – 9:45 AM)
 - a. Revisions to Redundancy (3.7) and Fatigue and Fracture (3.8) Sections

Heather Gilmer and Jason Lloyd indicated that further corrections need to be made to the Redundancy section. This relates to NSTM, IRM, and SRM. She noted that as far as fabricators are concerned, both IRM's and SRM's are NSTM's.
 - b. New figures for Stability and Torsion (3.9) Section

No further comments were brought-up. Consensus is that the figures help greatly and look good.
3. Break (9:45 AM – 10:00 AM)
4. NE 203 Street/Ives Dairy Road Intersection Project - Saul Perez (AECOM) and Sergio Gonzalez (Pinnacle) (10:00 AM – 10:20 AM)

The NE 203 Street/Ives Dairy Road intersection project will increase safety and ease traffic flow through this busy intersection by adding a new westbound bridge over the FEC Railway, adding a pedestrian bridge over the railroad track and adding new turn lanes to the eastbound bridge. The project brought on challenges with ramps with the

design and erection of steel plate girders with a tight radius, under electrical transmission lines and adjacent to the railroad corridor.

Saul Perez, PE, SE, is a highly accomplished Structural Engineer with 38 years of experience, specializing in Structural Design, Project Management, and Bridge/Highway Design. Holding a Master's and Bachelor's degree in Civil Engineering from the University of Miami, Saul is a licensed Professional Engineer in Florida, California, and Puerto Rico. He has been involved in numerous projects that have brought out the ingenuity of engineering to solve complex challenges. Currently serving as the Structures Department Manager for AECOM in South Florida, Saul has played pivotal roles as a Technical Director and Project Manager in a diverse range of projects. Notable among them is his role as Structures EOR for the NE 203rd Street Intersection Improvements Project. Here, he led the design of complex structures, including steel plate flyover ramps with extremely tight radiuses, a complex widened steel plate girder bridge, pedestrian bridge, and MSE walls.

Sergio Gonzalez, PE, has 24 years of construction management experience and has lead teams on major urban corridor, interchange, transit, and mega-jobs for Federal, State, and local governments. Select major projects include SR 826 Interchange at Section 3 & 4 (Coral Way & SW 8th Street), I-595 Express Corridor Improvements from I-75 to Florida's Turnpike, the Golden Glades Multimodal Transportation Facility, SR 836 Infrastructure Conversion to Open-Road Tolling, MIA New Northside Runway 8-26, and most recently the Ives Dairy Road Flyover Project in Aventura.

5. SR 826 Bridge 7 Project - Rafal Wuttrich (H&H) (10:20 AM – 10:40 AM)

The SR 826 project will add tolled express lanes in Miami-Dade County and is currently under construction. This presentation will cover modifications to the steel flyover bridge connecting NW 103rd Street with Southbound SR 826, including eliminating one girder line for the first five spans. The work required modifications to five intermediate piers, including erection of a set of two closely spaced temporary steel piers.

Rafal Wuttrich, P.E., M.S. is a bridge design engineer with Hardesty and Hanover, LLC since 2015. He graduated from Gdansk University of Technology (Poland) in 1994 and Florida State University in 2001 (Masters).

6. Presentation Question and Answer (10:40 AM – 10:50 AM)

Several questions were asked to each presenter and discussed as a group. All questions were adequately answered/addressed by the presenters.

7. Discuss comments on G12.2 – Guidelines for Steel Bent Caps (10:50 AM – 11:45 AM)

a. New location for details on triple I-girder bent caps (Sections 2.2, 4.3)

Jason Lloyd suggested an edit on the left side of the page in the “As an alternative...” sentence.

Another comment was made regarding the right-side of the page, 1st paragraph, an extra word was suggested to be removed.

A concern from WSDOT about painting the interior surfaces white was brought up and discussed. Especially if UWS is used, as it raises complexity/cost. This was discussed and agreed that the white painting requirement should remain.

b. Bracing of substructure by non-integral superstructure (Section 2.3)

“steel bent cap” instead of “steel straddle bent cap”.

c. Removal of detailed inspection information (Section 6)

No comment. Looks good.

d. Revisions to Electrical and Lighting (4.7) Section

Last bullet, instead of “box” use “steel bent cap”.

e. 1 Inch Bolts (Section 4.4)

Russ Jeck noted that 1” bolts are preferred by most contractors.

Kent Nelson noted that not all Owners/Contractors have sufficient calibrated torque wrench big enough for 1” diameter bolts, so might not be a good idea to require 1” diameter bolts.

