

FHWA REGION	STATE	PROJECT	1
5	OHIO		57

BEL-7-17.99
NH-1(197)

DESIGN DESIGNATION

CURRENT YEAR (1996) ADT ----- 15,240
 DESIGN YEAR (2006) ADT ----- 17,520
 DHV (2006) ----- 1,752
 D ----- 55%
 T ----- 5.0%
 DESIGN SPEED ----- 55 MPH
 LEGAL SPEED LIMIT ----- 55 MPH
 FUNCTIONAL CLASSIFICATION--ARTERIAL (RURAL AND URBAN)

DESIGN EXCEPTIONS APPROVAL DATE
 GRADED SHOULDER WIDTH 5/25/93
 STOPPING SIGHT DISTANCE 5/25/93
 VERTICAL ALIGNMENT 5/25/93

CONVENTIONAL SIGNS

COUNTY LINE -----
 TOWNSHIP LINE -----
 SECTION LINE -----
 CORPORATION LINE OR
 FENCE (EXISTING)
 (PROPOSED)
 CENTERLINE
 TREES STUMPS
 (TO BE REMOVED)
 UTILITY POLES:
 TELEPHONE POWER & LIGHT

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LINE DATA

BEGIN PROJECT = STA. 49+87.20
 END PROJECT = STA. 157+69.00
 TOTAL PROJECT LENGTH = 10,781.80 LIN. FT. OR 2.04 MILES.

ADD FOR WORK:

STA. 43+00.00 TO STA. 49+87.20 = 687.20 LIN. FT.
 STA. 157+69.00 TO STA. 169+12.75 = 1143.75 LIN. FT.

NET LENGTH OF WORK = 12612.75 LIN. FT. OR 2.39 MILES.

PROJECT: BEL-7-17.99 BELMONT COUNTY
 DATE OF LETTING 19_____, CONTRACT NO.

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
 BEL-7-17.99
 VILLAGE OF BRIDGEPORT
 PULTNEY & PEASE TOWNSHIPS
 BELMONT COUNTY

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

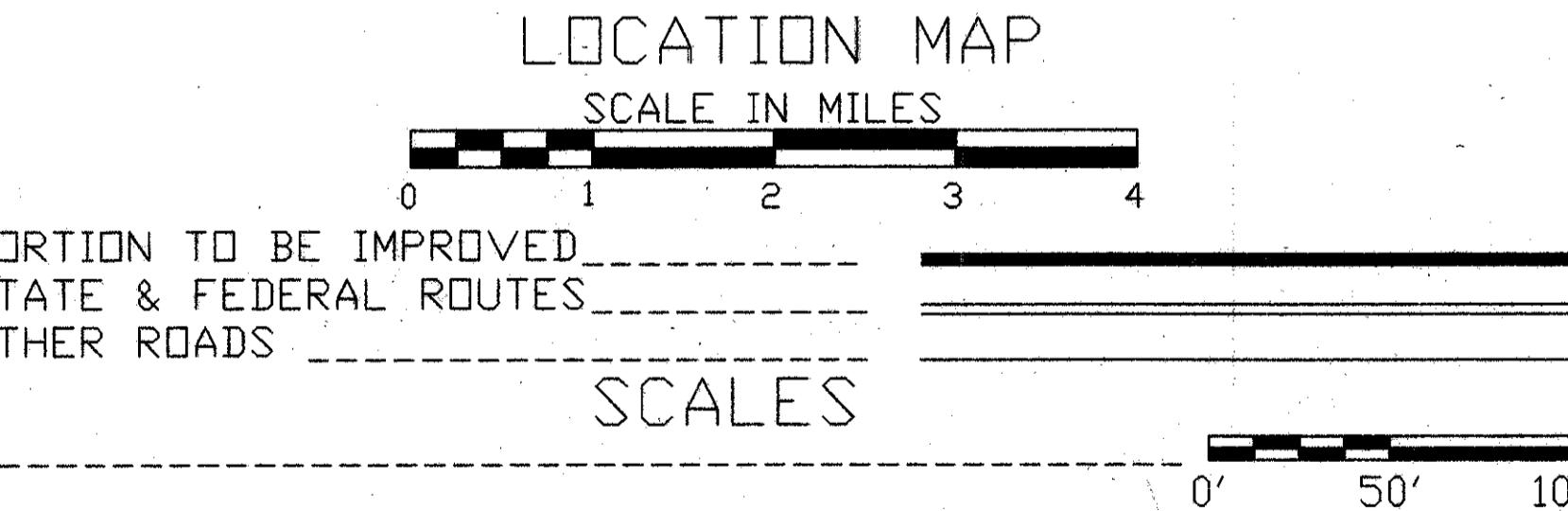
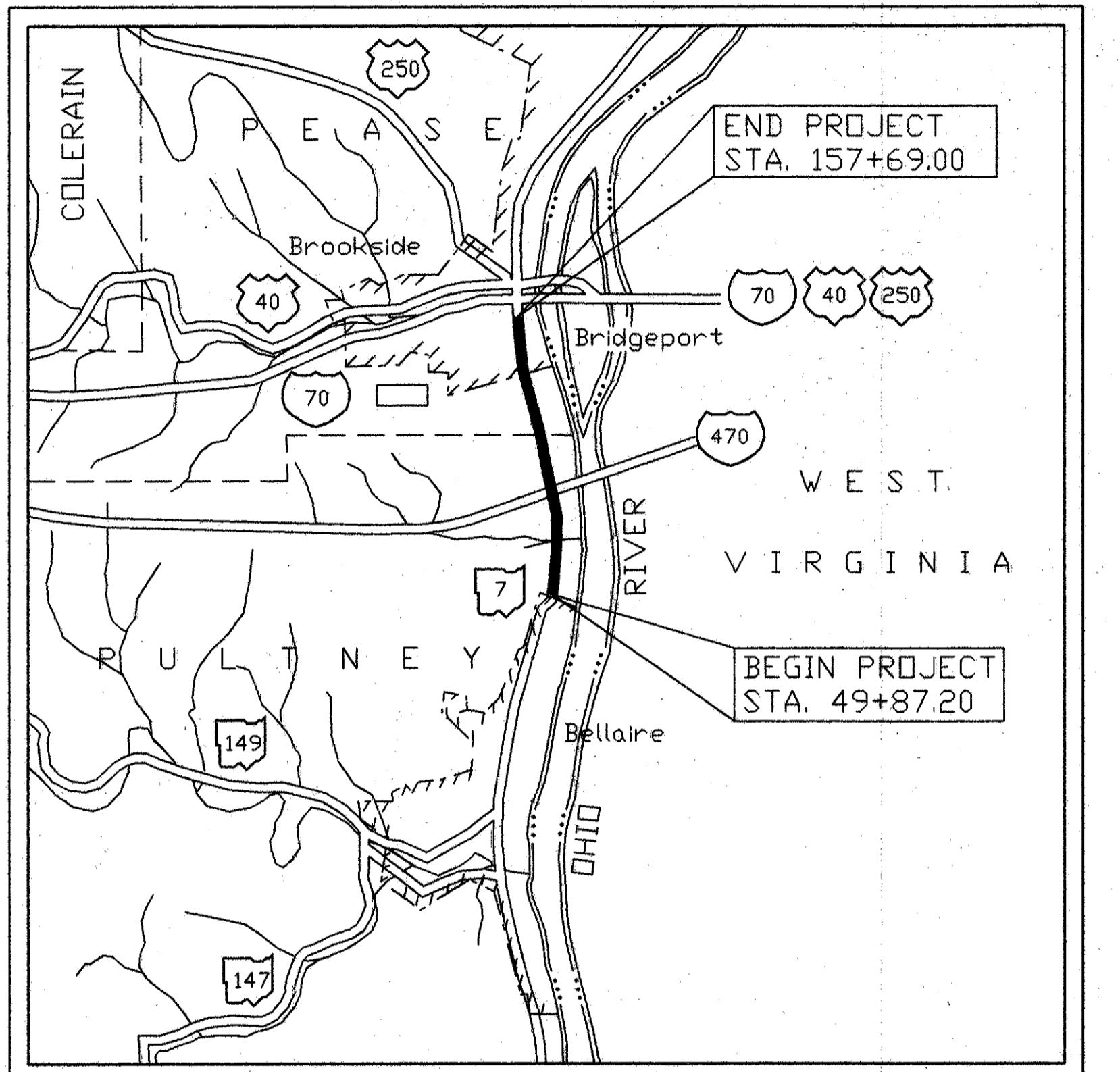
1995 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved
 Date 3-4-96 District Deputy Director of Transportation

Approved
 Date 3-14-96 Director, Department of Transportation

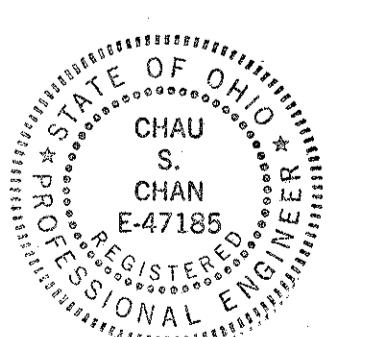


SUPPLEMENTAL SPECIFICATIONS	
802	3-23-95
815	7-17-95
820	6-14-95
910	7-17-95
931	7-17-95
944	12-7-95

PREPARED BY:
 CENTRAL
 ENGINEERING, INC.
 CIVIL & STRUCTURAL ENGINEERS
 22700 ROYALTON ROAD
 STRONGSVILLE, OH. 44136
 (216) 238-9699

