PENNDOT e-Notification

Bureau of Design
Bridge Quality Assurance Division

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A recurring issue has been identified in which designers are inappropriately modeling the haunch in a new design situation.

Under Article 2.7 "Assumptions and Limitations" on p. 2-14 of the PSLRFD user's manual, the differences in how the haunch thickness parameter of the SLB command is interpreted is clearly distinguished for design-mode runs versus analysis-mode runs. In design mode, the haunch thickness is used only for the computation of dead load, while in analysis mode, the haunch thickness is additionally used for the computation of section properties, both to physically locate the slab above the top flange and to include the area of concrete within the haunch itself. During the development of the program, it was assumed that analysis-mode runs would be used exclusively for existing structures in which the thickness of the haunch could be physically measured and field verified. However, for a number of reasons, designers have been using analysis-mode runs as the final step for new designs. While using an analysis-mode run by itself is not a problem, the failure to properly modify the input file for correct interpretation of the haunch is. For new designs, the haunch is to be considered for dead load only and not for section properties.

To avoid the problems associated with taking a design-mode input file and converting it to an analysis-mode input file, designers should specify a value of '0' for the haunch thickness parameter in the SLB command and use the DLD command to specify the weight of the haunch. This way, the haunch will be properly modeled regardless of the mode of run for a new design situation.

A modification to the PSLRFD program is currently being evaluated in which a new parameter would be added to the SLB command. This parameter would be interpreted as the haunch thickness to be used for section property computations. The existing haunch thickness parameter in the SLB command would then be re-interpreted to be the haunch thickness for dead load computations only. This approach would add flexibility in how the designer wants to model the haunch from both a loading and a section property standpoint.

Direct any questions concerning the above issue to:

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