8. Closing Remarks (11:45 am – noon)

Bob Cisneros raised a question regarding AASHTO allowing oversize bolt holes in field splices, suggesting it be discussed in upcoming meetings. It is likely most appropriate for TG12. Brad Dillman said it will be taken under consideration.

9. Adjourn

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, LLC

Vice Chair: Christina Freeman - FDOT

1. Chairperson's Welcome (10:00 am – 10:15 am)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Introductions (as needed).
 - c. [Approval of Previous Meeting Minutes](#).
2. Task Group Reports - Approximately five minutes each (10:15 AM – 11:40 AM)
 - a. TG 1 - Randy Harrison (W&W|AFCO Steel)

Randy as unable to attend. Gary Wisch ran the meeting. Reviewed the tub girder section of the update to G1.4. Spent most of the meeting reviewing comments from Heather. Suggestions were made to look at MassDOT and TxDOT standards for details. TG4 requested discussion of bolt threads. The TG plans on finishing up work on the G1.4 and then will move back to G1.1 shop drawing review guide.

- b. TG 2 - Heather Gilmer (Pennoni)

Currently maintain or contribute to G2.2 and the AASHTO Fabrication Specification. The meeting time was spent looking at the existing G2.2. Members were assigned to review each chapter of the current version. Heather is going to coordinate with TG14 in those cases wher an error from the shop makes it to the field. The remaining time was spent looking at AASHTO Fabrication specification topics.

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

The G4.2 recently completed an MC ballot. The meeting time was spent reviewing those comments. Jamie will incorporate changes from tha ballot before it is sent to AASHTO for consideration at COBS next year. Making progress on G4.1.

d. TG 8 - Paul Vinik (GPI Construction Engineering)

Discussed the SIOZ Synthesis study. Washington will be using SIOZ on an upcoming project. Reviewed performance study being conducted by UDel and the phase 2 work. The remaining time was spent discussed the future feasibility of a SOZ. Discussed current test protocols and inclusion of UV testing. Also discussed the [NTPEP](#) program and testing protocols. S8.1 is currently being balloted by the TG and will complete on November 1.

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

Discssed status of G9.1 which was published last year. No immediate need to update the document. Want to enhance useage of the document. Add provisions for future jacking and maintenance of bearings. The group will start working on an elastomeric bearing spreadsheet. The TG also want to coordinate with the new AASHTO Compoents Committee. The TG may or may not meeting in the spring.

f. TG 10 - Brian Witte (Parsons)

Have begun work on a new document which was kicked off a short while ago. This guideline (G10.2) will focus on behavior during erection and provide basic knowledge for non-erection professional.

g. TG 11 - Brandon Chavel (Michael Baker)

Brandon was unable to attend and Domenic ran the meeting. Presentation from Don White research on effective cross-frame framing arrangements that can improve economy of bridges. Reviewed recent edits to the cross-frame document. Look to ballot in the spring. Also discuss future topics such as the forthcoming NSBA Bridge Standards.

h. TG 12 - Christina Freeman (FDOT)

Christina was not present and Russal Jeck ran the meeting. The main focus of the meeting was recent balloting of the new G12.2 which will be going to MC ballot next week. This ballot will run for 3-weeks.

i. TG 13 - Deanna Nevling (HDR)

The meeting included updates from TRB, NSBA and AASHTO. The G13.2 has completed a TG ballot and will be moving to MC ballot next week. This ballot will run for 3-weeks. The TG also has developed a survey validation of analysis software which will be used to develop a “standard of care” document for software vendors. Don White gave a presentation.

j. TG 14 - Kyle Smith (GPI Construction Engineering)

John Stratton has stepped down as Vice Chair. G14.2 is in editing and still needs release forms for images. The group discussed and reviewed work on the recommended repair sheets. These sheets will complement the G14.2 and the current intent is to release these as an NSBA document. While they will be balloted by the TG and MC, the intent is not to go through a COBS ballot.

k. TG 15 - Aaron Costin (University of Florida)

Recapped Task Group work and purpose for the sake of new attendees. Jon Stratton has stepped down as Vice Chair and Grant Schmitz – HDR was recommended to replace him. Spent time discussing the ongoing Pool Fund study. They sunsetted the TG1/15 combined task force and will revisit the data dictionary.

l. TG 16 - Sougata Roy (Consultant)

