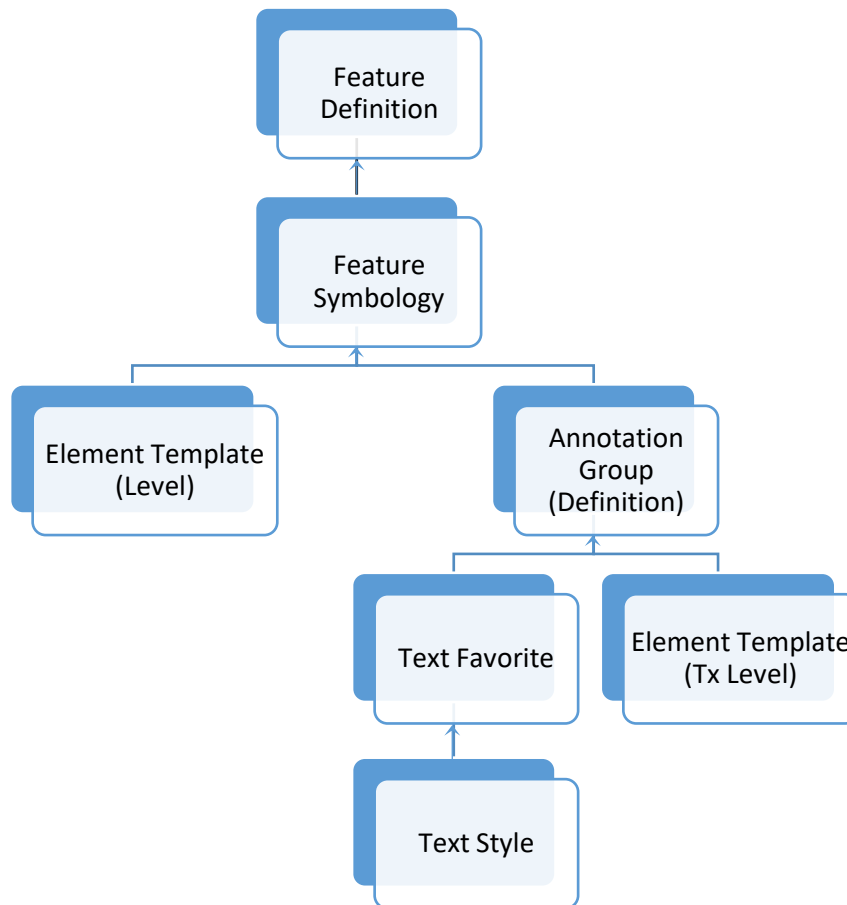# ODOT Alignment Feature Definitions and Annotations

How a feature definition functions and how it displays are two different things. The hierarchy below shows how the element (line work) is displayed according to element templates and how the annotation of text and cells is displayed according to text favorites (and element templates for level).

Each category of feature definition has a feature symbology or element template assigned in the properties to control the display of the element. Though "Alignment" and "Linear" feature definitions allow the assignment of different *linear* symbology and *profile* symbology, ODOT uses the same feature symbology for linear and profile display for both categories.

Alignment	
Corridor Template	False
Linear Feature Symbology	CL_Main
Profile Feature Symbology	CL_Main

Linear	
Create Template Geometry	True
Linear Feature Symbology	Rdwy_Edge_Asph_P
Profile Feature Symbology	Rdwy_Edge_Asph_P

Alignment Feature Definitions

There are three major groups of alignment feature definitions: CL (used by Roadway and other design disciplines), RW (used by RW Engineering), and Surv (used by Survey). There are also some uncategorized alignment feature definitions, such as Curb_Ramp (used by Roadway), Design, Point_Control, and Scratch.

CL_ Alignment Feature Definitions

In general, CL_ **alignment graphics** are drawn and annotated on 4 different levels. Major stations (500') and 100' tic marks are on the "Tic" level for the alignment. 100' stationing and 50' tic marks are on the "TicSmScl" level for the alignment. If you do not wish to see 100' stationing, turn off the display of the level name that includes " TicSmScl ".

