Controlling Roadway Cross Sections with Plan Graphics and GEOPAK AdHocs

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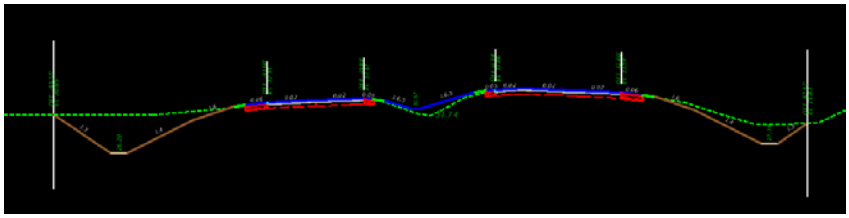
WELCOME

- Please turn off/silence your cell phones.

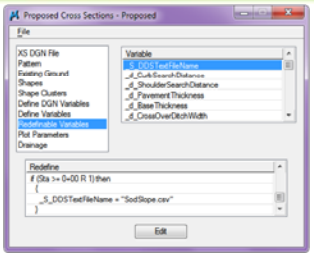
- Questions???
  - Please feel free to ask questions as we go…

Objectives

- Explore and discover how to control the proposed cross section features using the FDOT 2010 Criteria.

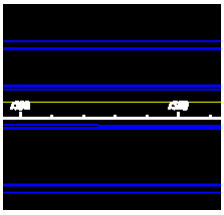


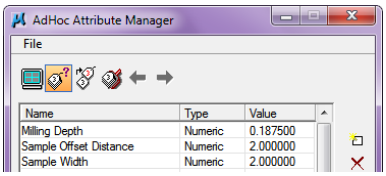
How can XS features be controlled?



Redefinable Variables

Graphic Elements (Define_DGN Variables)

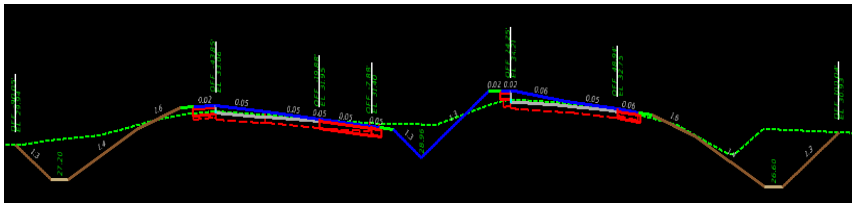




Adhoc Attributes

Proposed Features

Activity – Identify the Roadway Features



- Asphalt (Road)
  - Milling
  - Widening
- Paved Shoulders
- Unpaved Shoulders
- Clear Zone
- Median
- Ditches
  - Median
  - Outside
  - Ditch Bottom
- Slopes

Proposed Cross Section Features

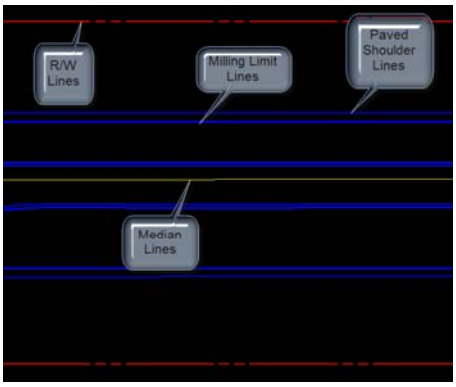
Design Features Supported by Criteria

- Sidewalks
- Paved Shoulder
- Curb & Gutter
- Urban Ditch
- Berms
- Driveways
- Medians
- Traffic Separators
- Ditches/Special Ditches
- Match Lines
- Miscellaneous Asphalt
- Guardrail
- Walls
- Pavement Options
  - Widening
  - Milling
  - Reconstruction
  - New Pavement
- Overlay Profile Override
- Tapering/Plan Graphic Overrides
- R/W and Wetland Limit Constrained Slopes

Plan Graphics

Elements that, when found in the DSGNRD file, tell the criteria to do something. (Define_DGN variables)

- Plan
  - (Exact horizontal location is used.)
- Triggers
  - (Location is unimportant, simply tells the criteria to do something.)

