



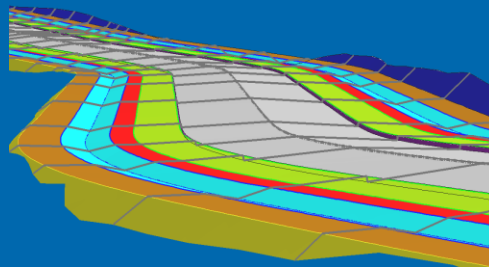
Corridor Modeling - Objectives

- Corridor Modeling Prerequisites
- Creating a new Roadway Designer File
- The new Roadway Designer Interface
- Creating a new Roadway Corridor
- Adding Template Drops within the Corridor
- Reviewing & Editing Template Transitions
- Addressing End Condition Exceptions
- Creating the Final Design Surface model

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Roadway Modeling

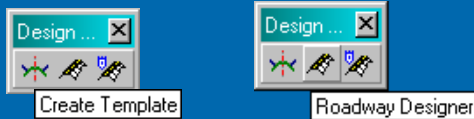


- The **Roadway Designer** combines the roadway details & creates the design surfaces
 - ♣ *Horizontal Alignment*
 - ♣ *Vertical Alignment*
 - ♣ *Existing Surface*
 - ♣ *Roadway Configuration*

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Corridor Modeling Workflow

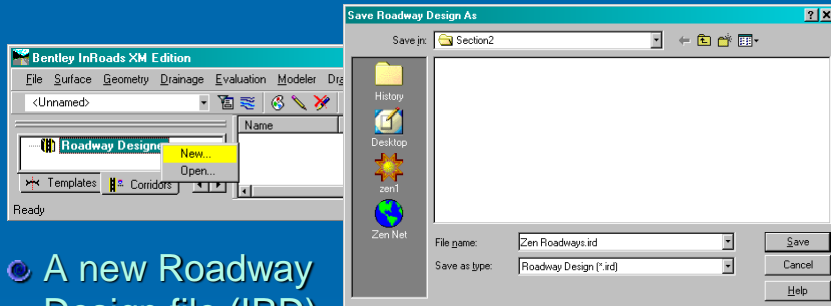


- The **Design Roadway** toolbar shows the final tools in the corridor modeling workflow
 - Obtain an existing surface for side slope creation
 - Layout the Horizontal and Vertical Geometry
 - Create the necessary Typical Sections
 - Define the Roadway details in the Roadway Designer
 - Review and modify the new design (as needed)
 - Use the Roadway Designer to create the final surface

Data Requirements

- Before moving into the **Roadway Designer** the roadway modeling pre-requisite files should be open within InRoads
 - Existing Surface
 - Design Geometry (set as the Active Geo Project)
 - Horizontal Alignment
 - Vertical Alignment
 - Template Library

Roadway Design File



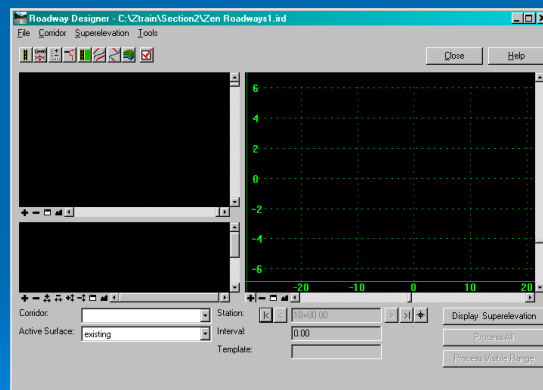
- A new Roadway Design file (IRD) is created by right-clicking in the Workspace Bar. (Similar to the ITL file)
- That's it. Now begin defining the road details...

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Roadway Designer

- Go to *InRoads> Modeler> Roadway Designer*
- The corridor modeler was completely redesigned after V8.05
- New resizable 3 panel interface



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The Roadway Designer Interface