Group continues work on guide document for manufacturable steel bridge decks. Discussion included creation of synthesis document and the need to address concerns for owners, designers and fabricators. This will include a series of presentations. [IBC](#) is in San Antonio and the Orthotropic Deck Conference intends to co-locate. The group also revised their mission statement to better align with their current goals which includes promotion of orthotropic decks. The MC members thought the suggested mission needed more work. This included softening of the marketing language and also revising the “for American market” versus “by American”.

m. TG 17 - Jennifer Pazdon (CAST CONNEX)

Discuss focused on the S17.1 document. The group will be adding a more complete set of terminology definitions. Add a relationships and responsibilities flow chart. Define the delivery process including the information needed by the caster and include a case study from MassDOT. The TG plans on having a meeting in January.

n. TG 18 - Jason Provines (VDOT)

Jason Provines was unable to attend in-person, however was online. Nancy Baddoo ran the meeting. Currently working on guide specifications for use of duplex stainless steel in bridges. Bimetallic connections. Materials, Design which is a parallel to BDS Chapter 6, discussed changes in the 10th Edition so that the document is in sync with that update when it is released. RCSC and AISC are developing specification language for duplex stainless bolts which will cover both bridges and buildings. This project will last about 18 months. The material and design guides will likely be balloted next year. A short presentation to MC members will be given prior to the ballot since the topic may be new to many members. There is some confusion of the word “duplex” as it also used to define coatings. Complementary guidance for designers and owners which would include a design example.

o. Joint TG 1 Detailing, TG 11 Design, TG 12 Constructability – Christina Freeman (FDOT)

Christina was not present and Brad Dillman ran the meeting. This meeting was more or less a continuation of the TG12 meeting which included a series of project presentations.

3. Other Business (11:40 AM – Noon)

Next meeting will take place April 16 – 18. Location is to be determined. The MC members should be on guard for the G12.2 and G13.2 ballots which will last 3-weeks.

4. Adjourn

Appendix A – Attendee List

First Name	Last Name	Company
Frank	Adragna	TRC Solutions
Quasem	Alajjan	Connecticut Department of Transportation
Frank	Artmont	Modjeski & Masters, Inc.
Brian	Atkinson	HNTB
Nancy	Baddoo	Steel Construction Institute
Vin	Bartucca	NSBA
Halim	Bas	WSP USA Inc.
Shane	Beabes	AECOM
Allan	Berry	HDR
Kristen	Blankenship	Carboline
Chris	Braden	Jacobs
Ted	Bush	HDR
Travis	Butz	Burgess and Niple
Jeff	Carlson	NSBA
Derrick	Castle	Sherwin Williams
Nicholas	Cervo	HDR
Anlun	Chen	Hardesty & Hanover
Bob	Cisneros	High Steel Structures, LLC
Bret	Clark	Flatiron
Gary	Coates	Nickel Institute
Domenic	Coletti	HDR
Aaron	Costin	University of Florida
Doug	Crampton	Wiss, Janney, Elstner Associates
Michael	Culmo	CHA Consulting, Inc.
Terry	Cummings	TRC Solutions
Justin	Dahlberg	Iowa State University
Carlos	de Oliveira	CAST CONNEX
Michael	DiArcangelo	High Steel Structures
Brad	Dillman	High Steel Structures
Saeed	Doust	TYLin
Robin	Dunlap	High Steel Structures
Philip	Dzikowski	WSP
Tom	Eberhardt	HDR
Sammy	Elsayed	OHLA USA
David	Fish	Texas Department of Transportation
Alana	Fossa	American Galvanizers Association
Karl	Frank	Consultant
Chris	Garrell	NSBA
Philip	Gase	DS Brown
John	Gast	Consultant
Brian	Georger	Atema
Heather	Gilmer	Pennoni

