**Bentley Map SELECTseries 3
- Introducing 'Data Acquisition' Tools**

Ian Rosam

Product Manager, Bentley Civil

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Data Acquisition What is it?

- Introduced in the *SELECTseries 1* releases of the Civil Product familiy - InRoads, GEOPAK, MXROAD and PowerCivil *as a <u>supplement</u> or <u>alternative</u> to the native versions of survey and terrain modeling tools.*

- *To p*rovides a modern, user friendly, intuitive interface which allows a user to compile data from disparate sources into a coherent model to feed Design and collaboration processes.

- Dynamic and Graphically oriented import of variety of formats including:
  - Raw field survey data
  - Aerial Mapping Surface Data
  - LIDAR
  - Raster DEM
  - LDD, Caice, XML 1.2
  - In other words, data formats which are directly consumed by the design workflow.

- Production of surface and geometric models

Data Acquisition What is it?

User Quote:

"I have been using Bentley products such as MicroStation, Modeler, TriForma, GeoGraphics, Descartes and Bentley Civil applications for close to 20 years.

The Data Acquisition tools blew me away. I love the tree approach and the ease of use were great. The amount of digital data and formats available are staggering. Totally impressed."

SELECTseries 3
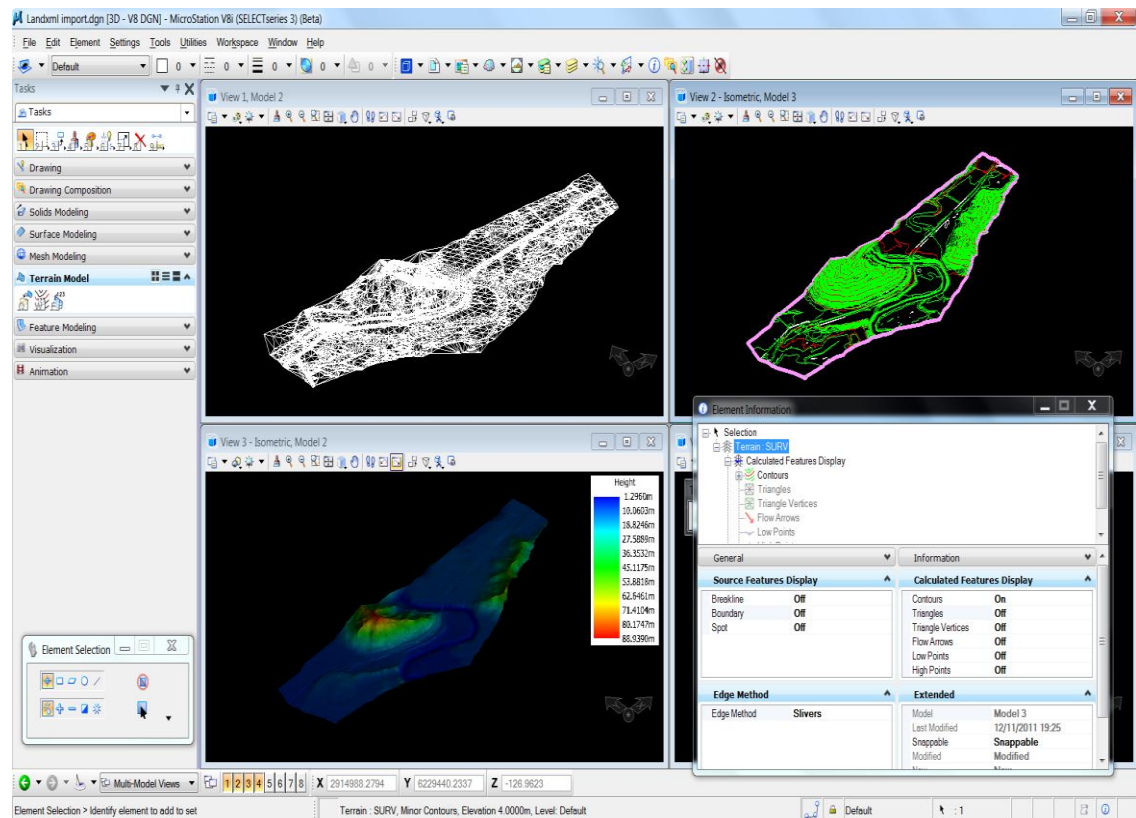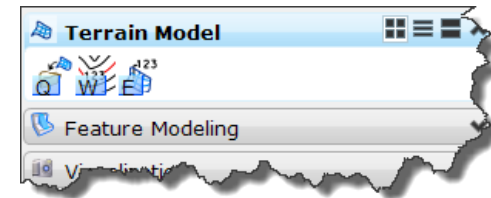
- Microstation gets a new element type !

