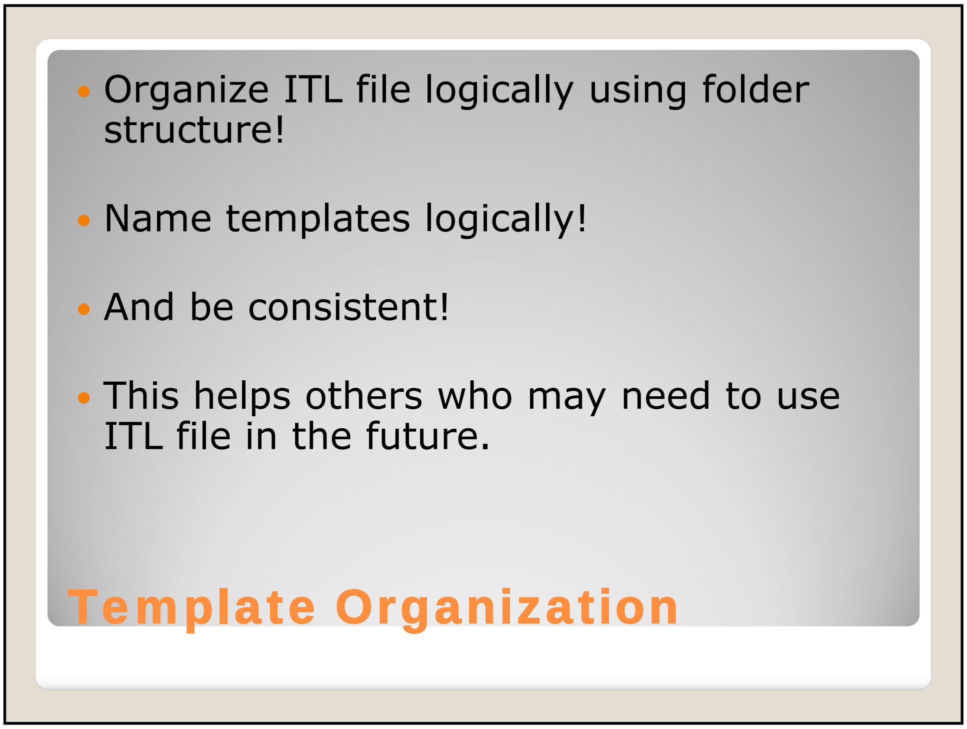
Best Practices: Template Creation

Jason Littleton

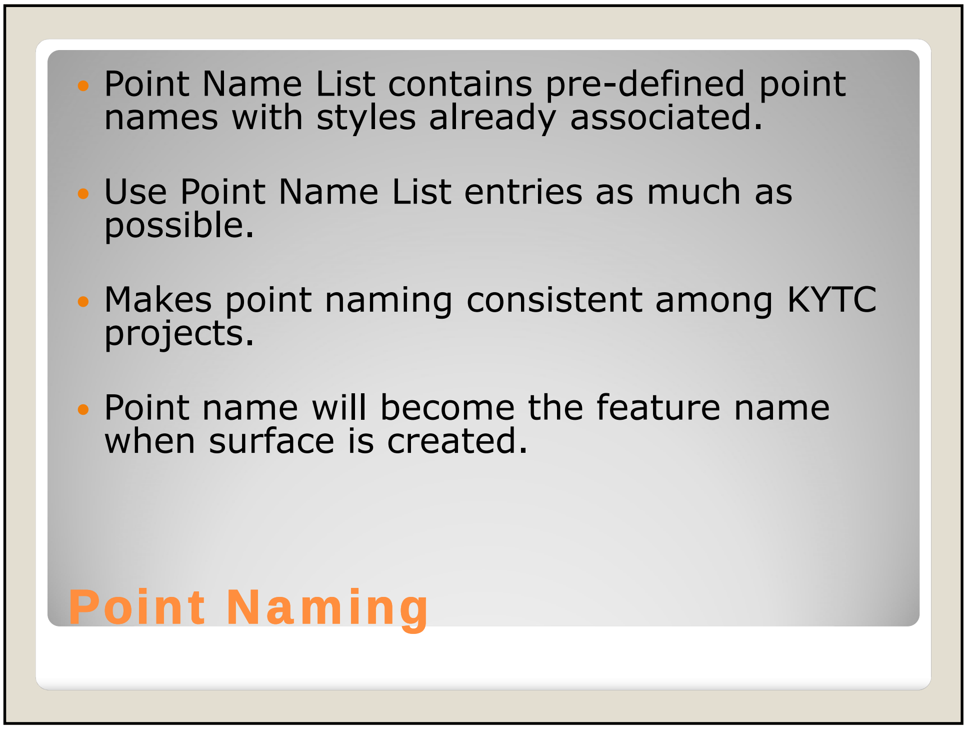
- Organized Templates
  - ITL organization
  - Template Naming
  - Point Naming
  - Component Naming

Best Practices



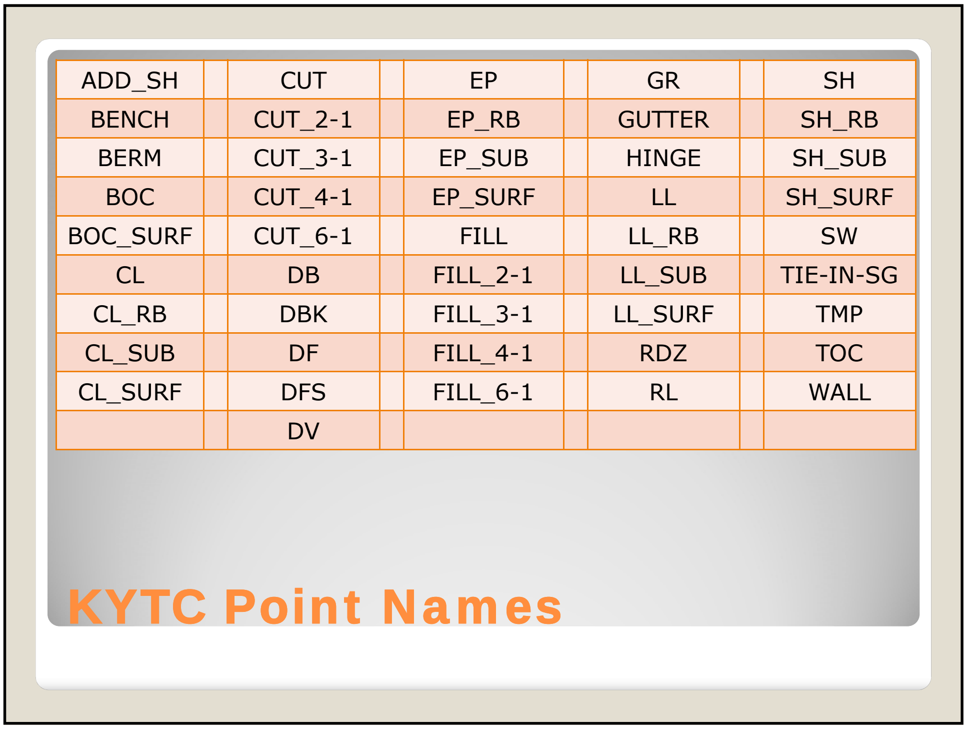
Template Organization

- Organize ITL file logically using folder structure!
- Name templates logically!
- And be consistent!
- This helps others who may need to use ITL file in the future.



