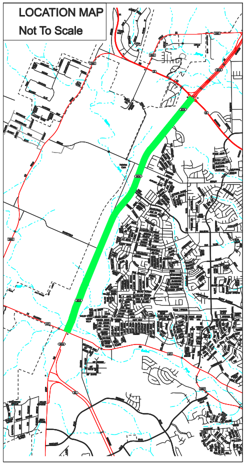
TEXAS DEPARTMENT OF TRANSPORTATION
SCHEMATIC LAYOUT
LOOP 1604 - BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER
SAN ANTONIO, TEXAS

CONTROL: 2452 SECTION: 01 JOB: 055

LIMITS: FM 471 TO SH 16
LENGTH = 4.731 MILES

DESIGN SPEED: MAINLANES = 60 MPH
FRONTAGE ROADS = 45 MPH
RAMPS = 40 MPH
FUNCTIONAL CLASS: URBAN FREEWAY


LOCATION MAP
Not To Scale

CORRECT:

______________, 2012

TRANSPORTATION PLANNING DIRECTOR

APPROVED: BY DESIGN DIVISION
LETTER DATED

CORRECT:

______________, 2012

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: BY F.H.W.A.
LETTER DATED

RECOMMENDED FOR APPROVAL:

______________, 2012

DISTRICT ENGINEER

Scale: 1" = 200' Horizontal
1" =20' Vertical

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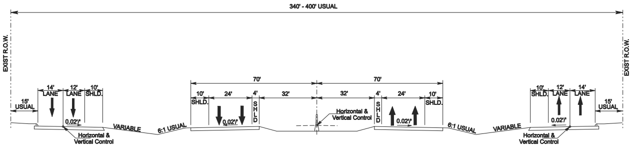
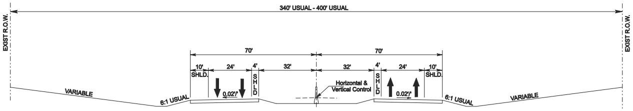
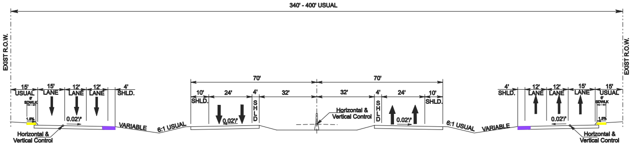

340' - 400' USUAL
EXIST R.O.W.
15' USUAL
14' LANE
12' LANE
10' SHLD.
0.02'/'
Horizontal & Vertical Control
VARIABLE
6:1 USUAL
70'
10' SHLD.
24'
4' SHLD
32'
EXIST R.O.W.

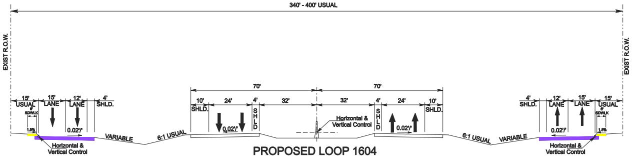
EXISTING LOOP 1604
SH 16 TO 1.2 MILES SOUTH OF SH 16


340' USUAL - 400' USUAL
EXIST R.O.W.
70'
10' SHLD.
24'
4' SHLD
32'
0.02'/'
Horizontal & Vertical Control
VARIABLE
6:1 USUAL

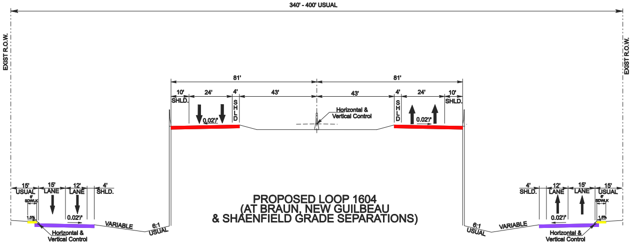
EXISTING LOOP 1604
1.2 MILES SOUTH OF SH 16 TO FM 471


340' - 400' USUAL
EXIST R.O.W.
15' USUAL
6' SDWLK
15' LANE
12' LANE
12' LANE
4' SHLD.
70'
10' SHLD.
24'
4' SHLD
32'
0.02'/'
Horizontal & Vertical Control
VARIABLE
6:1 USUAL

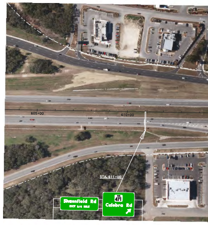
PROPOSED LOOP 1604
SH 16 TO 1.2 MILES SOUTH OF SH 16

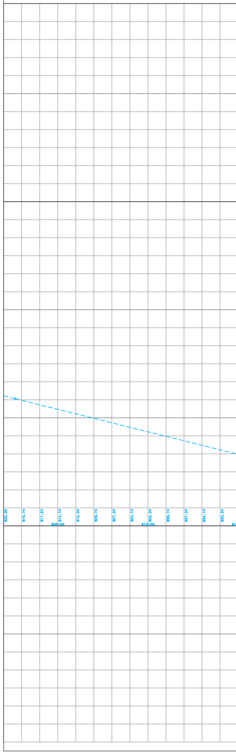

340' - 400' USUAL
EXIST R.O.W.
15' USUAL
6' SDWLK
15' LANE
12' LANE
4' SHLD.
70'
10' SHLD.
24'
4' SHLD
32'
0.02'/'
Horizontal & Vertical Control
VARIABLE
6:1 USUAL

PROPOSED LOOP 1604
1.2 MILES SOUTH OF SH 16
TO FM 471

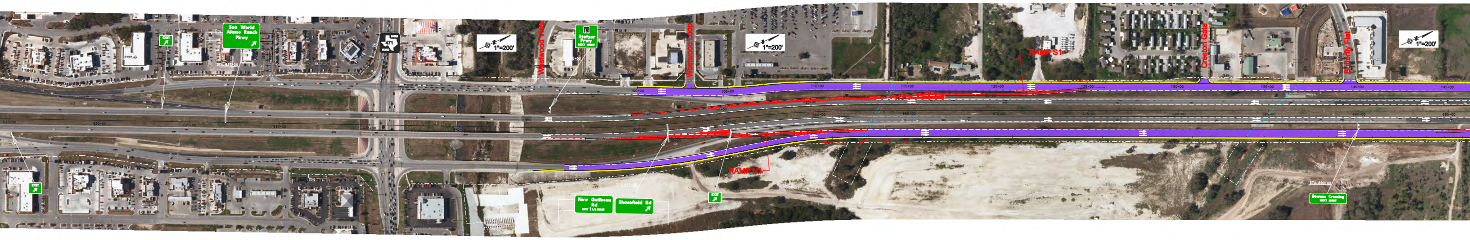

340' - 400' USUAL
EXIST R.O.W.
81'
10' SHLD.
24'
4' SHLD
43'
0.02'/'
Horizontal & Vertical Control
15' USUAL
6' SDWLK
15' LANE
12' LANE
4' SHLD.
VARIABLE
6:1 USUAL

PROPOSED LOOP 1604
(AT BRAUN, NEW GUILBEAU
& SHAENFIELD GRADE SEPARATIONS)


605+00
610+00
STA. 611+00
Shaenfield Rd
EXIT 3/4 MILE
471
Culebra Rd


605+00
610+00

LEGEND	
🟥	MAIN LANES CONSTRUCTION
🟪	FRONTAGE ROAD CONSTRUCTION
🟨	SIDEWALKS
▬	EXISTING RIGHT OF WAY LINE
―	CONTROL OF ACCESS LINE


EXIT
Sea World Alamo Ranch Pkwy
471
FARM ROAD
1"=200'
Westwood Vista
Stotzer Frwy
NEXT RIGHT
Westwood Loop
RAMP S1
Creston Gate
Butterfly Flat
RAMP N1
New Guilbeau Rd
EXIT 1 1/2 MILES
Shaenfield Rd
Bowens Crossing
NEXT RIGHT
STA. 627+00
STA. 651+55
STA. 690+00
625+00
630+00
635+00
640+00
645+00
650+00
655+00
670+00
675+00
680+00
685+00
690+00
695+00
100+00
105+00
120+00
125+00
130+00
135+00
140+00
145+00
150+00

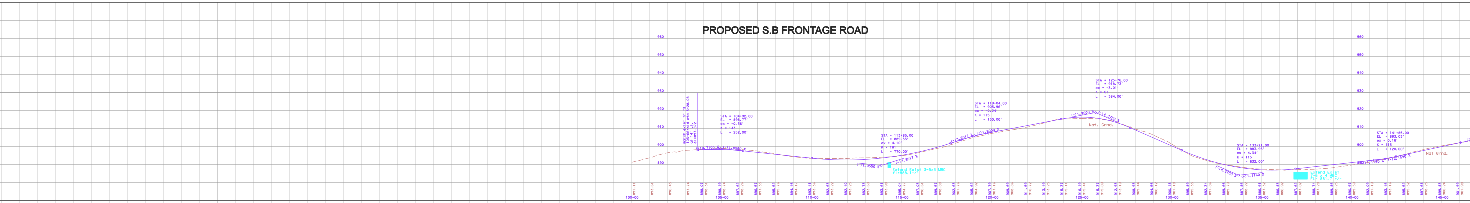
LOOP 1604 CENTERLINE

P.I. Station 649+04.25 X 2,063,307.1520 Y 13,730,801.7060
Delta = 6 ° 42' 06.63" (LT)
Degree = 0 ° 44' 59.99"
Tangent = 447.3013
Length = 893.5824
Radius = 7,639.4683
External = 13.0838
Long Chord = 893.0731
Mid. Ord. = 13.0615
P.C. Station 644+56.95 X 2,063,121.9711 Y 13,730,394.5371
P.T. Station 653+50.53 X 2,063,443.5499 Y 13,731,227.7037
Superelevation Rate = 2.808%

