InRoads – Feature Styles

What is an InRoads Feature?

A feature is a named set of points in a Digital Terrain Model (DTM). There are five feature types which define the structure of the feature and controls how it affects the triangulated model:

- Random – "spot" points which have no direct relationship with other points
- Breakline - groups of points with a direct linear relationship
- Exterior - Surface boundary extent; closed and only one per surface
- Interior – defines undefined areas; closed and no limit to number
- Contour – groups of points with a direct linear relationship and same elevation

Each of these feature types has a feature style or styles, which controls how they are displayed.

Random and Breakline Features

All features, regardless of type, are defined as groups of 3D points. The two most common types of point groups are breakline features and random features.
Breakline features represent groups of DTM points with linear relationships. Examples of breaklines include roadway lane edges, ditch bottoms, the edge of curbs, etc. When a DTM is triangulated, no triangle leg will cross the path defined by connecting the points in the breakline feature.

Breakline features can appear in profiles and cross sections and can contain discontinuities, whereas random features cannot.

Random features represent distinct points with no significant linear relationship, typically representing general terrain elevations.

WSDOT feature styles

The InRoads feature styles are named the same as their corresponding WSDOT levels in the expanded level environment of MicroStation, excluding text and user-defined levels. WSDOT feature style names are comprised of three parts:

Major group:	**DR** Drainage (example)
Sub groups:	**PP** for Pipes and Ditches, **ST** for Structures, etc.
Element name:	**DR_ST_CatchBasin**

The feature style is stored in the InRoads project XIN preference file. A feature style defines if and how a feature can be displayed in plan, profile, or cross section views. The feature style is linked to a named symbology. The named symbology defines the graphic symbology used to display the feature.

Separate symbology is defined for the plan, profile, and cross section display of a feature.

Why is it important to use the correct feature style?

Using the correct feature style will ensure data consistency between designers as well as with support groups and construction. There are situations when a designer uses a unique element name in InRoads. For example, one designer may call a point name "**EdgeOfPave**" while another designer uses the name "**EOP**". When they both use the same feature style for their edge of pavement, their data will be consistent and retraceable. The construction staff who recreates their design will also be able to ascertain which roadway features were used and generate consistent geometry reports.

The proper feature style in InRoads becomes the correct level in MicroStation, because the feature styles are based on the MicroStation level structure. The WSDOT CAE environment is built on a solid base of data migration from survey through design and CAD in MicroStation.

For questions or comments on this tech note, contact your regional CAE Support Coordinator or the WSDOT CAE Help Desk at (360) 709-**8013**.