

Alignment Chapter

What are the steps when designing a project

1. import the existing conditions
2. layout a 2d version of key features i.e. building outlines, road centerlines, pipe networks

what types of segments make up an alignment?

tangents, curves, and spirals

What connects segments?

geometry points that include **PI**, **PC**, and **PT**

What are segment properties?

they can be **Fixed**, **Floating**, and **Free**

Profile Chapter

How to edit/see a profile?

create a profile view

How to make a design profile?

A profile view must be in the drawing to create a design profile, even if its empty

Profile Definitions

Profile View a plot with **distance along alignment on X axis** and **elevation on Y axis**

Surface Profile elevations of profile are **determined from a surface** in the drawings

Design or Layout Profile elevations are **entered by the user to represent the elevations of the proposed design**

Alignment Definitions

Alignment a **2d line** made of straight and/or curved segments, used to represent linear projects such as roads, pipelines, streams, has **no elevation** but it has **direction**

Tangents straight segments

Alignment Definitions (cont)

Curves curved segments with a **constant radius** (arcs)

Spirals curved segments that **change in radius** from one end to the other

PI Point of Intersection, where **2 tangents intersect** or would intersect

PC Point of Curvature, place where the curve **begins**

PT Point of Tangency, place where the curve **sends**

Fixed editable only by adjusting its geometry points, **does not** depend on another segment

Floating attachable only to **another fixed** or **floating** segment, dependent on and always **attached** to the **before** segment

Free located **between fixed** or **floating** segments, defined by **before and after** segments

Station A number representing the horizontal distance between a **point** on the alignment and the **start** of the alignment

Station number format **Full + Partial**, full=the number of **100 ft** intervals, partial=remaining distance