

Procedures for Railroad Grade Separation Projects that Remove an Active Warning Device

By [Federal law](#), on projects for the elimination of existing grade crossings at which active warning devices are in place or ordered to be installed by a State regulatory agency, the railroad share of the project costs shall be 5 percent. The railroad share of the project costs shall be based on a theoretical structure developed by the district or the district's consultant. This theoretical structure will be based on the following design criteria:

1. The approach roadway geometry will be designed using the minimum design criteria allowed for the functional class and ADT of the subject roadway. (ie., minimum k-values, design speed, grades, vertical clearance, etc.) Approach roadway for the theoretical structure will terminate as soon as the grade has returned to existing roadway profile.
2. The bridge length will be the minimum length possible to fully span the railroad ROW.
3. The bridge superstructure type for the theoretical structure will be the same as for the proposed bridge span crossing the RR ROW.
4. The width of the theoretical structure will be the same as the proposed bridge width if the number of lanes is kept the same as the number of lanes on the existing bridge. If the proposed bridge has more lanes than the existing structure, the theoretical structure will be the width of the proposed bridge minus the width of the number of extra lanes for the proposed bridge.
5. If retaining walls are used for the proposed bridge to limit the amount of embankment, retaining walls will be used for the theoretical structure.
6. Other design features that are required for the proposed structure, such as culverts, illumination, attenuators, riprap, etc., will be included with the theoretical structure. (See example theoretical estimate for additional examples of such items).

The geometry of the theoretical structure will be presented as a PDF file. The file will contain an elevation view showing vertical geometry of the structure and approaches, and a typical section showing the theoretical bridge cross-section. (See example PDF file).

An estimate will be prepared based on the quantities for the theoretical structure. The format will be an Excel spreadsheet similar to the attached example. Costs for each item associated with the theoretical structure will be the same as for the most current project estimate. If no project estimate exists, use the most up-to date statewide bid cost averages.

The district will forward the PDF file containing the Profile and Typical Section of the theoretical structure and the Excel spreadsheet of the estimate for this structure to the Bridge Division at the same time they submit their Exhibit "A" for the project. The Bridge Division will work with the district to correct any problems with the theoretical structure and will send an approval to the district, as well as sending a copy of the approved theoretical structure and estimate to the Traffic Operations Division for use in developing the railroad agreement. The Railroad's 5% cost participation will be based on the approved estimate spread sheet.