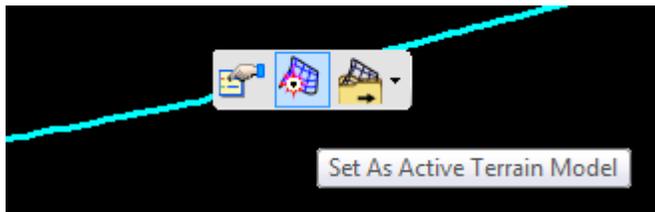


Cross Sections & Earthwork (2013-07-01)

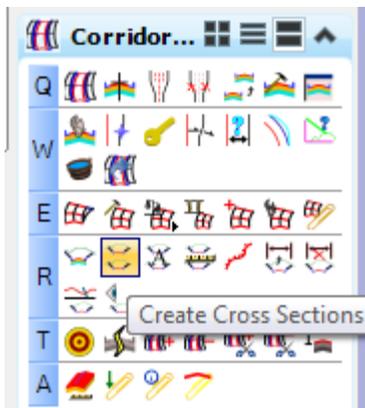
CREATING X-SECTIONS

Steps

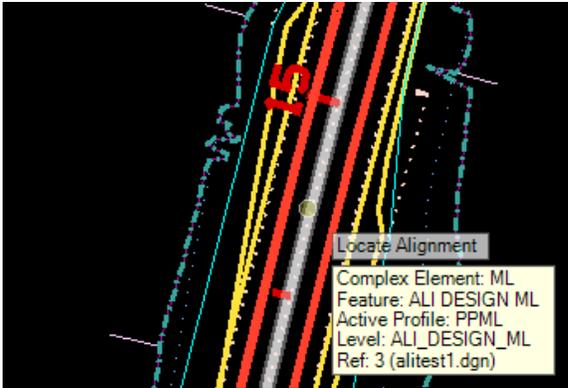
1. Use XSSEEDCIVIL.DGN file as your seed file, create a XS-chainname.DGN file, enter that DGN file.
2. Reference the DGN file that contains your terrain.
3. Make it Active.



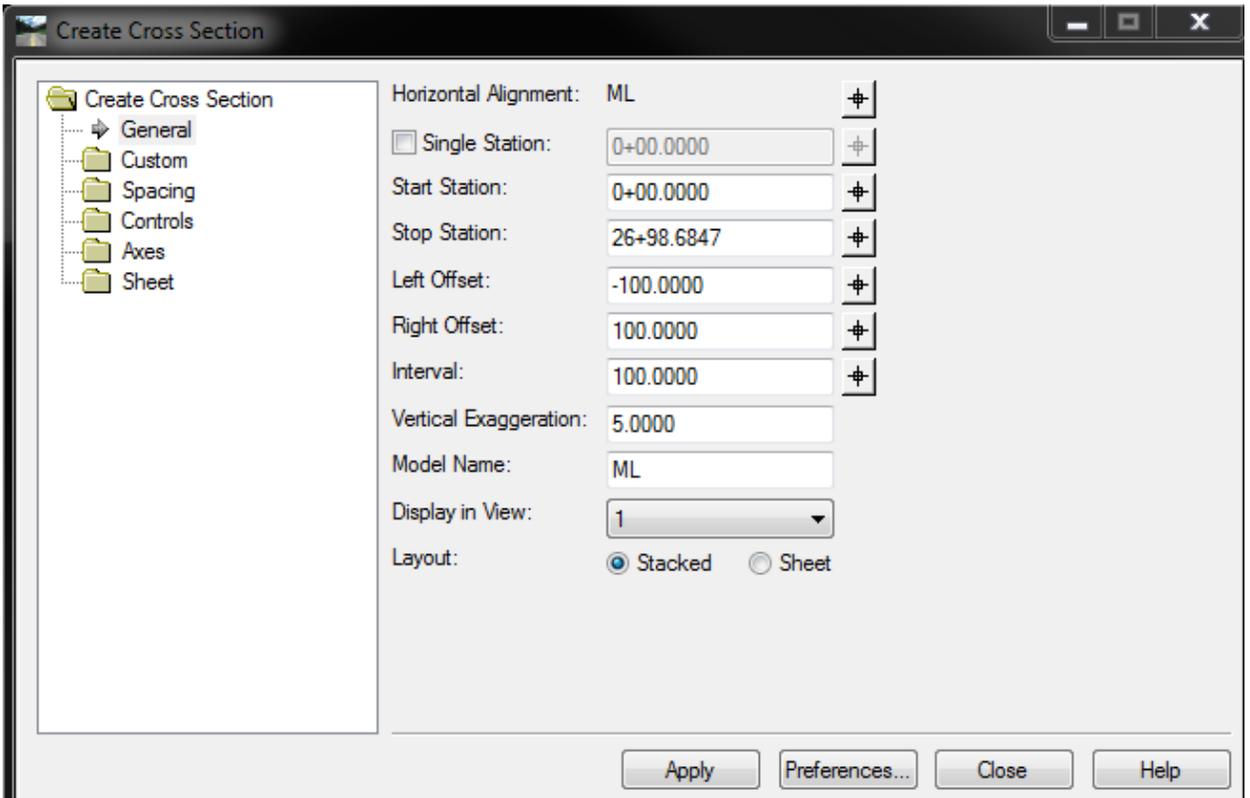
4. Open the Default-3d model in view 5.
5. In View 5, reference the Default-3d model of the DGN file that contains the Corridor you wish to cut x-sections about.
6. In View 1 (Default model), reference the Default model of the DGN file that contains the Corridor you wish to cut x-sections about.
7. Choose "Create Cross Sections" from the Corridor Modeling tools.



