

KYTC Division of Structural Design/ACEC-KY Bridge Sub-Committee Partnering Meeting

Wednesday, December 5, 2012, 8:30 AM – 10:00 AM

Minutes

These minutes provide an outline of discussions at the Division of Structural Design (DOSD) and ACEC Bridge Subcommittee partnering meeting held at the Transportation Cabinet Office Building. Those in attendance were:

Mark Hite	Director, Division of Structural Design
Bill McKinney	Division of Structural Design
Kevin Sandefur	Division of Structural Design
David Deitz	Palmer Engineering
Pete Szak	Florence & Hutcheson, Inc.
Aaron Stover	Michael Baker
Craig Klusman	URS
David Depp	Johnson, Depp & Quisenberry
Doug Burton	Lochner

Discussion topics included:

1. Stage II Final Electronic Plan Submissions: As discussed in previous partnering meetings, the DOSD requires full size PDF plan submission for Stage II Final plans. In addition to a single PDF of the entire plan set, the DOSD requests an individual PDF for each plan sheet be submitted. The individual PDFs are required by Plan Processing.
2. Accelerated Bridge Construction Update: The DOSD reiterated that accelerated bridge construction should be considered in situations where they make sense. Several of these projects have been designed by the DOSD and constructed. The DOSD mentioned that resources available through the Utah DOT would be useful when considering a project for accelerated construction.

A project in Harlan County was specifically discussed. Precast deck panels were utilized to speed deck construction. AA concrete was specified by the designer, however, the Division of Materials suggested that Class D concrete would be a better option since the precasters are used to working with this type of concrete.

3. Distribution of Meeting Minutes: It was decided that the final minutes to partnering meetings would be posted on the ACEC Bridge Subcommittee Website. Once the website has been created the DOSD will provide a link to the ACEC Site on their

webpage. David Deitz will coordinate with Earl Downey to add the link to the DOSD website.

4. Hybrid Beam Standard Details: There are no plans at this time to provide standard details for Hybrid beam shapes. In general, the DOSD prefers to use standard AASHTO or KYTC beam types. Hybrid beam shapes should only be considered in special situations where they prove to be more economical or are required due to geometric restrictions.
5. 6/10th inch Strand: The DOSD has no reservations with the use of 6/10th inch ($A_s=0.217 \text{ in}^2$) strand in situations where a large prestressing force is required. Smaller ½ inch ($A_s=0.153 \text{ in}^2$) or ½ inch oversized ($A_s=0.167 \text{ in}^2$) strands are preferred if feasible.
6. Preliminary Design Options: The DOSD encourages consideration of rolled steel beam alternates during preliminary design phases. Larger rolled beam shapes are currently available that allow for increased span lengths than previously associated with this type of superstructure. There can be difficulties in determining a constructed unit price for steel beams because structural steel is bid as a lump sum. The DOSD has actual bid price/lb information for structural steel. Designers should contact them for a recommended unit price if necessary.

Similarly, the DOSD encourages consideration of mildly reinforced slab bridges for shorter span structures.

7. Future Guidance: The DOSD is currently working to update the Bridge Guidance Manual. The update completion date is uncertain at this time.
8. Seismic Design Information: A web link to “Seismic-Hazard Maps and Time Histories for the Commonwealth of Kentucky” by Wang et al. was provided by the DOSD and should be considered for the seismic design of bridges. The link information is attached to these minutes.
9. Production Hour Worksheets: Discussions focused on keeping the format of the worksheets short and simple, especially for typical structures.
10. Upcoming Meetings and Training Sessions:
 - a. Bridge Engineering Seminar Day, February 5, 2013, Clarion Hotel Lexington
 - b. Partnering Meeting with DOSD, Late Spring/Early Summer, Date TBD
 - c. Partnering Meeting with the Division of Construction & DOSD, Late Summer, Date TBD

After the meeting additional items were discussed via e-mail:

1. Masonry Coating: Members of the committee have noted that contractors have experienced confusion regarding the limits of masonry coating required. For the time being it was decided

that further clarification will be included in the General Notes to clarify limits of masonry coating to be provided. This item will be discussed in more detail at a future meeting.

2. DOSD Website Issue Date Record: Currently "Issue Date" and "Start Time" information is provided for the "Transmittal Memoranda" and "News & Updates" on the DOSD website. This information is not included for some sections of the website including "Manuals and Downloads" and "Sign Supports". It was agreed that the website would be updated to incorporate this information.

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"Seismic-Hazard Maps And Time Histories For The Commonwealth Of Kentucky", Z. Wang; I.E. Harik; E.W.Woolery; B. Shi; A. Peiris**ABSTRACT**

The ground-motion hazard maps and time histories for three earthquake scenarios, expected earthquakes, probable earthquakes, and maximum crustal surface in hard rock (shear-wave velocity $> 1,500$ m/s), were derived using the deterministic seismic hazard analysis. The results are based on (1) historical instrumental records, and (3) current understanding of the earthquake source, recurrence, and ground-motion attenuation relationship in the central U.S. that there are uncertainties in the groundmotion hazard maps because of the uncertainties inherent in parameters such as earthquake location, magnitude, and recurrence. This study emphasizes the earthquakes that would have maximum impacts on humans and structures. The ground-motion parameters, including use in the recommended zone (not site-specific) where the structure is assumed to be situated at the top of a bedrock foundation. For sites underlain by poorly consolidated soils, it is recommended that site-specific investigations be conducted by qualified professionals in order to determine amplification, liquefaction, slope failure, and other considerations when subjected to the ground motions.

Data for Time Histories and Response Spectra[Close Window](#)