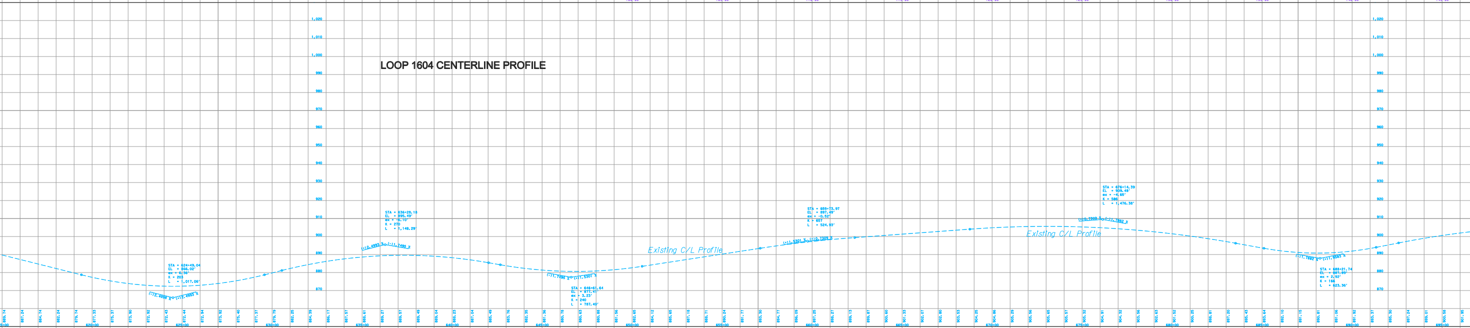
LOOP 1604 CENTERLINE

P.I. Station 659+49.16 X 2,063,626.0920 Y 13,731,797.8190
Delta = 5 ° 49' 52.88" (RT)
Degree = 0 ° 44' 59.99"
Tangent = 389.0946
Length = 777.5173
Radius = 7,639.4683
External = 9.9023
Long Chord = 777.1818
Mid. Ord. = 9.8895
P.C. Station 655+60.06 X 2,063,507.4434 Y 13,731,427.2558
P.T. Station 663+37.58 X 2,063,781.7761 Y 13,732,154.4099
Superelevation Rate = 2.808%

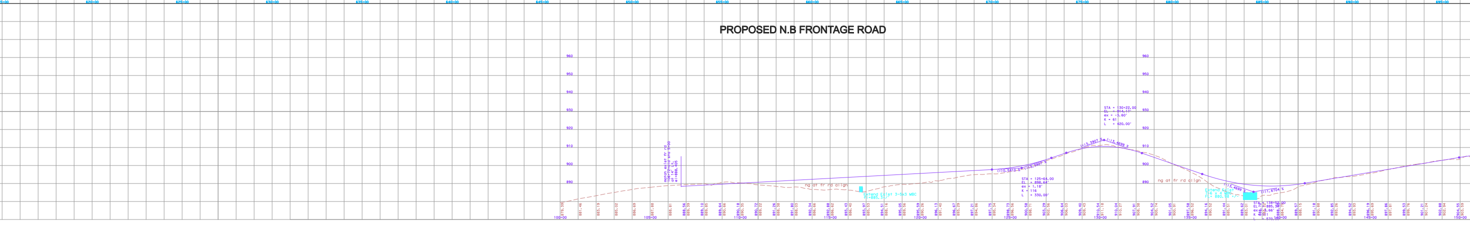
PROPOSED S.B FRONTAGE ROAD



LOOP 1604 CENTERLINE PROFILE

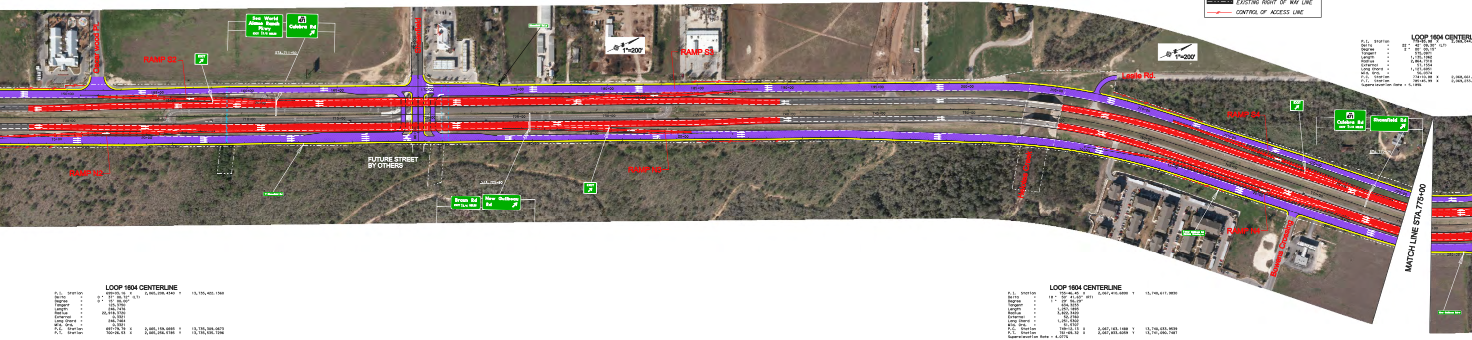


PROPOSED N.B FRONTAGE ROAD



LEGEND
- 🟥 MAIN LANES CONSTRUCTION
- 🟪 FRONTAGE ROAD CONSTRUCTION
- 🟨 SIDEWALKS
- EXISTING RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE

LEGEND
- 🟥 MAIN LANES CONSTRUCTION
- 🟪 FRONTAGE ROAD CONSTRUCTION
- 🟨 SIDEWALKS
- EXISTING RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE


Dove Wood Pl
RAMP S2
Sea World Alamo Ranch Pkwy EXIT 1/4 MILES
471 Culebra Rd
EXIT
STA. 711+50
Shaenfield Rd
1"=200'
RAMP S3
Leslie Rd.
RAMP S4
Culebra Rd EXIT 1 1/4 MILES
Shaenfield Rd
RAMP N2
FUTURE STREET BY OTHERS
Braun Rd EXIT 1/4 MILES
New Guilbeau Rd
RAMP N3
Huesta Creek
RAMP N4
Bowens Crossing
MATCH LINE STA 775+00

LOOP 1604 CENTERLINE

P.I. Station	699+03.16	X	2,065,208.4340	Y	13,735,422.1360
Delta =	0° 37' 00.72" (LT)				
Degree =	0° 15' 00.00"				
Tangent =	123.3750				
Length =	246.7476				
Radius =	22,918.3720				
External =	0.3321				
Long Chord =	246.7464				
Mid. Ord. =	0.3321				
P.C. Station	697+79.79	X	2,065,159.0693	Y	13,735,309.0673
P.T. Station	700+26.53	X	2,065,256.5785	Y	13,735,535.7296

LOOP 1604 CENTERLINE

P.I. Station	755+46.45	X	2,067,410.6890	Y	13,740,617.9830
Delta =	18° 50' 41.63" (RT)				
Degree =	1° 29' 56.29"				
Tangent =	634.3233				
Length =	1,257.1893				
Radius =	3,822.3420				
External =	52.2760				
Long Chord =	1,251.5302				
Mid. Ord. =	51.5707				
P.C. Station	749+12.13	X	2,067,163.1488	Y	13,740,033.9539
P.T. Station	761+69.32	X	2,067,833.6059	Y	13,741,090.7487