UNDERGROUND UTILITIES
 2 WORKING DAYS
 BEFORE YOU DIG
 CALL 800-362-2764 (TOLL FREE)
 OHIO UTILITIES PROTECTION SERVICE
 NON-MEMBERS
 MUST BE CALLED DIRECTLY

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS								
BP-5.1	10-28-94	GR-5.2	10-30-92	HL-50.11	5-1-87		TC-41.10	8-29-84
BP-3.1	2-21-92	GR-5.3	10-30-92	HL-50.21	5-1-87		TC-41.20	6-21-94
CB-2-3&2-4	5-1-79	GR-6	2-5-82	HL-60.11	5-1-87		TC-42.20	3-26-79
CB-5	11-10-83	GR-8.1	1-31-94	HL-60.12	5-1-87		TC-52.10	4-3-79
F-7	11-1-77			HL-60.31M	3-31-95		TC-52.20	4-3-79
GR-1.1	5-6-91	HL-10.11	5-1-87			MT-95.30	10-10-88	
GR-1.2	10-30-92	HL-10.12	5-1-87	I-2	12-18-84	MT-95.40	10-1-92	
GR-1.3	2-21-92	HL-10.13	5-1-87	I-3A&B	4-1-80	MT-98.13	6-24-93	
GR-2.1	5-6-91	HL-20.11	5-1-87	I-3C&D	4-1-80	MT-98.14	6-24-93	
GR-3.1	5-6-91	HL-20.13	5-1-87			MT-98.15	6-24-93	
GR-3.2	5-6-91	HL-20.31	5-1-87	MC-4	7-26-76	MT-99.10	11-14-86	
GR-3.5	1-31-94	HL-30.11	5-1-87	MC-6	1-30-84		TC-72.20	2-26-82
GR-4.2	5-6-91	HL-30.21	5-1-87	MC-9.2	5-6-91		BR-1	12-15-94
GR-4.3	2-21-92	HL-30.22	5-1-87	MC-9.3	10-30-92			
GR-4.4	2-21-92	HL-30.33	5-1-87	MC-11	8-1-78			
GR-5.1	10-30-92	HL-40.10	5-1-87					



Department of Transportation
 Federal Highway Administration
 Approved:
 DIVISION ADMINISTRATOR DATE

SCHEMATIC PLAN

S.R. 7 CURVE G, SB ONLY

S.R. 7 CURVE A
 P.I. STA. 50+56.53
 $\Delta = 14^\circ 21'52''$
 $D_c = 1^\circ 28'00''$
 $R = 3906.53'$
 $L = 979.39'$
 $T = 492.28'$
 $E = 30.69'$
 MAX. SUPERELEVATION RATE = 0.035 '/FT.

 S.R. 7 CURVE A
 P.I. STA. 50+56.53
 $\Delta = 14^\circ 21'52''$
 $D_c = 1^\circ 28'00''$
 $R = 3906.53'$
 $L = 979.39'$
 $T = 492.28'$
 $E = 30.69'$
 MAX. SUPERELEVATION RATE = 0.016 '/FT.

SCALE IN FEET
0 200 400

S.R. 7 CURVE H, SB ONLY

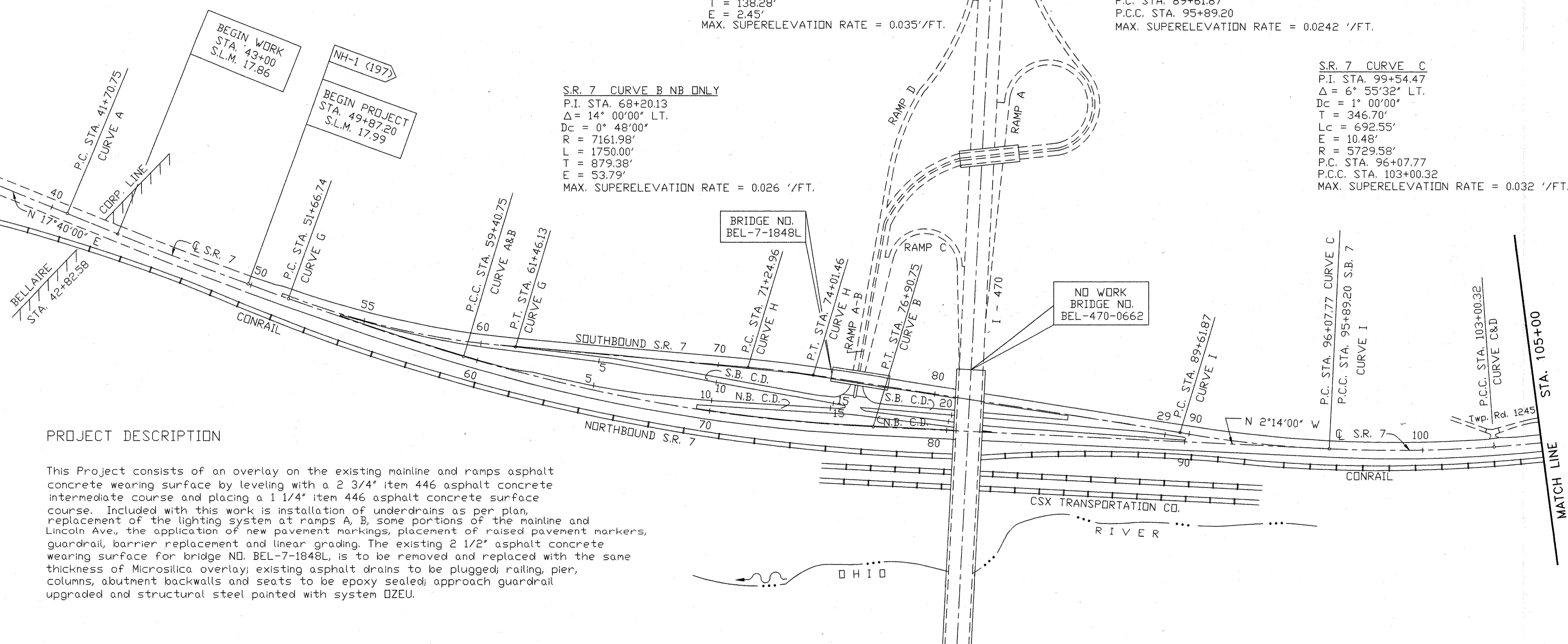
S.R. 7 CURVE H, SB ONLY
 $\Delta = 4^\circ 03'19''$
 $D_c = 1^\circ 28'00''$
 $R = 3906.53'$
 $L = 276.50'$
 $T = 138.28'$
 $E = 2.45'$
 MAX. SUPERELEVATION RATE = 0.035 '/FT.

S.R. 7 CURVE I, SB ONLY

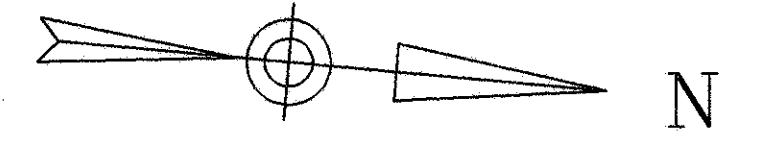
S.R. 7 CURVE I, SB ONLY
 $\Delta = 6^\circ 16'24''$
 $D_c = 1^\circ 00'00''$
 $R = 5729.58'$
 $L = 627.33'$
 $T = 313.98'$
 $E = 8.60'$
 P.C. STA. 89+61.87
 P.C.C. STA. 95+89.20
 MAX. SUPERELEVATION RATE = 0.0242 '/FT.

S.R. 7 CURVE C

S.R. 7 CURVE C
 P.I. STA. 99+54.47
 $\Delta = 6^\circ 55'32''$ LT.
 $D_c = 1^\circ 00'00''$
 $T = 346.70'$
 $L_c = 692.55'$
 $E = 10.48'$
 $R = 5729.58'$
 P.C. STA. 96+07.77
 P.C.C. STA. 103+00.32
 MAX. SUPERELEVATION RATE = 0.032 '/FT.



