

# E02-What's New in InRoads V8i (SELECTseries 1+2+3)

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Bentley Civil

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# Welcome to the InRoads Update

- Joe Waxmonsky
  - 3<sup>rd</sup> Nordic User Conference
  - BSW Product Engineer
- Why do I do what I do?

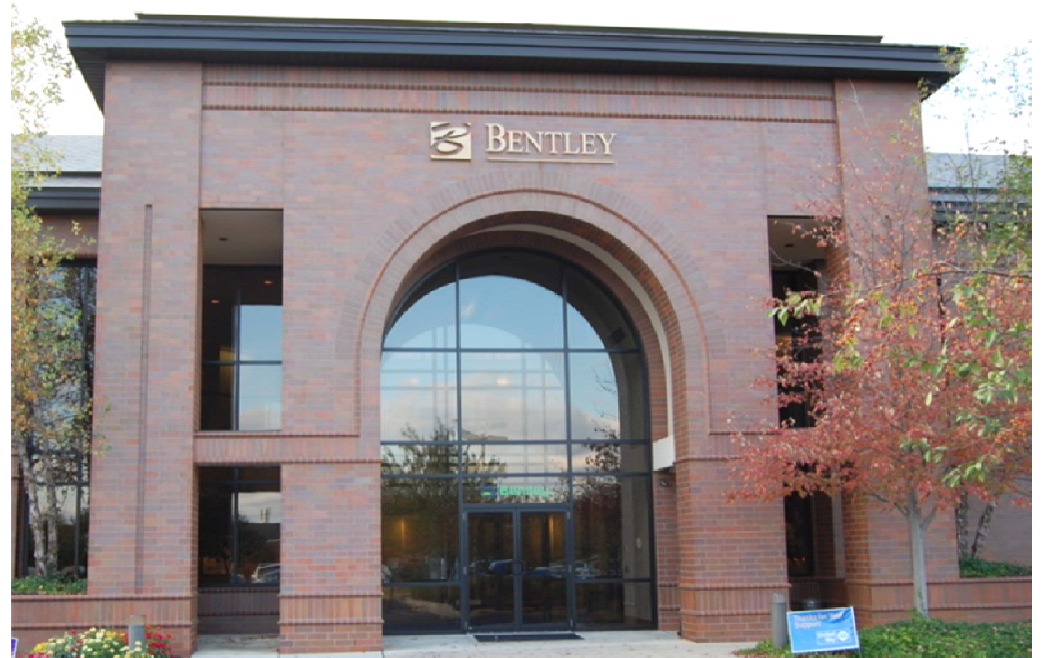


# My Commute



## Today's Agenda

- Release History & Schedule
- General Enhancements
  - (SELECTseries 1)
  - (SELECTseries 2)
- Geometry
- Surface
- Site Modeler
- Roadway Designer
- Civil in MSTN



## InRoads Release History & Schedule

- SELECTseries 1 first released in February 2010
- SELECTseries 1 *Refresh 1* in March 2010
- SELECTseries 1 *Refresh 2* May 2010
  - V08.11.07.246
- SELECTseries 2 Released August 2010
  - V08.11.07.428

- And SELECTseries 3 schedule is Unknown



# InRoads and ProjectWise Compatibility

InRoads [MicroStation]	PW (2004)	PW XM (08.09) * 08.09.04.50 or higher	PW V8i (08.11.05) * 08.11.05.63 or higher	PW V8i (SELECTseries 1) * 08.11.07.107 or higher	PW V8i (SELECTseries 2) * 08.11.07.443 or higher
08.05 SP7 (2004) [MS 08.05 (2004)]	X	X	X	X	
08.07 (2004) [MS 08.05 (2004)]	X				
08.08 (2004) [MS 08.05 (2004)]	X				
08.09 (XM) [MS 08.05 (2004)] MS XM	X	X			
08.09 (XM) [MS 08.09.03.48 or higher]		X		X** (ProjectWise Local Document Organizer displays on exit )	
08.11.05 V8i [MS 08.11.05]			X		
08.11.05 V8i [MS 08.11.07]				X	
08.11.07 V8i (Ss 1) [MS 08.11.07]			X	X	X
08.11.07.428 V8i (Ss 2) [MS 08.11.07.443] SS2 and SS1			X	X	X



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# Bentley® InRoads® Suite V8i

SELECTseries 1



## InRoads V8i (SELECTseries 1)

- Initial Release in February 2010
- Current Rev. v8.11.7.246 posted 5/26/2010
  - First Refresh to resolve License Issue with Map
- Requires MSTN (SELECTseries 1)
  - MSTN 08.11.07.171
  - MSTN Update 08.11.07.180

[MicroStation](#) ▼ ● 08.11.07.171 11/2/2009 395.39 MB  
[V8i](#)

[MicroStation](#) ▼ ● 08.11.07.180 2/4/2010 70.5 MB  
[V8i \(SELECTseries](#)  
[1\) Update 1](#)  
[English](#)



## InRoads (SELECTseries 1) v08.11.07.246 General Enhancements

- Updated MicroStation support to 08.11.07
- Added AutoCAD 2010
- Overlay and Resurfacing
- Site Modeler
- Addition of Civil Tools and Data Acquisition
- Bentley Map capabilities added
- User Interface in MicroStation
- Components displayed directly from Roadway Designer
- 89 Customer Requests implemented
- 205 Customer defects resolved

## V8i SELECTseries 1 Enhancements

- Closer integration with MicroStation
- User Interface Enhancements
  - Task menus, context menus, Show/Hide Explorer, last five commands, last 10 files loaded and more
- Addition of many Bentley Map capabilities
  - Import for GIS data, shapefiles
  - Spatial Queries
- Surface mesh displays and cleanup routines
  - View Mesh element
  - Resolve Crossing Segments
  - Delete Triangles by Filter



# Bentley InRoads Suite V8i

SELECTseries 2

## InRoads (SELECTseries 2) v08.11.07.428 General Enhancements

- MicroStation SS2 and SS1
- Clash Detection in MicroStation SS2
- Support for AutoCAD 2011
- DTM extraction from Point Clouds in Data Acquisition
- Pay Item from Style added to Element Attributes
- View Crossing Segments added back
- 3 Customer Requests implemented
- 7 Customer defects resolved

## Why upgrade up to (SELECTseries 2)?

- MicroStation enhancements
  - Point Clouds
  - Clash detection
- New InRoads capabilities
  - Roadway Designer enhancements
    - Overlays and Resurfacing
  - Site Modeler
  - More types of export to machine control
  - Create DTMs from point clouds
- Resolve workflow problems
  - MicroStation and InRoads fixes
- Implementing ProjectWise Server