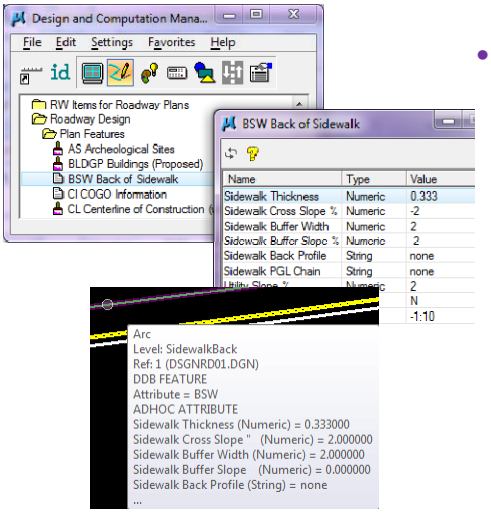


Plan Graphics

Examples

- Plan
  - Edge of Pavement, Paved Shoulder, Back of Sidewalk, Guardrail, Misc Asphalt, Right of Way
- Triggers
  - Berm, Curb & Gutter, Special Ditch, Slope Overrides

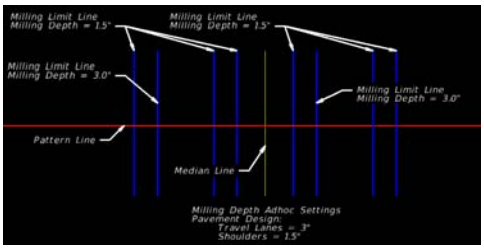
AdHoc Attributes

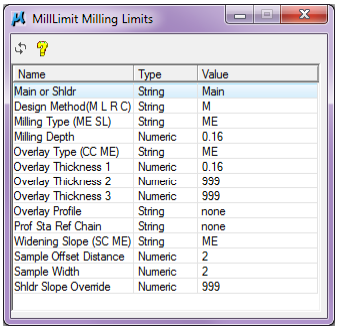


- Many of the Proposed Features are controlled through AdHoc Attributes found on Graphic Elements.
  - AdHocs set variables within the criteria when found on the element.
  - Those adHocs have been set up within the D&C Manager to be drawn or set onto design elements.

Pavement Features

- Milling & Resurfacing
  - Controlled with Milling Limit Lines and AdHocs

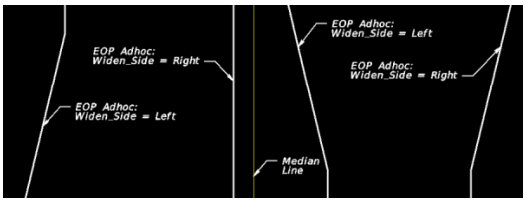


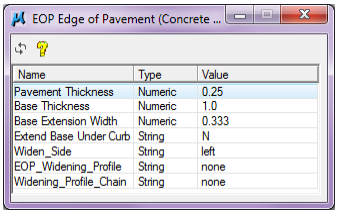


Name	Type	Value
Main or Shldr	String	Main
Design Method(M L R C)	String	M
Milling Type (ME SL)	String	ME
Milling Depth	Numeric	0.16
Overlay Type (CC ME)	String	ME
Overlay Thickness 1	Numeric	0.16
Overlay Thickness 2	Numeric	999
Overlay Thickness 3	Numeric	999
Overlay Profile	String	none
Prof Sta Ref Chain	String	none
Widening Slope (SC ME)	String	ME
Sample Offset Distance	Numeric	2
Sample Width	Numeric	2
Shldr Slope Override	Numeric	999

Pavement Features

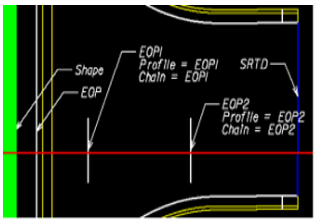
- Proposed Pavement
  - Controlled with EOP lines, Shapes, and AdHocs