SCHEMATIC PLAN



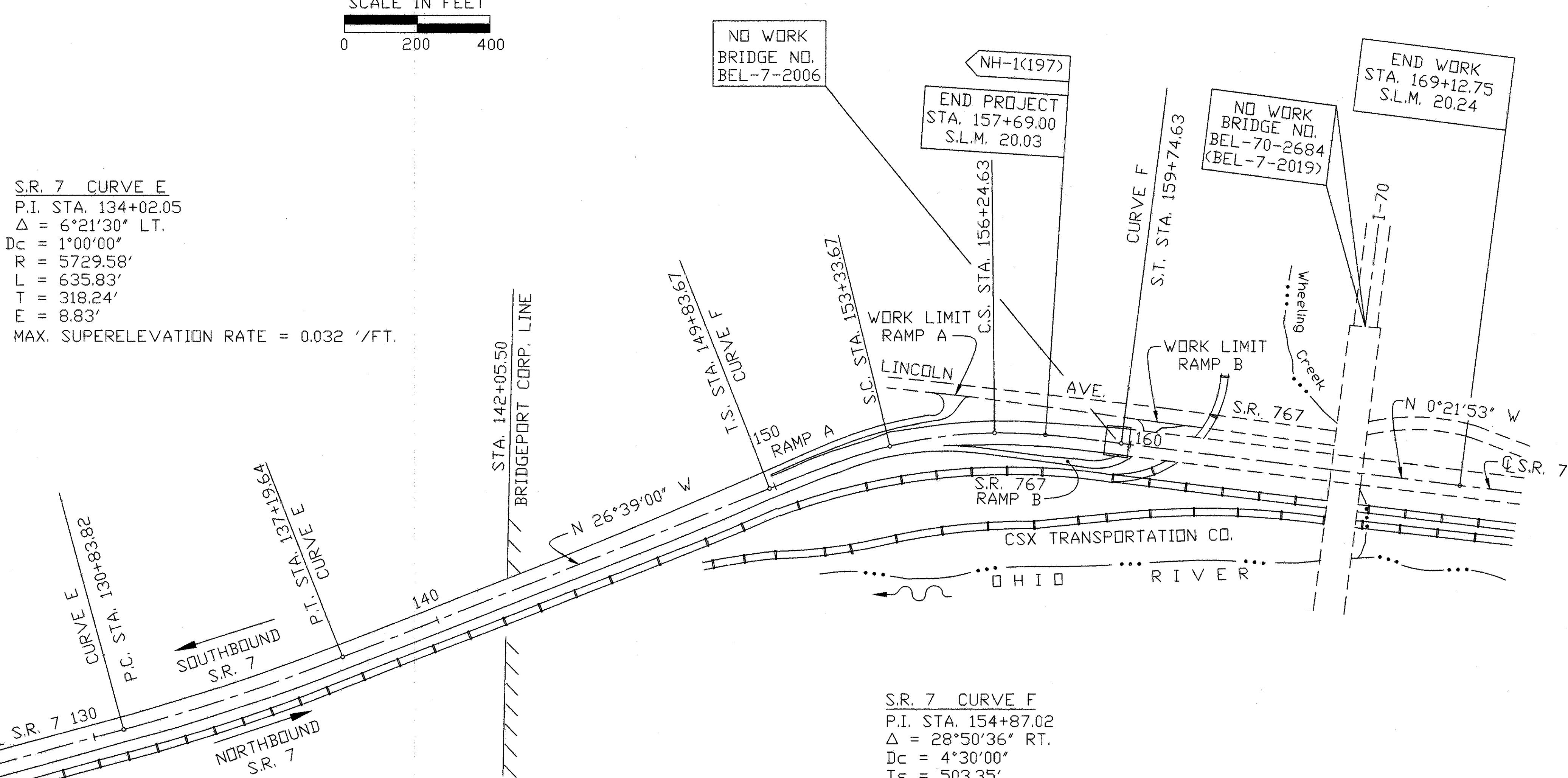
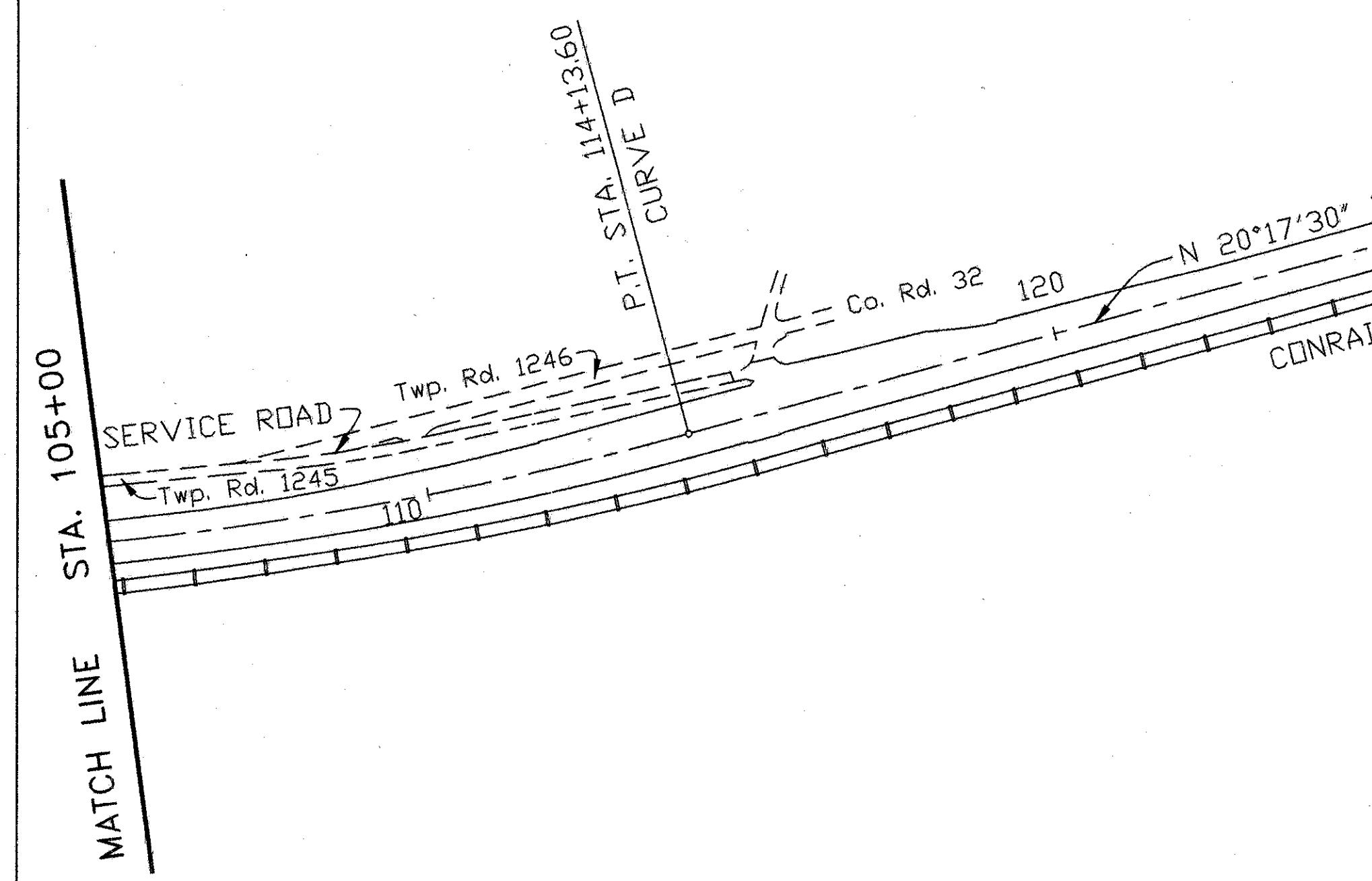
N

SCALE IN FEET

 0 200 400

S.R. 7 CURVE E
 P.I. STA. 134+02.05
 $\Delta = 6^{\circ}21'30''$ LT.
 $D_c = 1^{\circ}00'00''$
 R = 5729.58'
 L = 635.83'
 T = 318.24'
 E = 8.83'
 MAX. SUPERELEVATION RATE = 0.032 '/FT.

S.R. 7 CURVE D
 P.I. STA. 108+58.71
 $\Delta = 11^{\circ}05'52''$ LT.
 $D_c = 0^{\circ}59'49''$
 T = 558.39'
 Lc = 1113.28'
 E = 27.06'
 R = 5747.66'
 P.C.C. STA. 103+00.32
 P.T. STA. 114+13.60
 MAX. SUPERELEVATION RATE = 0.032 '/FT.

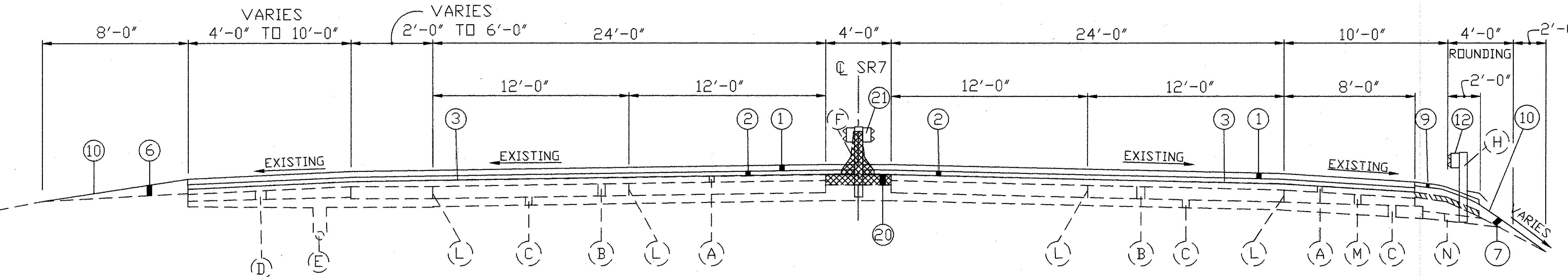


S.R. 7 CURVE F
 P.I. STA. 154+87.02
 $\Delta = 28^{\circ}50'36''$ RT.
 $D_c = 4^{\circ}30'00''$
 Ts = 503.35'
 Es = 45.57'
 Ls = 350.00'
 Bs = 7^{\circ}52'30''
 L = 290.96'
 R = 1273.24'
 MAX. SUPERELEVATION RATE = 0.074 '/FT.

