FEATURE 221
HORIZONTAL CURVE

Roadway Side	Allows Tie	LRS Package	Feature Type	Interlocking	Secured
C/R/L	Yes	No	Length	Yes	Yes
Responsible Party for Data Collection	District Planning				

Definition/Background: Represents a directional line segment of the roadway showing the degree of curvature of the roadway and bearing changes effected by curves in the roadway and/or horizontal shifts in the roadway.

BEARING | COMPASS BEARING

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
	200	Planning, Safety Offices	All functionally classified roadways on the SHS.	N/A	N/A

How to Gather this Data: In office—Refer to construction plans or survey field book.

Enter N or S, the degrees/minutes/seconds, and the direction of deviation. Determine the angle deviation from north or south and the direction of the deviation.

Code using the described format. For example, a roadway heading 29 degrees in an eastward direction from north would have a deviation description of "N 29° E," and a roadway 35 degrees from south in a westward direction would be "S 35° W."

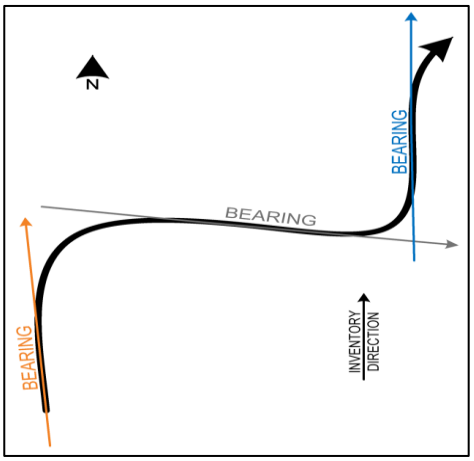
Value for Compass Bearing: 11 Bytes: XXXDXX'00"X—Record curve degrees/minutes/seconds

Enter using the following format:

			D			'	0	0	"		Format
1	2	3	4	5	6	7	8	9	10	11	Position

Below are descriptions for the byte positions:

1	N (north) or S (south)
2, 3	the number of degrees the roadway turns
4	D for degrees
5, 6	minutes of the curve
7	single quote (’) for minutes
8, 9	seconds of the curve
10	double quote (”) for seconds
11	direction in which the curve is traveling: E (east) or W (west)



HRZCANGL | HORIZONTAL CURVE CENTRAL ANGLE

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
	199	Planning, HPMS	All functionally classified roadways on the SHS.	N/A	N/A

Definition/Background: Denotes the roadway segment's central curve angle. Also commonly referred to as the delta (Δ).

PI—Point of Intersection. The point where the back and forward tangents intersect.

Central Angle—Angle formed by two radii drawn from the center of the circle to the PC and PT. Also referred to as the delta (Δ).

Required For: All functionally classified roadways on the SHS.

How to Gather this Data: In office—Refer to construction plans or survey field book. Enter degrees/minutes/seconds. Refer to coding box.

Value for Horizontal Curve Central Angle: 13 Bytes: XXXDXX’XX.00”—Record angle according to degrees/minutes/seconds /hundredths of a second

Enter using the following format:

			D			’			.	0	0	”	Format
1	2	3	4	5	6	7	8	9	10	11	12	13	Position

Below are descriptions for the byte positions:

1-3 will be the number of degrees of the angle (zero fill degrees; e.g., 005 for 5 degrees)

4 will always be D for degrees

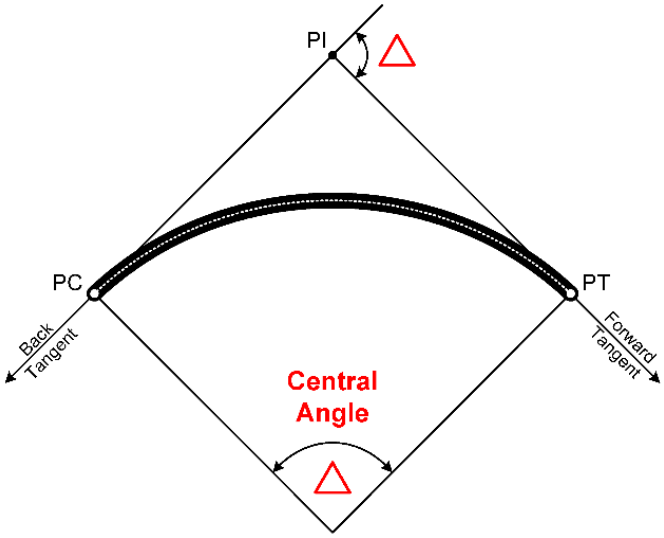
5, 6 will be the minutes of the curve

7 will always be a single quote (') for minutes

8, 9 will be the seconds of the curve

10-12 will always be .00 (optional—may be removed)

13 will always be a double quote (") for seconds



CURVE DATA

PI STA	= 406+00.58
DELTA	= 18° 02' 46" (RT)
D	= 1° 30' 00"
T	= 606.56'
L	= 1,203.07'
R	= 3,819.72'
PC STA	= 399+94.03
PT STA	= 411+97.10

HRZDGCRV | HORIZONTAL DEGREE OF CURVE

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
	195	Planning, HPMS	All functionally classified roadways on the SHS.	1-right and left 2-right 3-left	N/A

Definition/Background: Denotes the degree of curvature per 100 feet. Sometimes referred to as the D value of the curve.