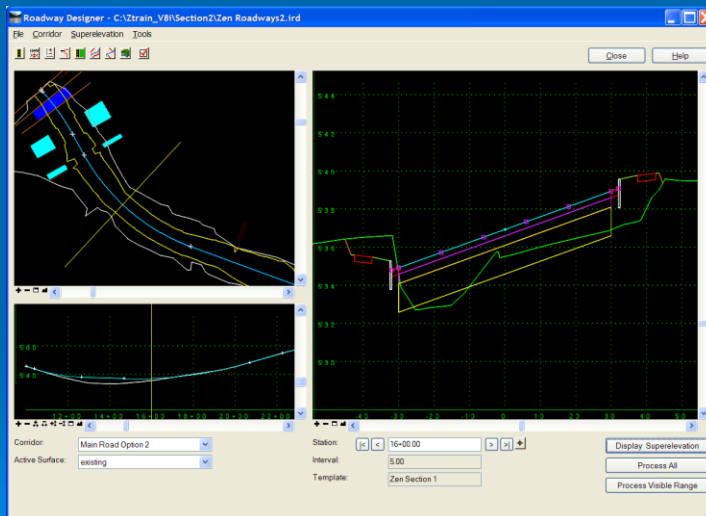
Designer Menu Items



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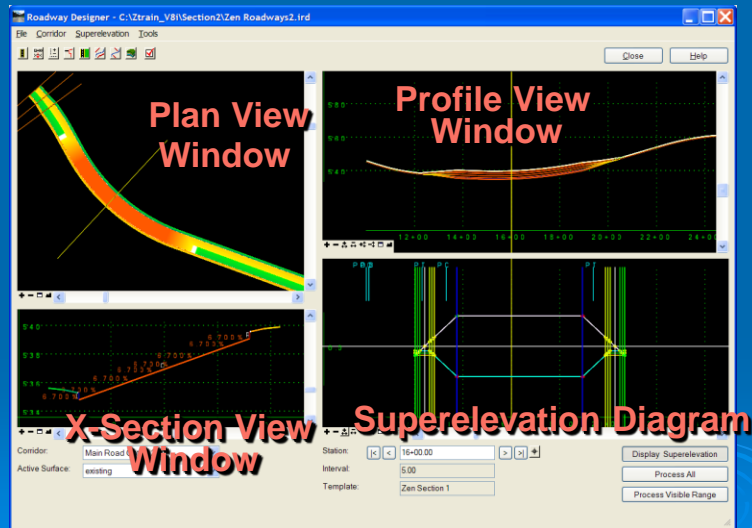
The Designer Interface



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The Designer Interface - Super

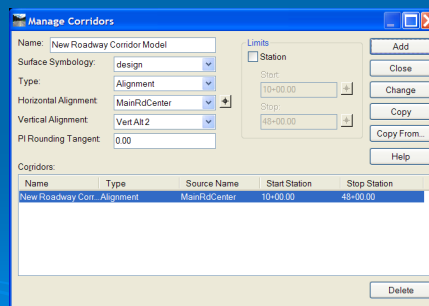
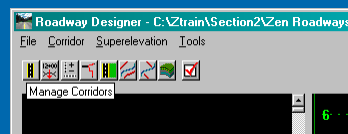


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Creating a New Corridor

- The first button in the upper left is **Manage Corridors** (this is similar to the earlier version 'Define Roadway')
- Each new roadway model begins here...



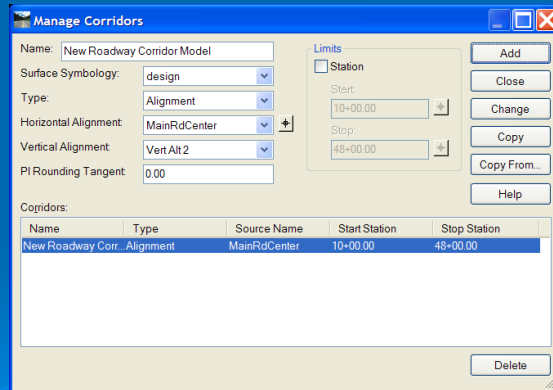
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Creating a New Corridor

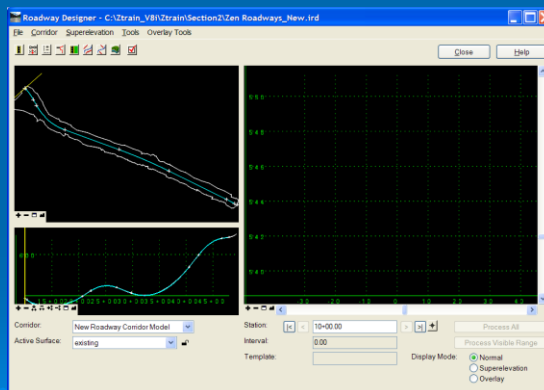
- The key Corridor 'path' controls are established here first.