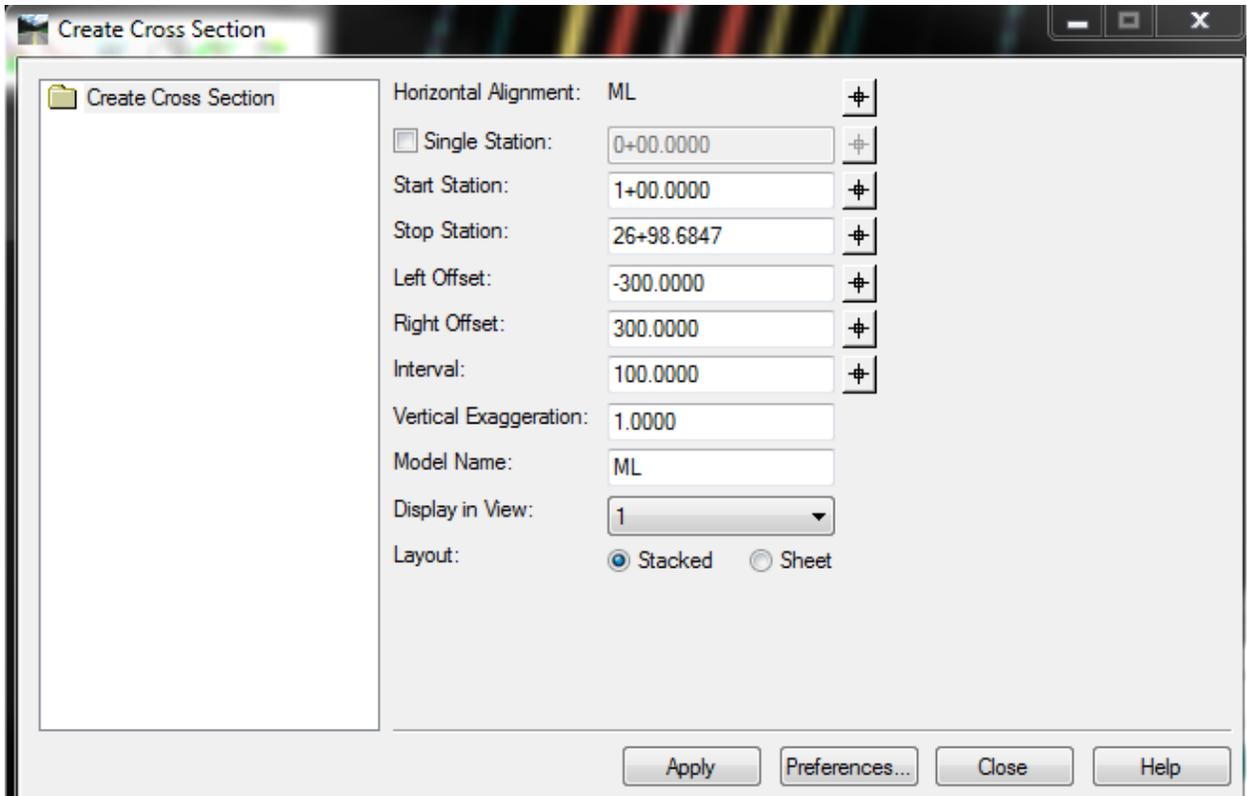
8. Locate your alignment.



