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TO: Structures Division Engineers, Managers, and Consultants

FROM: Ted A. Kniazewycz, P.E., F.ASCE
Civil Engineering Director – Structures Division

DATE: March 7, 2022

RE: Structural Design Memorandum SDM 22-01
Use of Portable Barrier Rail

Effectively immediately, the use of portable barrier rail for phased construction of bridge projects will be based on Design Standard Drawing T-WZ-PCB2. This rail will replace the previously specified Structures Standard Drawing STD-2-1 and Design Standard Drawing T-WZ-PBR1 portable barrier rails.

Design Standard Drawing T-WZ-PCB2 requires a minimum horizontal clearance (measured from the bottom edge of the rail closest to the edge of slab) of 3'-0" if it is freestanding or 2'-0" if a HSS stiffener tube is used in accordance with T-WZ-PCB2A. Do not bolt the rail to the new bridge deck or use the anchor pin details on T-WZ-PCB4. When necessary, the barrier may be bolted to the existing deck if it will be demolished in a future phase of the project.

Although the T-WZ-PCB2 rail will be specified on the bridge plans, contractors will still have the option of using the older Structures Division Standard STD-2-1 and Design Standard Drawing T-WZ-PBR1 rails until 2030. Since these rails are 3" wider than the T-WZ-PCB2 rail, an additional 3" of horizontal clearance is required to accommodate the use of the older rails if chosen by the contractor.

When at least 3'-3" of horizontal clearance is available, specify the T-WZ-PCB2 rail as shown in Figure 1. When less than 3'-3" of horizontal clearance is available, specify the T-WZ-PCB2 rail with a stiffener tube in accordance with T-WZ-PCB2A as shown in Figure 2. However, the minimum horizontal clearance allowed is 2'-3". If this is not available with the given bridge typical section, then the bridge typical section shall be widened so that 2'-3" of horizontal clearance is available. The bridge approaches can be flared to accommodate the widened typical bridge section. Be sure to notify the design Project Development staff of Design Consultant of this modification to the typical section width.

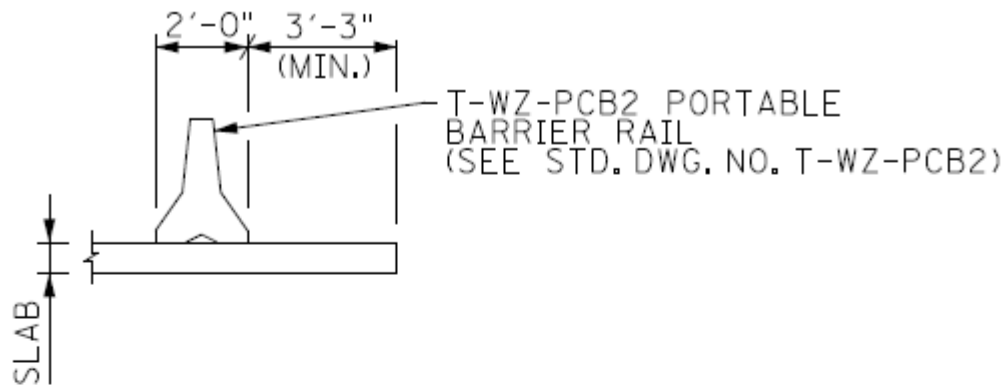


FIGURE 1

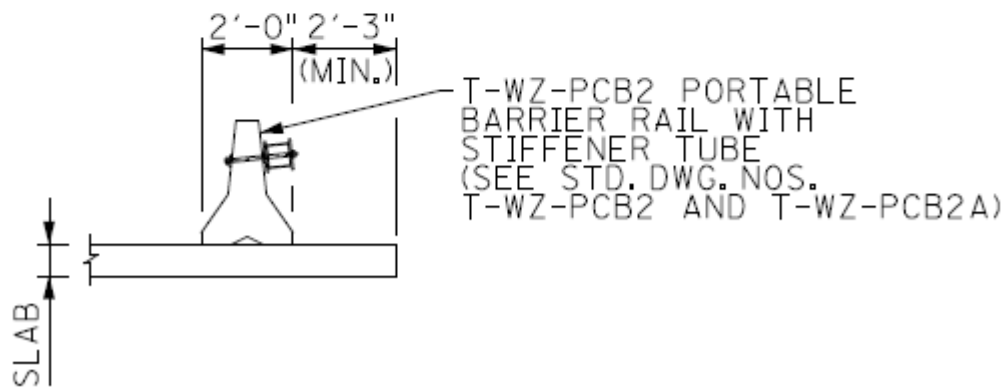


FIGURE 2

Lastly, it is no longer necessary to show the rail quantity in the lower right corner of the bridge layout sheet. It is a roadway quantity that will be calculated by the roadway designer.

This directive is effective as of the date of this Structural Design Memorandum.

CC: SDG-01