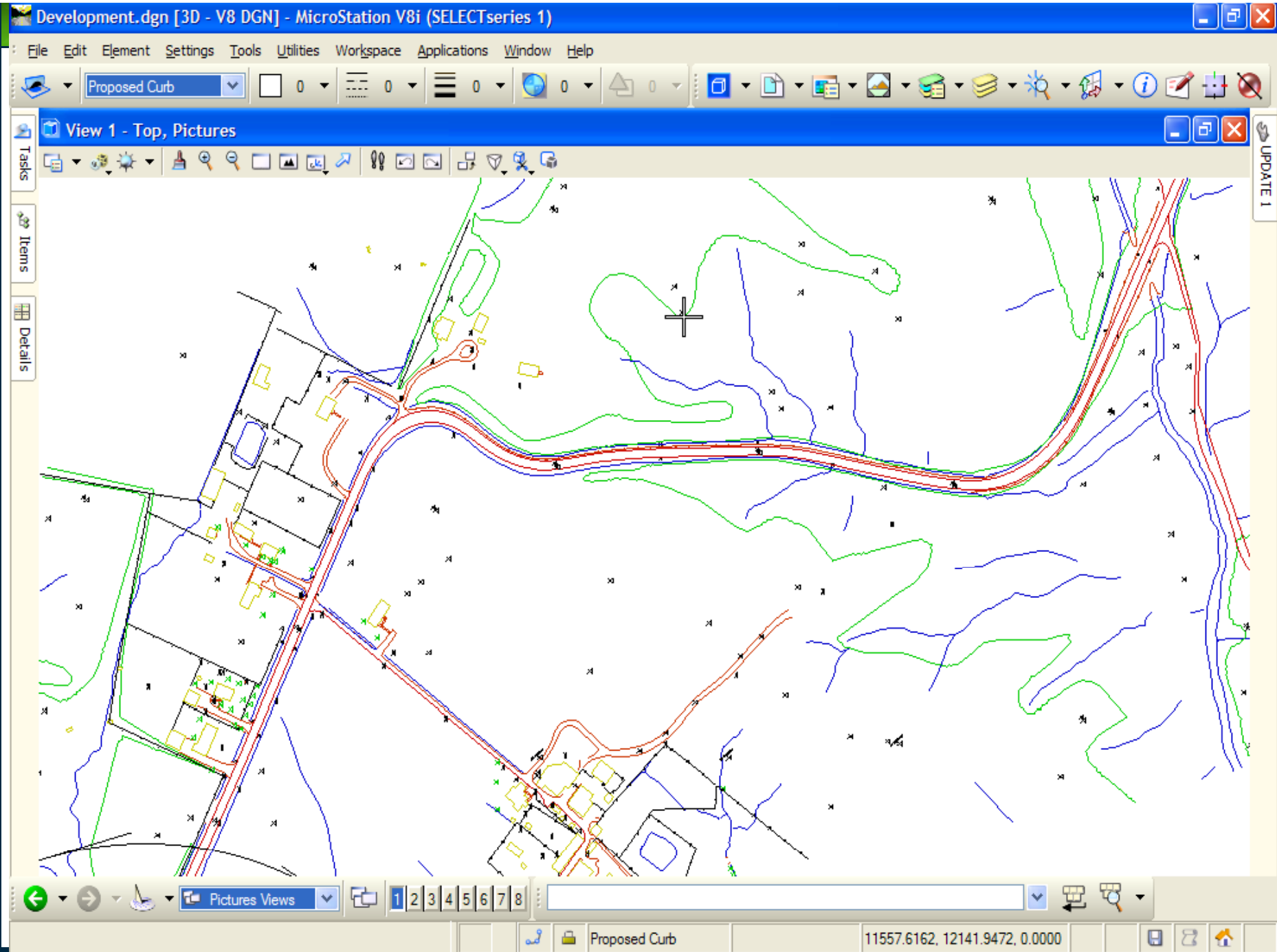
# Bentley InRoads Suite V8i

SELECTseries

## Next

## Geometry Enhancements

- Auto annotation in Geometry
- Simplification of element placement commands
- Additional Utilities for modification of geometry and traverses including
  - New Metes and Bounds
  - Segment alignment, Chain Points
  - Curve Fitting