9. The “Create Cross Sections” dialog will appear.



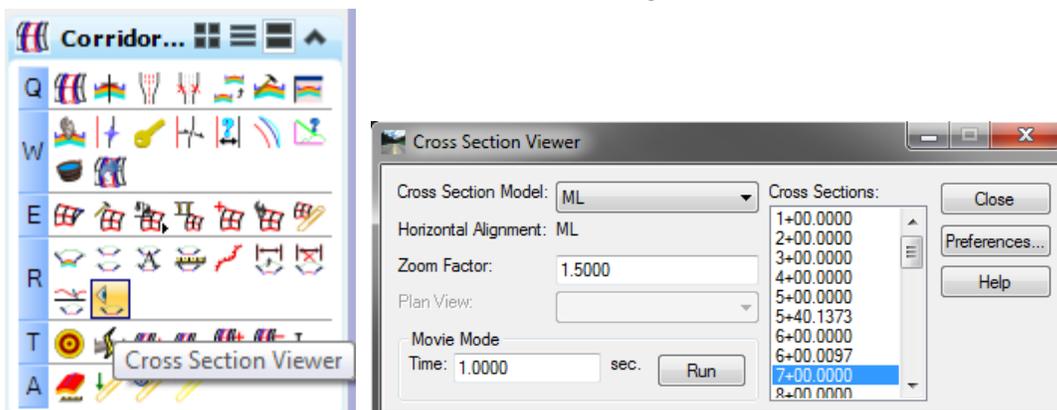
10. Choose Preferences at the bottom of this dialog and choose/Load “XS-Working”. Your left & right offset should change to -300/300 once the preferences are loaded.



11. Tag "Apply" to cut you x-sections.
12. A new model is created taking the name of the alignment and that model is automatically opened.

NOTES: These sections are regular working x-section.

