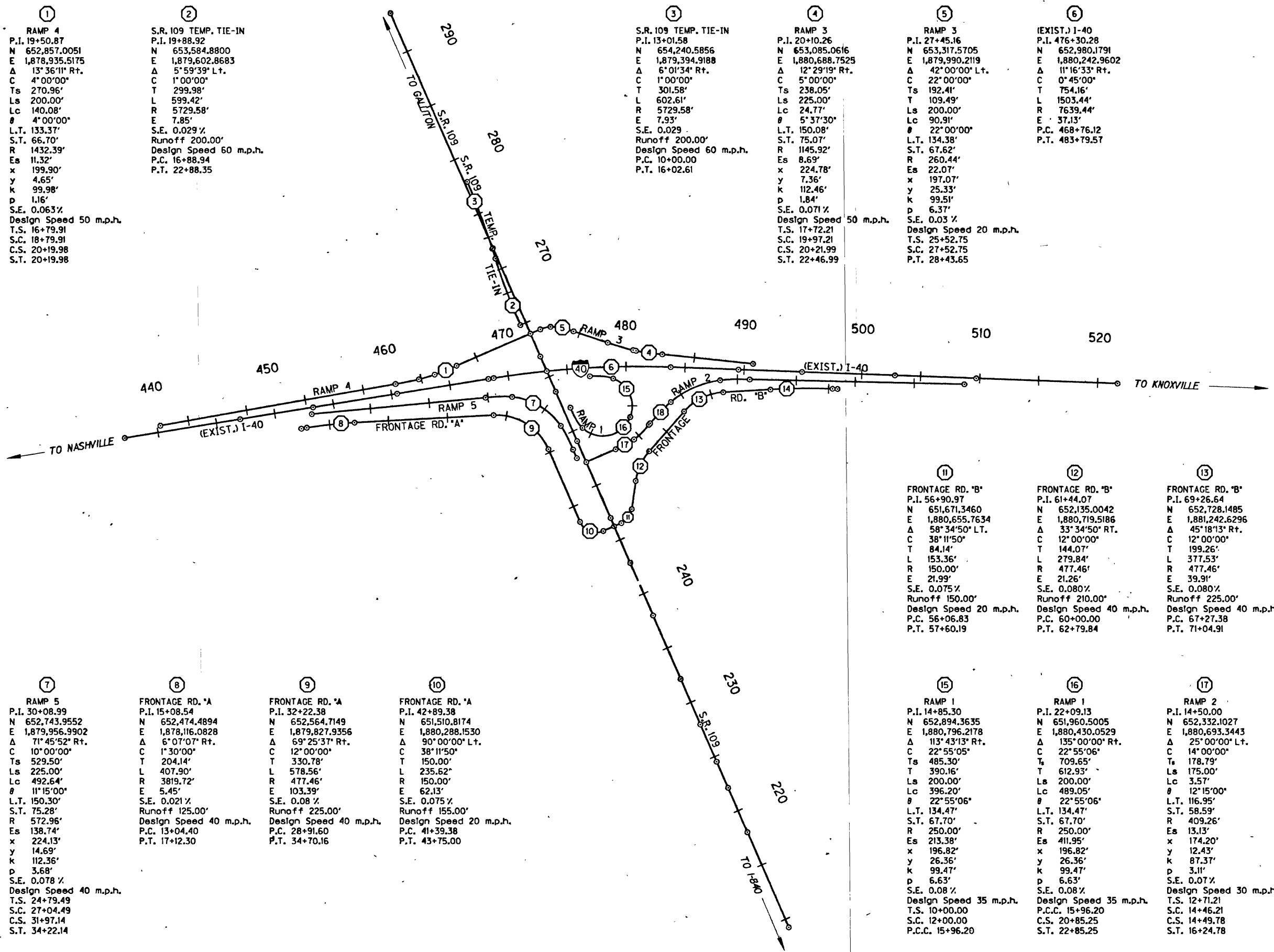


TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	90	95011-2204-04	120
CONST	96	NHJ-40-5(114)231	5G

Rev 5-22-90 Changed Alignments For Fr Rds
A B C Intersection w/ S R 109 Revised
Prop Curve Data For Curves 10, 11, & 12



①
RAMP 4
P.I. 19+50.87
N 652,857.0051
E 1,878,935.5175
A 13°36'11" Rt.
C 4°00'00"
Ts 270.96'
Ls 200.00'
Lc 140.08'
R 5729.58'
E 7.85'
L.T. 133.37'
S.T. 66.70'
R 1432.39'
Es 11.32'
x 199.90'
y 4.65'
k 99.98'
p 1.16'
S.E. 0.063%
Design Speed 50 m.p.h.
T.S. 16+79.91
S.C. 18+79.91
C.S. 20+19.98
S.T. 20+19.98

②
S.R. 109 TEMP. TIE-IN
P.I. 19+88.92
N 653,584.8800
E 1,879,602.8683
A 5°59'39" Lt.
C 1°00'00"
T 299.98'
L 599.42'
R 5729.58'
E 7.85'
S.E. 0.029%
Runoff 200.00'
Design Speed 60 m.p.h.
P.C. 16+88.94
P.T. 22+88.35

