New Hampshire Department of Transportation

BUREAU OF BRIDGE DESIGN

Office Meeting Minutes – April 26, 2018

In Attendance (X):

	Administration			Consultant Section			In-House Design	
X	Bob Landry	LRL	X	Joe Adams	JCA	X	David Scott	DLS
	Lynn Paquette	LP	X	Bob Juliano	RAJ	X	Bill Saffian	WPS
			X	Mike Licciardi	MGL	X	Jason Tremblay	JAT
			X	John Sargent	JAS	X	Tony Weatherbee	ANW
	Trainees		X	Ron Kleiner	RLK	X	Sue Guptill	SMG
							Aaron Janssen	ACJ
				Existing Br Section		X	Pete Parenteau	PJP
				Nick Goulas	NBG	X	Angela Hubbard	ABH
				Ken Morrison	KLM	X	Chelsea Noyes	CKN
	Guests			John Poisson	JTP		Kevin Daigle	KFD
			X	Jerry Zoller	JSZ		Phil Brogan	PAB
				Laith Qurreh	LOQ	X	Mark Wagner	MGW
						X	Jackie Hozza	JEH

Items:

1. Good luck to Ron Kleiner who is moving to a position in Planning and Community assistance. With Doug Gosling's retirement, this leaves two bridge related personnel vacancies.

2. DLS put forward the fact that the Department has not done a very good job to date of tracking which deck panel option contracts actually do deck panels and as such, we don't have a good way to track the costs associated with deck panels vs. CIP decks. DLS solicited ideas about how we might best alter our practice to provide this in the future. His idea was to provide two designs in the contract documents: one for the CIP deck as we typically do now and one complete one for the deck panel options which would provide panel layout, adjusted rebar layout and quantity as well as adjusted concrete quantities. This is put in IPDWeb as an alternative design and put out to bid. It was voiced by SMG that this would be significant additional work for technicians. WPS and RAJ voiced the idea of introducing items for each option but not doing all the footwork in the plans. More discussion is needed as well as a small project to introduce this concept. Future discussion is needed with Dennis Herrick to determine how best to do this to avoid potential problems with items bid as $0 (for option not pursued by bidder) or whether both items should be bid by all bidders.

3. AASHTO Agenda Items Update: DLS solicited a summary of agenda items up for adoption in the next AASHTO meeting from each of the reviewers. The following reviews were offered:

   - T-4 (reviewed by CKN and PAB): Section 8, "Fabrication and Assembly Planning," Section 8.6.1 "Assembly Sequence and Construction Methods." In this section, the lateral bridge slide plan is now required to include a system test prior to the actual move, as well as a contingency plan for difficulties during the bridge slide.
   - T-6 (reviewed by JEH): proposing a new guide specification for the Design of Concrete Bridge Beams Prestressed using CFRP (Carbon Fiber Reinforced Polymer), as well as guide specifications for Design of GFRP (Glass Fiber Reinforced Polymer) Reinforced Concrete which expands the current Guide for Design of GFRP Reinforced Concrete

Bridge Deck and Traffic Railings to include substructure and foundation elements and compression members.

- T-10 (reviewed by RLK): four things. Adding a factor to the shear equations for concrete beams to account for ducts, clarifying the splice requirements for WWF, adding guidelines for strands used in prestressed concrete beams exclusively for transport/erection, and reducing the cover requirements for concrete with corrosion resistant reinforcing.

- T-14 (reviewed by RAJ): Technical Committee for Structural Steel Design is proposing an AASHTO Guide Specifications for Analysis and Identification of Fracture Critical Members (FCM) and System Redundant Members (SRM). This Guide Spec will provide a framework to evaluate the redundancy of typical steel bridges, and designate primary steel members as FCMs or SRMs. A SRM is a steel primary member subject to tension for which the redundancy is not known by engineering judgment, but which is demonstrated to have redundancy through a refined analysis. A SRM is subjected to same fabrication requirements as a FCM, but is inspection requirements are lessened.