P_RDWY_ALIGN_General	■ 3	—— 0	—— 5
P_RDWY_ALIGN_Main	■ 3	—— 0	—— 5
P_RDWY_ALIGN_MainTic	■ 3	—— 0	—— 3
P_RDWY_ALIGN_MainTicSmScl	■ 3	—— 0	—— 3
P_RDWY_ALIGN_MainTx	■ 3	—— 0	—— 1

All CL_ feature definitions have contrasting color of arc and spiral for easy viewing by designers, except Scratch. (Scratch is all one color and is Construction class)

CL_ Element Annotation

All CL_ element annotation groups display major station labels on the *left* side.

Curve data is annotated perpendicularly to the alignment. Curve data is displayed for both the simple arc and for the curve set; delete what is not wanted.

The maximum superelevation (e) value assigned to any arc is displayed in a separate text node.

There will be two lines and two station labels at the PSC and PCS cardinal stations, one from the simple arc and one from the curve set; if it bothers you to have two, delete one set.

Manage Modifications allows all alignment annotations located by component (CL_ and CL_ for Right Side) to be moved and rotated to eliminate conflicts. The exception is major station labels which are located by station.

CL_ Element Annotation Overrides for Right Side Stationing

Five element annotation overrides for CL_Main_Rt, CL_Minor_Rt, CL_Ramp_Rt, CL_Wall_Rt, and CL_Detour_Rt will place major stationing on the *right* side of the alignment; cardinal points will be annotated on the reverse radius side. The picture below shows a CL_Minor alignment annotated with the CL_Minor_Rt override.
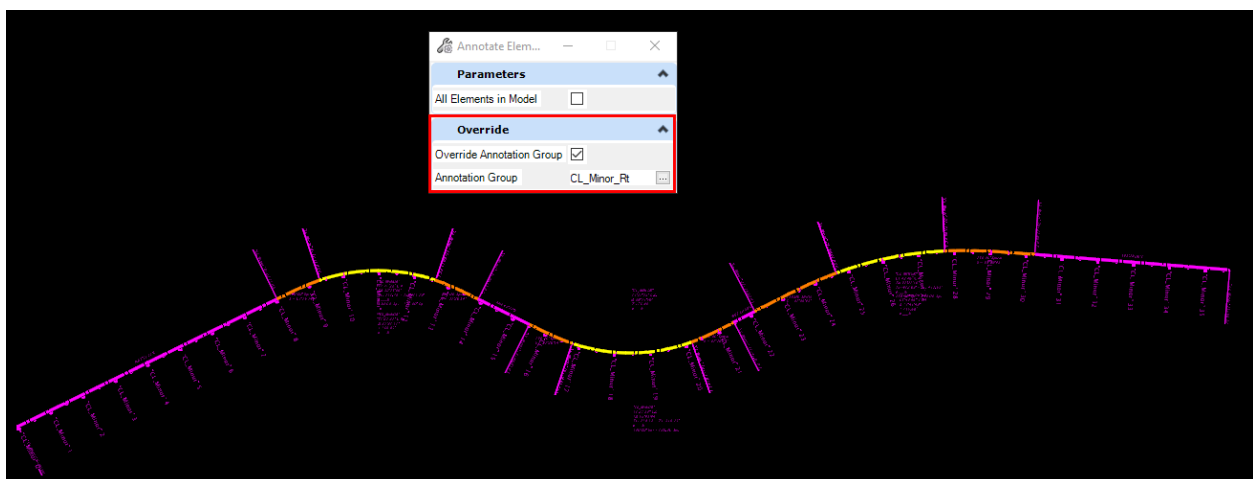
CL_ Alignment Annotation for Contract Plans

Unequal Spiral-Curve-Spiral curve sets, equal SCS curve sets, and curve sets with a spiral only on one side, are all annotated in the same fashion, with the spiral data annotated only at the spiral location. **The SCS curve data information includes**: name, degree of central arc, total curve set delta angle, back tangent length, and ahead tangent length. The maximum superelevation (e) associated with the arc is displayed in a separate text node. Spirals are annotated with: name, spiral length, and spiral angle.