③
S.R. 109 TEMP. TIE-IN
P.I. 13+01.58
N 654,240.5856
E 1,879,394.9188
A 6°01'34" Rt.
C 1°00'00"
T 301.58'
L 602.61'
R 5729.58'
E 7.93'
S.E. 0.029%
Runoff 200.00'
Design Speed 60 m.p.h.
P.C. 10+00.00
P.T. 16+02.61

④
RAMP 3
P.I. 20+10.26
N 653,085.0616
E 1,880,688.7525
A 12°29'19" Rt.
C 5°00'00"
Ts 238.05'
Ls 225.00'
Lc 24.77'
R 1145.92'
E 8.69'
L.T. 150.08'
S.T. 75.07'
R 1145.92'
Es 8.69'
x 224.78'
y 7.36'
k 112.46'
p 1.84'
S.E. 0.071%
Design Speed 50 m.p.h.
T.S. 17+72.21
S.C. 19+97.21
C.S. 20+21.99
S.T. 22+46.99

⑤
RAMP 3
P.I. 27+45.16
N 653,317.5705
E 1,879,990.2119
A 42°00'00" Lt.
C 22°00'00"
Ts 192.41'
Ls 109.49'
Lc 200.00'
R 260.44'
E 22.07'
L.T. 134.38'
S.T. 67.62'
R 260.44'
Es 22.07'
x 197.07'
y 25.33'
k 99.51'
p 6.37'
S.E. 0.03%
Design Speed 20 m.p.h.
T.S. 25+52.75
S.C. 27+52.75
P.T. 28+43.65

⑥
(EXIST.) I-40
P.I. 476+30.28
N 652,980.1791
E 1,880,242.9602
A 11°16'33" Rt.
C 0°45'00"
T 754.16'
L 1503.44'
R 7639.44'
E 37.13'
P.C. 468+76.12
P.T. 483+79.57

⑦
RAMP 5
P.I. 30+08.99
N 652,743.9552
E 1,879,956.9902
A 71°45'52" Rt.
C 10°00'00"
Ts 529.50'
Ls 225.00'
Lc 492.64'
R 3819.72'
E 5.45'
L.T. 150.30'
S.T. 75.28'
R 572.96'
Es 138.74'
x 224.13'
y 14.69'
k 112.36'
p 3.68'
S.E. 0.078%
Design Speed 40 m.p.h.
T.S. 24+79.49
S.C. 27+04.49
C.S. 31+97.14
S.T. 34+22.14

⑧
FRONTAGE RD. 'A'
P.I. 15+08.54
N 652,474.4894
E 1,878,116.0828
A 6°07'07" Rt.
C 1°30'00"
T 204.14'
L 407.90'
R 3819.72'
E 5.45'
S.E. 0.021%
Runoff 125.00'
Design Speed 40 m.p.h.
P.C. 13+04.40
P.T. 17+12.30

⑨
FRONTAGE RD. 'A'
P.I. 32+22.38
N 652,564.7149
E 1,879,827.9356
A 69°25'37" Rt.
C 12°00'00"
T 330.78'
L 578.56'
R 477.46'
E 103.39'
S.E. 0.08%
Runoff 225.00'
Design Speed 40 m.p.h.
P.C. 28+91.60
P.T. 34+70.16

⑩
FRONTAGE RD. 'A'
P.I. 42+89.38
N 651,510.8174
E 1,880,288.1530
A 90°00'00" Lt.
C 38°11'50"
T 150.00'
L 235.62'
R 150.00'
E 62.13'
S.E. 0.075%
Runoff 155.00'
Design Speed 20 m.p.h.
P.C. 41+39.38
P.T. 43+75.00

⑪
FRONTAGE RD. 'B'
P.I. 56+90.97
N 651,671.3460
E 1,880,655.7634
A 58°34'50" Lt.
C 38°11'50"
T 84.14'
L 153.36'
R 150.00'
E 21.99'
S.E. 0.075%
Runoff 150.00'
Design Speed 20 m.p.h.
P.C. 56+06.83
P.T. 57+60.19

⑫
FRONTAGE RD. 'B'
P.I. 61+44.07
N 652,135.0042
E 1,880,719.5186
A 33°34'50" Rt.
C 12°00'00"
T 144.07'
L 279.84'
R 477.46'
E 21.26'
S.E. 0.080%
Runoff 210.00'
Design Speed 40 m.p.h.
P.C. 60+00.00
P.T. 62+79.84

⑬
FRONTAGE RD. 'B'
P.I. 69+26.64
N 652,728.1485
E 1,881,242.6296
A 45°18'13" Rt.
C 12°00'00"
T 199.26'
L 377.53'
R 477.46'
E 39.91'
S.E. 0.080%
Runoff 225.00'
Design Speed 40 m.p.h.
P.C. 67+27.38
P.T. 71+04.91

⑭
FRONTAGE RD. 'B'
P.I. 77+69.23
N 652,777.6535
E 1,882,104.7832
A 5°16'21" Rt.
C 1°00'00"
T 263.81'
L 527.24'
R 5729.58'
E 6.07'
S.E. R.C.
Runoff 125.00'
Design Speed 40 m.p.h.
P.C. 75+05.42
P.T. 80+32.66

