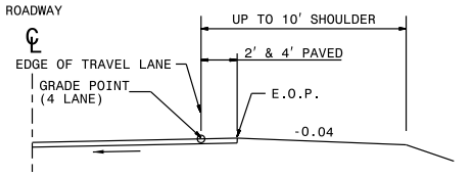
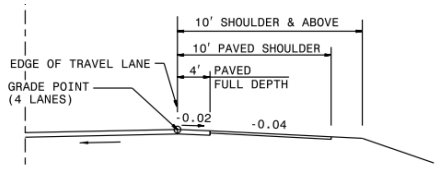
2_51 ROLLOVER POLICY FOR INTERCHANGE RAMPS AND LOOPS

Question:
Are the following examples inconsistencies with some templates, or was this done on purpose?

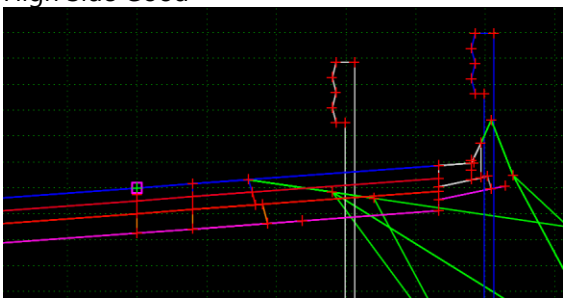
Here's the standards
560.01, 560.02 1 Of 3 Median



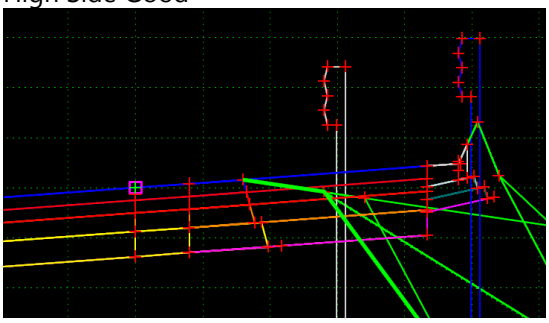
560.02 2 of 3 Median



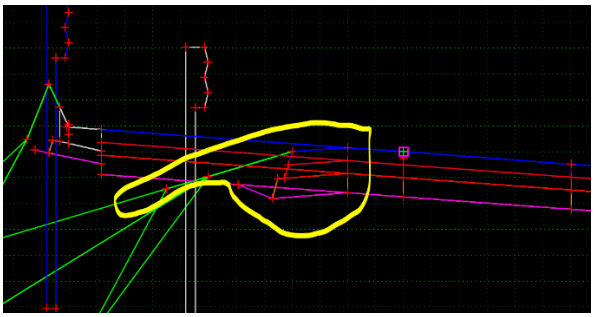
Ramp - Entrance TMP- 3 Layers
High Side Good



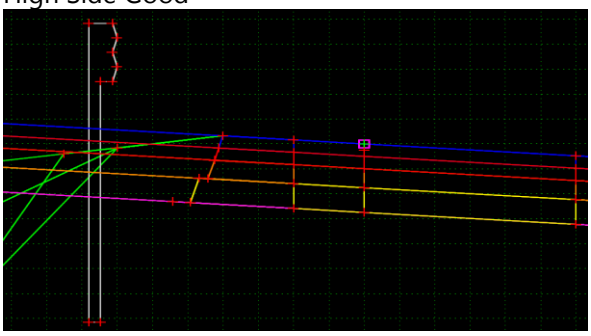
Ramp - Entrance TMP- 4 Layers
High Side Good



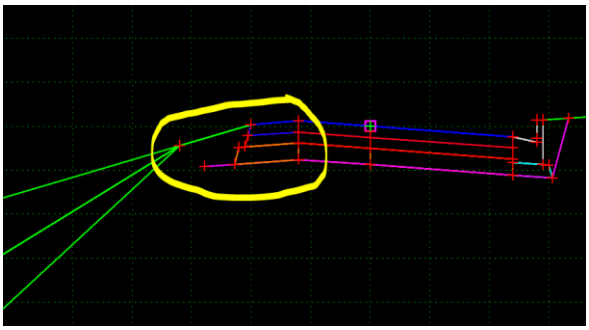
Ramp - Exit TMP- 3 Layers
HIGH SIDE ROLLS OVER AT EOT and not EOP?
08 INSTEAD OF 04 ON TURF SLOPE?
Should this be like the others satisfying 560.01 and 560.02 1 Of 3 Median or is it providing for 560.02 2 of 3 Median?



