

COLORADO DEPARTMENT OF TRANSPORTATION STAFF BRIDGE BRIDGE DETAIL MANUAL	Chapter: 14 Effective: March 25, 2022 Supersedes: October 12, 2020
BRIDGE DECK ELEVATIONS SHEETS	

14.1 PURPOSE

This set of drawings is to provide three-dimensional points on the bridge deck through the use of horizontal and vertical control lines, offsets, coordinates. A starting point for a new project is the CDOT Bridge Worksheet B-100-3 which contains the required general notes at the bottom of the sheet. If using CDOT Bridge Geometry software, please refer to the CDOT Bridge Geometry Manual.

14.2 RESPONSIBILITY

This set of drawings shall be prepared and checked in the Design Unit. The graphic presentation of information shall be the responsibility of the individual preparing the drawings. The accuracy of the information shown shall be the responsibility of the individual preparing the Bridge Geometry (or any other software) input for the computer.

14.3 TEXT / LETTERING

The information described in 14.4 through 14.13 shall be placed on the drawing to be legible. If Bridge Geometry software is used, this information can be extracted from the pcf (project coordinate file) file. Monospac821 BT font should be used to align the tables, text height should be .07" and width should be .056" (new text style 07_ENG-80-BridgeGeo in the CDOT MicroStation configuration). Width may be adjusted to fit available space.

14.4 PROJECT INFORMATION

The drawing shall contain project coordinates, bearings, units (English or metric) as well as the run, date and time and the software used.

Project coordinates are a coordinate system closely related to the State Plane coordinate system.

STRUCTURE ID: E-16-EV	BRIDGE GEOMETRY (WIN2.1.0e)	13/06/01 13:20
State of Colorado Department of Transportation Staff Bridge Design Bridge Geometry Project Coordinate Converter Version 1.00 Run date & time = Sat Jun 01 13:21:38 2013 Input Northing Offset = 142618.800000 Input Easting Offset = 169548.500000 Input Bearing = S 89 55 41.0500 E	DESCRIPTION Units: feet; Project: FBR 0142-055; Subaccount: 18085; Designer: H. Bui; Detailer: L. Waldron; Location: SH 14 over Cache-LaPoudre River; SH 14 Poudre Bridge in Ft. Collins Replaces B-16-D at M.P. 135.88 on SH 14 This is a straight bridge	

Fig. 14.4.1 Project Information - Example

14.5 HORIZONTAL ALIGNMENT DATA

The drawing shall contain curve and tangent information in the format shown in Fig. 14.5.1. The information shall include the offset from horizontal control line (HCL) to profile control line (PCL) and from PCL to pivot line. In most cases, all three lines are the same (no offset).

HORIZONTAL ALIGNMENT DATA

TS	170+24.0900	T	620.2948						
SC	172+28.0900	Ls	204.0000	SA	6 05 15.64				
PI	176+44.3848	Lc	745.0449	DELTA	56 38 31.00 RT	Dc	5 58 05.92	RADIUS	960.000000
CS	179+73.1349	Ls	204.0000	SA	6 05 15.64				
ST	181+77.1349	T	620.2948						

Fig. 14.5.1 Horizontal Alignment Data - Example

14.6 VERTICAL ALIGNMENT DATA

The drawing shall contain elevation at grades and points of interest (PCs, PTs, PIs), stationing of PCs, PTs, PIs and percent grades in the format shown in Fig. 14.6.1.

VERTICAL ALIGNMENT DATA

ELEVATION AT PI	ELEVATION AT GRADE	STATION	ELEVATION AT GRADE	ELEVATION AT PI	PERCENT GRADE
		170+10.0000	PC 7347.3800		-1.033333
		171+60.0000	PI 7345.7187	7345.8300	
		173+10.0000	PT 7343.8350		
	7333.9930	PC 180+50.0000			-1.330000
7332.6630	7332.9933	PI 181+50.0000			
	7332.6544	PT 182+50.0000			-0.008644

Fig. 14.6.1 Vertical Alignment Data - Example

14.7 CROSS SLOPES AND TRANSITIONS

The drawing shall contain cross slopes and transitions in the format shown in Fig. 14.7.1.

TABLE OF ROADWAY CROSS-SLOPES (SUPERELEVATION: E=0.0800)

STATION (ON TANGENT)	SLOPE LEFT	SLOPE RIGHT	VC LENGTH
	0.0200	-0.0200	140.00 (MAX)
162+75.0000	-0.1077	0.1077	140.00 -U-
166+75.0000	-0.1077	0.1077	140.00 -U-
170+75.0900	0.0200	-0.0200	140.00
172+28.0900	0.0800	-0.0800	140.00 -U-
179+73.1300	0.0800	-0.0800	140.00 -U-
181+26.1349	0.0200	-0.0200	140.00

Fig. 14.7.1 Cross Slopes Data – Example

14.8 LAYOUT LINE DATA

The layout line data shall be shown on the drawing in the format shown in Fig. 14.8.1.