⑮
RAMP 1
P.I. 14+85.30
N 652,894.3635
E 1,880,796.2178
A 113°43'13" Rt.
C 22°55'05"
Ts 485.30'
Ls 390.16'
Lc 396.20'
R 250.00'
E 196.82'
L.T. 134.47'
S.T. 67.70'
R 250.00'
Es 213.38'
x 196.82'
y 26.36'
k 99.47'
p 6.63'
S.E. 0.08%
Design Speed 35 m.p.h.
T.S. 10+00.00
S.C. 12+00.00
P.C.C. 15+96.20

⑯
RAMP 1
P.I. 22+09.13
N 651,960.5005
E 1,880,430.0529
A 135°00'00" Rt.
C 22°55'06"
Ts 709.65'
Ls 200.00'
Lc 489.05'
R 250.00'
E 196.82'
L.T. 134.47'
S.T. 67.70'
R 250.00'
Es 411.95'
x 196.82'
y 26.36'
k 99.47'
p 6.63'
S.E. 0.08%
Design Speed 35 m.p.h.
P.C.C. 15+96.20
S.T. 22+85.25

⑰
RAMP 2
P.I. 14+50.00
N 652,332.1027
E 1,880,693.3443
A 25°00'00" Lt.
C 14°00'00"
Ts 178.79'
Ls 175.00'
Lc 3.57'
R 409.26'
E 13.13'
L.T. 116.95'
S.T. 58.59'
R 409.26'
Es 13.13'
x 174.20'
y 12.43'
k 87.37'
p 3.11'
S.E. 0.07%
Design Speed 30 m.p.h.
T.S. 12+71.21
S.C. 14+46.21
C.S. 14+49.78
S.T. 16+24.78

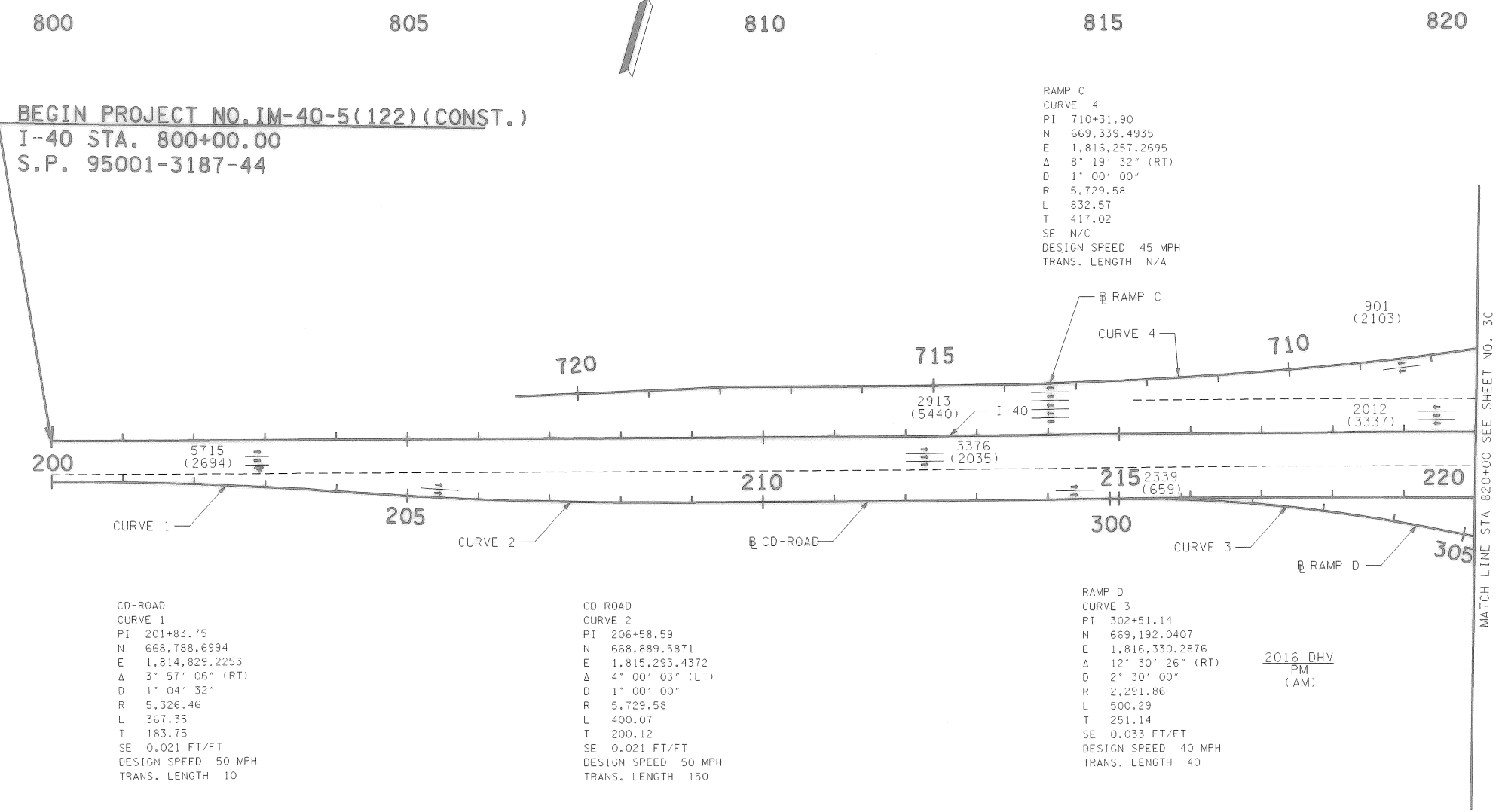
⑱
RAMP 2
P.I. 21+48.80
N 652,859.2009
E 1,881,158.2074
A 49°52'44" Rt.
C 7°00'00"
Ts 507.01'
Ls 250.00'
Lc 462.56'
R 87.68'
E 12.71'
L.T. 166.87'
S.T. 83.52'
R 818.51'
Es 87.68'
x 249.42'
y 12.71'
k 124.90'
p 3.18'
S.E. 0.08%
Design Speed 50 m.p.h.
T.S. 16+41.79
S.C. 18+91.79
C.S. 23+54.35
S.T. 26+04.35