TYPICAL SECTIONS
TYPE 446

F.H.W.A. REGION	STATE	PROJECT	4
5	OHIO		57

BEL-7-17.99



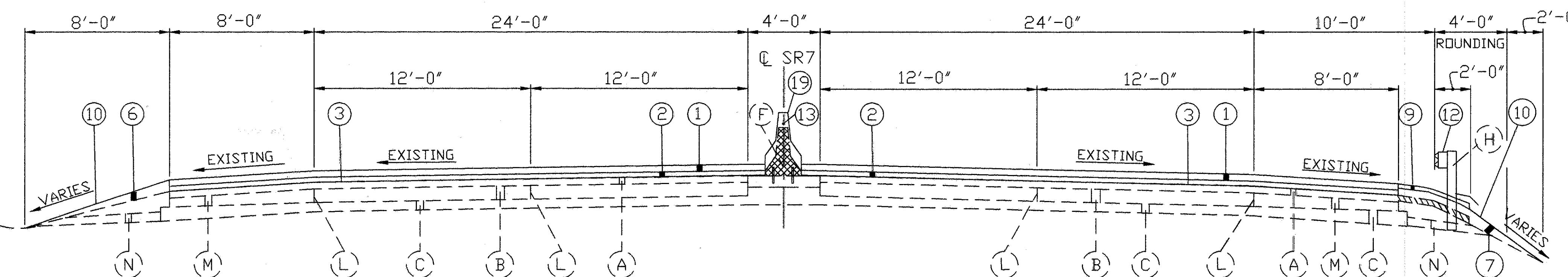
NORMAL SECTION

S.R.7 SOUTHBOUND & NORTHBOUND

BEGIN PROJECT STA. 49+87.20 TO STA. 51+35.76 = 148.56 LIN.FT.

■■■■■ EXISTING ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION

■■■■■ EXISTING BARRIER TO BE REPLACED



NORMAL SECTION

S.R.7 SOUTHBOUND & NORTHBOUND

STA. 122+00.00 TO STA. 128+50.00 = 650.00 LIN.FT.
STA. 139+19.64 TO STA. 142+25.00 = 305.36 LIN.FT.
TOTAL = 955.36 LIN.FT.

■■■■■ EXISTING ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION

■■■■■ EXISTING BARRIER TO BE REPLACED

PROPOSED LEGEND

- ① ITEM 446 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, AS PER PLAN
- ② ITEM 446 - 2 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- ③ ITEM 407 - TACK COAT
- ④ ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20
- ⑤ ITEM 304 - AGGREGATE BASE
- ⑥ ITEM 203 - LINEAR GRADING, METHOD 1
- ⑦ ITEM 203 - LINEAR GRADING, METHOD 2
- ⑧ ITEM 203 - LINEAR GRADING, METHOD 3
- ⑨ ITEM 448 - 2" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL), AS PER PLAN
- ⑩ ITEM 659 - SEEDING, MULCHING AND WATER
- ⑪ ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
- ⑫ ITEM 606 - GUARDRAIL, TYPE 5
- ⑬ ITEM 622 - CONCRETE BARRIER, TYPE A, AS PER PLAN A
- ⑭ ITEM 408 - BITUMINOUS PRIME COAT AT 0.4 GAL. PER SQ.YD.
- ⑮ ITEM 612 - 4" CONCRETE MEDIAN
- ⑯ ITEM 609 - CURB, TYPE 2-B, AS PER PLAN
- ⑰ ITEM 622 - CONCRETE BARRIER, TYPE B50
- ⑱ ITEM 203 - SUBGRADE COMPACTION
- ⑲ ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY)
- ⑳ ITEM 615 - TEMPORARY PAVEMENT, CLASS A
- ㉑ ITEM 606 - GUARDRAIL, BARRIER DESIGN, TYPE 5

FOR CURB REPLACEMENT DETAILS,
SEE SHEET NO. 7
FOR CONCRETE BARRIER DETAILS,
SEE SHEET NO. 30
FOR ASPHALT PAVING UNDER GUARDRAIL DETAIL
SEE SHEET NO. 7

07 TYP12

SUPERELEVATED SECTION

S.R.7 SOUTHBOUND & NORTHBOUND

STA. 96+30.00 TO STA. 108+00.00 = 1170.00 LIN.FT.
STA. 128+50.00 TO STA. 139+19.64 = 1069.64 LIN.FT.
TOTAL = 2239.64 LIN.FT.

■■■■■ EXISTING ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION

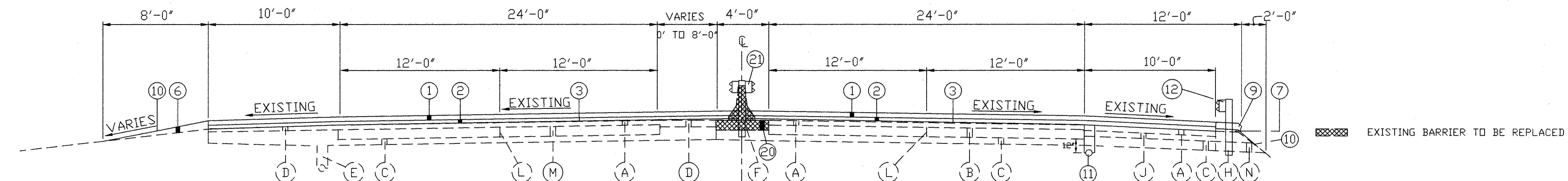
■■■■■ EXISTING BARRIER TO BE REPLACED

TYPICAL SECTIONS

TYPE 446

F.H.W.A.	REGION	STATE	PROJECT	
5	OHIO			557

BEL-7-17.99

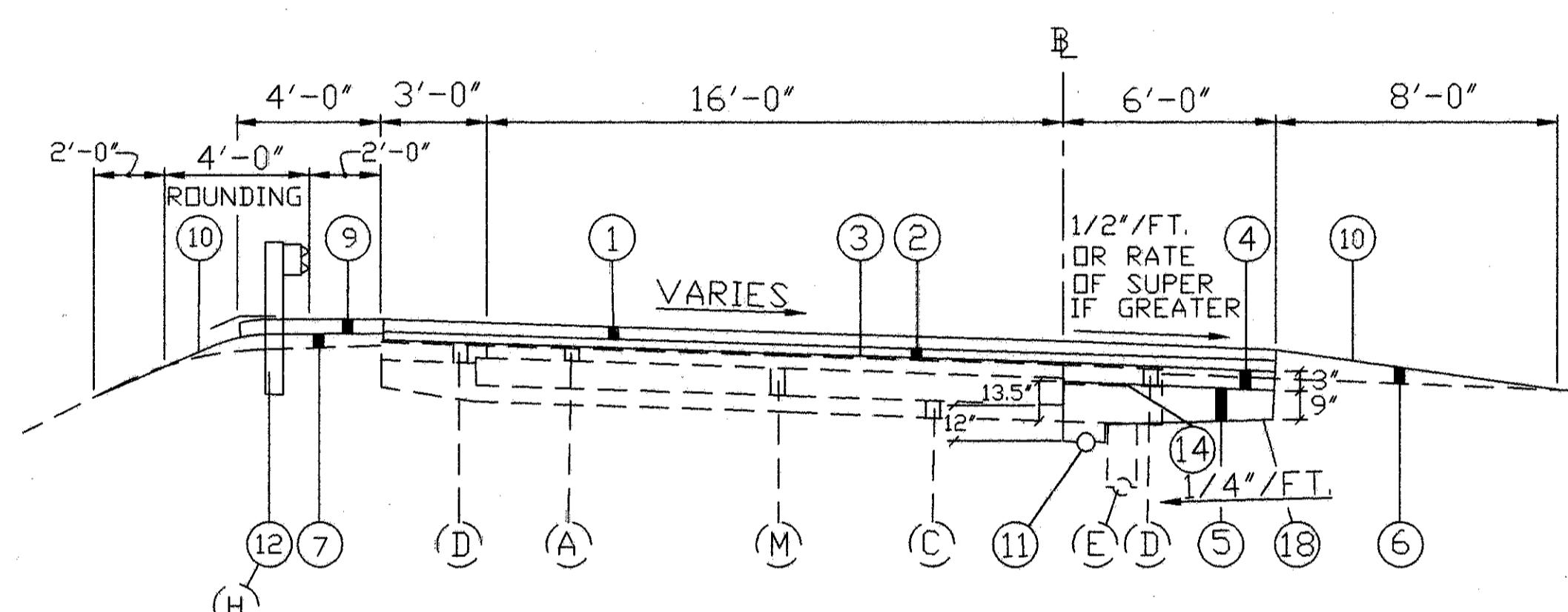


NORMAL SECTION

S.R. 7 NORTHBOUND & SOUTHBOUND

STA. 51+35.76 TO STA. 54+35.76 = 300.00 LIN.FT.