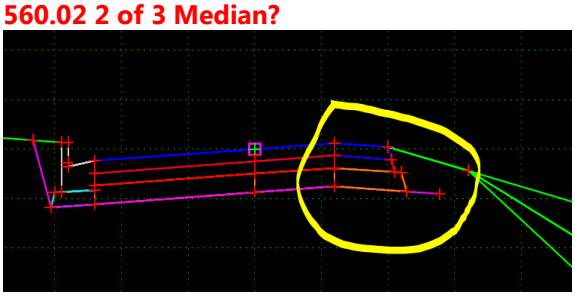
Ramp - Exit TMP- 4 Layers
High Side Good



Loop - Entrance TMP- 3 Layers
HIGH SIDE ROLLS OVER AT EOT and not EOP?
08 INSTEAD OF 04 ON TURF SLOPE?
Should this be like the others satisfying 560.01 and 560.02 1 Of 3 Median or is it providing for 560.02 2 of 3 Median?



Loop - Exit TMP- 3 Layers
HIGH SIDE ROLLS OVER AT EOT and not EOP?
08 INSTEAD OF 04 ON TURF SLOPE?
Should this be like the others satisfying 560.01 and 560.02 1 Of 3 Median or is it providing for 560.02 2 of 3 Median?

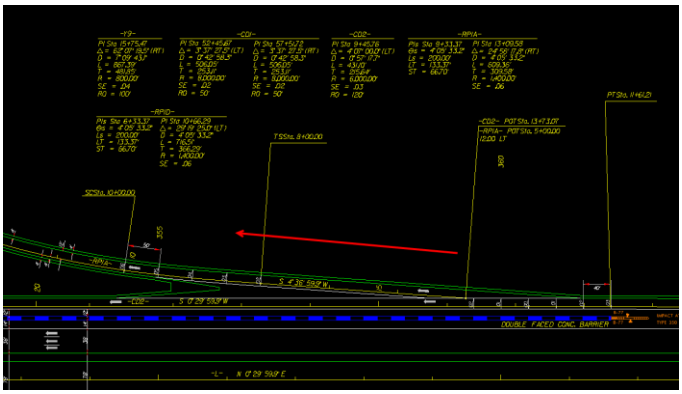


Answer:

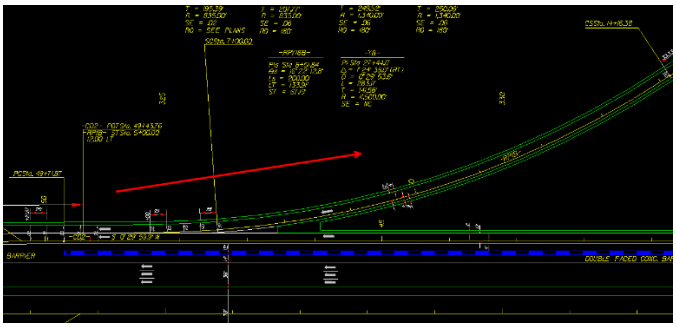
Interchange ramps and loops shoulder rollover standards have a different policy than our normal roadway typical sections. The main reason being the offset of the "crown point" from the centerline/grade point. The second drawing standards (560.02 2 of 3 Median) was not used. This standard drawing was mainly for "partial depth" paved shoulder designs where the first 4' of a 10' paved shoulder is *full depth* while the remaining 6' is just the surface course (*partial depth*).

The templates that are circled in yellow are correct and the ones which adheres to our normal roadway typical sections are wrong (the first drawing standard 560.01, 560.02 1 of 3 Median). To better understand the logic behind the interchange templates, we first must understand the conventions used to write our ramp and loop horizontal alignments. For ramps, stationing starts from the mainline and ends/ties to the -Y- Line. This convention is applicable to both exit and entrance ramps, from and to the mainline respectively.