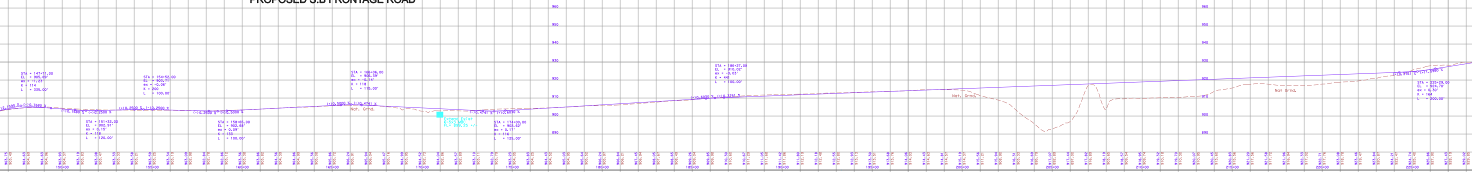
Superelevation Rate = 4.077%

LOOP 1604 CENTERL

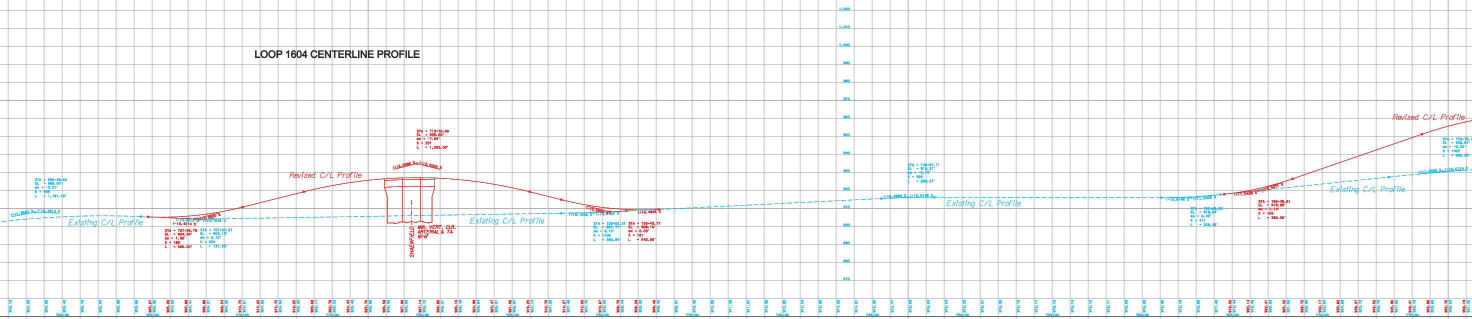
P.I. Station	779+85.98	X	2,069,044.
Delta =	22° 42' 09.30" (LT)		
Degree =	2° 00' 00.15"		
Tangent =	575.0971		
Length =	1,135.1062		
Radius =	2,864.7310		
External =	57.1554		
Long Chord =	1,127.6951		
Mid. Ord. =	56.0374		
P.C. Station	774+10.88	X	2,068,661.
P.T. Station	785+45.99	X	2,069,233.

Superelevation Rate = 5.189%

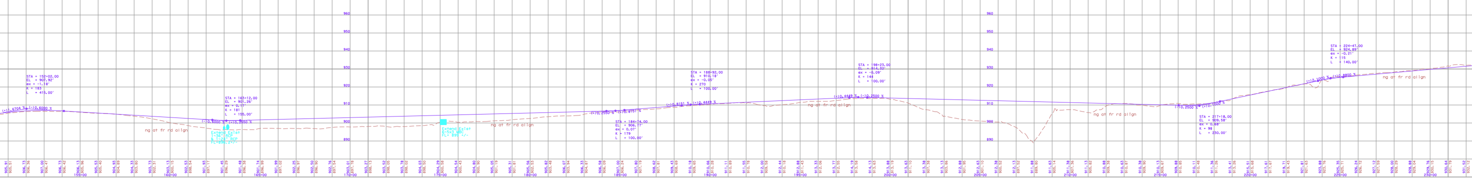
PROPOSED S.B FRONTAGE ROAD

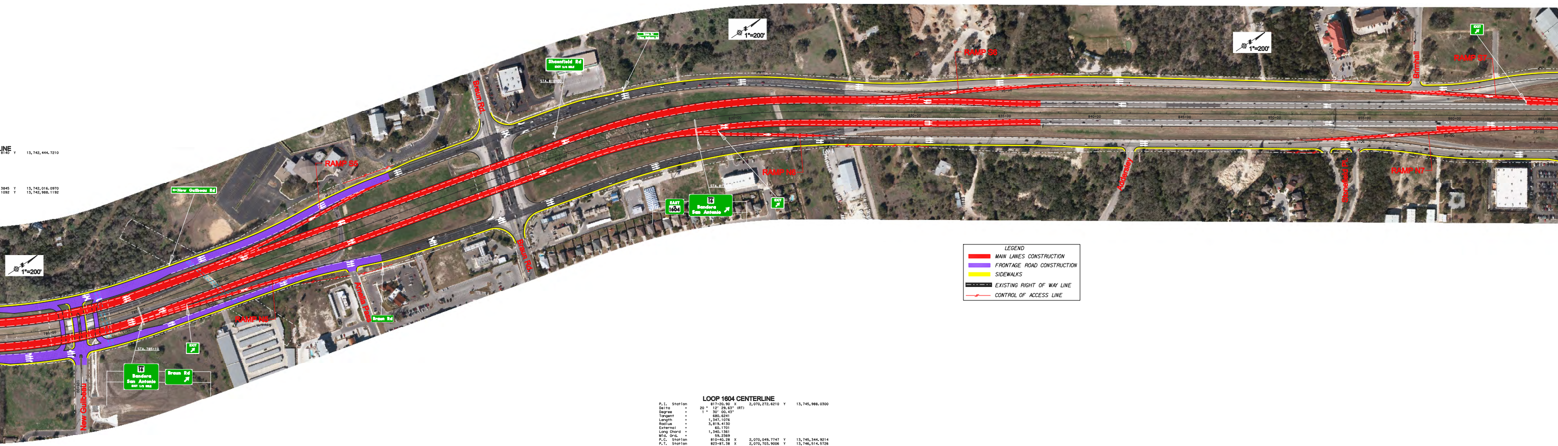


LOOP 1604 CENTERLINE PROFILE



PROPOSED N.B FRONTAGE ROAD




LEGEND
🟥 MAIN LANES CONSTRUCTION
🟪 FRONTAGE ROAD CONSTRUCTION
🟨 SIDEWALKS
EXISTING RIGHT OF WAY LINE
CONTROL OF ACCESS LINE
1"=200'
RAMP S3
RAMP S2
RAMP S6
RAMP N6
RAMP N7
RAMP N5
Shaenfield Rd
New Guilbeau Rd
Braun Rd
Bandera San Antonio
New Guilbeau