NOTE: PLEASE REFER SHEET # 33 FOR
UNDERDRAIN DETAILS

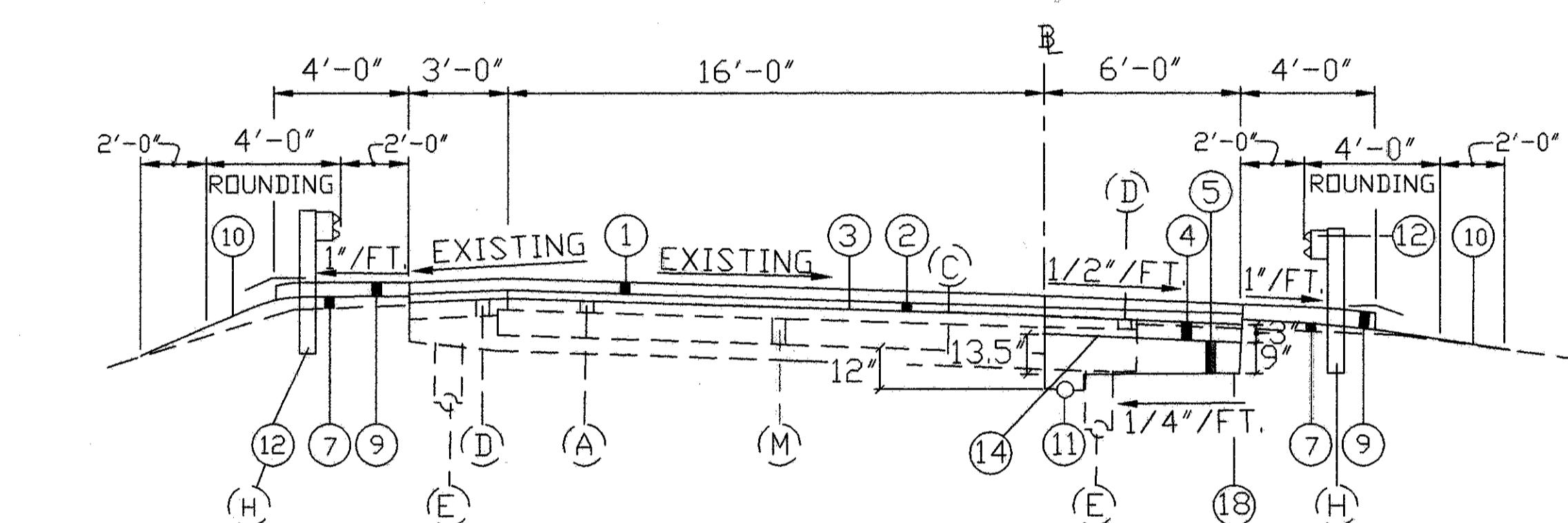


SUPERELEVATED RAMP SECTION

S.B. COLLECTOR DISTRIBUTOR STA. 4+00.00 TO STA. 6+66.86 = 266.86 LIN.FT.
N.B. COLLECTOR DISTRIBUTOR STA. 9+41.04 TO STA. 10+71.94 = 130.90 LIN.FT.

STA. 19+82.21 TO STA. 21+95.57 = 213.36 LIN.FT.

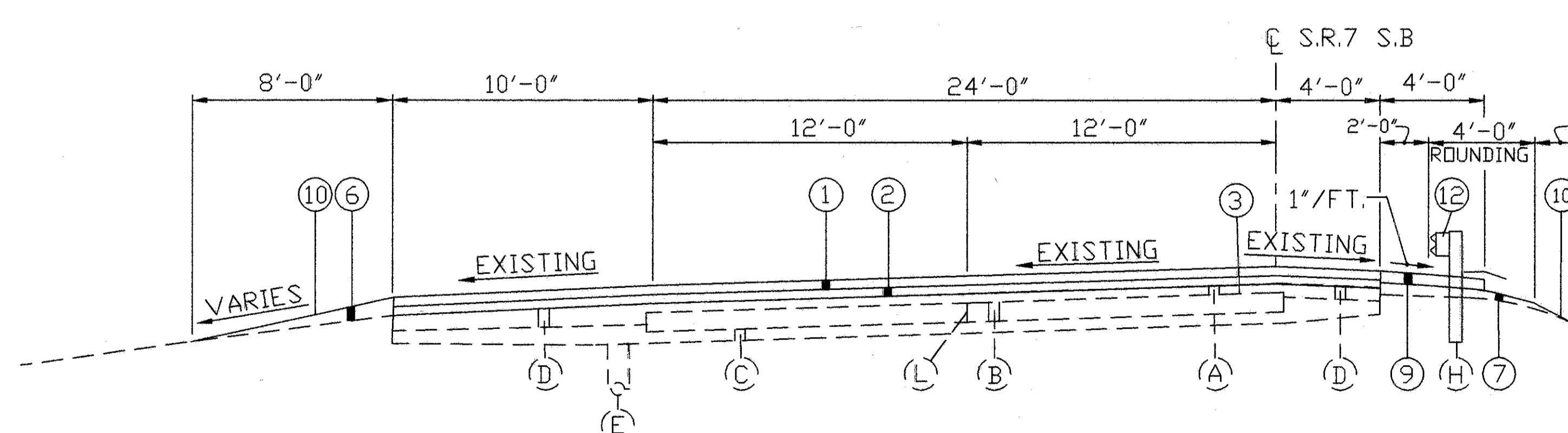
TOTAL = 611.12 LIN.FT.



NORMAL RAMP SECTION

S.B. COLLECTOR DISTRIBUTOR STA. 6+66.86 TO STA. 24+85.94 = 1819.08 LIN.FT.
N.B. COLLECTOR DISTRIBUTOR STA. 10+71.94 TO STA. 19+82.21 = 910.27 LIN.FT.

TOTAL = 2729.35 LIN.FT.



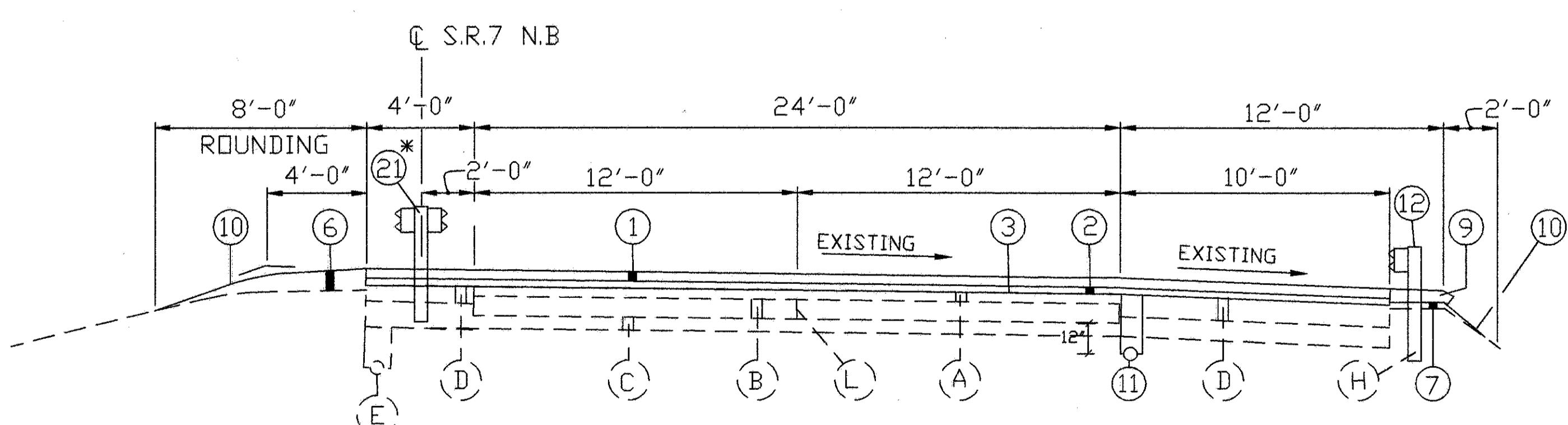
NORMAL SECTION

S.R. 7 SOUTHBOUND

S.B. STA. 61+30.03 TO STA. 68+88.96 = 758.93 LIN.FT.
S.B. STA. 76+85.39 TO STA. 89+89.42 = 1304.03 LIN.FT.

TOTAL = 2062.96 LIN.FT.

