CHAPTER 9: PLAN and PROFILES

CROSSOVER DRAINAGE

The designer needs to pay attention to the placement of the crossovers. They should not be placed at the low point of the project and should be sloped to allow for drainage. It is encouraged to include a profile in the plan for the crossover to ensure that drainage is accounted for.

LEGENDS

There has been some confusion on how legends should be shown on various sheets. There are three acceptable options (in preferred order) for showing legends.

1. Sheet specific legend - The legend goes on every sheet and the information pertains only to the sheet it is on.
2. General single legend - There is only one legend on the first sheet of a set of sheets that covers all the information for that set of sheets. The legend either includes a note stating it pertains to sheets x to xx, or each sheet references the legend on sheet x.
3. Generic legend on each sheet - Each sheet has EXACTLY the same legend on every sheet of the set. If any of the legends has an extra item then they are no longer generic legends.

There has also been confusion as to where the legends need to be placed on the sheet. The preference would be to locate the legend on the right side of the plan sheet. However, there are no set criteria for where to place the legend as long as it is clear what it pertains to.

MEDIAN CROSSOVER/SIGNALIZED

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 slop on the outside through land 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.

PLAN SHEETS

Assure that all labeling is correct and present on the construction plan sheets. It should include, but not be limited to…Begin/End SP's, mainline, cross-streets, stationing, scales (bar scales only), north arrows, Bridges (inplace 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 to and shown in the plans (bottom or top of topsoil). Engineers, inspectors and surveyors were consulted and the general conclusion was that the designers should compute to and show the ditch grades to the bottom of the slope dressing. A note should be placed in the plans explaining their location.