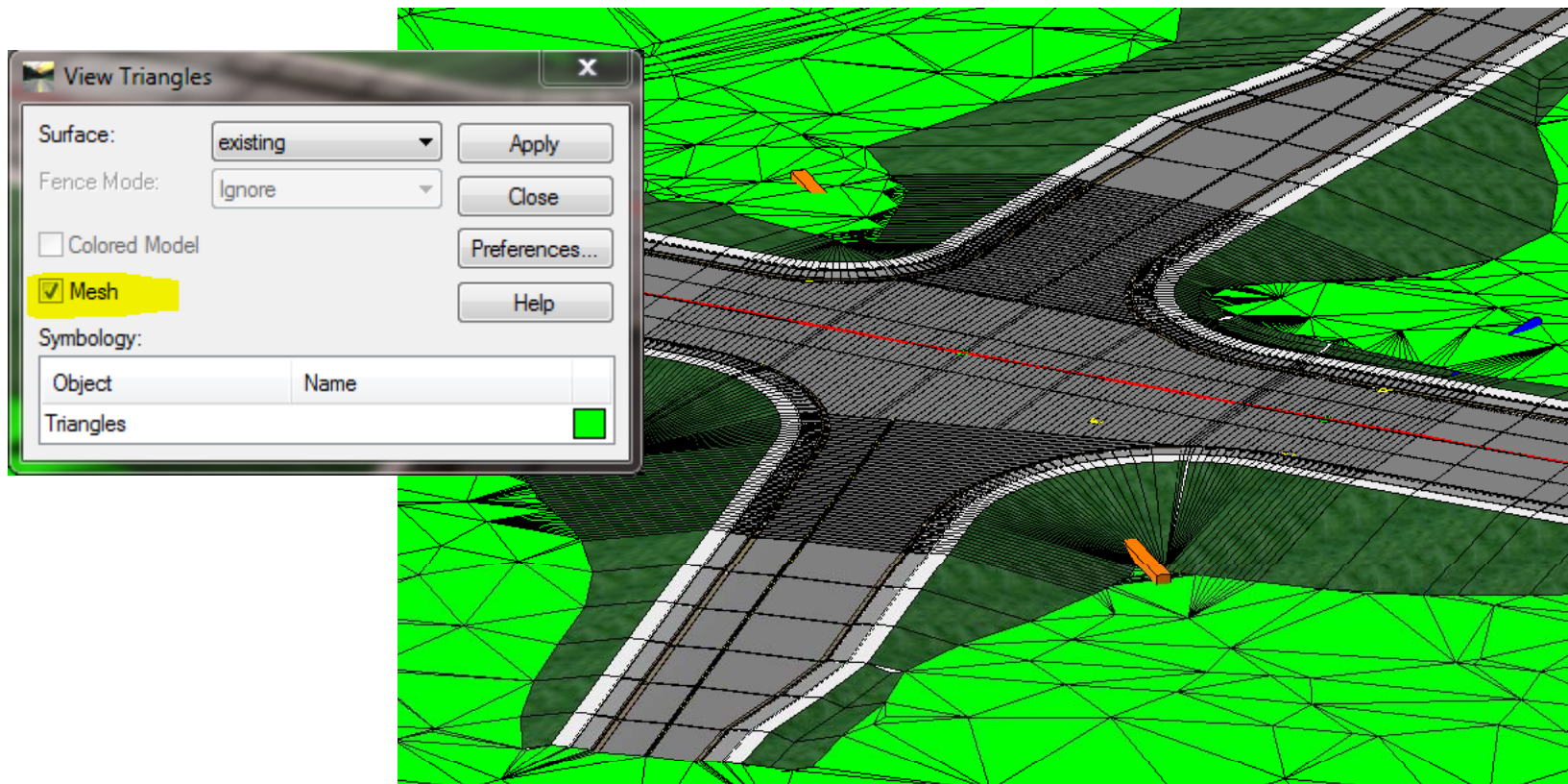


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# Surfaces

- Display Surface as Mesh
  - Smaller file size, faster shading



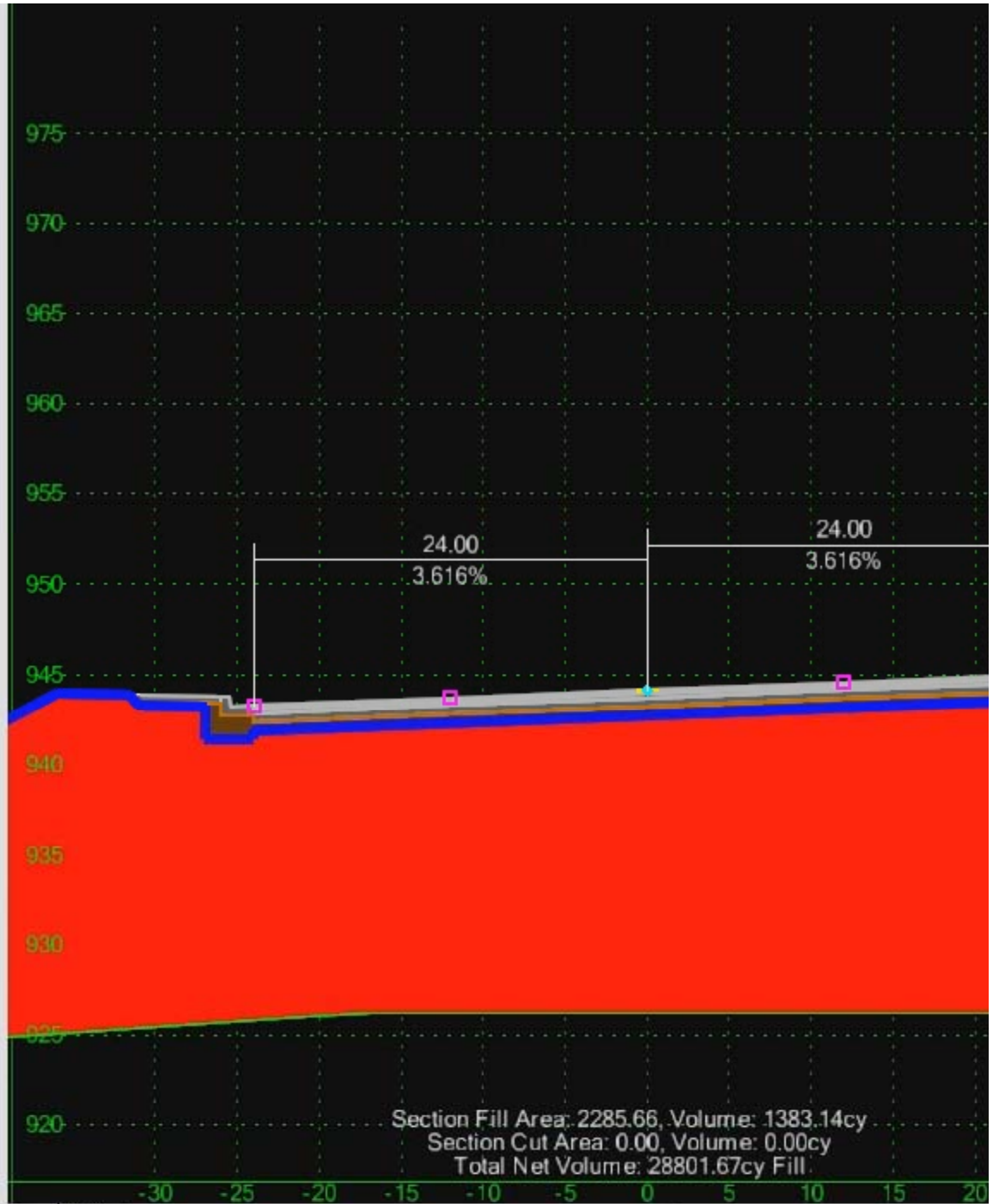
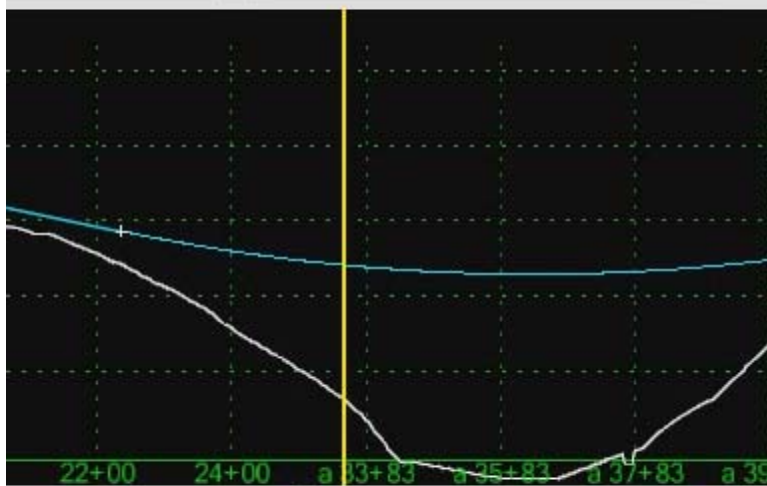
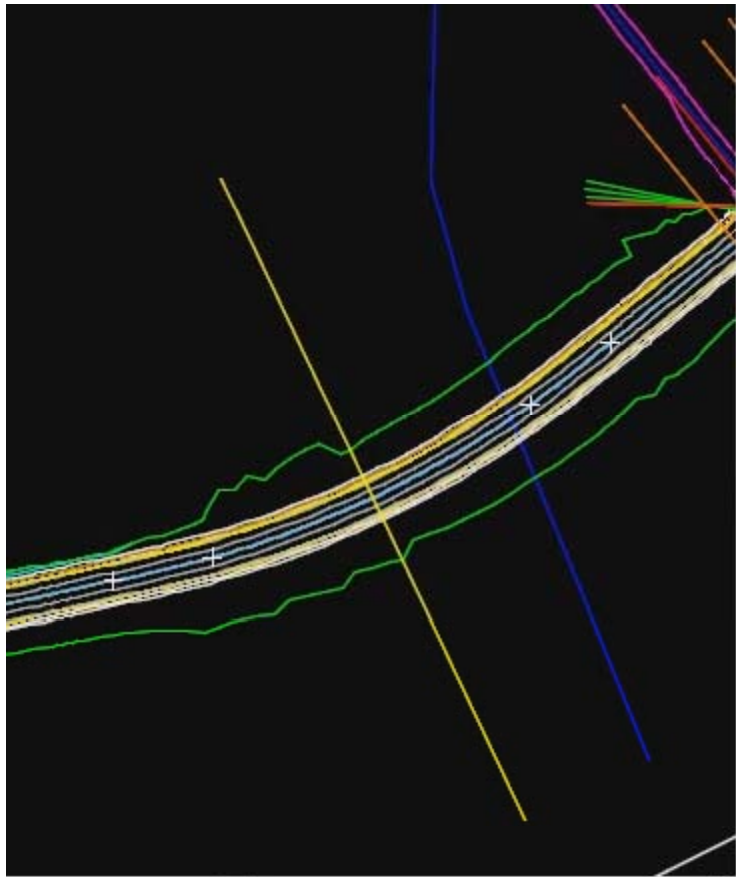
## Site Modeler

