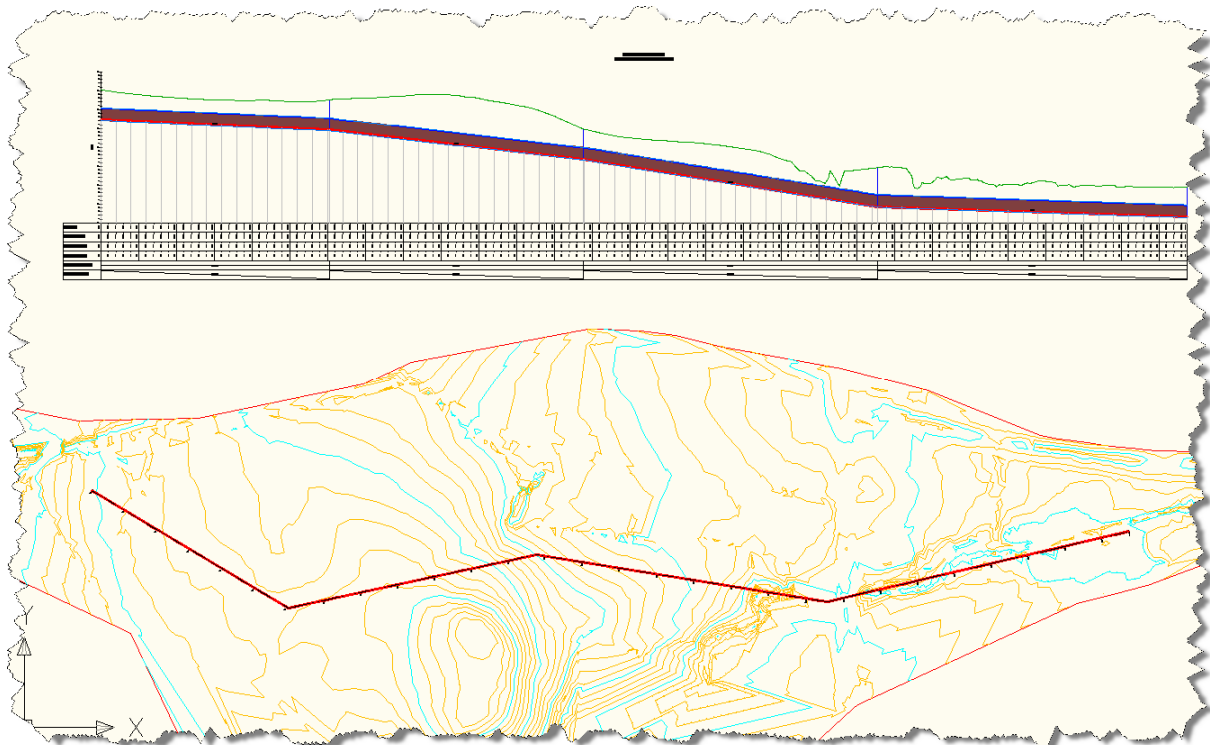


AutoCAD Civil3D 2010

Pipelines from alignments, profiles and corridors

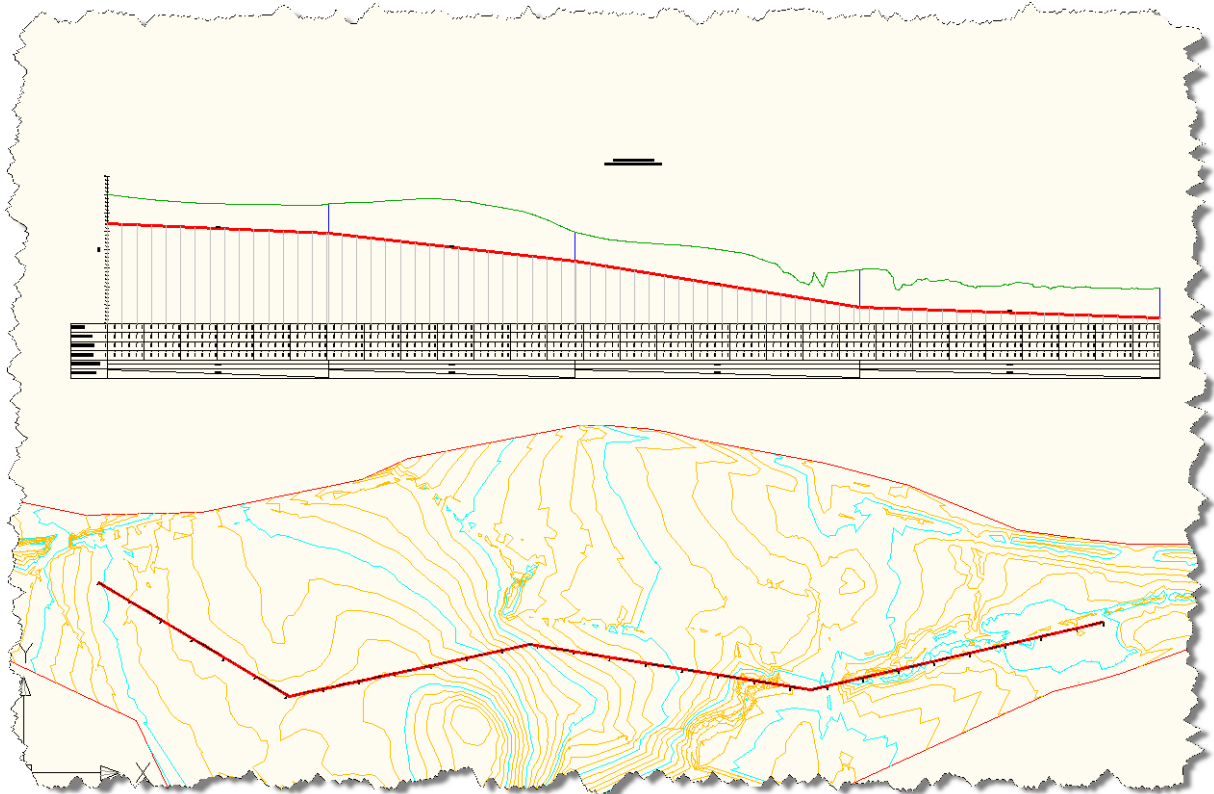
By Jack Strongitharm, Autodesk Ltd, July 2009