13. You can use the "Cross Section Viewer" to scroll through the x-sections.



EARTHWORK

Surface to Surface

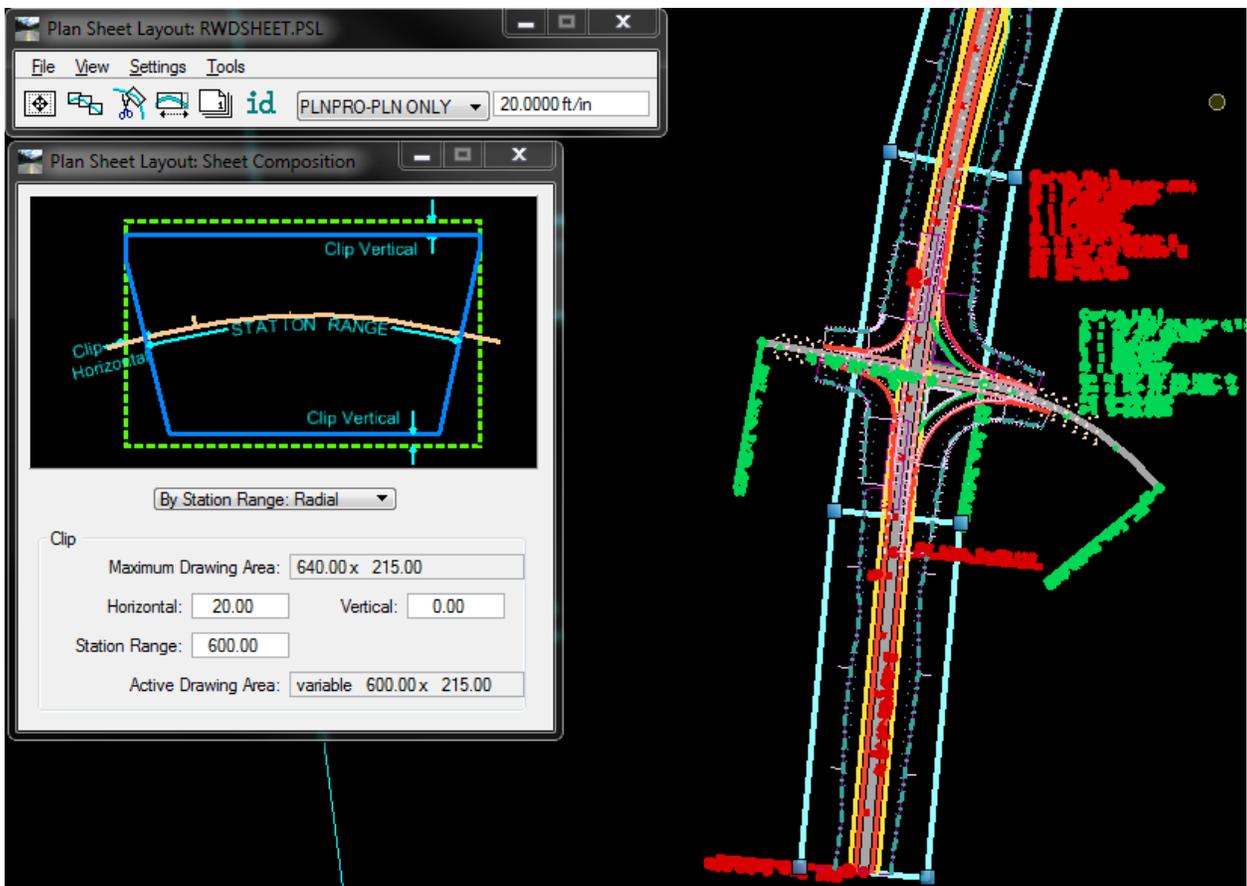
Surface to Surface Earthwork calculations are accomplished by:

1. Generating Terrains of your Top Dirt surface via AMG preparation steps.
2. Placing shapes along the intended alignment that match your Plan & Profile sheet stationing.
3. Using the “Analyze Volumes” Terrain Tool.

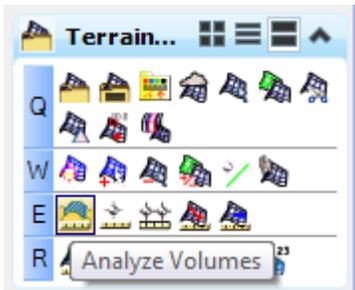
Calculations and shapes used to identify volume areas should be shown in the same DGN file in which AMG deliverables are generated.

STEPS:

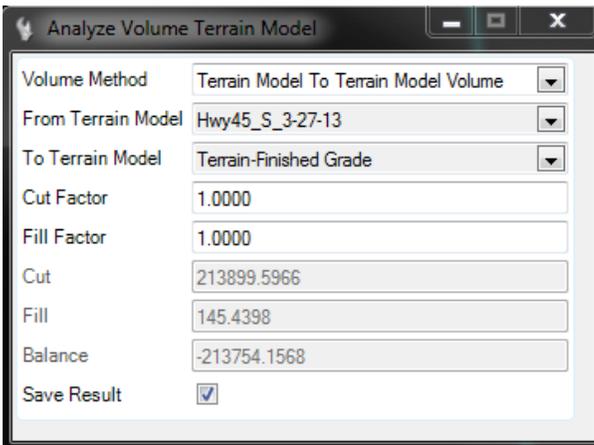
1. Follow the AMG-Delivery instructions to generate a “Top Dirt” Terrain.
2. Place shapes along the alignment that represent the Plan & Profile station limits.
You can utilize GeoPak’s Plan & Profile tool with settings as shown below to place these shapes.
Note the values shown below are for 1”=20’ sheets and would need to be changed for 1”=100’.