  - **Terrain Model**
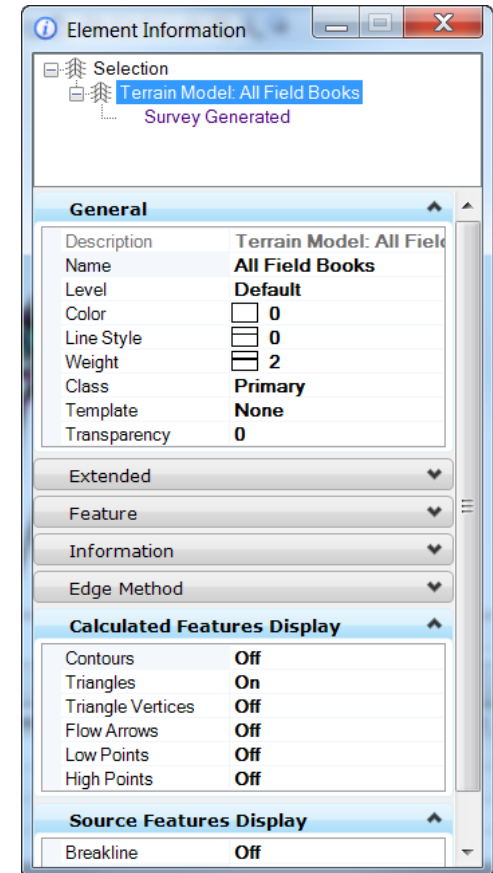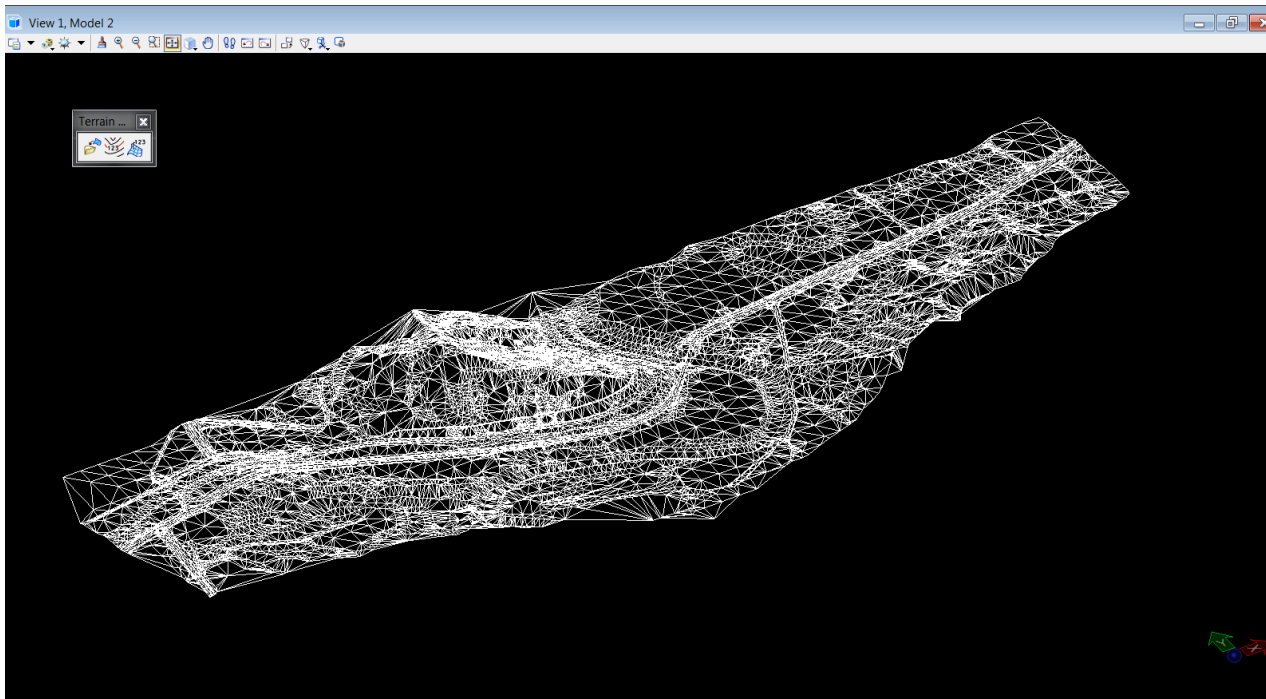
Terrain Model - What does this solve ?