LAYOUT LINE DATA

LAYOUT LINE DEFINED TO BE COINCIDENT WITH HORIZONTAL CONTROL

LAYOUT LINE INTERSECTS REF LINE AT	HCL STA	OFFSET	X	Y
	103+50.0000	0.00000000	0.0000	0.0000

Fig. 14.8.1 Layout Line Data - Example

The Layout line is a straight line that is the ordinate for the location of points on the structure. It should be located such that it lies as much as practical within the bounds of the structure. For structures on or mostly on a tangent, the tangent will suffice for the Layout line. For structures located mostly on a curve, a chord or tangent will probably be required for the layout line. Some possible chord lines are shown in Fig. 14.8.2.

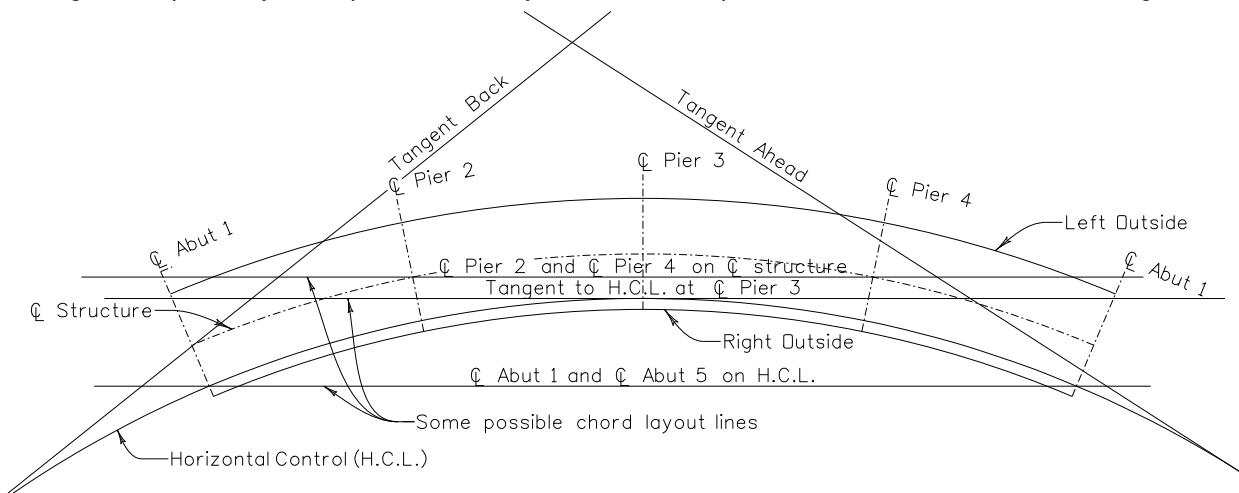


Fig. 14.8.2 Chord Layout Lines - Examples

14.9 DEAD LOAD DEFLECTION DATA

The dead load deflection data shall be shown on the drawing in the format shown in Fig. 14.9.1.

The number of deflection points is typically given at tenth points, with the intent of having elevation data at approximately every 15 feet. Twentieth points may be required for longer spans, i.e. > 150'.

DEAD LOAD DEFLECTION DATA													
DEFLECTIONS AT TENTH POINTS FROM FITTED CURVE													
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0													
FOR BENT LINE: CL A1				07 CARD(S): 1				GIRDER LINES REFERENCED BY: A					
INCH	0.0000	0.1458	0.2801	0.3873	0.4560	0.4797	0.4560	0.3873	0.2801	0.1458	0.0000	INCH	A4= 0.00000
FOOT	0.0000	0.0121	0.0233	0.0323	0.0380	0.0400	0.0380	0.0323	0.0233	0.0121	0.0000	FOOT	A3= 0.00000
SLOPE	0.120945										-0.120945	SLOPE	A2= 1.87004
													A1=-1.87004
													A0=-1.45134

Fig. 14.9.1 Dead Load Deflection Data – Example

14.10 BENT LINES (TRANSVERSE LINES)

Bent lines are transverse lines which run generally across the structure.

Some examples:

A) Reference line

The Reference line is a transverse line from which all other transverse lines, with the exception of the roadway approaches, are measured. The point where the Layout line crosses the Reference line is the 0,0 point for the Bridge Geometry software. A preference would be the centerline of bearing of Abutment 1 or other recognizable location.