- Alignment
 - Horizontal
 - Vertical
 - Stationing
- Feature
 - Surface
 - Feature
 - Stationing
- PI Rounding (if applicable)



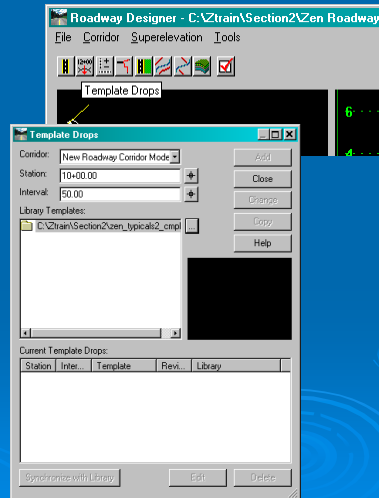
Corridor Design

- The Roadway Designer has been developed to provide instant feedback on the design as it is defined by the user.
- The next step is to define the Template Drops



Template Drops 1

- The second button in the upper left is the next step
- The **Template Drops** dialog box identifies the placement of sections for the active corridor...

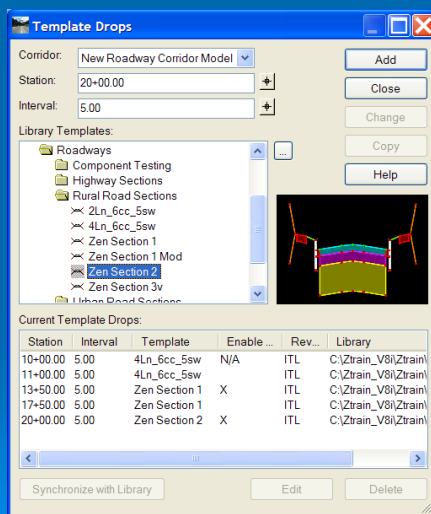


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Template Drops 2

- **Add Template Drops**
 - Define the **Station** location of the section
 - Establish the modeling **Interval**
 - Drill into the Template Library and select the **Template** section for that station
 - Repeat until the roadway corridor is defined

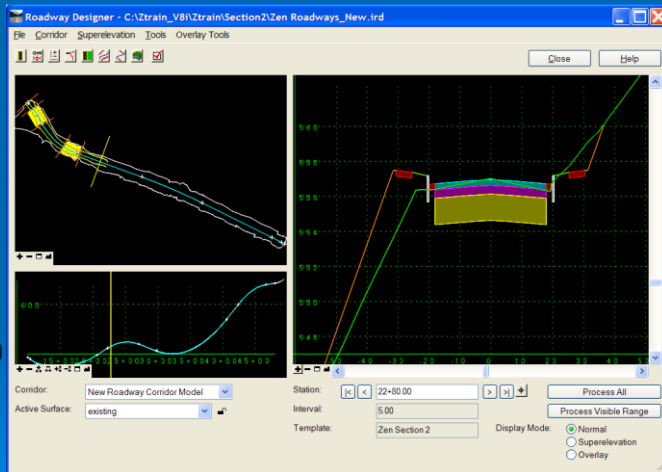


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Roadway Design Feedback

- Instant feedback is shown on the corridor design
 - Plan
 - Profile
 - X-section
- Process All

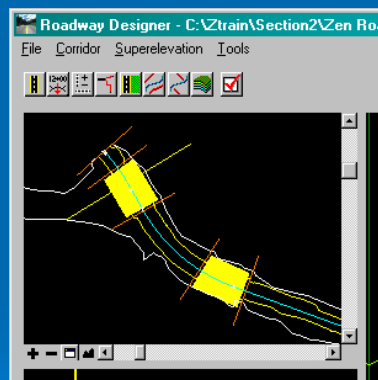


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Plan Window - Transitions

- The Plan view shows color-coded Template to Template transition areas (this applies to the backbone only)
 - Red** = total connection failure
 - Yellow** = partial connection failure
 - Light Blue** = connections not complete, but reviewed by user
 - Dark Blue** = complete

