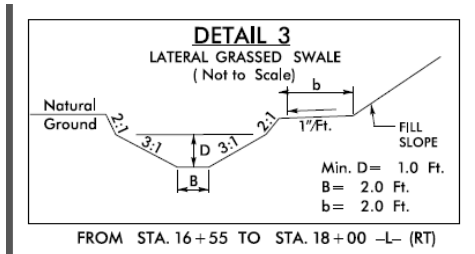


7_07 TEMPLATE CUSTOMIZATION - SPECIAL LATERAL GRASS SWALE

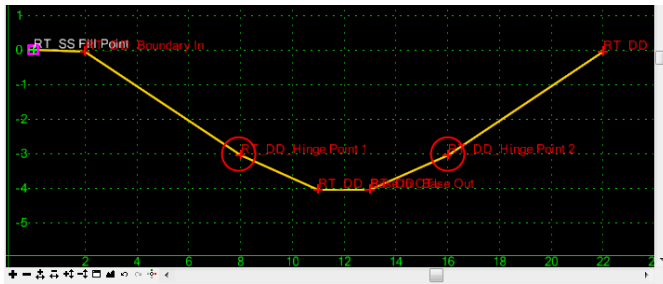
Question:

Is there a ditch template that has a hinge point on the front slope and back slope with the following parameters: the ditch needs to have 3:1 slopes coming up from the base to a depth of 1', then hinge to 2:1 slopes?



Answer:

With the parameters given, some design assumptions need to be made. If 'D' is fixed at 1' (3:1 slopes) then the two fixed 2:1 slopes will have to vary in depth. Take our standard lateral ditch component and insert the two hinge points (Part II of the delta training).



Constrain the hinge points. Note for the first hinge point, the Constraint 2 **Vertical** value is arbitrary. (Part I of the delta training).

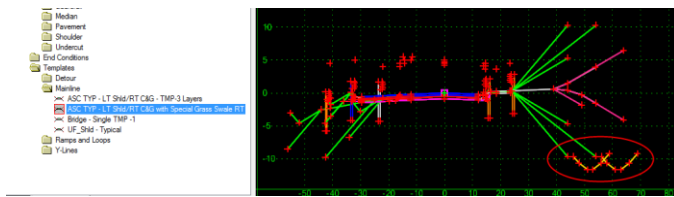
Constraints

Constraint 1	Constraint 2
Type: Slope	Vertical
Parent 1: RT_DD_Boundary In	RT_DD_Boundary In
Parent 2: <input type="checkbox"/> Rollover Values...	
Value: -50.00%	-3.0000
Label:	
Style Constraint: <input type="checkbox"/> Horizontal <input type="radio"/> Vertical <input type="radio"/> Both	Range: 0.0000

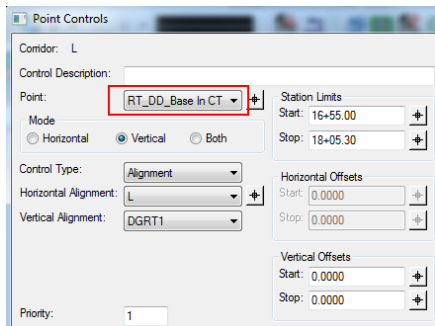
Constraints

Constraint 1	Constraint 2
Type: Vertical	Slope
Parent 1: RT_DD_Base Out	RT_DD_Base Out
Parent 2: <input type="checkbox"/> Rollover Values...	
Value: 1.0000	33.33%
Label:	DD_Back Slope 2 R
Style Constraint: <input type="checkbox"/> Horizontal <input type="radio"/> Vertical <input type="radio"/> Both	Range: 0.0000

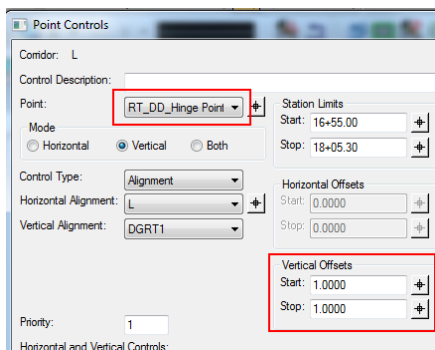
Attach the new customized ditch component to the end conditions of your template and establish the required "Parent-to-Child" relationship (Part I of the delta training).

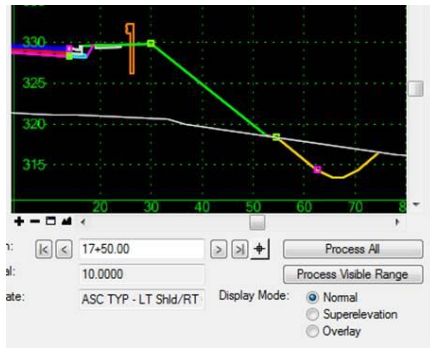


Drop the customized template into Roadway Designer and use Point Controls to determine the ditch grade. Traditionally the inside ditch base point is used as Point Controls for the ditch elevation. However, this proves to be problematic due to the extra hinge points and the way the ditch component was constrained.

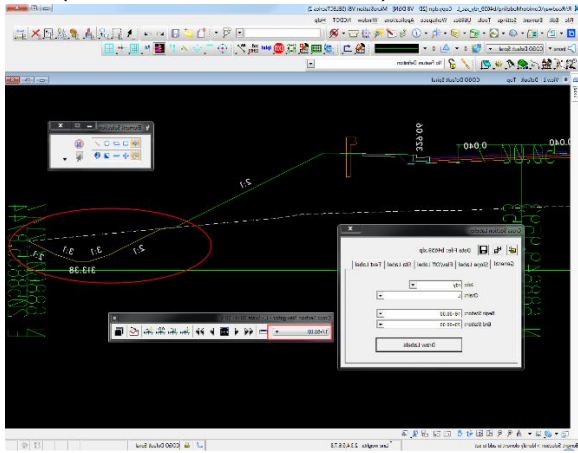


However, if we choose the first hinge point as Point Controls with a vertical offset of 1' then the desired effect is achieved. Remember there is a 1' vertical difference between the bottom ditch base and hinge point 1 (design assumption fixed 3:1 slopes).





XSC (with customized XSLabeler)



Material relevant to this question is taught in Part III-Customizing Templates portion of the delta training. After the completion of the 2 ½ -day course, you will be able to perform the same above modifications to the templates.