FOR LEGEND, SEE SHEET NO. 4
FOR ASPHALT PAVING UNDER GUARDRAIL DETAIL,
SEE SHEET NO. 7
FOR CURB REPLACEMENT DETAILS,
SEE SHEET NO. 7
FOR CONCRETE BARRIER DETAILS,
SEE SHEET NO. 30



NORMAL SECTION

S.R. 7 NORTHBOUND

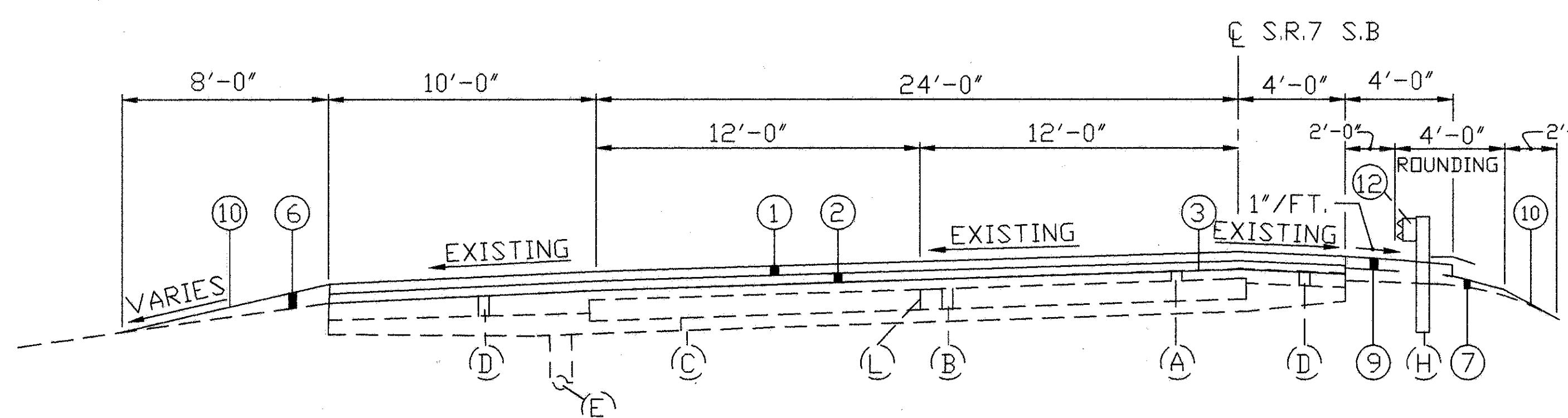
STA. 54+35.76 TO STA. 55+56.17 = 120.41 LIN.FT.
STA. 80+77.02 TO STA. 90+02.40 = 925.38 LIN.FT.
TOTAL = 1045.79 LIN.FT.

TYPICAL SECTIONS

TYPE 446

F.H.W.A.	STATE	PROJECT	6
5	OHIO		57

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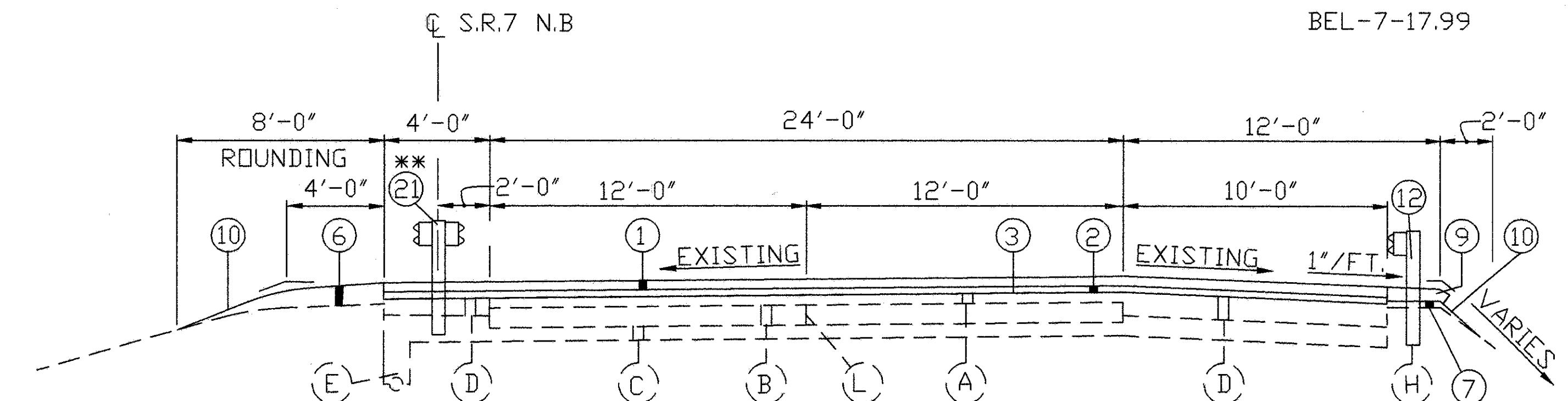


SUPERELEVATED SECTION

S.R.7 SOUTHBOUND

S.B. STA. 54+35.76 TO STA. 61+30.03 = 694.27 LIN.FT.
 S.B. STA. 68+88.96 TO STA. 74+78.89 = 589.93 LIN.FT.
 S.B. STA. 74+78.89 TO STA. 76+85.39 (BRIDGE AND APPROACH SLABS)
 FOR DETAILS REF. SHEET No. 51

TOTAL = 1284.20 LIN.FT.

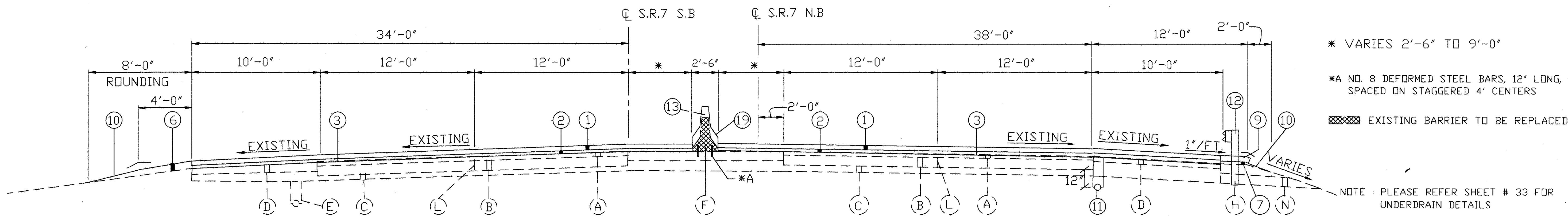


SUPERELEVATED SECTION

S.R.7 NORTHBOUND

** STA. 55+56.17 TO STA. 57+44.70

STA. 55+56.17 TO STA. 80+77.02 = 2520.85 LIN.FT.



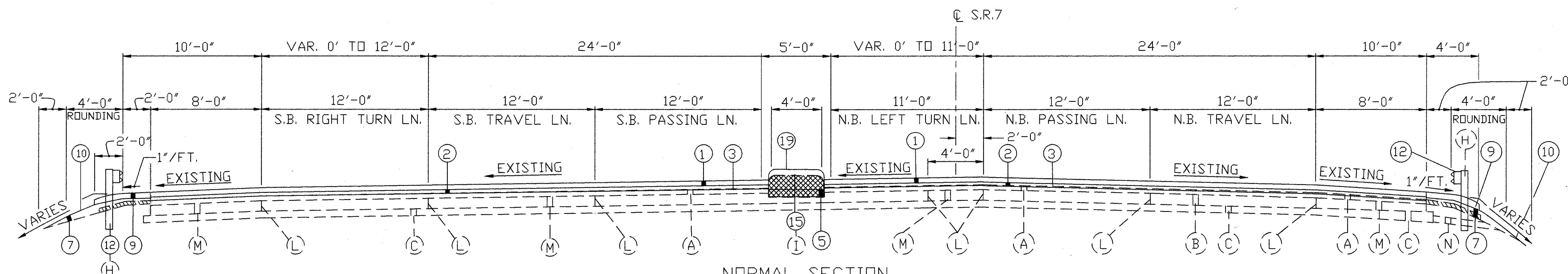
NORMAL SECTION

S.R.7 SOUTHBOUND & NORTHBOUND

S.B. STA. 89+89.42 TO STA. 96+30.00 = 640.58 LIN.FT.

N.B. STA. 90+02.40 TO STA. 96+30.00 = 627.60 LIN.FT.

FOR LEGEND, SEE SHEET NO. 4
 FOR ASPHALT PAVING UNDER GUARDRAIL DETAIL,
 SEE SHEET NO. 7
 FOR CURB REPLACEMENT DETAILS,
 SEE SHEET NO. 7
 FOR CONCRETE BARRIER DETAILS,
 SEE SHEET NO. 30



EXISTING ASPHALT PAVING UNDER GUARDRAIL
 TO BE REMOVED UNDER 203 EXCAVATION

S.B. STA. 108+00.00 TO STA. 122+00.00 = 1400 LIN.FT.

S.R.7 SOUTHBOUND & NORTHBOUND

N.B. STA. 116+13.60 TO STA. 122+00.00 = 586.40 LIN.FT.