The horizontal degree of curve is used to calculate the CURCLASx (x = A-F) in Feature 118 (HPMS).

The degree of curvature is measured by the angle subtended at the center by an arc 100 feet long.

Small D values represent flat curves with large radii, and large D values represent sharp curves with small radii. In general, D values larger than 20° are rare.

How to Gather this Data: In office—Refer to construction plans or survey field book.

Enter degrees/minutes. Refer to coding box. The horizontal degree of curve should be coded for both sides of the roadway for all divided roadways that have different alignments.

Value for Horizontal Degree of Curve: 7 Bytes: XXXDXX'—Record degrees/minutes

Enter using the following format:

			D			'	Format
1	2	3	4	5	6	7	Position

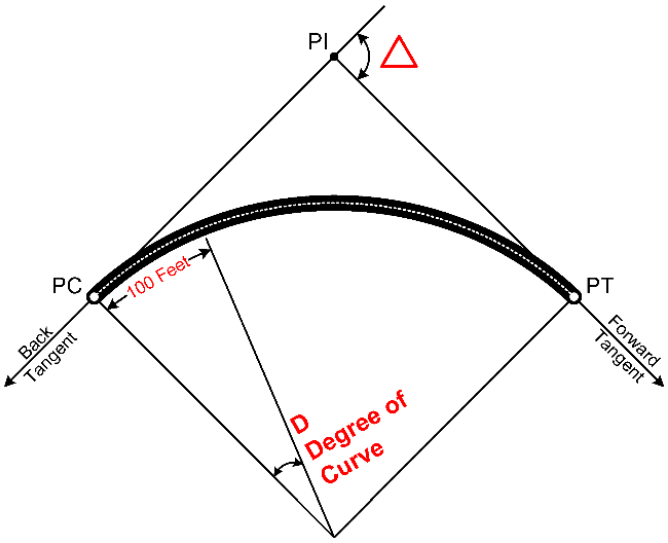
Below are descriptions for the byte positions:

1-3 will be the number of degrees the roadway turns

4 will always be D for degrees

5, 6 will be the minutes of the curve

7 will always be a single quote (') for minutes



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HRZPTINT | HORIZONTAL POINT OF INTERSECTION

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
		Planning, HPMS	All functionally classified roadways on the SHS.	N/A	N/A

Definition/Background: Milepoint number for the intersection of the back and forward tangents projected onto the roadway.

PC—Point of Curvature. The point on the back tangent where the curve begins.

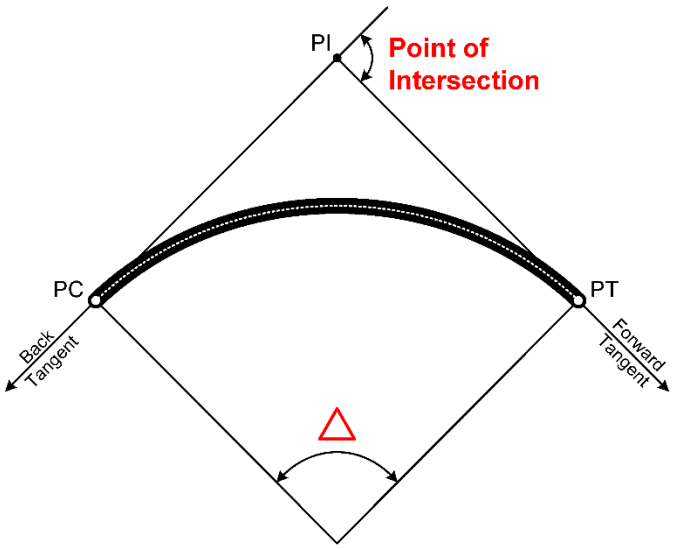
PI—Point of Intersection. The point where the back and forward tangents intersect.

PT—Point of Tangency. The point on the forward tangent where the curve ends.

How to Gather this Data: In office—Refer to construction plans or survey field book. Enter in milepoint number for the intersection of the point of curve.

Record the milepoint of the PC as the BMP and the milepoint of the PT as the EMP of Feature 221.

Value for Horizontal Point of Intersection: 6 Bytes: XXX.XXX—Record milepoint of the PI



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