Design Scene Part 2 – Plan Conventions

Chapter 9 Plan and Profile

6/24/2021

Contents

Chapter 9 Plan and Profile

Plan Sheet Legends

There are three acceptable options for legends on Plan Sheet Sets.

Sheet specific legend: Legend on every sheet of the set and the symbols pertain only to the sheet it is on.

Overall legend (on first sheet only): One legend on the first sheet of the set and the symbols apply to any/all sheets in that set. The legend includes either a note stating it pertains to Sheets X to XX or each sheet references the legend on Sheet X.

Overall legend (on each sheet): Each sheet has the same legend on every sheet of the set and the symbols apply to any/all sheets in that set.

The preference is to locate the legend on the right side of the plan sheet.

Plan Sheet Labeling

Assure that all labeling is correct and legible on the construction plan sheets. It should include, but not be limited to: Begin and End SP's, Trunk Highway, C/L, cross streets, stationing, scale (bar scales only), north arrow, Bridge numbers (existing and proposed) and equations (if not included on the general layout).

Special Ditch Grades

There has been some discussion on where special ditch grades should be computed and shown in the plans (bottom or top of topsoil). Engineers, inspectors and surveyors were consulted, and the consensus was to compute and show ditch grades to the bottom of the slope dressing. A note should be placed on the plan or profile describing the location.

Median Crossover at Signalized Intersections

The following information is a first attempt at a solution. Neither the AASHTO Green book nor our design manual give any guidance on this issue. The design of median crossovers at crossroads on divided roadways has been a significant problem. Vehicles often "bottom out" when traversing the crossovers at crossroad speeds.

Methods of flattening the median crossovers between the through lanes have had only limited success in solving the problem. Other ideas have been suggested, such as sloping the inside through lane up to match the slope on the outside through lane and putting a high point in the middle of the crossover. This has potential drawbacks for drainage and through traffic. As a compromise for now, designers should use the following for median crossover design.

Transition the inside through lane to 0.005 ft/ft sloped down toward the median. Continue that slope to the middle of the median crossover to intersect a similar slope from the other roadway. This will reduce the rollover at the roadway crown and at the middle of the median crossover. Roadways in superelevation should be designed so the profiles will allow slopes to be in the same direction all the way across both roadways and the median crossover. This will help eliminate the "roller coaster" effect.