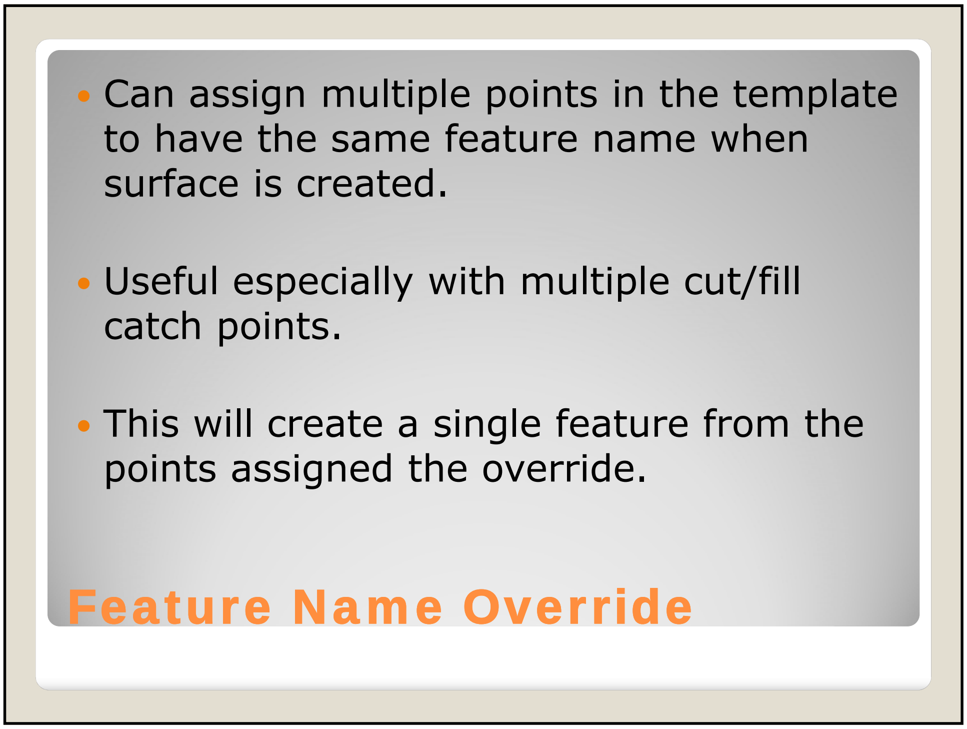
Point Naming

- Point Name List contains pre-defined point names with styles already associated.
- Use Point Name List entries as much as possible.
- Makes point naming consistent among KYTC projects.
- Point name will become the feature name when surface is created.



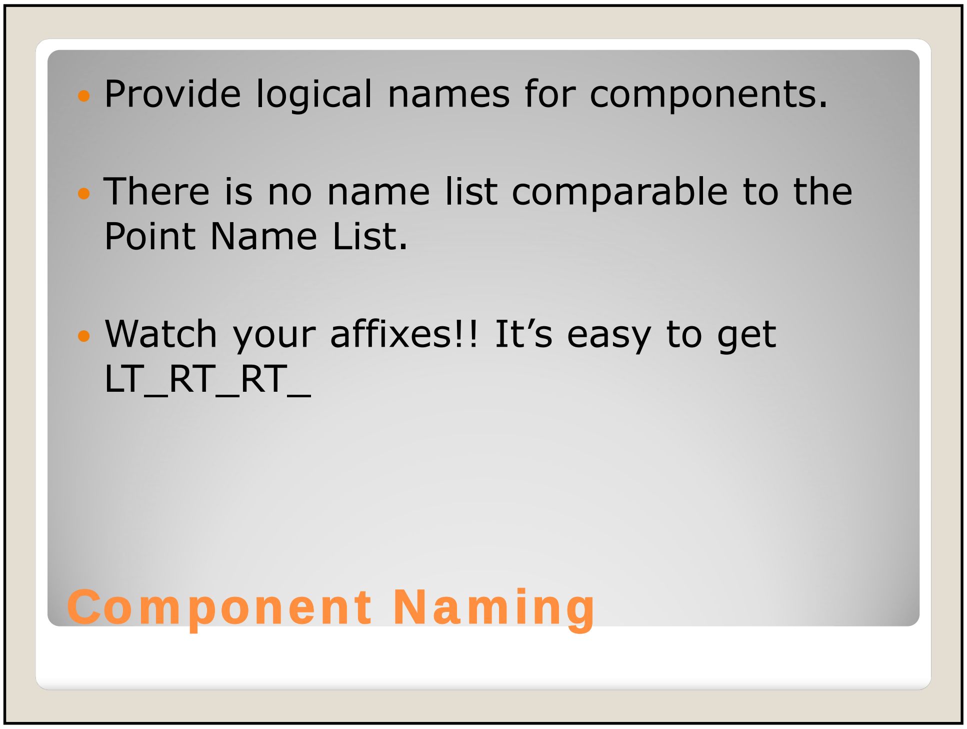
KYTC Point Names

ADD_SH		CUT		EP		GR		SH
BENCH		CUT_2-1		EP_RB		GUTTER		SH_RB
BERM		CUT_3-1		EP_SUB		HINGE		SH_SUB
BOC		CUT_4-1		EP_SURF		LL		SH_SURF
BOC_SURF		CUT_6-1		FILL		LL_RB		SW
CL		DB		FILL_2-1		LL_SUB		TIE-IN-SG
CL_RB		DBK		FILL_3-1		LL_SURF		TMP
CL_SUB		DF		FILL_4-1		RDZ		TOC
CL_SURF		DFS		FILL_6-1		RL		WALL
		DV						