Edits include moving the maximum superelevation (e) text node, as well as rotate/move, for preferred orientation and location on the sheet. Typically, the "e" value will be positioned beneath the Curve Set Data so that it appears to be one block of information.
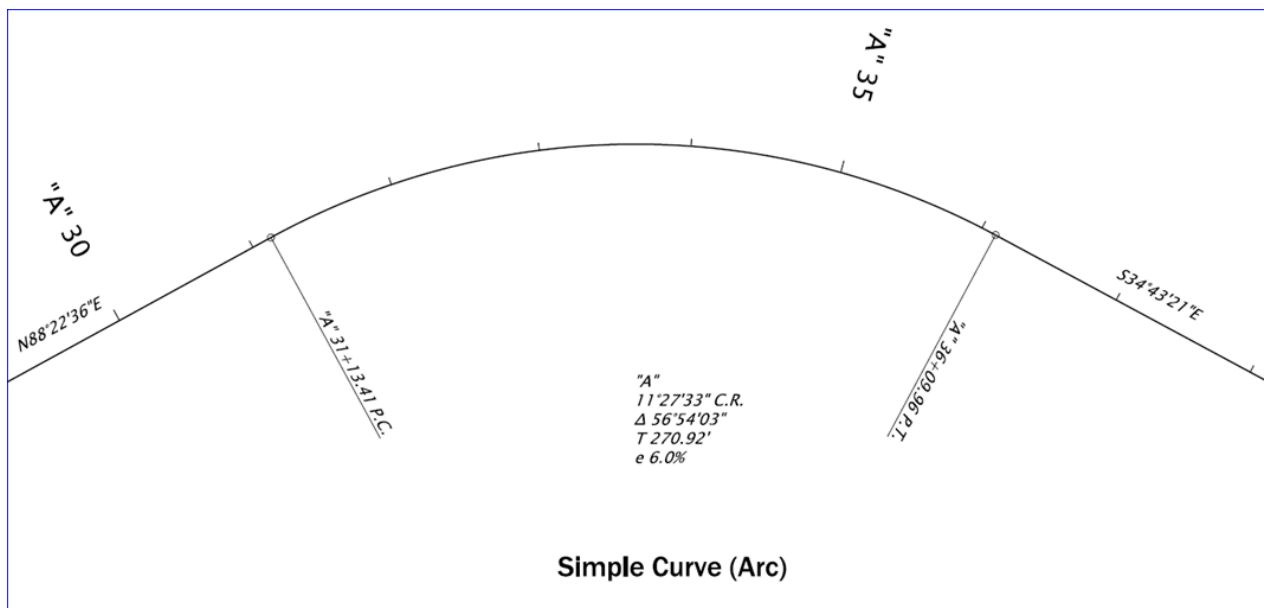
Equal Spirals Example:

Curve Set (Spiral-Curve-Spiral)

Unequal Spirals Example:

Curve Set (Spiral-Curve-Spiral)
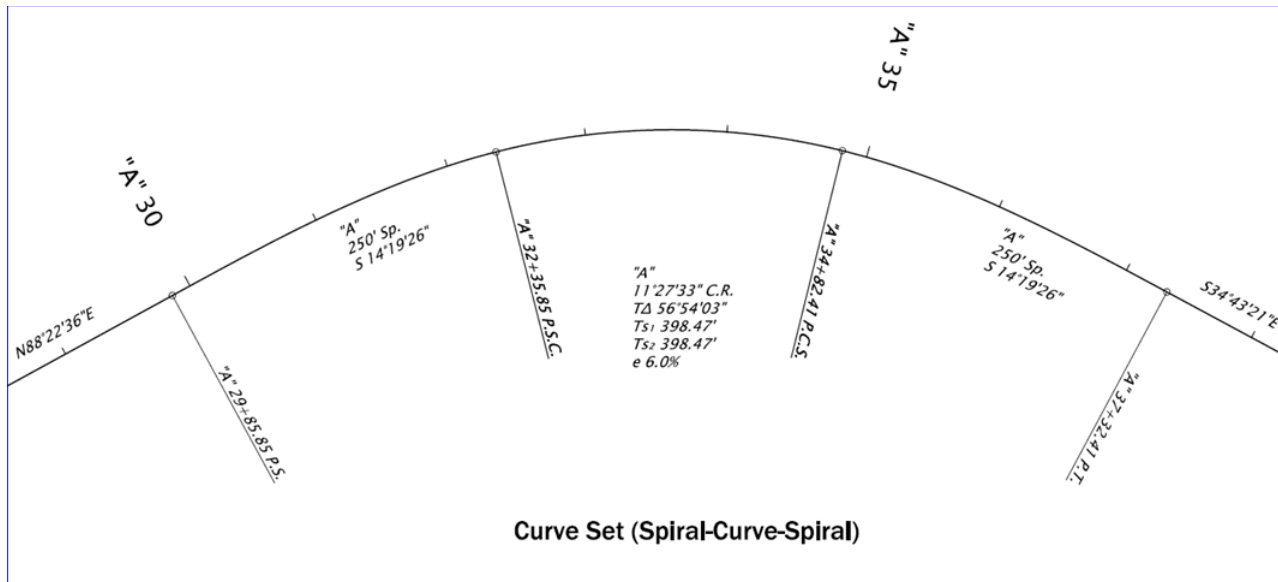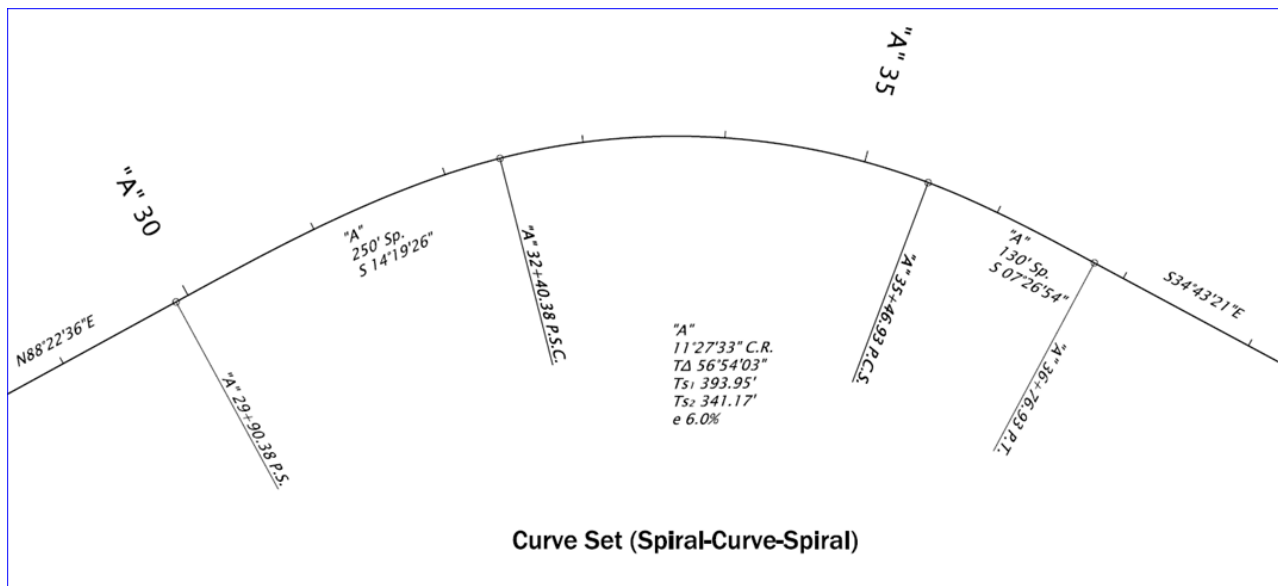
Simple curve data includes: name, degree of curve, curve delta angle, and tangent length (symmetrical so only one is shown). The maximum superelevation (e) associated with the arc is displayed in a separate text node.