For long pipeline projects the use of the Civil 3D pipe object may not give the output that is the most suitable for your requirements. This tip outlines an alternative method that uses alignments, profiles and corridors for the design and of course is fully dynamic!



Procedure

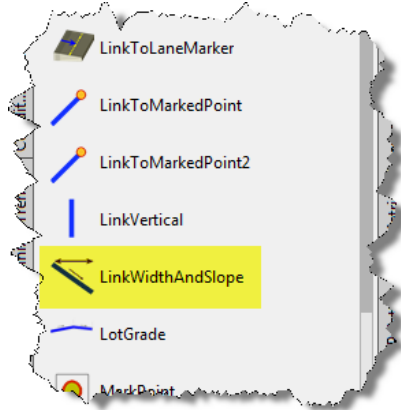
Draw out your pipeline 2D layout with the Alignment tools, or convert a polyline to an alignment. Then layout the profile design using the standard Civil 3D tools



What is then required is the pipe invert, soffit and also the pipe walls. The best way to approach this is to use a corridor.

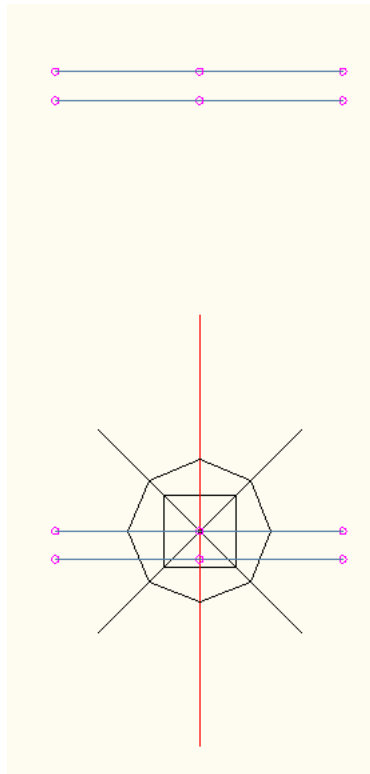
Create an assembly

Using the generic links and 'LinkWidthandSlope', place a link either side of the marker about 1m wide for display purposes and suitable codes as shown below for each level. Use a separate link code for each pipe level, such as Soffit, Invert, TopWall, BottomWall.