B) Centerline of bearing

C) Centerline of piling

D) Centerline of pier

E) Back face of abutment

F) End of wingwall

G) Centerline of splice

H) Fractional points - The number of fractional points is typically given at tenth points, with the intent of having elevation data at approximately every 15 feet. Twentieth points may be required for longer spans, i.e. > 150'

I) Middle of approach slabs (when not provided elsewhere on plans)

J) End of approach slabs (when not provided elsewhere on plans)

K) Expansion joint (when not at conventional locations)

A summary of all bent lines shall be shown on the drawing in the format shown in Fig. 14.12.1. Information shall include (see also the Bridge Geometry Manual):

- a station at the HCL,
- offset,
- elevation,
- project coordinates X and Y,
- Northing and Easting,
- bent length,

- skew,
- girder length and
- cross-slope information (data).

14.11 LONGITUDINAL LINES (GIRDER LINES)

Girder lines are longitudinal lines which run lengthwise to the structure and are generally parallel to the HCL.

Some examples:

- A) Horizontal Control Lines (HCL)
- B) Crown line, if different than HCL
- C) Layout line, if different than HCL
- D) Girder Lines (at centerline bottom of girder)
- E) Wing wall faces
- F) Edges of the deck
- G) Construction phase lines
- H) Curb line or flowline
- I) Centerline of structure

Each longitudinal line will display bent line and fraction point information as described in 14.10.

Dead load deflections will be provided for the girder lines at a minimum, and for phase lines and edge lines as required.

Not all longitudinal lines need to be extended through the approach slabs.

14.12 DISPLAY OF BENT LINES AND LONGITUDINAL LINES

If unusual longitudinal lines are used, a section view may be added to the drawing to clarify.

BENT LINE DESCRIPTION :	INTERSECTION POINT			FROM LAYOUT LINE OFFSET :	PROJECT COORDINATES ORDINATE :	NORTHING	EASTING	BENT LINE LENGTH FROM Y-AXIS	SKEW D M S	GIRDER LINE LENGTH FROM REF LINE	
	STATION	OFFSET	ELEVATION								X
* HORIZONTAL CONTROL LINE * AT FINISHED GRADE											
End Appr 1	18+34.8500	0.0000	9214.0480	0.0000	-21.2500	796011.6723	1554484.3362	0.0000	0 00 00.00	-21.2500	
MiddAppr1	18+44.8500	0.0000	9214.0179	0.0000	-11.2500	796021.6227	1554483.3417	0.0000	0 00 00.00	-11.2500	
BF Abut 1	18+54.8500	0.0000	9213.9878	0.0000	-1.2500	796031.5731	1554482.3471	0.0000	0 00 00.00	-1.2500	
CL Brg A1	18+56.1000	0.0000	9213.9840	10	0.0000	796032.8169	1554482.2228	0.0000	0 00 00.00	0.0000	
CL Brg A2	19+46.1000	0.0000	9213.7131	1	0.0000	796122.3707	1554473.2718	0.0000	0 00 00.00	90.0000	
BF Abut 2	19+47.3500	0.0000	9213.7093	0.0000	91.2500	796123.6145	1554473.1475	0.0000	0 00 00.00	91.2500	
MiddAppr2	19+57.3500	0.0000	9213.6792	0.0000	101.2500	796133.5649	1554472.1529	0.0000	0 00 00.00	101.2500	
EndWing2	19+62.6000	0.0000	9213.6634	0.0000	106.5000	796138.7889	1554471.6308	0.0000	0 00 00.00	106.5000	
End Appr 2	19+67.3500	0.0000	9213.6491	0.0	0.0000	111.2500	796143.5153	1554471.1584	0.0000	0 00 00.00	111.2500

Fig. 14.12.1 Summary of Bent Lines at Horizontal Control Line (Longitudinal Line) – Example 1

Int Gir C		PARALLEL TO HORIZONTAL CONTROL						0.250000 FEET BELOW FINISHED GRADE				
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP
End Appr 1	18+34.8500	6.0000	9213.6780		6.0000	-21.2500	796012.2690	1554490.3065	6.0000	0 00 00.00	-21.2500	-0.020000
MiddAppr1	18+44.8500	6.0000	9213.6479		6.0000	-11.2500	796022.2194	1554489.3119	6.0000	0 00 00.00	-11.2500	-0.020000
BF Abut 1	18+54.8500	6.0000	9213.6178		6.0000	-1.2500	796032.1698	1554488.3174	6.0000	0 00 00.00	-1.2500	-0.020000
CL Brg A1	18+56.1000	6.0000	9213.6140	213.6140	6.0000	0.0000	796033.4136	1554488.1931	6.0000	0 00 00.00	0.0000	-0.020000
F-1	18+65.1000	6.0000	9213.5869	213.6295	6.0000	9.0000	796042.3690	1554487.2980			9.0000	-0.020000
F-2	18+74.1000	6.0000	9213.5598	213.6380	6.0000	18.0000	796051.3244	1554486.4029			18.0000	-0.020000

Fig. 14.12.2 Bent Lines at CL Gir C (Longitudinal Line) – Example 2

X-points are special bent lines representing varying distances (shown as bent lengths) from straight girder lines to the curved edge of deck. A note should also be added to the drawing to clarify X points.