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT
GEOMETRIC LAYOUT
S.R. 109 AT I-40
SCALE: 1" = 400'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2006	IM-40-5(122)	3B
CONST.	2007	IM-40-5(122)	3B

SCANNED



BEGIN PROJECT NO. IM-40-5(122) (CONST.)
I-40 STA. 800+00.00
S.P. 95001-3187-44

RAMP C
 CURVE 4
 PI 710+31.90
 N 669,339.4935
 E 1,816,257.2695
 Δ 8° 19' 32" (RT)
 D 1° 00' 00"
 R 5,729.58
 L 832.57
 T 417.02
 SE N/C
 DESIGN SPEED 45 MPH
 TRANS. LENGTH N/A

CD-ROAD
 CURVE 1
 PI 201+83.75
 N 668,788.6994
 E 1,814,829.2253
 Δ 3° 57' 06" (RT)
 D 1° 04' 32"
 R 5,326.46
 L 367.35
 T 183.75
 SE 0.021 FT/FT
 DESIGN SPEED 50 MPH
 TRANS. LENGTH 10

CD-ROAD
 CURVE 2
 PI 206+58.59
 N 668,889.5871
 E 1,815,293.4372
 Δ 4° 00' 03" (LT)
 D 1° 00' 00"
 R 5,729.58
 L 400.07
 T 200.12
 SE 0.021 FT/FT
 DESIGN SPEED 50 MPH
 TRANS. LENGTH 150

RAMP D
 CURVE 3
 PI 302+51.14
 N 669,192.0407
 E 1,816,330.2876
 Δ 12° 30' 26" (RT)
 D 2° 30' 00"
 R 2,291.86
 L 500.29
 T 251.14
 SE 0.033 FT/FT
 DESIGN SPEED 40 MPH
 TRANS. LENGTH 40

2016 DHV
 PM
 (AM)

MATCH LINE STA 820+00 SEE SHEET NO. 3C



COORDINATE VALUES ARE NAD/83(1995)
 AND ARE DATUM ADJUSTED BY THE
 FACTOR 1.00006 & TIED TO THE TORN.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

