www.bentley.com

Using the new Site Modeler tools - Tips and Tricks

Lisa Whitson, Transportation and Local Infrastructure
Professional Services, Bentley Systems USA

Today's Agenda

- ## What is Site Modeler?

- ## What Products is it included in?

- ## Create your design based on **your** workflow with dynamic design scenarios.

- ## Trial and error methods.

Site Modeler

- Quick and efficient site analysis
  - Optimizing your earthwork

- Efficient design Changes.
  - Trial and error, What if? scenarios

- Single source design and analysis.

- Accurate quantity takeoffs.

Bentley
*Sustaining Infrastructure*

What types of Projects can be done?

- Subdivision Developments
- Residential Sites
- Channels/Ditches/Open Drains
- Mining Pit design
- Roadways
- Car Parks
- Landfill Development
- Ponds/Dams/Lakes
- Building Pads
- Runway/Taxiway/Airport
- Drainage schemes
- Stream/River rejuvenation
- Commercial Sites
- Bridge Abutment placement

- Canal Developments
- Electrical Substation pad and access design.
- Highway Corridor planning
- Highway Ponds
- Landscape Design
- Golf Course Design
- Municipal works
- Retaining Walls

Bentley *Sustaining* Infrastructure
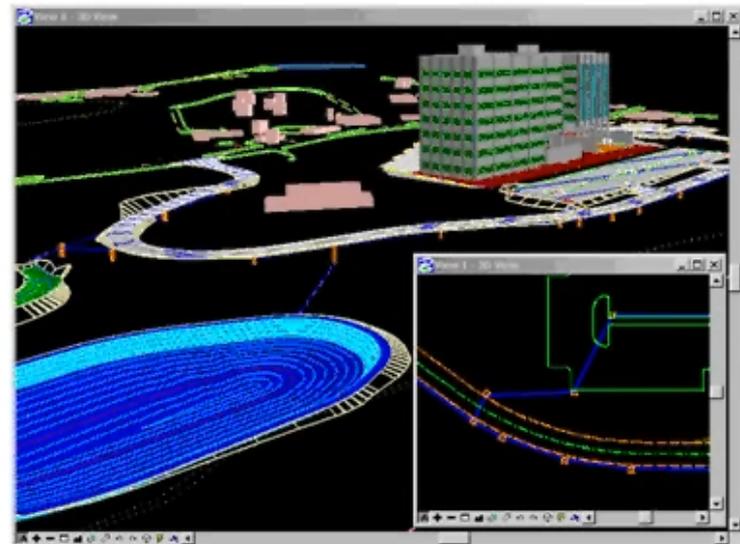
Terminology

- Basic Terminology
  - Elements
  - Surface
  - Site
  - Site Project
  - Visualization
  - Site Project Options
  - DTM Feature Types
    - Boundary
    - Breakline
    - Contour
    - Interior
    - Hole
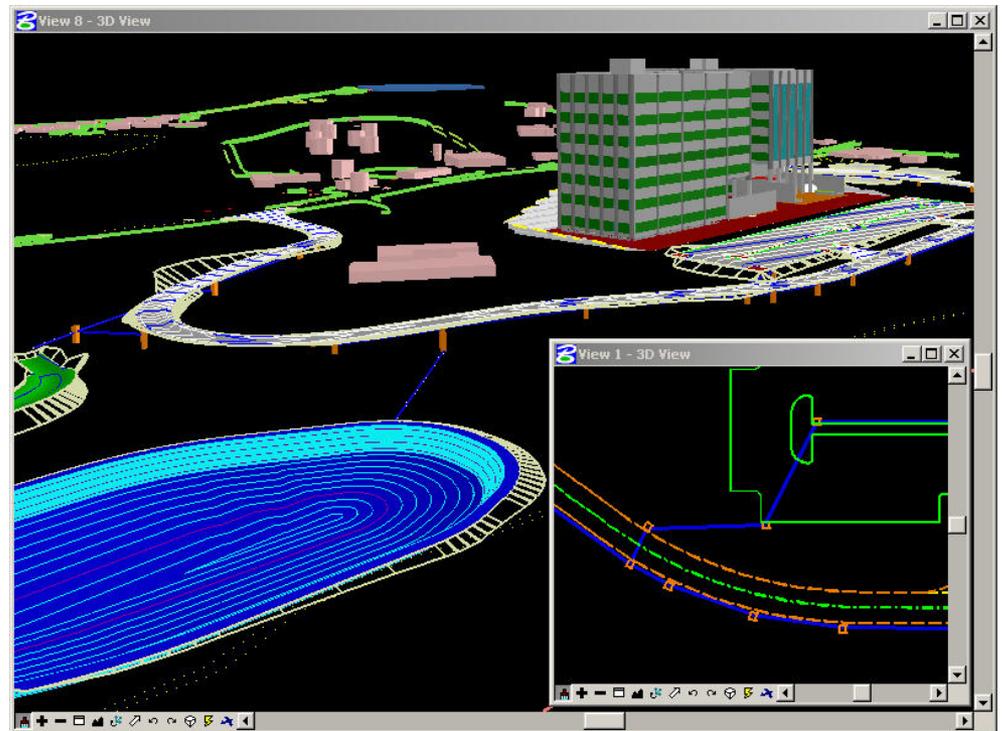
Site Design - Creating a 3D Model, How?