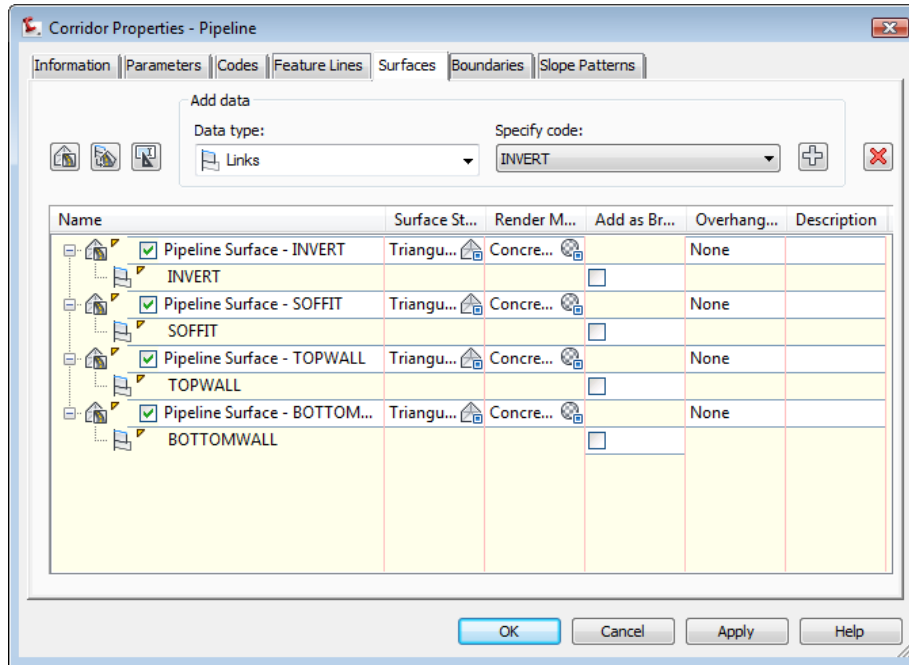


Parameters	
Version	R2010
Side	Left
Width	1.000m
Use Superelevation Slope	None
Slope	0.000%
Point Codes	INVTLEFT
Link Codes	INVERT
Omit Link	No

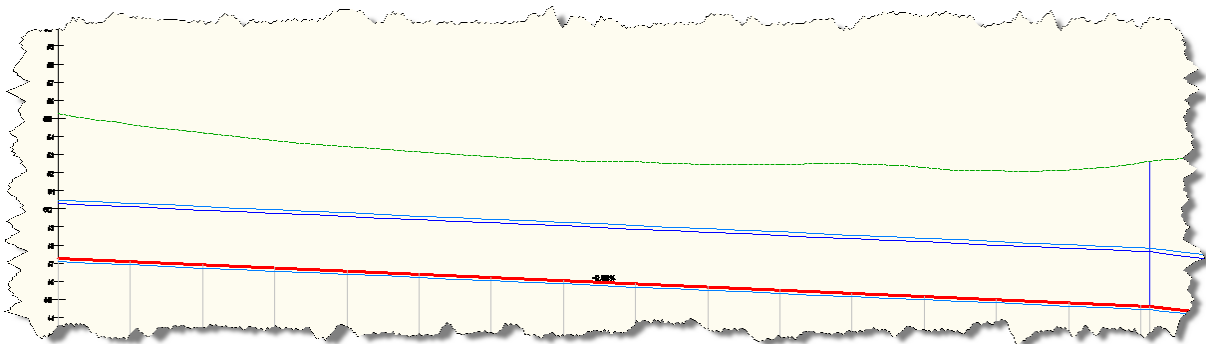
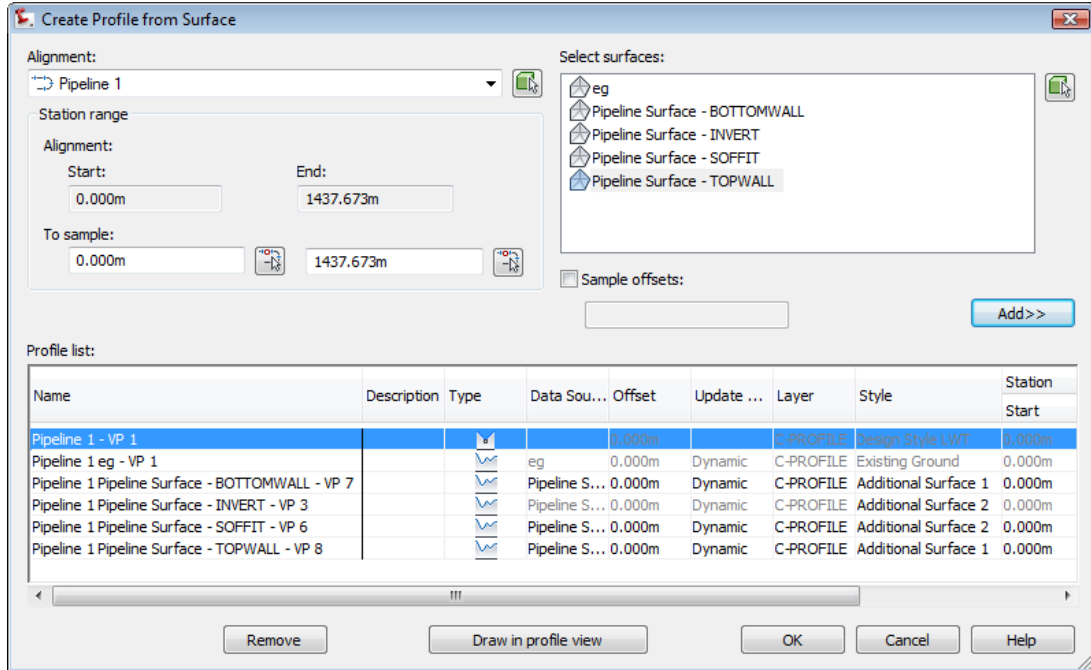
Then using the 'move' command, move the subassemblies into position.