LOOP 1604 CENTERLINE

```
P.I.  Station         817+20.90  X     2,070,272.6210  Y     13,745,988.0300
Delta        =      20 °  12' 29.63" (RT)
Degree       =       1 °  30' 00.43"
Tangent      =           680.6241
Length       =         1,347.1076
Radius       =         3,819.4130
External     =            60.1701
Long Chord   =         1,340.1361
Mid. Ord.    =            59.2369
P.C.  Station         810+40.28  X     2,070,049.7747  Y     13,745,344.9214
P.T.  Station         823+87.38  X     2,070,703.9006  Y     13,746,514.5726
Superelevation Rate = 4.08%
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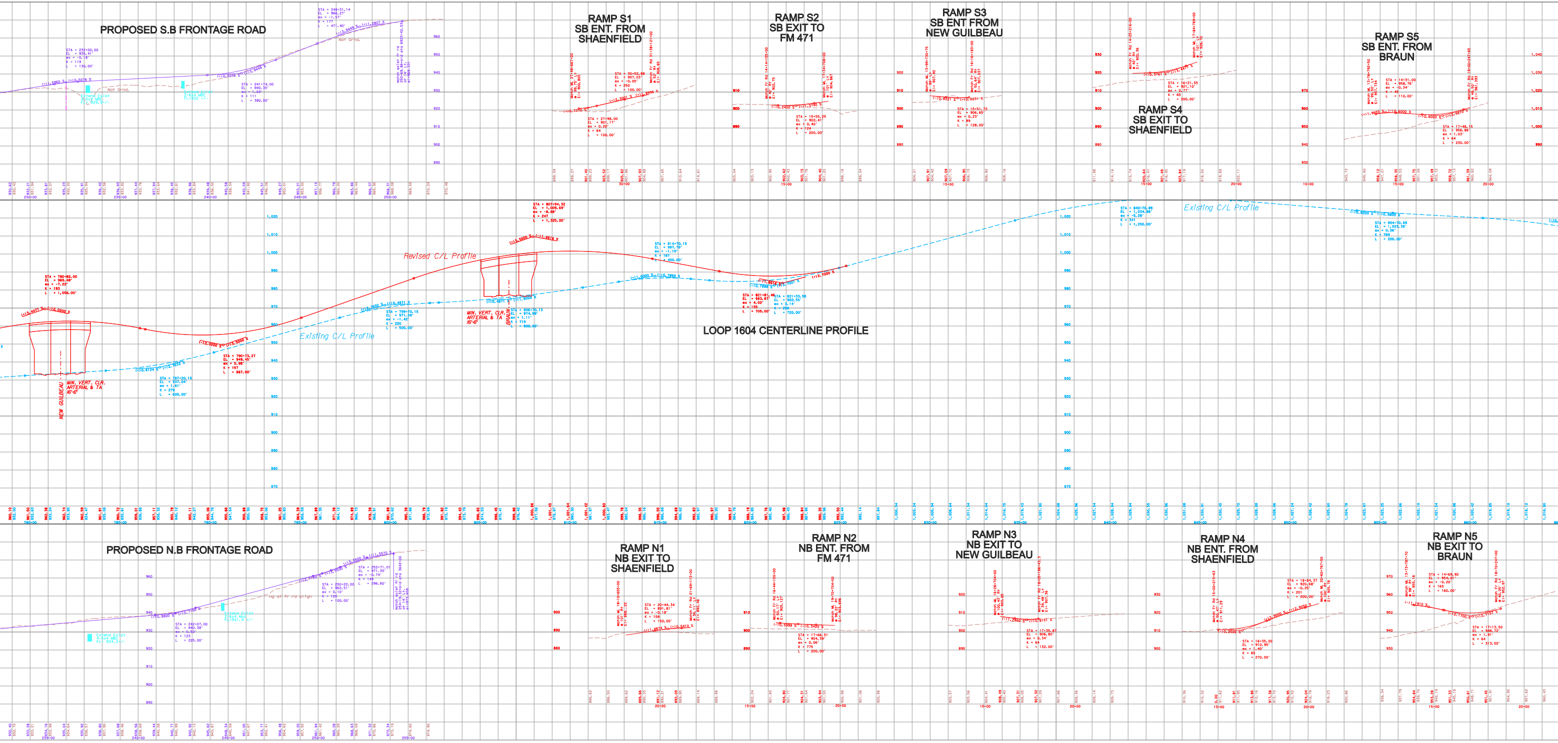
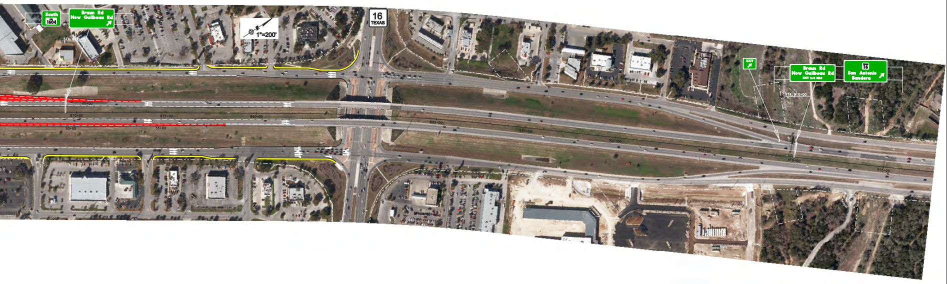
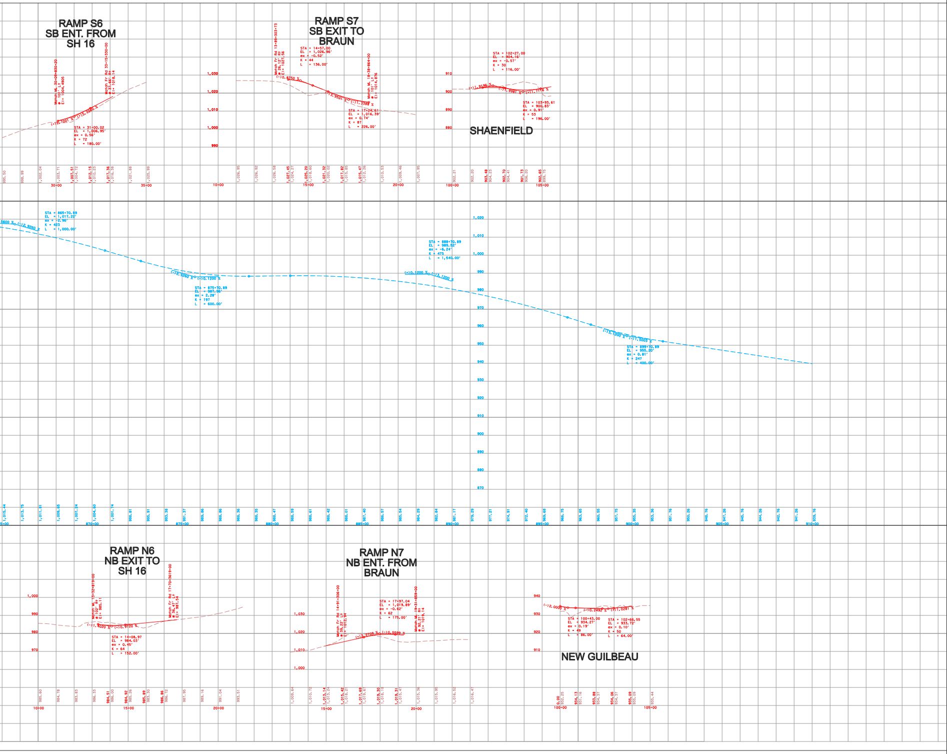

PROPOSED S.B FRONTAGE ROAD
RAMP S1
SB ENT. FROM
SHAENFIELD
RAMP S2
SB EXIT TO
FM 471
RAMP S3
SB ENT FROM
NEW GUILBEAU
RAMP S4
SB EXIT TO
SHAENFIELD
RAMP S5
SB ENT. FROM
BRAUN
Revised C/L Profile
Existing C/L Profile
LOOP 1604 CENTERLINE PROFILE
MIN. VERT. CLR.
ARTERIAL & TA
16'-6"
NEW GUILBEAU
BRAUN
PROPOSED N.B FRONTAGE ROAD
RAMP N1
NB EXIT TO
SHAENFIELD
RAMP N2
NB ENT. FROM
FM 471
RAMP N3
NB EXIT TO
NEW GUILBEAU
RAMP N4
NB ENT. FROM
SHAENFIELD
RAMP N5
NB EXIT TO
BRAUN


South
1604
Braun Rd
New Guilbeau Rd
1"=200'
16
TEXAS
EXIT
Braun Rd
New Guilbeau Rd
EXIT 1/4 MILE
San Antonio
Bandera
870+00
875+00
880+00
890+00
895+00
900+00
905+00
910+00
915+00
STA. 910+00

LEGEND	
🟥	MAIN LANES CONSTRUCTION
🟪	FRONTAGE ROAD CONSTRUCTION
🟨	SIDEWALKS
▬ ▬	EXISTING RIGHT OF WAY LINE
—⫽—	CONTROL OF ACCESS LINE

LOOP 1604 CENTERLINE

P.I. Station		888+06.84	X	2,074,771.6090	Y	13,751,480.7750
Delta	=	5 ° 56' 17.21" (RT)				
Degree	=	0 ° 29' 59.96"				
Tangent	=	594.3580				
Length	=	1,187.6517				
Radius	=	11,459.4370				
External	=	15.4032				
Long Chord	=	1,187.1203				
Mid. Ord.	=	15.3825				
P.C. Station		882+12.48	X	2,074,394.9922	Y	13,751,020.9694
P.T. Station		894+00.13	X	2,075,193.7738	Y	13,751,899.1508



PROPOSED NB FRONTAGE ROAD

```
POT Station 100+00                X    2,063,389.0844 Y   13,730,418.5669

P.I.  Station          104+23.76  X      2,063,564.5190  Y      13,730,804.3099
Delta        =      12 °  14' 59.35" (LT)
Degree       =       1 °  27' 03.22"
Tangent      =             423.7629
Length       =             844.2949
Radius       =           3,949.0000
External     =              22.6717
Long Chord   =             842.6878
Mid. Ord.    =              22.5423
P.C.  Station          100+00.00  X      2,063,389.0844  Y      13,730,418.5669
P.T.  Station          108+44.29  X      2,063,654.1143  Y      13,731,218.4931
Superelevation Rate = 2.431%

P.I.  Station          114+14.37  X      2,063,774.6448  Y      13,731,775.6835
Delta        =      11 °  22' 46.44" (RT)
Degree       =       2 °  00' 00.00"
Tangent      =             285.4280
Length       =             568.9783
Radius       =           2,864.7890
External     =              14.1839
Long Chord   =             568.0436
Mid. Ord.    =              14.1141
P.C.  Station          111+28.94  X      2,063,714.2973  Y      13,731,496.7080
P.T.  Station          116+97.92  X      2,063,888.8500  Y      13,732,037.2678
Superelevation Rate = 3.262%

P.I.  Station          157+93.71  X      2,065,527.6515  Y      13,735,790.9041
Delta        =       0 °  36' 57.54" (LT)
Degree       =       0 °  30' 00.00"
Tangent      =              61.5989
Length       =             123.1966
Radius       =          11,459.1560
External     =               0.1656
Long Chord   =             123.1960
Mid. Ord.    =               0.1656
P.C.  Station          157+32.11  X      2,065,503.0046  Y      13,735,734.4510
P.T.  Station          158+55.31  X      2,065,551.6901  Y      13,735,847.6189

P.I.  Station          197+12.86  X      2,067,057.0742  Y      13,739,399.3135
Delta        =       2 °  12' 42.74" (RT)
Degree       =       1 °  00' 00.00"
Tangent      =             110.6073
Length       =             221.1871
Radius       =           5,729.5780
External     =               1.0675
Long Chord   =             221.1734
Mid. Ord.    =               1.0673
P.C.  Station          196+02.25  X      2,067,013.9104  Y      13,739,297.4760
P.T.  Station          198+23.44  X      2,067,104.1362  Y      13,739,499.4091