- Keep the graphics simple
  - Keep survey information in different DGN or DGN Model
  - Have annotation in different DGN or DGN Model
  - Have a fully developed XIN file

- Keep the graphics clean
  - Join ends coincidently
  - Use the design tools as they are designed
  - Trim, extend to intersection, intersect 2 elements.
  - Do not have duplicate elements (at least not on the same level)
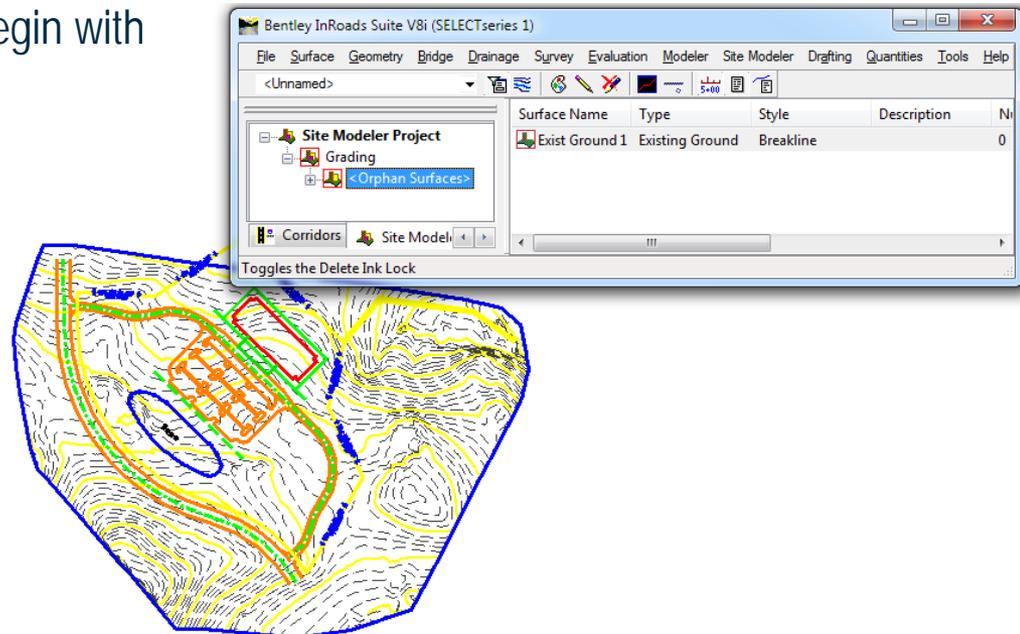
Site Modeler

- Different Mindset
  - Reference Associations
  - Temporary (Orphan) Surfaces
  - Importing of InRoads Roadway Designer surfaces
  - FIFO
    - Change order surfaces are processed
    - Adding and Removing Surfaces from Site
  - Importing 3D graphics
  - Use the Wizards!!
    - Pad Design
    - Pond Design