- **Shared access rather than conversion and distribution**

- **Achieve CAD standards**

- **Add additional annotation**

- **Interrogation / Analysis**

- **Visualisation**

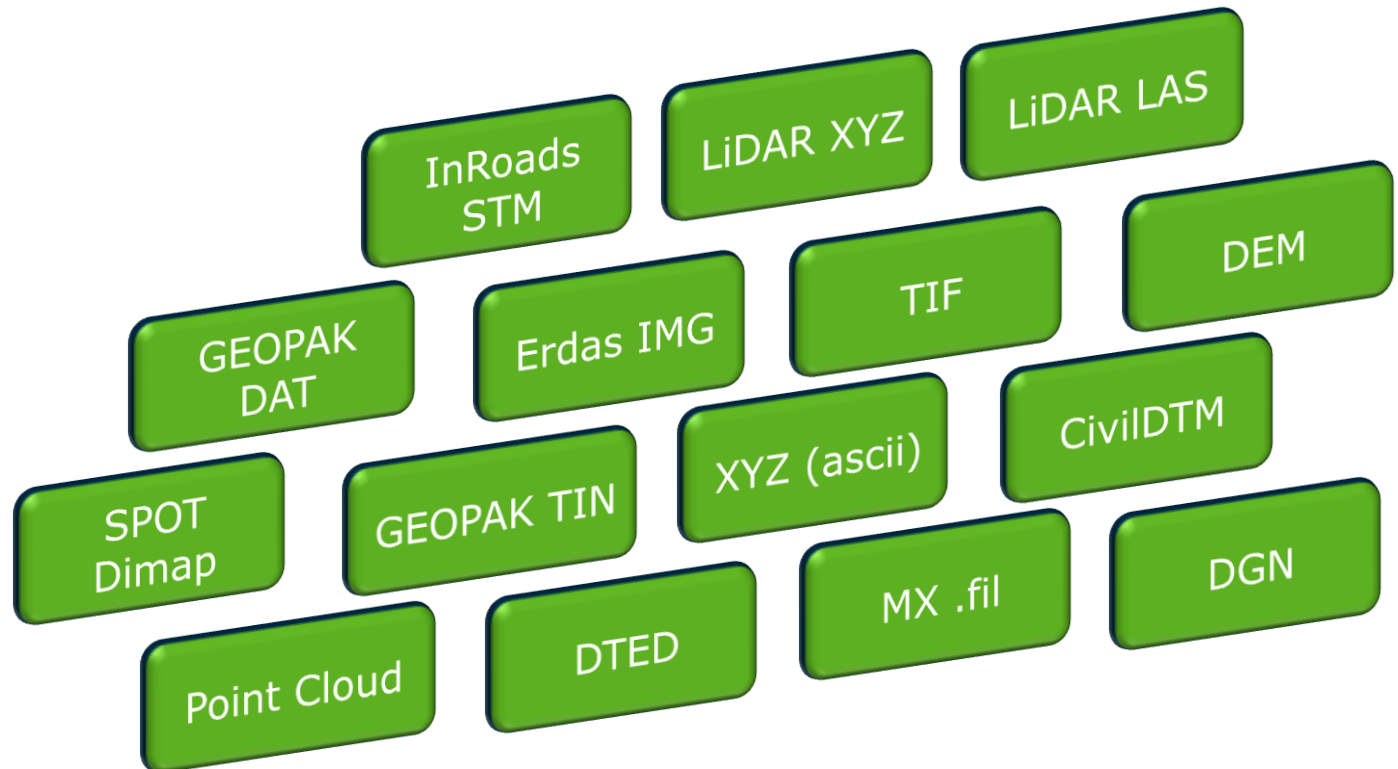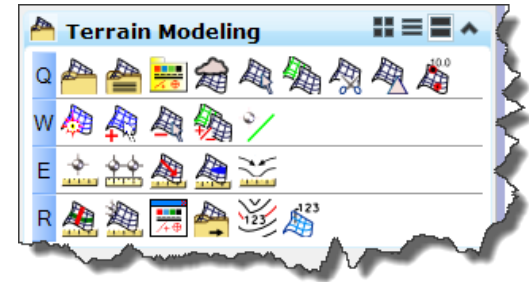# MicroStation SELECTseries 3 – Terrain Model

