

Structures Design Bulletin 24-01
Analysis and Design Criteria for Straight Steel I-Girders
Comments from Industry Review

ACEC-FL
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Comment 03/13/2024: Proposed modifications are not exclusive to I-girders.

Response: Agree, this will be clarified in the bulletin introduction.

Action: The bulletin introduction will be updated to reflect that changes are not exclusive to I-girders.

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Comment 03/13/2024: Are slotted holes still allowed for phase construction as noted on SDM 16.11.G?

Response: Slotted holes are permitted in cross-frame bays that are located under a closure pour.

Action: Update language to "...slotted holes in the cross-frame connections are not allowed except as permitted in cross-frame bays that are located under a closure pour."

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Comment 03/13/2024: SDG 7.1.1.C.3 does not exist.

Response: The paragraph beginning with “Service Limit State” should be C.3. This is an editorial mistake that happened between the 2022 and 2023 SDG that wasn’t caught until now.

Action: Editorial correction will be made in the 2025 Structures Design Guidelines.

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Comment 03/14/2024: SDG 5.11.1 denotes required faying surface condition.

Response: This refers to SDG 5.4 because it tells the designer when to use slip-critical or bearing.

Action: No change needed.

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Comment 03/13/2024: Suggest updating Figures 16.8-4 and 16.8-5 to include notes as needed similar to Figures 16.8-2 and 16.8-3.

Response: Figure 16.8-4 is for longitudinal stiffeners; the notes do not need to be duplicated. Agree on including notes in Figure 16.8-5.

Action: Notes will be added to Figure 16.8-5.

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Comment 03/13/2024: Suggest adding to Figure 16.8-3 a reference to note L (member type) for the gusset plate-to-stiffener connection.

Response: Note L is for member type not the connection.

Action: No change needed.

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Comment 03/13/2024: SDG 1.13. Suggest adding “applicable to Case 1 and Case 2”.

Response: SDG 5.13.2 is the section for Case 1 and Case 2.

Action: No change needed.

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Comment 03/13/2024: Suggest clarifying whether statement on SDG Section 1.13.A.2.a.ii is applicable to prestressed simple span concrete beams made continuous for live load per SDG 4.1.7.

Response: Simple span concrete beams made continuous for live load are applicable to channel span units only per SDG 4.1.7. It is highly unlikely that C-Piers would be used in this application.

Action: No change needed.

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Comment 03/13/2024: Update first paragraph on SDG Section 5.13.1 to “...meet the lowest case number possible shown in the Table.”

Response: Agree.

Action: Paragraph updated to clarify lowest case number possible must be met if Case 1 and Case 2 cannot be met due to roadway geometry constraints and limitations.

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Comment 03/13/2024: SDG 5.13.2.N requires to investigate load combination Strength III for cross-frames located at the end of the unit below a free edge of the concrete deck and at interior supports. It is suggested to tabulate individual design service dead load forces to compute the appropriate Strength III design forces.

Response: Foot notes 3 and 4 direct the designer to apply other forces effects as applicable.

Action: No change needed.

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Comment 03/13/2024: Is the calculation of rating factor for the intermediate cross-frames applicable to end cross-frames?

Response: Yes, it is applicable to end cross-frames.

Action: Update language. Add “and end cross-frames.” to SDG Section 5.14.C.1.

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Comment 03/13/2024: Modification for Non-Conventional Projects blue box instructs you to delete SDG 7.6.F, but it should be SDG 7.6.D instead. Suggestion to also add “see the RFP for requirements”.

Response: Agree with section number, and there is no need to refer to the RFP. There is no pre-scoping question for this, the DB team can choose.

Action: Modification for Non-Conventional Projects blue box updated to “Delete SDG 7.6.D”

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Comment 03/25/2024: There is no need for this plan note. Spec 460-5.4.10.2 directs the placement of the washer when using DTI. Normal procedures are the washer is placed under the turned element to prevent galling. The location of the washer itself is generally not part of the connection design. Better to control the bolt shank than rely on this note.

Response: Agree, but the concern is whether the design considers the threads included or excluded in the shear plane.

Action: The language will be revised to require that the washer and DTI, if used, be placed under the nut and not under the bolt head. In this case, the nut must be the turned element.

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Comment 03/25/2024: Spec 460 does not define any primary members. It contains requirements for primary members when defined elsewhere.

Response: The first sentence in the comment is not correct. Spec 460-1.1 lists members that are designated as "main or primary". The second sentence in the comment is correct, but a change is not needed.

Action: No change needed.

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Comment 03/25/2024: On Section 1.13.A.2.a.ii, clarify which exterior girder. It may seem obvious, but history says it needs defining.

Response: It should be obvious to the designer which girder is an exterior girder.

Action: No change needed.

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Comment 03/25/2024: What about live load distribution factors on curved steel girders? Section 2.9.A does not include them. Recommend changing Section 2.9 to “Live Load Distribution Factors For Straight Girders”.

Response: It's not recommended to add a reference for curved steel girders.

Action: No change needed.