P.I.  Station          210+86.15  X      2,067,641.4029  Y      13,740,642.1161
Delta        =      16 °  24' 08.15" (RT)
Degree       =       1 °  30' 28.02"
Tangent      =             547.6650
Length       =           1,087.8394
Radius       =           3,800.0000
External     =              39.2626
Long Chord   =           1,084.1286
Mid. Ord.    =              38.8610
P.C.  Station          205+38.48  X      2,067,408.3784  Y      13,740,146.4987
P.T.  Station          216+26.32  X      2,068,004.8960  Y      13,741,051.7620
Superelevation Rate = 2.52%

P.I.  Station          228+20.57  X      2,068,797.5351  Y      13,741,945.0422
Delta        =       3 °  02' 11.89" (LT)
Degree       =       0 °  42' 49.21"
Tangent      =             212.7980
Length       =             425.4964
Radius       =           8,028.3360
External     =               2.8197
Long Chord   =             425.4466
Mid. Ord.    =               2.8187
P.C.  Station          226+07.77  X      2,068,656.2980  Y      13,741,785.8723
P.T.  Station          230+33.27  X      2,068,930.1419  Y      13,742,111.4706

P.I.  Station          235+23.86  X      2,069,235.8593  Y      13,742,495.1618
Delta        =      19 °  26' 06.74" (LT)
Degree       =       2 °  00' 00.00"
Tangent      =             490.5933
Length       =             971.7603
Radius       =           2,864.7890
External     =              41.7033
Long Chord   =             967.1082
Mid. Ord.    =              41.1050
P.C.  Station          230+33.27  X      2,068,930.1421  Y      13,742,111.4709
P.T.  Station          240+05.03  X      2,069,396.4867  Y      13,742,958.7139
Superelevation Rate = 3.262%

P.I.  Station          249+27.70  X      2,069,698.5844  Y      13,743,830.5329
Delta        =       8 °  12' 02.90" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =             136.9139
Length       =             273.3602
Radius       =           1,909.8593
External     =               4.9012
Long Chord   =             273.1269
Mid. Ord.    =               4.8887
P.C.  Station          247+90.79  X      2,069,653.7568  Y      13,743,701.1655
P.T.  Station          250+64.15  X      2,069,761.4069  Y      13,743,952.1830
Superelevation Rate = 4.535%

P.I.  Station          253+76.39  X      2,069,904.6759  Y      13,744,229.6102
Delta        =       5 °  51' 49.27" (LT)
Degree       =       3 °  00' 00.00"
Tangent      =              97.8135
Length       =             195.4562
Radius       =           1,909.8593
External     =               2.5031
Long Chord   =             195.3709
Mid. Ord.    =               2.4998
P.C.  Station          252+78.57  X      2,069,859.7945  Y      13,744,142.7014
P.T.  Station          254+74.03  X      2,069,940.4437  Y      13,744,320.6495
Superelevation Rate = 4.535%

POT Station 256+05.75             X    2,069,988.6103 Y   13,744,443.2469
```

PROPOSED SB FRONTAGE ROAD

```
POT Station 100+00                X    2,063,129.0944 Y   13,730,970.7304

P.I.  Station          105+07.77  X      2,063,339.3113  Y      13,731,432.9470
Delta        =       6 °  54' 19.16" (LT)
Degree       =       2 °  00' 27.22"
Tangent      =             172.1914
Length       =             343.9658
Radius       =           2,854.0000
External     =               5.1897
Long Chord   =             343.7577
Mid. Ord.    =               5.1803
P.C.  Station          103+35.58  X      2,063,268.0247  Y      13,731,276.2049
P.T.  Station          106+79.55  X      2,063,391.2358  Y      13,731,597.1229
Superelevation Rate = 3.275%

P.I.  Station          108+41.87  X      2,063,440.1837  Y      13,731,751.8874
Delta        =       6 °  02' 05.38" (RT)
Degree       =       2 °  00' 27.22"
Tangent      =             150.4416
Length       =             300.6050
Radius       =           2,854.0000
External     =               3.9623
Long Chord   =             300.4661
Mid. Ord.    =               3.9568
P.C.  Station          106+91.43  X      2,063,394.8179  Y      13,731,608.4489
P.T.  Station          109+92.03  X      2,063,500.3783  Y      13,731,889.7616
Superelevation Rate = 3.275%

P.I.  Station          141+21.99  X      2,064,752.7352  Y      13,734,758.2556
Delta        =       0 °  07' 02.03" (RT)
Degree       =       0 °  30' 00.00"
Tangent      =              11.7230
Length       =              23.4460
Radius       =          11,459.1560
External     =               0.0060
Long Chord   =              23.4460
Mid. Ord.    =               0.0060
P.C.  Station          141+10.27  X      2,064,748.0446  Y      13,734,747.5118
P.T.  Station          141+33.72  X      2,064,757.4477  Y      13,734,768.9896

P.I.  Station          151+46.46  X      2,065,164.5654  Y      13,735,696.3043
Delta        =       1 °  29' 50.50" (LT)
Degree       =       0 °  30' 00.00"
Tangent      =             149.7446
Length       =             299.4722
Radius       =          11,459.1560
External     =               0.9784
Long Chord   =             299.4637
Mid. Ord.    =               0.9783
P.C.  Station          149+96.72  X      2,065,104.3691  Y      13,735,559.1917
P.T.  Station          152+96.19  X      2,065,221.1583  Y      13,735,834.9430

P.I.  Station          158+99.07  X      2,065,449.0023  Y      13,736,393.1047
Delta        =       0 °  56' 59.10" (RT)
Degree       =       0 °  30' 00.00"
Tangent      =              94.9772
Length       =             189.9500
Radius       =          11,459.1560
External     =               0.3936
Long Chord   =             189.9478
Mid. Ord.    =               0.3936
P.C.  Station          158+04.09  X      2,065,413.1076  Y      13,736,305.1716
P.T.  Station          159+94.04  X      2,065,486.3495  Y      13,736,480.4308

P.I.  Station          205+71.81  X      2,067,286.4381  Y      13,740,689.4304
Delta        =      17 °  50' 34.73" (RT)
Degree       =       2 °  00' 00.00"
Tangent      =             449.7149
Length       =             892.1491
Radius       =           2,864.7890
External     =              35.0833
Long Chord   =             888.5484
Mid. Ord.    =              34.6589
P.C.  Station          201+22.10  X      2,067,109.5995  Y      13,740,275.9432
P.T.  Station          210+14.25  X      2,067,581.4671  Y      13,741,028.8437
Superelevation Rate = 3.262%

P.I.  Station          219+14.67  X      2,068,172.1791  Y      13,741,708.4227
Delta        =       1 °  10' 00.55" (RT)
Degree       =       0 °  30' 00.00"
Tangent      =             116.6860
Length       =             233.3640
Radius       =          11,459.1560
External     =               0.5941
Long Chord   =             233.3600
Mid. Ord.    =               0.5940
P.C.  Station          217+97.99  X      2,068,095.6289  Y      13,741,620.3563
P.T.  Station          220+31.35  X      2,068,250.5067  Y      13,741,794.9121

P.I.  Station          226+85.99  X      2,068,689.9455  Y      13,742,280.1402
Delta        =       9 °  26' 51.89" (LT)
Degree       =       2 °  09' 59.76"
Tangent      =             218.5270
Length       =             436.0633
Radius       =           2,644.5020
External     =               9.0136
Long Chord   =             435.5695
Mid. Ord.    =               8.9830
P.C.  Station          224+67.46  X      2,068,543.2552  Y      13,742,118.1648
P.T.  Station          229+03.53  X      2,068,808.0581  Y      13,742,463.9974
Superelevation Rate = 3.527%

P.I.  Station          232+26.68  X      2,068,982.7232  Y      13,742,735.8856
Delta        =      13 °  36' 19.31" (LT)
Degree       =       2 °  07' 19.44"
Tangent      =             322.0837
Length       =             641.1376
Radius       =           2,700.0000
External     =              19.1429
Long Chord   =             639.6324
Mid. Ord.    =              19.0081
P.C.  Station          229+04.60  X      2,068,808.6388  Y      13,742,464.9013
P.T.  Station          235+45.74  X      2,069,088.1781  Y      13,743,040.2163
Superelevation Rate = 3.46%

P.I.  Station          242+91.07  X      2,069,332.2119  Y      13,743,744.4697
Delta        =       8 °  10' 17.30" (LT)
Degree       =       2 °  00' 00.00"
Tangent      =             204.6338
Length       =             408.5736
Radius       =           2,864.7890
External     =               7.2993
Long Chord   =             408.2274
Mid. Ord.    =               7.2807
P.C.  Station          240+86.44  X      2,069,265.2118  Y      13,743,551.1151
P.T.  Station          244+95.01  X      2,069,371.0491  Y      13,743,945.3842
Superelevation Rate = 3.262%