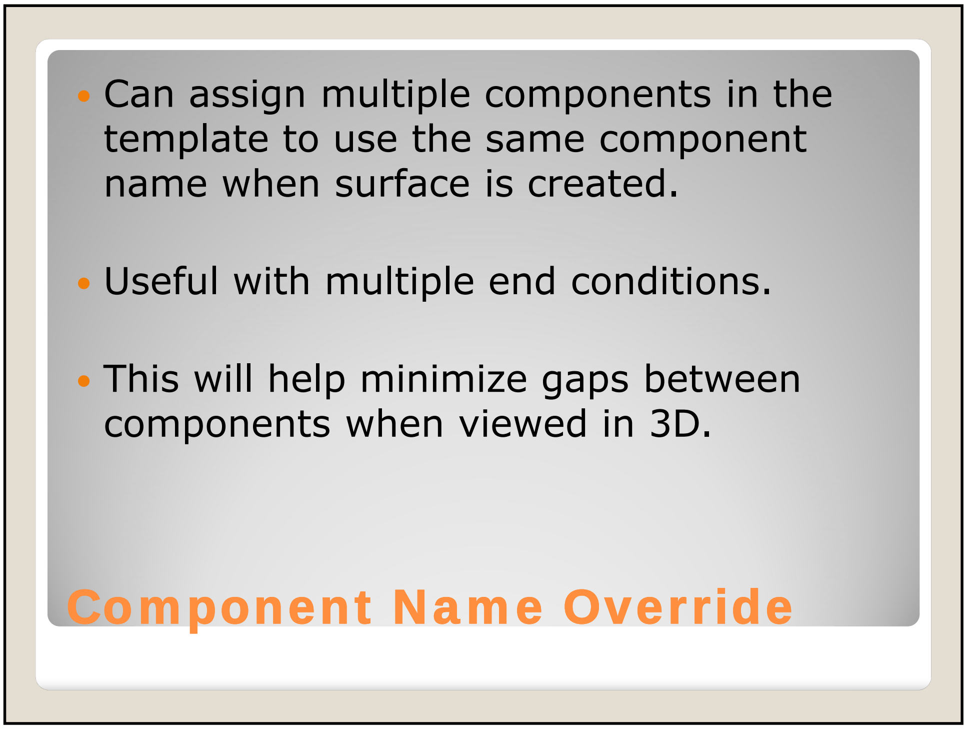
Feature Name Override

- Can assign multiple points in the template to have the same feature name when surface is created.
- Useful especially with multiple cut/fill catch points.
- This will create a single feature from the points assigned the override.



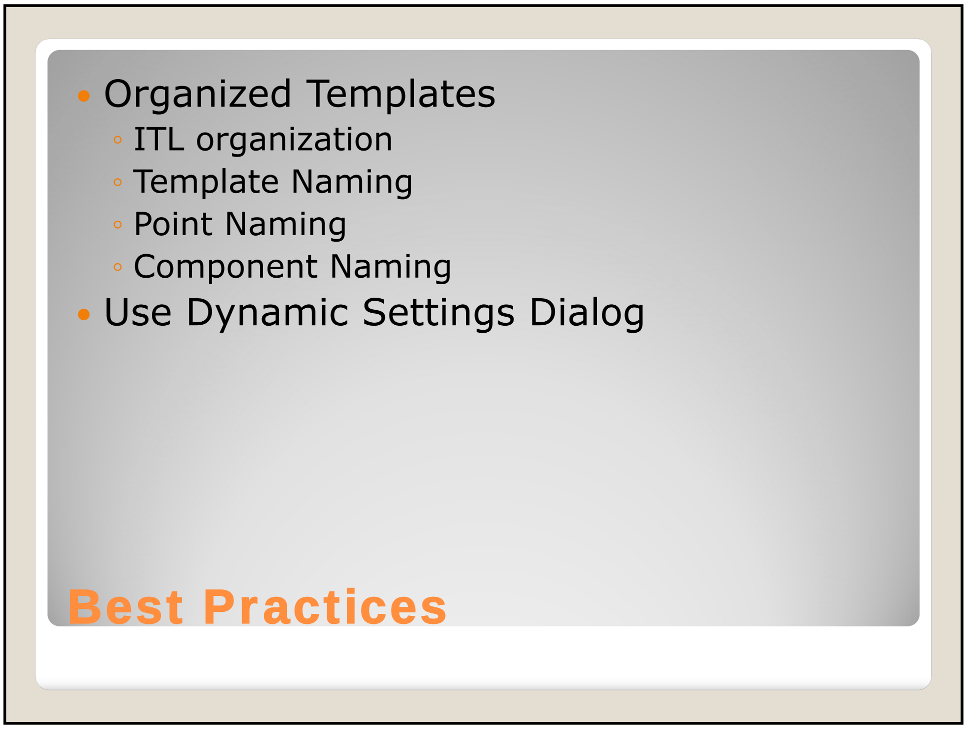
Component Naming

- Provide logical names for components.
- There is no name list comparable to the Point Name List.
- Watch your affixes!! It’s easy to get LT_RT_RT_



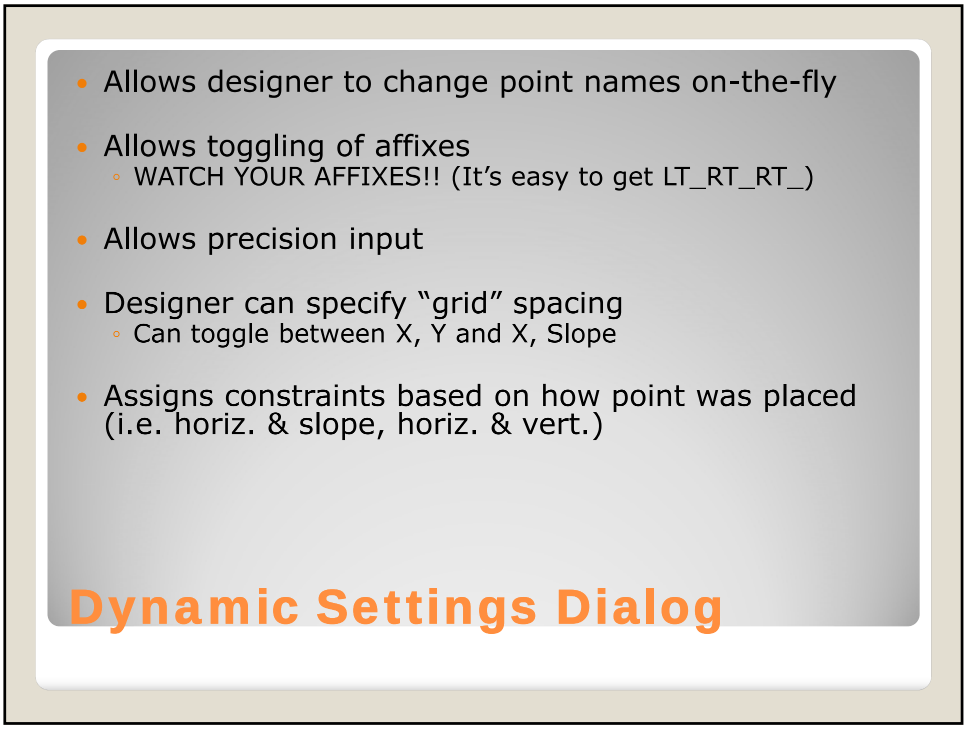
Component Name Override

- Can assign multiple components in the template to use the same component name when surface is created.
- Useful with multiple end conditions.
- This will help minimize gaps between components when viewed in 3D.