First Name	Last Name	Company
Sergio	Gonzalez	Pinnacle
Dennis	Gowins	Hardesty & Hanover, LLC
Keith	Griesing	Hardesty & Hanover, LLC
Phillip	Hagerty	
Nick	Haltvick	Minnesota Department of Transportation
Randy	Harrison	W&W AFCO Steel, Hirschfeld Division
Matthew	Hellenthal	Benesch
Jamie	Hilton	KTA-Tator, Inc.
Travis	Hopper	AISC
Kevin	Irving	International Zinc Association
Russell	Jeck	Siefert Associates LLC
William	Johnson	Idaho Department of Transportation
Zoltan	Kanyo	Connecticut Department of Transportation
Jarret	Kasan	HDR
Zane	Keniston	QMC Auditing
Sri	Kotha	PGH Wong Engineering, Inc.
Bill	Lally	Tensor Engineering
Jihshya	Lin	MnDOT
Jason	Lloyd	Nucor
Terry	Logan	Atema, Inc.
Kara	Lorenz	High Steel Structures, LLC
Steevens	Louis	Hardesty & Hanover, LLC
David	McBride	WW AFCO Steel
Natalie	McCombs	HNTB
Ronnie	Medlock	High Steel Structures
Francisco	Meza	Steel Construction Institute
Justin	Mickens	Parsons
Johnnie	Miller	KTA-Tator, Inc.
Kent	Nelson	DOT Quality Services
Deanna	Nevling	HDR
James	Newberry	Hardesty & Hanover, LLC
Dusten	Olds	HDR
Omar	Oviedo	Harris County Toll Road Authority
Quinten	Ozimek	Hardesty & Hanover, LLC
Duncan	Paterson	Alfred Benesch & Company
George	Patton	Hardesty & Hanover, LLC
Jennifer	Pazdon	CAST CONNEX
Steve	Percassi	Genesis Structures, Inc.
Saul	Perez	AECOM
Anthony	Peterson	NSBA
Anna	Petroski	Atema, Inc.
James	Phillips	Hardesty & Hanover
Shawn	Potter	Contech Engineered Solutions

First Name	Last Name	Company
Jason	Provines	Virginia Department of Transportation
Sofia	Puerto	Michael Baker International
Cesar	Quesada Garcia	Hardesty & Hanover, LLC
Mohammed	Qumruzzaman	Harris County Toll Road Authority
Lourdes	Rapp	BCC Engineering
Ryan	Rapp	HNTB
Eric	Rau	HDR
Tony	Ream	HDR
Chiara	Rosignoli	Hardesty & Hanover, LLC
Sougata	Roy	Consultant
Vilius	Ruseckas	Hardesty & Hanover, LLC
Christopher	Russo	Jacobs
Ken	Sandell	SFSA, Consultant
Charles	Scharfy	WSP USA E&I Inc.
Holly	Schaubert	Steel Tube Institute
Grant	Schmitz	HDR
Kyle	Smith	GPI
JORGE	SOTO	Hardesty & Hanover, LLC
Gerard	Sova	Hardesty & Hanover, LLC
Robert	Stachel	HRV
Jason	Stalnaker	Florida Department of Transportation
Jason	Stith	Michael Baker International
James	Stock	Sarasota County Government
David	Stoddard	SSAB Americas
Jonathan	Stratton	Eastern Steelworks
Brad	Streeter	Scougal Rubber
Geoff	Swett	Washington State Department of Transportation
Stephen	Teasley	Hardesty & Hanover, LLC
Mike	Tokar	Associated Engineering Alberta Ltd.
Roberto	Viciedo	Hardesty & Hanover, LLC
Paul	Vinik	GPI
David	Wagner	Florida Department of Transportation
Brian	Watson	HDR
Ronald	Watson	RJ Watson, Inc.
Benjamin	Weaver	Jacobs
Don	White	Georgia Tech
Douglas	Whittaker	Michael Baker International
Michael	Wiersch	Stupp Bridge
Gary	Wisch	DeLong's, Inc.
Brian	Witte	Parsons
Brian	Wolfe	Maryland Transportation Authority
Rafal	Wuttrich	Hardesty & Hanover
Dustin	Young	AISI

First Name	Last Name	Company
Cheng	Yu	University of North Texas

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	Unknown	1	Detailing	Shop Detail Drawing Presentation Guidelines
G1.4	Update - In-Progress	2025	1	Detailing	Guidelines for Design Details
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	Unknown	2	Fabrication and Repair	Guidelines for Resolution of Steel Bridge Fabrication Errors
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 - In-Progress	2025	4	QC/QA	Steel Bridge Fabrication QC/QA Guidelines
G4.2.2021	Released	2021	4	QC/QA	Guidelines for the Qualification of Structural Bolting Inspectors
G4.2	Completed Task Group Ballot	2024	4	QC/QA	Guidelines for the Qualification of Structural Bolting Inspectors
G4.4	Update - In-Progress	2025	4	QC/QA	Sample Owners Quality Assurance Manual