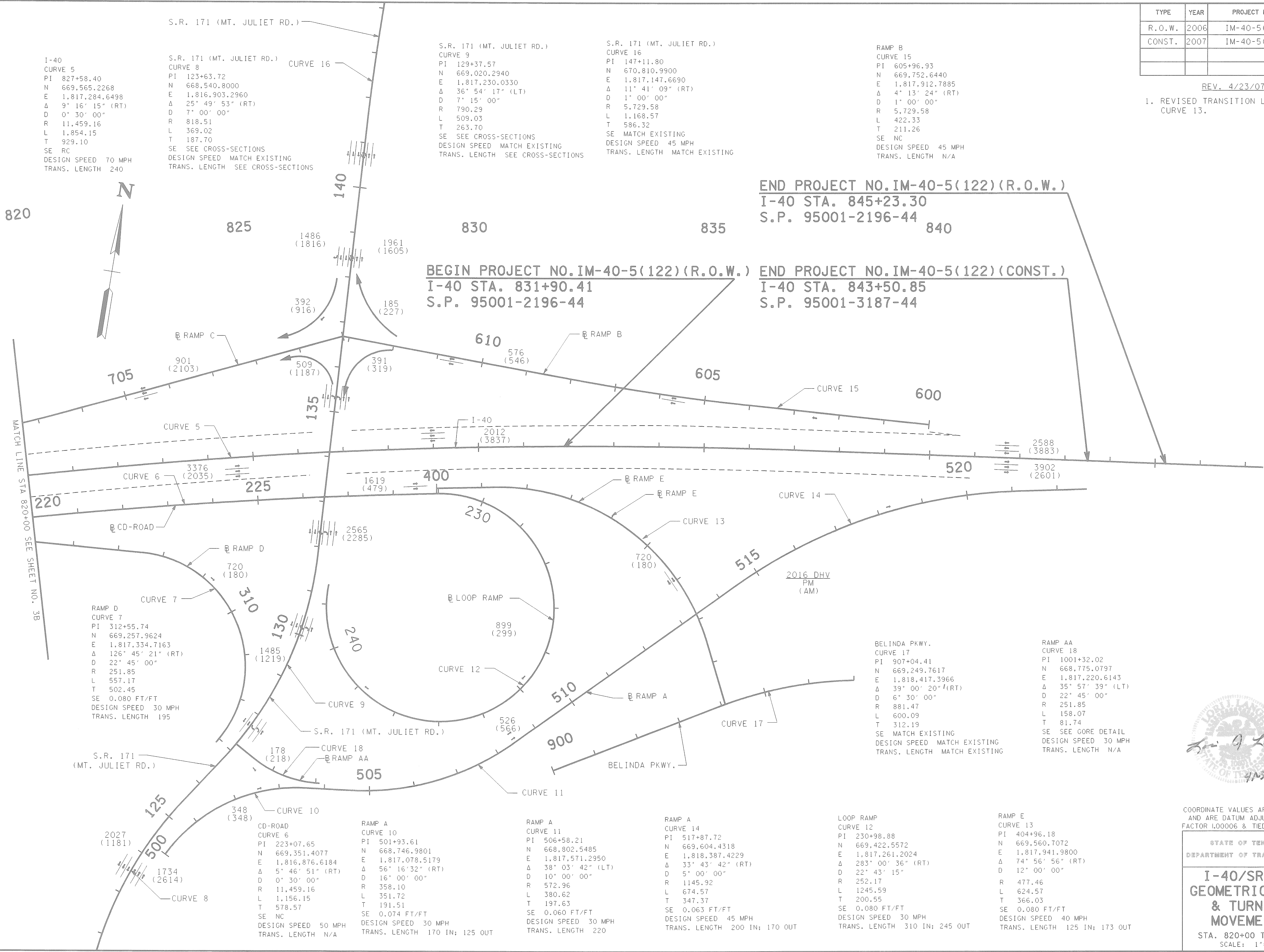
**I-40/SR-171
 GEOMETRIC PLAN
 & TURNING
 MOVEMENTS**

E.O.P. TO STA. 820+00
 SCALE: 1"=100'

TENNESSEE D.O.T.
 DESIGN DIVISION
 FILE NO. **W 340**

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2006	IM-40-5(122)	3C
CONST.	2007	IM-40-5(122)	3C

REV. 4/23/07
 1. REVISED TRANSITION LENGTH CURVE 13.



I-40
 CURVE 5
 PI 827+58.40
 N 669,565.2268
 E 1,817,284.6498
 Δ 9° 16' 15" (RT)
 D 0° 30' 00"
 R 11,459.16
 L 1,854.15
 T 929.10
 SE RC
 DESIGN SPEED 70 MPH
 TRANS. LENGTH 240

S.R. 171 (MT. JULIET RD.)
 CURVE 8
 PI 123+63.72
 N 668,540.8000
 E 1,816,903.2960
 Δ 25° 49' 53" (RT)
 D 7° 00' 00"
 R 818.51
 L 369.02
 T 187.70
 SE SEE CROSS-SECTIONS
 DESIGN SPEED MATCH EXISTING
 TRANS. LENGTH SEE CROSS-SECTIONS

S.R. 171 (MT. JULIET RD.)
 CURVE 9
 PI 129+37.57
 N 669,020.2940
 E 1,817,230.0330
 Δ 36° 54' 17" (LT)
 D 7° 15' 00"
 R 790.29
 L 509.03
 T 263.70
 SE SEE CROSS-SECTIONS
 DESIGN SPEED MATCH EXISTING
 TRANS. LENGTH SEE CROSS-SECTIONS

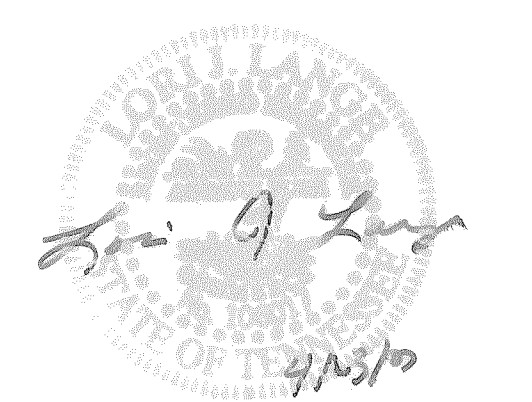
S.R. 171 (MT. JULIET RD.)
 CURVE 16
 PI 147+11.80
 N 670,810.9900
 E 1,817,147.6690
 Δ 11° 41' 09" (RT)
 D 1° 00' 00"
 R 5,729.58
 L 1,168.57
 T 586.32
 SE MATCH EXISTING
 DESIGN SPEED 45 MPH
 TRANS. LENGTH MATCH EXISTING

RAMP B
 CURVE 15
 PI 605+96.93
 N 669,752.6440
 E 1,817,912.7885
 Δ 4° 13' 24" (RT)
 D 1° 00' 00"
 R 5,729.58
 L 422.33
 T 211.26
 SE NC
 DESIGN SPEED 45 MPH
 TRANS. LENGTH N/A