Site Modeler - Creating a Project

- Start with the basics steps
  - Create plan design file of proposed layout
  - Have an "existing surface" available
  - Create Site Modeler Project
    - Load in "existing surface" to begin with
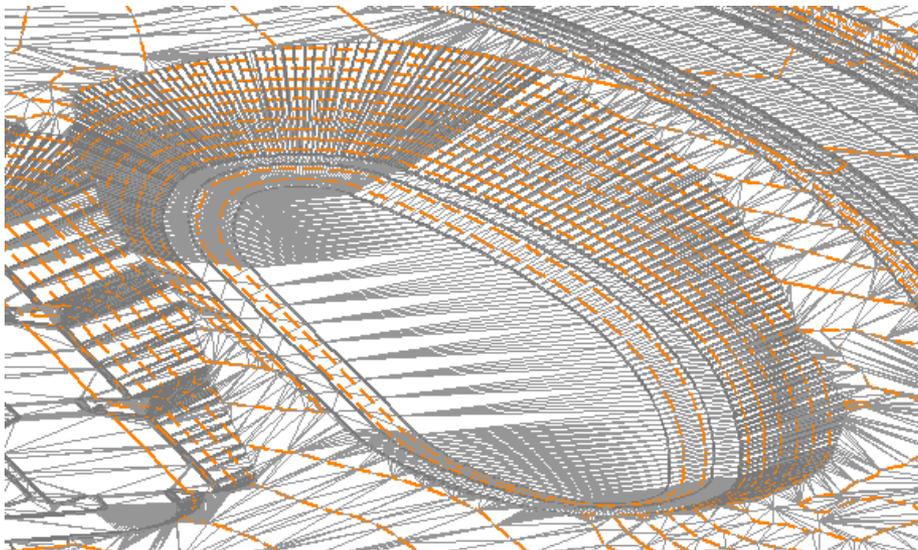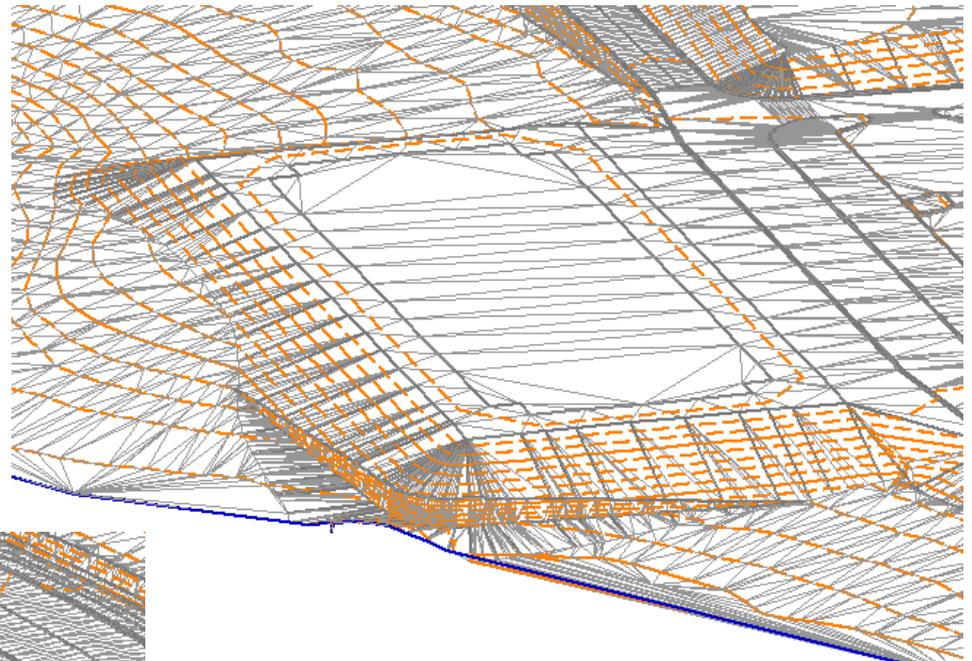 - Save Project

Tip: Working in Metric

- Site Modeler looks all the way down to dgn file Advanced Units. Make sure your base graphics are drawn in a dgn file based on a seed file with these set appropriately!

Tip: Setting up Project Preferences

- For efficient workflow, you can set the Preferences for a project, client, or your organization, then save them using the File > Save option.

- The default file extension is *.spf. The file can be opened in subsequent projects (File > Load), saving the time of redundant entry.

- The files can be placed on a server for multiple users.

- InRoads Project Defaults can be set to point to project specific .spf file.

