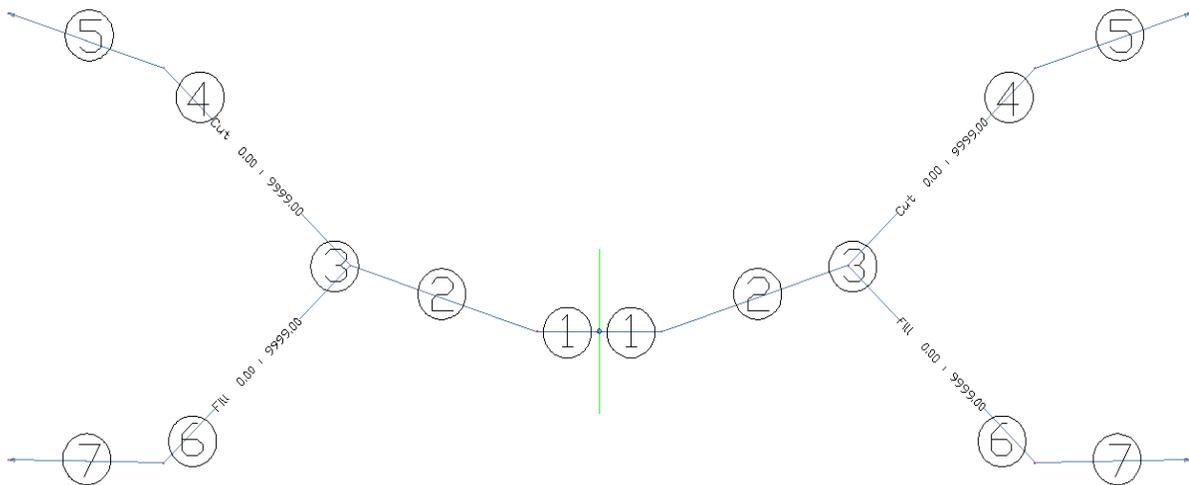


This guide covers how the *ConditionalCutOrFill* subassembly can be used. This is a customized subassembly which has been developed for NRCS and is included as part of the NRCS customization.

This subassembly is used to automatically control which subassemblies area used in an assembly object based on whether a cut or fill condition exists at the point where it is attached. To illustrate how this works, this guide will cover the process of utilizing a *ConditionalCutOrFill* subassembly to place either of the two cross sections shown below depending on whether the top of the channel's side slope is in cut or fill. The cross section to the left is placed when a design depth of 4 feet for the channel is reached before the cross section encounters the original ground profile, while the cross section on the right is placed when additional depth must be provided in order to reach the intersect the original ground surface.



The graphic below shows the assembly object that was used to create the sections above. It includes a flat bottom channel and side slopes that extend up to a design depth of 4 feet. At the top of the 4 foot high side slopes conditional cut or fill subassemblies have been added which will be used to determine how the cross section will be developed based on whether the section is in cut or fill at that point. If the cross section is above the ground profile at the top of the 4 foot high slope (in fill) then the section will be sloped down at a 2% slope until it ties into the ground surface. If the cross section is below ground at the top of the 4 foot high slope (in cut) then the slope will be continued at the same grade upward until it intersects the ground surface.



One thing to keep in mind when working with the conditional cut or fill subassembly object is that the way the cut and fill portions of the subassembly appear in the drawing does not necessarily reflect how the cross section will actually be plotted. These lines are used only to provide connection points for the subassemblies that will be used in each situation.

A summary of the individual subassembly components of the assembly are listed below:

1. Channel bottom width subassemblies.
2. Side slope of channel up to the design depth of 4 feet.
3. Connection point for the conditional cut/fill subassembly. This is the point at which the section will be evaluated to determine if it is in cut or fill at that location.
4. This is a line that is displayed in the assembly object that provides a connection point for the subassembly that will be used when the section is in cut at the location of point 3. This line does not represent how the cross section will actually plot, it is only included for display purposes.

5. This subassembly will extend the channel's side slope until it intersects with the ground surface. It will be used when the section is in cut at point 3, or the top of the channel slope when it reaches its design depth.
6. This is a line that is displayed in the assembly object that provides a connection point for the subassembly that will be used when the section is in fill at the location of point 3. This line does not represent how the cross section will actually plot, it is only included for display purposes.
7. This subassembly will provide a 2% slope to tie into the ground surface when the section is in fill at point 3, or the top of the channel slope when it reaches its design depth.

If you want to ensure that this slope will always slope downward and away from the channel, you will need to set the properties of this subassembly object to fill only, otherwise the program will check both cut and fill and select the shortest of the two distances and slope the line up or down accordingly.