RAMP D
 CURVE 7
 PI 312+55.74
 N 669,257.9624
 E 1,817,334.7163
 Δ 126° 45' 21" (RT)
 D 22° 45' 00"
 R 251.85
 L 557.17
 T 502.45
 SE 0.080 FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH 195

BELINDA PKWY.
 CURVE 17
 PI 907+04.41
 N 669,249.7617
 E 1,818,417.3966
 Δ 39° 00' 20" (RT)
 D 6° 30' 00"
 R 881.47
 L 600.09
 T 312.19
 SE MATCH EXISTING
 DESIGN SPEED MATCH EXISTING
 TRANS. LENGTH MATCH EXISTING

RAMP AA
 CURVE 18
 PI 1001+32.02
 N 668,775.0797
 E 1,817,220.6143
 Δ 35° 57' 39" (LT)
 D 22° 45' 00"
 R 251.85
 L 158.07
 T 81.74
 SE SEE GORE DETAIL
 DESIGN SPEED 30 MPH
 TRANS. LENGTH N/A



COORDINATE VALUES ARE NAD(83)9951
 AND ARE DATUM ADJUSTED BY THE
 FACTOR 1.00006 & TIED TO THE TGRN.

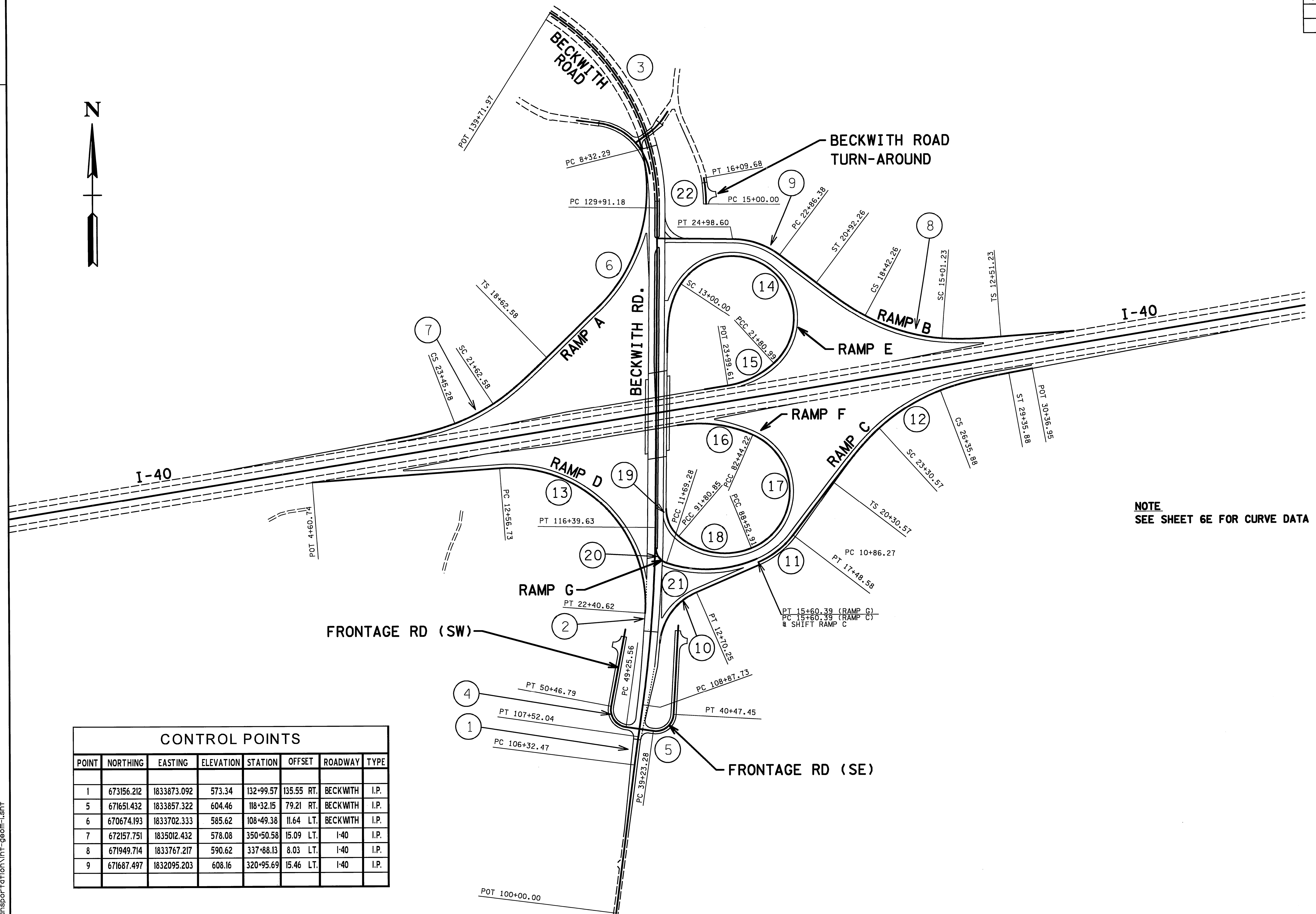
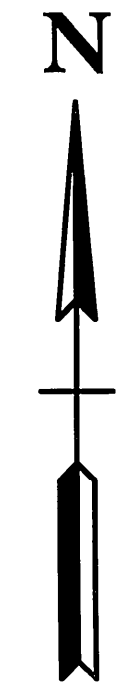
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**I-40/SR-171
 GEOMETRIC PLAN
 & TURNING
 MOVEMENTS**