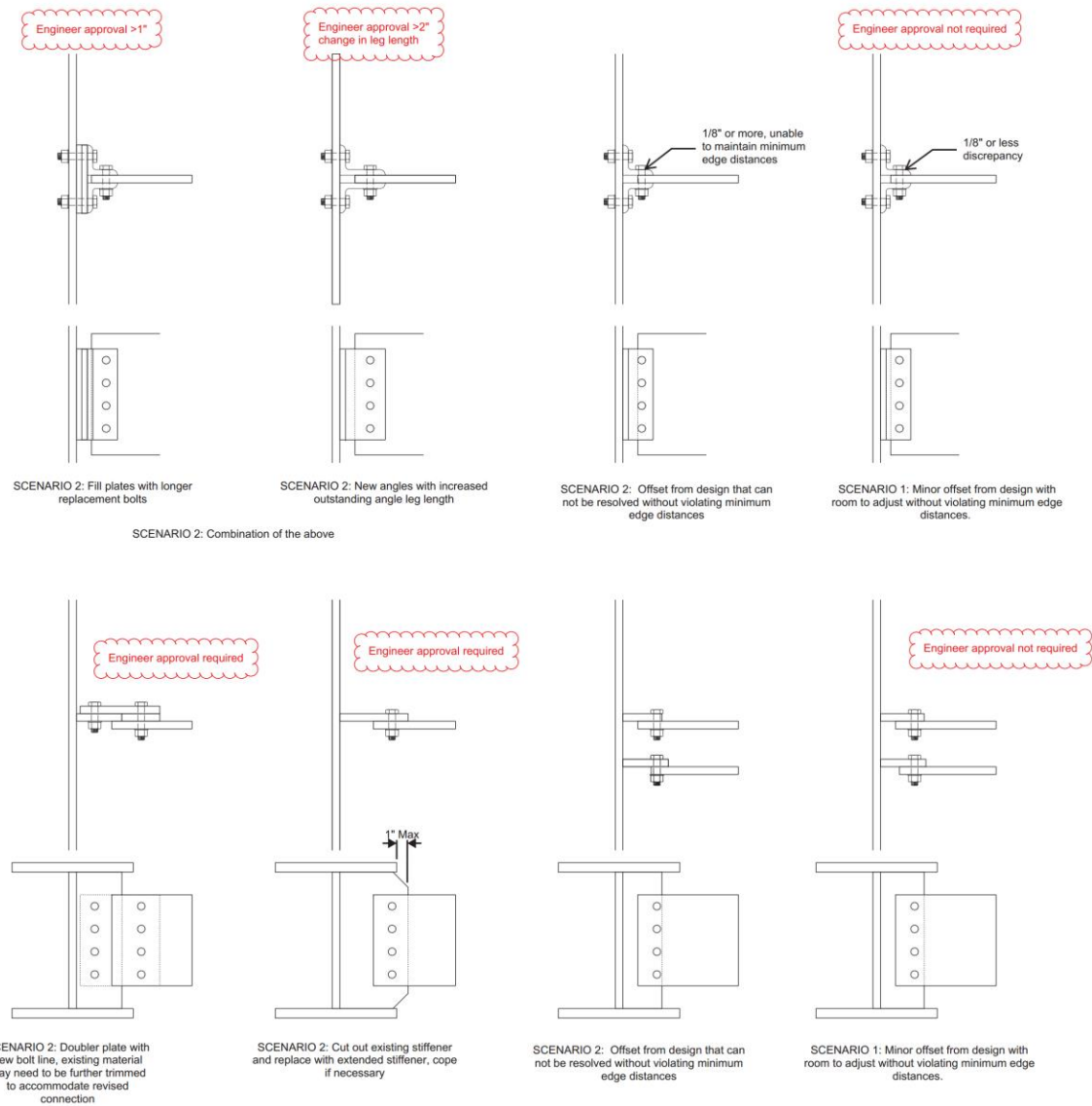
Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
S4.X	New - In-Progress	2025	4	QC/QA	Specification for Steel Bridge Third Party Quality Assurance
S8.1.2014	Released	2014	8	Coatings	Guide Specification for Application of Coating Systems
S8.1	Completed Task Group Ballot	2024	8	Coatings	Guide Specification for Application of Coating Systems
S8.2.2017	Released	2017	8	Coatings	Thermal Spray Coating Guide
S8.3	Released	2022	8	Coatings	Galvanizing Guide Specification
G8.4	New - In-Progress	Unknown	8	Coatings	Detailing for Coatings and Weathering Steel
G9.1	Released	2022	9	Bearings	Steel Bridge Bearing Design and Detailing Guidelines
S10.1.2023	Released	2023	10	Erection	Steel Bridge Erection Guide Specification
G11.1	New - In-Progress	2025	11	Design	Guidelines for the Design of Cross-frame and Diaphragm Members
G12.1.2020	Released	2020	12	Design for Constructability and Fabrication	Guidelines to Design for Constructability and Fabrication
G12.1	Update - In-Progress	2025	12	Design for Constructability and Fabrication	Guidelines to Design for Constructability and Fabrication
G12.2	Start Collaboration Balloting	2024	12	Design for Constructability and Fabrication	Guidelines for Steel Bent Caps
G13.1.2019	Released	2019	13	Analysis of Steel Bridges	Guidelines for Steel Girder Bridge Analysis
G13.2	Start Collaboration Balloting	2024	13	Analysis of Steel Bridges	Guidelines for the Analysis of Trusses

Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
G14.1.2021	Released	2021	14	Field Repairs and Retrofits	Maintenance Guidelines for Steel Bridges to Address Fatigue Cracking and Details at Risk of Constraint Induced Fracture
G14.2.2023	Submitted to AASHTO Publishing	2023	14	Field Repairs and Retrofits	Guidelines for Field Repairs and Retrofits of Steel Bridges
G14.3	New - In-Progress	2025	14	Field Repairs and Retrofits	Database of Sample Field Repair and Retrofit Details for Steel Bridges
G15.10	On Hold	Unknown	15	Data Modeling for Interoperability	BrIM Process Model Definition for Steel Bridge Erection
G15.1	On Hold	Unknown	15	Data Modeling for Interoperability	Designer/Fabricator Exchange
G16.1	New - In-Progress	2025	16	Orthotropic Deck Panels	Guidelines for the Manufacture of Orthotropic Decks and State of Practice
G17.1	New - In-Progress	2025	17	Steel Castings	Guide Specification for Cast Steel Connections
G18.1	New - In-Progress	Unknown	18	Duplex Stainless Steel	Guide Specification for Duplex Stainless Steel - Material
G18.2	New - In-Progress	Unknown	18	Duplex Stainless Steel	Guide Specification for Duplex Stainless Steel - Design
G18.3	New - In-Progress	Unknown	18	Duplex Stainless Steel	Guide Specification for Duplex Stainless Steel - Fabrication

Appendix C – Meeting Attachments

TG 13 Analysis of Steel Bridges – Meeting Presentations

TG 2 Fabrication and Repair – Short Member Sketches



Appendix D – Meeting Schedule

Schedule Overview

NOTE: All times are shown as Eastern Time Zone

Tuesday, October 24

Meeting	Chair	Vice Chair	Start (ET)	End (ET)
TG 1 Detailing	Randy Harrison	Gary Wisch	8:00 AM	Noon
TG 16 Orthotropic Deck Panels	Sougata Roy	Frank Artmont	9:00 AM	Noon
TG 13 Analysis of Steel Bridges	Deanna Nevling	Francesco Russo	1:00 PM	3:00 PM
TG 15 Data Modeling for Interoperability	Aaron Costin	Jonathan Stratton	1:00 PM	3:00 PM
TG 2 Fabrication and Repair	Heather Gilmer	Duncan Paterson	3:00 PM	5:00 PM
TG 9 Bearings	Mike Culmo	Ron Watson	3:00 PM	5:00 PM

Wednesday, October 25

Meeting	Chair	Vice Chair	Start (ET)	End (ET)
TG 12 Design for Constructability and Fabrication	Christina Freeman	Russell Jeck	8:00 AM	9:00 AM
TG 17 Steel Castings	Jennifer Pazdon	Jason Stith	8:00 AM	10:00 AM
Combined TG 1 Detailing, TG 11 Steel Bridge Handbook, TG 12 Design for Constructability and Fabrication	Christina Freeman	Brandon Chavel	9:00 AM	Noon
TG 4 QC/QA	Jamie Hilton	Robin Dunlap	10:00 AM	Noon
TG 10 Erection	Brian Witte	Jason Stith	1:00 PM	3:00 PM
TG 18 Duplex Stainless Steel	Jason Provines	Nancy Baddoo	1:00 PM	4:00 PM
TG 14 Field Repairs and Retrofits	Kyle Smith	Nick Haltvick	3:00 PM	5:00 PM

Thursday, October 26

Meeting	Chair	Vice Chair	Start (ET)	End (ET)
TG 8 Coatings	Paul Vinik	Johnnie Miller	8:00 AM	10:00 AM
TG 11 Design	Brandon Chavel	Domenic Coletti	8:00 AM	10:00 AM
MC Main Committee	Ronnie Medlock	Christina Freeman	10:00 AM	Noon