includes

- LandXML import

- Terrain Display Themes

- Analysis Tools

- Annotation tools

MicroStation SELECTseries 3 – Terrain Model
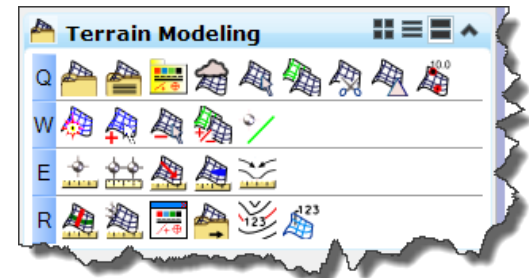## Vertical Product enhancements

Terrain Modeling

- Extensive import options
  - Binary File
  - Graphics

InRoads STM · LiDAR XYZ · LiDAR LAS · GEOPAK DAT · Erdas IMG · TIF · DEM · SPOT Dimap · GEOPAK TIN · XYZ (ascii) · CivilDTM · Point Cloud · DTED · MX .fil · DGN

MicroStation SELECTseries – Terrain Model

Vertical Product enhancements

- Extended Analysis Tools
  - Volumes
  - Points
  - Trace Slopes
  - Ponds
  - Watershed

- Reporting tools
  - Duplicate Points
  - Crossing Features

- Export
  - Native Civil Products
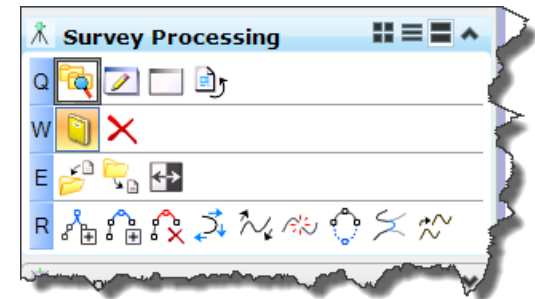 - LandXML
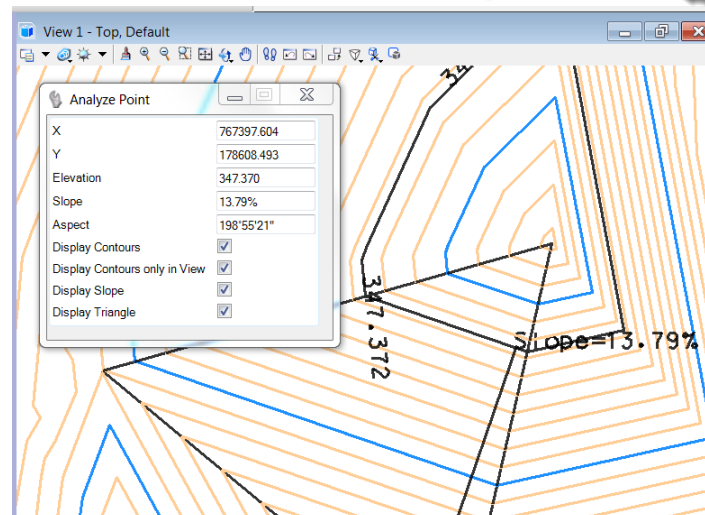
SELECTseries 3 – Terrain model

- So where does this leave Data Aquisition ?

- Data Acquisition matures to become

  - Terrain Modelling (Microstation plus Extended Product Capability)
  - Survey
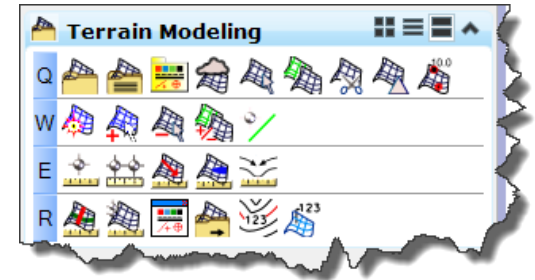
- Additional Survey Functionality added includes