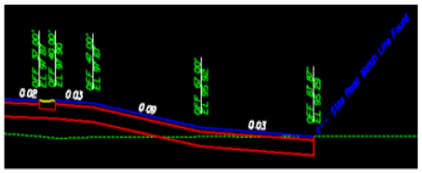


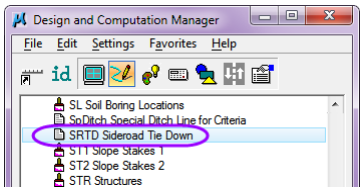


Name	Type	Value
Pavement Thickness	Numeric	0.25
Base Thickness	Numeric	1.0
Base Extension Width	Numeric	0.333
Extend Base Under Curb	String	N
Widen_Side	String	left
EOP_Widening_Profile	String	none
Widening_Profile_Chain	String	none

Pavement Features



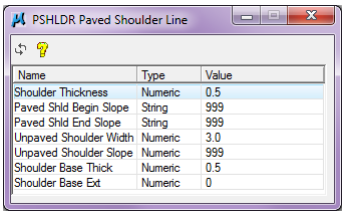




- Side Road Tie Downs
  - Controlled with SRTD lines
  - Can be used with EOP lines to control side road "profile"

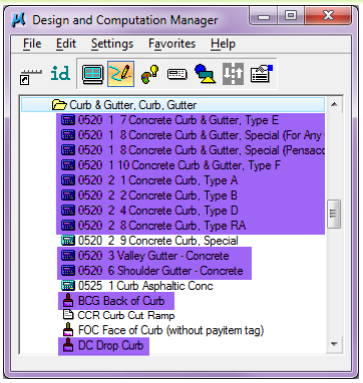
Shoulder Features

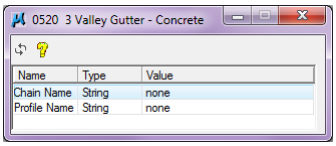
- Paved Shoulders
  - Controlled with Paved Shoulder lines and adHocs
  - Unpaved shoulder lines are not searched for by the criteria; instead they are controlled through redefinable variables and adHocs.



Name	Type	Value
Shoulder Thickness	Numeric	0.5
Paved Shld Begin Slope	String	999
Paved Shld End Slope	String	999
Unpaved Shoulder Width	Numeric	3.0
Unpaved Shoulder Slope	Numeric	999
Shoulder Base Thick	Numeric	0.5
Shoulder Base Ext	Numeric	0

Shoulder Features

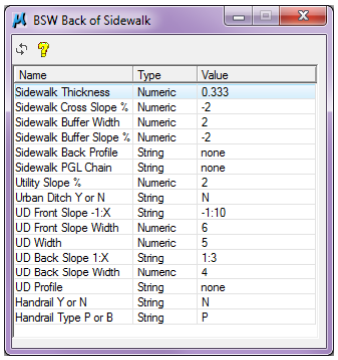




- Curb and Gutter
  - Controlled with Curb and Gutter lines
  - Note: Curb and Gutter lines are "trigger" lines. When found within the corresponding search distance, they will be drawn according to the standard index.
  - Valley Gutter is the only curb & gutter item to use adHocs. It also uses the Back of Curb line.

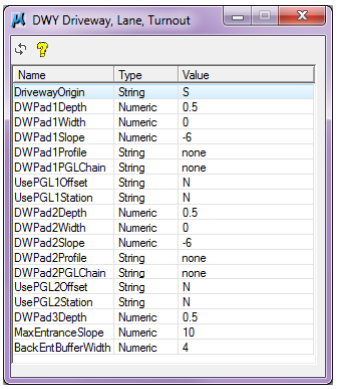
Shoulder Features

- Sidewalk
  - Controlled with Back of Sidewalk lines and adHocs
  - Uses Front of Sidewalk line to determine width
  - Includes Handrail
    - Triggered from adhoc NOT graphic element
  - Includes Urban Ditch
    - Triggered from adhoc
    - Caution – adhoc values must be less than or equal to the distance between the shoulder (curb or paved shoulder) and the front of sidewalk. (i.e. it must fit!)