Best Practices

- Organized Templates
  - ITL organization
  - Template Naming
  - Point Naming
  - Component Naming
- Use Dynamic Settings Dialog

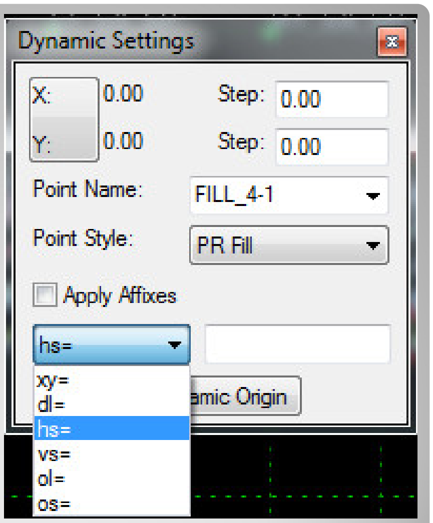


Dynamic Settings Dialog

- Allows designer to change point names on-the-fly
- Allows toggling of affixes
  - WATCH YOUR AFFIXES!! (It’s easy to get LT_RT_RT_)
- Allows precision input
- Designer can specify “grid” spacing
  - Can toggle between X, Y and X, Slope
- Assigns constraints based on how point was placed (i.e. horiz. & slope, horiz. & vert.)

Dynamic Settings Precision Input

- XY= key-in specific XY
- DL= key-in ΔX, ΔY from previous point
- HS= key-in ΔX, slope from previous point
- VS= key-in ΔY, slope from previous point
- OL= key-in ΔX, ΔY from dynamic origin
- OS= key-in ΔX, slope from dynamic origin



X: 0.00 Step: 0.00

Y: 0.00 Step: 0.00

Point Name: FILL_4-1

Point Style: PR Fill

☐ Apply Affixes

hs=

DEMO

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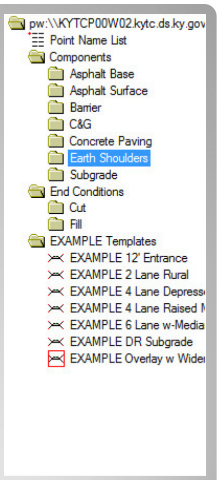
KYTC Components

- Components Folder
  - Contains “backbone” components
  - Asphalt pavement, Concrete pavement
  - Earth Shoulders
  - Curb & Gutter, Sidewalk and Barrier Walls
- End Conditions Folder
  - Cut Ditch, Benching, FB Cut Ditch
  - Fill Slopes, Fill Slopes with Surface Ditches



```
pw:\\KYTCP00W02.kytc.ds.ky.gov
    Point Name List
    Components
        Asphalt Base
        Asphalt Surface
        Barrier
        C&G
        Concrete Paving
        Earth Shoulders
        Subgrade
    End Conditions
        Cut
        Fill
    EXAMPLE Templates
        EXAMPLE 12' Entrance
        EXAMPLE 2 Lane Rural
        EXAMPLE 4 Lane Depress
        EXAMPLE 4 Lane Raised M
        EXAMPLE 6 Lane w-Media
        EXAMPLE DR Subgrade
        EXAMPLE Overlay w Wide
```

DEMO

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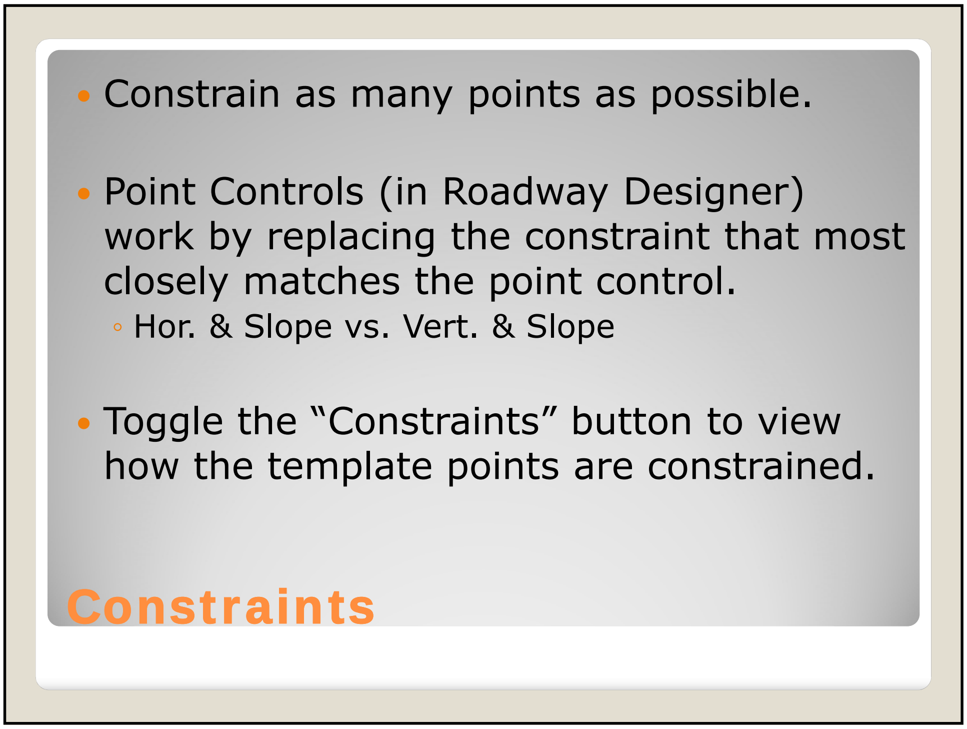
- Assign appropriate constraints

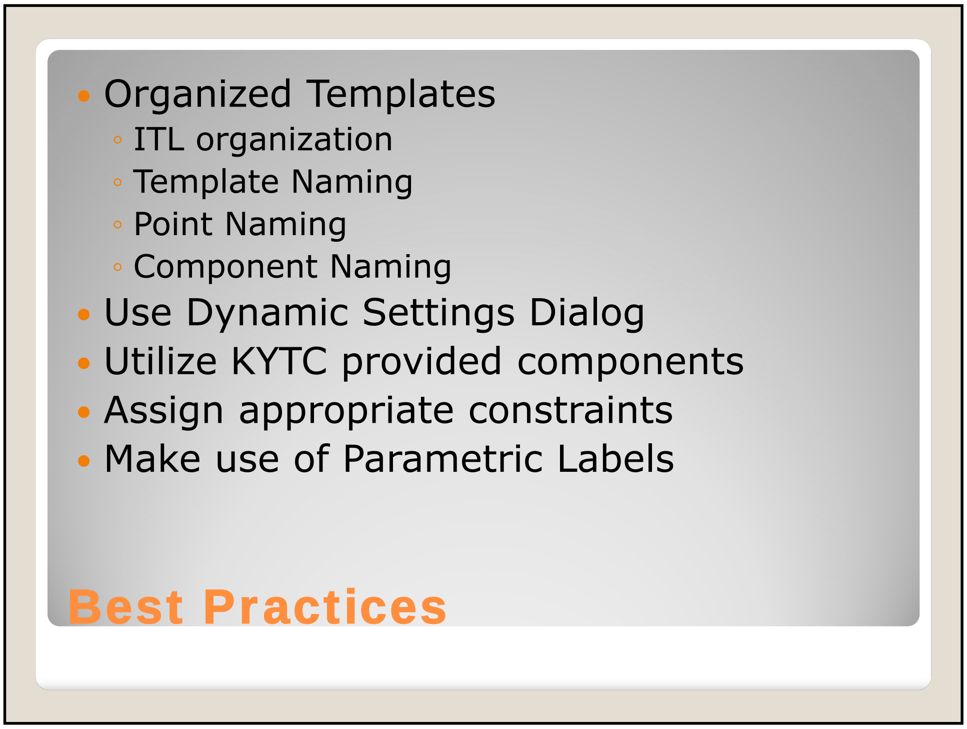
Best Practices



Constraints

- Constrain as many points as possible.
- Point Controls (in Roadway Designer) work by replacing the constraint that most closely matches the point control.
  - Hor. & Slope vs. Vert. & Slope
- Toggle the “Constraints” button to view how the template points are constrained.

