

STRUCTURES MANUAL INTRODUCTION - REVISION HISTORY

I.6 Clarification of existing criteria.

VOLUME 1 - REVISION HISTORY

- 1.3.2** Updated for consistency with splash zone terminology in Section 1.4.
- 1.3.3** Figure 1: Updated for consistency with splash zone terminology in Sections 1.4 and 4.3.
- 1.4.2** Update concrete cover for auger cast piles to be consistent with specification requirements.
- 1.4.3** Definition of splash zone expanded. Language put in tabular format. Criteria added as part of the Department's ongoing efforts to extend bridge service life.
- 1.4.4** Paragraph C.3: The 3D figure showing the details for mass concrete for pier and expansion joint segments has been moved to Appendix 1B for efficiency of manual production and publishing.

Paragraph D: Editorial changes due to ACI's updated document naming convention.
- 1.5** Policy language is moved from the commentary to the main text.
- 1.6.2** Editorial changes due to ACI's updated document naming convention.
- 1.6.3** Editorial changes due to ACI's updated document naming convention.
- 1.7** Submittal requirements have been removed from the SDG as they are contained in the FDM.
- 1.8** Editorial change.
- 1.11** Post-tensioning systems will be accepted through the shop drawing submittal process instead of through a pre-approved list. Multiple revisions throughout SDG 1.11.
- 2.1.2** Add design policy to clarify intent of existing LRFD code requirement.
- 2.4.3** Commentary added to Table 1.
- 2.6** Section re-written to clarify and simplify language for ease of interpretation and application. Includes policy changes for existing piers.
- 2.11.7** Cross-reference added for clarity.
- 2.11.9** Clarification of existing criteria.
- 3.1** Paragraph J: Criteria added as part of the Department's ongoing efforts to extend bridge service life.

Paragraph L: Clarification of design requirements for concrete tension piles.

Table 1: Clarification of existing criteria.

- 3.5.1** Table 1: Update policy to require highly corrosion resistant materials for piles of pile bents located in the water of extremely aggressive marine environments.
- 3.5.7** Table 1: Extreme Event removed from lateral loading for consistency with AASHTO LRFD BDS.
- 3.5.20** Table 2: Footnote for Extreme Event removed from lateral loading for consistency with AASHTO LRFD BDS.
- 3.6.4** Table 1: Footnote for Extreme Event removed from lateral loading for consistency with AASHTO LRFD BDS. For lateral loading, separate resistance factors provided for specifications and lateral load test QC methods.
- 3.6.9** Updated for consistency with splash zone terminology in Section 1.4.
- 3.8.2** Updated the index number.
- 3.10** Paragraph A: Clarification of existing criteria.

Paragraph D: Modifications made for ease of construction and availability of forming materials.

- 3.11.1** Paragraph F: Update for consistency with splash zone terminology in Section 1.4.
- 3.11.2** Criteria added to address long-term performance of waterline footings.
- 3.12** Clarification of existing criteria and updated index numbers.
- 3.12.3** Clarification of existing criteria.
- 3.12.7** Updated the index number.
- 3.13.2** Clarification of existing criteria in multiple locations.
- 3.13.3** Cross reference to LRFD has been corrected.
- 3.13.4** Updated the index number.
- 3.14.2** Paragraph C: Criteria added.

Paragraph I Commentary: Clarification of existing criteria.

Table 1: Commentary removed to clarify design policy intent.

- 3.14.3** New policy items for flared sections of fender systems.
- 3.17** Criteria regarding load modifiers and load factors has been removed from the SDG to default to the criteria as stated in the AASHTO LRFD BDS.

- 3.18.1** Editorial changes due to ACI’s updated document naming convention.
- 4.1.5** Editorial changes due to ACI’s updated document naming convention.
- 4.1.7** Spans lengths are limited to 200-feet to mitigate restraint cracking issues which are magnified with longer spans.
- 4.2.5** Table 1: Added minimum bottom reinforcing steel areas for decks supporting inboard traffic railings and updated footnotes.