Edits include moving the maximum superelevation (e) text node, as well as rotate/move, for preferred orientation and location on the sheet. Typically, the "e" value will be positioned beneath the Curve Data so that it appears to be one block of information.

Simple Curve Example:

"A" 35

"A" 30

N88°22'36"E

"A" 31+13.41 P.C.

S34°43'21"E

"A" 36+09.96 P.T.

"A"
11°27'33" C.R.
Δ 56°54'03"
T 270.92'
e 6.0%

Simple Curve (Arc)

Curb Ramp Alignment Feature Definition and Element Annotation Overrides

Curb_Ramp is a gutter alignment for curb ramps. Cardinal point stationing is normally on the right side, however element annotation overrides *Curb_Ramp_CrvRt* and *Curb_Ramp_CrvLt* provide all stacked text left justified and POB/POE flags to the right on curves to the left (CrvLt) and to the left for curves to the right (CrvRt). Radial lines are annotated with the radius distance. The curve return pictured below was annotated using the *Curb_Ramp_CrvRt* override annotation group. In December 2024, the ByLevel weight for the P_RDWY_ALIGN_Curb level was reduced from wt=5 to wt=1 to deemphasize the alignment, so that new curb using the P_RDWY_ROAD_Curb level and wt=4 will stand out.

"CR02"
0+55.64

"CR02"
0+72.94

Rad. = 30'

"CR02"
0+09.69

Rad. = 30'

"CR02"
0+00.00
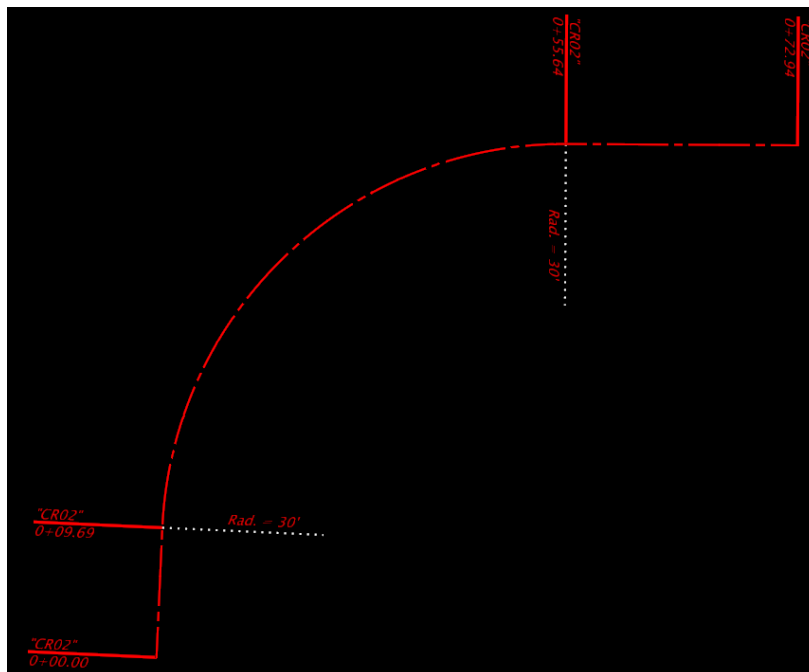
Other Alignment Feature Definitions

Design is similar to **CL_Main**, except that it will display the SPI (spiral intersection point) and annotates the spiral separately for easy comparison to graphics drawn in MicroStation using the Highway Spiral (hsp.ma).

Point_Control does not annotate, is all one color, and is on the D_CORR_PointControl level.

Scratch does not annotate, is all one color, and is Construction class.