



Bridge Design Details 1.6 August 2019

Use of Bridge Standard Detail Sheets (XS-Sheets)

Bridge Standard Details (XS-SHEETS) contain pre-engineered details for a variety of structural components, such as earth retaining systems, sound walls, joint seal assemblies, bridge railings, and underground structures. The use of XS-SHEETS provides an efficient means of reducing engineering and detailing efforts for a specific project.

XS-SHEETS may be incorporated into the project “as is” (unmodified) or with modifications. XS-SHEETS inserted into the plans as detail sheets shall contain details and dimensions specific to a set of Structure Plans or Roadway Plans. XS-SHEETS are to be signed by the Project Engineer who is responsible for the selection and proper application of the component design and any modifications shown.

Eventually, XS-SHEETS posted on-line may become Standard Plans. By becoming Standard Plans, the number of Structure Plan sheets may be reduced in the future and the details will be available for all contracts.

Modifying Bridge Standard Detail Sheets

Modifications to an XS-SHEET shall be denoted as follows:

- Modifications shall be indicated by a pentagon shaped symbol (⬠) placed near the revised portion of the detail. A modification number shall be placed inside the pentagon (e.g., ⬠₂). Consecutively numbered pentagons shall be used to indicate multiple changes.
- Corresponding symbols and brief explanations shall be placed in the border at bottom left-center.
- Details and notes that do not apply shall be crossed out. Any details or notes that are removed or replaced shall be indicated as a modification.
- The text “SPECIAL DETAILS” shall be added directly above the title block of the XS-SHEET.
- If more than one modified XS-SHEET is needed for a project or structure, the modification numbers (e.g., ⬠₁, ⬠₂) shall start over with each modified XS-SHEET.
- When directed by the Specifications Engineer, “(Mod)” shall be added after the XS-SHEET title to indicate that the modifications in the XS-SHEET impact the bid item of the structural component and the standard bid item designation no longer applies.



If significant modifications to the XS-SHEETS are required, the Project Engineer may place the modified details and notes on a new Structure Design Detail sheet in a structures detail border. The Project Engineer shall consult with the Technical Owner of the XS-SHEET to fully discuss the design methodology and the impacts of the changes. If a new sheet is used, the details shall be designed, detailed, and checked as a new structural component by the project design team. To avoid confusion, the new Sheet Title shall conform to the given set of plans and be different from the XS-SHEETS from which the details are derived.

The latest XS-SHEETS and associated Technical Owners can be found on-line.

See *Bridge Design Details*: 1.6 Modified Bridge Standard Detailing Example, Attachment 1A.E.1 for an example of a modified XS-SHEET.