STA. 820+00 TO E.O.P.
 SCALE: 1"=100'

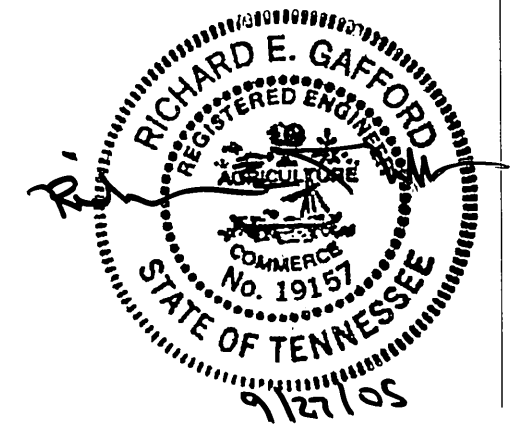
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2004		6D
CONST.	2005	IM-40-5(129)	6D



NOTE
 SEE SHEET 6E FOR CURVE DATA

CONTROL POINTS							
POINT	NORTHING	EASTING	ELEVATION	STATION	OFFSET	ROADWAY	TYPE
1	673156.212	1833873.092	573.34	132+99.57	135.55 RT.	BECKWITH	I.P.
5	671651.432	1833857.322	604.46	118+32.15	79.21 RT.	BECKWITH	I.P.
6	670674.193	1833702.333	585.62	108+49.38	11.64 LT.	BECKWITH	I.P.
7	672157.751	1835012.432	578.08	350+50.58	15.09 LT.	I-40	I.P.
8	671949.714	1833767.217	590.62	337+88.13	8.03 LT.	I-40	I.P.
9	671687.497	1832095.203	608.16	320+95.69	15.46 LT.	I-40	I.P.



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**INTERCHANGE
 GEOMETRY AND
 CONTROL POINTS**

SCALE: 1:200

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2004		6E
CONST.	2005	IM-40-5(129)	6E