RIGHT OUT		PARALLEL TO HORIZONTAL CONTROL						AT FINISHED GRADE				
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP
X-0	9+49.5445	25.0000	4997.9954		24.9185	2.0653	82614.2869	504607.6037	4.3342		-0.4327	-0.060000
CL ABUT 1	9+50.0000	25.0000	4998.0000		24.8751	2.4958	82613.9693	504607.3098	25.0000	0 00 00.00	0.0000	-0.060000
X-1	9+59.6603	25.0000	4998.0966		24.0472	11.6356	82607.2974	504601.0085	3.4628		9.1773	-0.060000
X-2	9+69.7596	25.0000	4998.1976		23.3706	21.2059	82600.4539	504594.2843	2.7862		18.7717	-0.060000
X-3	9+79.8466	25.0000	4998.2985		22.8879	30.7762	82593.7557	504587.4318	2.3035		28.3543	-0.060000
X-4	9+89.9253	25.0000	4998.3993		22.5985	40.3464	82587.2024	504580.4513	2.0142		37.9291	-0.060000
X-5	10+00.0000	25.0000	4998.5000		22.5021	49.9167	82580.7936	504573.3430	1.9177		47.5000	-0.060000
X-6	10+10.0747	25.0000	4998.6033		22.5985	59.4870	82574.5294	504566.1070	2.0142		57.0709	-0.059896
X-7	10+20.1534	25.0000	4998.7269		22.8879	69.0573	82568.4098	504558.7433	2.3035		66.6457	-0.058985
X-8	10+30.2404	25.0000	4998.8740		23.3706	78.6275	82562.4351	504551.2516	2.7862		76.2283	-0.057135
X-9	10+40.3397	25.0000	4999.0449		24.0472	88.1978	82556.6057	504543.6315	3.4628		85.8227	-0.054341
CL ABUT 2	10+50.0000	25.0000	4999.2303		24.8751	97.3376	82551.1747	504536.2338	25.0000	0 00 00.00	95.0000	-0.050788
X-10	10+50.4555	25.0000	4999.2396		24.9185	97.7681	82550.9221	504535.8825	4.3342		95.4327	-0.050599

Fig. 14.12.3 Varying Bent Lengths (X-points) – Example 3

14.13 ROADWAY APPROACHES DATA

Roadway approach information is intended to afford a reference for correcting mis-alignments between roadway and bridge elevations and alignment. They may also be used to set the elevations for the approach slabs.

Roadway approach information shall be shown in the drawing in the format shown in Figure 14.13.1. For each approach (left/ right), the information shall include:

- Station
- Offset
- Elevation
- Cross-slope

A sketch of approach information shall be provided, similar to CDOT Bridge Worksheet B-100-2. The sheet shall be revised to indicate finished grade for roadway approach data.

* ROADWAY APPROACHES *			
STATION	OFFSET	ELEVATION	CROSS-SLOPE
1770+50	-18.0000	3407.2221	-0.020000
1770+60	-18.0000	3407.2721	-0.020000
1770+70	-18.0000	3407.3221	-0.020000
1770+80	-18.0000	3407.3721	-0.020000
1770+90	-18.0000	3407.4221	-0.020000
1771+00	-18.0000	3407.4721	-0.020000
1771+10	-18.0000	3407.5221	-0.020000
1771+20	-18.0000	3407.5721	-0.020000
1771+30	-18.0000	3407.6221	-0.020000

Fig. 14.13.1 Roadway Approaches Data – Example

14.14 DECK SECTION SCHEMATIC

A schematic showing the longitudinal lines depicted in 14.11 & 14.12 shall be provided, like in Example 14-1.

The schematic shall specifically show where the centerlines of girder elevations are located on the deck. If additional elevations are provided in the bridge geometry sheet other than top of deck, those elevations shall be depicted in the schematic, like in example 14-6. See Bridge Detail Manual Chapter 9, section 9.9 for further information.