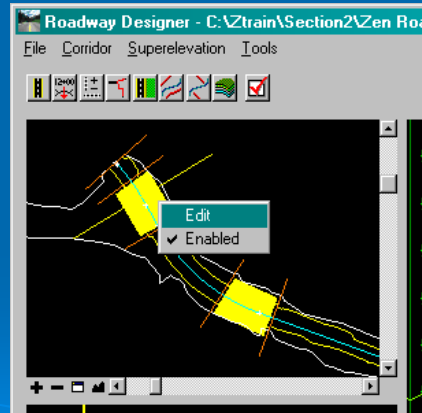


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Transition Edits 1

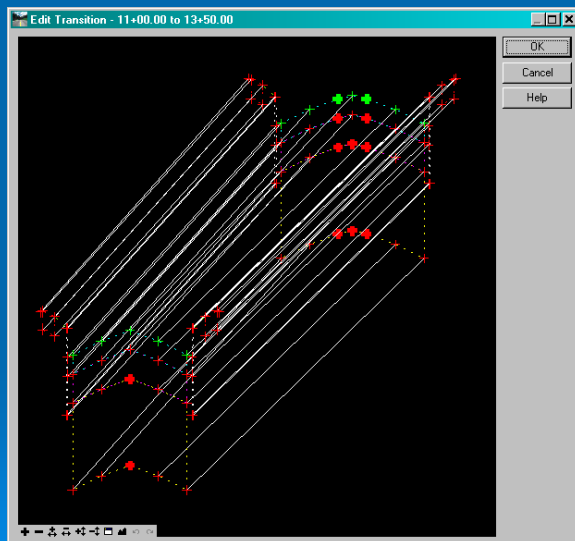
- Right-click on the transition band to edit the “*template to template*” connectivity



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Transition Edits 2

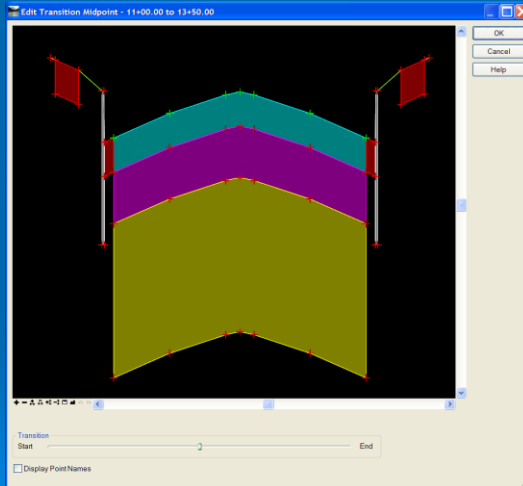


- Establish all connectivity
 - Use the view tool bar (and dialog resize) as needed
 - Right-click to rotate and reposition view
 - Pick 2 points to connect them
 - The 1st pick point controls the Style of the breakline

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Transition Edits 3



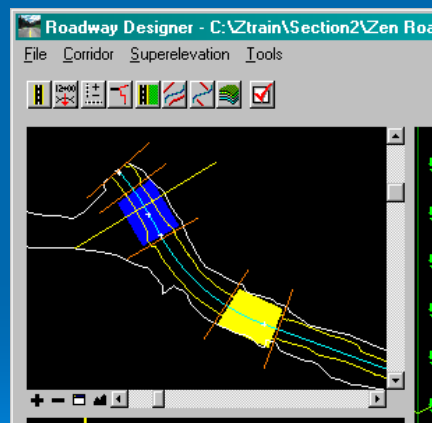
- After resolving the connectivity issues a review of the transition and resulting components can be made
 - This dialog automatically appears after the previous connectivity is established

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Transition Edits 4

- Each transition will be resolved 1 by 1
 - This editing only addresses the backbone portion of the sections
- The side slopes are addressed through **End Condition Exceptions ...**

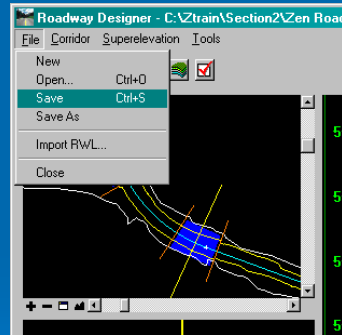


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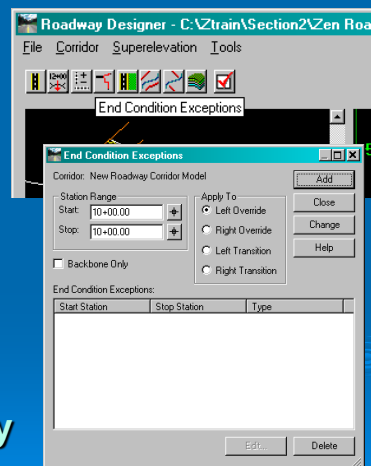
Note on Saving

- Don't forget to periodically save the IRD Roadway configuration work to the hard drive!