- Addition of the GEOPAK Site capabilities
  - FIFO Engine
- Nomenclature changed to be consistent with InRoads
  - Project, Site, Surface, Element
- InRoads surfaces are added to Site Project
- Results are exported as InRoads surfaces



## Roadway Designer

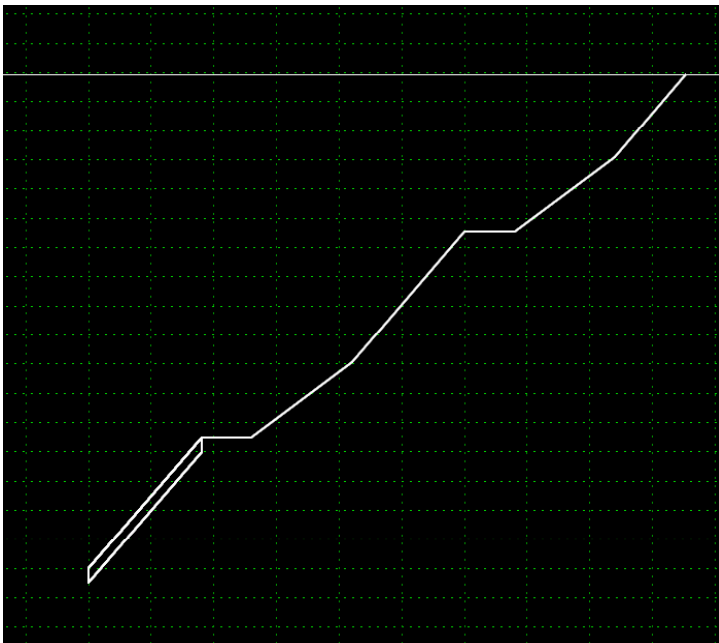
- Overlay component
  - Stripping/milling - removes material
  - Leveling - adds material
  - Cross Slope Optimization
  - Vertical Alignment Smoothing
- Components created directly from the Roadway Designer
  - True representation is much better than previously
  - Solid meshes make rendering the model easier
- Dimensions displayed in section



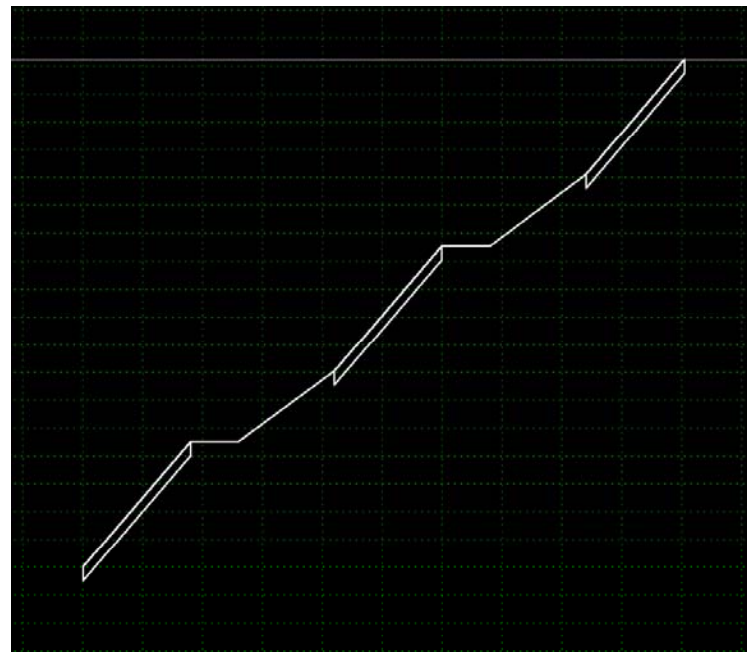
Navigation icons: +, -, square, triangle, left arrow

# Roadway Designer

- Benching Enhancement



**Before**



**NOW**

# Roadway Designer

- WID to use Cant

The screenshot displays the Bentley Roadway Designer interface. On the left, a Notepad window titled 'Widening.wid - Notepad' contains the following text:

```

;widening table for defining slopes
needing more than 100 mm of cant
; Rad  wi  Li  wo  Lo
      0  0   0   1   0
10000 0   0   0   0
  
```

In the center, the 'Curve Widening' dialog box is open. It features the following settings:

- Apply Widening To: **Axe**
- Percent Transition on Tangent: **100%**
- Use Spiral Length for Transition
- Overlap Options:
  - Shorten Transition Lengths
  - Shift Maximum W
- Station Limits:
  - Start:
  - Stop:
- Widening Table: C:\ProgramData\Bent

On the right, a road plan view is shown on a green grid background. The road is represented by a series of white lines forming a curve. Red crosses mark the vertices of the road geometry. A yellow cross is visible near the top center of the curve.