DEAD LOAD DEFLECTION DATA

DEFLECTIONS AT TENTH POINTS FROM FITTED CURVE

0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
FOR BEAT LINE: CL BRG A1										
FOR BEAT LINE: CL BRG P1										
FOR BEAT LINE: CL BRG P2										
FOR BEAT LINE: CL BRG P3										
FOR BEAT LINE: CL BRG P4										
FOR BEAT LINE: CL BRG P5										

STRUCTURE ID: E-16-EV

BRIDGE GEOMETRY (M/R=1.00): 13.066/01 13.20

DESCRIPTION: SH 14, Poudre Bridge in Ft. Collins
Replaces E-16-D at M.P. 135.88 on SH 14
This is a straight bridge.

Units: feet; Subcontract: 1805;
Project: BR, Bailey-Morrison Dam; Location: SH 14 over Cache-La-Poudre River;
Run date & time: Sat Jun 01 13:21:38 2013
Input Northing Offset: = 42608.80000
Input Easting Offset: = 58955.41000 E

HORIZONTAL ALIGNMENT DATA

STATION	ELEVATION AT PI	ELEVATION AT GRADE	PERCENT
4950.3400	4950.3400	4941.8800	-1.792560
17491.1400	PT	4941.8800	-1.792560

VERTICAL ALIGNMENT DATA

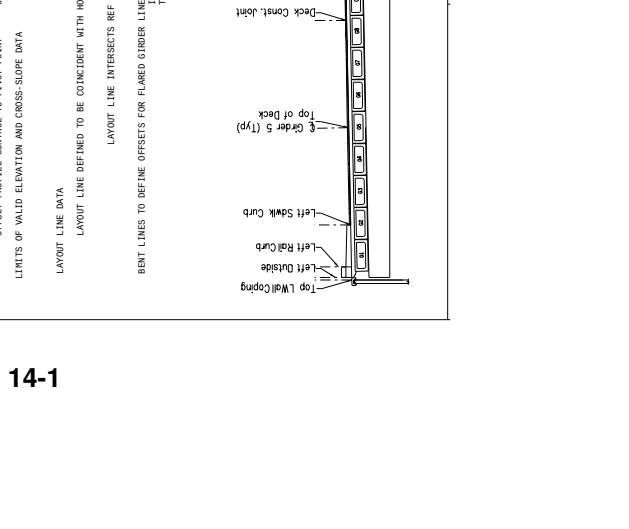
STATION	SLOPE LEFT	SLOPE RIGHT	VC LENGTH
	-0.8280	0.00	(MAX)

TABLE OF ROADWAY CROSS-SLOPES (SUPERELEVATION: E = -NC)

OFFSET PROFILE CONTROL TO PIVOT POINT = 0.0000 FEET
LIMITS OF VALID ELEVATION AND CROSS-SLOPE DATA
BEGIN 0+00.0000
END UNLIMITED

DEFLECTIONS AT TENTH POINTS FROM FITTED CURVE

STATION	ORDER LINES REFERENCED BY: A				
	INCH	FOOT	INCH	FOOT	INCH
11+24.5000	0.0000	0.0000	0.0000	0.0000	0.0000
11+47.5000	0.0000	0.0000	0.0000	0.0000	0.0000
12+00.5000	0.0000	0.0000	0.0000	0.0000	0.0000
12+53.5000	0.0000	0.0000	0.0000	0.0000	0.0000
13+06.5000	0.0000	0.0000	0.0000	0.0000	0.0000
13+59.5000	0.0000	0.0000	0.0000	0.0000	0.0000
14+12.5000	0.0000	0.0000	0.0000	0.0000	0.0000
14+65.5000	0.0000	0.0000	0.0000	0.0000	0.0000
15+18.5000	0.0000	0.0000	0.0000	0.0000	0.0000
15+71.5000	0.0000	0.0000	0.0000	0.0000	0.0000



NOTES:

1. Elevations are at top of bridge deck, 3" below Finished Grade.
2. Positive roadway cross slope is upward from the profile grade line.
3. These stations, coordinates, offsets and lengths define the layout of the structure in a two dimensional horizontal plane. Elevations define the final grade of the finished concrete deck. Fabrication of structural components through the direct use of this information is not intended or advisable.