DEMO



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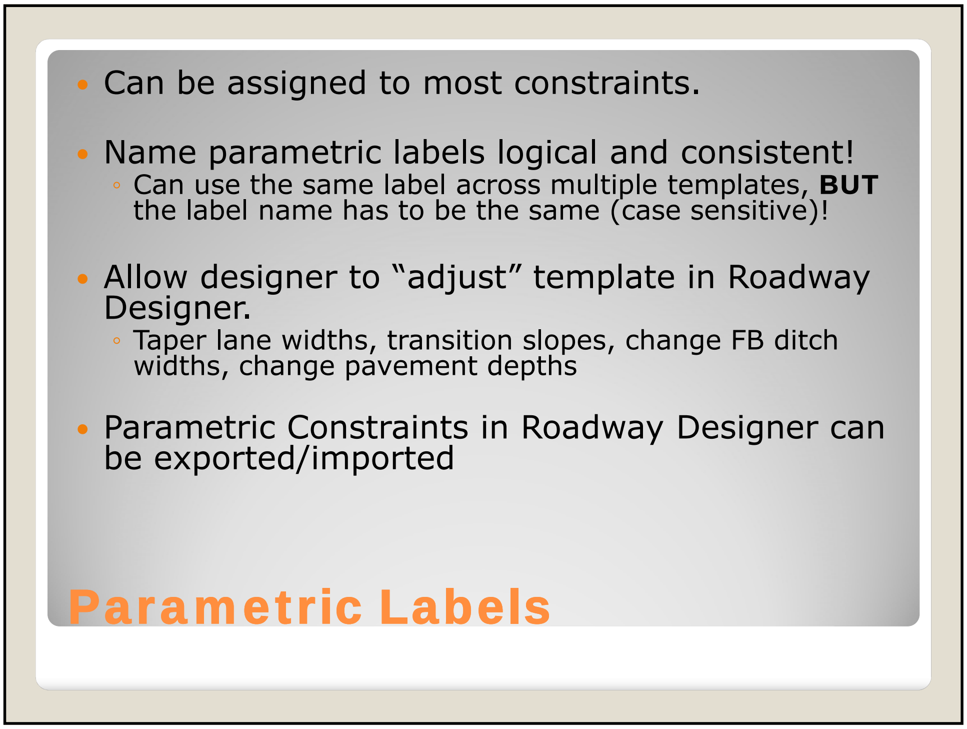
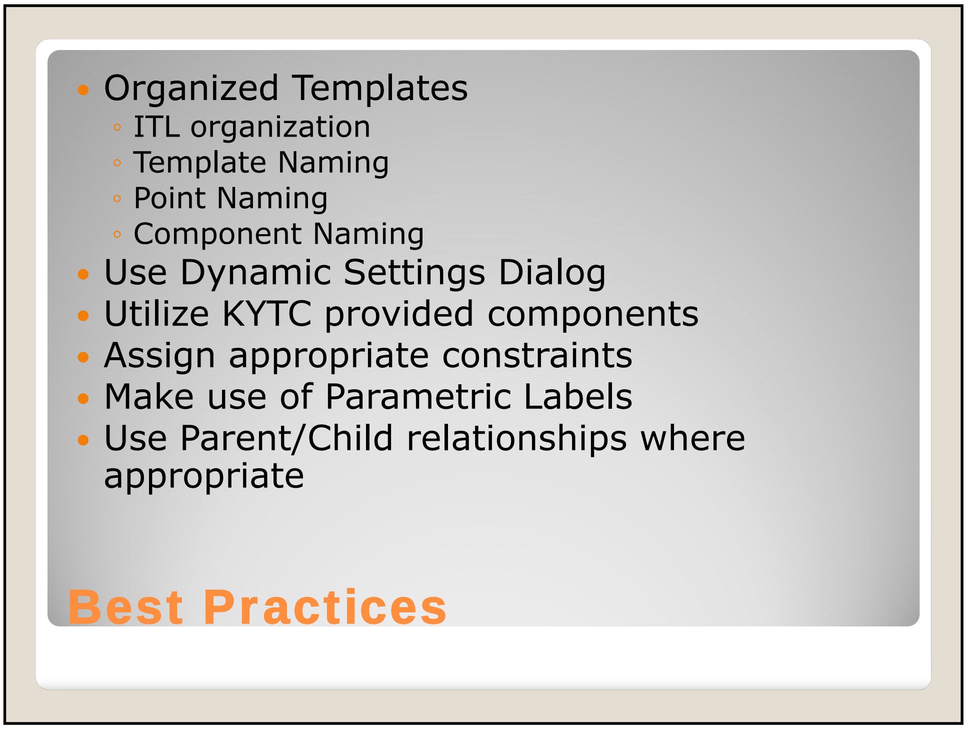
- Make use of Parametric Labels



Parametric Labels

- Can be assigned to most constraints.
- Name parametric labels logical and consistent!
  - Can use the same label across multiple templates, **BUT** the label name has to be the same (case sensitive)!
- Allow designer to “adjust” template in Roadway Designer.
  - Taper lane widths, transition slopes, change FB ditch widths, change pavement depths
- Parametric Constraints in Roadway Designer can be exported/imported