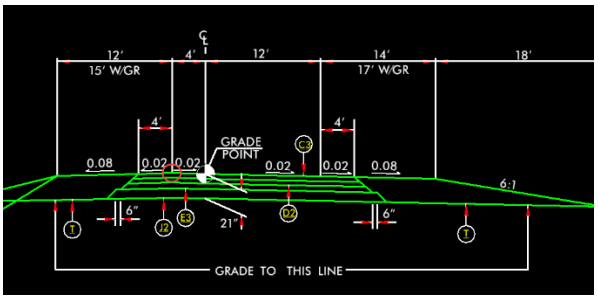
Ramp Exit



Ramp Entrance



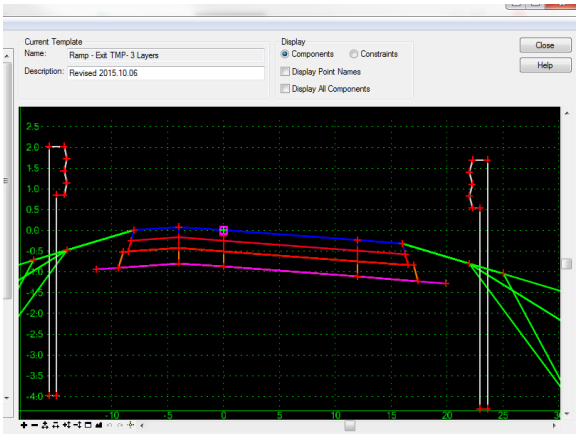
With this convention in mind, notice the location of the ramps inside shoulder. It is always located nearest to the 2' or 4' from the ramps centerline. This where the shoulder slope should break ("crown point"). To further illustrate what ramp templates need to accomplish, the ramp typical section is as follows. Note the location of the "crown".



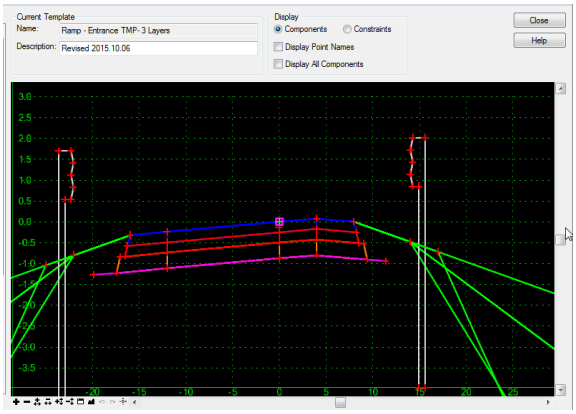
It is preferred not to label this point a true crown point, because it is not and not a high or low side because a typical ramp HAL have a positive and negative deflection on the various curves and spirals. To be consistent, it is always located nearest to the shorter 2′ or 4′ from the centerline, instead of the full 12′ or more pavement width side.

Take into our convention and the typical sections, how do we represent this in our templates? First, there needs to be a ramp exit and ramp entrance type of templates because the ‘crown point” is located differently on the left or right side.

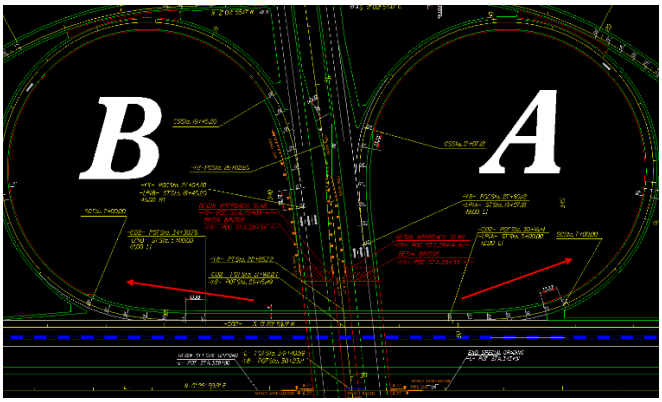
Ramp Exit



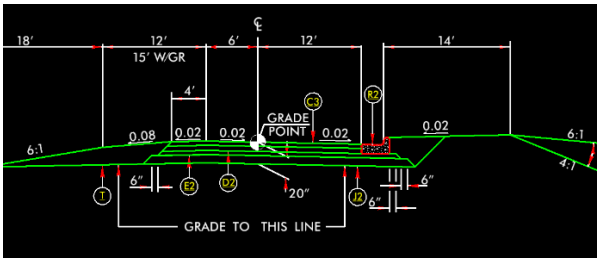
Ramp Entrance



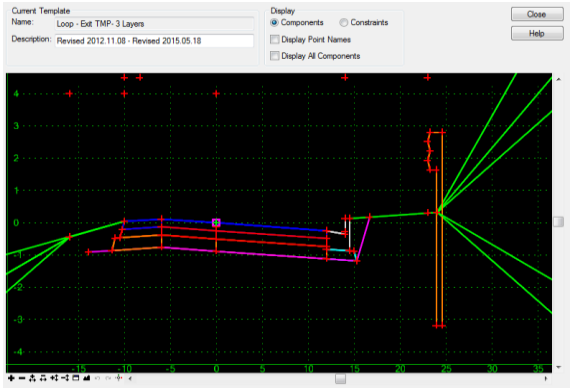
The loop templates are already correct. Again our convention is stationing starts from the mainline.