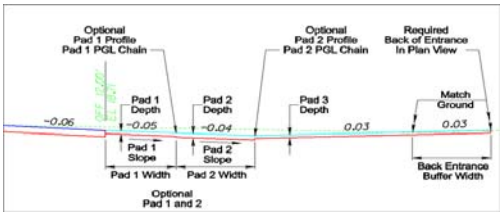


Shoulder Features

- Driveways
  - Controlled with Driveway line and adHocs
    - NOTE: Only the BACK of the driveway should have the adHocs attached to the element.

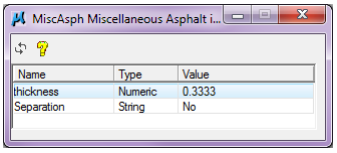


Name	Type	Value
DrivewayOrigin	String	S
DWPad1Depth	Numeric	0.5
DWPad1Width	Numeric	0
DWPad1Slope	Numeric	-6
DWPad1Profile	String	none
DWPad1PGLChain	String	none
UsePGL1Offset	String	N
UsePGL1Station	String	N
DWPad2Depth	Numeric	0.5
DWPad2Width	Numeric	0
DWPad2Slope	Numeric	-6
DWPad2Profile	String	none
DWPad2PGLChain	String	none
UsePGL2Offset	String	N
UsePGL2Station	String	N
DWPad3Depth	Numeric	0.5
MaxEntranceSlope	Numeric	10
BackEntBufferWidth	Numeric	4

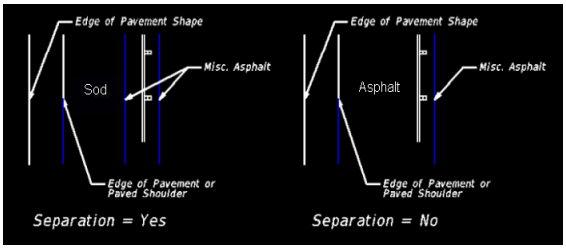


Shoulder Features

- Misc Asphalt and Guardrail
  - Controlled with Misc Asphalt lines with adHocs and Guardrail line

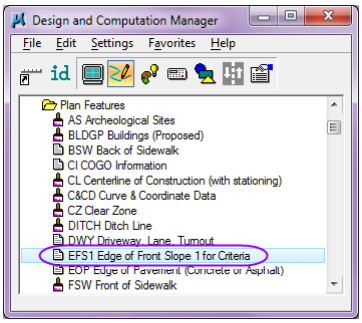


Name	Type	Value
thickness	Numeric	0.3333
Separation	String	No



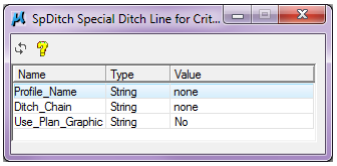
Slopes Features

- Front Slope 1
  - Controlled with Front Slope 1 line
  - Controls the width of the Front Slope graphically



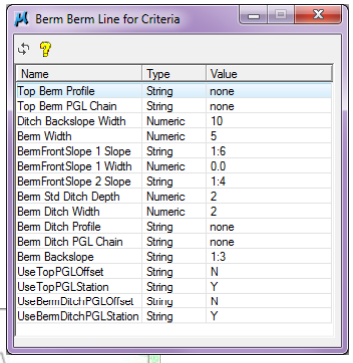
Slopes Features

- Special Ditch
  - Controlled with Special Ditch line and adHocs or define variables
  - Important: This line MUST be drawn outside the shoulder, paved and unpaved, in order for the criteria to find it.