DEMO



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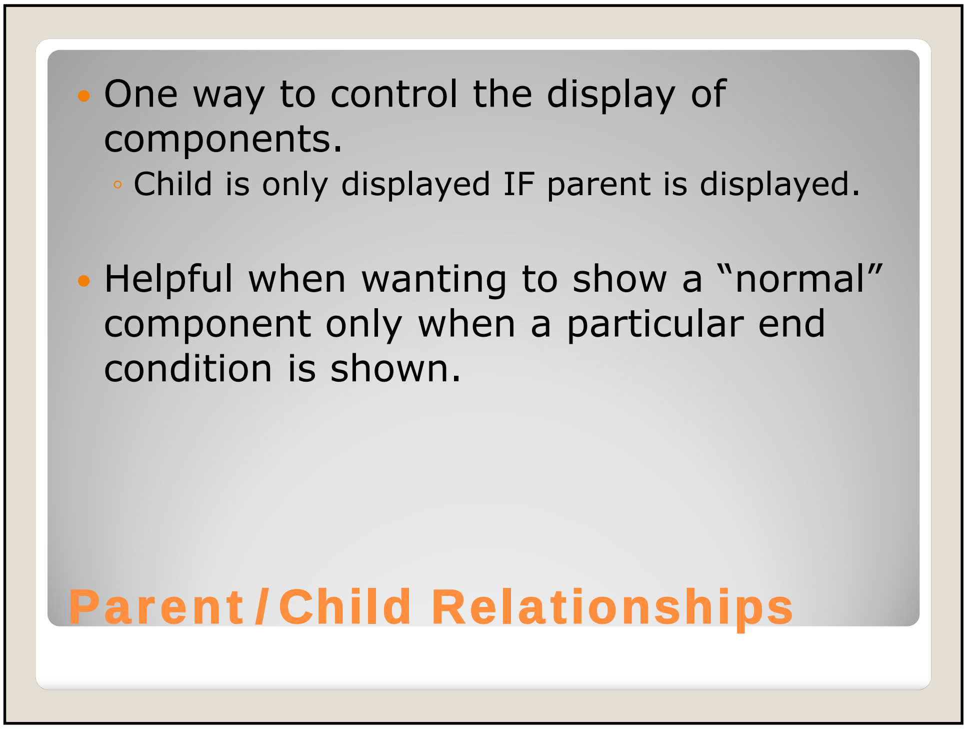
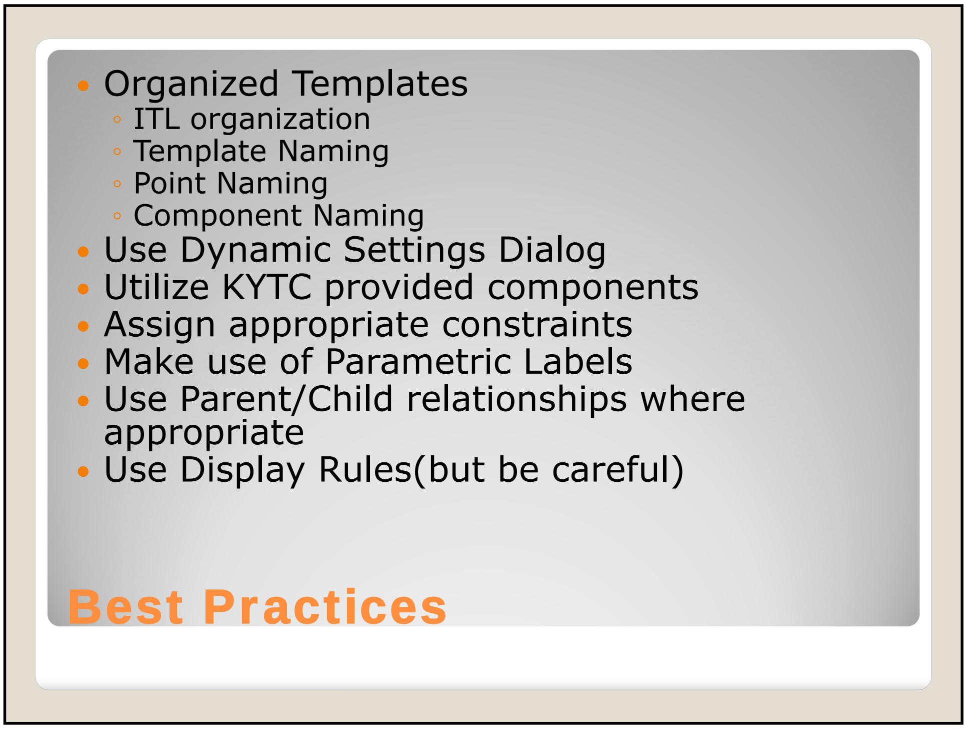
- Use Parent/Child relationships where appropriate



Parent / Child Relationships

- One way to control the display of components.
  - Child is only displayed IF parent is displayed.
- Helpful when wanting to show a “normal” component only when a particular end condition is shown.

DEMO



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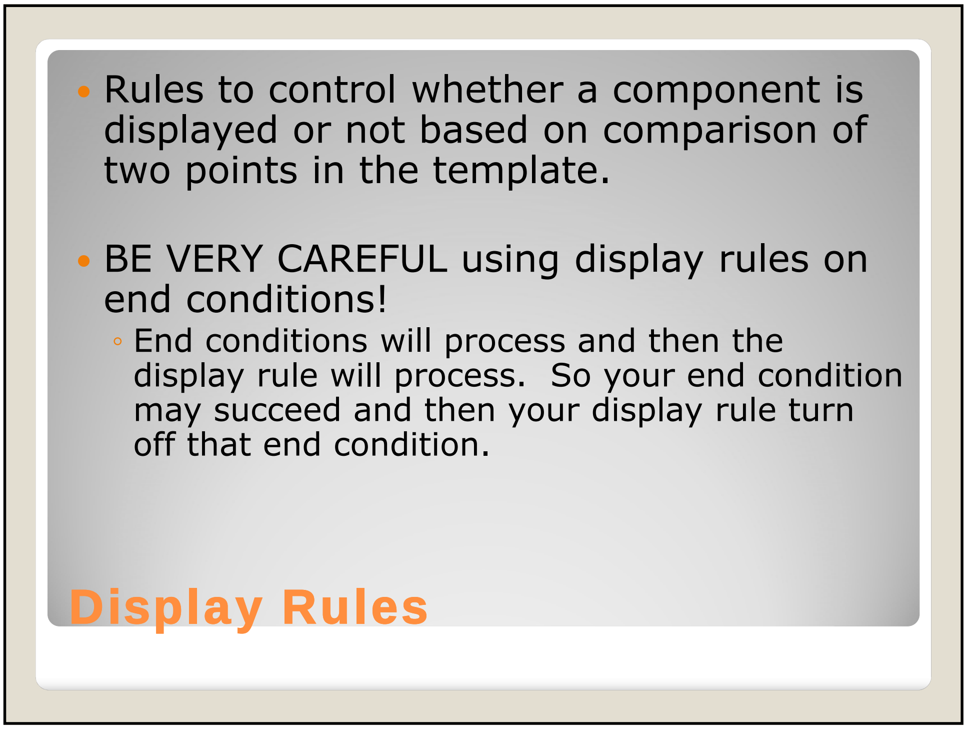
- Use Display Rules(but be careful)