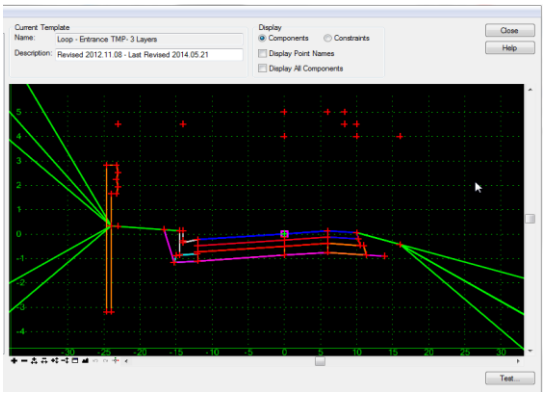
As written, the inside of loop HALs is a curb and gutter section. The outside is normally the shoulder section.



Loop Exit

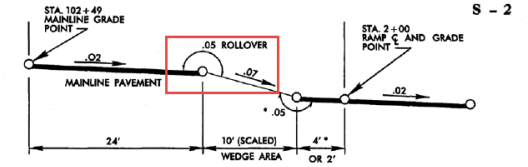


Loop Entrance

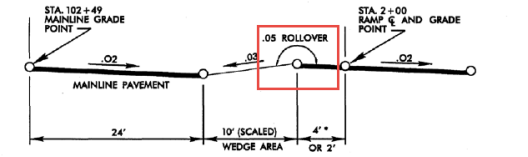


Note that a normal 6% rollover lock is applied to the affected shoulder. Per our policy, you may change this to the standard 5% at the gore nose when you have pavement to pavement contact rollovers between the mainline and ramp/loop.

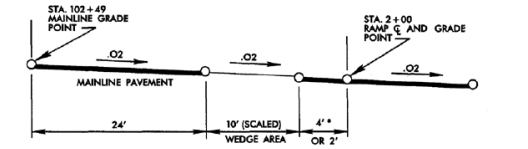
SKETCH 2 S – 5
S – 2



MINIMUM ELEVATION DIAGRAM FOR RAMP GRADE AT STATION 2 + 00



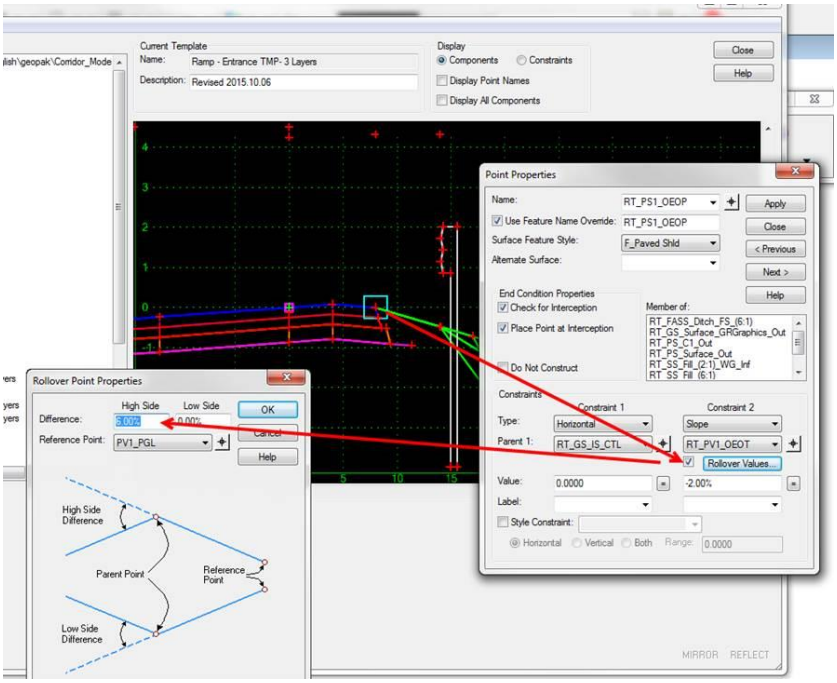
MAXIMUM ELEVATION DIAGRAM FOR RAMP GRADE AT STATION 2 + 00



DESIRABLE ELEVATION DIAGRAM FOR RAMP GRADE AT STATION 2 + 00

NOTE: STATIONS DIMENSIONS AND SUPERELEVATIONS ARE SHOWN AS EXAMPLE SITUATIONS.
* 4' OR 2' DIMENSION DEPENDENT UPON RAMP PAVEMENT WIDTH (16' OR 14')

MAXIMUM/MINIMUM GRADE CONTROL POINTS IN GORE AREA



The template library is updated. Update your roadway workspace to reflect the change.