Curve CPF30
P.I.  Station          248+42.12  X      2,069,436.9261  Y      13,744,286.1829
Delta        =       8 °  10' 10.56" (RT)
Degree       =       1 °  47' 25.78"
Tangent      =             228.5256
Length       =             456.2766
Radius       =           3,200.0000
External     =               8.1496
Long Chord   =             455.8901
Mid. Ord.    =               8.1289
P.C.  Station          246+13.59  X      2,069,393.5546  Y      13,744,061.8107
P.T.  Station          250+69.87  X      2,069,511.7417  Y      13,744,502.1147
Superelevation Rate = 2.94%

POT Station 257+12.41             X    2,069,722.0977 Y   13,745,109.2419
```

PROPOSED NEW GUILBEAU CENTERLINE

```
POT Station 100+00                X    2,068,950.3917 Y   13,742,713.6408

P.I.  Station          101+56.52  X      2,069,092.6834  Y      13,742,648.4378
Delta        =      13 °  56' 00.46" (RT)
Degree       =       5 °  43' 46.48"
Tangent      =             122.1952
Length       =             243.1848
Radius       =           1,000.0000
External     =               7.4382
Long Chord   =             242.5860
Mid. Ord.    =               7.3833
P.C.  Station          100+34.32  X      2,068,981.5959  Y      13,742,699.3420
P.T.  Station          102+77.51  X      2,069,188.2448  Y      13,742,572.2822
Superelevation Rate = 5.1%

POT Station 105+46.45             X    2,069,398.5680 Y   13,742,404.6697
```

PROPOSED SHAENFIELD CENTERLINE

```
POT Station 100+00                X    2,065,636.1252 Y   13,737,455.3317

POT Station 105+49.66             X    2,066,141.3182 Y   13,737,238.7448
```

RAMP N1 PROPOSED NB EXIT TO SHAENFIELD

```
POT Sta. 10+00                    X    2,063,273.5522 Y   13,730,592.1351

P.I.  Station           18+09.56  X      2,063,585.3189  Y      13,731,339.2564
Delta        =       1 °  10' 38.38" (LT)
Degree       =       1 °  00' 00.00"
Tangent      =              58.8685
Length       =             117.7328
Radius       =           5,729.5780
External     =               0.3024
Long Chord   =             117.7307
Mid. Ord.    =               0.3024
P.C.  Station           17+50.69  X      2,063,562.6483  Y      13,731,284.9284
P.T.  Station           18+68.43  X      2,063,606.8684  Y      13,731,394.0388

POT Sta. 24+64.62                 X    2,063,825.1144 Y   13,731,948.8554
```

RAMP N2 PROPOSED NB ENTRANCE FROM FM 471

```
P.I.  Station           10+61.98  X      2,065,154.5882  Y      13,734,998.8928
Delta        =       2 °  28' 44.43" (LT)
Degree       =       2 °  00' 00.00"
Tangent      =              61.9849
Length       =             123.9504
Radius       =           2,864.7890
External     =               0.6705
Long Chord   =             123.9407
Mid. Ord.    =               0.6703
P.C.  Station           10+00.00  X      2,065,129.7869  Y      13,734,942.0860
P.T.  Station           11+23.95  X      2,065,176.9093  Y      13,735,056.7192
Superelevation Rate = 2.708%

P.I.  Station           16+86.19  X      2,065,379.3759  Y      13,735,581.2436
Delta        =       2 °  28' 44.43" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =              41.3232
Length       =              82.6336
Radius       =           1,909.8593
External     =               0.4470
Long Chord   =              82.6271
Mid. Ord.    =               0.4469
P.C.  Station           16+44.87  X      2,065,364.4953  Y      13,735,542.6927
P.T.  Station           17+27.51  X      2,065,395.9102  Y      13,735,619.1149
Superelevation Rate = 3.835%

P.I.  Station           20+10.58  X      2,065,509.1736  Y      13,735,878.5421
Delta        =       3 °  43' 35.79" (LT)
Degree       =       3 °  00' 00.00"
Tangent      =              62.1320
Length       =             124.2203
Radius       =           1,909.8593
External     =               1.0104
Long Chord   =             124.1984
Mid. Ord.    =               1.0098
P.C.  Station           19+48.45  X      2,065,484.3134  Y      13,735,821.6004
P.T.  Station           20+72.67  X      2,065,530.2803  Y      13,735,936.9792
Superelevation Rate = 2.708%

P.I.  Station           23+01.46  X      2,065,608.0043  Y      13,736,152.1703
Delta        =       3 °  06' 38.25" (RT)
Degree       =       2 °  00' 00.00"
Tangent      =              77.7847
Length       =             155.5313
Radius       =           2,864.7890
External     =               1.0558
Long Chord   =             155.5122
Mid. Ord.    =               1.0554
P.C.  Station           22+23.68  X      2,065,581.5803  Y      13,736,079.0113
P.T.  Station           23+79.21  X      2,065,638.3592  Y      13,736,223.7876
Superelevation Rate = 2.708%
```

RAMP N3 PROPOSED NB EXIT TO NEW GUILBEAU

```
P.I.  Station           11+15.16  X      2,066,308.9996  Y      13,737,806.0482
Delta        =       2 °  18' 10.55" (RT)
Degree       =       1 °  00' 00.00"
Tangent      =             115.1621
Length       =             230.2932
Radius       =           5,729.5780
External     =               1.1572
Long Chord   =             230.2777
Mid. Ord.    =               1.1570
P.C.  Station           10+00.00  X      2,066,264.0584  Y      13,737,700.0171
P.T.  Station           12+30.29  X      2,066,358.1652  Y      13,737,910.1878

P.I.  Station           21+60.35  X      2,066,755.2303  Y      13,738,751.2274
Delta        =       2 °  18' 10.55" (LT)
Degree       =       1 °  00' 00.00"
Tangent      =             115.1621
Length       =             230.2932
Radius       =           5,729.5780
External     =               1.1572
Long Chord   =             230.2777
Mid. Ord.    =               1.1570
P.C.  Station           20+45.19  X      2,066,706.0647  Y      13,738,647.0878
P.T.  Station           22+75.48  X      2,066,800.1715  Y      13,738,857.2584
```

RAMP N4 PROPOSED NB ENTRANCE FROM SHAENFIELD

```
POT Sta. 10+00                    X    2,067,645.7539 Y   13,740,622.7530 Sta

P.I.  Station           14+79.48  X      2,067,908.1361  Y      13,741,024.0769
Delta        =       8 °  38' 17.72" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =             144.2442
Length       =             287.9418
Radius       =           1,909.8593
External     =               5.4394
Long Chord   =             287.6692
Mid. Ord.    =               5.4239
P.C.  Station           13+35.24  X      2,067,829.2031  Y      13,740,903.3459
P.T.  Station           16+23.18  X      2,068,004.3069  Y      13,741,131.5831
Superelevation Rate = 3.835%

P.I.  Station           21+54.66  X      2,068,358.6567  Y      13,741,527.6991
Delta        =       3 °  05' 59.60" (LT)
Degree       =       3 °  00' 00.00"
Tangent      =              51.6774
Length       =             103.3296
Radius       =           1,909.8593
External     =               0.6990
Long Chord   =             103.3170
Mid. Ord.    =               0.6988
P.C.  Station           21+02.99  X      2,068,324.2022  Y      13,741,489.1836
P.T.  Station           22+06.31  X      2,068,390.9779  Y      13,741,568.0215
Superelevation Rate = 3.835%

P.I.  Station           24+69.01  X      2,068,555.2787  Y      13,741,772.9948
Delta        =       3 °  05' 59.41" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =              51.6765
Length       =             103.3279
Radius       =           1,909.8593
External     =               0.6990
Long Chord   =             103.3152
Mid. Ord.    =               0.6987
P.C.  Station           24+17.33  X      2,068,522.9580  Y      13,741,732.6731
P.T.  Station           25+20.66  X      2,068,589.7326  Y      13,741,811.5097
Superelevation Rate = 3.835%
```

RAMP N5 PROPOSED NB EXIT TO BRAUN

```
POT Station 10+00                 X    2,069,259.5028 Y   13,742,822.1667

P.I.  Station           19+63.36  X      2,069,620.2754  Y      13,743,715.4228
Delta        =       3 °  22' 17.66" (RT)
Degree       =       0 °  48' 19.18"
Tangent      =             209.3893
Length       =             418.6578
Radius       =           7,114.5800
External     =               3.0806
Long Chord   =             418.5974
Mid. Ord.    =               3.0793
P.C.  Station           17+53.97  X      2,069,541.8603  Y      13,743,521.2709
P.T.  Station           21+72.63  X      2,069,709.9730  Y      13,743,904.6270
POT Station 21+72.65              X    2,069,709.9628 Y   13,743,904.6056
```

RAMP N6 PROPOSED NB EXIT TO SH 16

```
P.I.  Station           11+28.97  X      2,070,375.3653  Y      13,745,907.4472
Delta        =      12 °  51' 09.66" (RT)
Degree       =       5 °  00' 14.39"
Tangent      =             128.9654
Length       =             256.8483
Radius       =           1,145.0000
External     =               7.2400
Long Chord   =             256.3101
Mid. Ord.    =               7.1945
P.C.  Station           10+00.00  X      2,070,316.9421  Y      13,745,792.4741
P.T.  Station           12+56.85  X      2,070,457.8998  Y      13,746,006.5437
Superelevation Rate = 5.565%