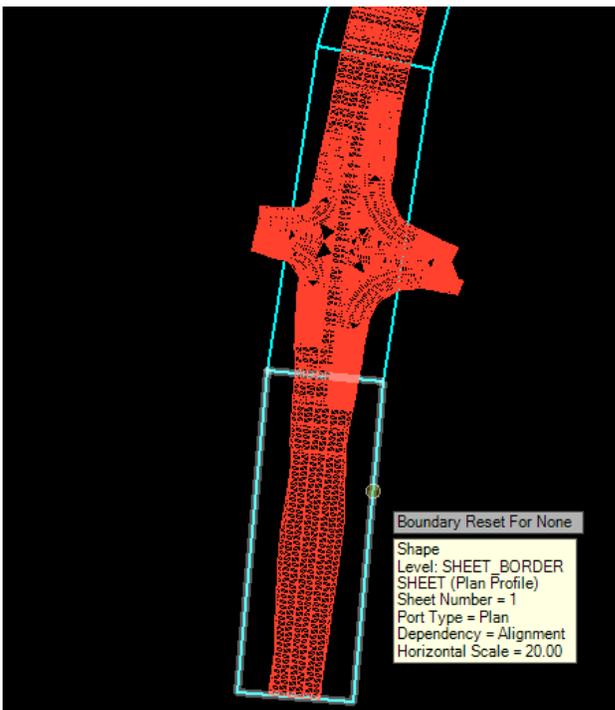
- Choose the "Analyze Volumes" command from the Terrain Tools.



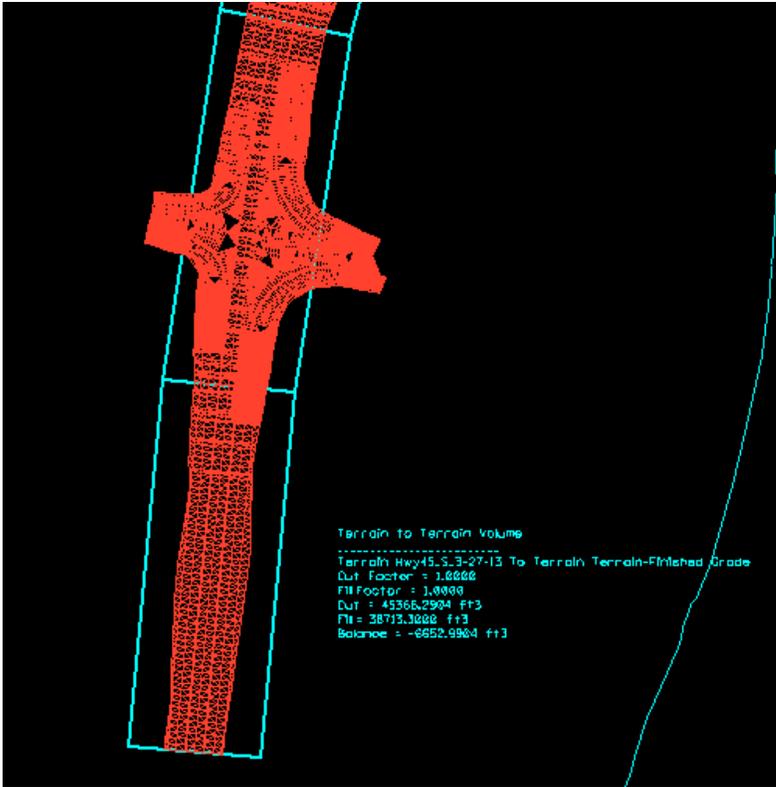
- Choose the "From Terrain Model" (Existing Ground Terrain) & "To Terrain Model" (Top Dirt).