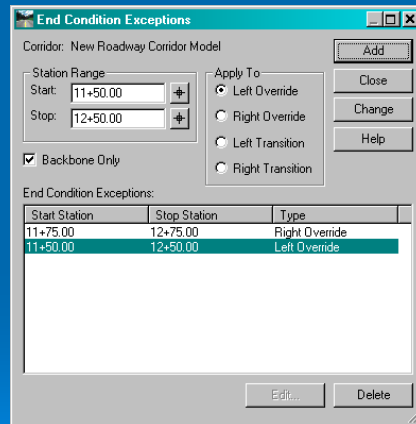
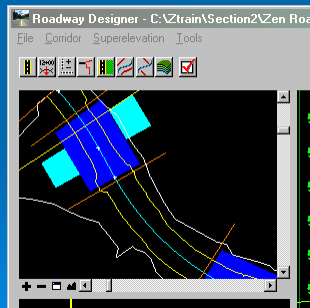
End Condition Exceptions

- The 4th button on the toolbar opens the **End Condition Exceptions**
- There are 2 basic types of End Condition Exceptions
 - Overrides
 - Transition
- An Override can also be used to run **Backbone Only**



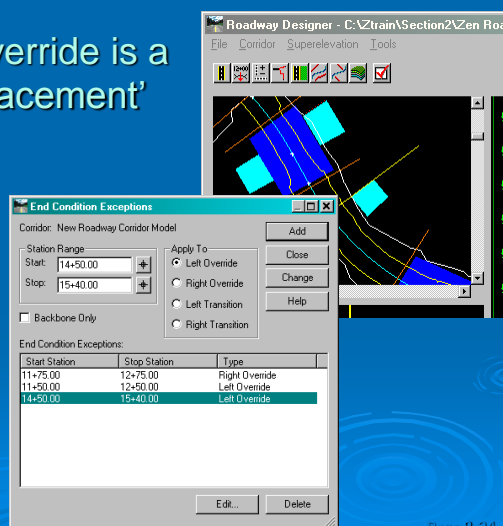
Backbone Only – Override

- Overrides can switch the modeling mode to **Backbone Only**



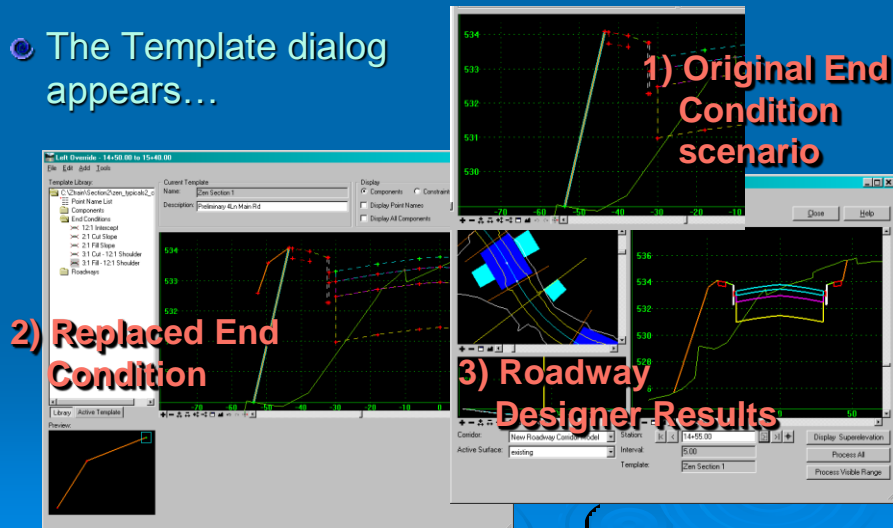
Replacement – Override...

- Another type of Override is a 'substitute' or 'replacement' End Condition
 - Add the Override entry
 - Select the Override entry
 - Click **Edit...**



Replacement – Override

- The Template dialog appears...



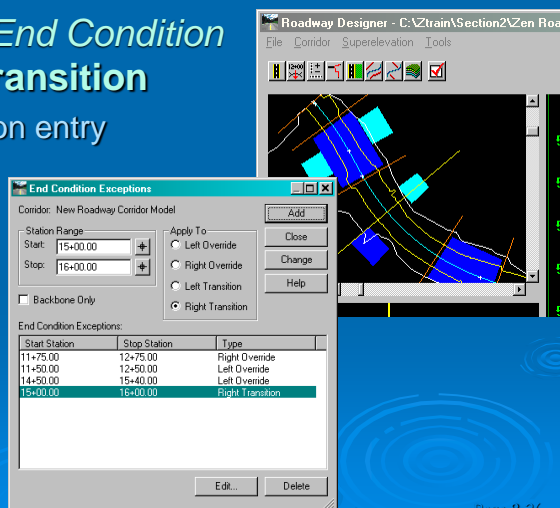
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EC Exception – Transition...