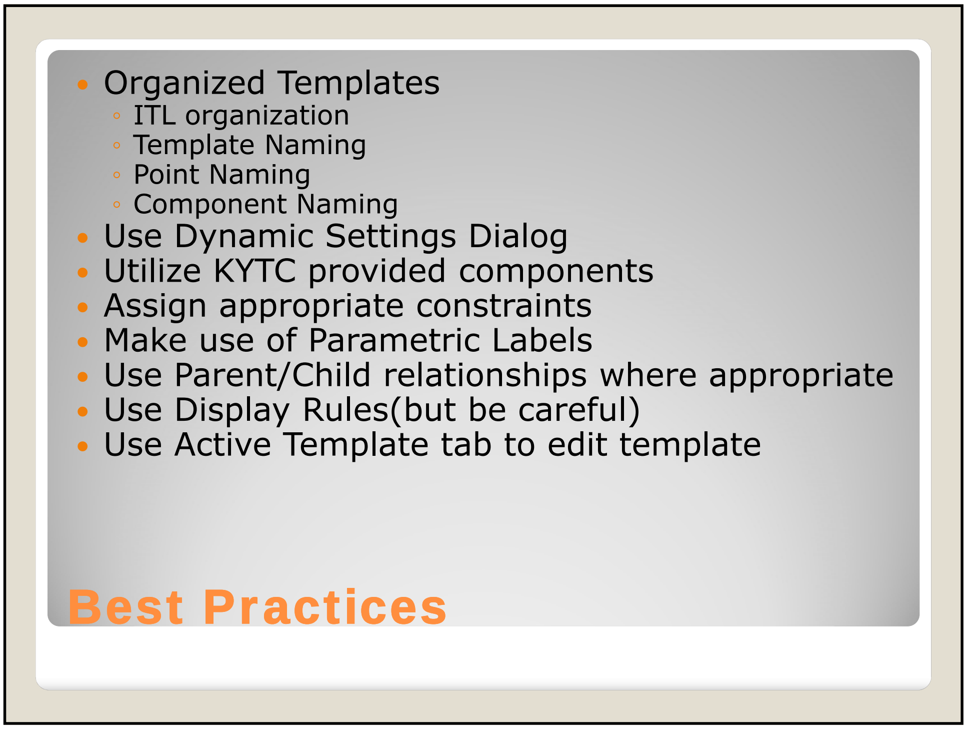


Display Rules

- Rules to control whether a component is displayed or not based on comparison of two points in the template.

- BE VERY CAREFUL using display rules on end conditions!
  - End conditions will process and then the display rule will process. So your end condition may succeed and then your display rule turn off that end condition.

DEMO



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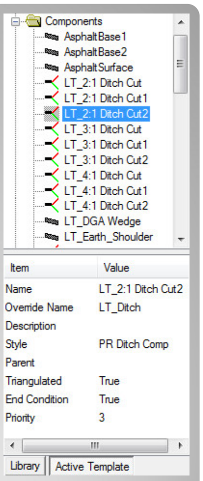
Active Template Tab

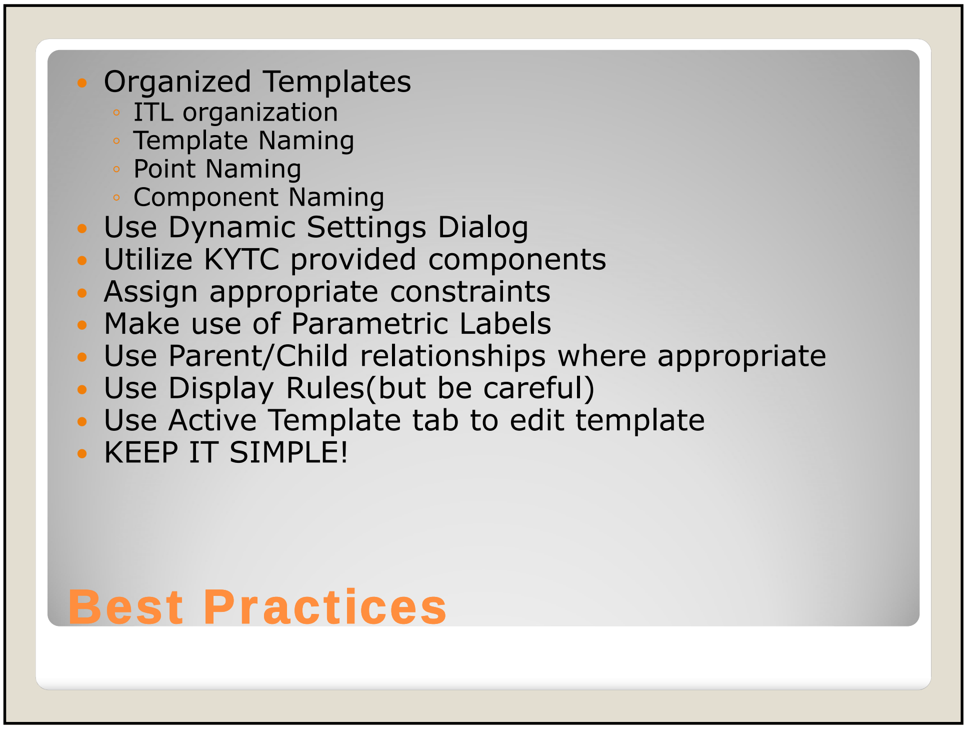
- Gives designer access to every aspect of the active template.
  - Every component regardless of whether it is “displayed” or not
- Allows designer to make wholesale changes to Parametric Labels.
- Displays all points included in a particular Alternate Surface
- Provides access to all Display Rules in active template



Components
AsphaltBase1
AsphaltBase2
AsphaltSurface
LT_2:1 Ditch Cut
LT_2:1 Ditch Cut1
LT_2:1 Ditch Cut2
LT_3:1 Ditch Cut
LT_3:1 Ditch Cut1
LT_3:1 Ditch Cut2
LT_4:1 Ditch Cut
LT_4:1 Ditch Cut1
LT_4:1 Ditch Cut2
LT_DGA Wedge
LT_Earth_Shoulder

Item	Value
Name	LT_2:1 Ditch Cut2
Ovenide Name	LT_Ditch
Description	
Style	PR Ditch Comp
Parent	
Triangulated	True
End Condition	True
Priority	3