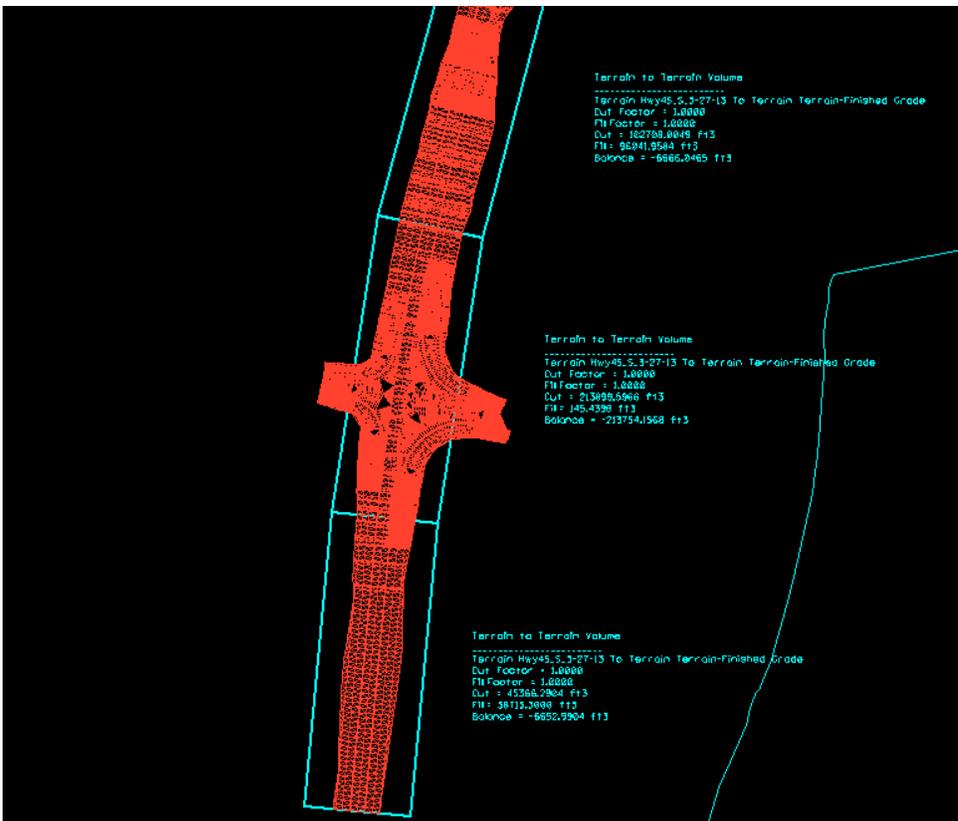
- Follow the prompts. When prompted for Boundary, choose the 1st P&P sheet.



- Click Save Results and then place the volumes by the appropriate boundary element.



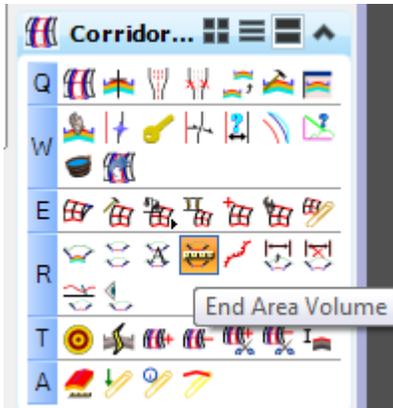
7. Use these same steps to calculate volumes for each boundary.