- T-14 (reviewed by JSZ): Tech Comm- Structural Steel Design
    i. Re: NSBA S2.1 Guide Spec for Steel Bridge Fabrication
        - All the proposed changes are updates to the S2.1 Guide to be in line with recent AASHTO changes. All acceptable.
        - My primary point is that this NSBA document is a resource that bridge designers should be aware of. It contains a lot of guidance and commentary involving steel fabrication practices and issues that are important in the shop but may not be common knowledge to the designer (e.g. material references, fastener spacing, metallizing and galvanizing at faying surfaces, bolt testing, blast cleaning, heat curving, etc.). This NSBA Guide should be used in conjunction with and in subjection to the Bridge Design Manual and the NHDOT Standard Specifications.
        - The NSBA Guides are recommended for reference and may be found as follows: Google: “AISC NSBA” and select NSBA / then AASHTO-NSBA Collaboration / view documents.

- T-15 (reviewed by DLS): Abutments and Retaining Structures, recommends moving the check of global stability of earth slopes from the Service Limit state to the Strength Limit state. They also recommend a new subsection for Section 11 to address the design of soil nail walls.
- T-17 (reviewed by JSZ): Tech Comm- Welding
    i. Re: AASHTO/AWS D1.5- Bridge Welding Code
        - All the proposed changes are acceptable and represent editorial or minor corrections to technical welding/fabrication issues (e.g. qualification when electrodes are renamed, requirements for hydrogen diffusion postheat, emphasis on FCM designations, dry time for welding flux, etc.)
        - My primary emphasis is to make our group aware that the wording for curving main member material has been upgraded to match changes in the AASHTO Design spec. The wording used to say that cold bending of primary tension members was prohibited. AASHTO changed that in 2012 to allow both cold bending as well as heat bending. Our Standard Specification has since been upgraded in section 550.3.5.11.

4. DLS discussed the frequency of estimates that are needed for projects: TS&L gets a Municipal Bridge type estimate (slope intercept); PP, PPSE and PSE get estimates based on item and unit costs. Include major items with higher contingencies for PP lower the contingency amount as design progresses through PPSE to where contingency is eliminated at PSE level estimate.

5. DLS noted that from the Spec Committee: Item 530 Waterproofing Concrete Surfaces is leaving spec book. It will move to a Special Provision. Item 536 Epoxy Coating for Concrete is still available.

6. DLS noted that the New Ipswich project done by JAT and MGL is being awarded a 2018 Preservation Achievement Award.

7. Discussion was had surrounding the need to crash test our current steel bridge rail for MASH criteria by Dec. 2019. JSZ noted that he believes the Departments T3 rail will pass a MASH test but noted that the time is now to begin that process to complete by the deadline. ABH noted that MassDOT has a MASH compliant bridge rail that was used on the Sewalls Falls Bridge but has concrete end posts. JSZ noted his dissatisfaction at the idea of using concrete end posts. LRL noted that our T3 approach rail also needs to be tested and that other states may be interested in crash testing our bridge rail systems.

Round the Table:

RLK: RLK attended the MassDOT Innovation & Mobility Exchange April 10-11 in Worcester MA. One highlight was the Casey Arborway project in Boston where they had to find an historic use for the wood from historic trees that needed to be cut down. Another was the modeling of the MassDOT bridge approach unit where they determined that that system should be able to pass a MASH criteria crash test.

WPS: WPS attended the National Bridge Preservation and Partnership Conference in Orlando, Fla. 40+ vendors, 600+ attendees from DOT, FHWA, and Contractors. Asset management was a hot topic. Some takeaways: Incorporating other techniques in addition to chain dragging may better qualify amount of work to be done to rehab decks. Some techniques such as rebar cover surveys, methods that measure electrical resistance or ground penetrating rebar. WPS wondered if getting a map of rebar cover at the time of construction may be helpful in gauging future rehab effort. DLS said he would inquire as to what that would take to do. Some other products on display included many joint materials that were touted as easy to install and lasting forever; galvanized rebar, stainless steel rebar, pipe liners, and cathodic protection.

Prepared by: WPS
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