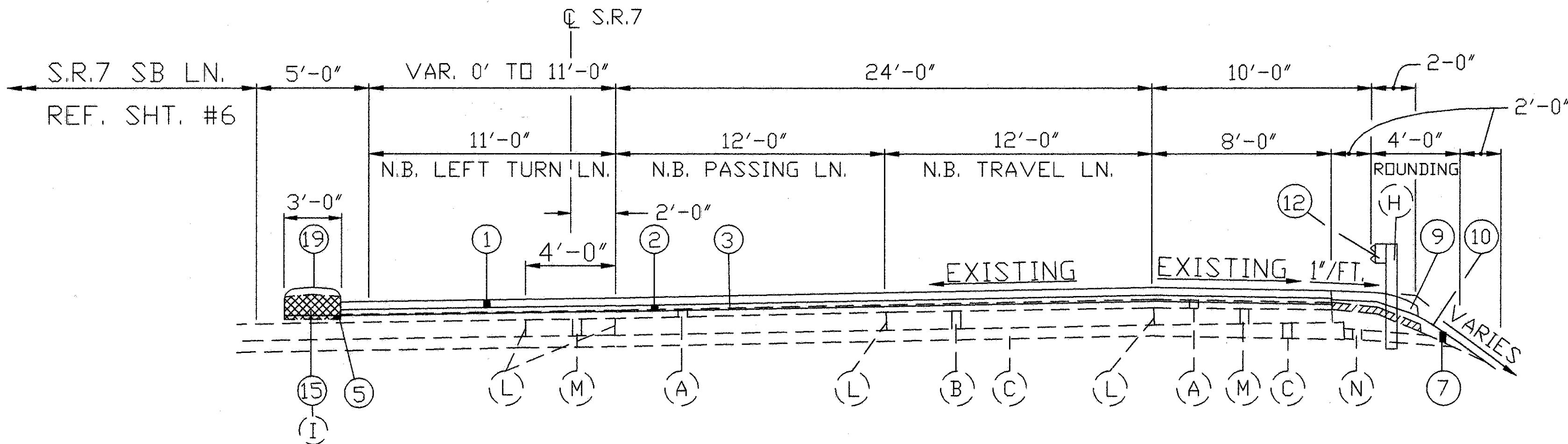
EXISTING MEDIAN TO BE REPLACED

TYPICAL SECTIONS

TYPE 446

H.W.A. REGION	STATE	PROJECT	
5	OHIO		

BEL-7-17.99



SUPERELEVATED SECTION

S.R.7 NORTHBOUND

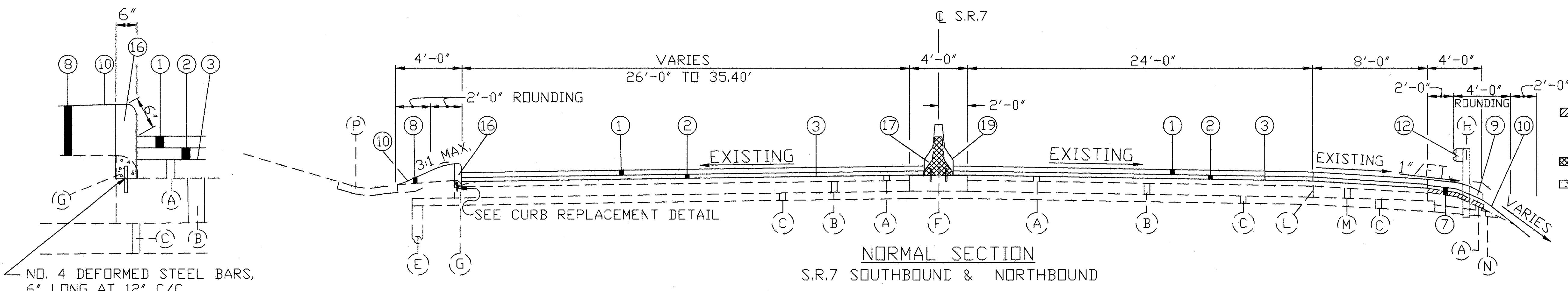
 EXISTING ASPHALT PAVING UNDER GUARDRAIL
TO BE REMOVED UNDER 203 EXCAVATION

XXXXX EXISTING MEDIAN TO BE REPLACED

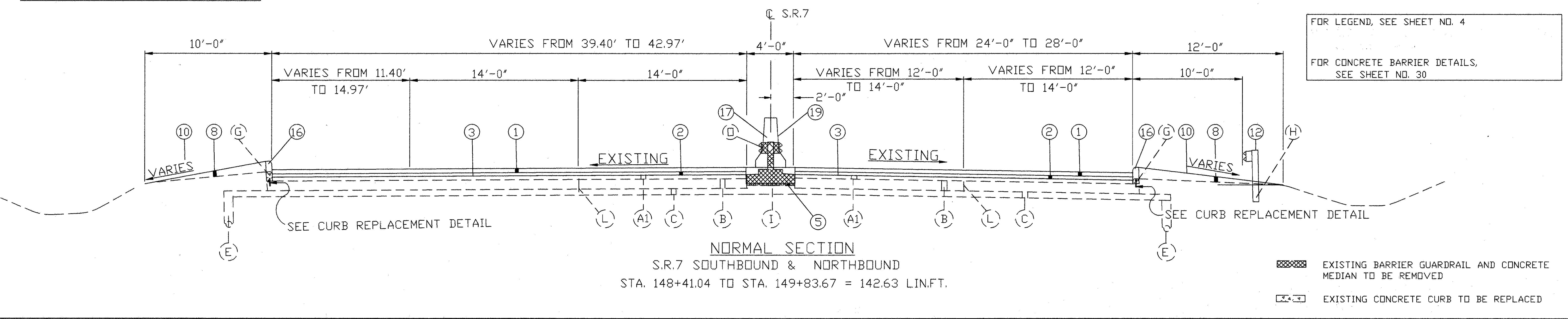
 EXISTING ASPHALT PAVING UNDER GUARDRAIL
TO BE REMOVED UNDER 203 EXCAVATION

SAME SHOULDER SLOPE AS ON TYPICAL SECTIONS

PAVING UNDER GUARDRAIL DETAIL



CURB REPLACEMENT DETAIL



OR LEGEND. SEE SHEET NO. 4

FOR CONCRETE BARRIER DETAILS,
SEE SHEET NO. 30

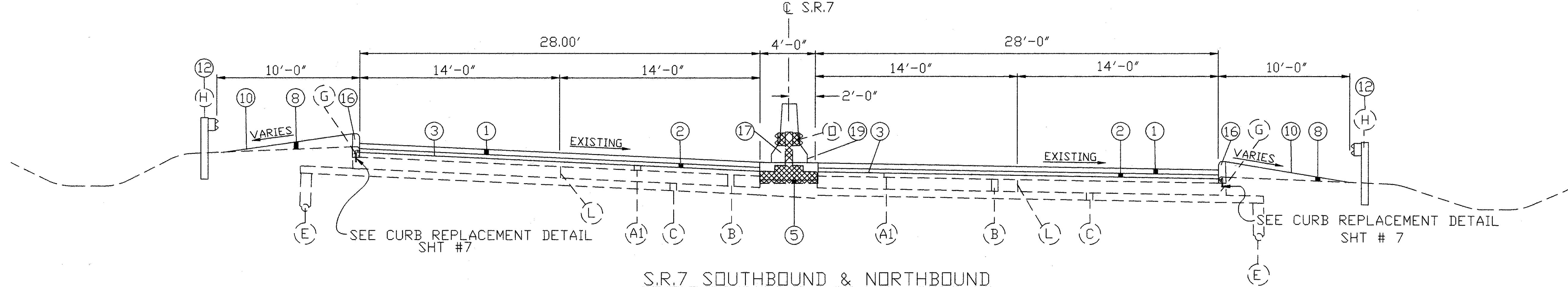
EXISTING BARRIER GUARDRAIL AND CONCRETE
MEDIAN TO BE REMOVED

EXISTING CONCRETE CURB TO BE REPLACED

TYPICAL SECTIONS
TYPE 446

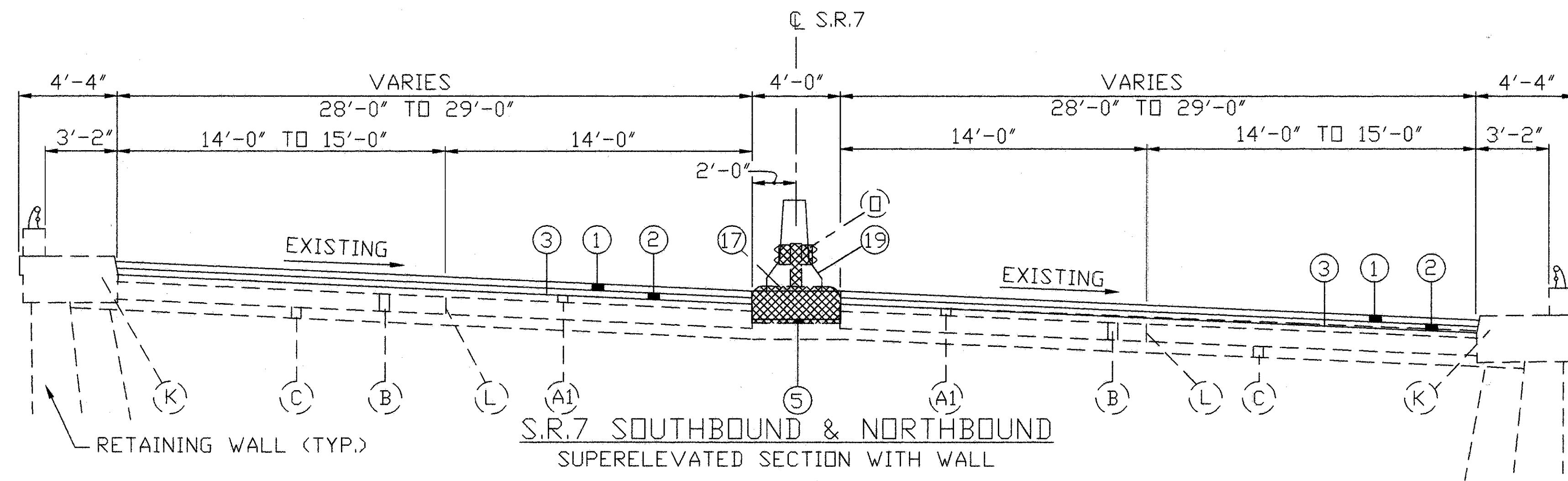
F.H.W.A.	REGION	STATE	PROJECT	
5	OHIO			8 57