Table 2: Updated for consistency with Table 1.
- 4.2.6** Paragraph C: Clarification of existing criteria. Revised plan note to provide an alternate condition based on cylinder testing that allows the contractor to proceed with the next deck pour.
- 4.3.1** Paragraph A: Stainless steel strands are introduced in pretensioned concrete beams as part of the Department’s ongoing efforts to advance the use of highly corrosion resistant materials to extend service life.

Paragraph C: Clarification of existing criteria.
- 4.3.4** Duplicate criteria has been removed.
- 5.8** Criteria moved from SDM and clarified for intent.
- 5.9** Updated language to allow, not mandate, bearing stiffeners to be normal to the bottom flange for grades less than 4%. Bearing stiffeners that are vertical after full dead load for grades less than 4% will comply with SDG criteria.
- 5.11** Criteria moved from 5.11.1 and commentary added for clarity.
- 5.11.1** Criteria moved to 5.11.
- 5.11.3** Additional information provided for consistency with industry standards.
- 6.7.1** Editorial change. Deleted duplicate language.
- 6.7.4** Editorial changes due to ACI’s updated document naming convention.
- 6.7.6** Criteria moved from Section 2.6.
- 6.8.1** Updated language for consistency.
- 6.10** Commentary added and rearranged for clarity.
- 7.3.6** Clarification of existing criteria.
- 8.6.11** Editorial changes due to ACI’s updated document naming convention.
- 9.1** The Department’s Every Day Counts Webpage has been archived due to lack of use.
- 9.2** Updated table with bridge cost per square foot ranges.

- 9.2.1** Additional information provided to draw attention to "hidden" costs of GFRP reinforcing due to testing requirements.
- 9.2.2** Section B2: Footnotes 1 and 2 were inadvertently omitted from the 2021 Structures Manual and have been restored.

Section B2 Footnote 3: The Department does not have sufficient bid history or reliable cost data for alternative reinforcing materials.

Section C2: Clarification of existing information.

Section D2: Additional information provided to draw attention to "hidden" costs of GFRP reinforcing due to testing requirements.
- 9.2.3** Clarification to provide a clear mechanism for acceptance.
- 9.3** Source provided for obtaining inflation factors.

VOLUME 2 - REVISION HISTORY

- 1.1** Updated paragraph and added commentary to acknowledge the development of model-centric plans.
- 1.2** References to specific chapters of the CADD Manual have been removed. Updated to acknowledge the development of model-centric plans.
- 1.4** Updated to coordinate with the Department's transition to Estimated Quantity Reports.
- 1.2** Updated to acknowledge the development of model-centric plans.
- 2.1** Updated references to CADD Manual and CADD resources.
- 2.12** References to specific chapters of the CADD Manual have been removed. Updated reference to feature definition
- 2.16** Updated reference to Structures Cell Library.
- 3.1** References to specific chapters of the CADD Manual have been removed. Updated reference to Structures Cell Library. Updated reference from QC Checker to Quality Control checker tool.
- 3.8** References to specific chapters of the CADD Manual have been removed.
- 4.1** Updated reference to feature definitions. References to specific chapters of the CADD Manual have been removed.
- 4.3.4** Updated to acknowledge the development of model-centric plans.
- 4.3.10** Updated to acknowledge the development of model-centric plans.
- 5.2** Utility locations are required to be shown on the Foundation Layout plan sheets. Updated to acknowledge development of model-centric plans.
- 5.3** Paragraph C: Remove steel general note that duplicates requirements of AWS D1.5.
- Paragraph C: Updated language to allow, not mandate, bearing stiffeners to be normal to the bottom flange for grades less than 4%. Bearing stiffeners that are vertical after full dead load for grades less than 4% will now comply with SDG criteria.
- Paragraph E: Update typical steel general notes to indicate connection type and surface condition.
- 6.1** Updated to reference files in .dgn format.
- 7.2** Removed the requirement to show temporary critical walls on the Plan and Elevation plan sheets. The intent is that Plan and Elevation sheets depict the permanent condition.