Bentley®
Sustaining Infrastructure

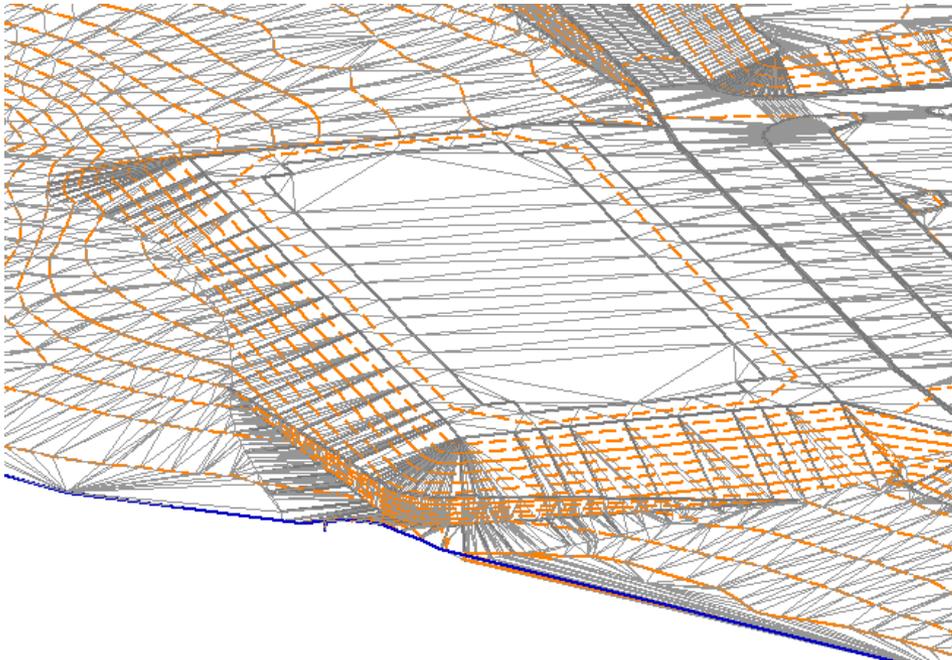# Create Design Surfaces

- Building Design

- Parking Lot Design

- Pond Design

- Roadway Design

- Retaining Walls

Trick: Identifying Graphics Site Elements

- If you are having trouble identifying them, turn off the Display View by Right Clicking on Site project and selecting Display Off!

- Make a selection set of required graphics prior to executing the command

Trick: Creating Surfaces

- An alternate way to create a new surface is by Right Clicking on the Site Modeler Project and Selecting New!
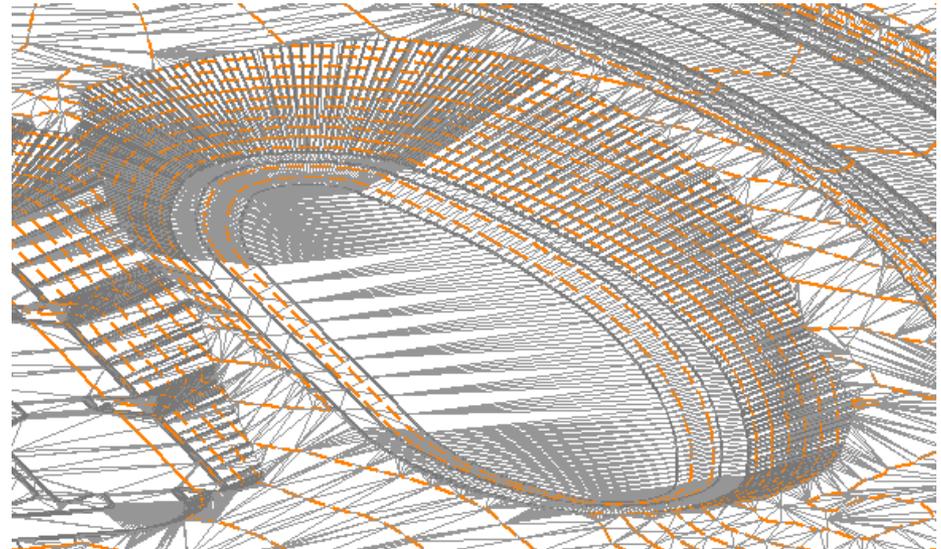
Tip: Save your Project Often!

- When working on a project, frequent use of the File > Save pull down is important.

- Any changes made in the project are not recorded in the Modeler File (GSF) file unless a File > Save or File > Save As operation is executed.

- Hence, any power interruption or other malfunction will result in loss of data that can be avoided through the judicious use of the File > Save tool

- Ctrl + M will save the project!