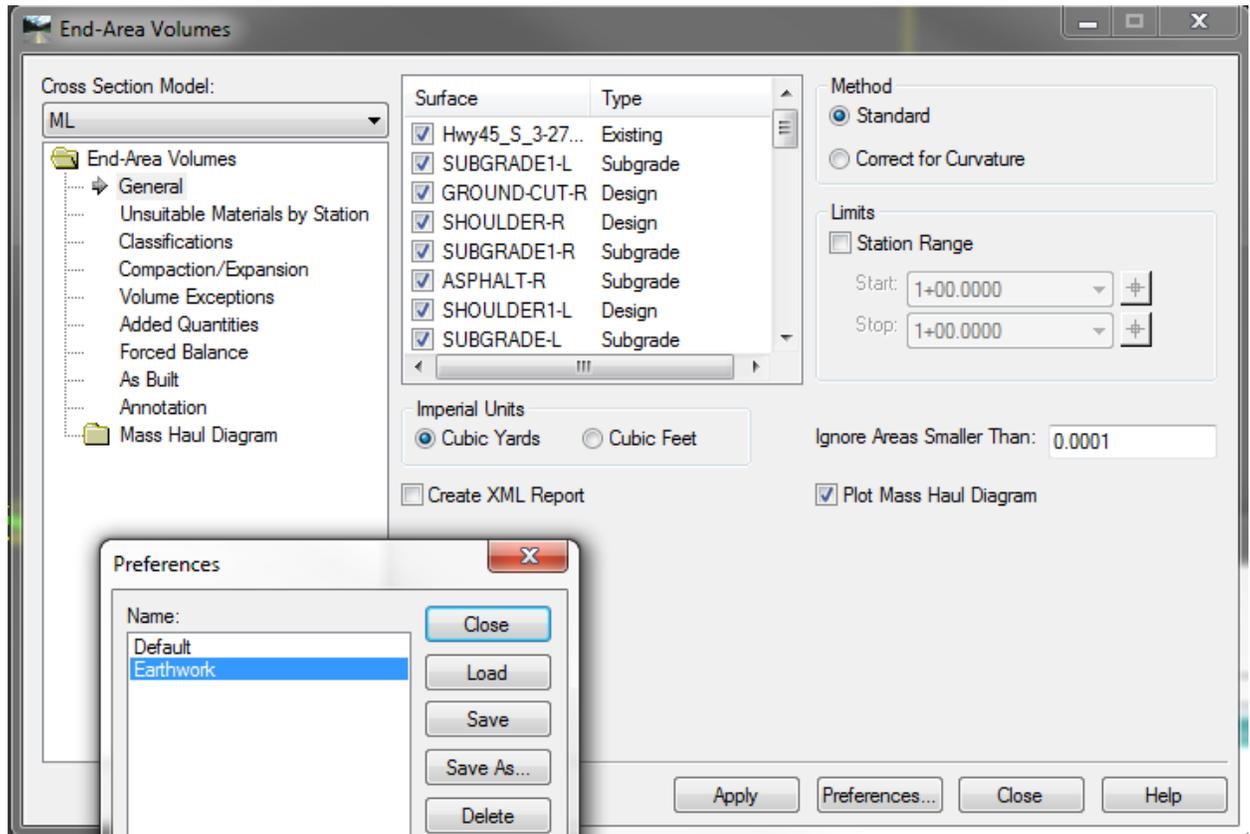
Average End Area

If you wish to calculate Earthwork via Average End Area & place Earthwork on XS's, you would need to follow the steps below. Note that there is no way to constrain the width of the XS calculated. In other words, what is shown on the XS is what is calculated. There is no ability to utilize BUTT sections unless you graphically modify sections.

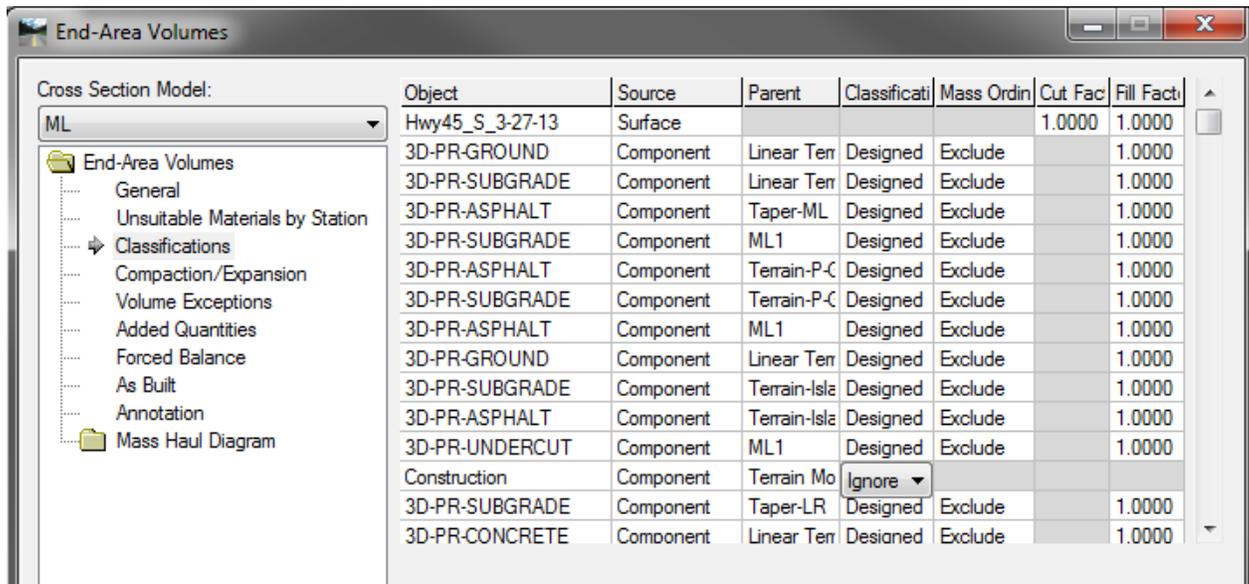
1. Invoke "End Area Volume" from the Corridor Modeling tools.