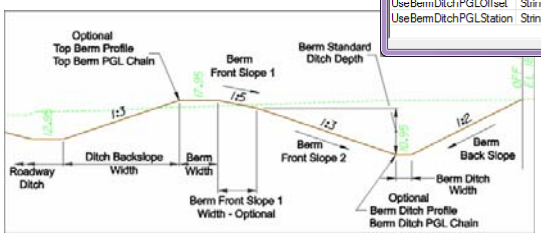


Slopes Features

- Berm
  - Controlled with Berm line and adHocs
  - A special ditch is required if the roadside ditch is to be constructed above existing ground.

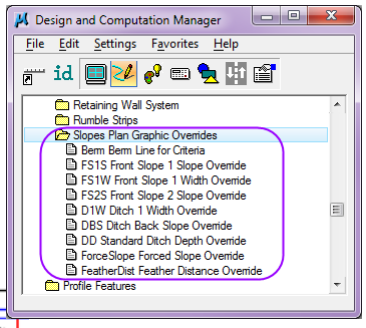


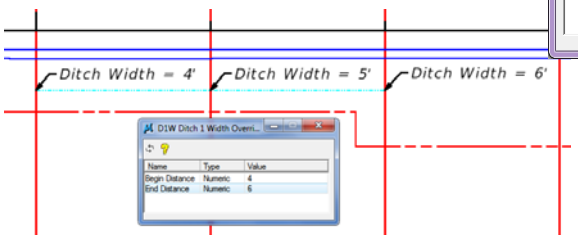
Name	Type	Value
Top Berm Profile	String	none
Top Berm PGL Chain	String	none
Ditch Backslope Width	Numeric	10
Berm Width	Numeric	5
BermFrontSlope 1 Slope	String	1:6
BermFrontSlope 1 Width	Numeric	0.0
BermFrontSlope 2 Slope	String	1:4
Berm Std Ditch Depth	Numeric	2
Berm Ditch Width	Numeric	2
Berm Ditch Profile	String	none
Berm Ditch PGL Chain	String	none
Berm Backslope	String	1:3
UseTopPGLOffset	String	N
UseTopPGLStation	String	Y
UseBermDitchPGLOffset	String	N
UseBermDitchPGLStation	String	Y



Slopes Features

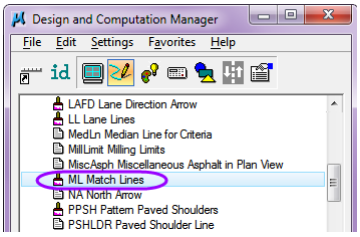
- Plan Graphic Overrides
  - Controlled with Plan Graphic Override line and adHocs
  - Allows the ability to taper associated cross section features

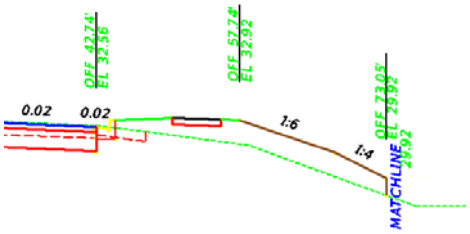




Slopes Features

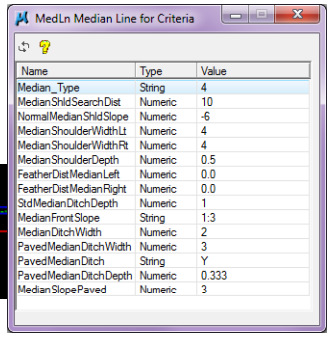
- Match Line
  - Controlled with Match Line element
  - Ties to existing ground, straight up or down, at the horizontal offset of the match line



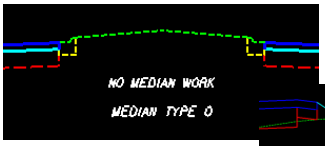


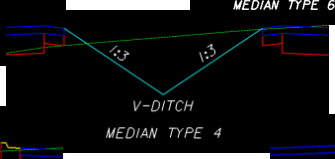
Median Features

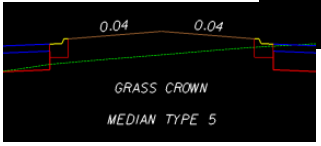
- Median Line
  - Controlled with Median line and adHocs