# Roadway Designer

- Approximate Quantity Report

Component Quantities

Material	Surface Area	Volume	Units	Unit Cost	Total Cost/Material
XS_Base Outside		4126.46	CF	1.20	4951.76
XS_Binder		2706.12	CF	1.50	4059.18
XS_BuildUp		1777.87	CF	2.00	3555.74
XS_EX_Pavement Retain		13290.43	CF	0.25	3322.61
XS_Greenside	25599.60		SF	0.10	2559.96
XS_Milling		582.57	CF	1.00	582.57
XS_Pavement Overlay		2816.23	CF	2.00	5632.47

Total Estimated Cost: 24664.29

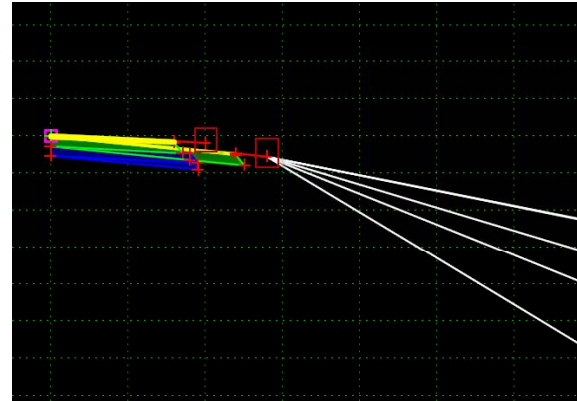
Bentley Civil Report Browser - C:\Users\JOE-1\WAX\AppData\Local\Temp\RPT9D47.xml

C:\Program Files\Bentley\InRoads Group\VB.11\XML Data\en\

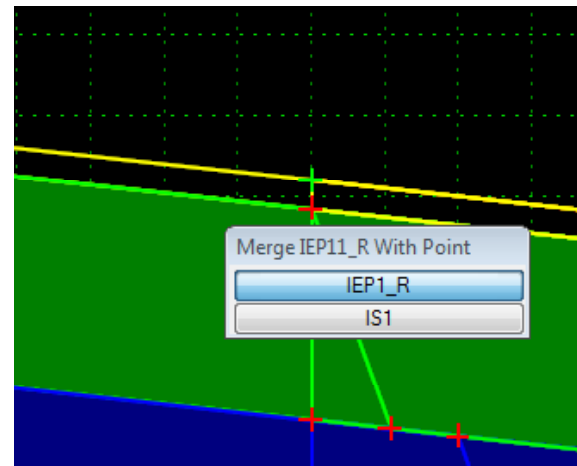
XS_Milling	0.0	0.0	1.00	0.0	No
XS_EX_Pavement Retain	47.8	0.2	1.00	0.2	No
<b>100+76.00</b>					
Normal Cut:	0.0	1.00	0.0	No	
Normal Fill:	0.0	1.00	0.0	No	
Added Cut:				No	
Added Fill:				No	
XS_BuildUp:	9.2	0.1	1.00	0.1	No
XS_Pavement Overlay:	11.9	0.1	1.00	0.1	No
XS_Binder:	10.5	0.1	1.00	0.1	No
XS_Base Outside:	25.7	0.3	1.00	0.3	No
XS_Greenside:	0.0	0.0	1.00	0.0	No
XS_Milling:	0.0	0.0	1.00	0.0	No
XS_EX_Pavement Retain:	47.8	0.5	1.00	0.5	No
<b>Totals:</b>					
Normal Cut:	0.0	0.0	No		
Normal Fill:	0.0	0.0	No		
Added Cut:			No		
Added Fill:			No		
XS_BuildUp:	65.0	65.0	No		
XS_Pavement Overlay:	104.3	104.3	No		
XS_Binder:	100.2	100.2	No		
XS_Base Outside:	152.0	152.0	No		
XS_Greenside:	0.0	0.0	No		
XS_Milling:	21.6	21.6	No		
XS_EX_Pavement Retain:	492.2	492.2	No		