  - Enhanced user interface with

    - Additional tooltip information
    - Enhanced Editing capability

  - More Survey Instruments including media file tagging

Demo

- Terrain Modelling
- Survey

Bentley Map SELECTseries 3

Concepts Recap

- Terrain Modelling

- Survey

MicroStation SELECTseries 3 – Terrain Model

includes

- LandXML import

- Terrain Display Themes

- Analysis Tools
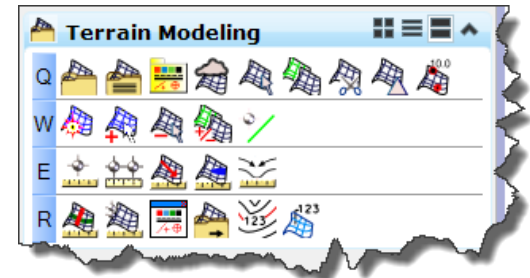
- Annotation tools
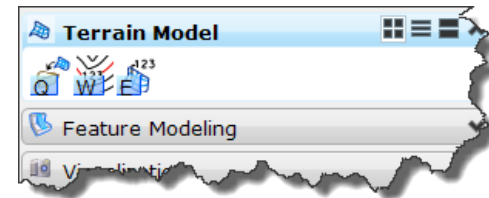
Accessing the Tools

- *Task Navigation Menus*
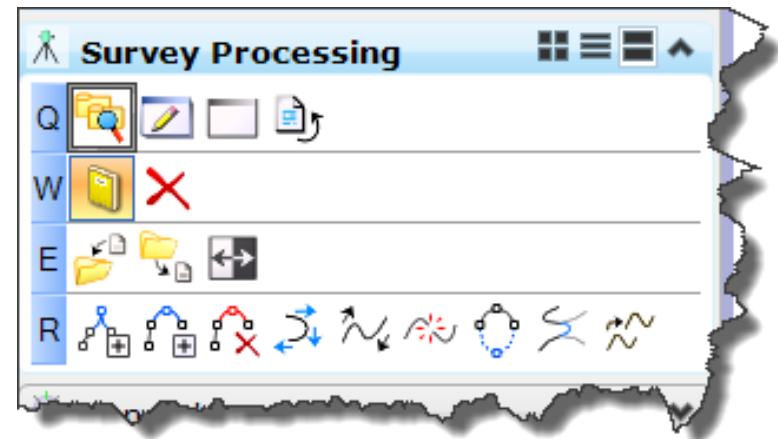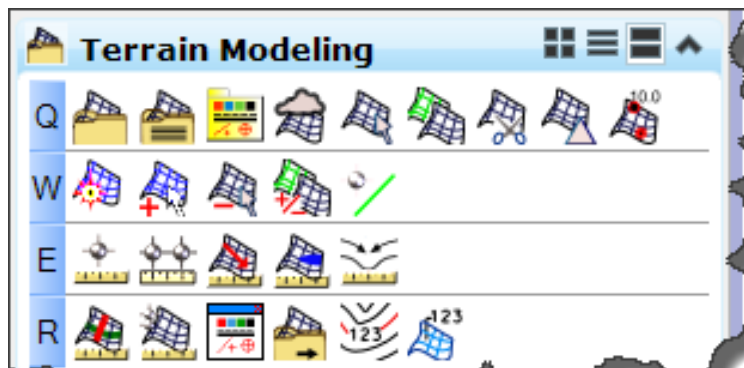
MicroStation SELECTseries 3 – Terrain Model
Vertical Product enhancements