Example 14-1

Version 1.00

Run date & time = Thu Sep 24 15:34:13 2015

Project: F6984-007 - Substructure 2146;

Location: Station: Westport, N. WISCONSIN;

Location: Span: OVER SOUTH PLATE RIVER

Location: 7 SPAN RTIS GIRDER CONCRETE SLAB

Units: feet;

Project: F6984-007 - Substructure 2146;

Location: Station: Westport, N. WISCONSIN;

Location: Span: OVER SOUTH PLATE RIVER

Location: 7 SPAN RTIS GIRDER CONCRETE SLAB

STRUCTURE ID: C-17-14

BRIDGE GEOMETRY (INTR.1.06)

15/09/24 14:53

PAGE 1

DEAD LOAD REFLECTION DATA

LAYOUT LINE REFERRED TO BE COINCIDENT WITH HORIZONTAL CONTROL

REL STA 39+16.7000

OFFSET 0.00000

Y 0.0000

X 0.0000

DEFLECTIONS AT TENTH POINTS FROM FITTED CURVE

0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

FOR BEAT LINE: CL A1

07 CURB(S): 1

GIRDER LINES REFERENCED BY: A

INCH	0.0000	0.1458	0.2811	0.3773	0.4569	0.4797	0.4569	0.3773	0.2811	0.1458	0.0000	INCH
FOOT	0.0000	0.0121	0.0233	0.0323	0.0380	0.0400	0.0380	0.0323	0.0233	0.0121	0.0000	FOOT

SLUPE 0.120845

-0.120845 SLOPE

FOR BEAT LINE: CL P2

07 CURB(S): 1

GIRDER LINES REFERENCED BY: A

INCH	0.0000	0.7861	1.3452	1.8953	2.5050	2.7738	2.6472	2.1683	1.5116	0.8275	0.0000	INCH
FOOT	0.0000	0.0659	0.1121	0.1533	0.2088	0.2272	0.2206	0.1808	0.1269	0.0699	0.0000	FOOT

SLUPE 0.955906

-0.955906 SLOPE

DEAD LOAD REFLECTION DATA (CONT)

DEFLECTIONS AT TENTH POINTS FROM FITTED CURVE

0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

FOR BEAT LINE: CL P3

07 CURB(S): 1

GIRDER LINES REFERENCED BY: A

INCH	0.0000	0.8009	1.5493	2.1510	2.5309	2.6727	2.5309	2.1510	1.5493	0.8009	0.0000	INCH
FOOT	0.0000	0.0667	0.1291	0.1793	0.2116	0.2227	0.2116	0.1793	0.1291	0.0667	0.0000	FOOT

SLUPE 0.675933

-0.675933 SLOPE

FOR BEAT LINE: CL P4

07 CURB(S): 1

GIRDER LINES REFERENCED BY: A

INCH	0.0000	0.8309	1.5538	2.1650	2.5444	2.6720	2.5444	2.1650	1.5538	0.8309	0.0000	INCH
FOOT	0.0000	0.0679	0.1295	0.1797	0.2120	0.2220	0.2120	0.1797	0.1295	0.0679	0.0000	FOOT

SLUPE 0.688848

-0.688848 SLOPE

FOR BEAT LINE: CL P5

07 CURB(S): 1

GIRDER LINES REFERENCED BY: A

INCH	0.0000	0.8040	1.5544	2.1575	2.5461	2.6801	2.5461	2.1575	1.5544	0.8040	0.0000	INCH
FOOT	0.0000	0.0670	0.1295	0.1799	0.2122	0.2223	0.2122	0.1798	0.1295	0.0670	0.0000	FOOT

SLUPE 0.690638

-0.690638 SLOPE

TABLE OF IRREGULAR CROSS-SLOPES (SUPERELEVATION: E6-N6-)

STATION	SLOPE LEFT	SLOPE RIGHT	VC LENGTH
38+12.5100 PC	-0.0200	-0.0200	75.00 (MAX)
40+12.5100 PT			
42+12.5100 PT			

OFFSET PROFILE CONTROL TO PIVOT POINT = 0.0000 FEET

LIMITS OF VALID ELEVATION AND CROSS-SLOPE DATA

BEGIN UNLIMITED

END UNLIMITED

LAYOUT LINE DATA

Note: Elevations are at top of concrete deck 3. Inches below Finished Grade.

Positive Roadway Cross Slope is Upwards from the Profile Grade Line.

These Stations, Coordinates, Offsets and Lengths define the layout of the structure in a two dimensional horizontal plane. Elevations define the final grade of the finished concrete deck. Fabrication of structural components through the direct use of this information is not intended or advisable.