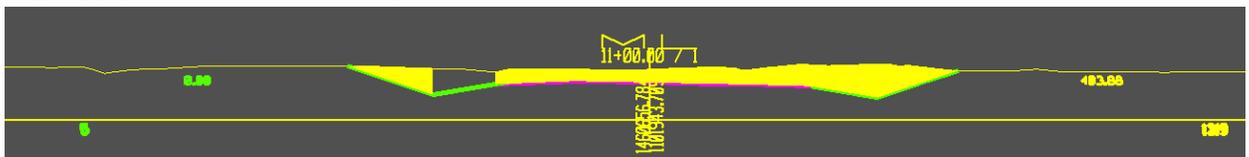
2. On the End-Area Volumes dialog, choose Preferences & Load "Earthwork".



- On the “General” tab, displayed is all corridors, surfaces, and linear templates.
Un-check any Surfaces that you do not wish to include.
- On the “Classifications” tab, choose “Ignore” on any “Construction” components:



- Shrinkage factor can be applied on the Compaction/Expansion tab.
- Skip Areas can be included on the Volume Exception tab.
- You can add quantities if needed on the “Added Quantities” tab.
- Tag “Apply” to calculate EW and place on X-Sections.



- A XML report is also generated which can be saved as a XML/DOC, etc.

Bentley Civil Report Browser - C:\Users\KEITH-1.BQ1\AppData\Local\Temp\RPTC83E.xml

File | Tools | Help

C:\ProgramData\Bentley\Civil\ReportBrowser\8.11.5\en\

End Area Volume Report

Report Created: 9/16/2013
Time: 11:19am

Cross Section Set Name: ML
Alignment Name: ML
Input Grid Factor: 1.000000 Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

Station	Station Quantities				Added Quantities				
	Factor	Area	Volume	Adjusted	Factor	Area	Volume	Adjusted	
1+00.0000	1.0000	7.8	0.0	0.0	1.0000	119.3	0.0	0.0	
2+00.0000	1.0000	51.2	109.1	109.1	1.0000	7.5	234.8	234.8	

2+33.2688									

3+00.0000	1.0000	160.4	391.7	391.7	1.0000	0.0	14.0	14.0	
4+00.0000	1.0000	32.5	357.2	357.2	1.0000	64.5	119.4	119.4	
5+00.0000	1.0000	32.3	387.6	387.6	1.0000	1.1	136.3	136.3	
6+00.0000	1.0000	6.8	6.8	6.8	1.0000	0.0	0.0	0.0	
7+00.0000	1.0000	0.0	0.0	0.0	1.0000	0.0	0.0	0.0	
8+00.0000	1.0000	0.0	0.0	0.0	1.0000	0.0	0.0	0.0	
9+00.0000	1.0000	0.0	0.0	0.0	1.0000	0.0	0.0	0.0	
10+00.0000	1.0000	0.0	0.0	0.0	1.0000	0.0	0.0	0.0	

Save As

Save in: Documents

Name	Date modified	Type
Add-in Express	12/13/2012 9:47 AM	File folder
Autodesk	11/26/2012 12:06 ...	File folder
Microsoft Visual Basic 2005 Power Packs	11/26/2012 11:55 ...	File folder
Outlook Files	9/16/2013 11:21 AM	File folder

File name: XLS File (*.xls)

Save as type: XLS File (*.xls)

DTM_X (GROUND)