DEMO



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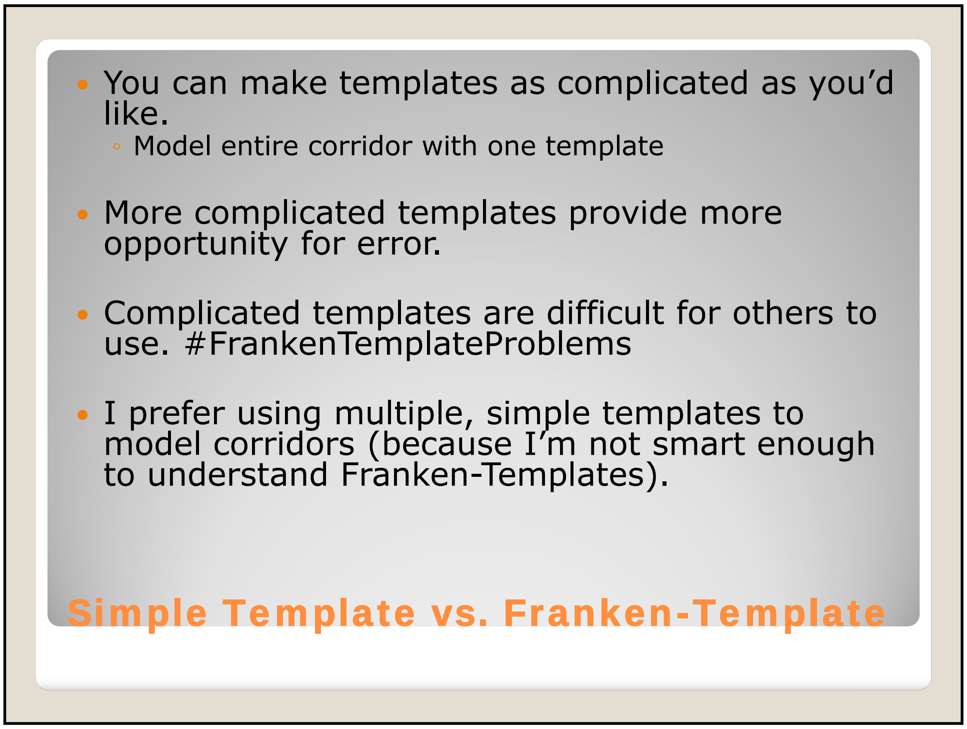
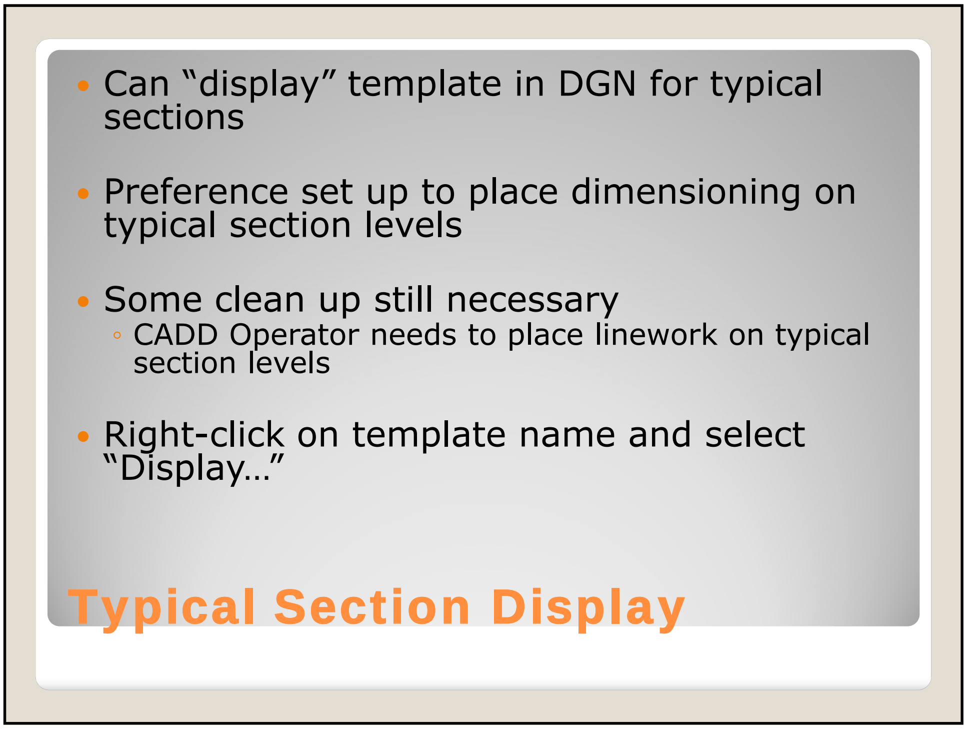


Simple Template vs. Franken-Template

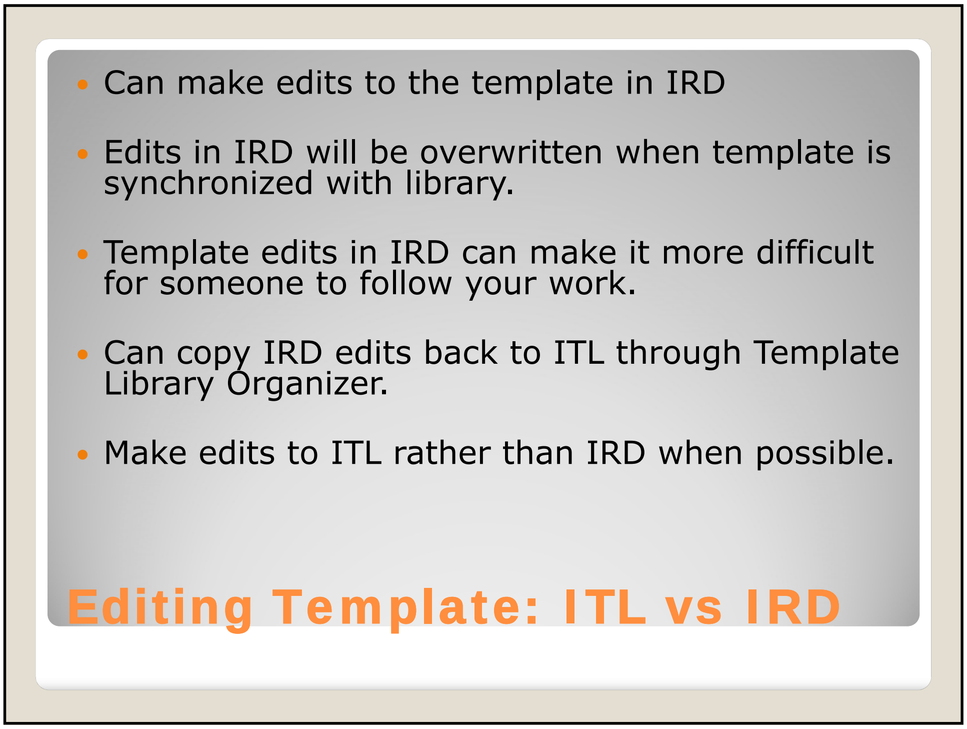
- You can make templates as complicated as you'd like.
  - Model entire corridor with one template
- More complicated templates provide more opportunity for error.
- Complicated templates are difficult for others to use. #FrankenTemplateProblems
- I prefer using multiple, simple templates to model corridors (because I'm not smart enough to understand Franken-Templates).



Typical Section Display

- Can “display” template in DGN for typical sections
- Preference set up to place dimensioning on typical section levels
- Some clean up still necessary
  - CADD Operator needs to place linework on typical section levels
- Right-click on template name and select “Display…”

DEMO



Editing Template: ITL vs IRD

- Can make edits to the template in IRD
- Edits in IRD will be overwritten when template is synchronized with library.
- Template edits in IRD can make it more difficult for someone to follow your work.
- Can copy IRD edits back to ITL through Template Library Organizer.
- Make edits to ITL rather than IRD when possible.

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