# Future Roadway Designer Enhancements

- Common End Condition

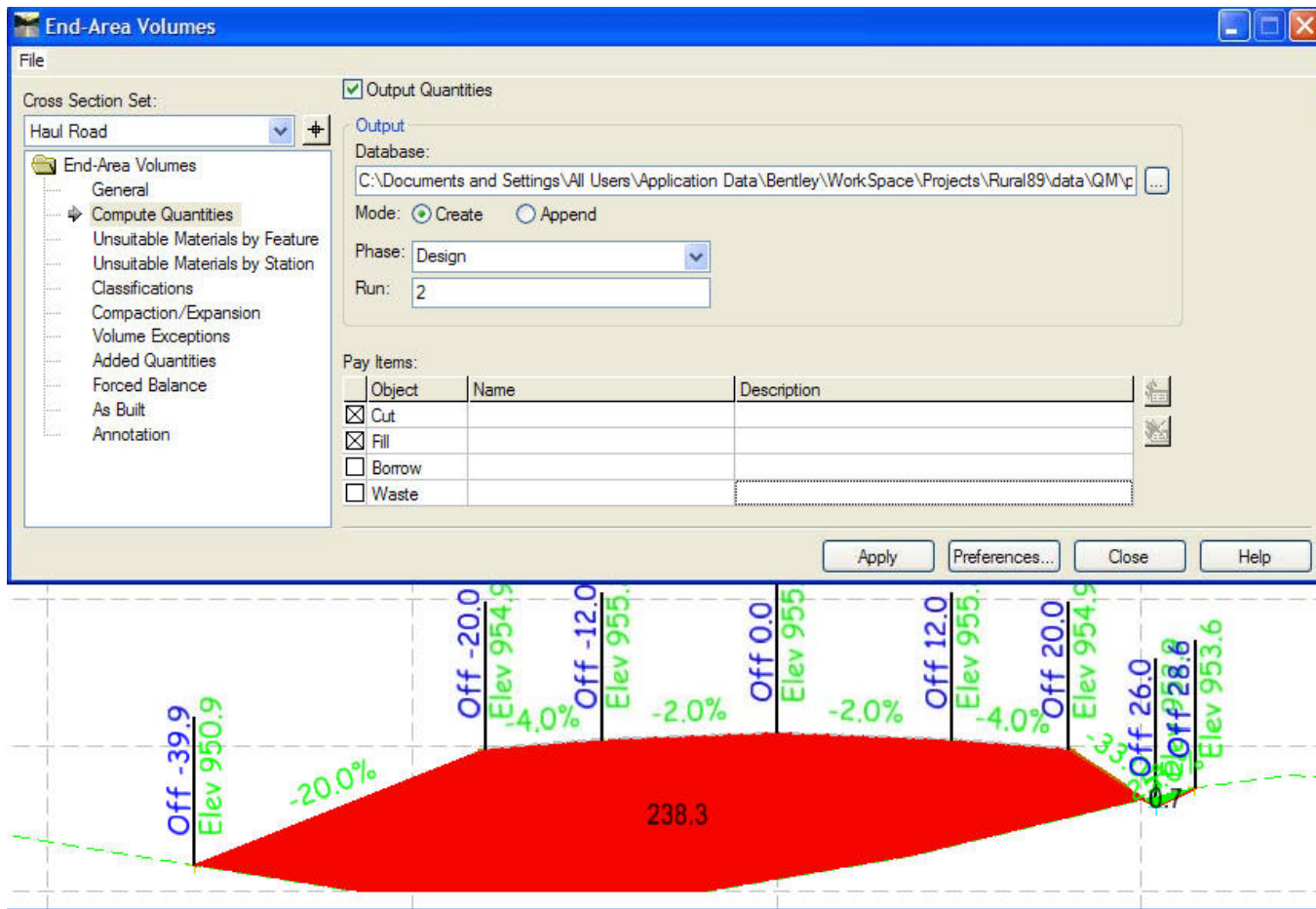


- Drag/Drop Component



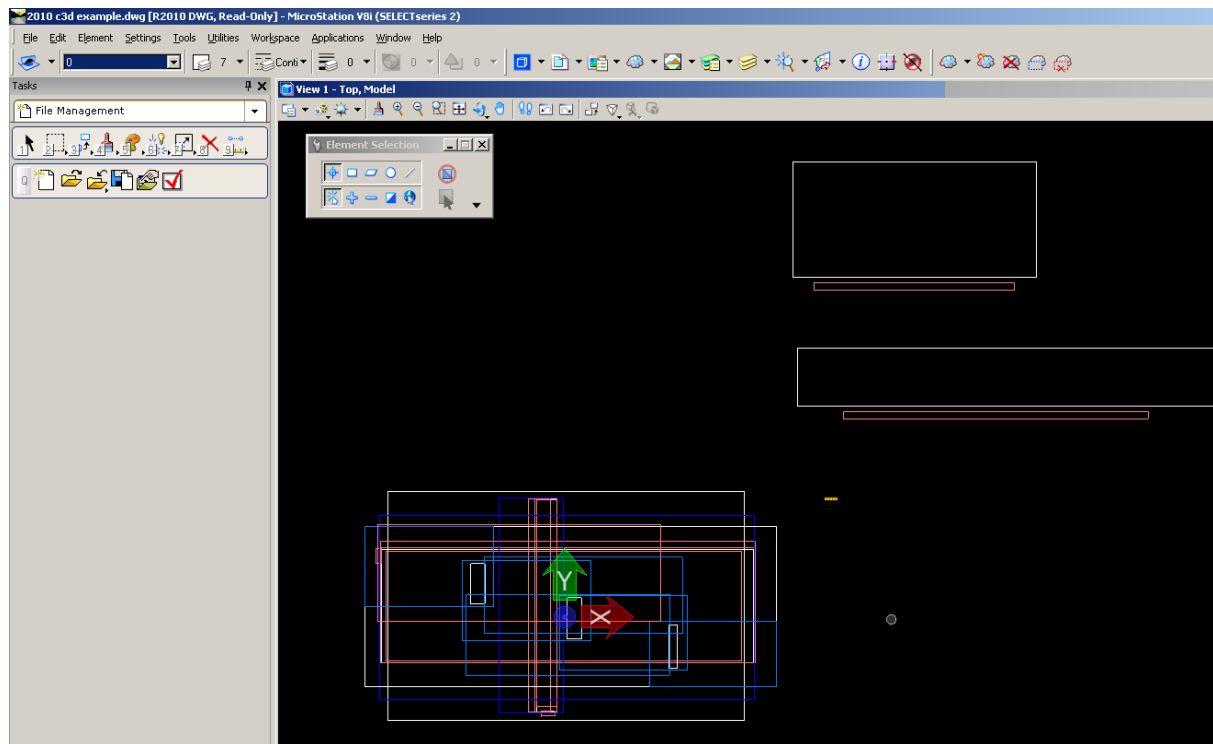


# Volumes to Quantity Manager



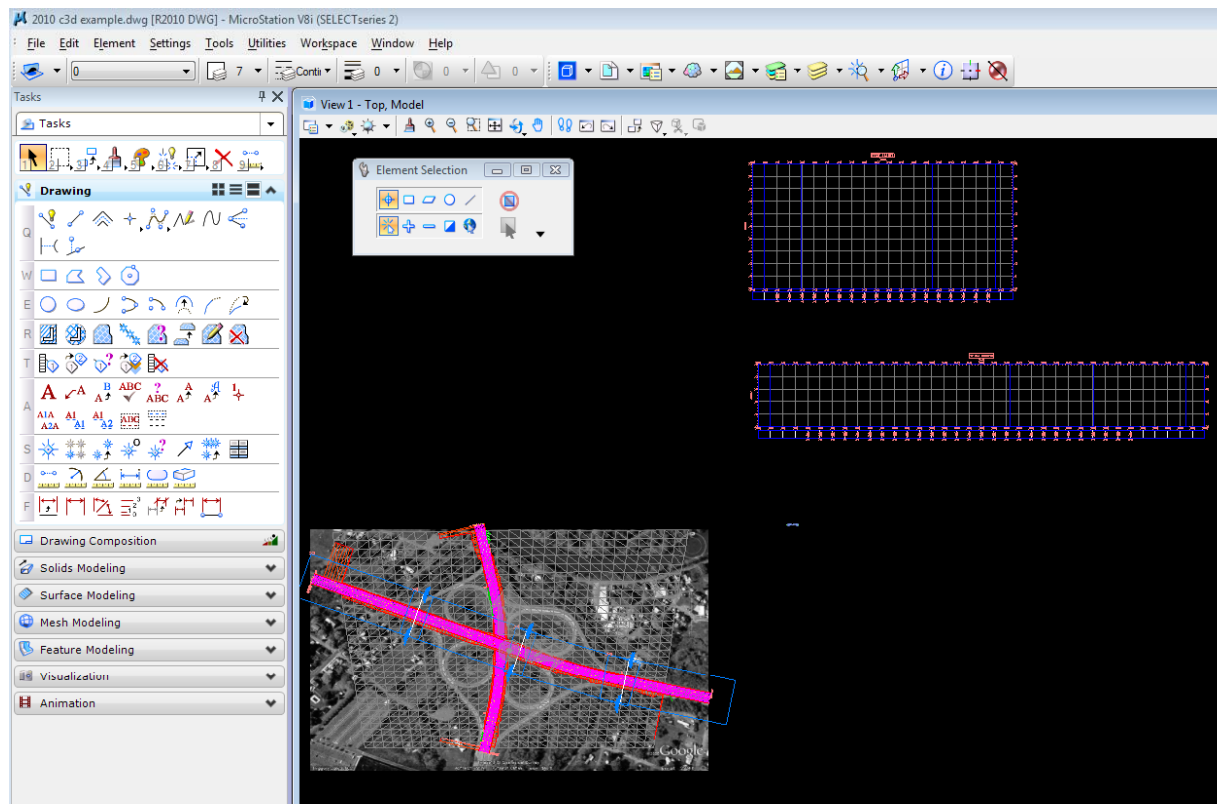
# Civil in MSTN

- Bentley V8i (SELECTseries 2) - Autodesk Real DWG 2010