What happens if you have a Site Project File without the sources graphics file?

Site Modeler will always try to reconcile the graphics of the active graphics file and the active Site Project File.

It recognizes if the active graphics file has changed from the last one it was synchronized with and alerts the user.

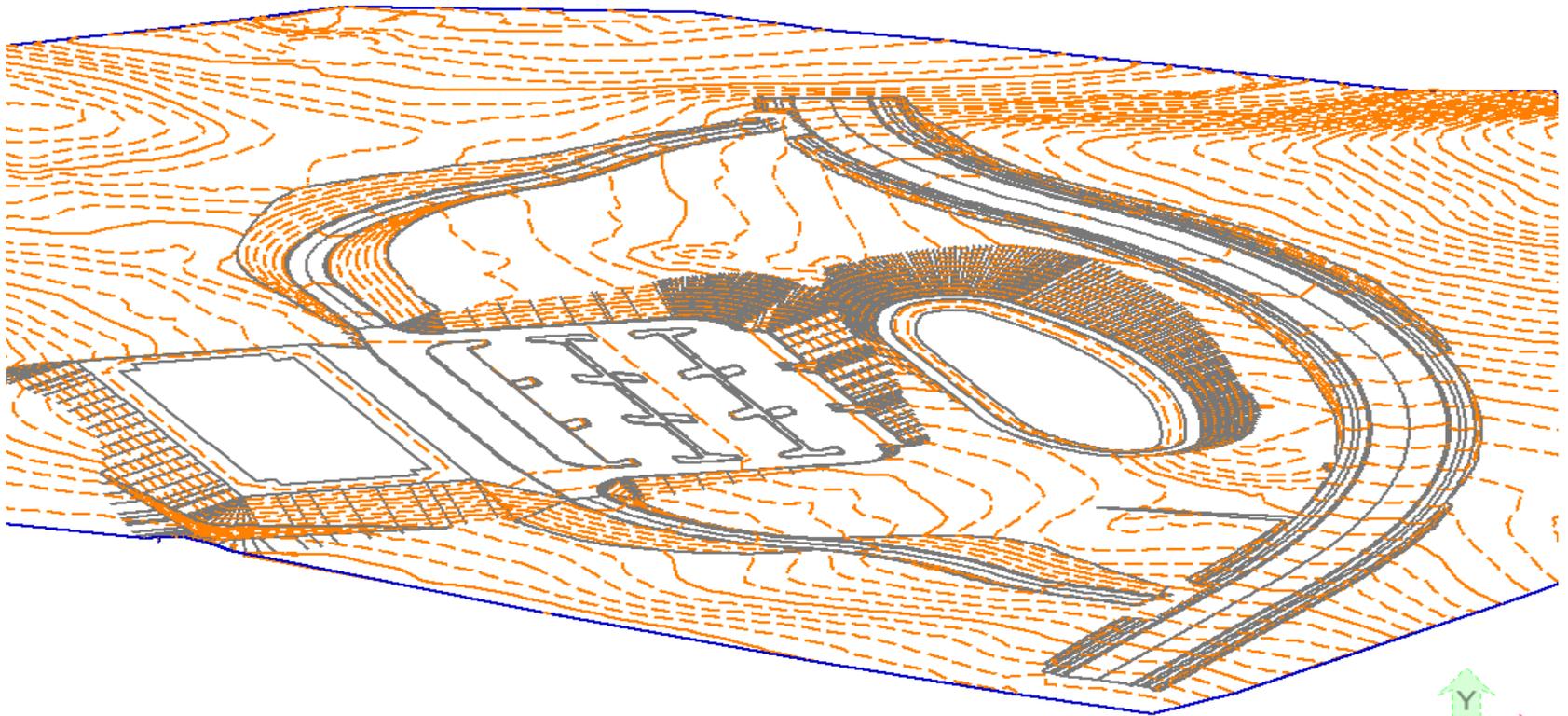It then essentially asks the user how to proceed in reconciling the differences.