P.I.  Station           17+69.65  X      2,070,786.0829  Y      13,746,400.5821
Delta        =       2 °  11' 49.00" (RT)
Degree       =       2 °  00' 00.00"
Tangent      =              54.9303
Length       =             109.8472
Radius       =           2,864.7890
External     =               0.5266
Long Chord   =             109.8404
Mid. Ord.    =               0.5265
P.C.  Station           17+14.72  X      2,070,750.9289  Y      13,746,358.3739
P.T.  Station           18+24.57  X      2,070,822.8291  Y      13,746,441.4117
Superelevation Rate = 2.708%

P.I.  Station           20+73.89  X      2,070,989.6113  Y      13,746,626.7276
Delta        =       2 °  40' 04.51" (LT)
Degree       =       2 °  00' 00.00"
Tangent      =              66.7101
Length       =             133.3960
Radius       =           2,864.7890
External     =               0.7766
Long Chord   =             133.3840
Mid. Ord.    =               0.7764
P.C.  Station           20+07.18  X      2,070,944.9850  Y      13,746,577.1421
P.T.  Station           21+40.57  X      2,071,031.8813  Y      13,746,678.3366
Superelevation Rate = 2.708%
```

RAMP N7 PROPOSED NB ENTRANCE FROM BRAUN

```
P.I.  Station           11+03.66  X      2,072,531.3326  Y      13,748,491.9211
Delta        =       4 °  08' 40.95" (LT)
Degree       =       2 °  00' 00.00"
Tangent      =             103.6629
Length       =             207.2354
Radius       =           2,864.7890
External     =               1.8749
Long Chord   =             207.1902
Mid. Ord.    =               1.8737
P.C.  Station           10+00.00  X      2,072,465.6463  Y      13,748,411.7257
P.T.  Station           12+07.24  X      2,072,591.0510  Y      13,748,576.6543
Superelevation Rate = 2.708%

P.I.  Station           23+31.92  X      2,073,238.9640  Y      13,749,495.9656
Delta        =       4 °  08' 40.95" (RT)
Degree       =       1 °  00' 00.00"
Tangent      =             207.3258
Length       =             414.4708
Radius       =           5,729.5780
External     =               3.7498
Long Chord   =             414.3804
Mid. Ord.    =               3.7474
P.C.  Station           21+24.60  X      2,073,119.5273  Y      13,749,326.4992
P.T.  Station           25+39.07  X      2,073,370.3367  Y      13,749,656.3564

POT Station 32+60.89              X    2,073,827.7211 Y   13,750,214.7700

POT Station 38+61.01              X    2,074,198.6296 Y   13,750,686.5442
```

RAMP S1 PROPOSED SB ENTRANCE FROM SHAENFIELD

```
P.I.  Station           11+33.97  X      2,063,305.4378  Y      13,731,003.3364
Delta        =       4 °  02' 48.92" (LT)
Degree       =       1 °  30' 39.47"
Tangent      =             133.9742
Length       =             267.8369
Radius       =           3,792.0000
External     =               2.3660
Long Chord   =             267.7813
Mid. Ord.    =               2.3645
P.C.  Station           10+00.00  X      2,063,258.0648  Y      13,730,878.0173
P.T.  Station           12+67.84  X      2,063,343.8484  Y      13,731,131.6863
Superelevation Rate = 2.125%

POT Sta. 15+99.28                 X    2,063,438.8725 Y   13,731,449.2111 Sta

P.I.  Station           19+44.01  X      2,063,543.9949  Y      13,731,777.5294
Delta        =       5 °  07' 09.64" (RT)
Degree       =       0 °  44' 34.78"
Tangent      =             344.7370
Length       =             689.0153
Radius       =           7,711.4683
External     =               7.7018
Long Chord   =             688.7861
Mid. Ord.    =               7.6941
P.C.  Station           15+99.28  X      2,063,438.8725  Y      13,731,449.2111
P.T.  Station           22+88.29  X      2,063,677.9941  Y      13,732,095.1578


P.I.  Station           23+52.33  X      2,063,702.8864  Y      13,732,154.1620
Delta        =       3 °  50' 27.47" (LT)
Degree       =       3 °  00' 00.00"
Tangent      =              64.0400
Length       =             128.0321
Radius       =           1,909.8593
External     =               1.0734
Long Chord   =             128.0081
Mid. Ord.    =               1.0728
P.C.  Station           22+88.29  X      2,063,677.9941  Y      13,732,095.1578
P.T.  Station           24+16.32  X      2,063,723.7703  Y      13,732,214.7012
Superelevation Rate = 3.835%

P.I.  Station           27+02.49  X      2,063,817.0910  Y      13,732,485.2233
Delta        =       4 °  33' 10.71" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =              75.9229
Length       =             151.7658
Radius       =           1,909.8593
External     =               1.5085
Long Chord   =             151.7259
Mid. Ord.    =               1.5073
P.C.  Station           26+26.57  X      2,063,792.3320  Y      13,732,413.4509
P.T.  Station           27+78.33  X      2,063,847.4692  Y      13,732,554.8038
Superelevation Rate = 3.835%

P.I.  Station           32+03.10  X      2,064,017.4274  Y      13,732,944.0890
Delta        =       4 °  18' 09.95" (LT)
Degree       =       3 °  00' 00.00"
Tangent      =              71.7465
Length       =             143.4255
Radius       =           1,909.8593
External     =               1.3472
Long Chord   =             143.3918
Mid. Ord.    =               1.3462
P.C.  Station           31+31.35  X      2,063,988.7202  Y      13,732,878.3360
P.T.  Station           32+74.78  X      2,064,041.1203  Y      13,733,011.8105
Superelevation Rate = 3.835%

P.I.  Station           35+62.90  X      2,064,136.2683  Y      13,733,283.7714
Delta        =       4 °  18' 09.95" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =              71.7465
Length       =             143.4255
Radius       =           1,909.8593
External     =               1.3472
Long Chord   =             143.3918
Mid. Ord.    =               1.3462
P.C.  Station           34+91.16  X      2,064,112.5753  Y      13,733,216.0499
P.T.  Station           36+34.58  X      2,064,164.9754  Y      13,733,349.5244
Superelevation Rate = 3.835%
```

RAMP S2 PROPOSED SB EXIT TO FM 471

```
P.I.  Station           10+47.19  X      2,065,176.8443  Y      13,735,663.5245
Delta        =       1 °  53' 15.21" (RT)
Degree       =       2 °  00' 00.00"
Tangent      =              47.1932
Length       =              94.3779
Radius       =           2,864.7890
External     =               0.3887
Long Chord   =              94.3736
Mid. Ord.    =               0.3886
P.C.  Station           10+00.00  X      2,065,158.1649  Y      13,735,620.1854
P.T.  Station           10+94.38  X      2,065,196.9411  Y      13,735,706.2248
Superelevation Rate = 2.708%

P.I.  Station           13+27.28  X      2,065,296.1189  Y      13,735,916.9514
Delta        =       0 °  38' 06.14" (LT)
Degree       =       1 °  00' 00.00"
Tangent      =              31.7523
Length       =              63.5039
Radius       =           5,729.5780
External     =               0.0880
Long Chord   =              63.5036
Mid. Ord.    =               0.0880
P.C.  Station           12+95.52  X      2,065,282.5975  Y      13,735,888.2220
P.T.  Station           13+59.03  X      2,065,309.3210  Y      13,735,945.8289

P.I.  Station           18+26.83  X      2,065,503.8244  Y      13,736,371.2722
Delta        =       1 °  29' 36.44" (RT)
Degree       =       1 °  00' 00.00"
Tangent      =              74.6770
Length       =             149.3455
Radius       =           5,729.5780
External     =               0.4866
Long Chord   =             149.3413
Mid. Ord.    =               0.4866
P.C.  Station           17+52.15  X      2,065,472.7747  Y      13,736,303.3563
P.T.  Station           19+01.49  X      2,065,536.6336  Y      13,736,438.3558

P.I.  Station           21+12.68  X      2,065,629.4190  Y      13,736,628.0703
Delta        =       3 °  05' 33.57" (LT)
Degree       =       2 °  00' 00.00"
Tangent      =              77.3352
Length       =             154.6329
Radius       =           2,864.7890
External     =               1.0436
Long Chord   =             154.6141
Mid. Ord.    =               1.0433
P.C.  Station           20+35.35  X      2,065,595.4419  Y      13,736,558.5988
P.T.  Station           21+89.98  X      2,065,659.5985  Y      13,736,699.2737
Superelevation Rate = 2.708%
```

RAMP S3 PROPOSED SB ENTRANCE FROM NEW GUILBEAU