- Extensive import options
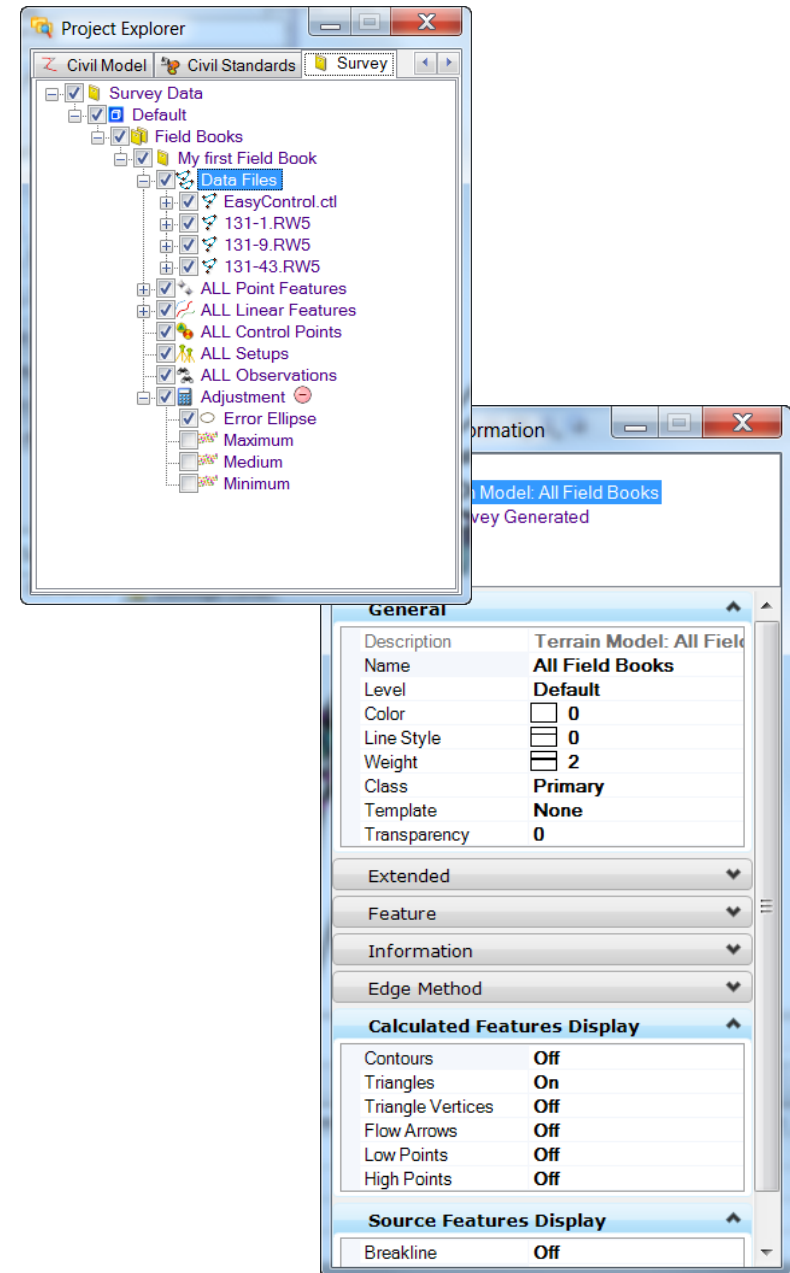
- Extended Analysis Tools

- Reporting Tools

- Export

Survey

- ## *User Experience*
  - In place editing
  - Context Toolbar
  - Bulk editing via tabular listing

- ## *DGN Data Store*
  - No external files
  - Dynamic Model updates
  - Undo/Redo
  - Design history
  - File protection
  - Digital signatures
  - Etc.