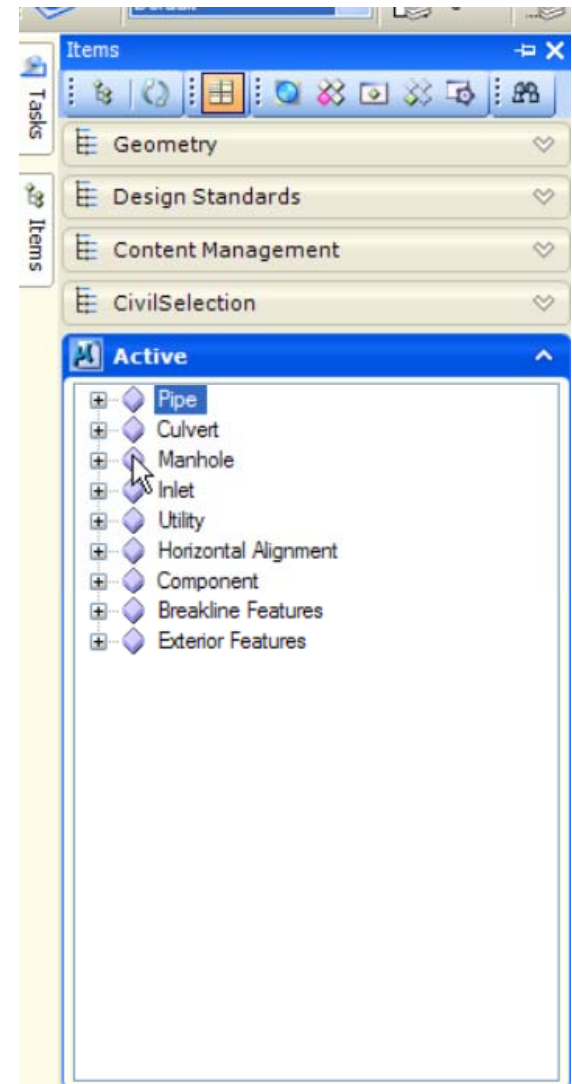
# Civil in MSTN

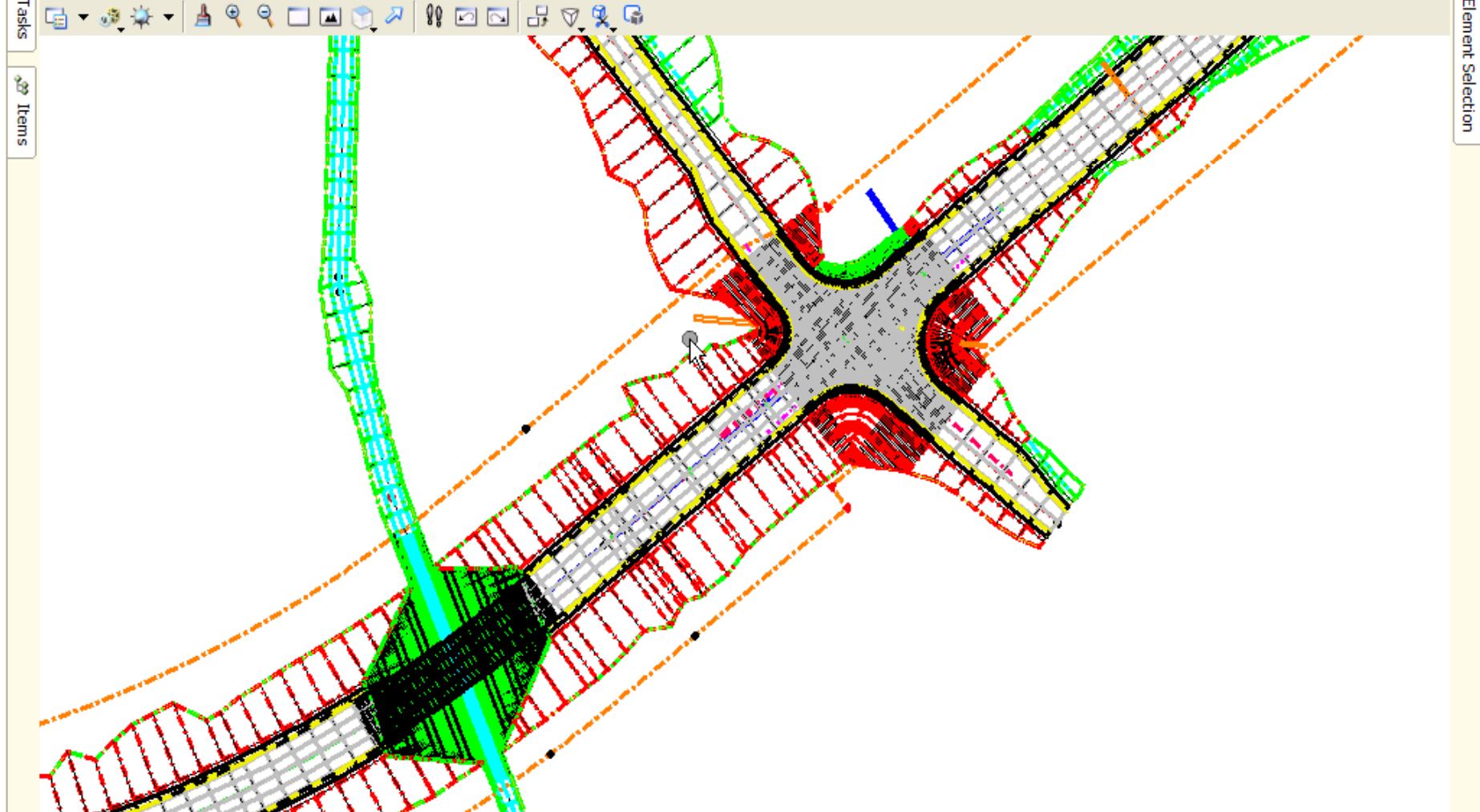
- Bentley V8i (SELECTseries 2) - Autodesk Real DWG 2010



# Civil in MicroStation (SELECTseries 2)

- Item Browser
  - Attach data to design elements
    - Components
    - HA alignments
    - Surface features
    - Drainage