```
P.I.  Station           10+51.59  X      2,066,234.2820  Y      13,738,055.1405
Delta        =       3 °  05' 41.67" (LT)
Degree       =       3 °  00' 00.00"
Tangent      =              51.5943
Length       =             103.1636
Radius       =           1,909.8593
External     =               0.6968
Long Chord   =             103.1511
Mid. Ord.    =               0.6965
P.C.  Station           10+00.00  X      2,066,214.1477  Y      13,738,007.6370
P.T.  Station           11+03.16  X      2,066,251.8223  Y      13,738,103.6618
Superelevation Rate = 3.835%

P.I.  Station           13+47.92  X      2,066,335.0306  Y      13,738,333.8395
Delta        =       3 °  05' 41.65" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =              51.5943
Length       =             103.1634
Radius       =           1,909.8593
External     =               0.6968
Long Chord   =             103.1509
Mid. Ord.    =               0.6965
P.C.  Station           12+96.33  X      2,066,317.4904  Y      13,738,285.3183
P.T.  Station           13+99.49  X      2,066,355.1649  Y      13,738,381.3429
Superelevation Rate = 3.835%

P.I.  Station           17+24.25  X      2,066,481.9001  Y      13,738,680.3529
Delta        =       3 °  51' 54.25" (LT)
Degree       =       3 °  00' 00.00"
Tangent      =              64.4423
Length       =             128.8357
Radius       =           1,909.8593
External     =               1.0869
Long Chord   =             128.8113
Mid. Ord.    =               1.0863
P.C.  Station           16+59.81  X      2,066,456.7520  Y      13,738,621.0201
P.T.  Station           17+88.64  X      2,066,502.9916  Y      13,738,741.2458
Superelevation Rate = 3.835%

P.I.  Station           20+82.22  X      2,066,599.0784  Y      13,739,018.6564
Delta        =       4 °  03' 02.44" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =              67.5394
Length       =             135.0226
Radius       =           1,909.8593
External     =               1.1938
Long Chord   =             134.9945
Mid. Ord.    =               1.1931
P.C.  Station           20+14.68  X      2,066,576.9732  Y      13,738,954.8369
P.T.  Station           21+49.70  X      2,066,625.6365  Y      13,739,080.7550
Superelevation Rate = 3.835%
```

RAMP S4 PROPOSED SB EXIT TO SHAENFIELD

```
P.I.  Station           10+68.32  X      2,067,750.9105  Y      13,741,185.6706
Delta        =       2 °  43' 55.85" (RT)
Degree       =       2 °  00' 00.00"
Tangent      =              68.3175
Length       =             136.6091
Radius       =           2,864.7890
External     =               0.8145
Long Chord   =             136.5961
Mid. Ord.    =               0.8142
P.C.  Station           10+00.00  X      2,067,706.0918  Y      13,741,134.1093
P.T.  Station           11+36.61  X      2,067,798.1361  Y      13,741,235.0368
Superelevation Rate = 2.708%

P.I.  Station           18+93.22  X      2,068,321.1529  Y      13,741,781.7616
Delta        =       0 °  59' 04.50" (RT)
Degree       =       2 °  00' 00.00"
Tangent      =              24.6152
Length       =              49.2292
Radius       =           2,864.7890
External     =               0.1057
Long Chord   =              49.2286
Mid. Ord.    =               0.1057
P.C.  Station           18+68.60  X      2,068,304.1372  Y      13,741,763.9746
P.T.  Station           19+17.83  X      2,068,338.4716  Y      13,741,799.2535
Superelevation Rate = 2.708%

P.I.  Station           21+76.62  X      2,068,520.5518  Y      13,741,983.1543
Delta        =       2 °  54' 01.70" (LT)
Degree       =       1 °  13' 28.64"
Tangent      =             118.4486
Length       =             236.8466
Radius       =           4,678.6540
External     =               1.4991
Long Chord   =             236.8213
Mid. Ord.    =               1.4987
P.C.  Station           20+58.17  X      2,068,437.2137  Y      13,741,898.9828
P.T.  Station           22+95.02  X      2,068,599.5240  Y      13,742,071.4349
```

RAMP S5 PROPOSED SB ENTRANCE FROM BRAUN

```
POT Sta. 10+00                    X    2,069,262.3006 Y   13,743,325.8635

P.I.  Station           12+98.56  X      2,069,360.0546  Y      13,743,607.9700
Delta        =       8 °4  11' 10.05" (LT)
Degree       =       1 °  25' 56.62"
Tangent      =             286.2367
Length       =             571.4993
Radius       =           4,000.0000
External     =              10.2284
Long Chord   =             571.0133
Mid. Ord.    =              10.2023
P.C.  Station           10+12.33  X      2,069,266.3365  Y      13,743,337.5104
P.T.  Station           15+83.83  X      2,069,414.3072  Y      13,743,889.0182
Superelevation Rate = 2.000%

P.I.  Station           21+71.45  X      2,069,525.6847  Y      13,744,465.9940
Delta        =       8 °  11' 03.31" (RT)
Degree       =       3 °  00' 00.00"
Tangent      =             136.6366
Length       =             272.8084
Radius       =           1,909.8593
External     =               4.8814
Long Chord   =             272.5765
Mid. Ord.    =               4.8690
P.C.  Station           20+34.82  X      2,069,499.7870  Y      13,744,331.8341
P.T.  Station           23+07.62  X      2,069,570.4173  Y      13,744,595.1007
Superelevation Rate = 3.835%
```

RAMP S6 PROPOSED SB ENTRANCE FROM SH16

```
POT Station 10+00                 X    2,069,982.6882 Y   13,745,368.1678

P.I.  Station           14+55.10  X      2,070,131.6961  Y      13,745,798.1874
Delta        =      11 °  36' 31.10" (RT)
Degree       =       1 °  43' 42.17"
Tangent      =             336.9779
Length       =             671.6487
Radius       =           3,315.0000
External     =              17.0833
Long Chord   =             670.5005
Mid. Ord.    =              16.9957
P.C.  Station           11+18.13  X      2,070,021.3646  Y      13,745,479.7835
P.T.  Station           17+89.78  X      2,070,303.8418  Y      13,746,087.8768
Superelevation Rate = 2.411%

P.I.  Station           20+83.26  X      2,070,453.7702  Y      13,746,340.1788
Delta        =       8 °  35' 58.53" (RT)
Degree       =       1 °  28' 05.57"
Tangent      =             293.4099
Length       =             585.7178
Radius       =           3,902.4130
External     =              11.0147
Long Chord   =             585.1682
Mid. Ord.    =              10.9837
P.C.  Station           17+89.85  X      2,070,303.8813  Y      13,746,087.9434
P.T.  Station           23+75.57  X      2,070,639.6904  Y      13,746,567.1658
Superelevation Rate = 2.059%

P.I.  Station           28+10.10  X      2,070,915.0321  Y      13,746,903.3263
Delta        =       4 °  55' 41.34" (LT)
Degree       =       2 °  00' 00.00"
Tangent      =             123.2798
Length       =             246.4075
Radius       =           2,864.7890
External     =               2.6513
Long Chord   =             246.3315
Mid. Ord.    =               2.6489
P.C.  Station           26+86.82  X      2,070,836.9155  Y      13,746,807.9549
P.T.  Station           29+33.23  X      2,070,984.6669  Y      13,747,005.0558
Superelevation Rate = 2.708%

P.I.  Station           38+87.20  X      2,071,523.5208  Y      13,747,792.2675
Delta        =       5 °  58' 19.81" (RT)
Degree       =       1 °  00' 00.00"
Tangent      =             298.8791
Length       =             597.2168
Radius       =           5,729.5780
External     =               7.7901
Long Chord   =             596.9465
Mid. Ord.    =               7.7795
P.C.  Station           35+88.32  X      2,071,354.6984  Y      13,747,545.6348
P.T.  Station           41+85.54  X      2,071,717.0879  Y      13,748,019.9964
```

RAMP S7 PROPOSED SB EXIT TO BRAUN

```
POT Sta. 10+00                    X    2,072,606.9648 Y   13,749,060.0798 Sta

P.I.  Station           10+82.25  X      2,072,660.4409  Y      13,749,122.5767
Delta        =       1 °  38' 41.81" (RT)
Degree       =       1 °  00' 00.00"
Tangent      =              82.2531
Length       =             164.4948
Radius       =           5,729.5780
External     =               0.5904
Long Chord   =             164.4892
Mid. Ord.    =               0.5903
P.C.  Station           10+00.00  X      2,072,606.9648  Y      13,749,060.0798
P.T.  Station           11+64.49  X      2,072,715.6891  Y      13,749,183.5129

P.I.  Station           26+55.29  X      2,073,717.0313  Y      13,750,287.9463
Delta        =       2 °  52' 37.49" (LT)
Degree       =       1 °  00' 00.00"
Tangent      =             143.8842
Length       =             287.7080
Radius       =           5,729.5780
External     =               1.8064
Long Chord   =             287.6777
Mid. Ord.    =               1.8058
P.C.  Station           25+11.40  X      2,073,620.3864  Y      13,750,181.3516
P.T.  Station           27+99.11  X      2,073,808.2039  Y      13,750,399.2577
```