<p>1</p> <p>€ BECKWITH ROAD CURVE DATA PI 106+92.26 N 670,516.9989 E 1,833,691.7084 Δ 0° 53' 48" (RT) D 0° 45' 00" R 7,639.44 L 119.57 T 59.79 SE N.C. DESIGN SPEED 40 MPH TRANS. LENGTH MATCH EXIST.</p>	<p>2</p> <p>€ BECKWITH ROAD CURVE DATA PI 112+64.22 N 671,083.2545 E 1,833,772.3238 Δ 7° 31' 08" (LT) D 1° 00' 00" R 5,729.58 L 751.90 T 376.49 SE 0.020 FT/FT DESIGN SPEED 40 MPH TRANS. LENGTH 250'</p>	<p>3</p> <p>€ BECKWITH ROAD CURVE DATA PI 135+28.96 N 673,348.9591 E 1,833,795.3984 Δ 58° 24' 03" (LT) D 5° 57' 16" R 962.24 L 980.79 T 537.78 SE 0.062 FT/FT DESIGN SPEED 40 MPH TRANS. LENGTH 470'</p>	<p>4</p> <p>€ FRONTAGE RD (SW) CURVE DATA PI 50+04.06 N 670,627.5561 E 1,833,571.0449 Δ 92° 36' 49" (RT) D 76° 23' 40" R 75.00 L 121.23 T 78.50 SE N.C. DESIGN SPEED 30 MPH TRANS. LENGTH 000</p>	<p>5</p> <p>€ FRONTAGE RD (SE) CURVE DATA PI 40+04.92 N 670,588.5799 E 1,833,844.8200 Δ 94° 51' 35" (LT) D 76° 23' 40" R 75.00 L 124.17 T 81.65 SE N.C. DESIGN SPEED 30 MPH TRANS. LENGTH 000</p>	<p>6</p> <p>§ RAMP A CURVE DATA PI 12+21.62 N 672,687.6946 E 1,833,843.7610 Δ 63° 21' 27" (RT) D 8° 11' 06" R 700.00 L 774.06 T 431.97 SE 0.071 FT/FT DESIGN SPEED 35 MPH TRANS. LENGTH 200'</p>
<p>7</p> <p>§ RAMP A CURVE DATA PI 22+62.40 N 671,900.8566 E 1,833,031.7997 Δs 33° 47' 22" (RT) Θs 10° 30' 00" Δc 12° 47' 22" (RT) Dc 7° 00' 00" Rc 818.51 Lc 182.71 Ts 399.82 Ls 300.00 SE 0.080 FT/FT DESIGN SPEED 50 MPH TRANS. LENGTH 300'</p>	<p>8</p> <p>§ RAMP B CURVE DATA PI 16+86.39 N 672,229.5911 E 1,834,806.4114 Δs 41° 22' 19" (RT) Θs 8° 45' 00" Δc 23° 52' 19" (RT) Dc 7° 00' 00" Rc 818.51 Lc 341.03 Ts 435.16 Ls 250.00 SE 0.080 FT/FT DESIGN SPEED 50 MPH TRANS. LENGTH 250'</p>	<p>9</p> <p>§ RAMP B CURVE DATA PI 23+96.26 N 672,676.5669 E 1,834,217.7010 Δ 36° 37' 26" (LT) D 17° 15' 28" R 332.00 L 212.22 T 109.88 SE 0.080 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH 231.11'</p>	<p>10</p> <p>§ RAMP C CURVE DATA PI 11+46.08 N 671,125.7938 E 1,833,807.1734 Δ 61° 21' 05" (RT) D 22° 02' 13" R 260.00 L 278.40 T 154.23 SE (SEE SUPER DIAGRAM) DESIGN SPEED 30 MPH TRANS. LENGTH (SEE SUPER DIAGRAM)</p>	<p>11</p> <p>§ RAMP C CURVE DATA PI 16+56.61 N 671,349.9724 E 1,834,299.2345 Δ 29° 27' 38" (LT) D 15° 39' 17" R 366.00 L 188.19 T 96.22 SE 0.072 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH (SEE SUPER DIAGRAM)</p>	<p>12</p> <p>§ RAMP C CURVE DATA PI 24+99.42 N 672,023.6337 E 1,834,812.7544 Δs 42° 22' 20" (RT) Θs 10° 30' 00" Δc 21° 22' 20" (RT) Dc 7° 00' 00" Rc 818.51 Lc 305.32 Ts 468.86 Ls 300.00 SE N.C. DESIGN SPEED 50 MPH TRANS. LENGTH 000</p>
<p>13</p> <p>§ RAMP D CURVE DATA PI 19+20.38 N 671,760.0617 E 1,833,779.8570 Δ 98° 23' 20" (RT) D 10° 00' 00" R 572.96 L 983.89 T 663.65 SE 0.078 FT/FT DESIGN SPEED 40 MPH TRANS. LENGTH 160'</p>	<p>14</p> <p>§ RAMP E CURVE DATA PI N/A FOR LOOP N 672345.7031 (CC) E 1834104.4503 (CC) Δs N/A FOR LOOP Θs 33° 03' 19" Δc 194° 08' 30" (RT) Dc 22° 02' 13" Rc 260.00 Lc 880.99 Ts 300.00 SE 0.080 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH 300'</p>	<p>15</p> <p>§ RAMP E CURVE DATA PI 22+93.44 N 672,077.5910 E 1,834,195.8867 Δ 33° 03' 19" (RT) D 15° 07' 11" R 378.95 L 218.62 T 112.45 SE 0.072 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH 161.70'</p>	<p>16</p> <p>§ RAMP F CURVE DATA PI 80+86.11 N 671,918.2258 E 1,834,036.8423 Δ 33° 03' 19" (RT) D 10° 09' 12" R 564.30 L 325.56 T 167.45 SE 0.080 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH 231.34'</p>	<p>17</p> <p>§ RAMP F CURVE DATA PI 88+58.77 N 671,601.5198 E 1,834,751.8390 Δ 134° 08' 10" (RT) D 22° 02' 13" R 260.00 L 608.69 T 614.55 SE 0.080 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH (SEE SUPER DIAGRAM)</p>	<p>18</p> <p>§ RAMP F CURVE DATA PI 90+35.43 N 671,303.2796 E 1,834,012.6690 Δ 62° 37' 57" (RT) D 19° 05' 55" R 300.00 L 327.94 T 182.52 SE 0.080 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH (SEE SUPER DIAGRAM)</p>
<p>19</p> <p>§ RAMP F CURVE DATA PI 92+50.68 N 671,467.6977 E 1,833,821.2414 Δ 49° 55' 27" (RT) D 38° 11' 50" R 150.00 L 130.70 T 69.83 SE 0.080 FT/FT DESIGN SPEED 30 TRANS. LENGTH (SEE SUPER DIAGRAM)</p>	<p>20</p> <p>§ RAMP G CURVE DATA PI 11+34.51 N 671,325.3590 E 1,833,776.4179 Δ 73° 10' 02" (LT) D 88° 08' 50" R 65.00 L 83.01 T 48.24 SE (SEE SUPER DIAGRAM) DESIGN SPEED 30 MPH TRANS. LENGTH (SEE SUPER DIAGRAM)</p>	<p>21</p> <p>§ RAMP G CURVE DATA PI 13+73.86 N 671,246.0700 E 1,834,016.4894 Δ 41° 29' 56" (LT) D 10° 36' 37" R 540.00 L 391.12 T 204.58 SE 0.080 FT/FT DESIGN SPEED 30 MPH TRANS. LENGTH (SEE SUPER DIAGRAM)</p>	<p>22</p> <p>€ BECKWITH ROAD TURN-AROUND CURVE DATA PI 15+55.00 N 672,882.2767 E 1,833,996.3489 Δ 10° 28' 26" (LT) D 9° 32' 57" R 600.00 L 109.68 T 54.99 SE N.C. DESIGN SPEED 25 MPH TRANS. LENGTH 000</p>		

NOTE
SEE SHEET 6D FOR CURVE LAYOUT