Bentley
Sustaining Infrastructure

Express Modeler / Roadway Designer

- Dynamic Templates

- Quick Roadway Creation
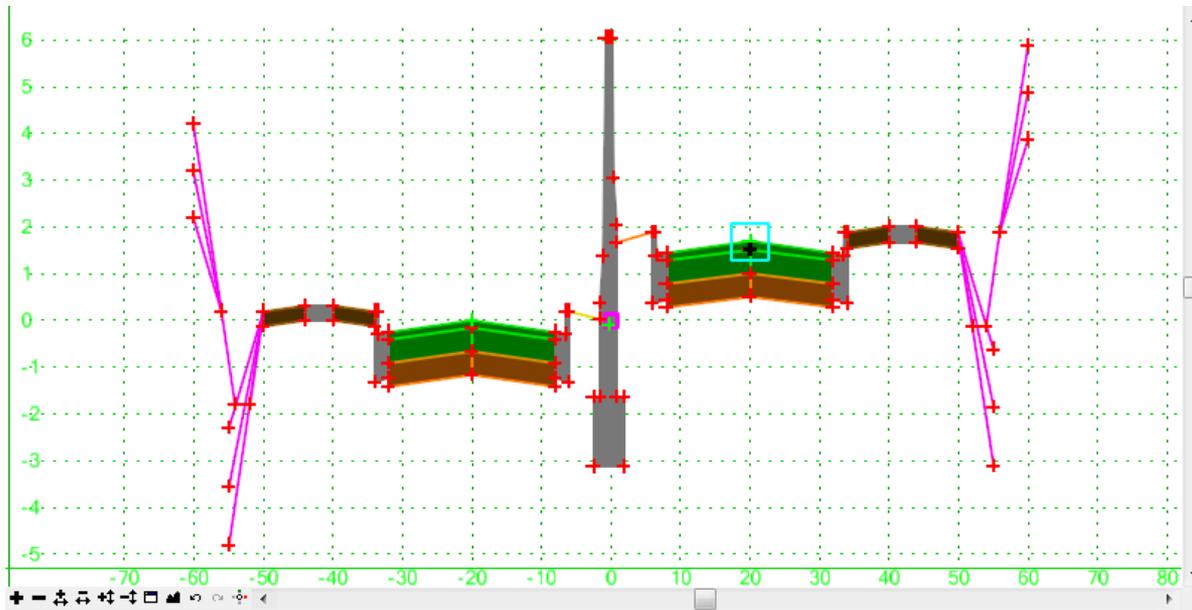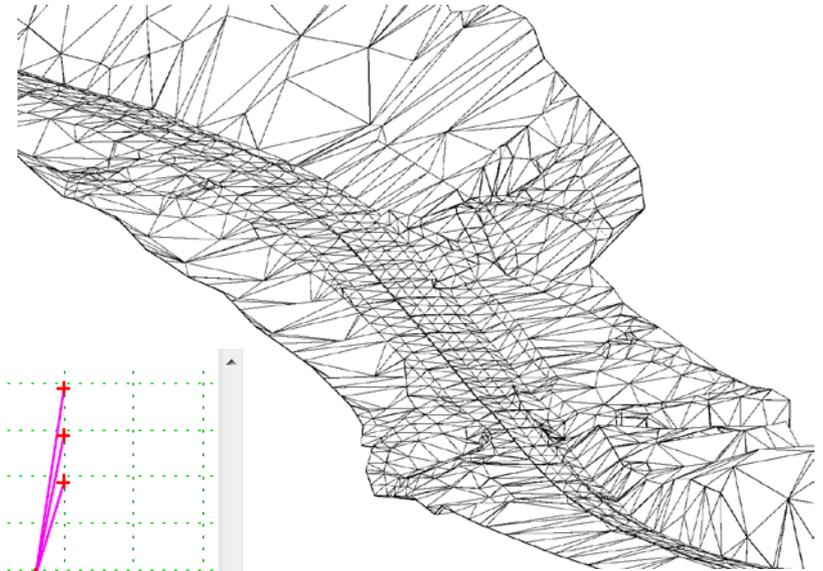
Create the Finished Surface

- Create One Site from Multiple Surfaces

- Review the Results

Tip: Create DTM and Visualization for final plans

- **Select Site Modeler >Site Tools > Create Surface.**
  - This creates a Proposed.DTM for use in plans production and for use in the remainder InRoads program

- **Select Site Modeler >Site Tools > Export Visualization.**
  - This will create a 3D/2D presentation of the surface and elements that created the surface based on the Preferences .SPF file
  - Iternatively, you can display the information from the DTM surface resulting from Create Surface.

Demo

- Lets look at Site Modeler!

Bentley®
Sustaining Infrastructure