

alignment, the "drainage only" cross-section will extend left and right of centerline also and will show the invert elevations of the existing structure. The "drainage only" cross-section will extend at least one hundred feet (**100 ft**) from centerline and up to two hundred feet (**200 ft**) when a parallel lane is to be constructed. The distance should be measured along the existing ditch or swale and the resultant profile should accurately show the existing conditions. In the case of existing parallel highways with wide medians, the "drainage only" cross-section must extend at least one hundred feet (**100 ft**) upstream and downstream from the existing structure.

In addition to streambeds, there will typically be other areas obscured to Photogrammetry that the survey party will need to collect. Such areas do not facilitate accurate Photogrammetric DTM collection due to heavy vegetation cover (wooded and brushy areas), large structures covering the ground (bridges), etc. When obscure areas need to be collected by the survey party, the Photogrammetry section will furnish a list of the areas, and submit a marked set of photography, annotated Microstation file, or paper plots to the survey engineer. The data will then be secured by the survey party and combined with the Photogrammetry data before the finished DTM is turned over to the design engineer.

When bridge situations are to be secured by Photogrammetric methods, sufficient data shall be secured by the survey party to complete the situation plan in accordance with [Chapter 7](#) of this manual.

For Bridge Site Plans - Highways and Railroads, where there are no existing structures, only pavement and top of rail elevations are needed along with the connection alignment and/or railroad traverse.

For Bridge Site Plans - Widening, all data secured shall be in accordance with **Section 4-14** of this manual with the exception of cross sections. In lieu of cross sections, DTMs shall be secured covering the area under the structure, with sufficient data to cover the information needed to be merged with the data from the Photogrammetry section.