Example 14-2

DESCRIPTION	STATION	ELEVATION	OFFSET	WIDTH	DEPTH	AREA	PERCENT	REMARKS			
BEAR LUG REFLECTION DATA (CONT)	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
FOR BENT LINE, CL PIER 2	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 3	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 4	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 5	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 6	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 7	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 8	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752

BRIDGE DECK ELEVATIONS

SECTION	OFFSET	ELEVATION	ELBVAL	COMPARISON FROM		OFFSET	DEPTH	WIDTH	AREA	PERCENT	REMARKS
				LAYOUT LINE	OFFSET						
0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
FOR BENT LINE, CL PIER 2	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 3	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 4	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 5	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 6	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 7	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752
FOR BENT LINE, CL PIER 8	07 GANES13, 1	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752	0.2752

NOTES:
THESE STATIONS, COORDINATES, OFFSETS, AND LENGTHS DEFINE THE LAYOUT OF THE BRIDGE DECK. THE FINISHED GRADE OF THE BRIDGE DECK SHALL BE THE GRADE OF THE FINISHED CONCRETE DECK. FABRICATION OF STRUCTURAL COMPONENTS THROUGH THE DIRECT USE OF THIS INFORMATION IS NOT INTENDED OR ADVISABLE.

Example 14-3

* ROADWAY APPROACHES *										* ROADWAY APPROACHES *									
STATION	OFFSET	ELEVATION	CROSS-SLOPE	STATION	OFFSET	ELEVATION	CROSS-SLOPE	STATION	OFFSET	ELEVATION	CROSS-SLOPE	STATION	OFFSET	ELEVATION	CROSS-SLOPE				
33+50	-12.0000	4716.6349	-0.020000	45+00	-12.0000	4716.3851	-0.020000	34+70	0.0000	4718.7249	-0.020000	46+20	0.0000	4717.4251	-0.020000				
33+60	-12.0000	4716.7349	-0.020000	45+10	-12.0000	4716.2851	-0.020000	34+80	0.0000	4718.2249	-0.020000	46+30	0.0000	4717.9251	-0.020000				
33+70	-12.0000	4716.8349	-0.020000	45+20	-12.0000	4716.1851	-0.020000	34+90	0.0000	4718.7249	-0.020000	46+40	0.0000	4717.4251	-0.020000				
33+80	-12.0000	4716.9349	-0.020000	45+30	-12.0000	4716.0851	-0.020000	35+00	0.0000	4718.2249	-0.020000	46+50	0.0000	4716.9251	-0.020000				
33+90	-12.0000	4717.0349	-0.020000	45+40	-12.0000	4715.9851	-0.020000												
34+00	-12.0000	4717.1349	-0.020000	45+50	-12.0000	4715.8851	-0.020000												
34+10	-12.0000	4717.2349	-0.020000	45+60	-12.0000	4715.7851	-0.020000												
34+20	-12.0000	4717.3349	-0.020000	45+70	-12.0000	4715.6851	-0.020000												
34+30	-12.0000	4717.4349	-0.020000	45+80	-12.0000	4715.5851	-0.020000												
34+40	-12.0000	4717.5349	-0.020000	45+90	-12.0000	4715.4851	-0.020000												
34+50	-12.0000	4717.6349	-0.020000	46+00	-12.0000	4715.3851	-0.020000												
34+60	-12.0000	4717.7349	-0.020000	46+10	-12.0000	4715.2851	-0.020000												
34+70	-12.0000	4717.8349	-0.020000	46+20	-12.0000	4715.1851	-0.020000												
34+80	-12.0000	4717.9349	-0.020000	46+30	-12.0000	4715.0851	-0.020000												
34+90	-12.0000	4718.0349	-0.020000	46+40	-12.0000	4714.9851	-0.020000												
35+00	-12.0000	4718.1349	-0.020000	46+50	-12.0000	4714.8851	-0.020000												
33+60	0.0000	4718.8749	0.000000	45+90	0.0000	4716.5251	0.000000	34+70	0.0000	4717.8251	0.000000	46+20	0.0000	4717.1251	0.000000				
33+80	0.0000	4718.9749	0.000000	46+00	0.0000	4716.6251	0.000000	34+90	0.0000	4718.3251	0.000000	46+40	0.0000	4717.3251	0.000000				
33+90	0.0000	4719.0749	0.000000	46+10	0.0000	4716.7251	0.000000	35+00	0.0000	4718.8251	0.000000	46+60	0.0000	4717.8251	0.000000				
34+00	0.0000	4719.1749	0.000000	46+20	0.0000	4716.8251	0.000000												
34+10	0.0000	4719.2749	0.000000	46+30	0.0000	4716.9251	0.000000												
34+20	0.0000	4719.3749	0.000000	46+40	0.0000	4717.0251	0.000000												
34+30	0.0000	4719.4749	0.000000	46+50	0.0000	4717.1251	0.000000												
34+40	0.0000	4719.5749	0.000000	46+60	0.0000	4717.2251	0.000000												
34+50	0.0000	4719.6749	0.000000	46+70	0.0000	4717.3251	0.000000												
34+60	0.0000	4719.7749	0.000000	46+80	0.0000	4717.4251	0.000000												
34+70	0.0000	4719.8749	0.000000	46+90	0.0000	4717.5251	0.000000												
34+80	0.0000	4719.9749	0.000000	47+00	0.0000	4717.6251	0.000000												