## Civil in MicroStation (SELECTseries 2)

- Schedule Simulation

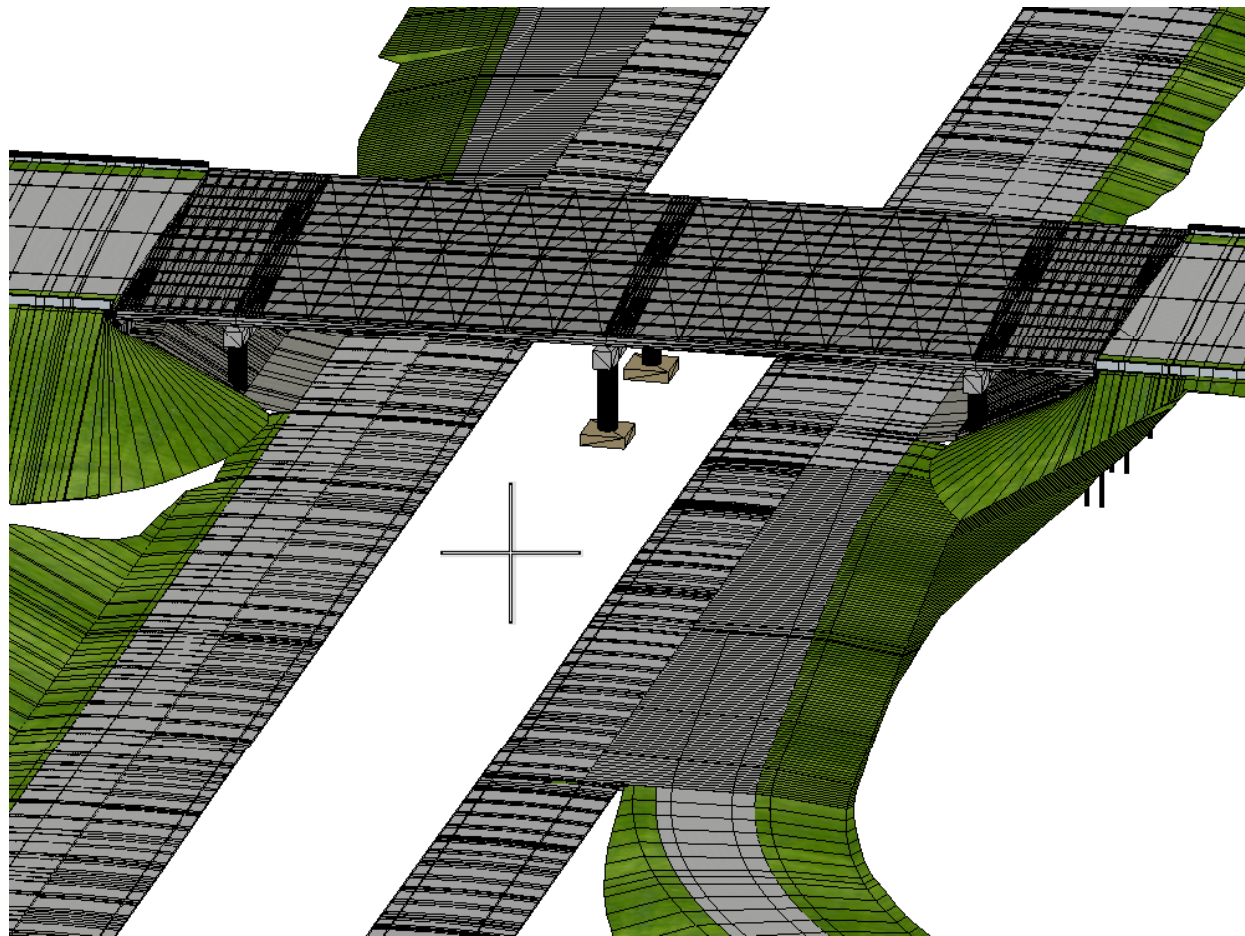
25-May-10



## Civil in MicroStation (SELECTseries 3)

- Visualization
  - Tree Placement Tools
  - Pavement Marking & Striping
  - Traffic Animation
    - Random Selection of Vehicles
    - Define 2d Paths-Draping on Mesh

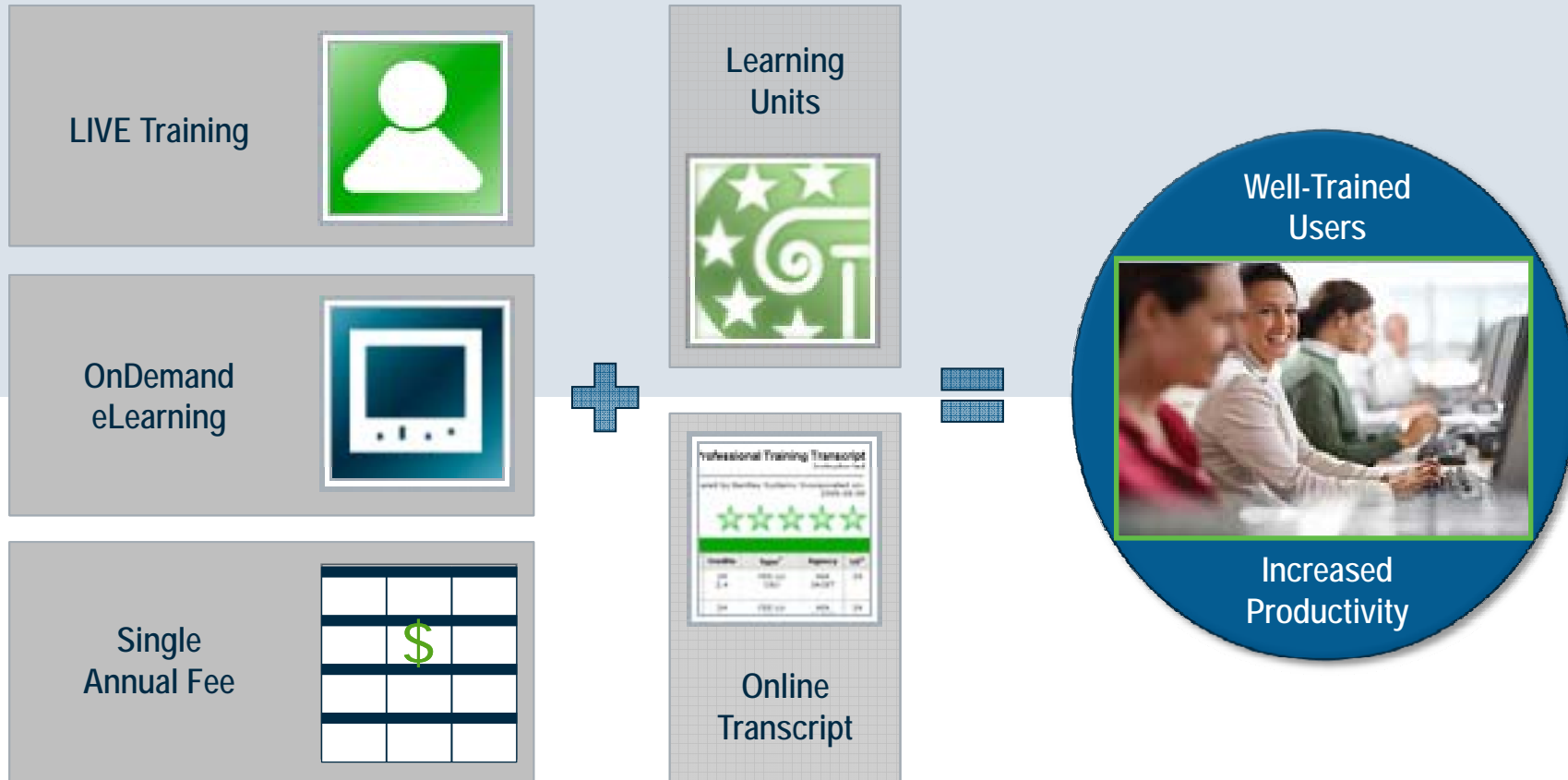








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Thank you



## Conclusion

- Questions?

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