- 11.1** Clarification of existing criteria.
- 11.2** Clarification of existing criteria.
- 11.4** Updated reference to Structures Cell Library.
- 11.6.1** Concrete tension pile details have been revised to address constructibility issues.
- 12.5** Figure 1: Clarification of existing criteria.
- 13.9** Paragraph and figure removed. Steel boxes supported on staggered columns can result in undesirable responses and are not necessarily preferred over other structural solutions such as integral caps.
- 13.13** Post-tensioning systems will be accepted through the shop drawing submittal process instead of through a pre-approved list.
- 15.1** Updated reference to Structures Cell Library.
- 15.4** Details required for bridges with raise sidewalks.
- 15.5** Editorial change.

Paragraph F: Detailing requirements added to address constructibility for bridges with raised sidewalks.

Figure 4: Clarification of existing criteria.

Figure 5: Editorial change.

Figure 6: Detailing requirements added to address constructibility for bridges with raised sidewalks.

- 15.10** Notes regarding payment have been removed. Payment will be addressed in Section 461 of the January 2022 Specifications.
- 16.3** Paragraph J: Update detailing requirements to actual practice. The span and unit number are typically not included on the steel framing plan.

Figure 1: Editorial change.
- 16.4** Editorial changes.
- 16.6** Criteria reorganization.
- 16.11** Criteria added for constructibility and durability.
- 19.2.3** Update reference to Structures Cell Library.
- 19.5** Update reference to Structures Cell Library.
- 19.5.2** Update reference to Structures Cell Library.

- 19.6** Update reference to Structures Cell Library.
- 19.7** Traveled Way terminology used for consistency with the FDM. Shoulders designated for emergency use by the Emergency Management Office must be safe for use by the traveling public during construction operations. A temporary wall supporting the shoulder of an Emergency Shoulder Use (ESU) Corridor must be designed and detailed in the plans.
- 22.2** Updated reference to Structures Cell Library.
- 25.1** The Department's Every Day Counts Webpage has been archived due to lack of use.
- 25.4.3** The Department's Every Day Counts Webpage has been archived due to lack of use.

VOLUME 3 - REVISION HISTORY

- 2** Removed Section 2.5.9. Standard Plans Instructions for Indexes 649-030 and 649-031 state to mount luminaires on mast arms only where project constraints do not allow for placement of independent light poles. Due to electrical and maintenance complications, mounting luminaires on mast arms is considered a last resort by lighting engineers. If the District anticipates the future need to mount luminaires on a mast arm, this can be accommodated in the design capacity and plan details on a case-by-case basis.
- 2.4.2.4** Clarification of existing criteria.
- 4.7** Commentary added for clarity.
- 10.4.2.1** Clarification of existing criteria for consistency with Standard Plans Instructions for Index 641-020.
- 11.6** Updated terminology to DMS.
- 11.7.1.1** Clarification of existing criteria. Updated index number. Added commentary.
- 11.8** Clarification of existing criteria.
- 13.6.1.1** Clarification of existing criteria.
- 18.3** Commentary added for clarity.

VOLUME 4 - REVISION HISTORY

- 2.2** Editorial changes due to ACI's updated document naming convention.
- 2.3** Paragraphs C and D: Editorial changes due to ACI's updated document naming convention.
- Paragraph G: Updated Index number.
- 3.1** Updated Department policy.
- 3.2** Editorial changes due to ACI's updated document naming convention.
- 3.3** Editorial changes due to ACI's updated document naming convention. Added upper limit on the jacking force for CFRP strands to match the corresponding size steel strands that will be used for the stressing tails during tensioning.
- 4.2** Editorial changes due to ACI's updated document naming convention. Criteria which is covered in ACI has been removed. References to ACI documents have been updated to the most current version.
- 4.3** All offices required for coordination are listed.
- 7.2** Editorial changes due to ACI's updated document naming convention.