* TANGENT ALIGNMENT *											
STATION	OFFSET	ELEVATION	CROSS-SLOPE	STATION	OFFSET	ELEVATION	CROSS-SLOPE	STATION	OFFSET	ELEVATION	CROSS-SLOPE
34+70	12.0000	4717.5349	-0.020000	46+20	12.0000	4717.1851	-0.020000				
34+80	12.0000	4717.6349	-0.020000	46+30	12.0000	4717.2851	-0.020000				
34+90	12.0000	4717.7349	-0.020000	46+40	12.0000	4717.3851	-0.020000				
35+00	12.0000	4717.8349	-0.020000	46+50	12.0000	4717.4851	-0.020000				
				46+60	12.0000	4717.5851	-0.020000				
				46+70	12.0000	4717.6851	-0.020000				
				46+80	12.0000	4717.7851	-0.020000				
				46+90	12.0000	4717.8851	-0.020000				
				47+00	12.0000	4717.9851	-0.020000				

* TANGENT ALIGNMENT *

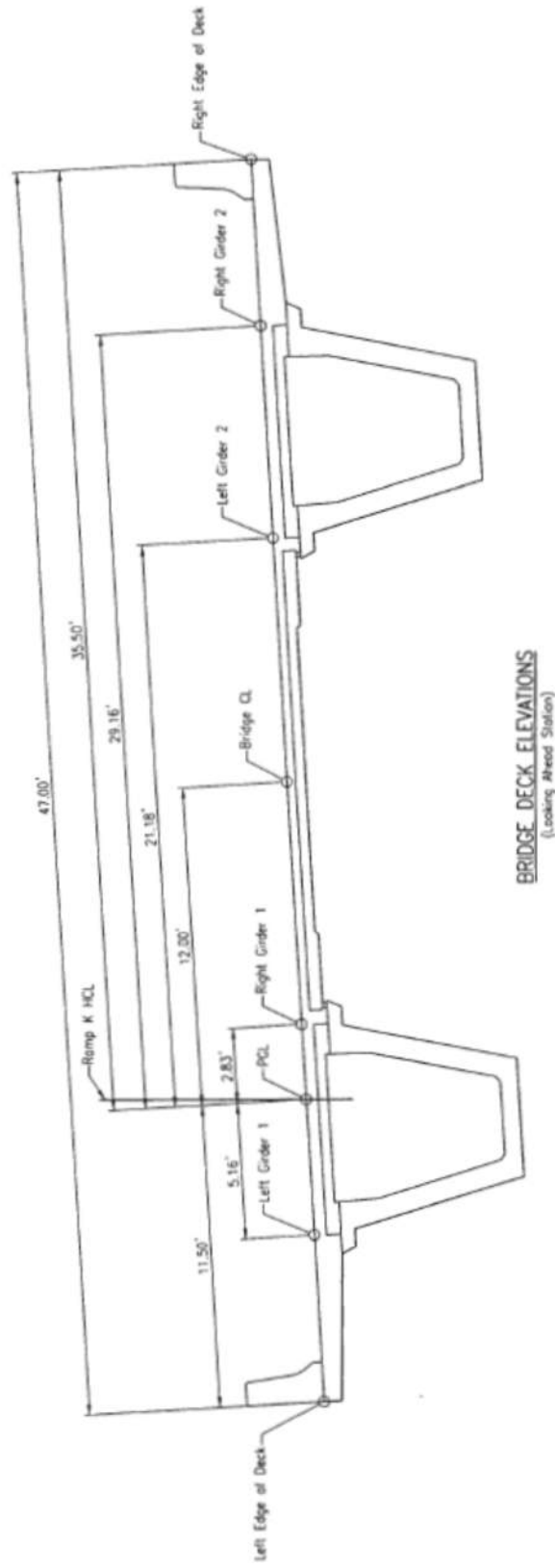
* THESE DRAWINGS ARE SCHEMATICS ONLY AND DO NOT NECESSARILY REFLECT THE ACTUAL BRIDGE LAYOUT.

Note: Elevations are at Finished Grade. Positive Roadway Cross Slope is Upwards from the Profile Grade Line. These Stations, Coordinates, Offsets and Lengths define the layout of the structure in a two dimensional horizontal plane. Elevations define the final grade of the finished concrete deck. Fabrication of structural components through the direct use of this information is not intended or advisable.

Example 14-5



LID SLAB ELEVATIONS
(Looking Ahead Station)



BRIDGE DECK ELEVATIONS
(Looking Ahead Station)

Example 14-6