- Another type of *End Condition Exception* is a **Transition**

- Add the Transition entry
- Select the Transition entry
- Click **Edit...**



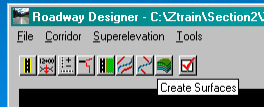
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Roadway Model – Review

- Eventually, all the details of the model will be entered.

- Process All
- Review the sections
- Approve what you see
- Create Surface



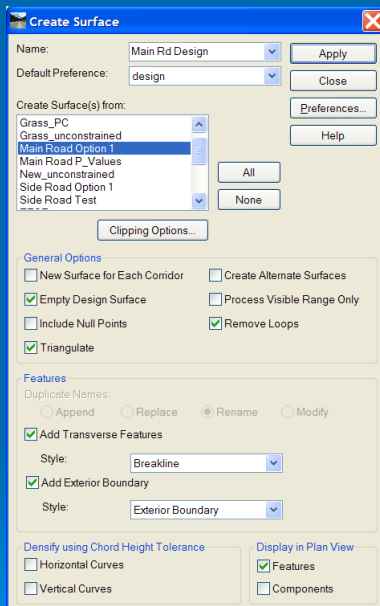
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Create Surface

- Once the Roadway Designer results have been input, reviewed and deemed 'worthy', the DTM can be created

- Surface **Name**
- Preference** Group
- Create Surface from
- Empty Design Surface?
- Triangulate
- Remove Loops
- Add Exterior Boundary



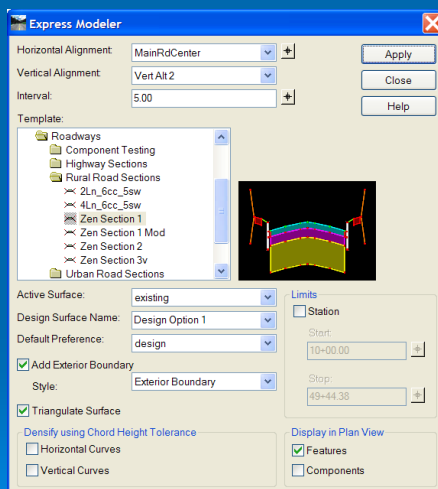
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Completion Steps

- Make sure you save the latest changes to the Roadway Designer file
- Save the Design surface that was created from the Roadway Designer
- Display and Review the Design Surface
- Add the IRD file into the Project File (RWK) ...overwriting any older .rwk

Express Modeler



- **Express Modeler** is a quick corridor modeler
- You'll need a:
 - ♣ Horizontal alignment
 - ♣ Vertical alignment
 - ♣ A single Template
 - ♣ Existing Surface
- Cannot use:
 - ♣ Multiple Templates
 - ♣ Point Controls
 - ♣ Superelevation

Corridor Modeling - Summary

- Before detailed roadways can be created, a **Roadway Design** file (IRD) must be available
- The *Roadway Designer* holds the **station / template** entries and corridor modeling details
- A **new corridor** is created inside the *Roadway Designer* under **Manage Corridors** and then **Template Drops** are added to the corridor model along with other details
- The *Roadway Designer* provides both review and editing of the design model prior to the creation of the final DTM
- **Superelevation** is also built into the *Roadway Designer*
- Running the **Roadway Modeler** requires a:
 - Existing **Surface** for side slope development
 - **Horizontal & Vertical** Alignment
 - **Template Library** with templates
 - **Roadway Designer** file w/ station & template entries.

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Hands-on Lab Time

- Start working on Lab 2.8

... Part 2 to follow the Hands-on

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Roadway Designer – Part 2

● QUESTIONS ??

...

Roadway Designer ‘Advanced’

● Roadway Designer:

- ♣ Editing Templates in the Template Library and **Template Drops > Synchronize with Library**
- ♣ **Tools > Parametric Constraints** & Template Point Constraint **Labels**
- ♣ **Corridor > Point Controls**
- ♣ **Corridor > Secondary Alignments**
- ♣ **Tools > Vertical Gore Tool**
- ♣ **Tools > Target Aliasing**
- ♣ **Create Surface > Clipping Options**
- ♣ **Copy From ...** Corridor Management ...copies IRD data