Survey Preferences

- *MicroStation Settings > Design File*
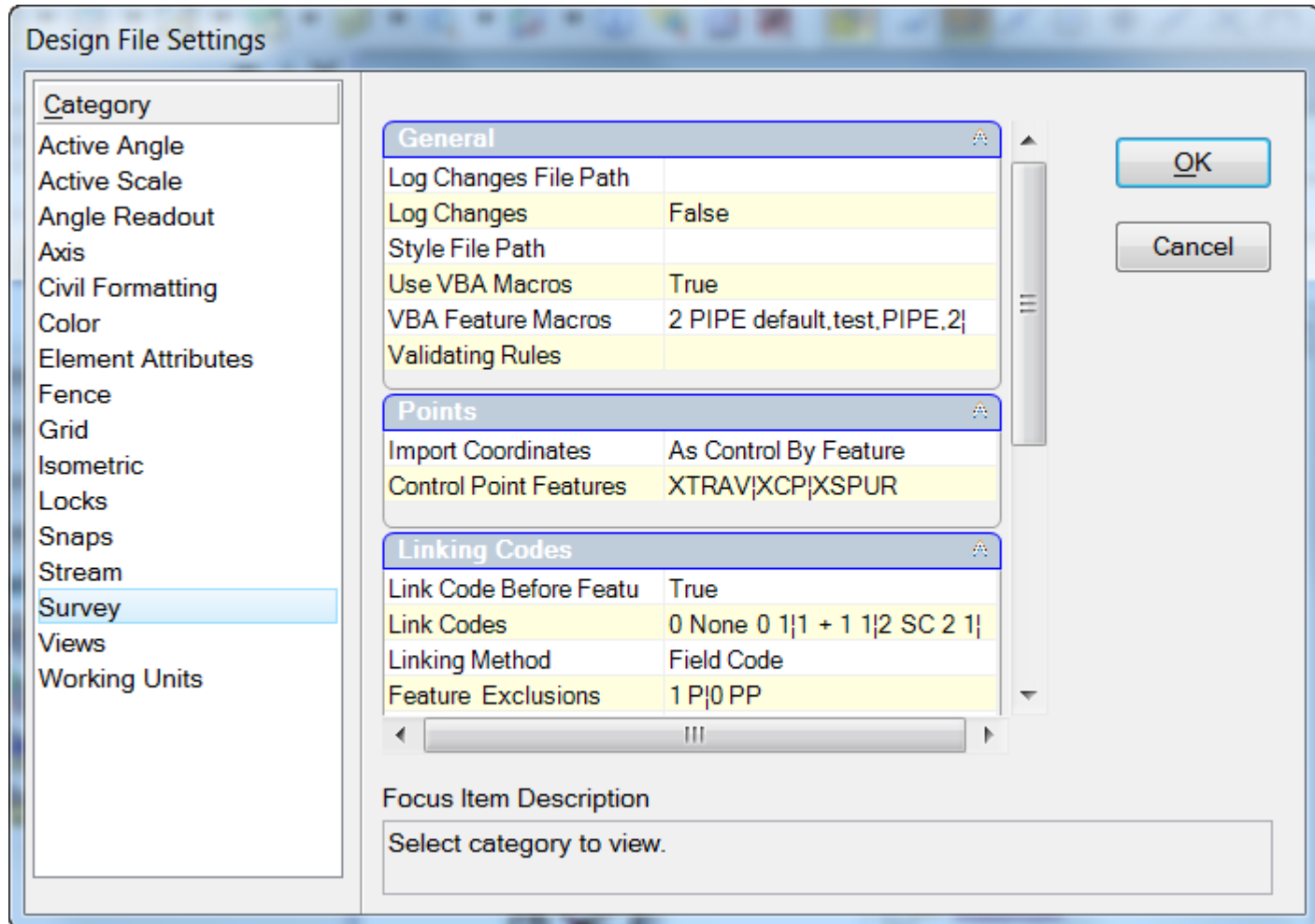
Style File

Preserves existing investment in features from

XML – generated from a GEOPAK SMD

XIN – InRoads Styles file

PSS – MX Styles file

Data Import Items

- *Provides access to a customizable list of supported data types*

Point and Chain Editing

- **Multiple Options**

- **Automatic Surface Updating**
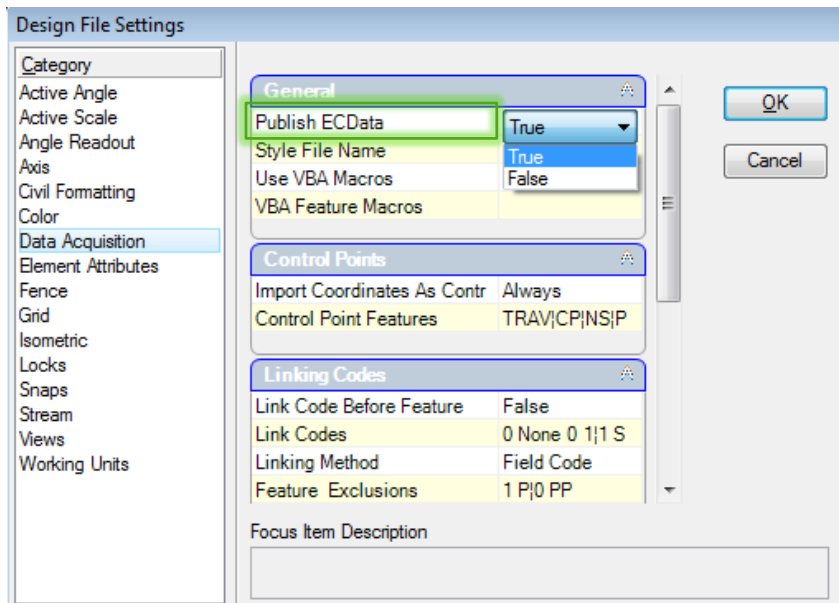 - ❑ Even of merged surfaces