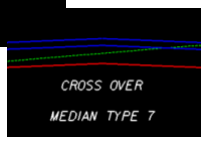


Name	Type	Value
Median_Type	String	4
MedianShldSearchDist	Numeric	10
NormalMedianShldSlope	Numeric	-6
MedianShoulderWidthLt	Numeric	4
MedianShoulderWidthRt	Numeric	4
MedianShoulderDepth	Numeric	0.5
FeatherDistMedianLeft	Numeric	0.0
FeatherDistMedianRight	Numeric	0.0
StdMedianDitchDepth	Numeric	1
MedianFrontSlope	String	1:3
MedianDitchWidth	Numeric	2
PavedMedianDitchWidth	Numeric	3
PavedMedianDitch	String	Y
PavedMedianDitchDepth	Numeric	0.333
MedianSlopePaved	Numeric	3



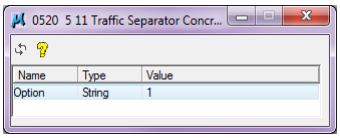


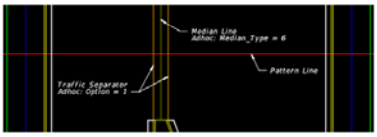


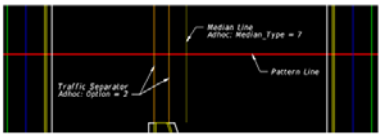


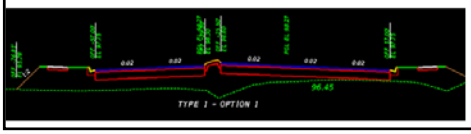
Median Features

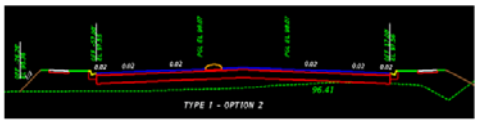
- Traffic Separators - Single
  - Controlled with Traffic Separator line and adHocs





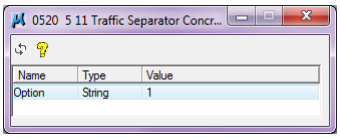


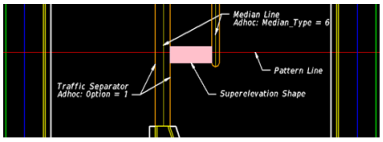


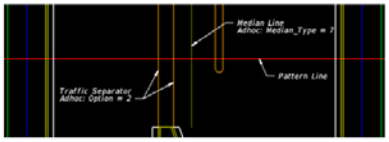


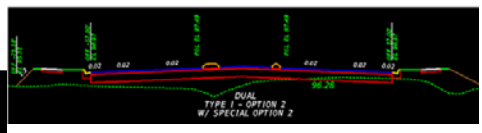
Median Features

- Traffic Separators - Dual
  - Controlled with Traffic Separator line, adHocs, and shapes



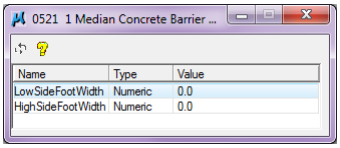


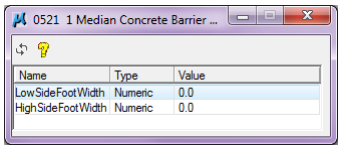




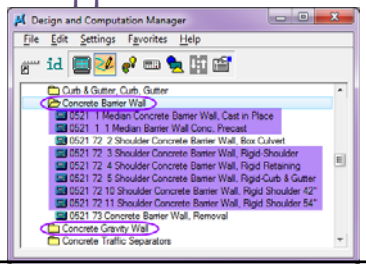
Wall Features

- Walls
  - Controlled with Wall lines and adHocs





Supported Walls



Questions???

Thank-you for joining today's presentation.

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