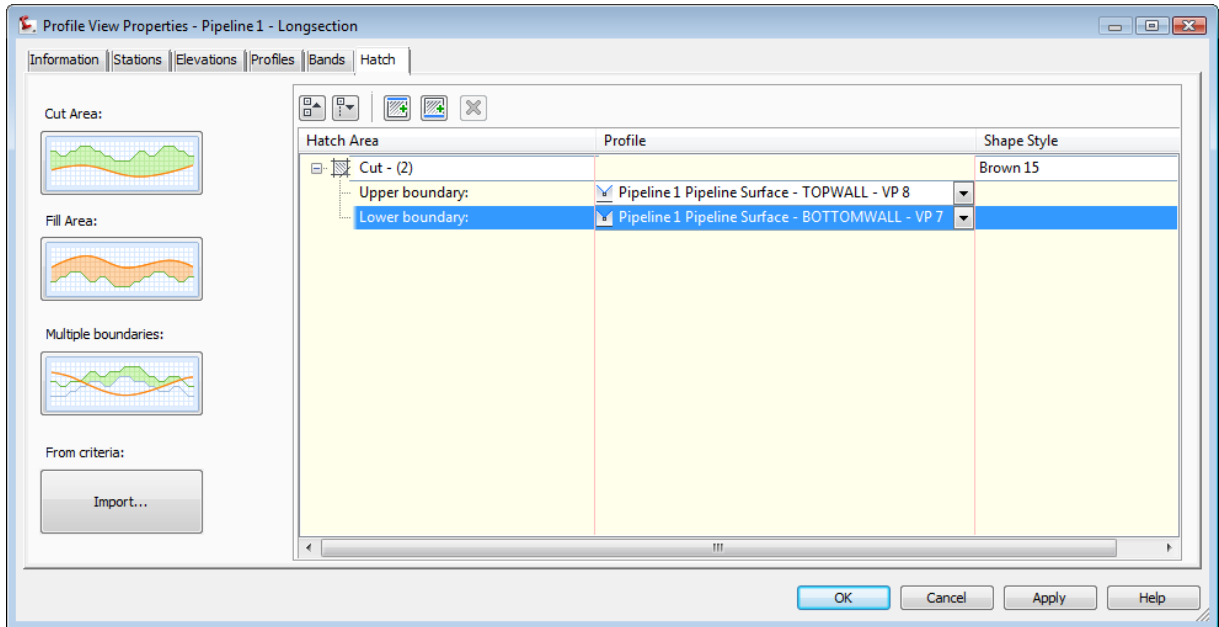
The assembly here now reflects the invert, soffit and pipewall levels. Make a corridor using the assembly. From the corridor, now create surfaces at each level of the pipe from the code assigned to the assemblies



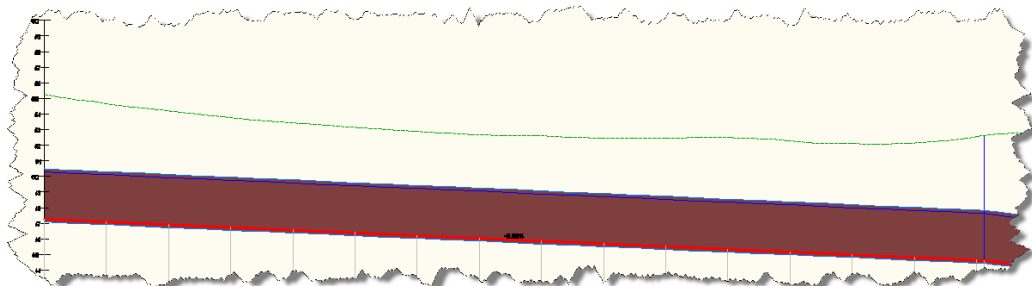
To draw the different surface positions on the profile, use the 'Create Surface Profile' command in the ribbon. Add the new surfaces to the list and style the surfaces to show different colours if required and then click ok.



Each of these surfaces can now be labelled in the bands. If the corridor is set to rebuild automatically, as you edit the profile, the pipe is automatically updated. Finally to colour in the pipe, the profile hatching can be used. Just choose either cut or fill area, set the upper and lower boundary profiles and choose a hatch pattern shape style.



End result!



This may not be a full 3D pipe, but the desired results may simply be plan and long section drawings with levels and chainages.



www.autodesk.com/fromthegroundup

For additional AutoCAD Civil3D information refer to the product webpages

www.aec-area.co.uk/C3D-Tips.htm