- **Crossing Breaklines management**

Export

- *Export Geometry **(GPK, ALG, FIL, XML)***

- Export Surfaces ***(TIN, DTM, MXROAD, XML)***
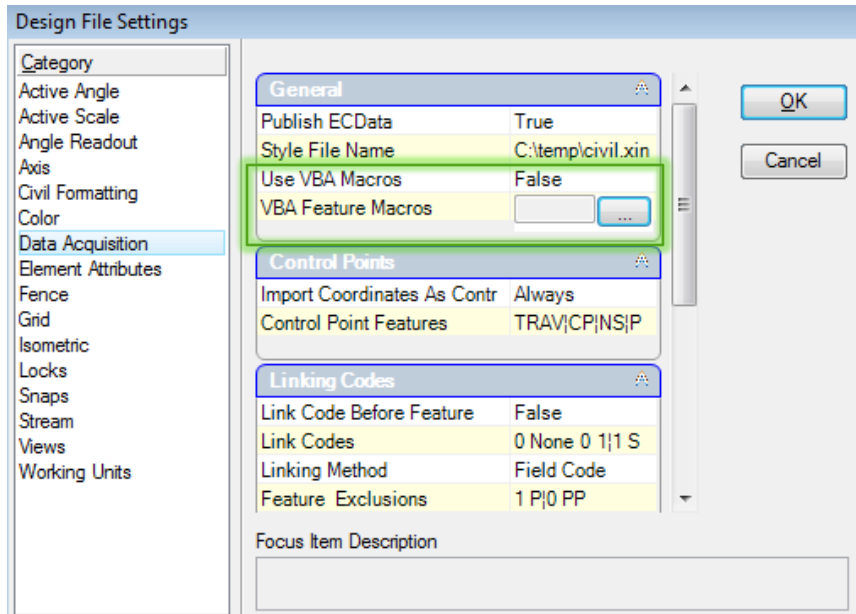
Miscellaneous

- ## *EC Attributes*

  Attaches EC Attribute Data to the elements so that they can be viewed with the MicroStation or Navigator *Items Browser* without a Civil application present

Miscellaneous

- *VBA*

  Data Acquisition is exposed through VBA. Therefore apps can be written and assigned to any point or linear feature.
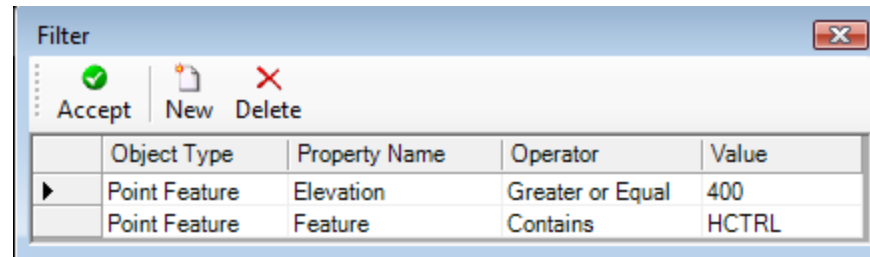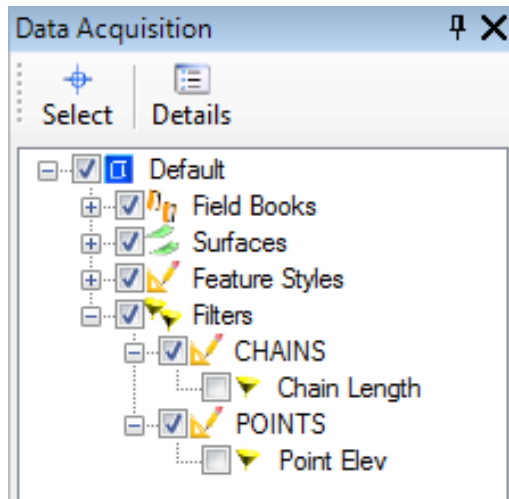

Example:

Pipe linear features can be extruded via VBA.

Miscellaneous

- ***Filters***

  Customized filters can be built to filter data based on user specified parameters.

Thank You!

Ian.Rosam@bentley.com

Are there any questions?