BEL-7-17.99

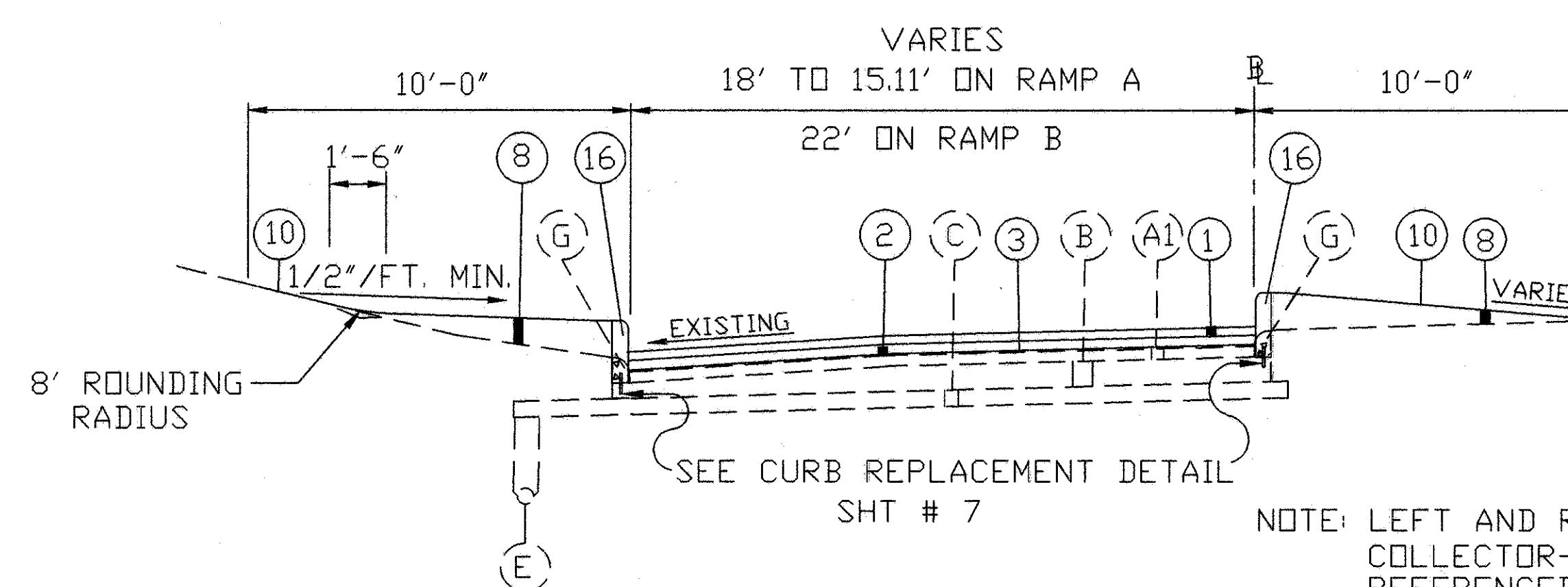


Existing barrier guardrail and existing median to be removed

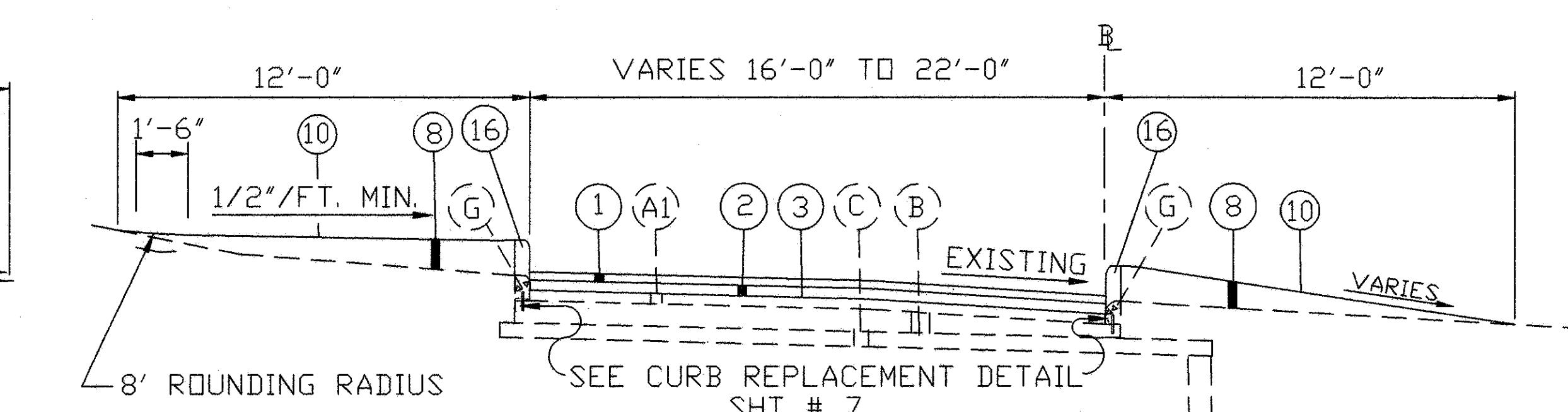
Existing concrete curb to be replaced



Existing barrier guardrail and concrete median to be removed
Barrier B-50 ends at STA. 157+69.00



NOTE: LEFT AND RIGHT SIDE CONFIGURATION ON
COLLECTOR-DISTRIBUTORS AND RAMPS IS
REFERENCED TO THE DIRECTION OF TRAVEL.



FOR LEGEND, SEE SHEET NO. 4
FOR ASPHALT PAVING UNDER GUARDRAIL DETAIL, SEE SHEET NO. 7
FOR CURB REPLACEMENT DETAILS, SEE SHEET NO. 7
FOR CONCRETE BARRIER DETAILS, SEE SHEET NO. 30

STA. 3+07.11 TO STA. 6+21.81 = 314.70 LIN.FT.

* STA. 1+63.88 TO STA. 4+79.77 NO CURB ON LEFT

* STA. 1+31.05 "A" TO STA. 4+79.77 "A" = 348.72 LIN.FT.
STA. 6+21.81 "B" TO STA. 8+50.00 "B" = 228.19 LIN.FT.

MAINLINE PAVEMENT RESURFACING QUANTITIES

QUANTITIES		F.H.W.A. REGION	STATE	PROJECT	
BP	Chkd. NT	5	<input type="checkbox"/> OHIO		
6/1/94	Date: 6/2/94	BEL-7-17.99			



Location	Station	Length	Width	Area	446		407	202	Remarks
					1 1/4" Asph. Conc. Surface Course, Type 1, AC-20 As Per Plan	2 3/4" Asph. Conc. Intermediate Course, Type 2, AC-20	Tack Coat At 0.075 Gal./S.Y.	WEARING COURSE REMOVED	
Northbound Pavement	From	To	Lin. Ft.	Lin. Ft.	Sq. Yd.	Cu. Yd.	Cu. Yd.	Gal.	SQ.YD
	48+87.20	49+87.20	100	24	266.67	11.34	4.92	20.00	266.67
	49+87.20	108+00	5812.80	24	15500.80	538.22	1184.09	1162.56	SEE SHEET NO. 37
	108+00	115+00	700	29.5 avg.	2294.44	79.67	175.27	172.08	
	115+00	116+00			538.62	18.70	41.14	40.40	SEE SHEET NO. 34
	116+00	122+00			1986.09	68.96	151.71	148.96	SEE SHEET NO. 36
	122+00	148+41.04	2641.04	24	7042.77	244.54	537.99	528.21	
	148+41.04	149+83.67	142.63	26 avg.	412.04	14.31	31.48	30.90	
	149+83.67	156+00	616.33	28	1917.47	66.58	146.47	143.81	
	156+00	157+69.00	169.00	28.5 avg.	535.17	18.58	40.88	40.14	
Northbound Collector Distributor Pavement	157+69.00	158+87.75	118.75	28.5 avg.	376.04	13.49	5.84	28.20	158.33
	2+32	9+41.04			1253.60	43.53	95.76	94.02	SEE SHEET NO. 37
	9+41.04	14+26.69	485.65	16	863.38	29.98	65.95	64.75	SEE SHEET NO. 35, SPEED CHANGE LANE
	14+26.69	17+44.69			678.16	23.55	51.80	50.86	SEE SHEET NO. 34
	17+44.69	21+95.57	450.88	16	801.56	27.83	61.23	60.11	
Southbound Pavement	21+95.57	N.B. 90+02.40			789.00	27.40	60.27	59.17	SEE SHEET NO. 35
	48+87.20	49+87.20	100	24	266.67	11.34	4.92	20.00	266.67
	49+87.20	73+98.89	2411.69	24	6431.17	223.30	491.27	482.33	SEE SHEET NO. 37
	73+98.89	74+98.89	100	24	266.67	11.23	6.48	20.00	SEE SHEET NO. 37
	76+65.39	77+65.39	100	24	266.67	11.23	6.48	20.00	SEE SHEET NO. 37
	77+65.39	108+00	3034.61	24	8092.29	280.98	618.16	606.92	SEE SHEET NO. 37
	108+00	115+00	700	30 avg	2333.33	81.00	178.24	175.00	
	115+00	116+00			422.50	14.67	32.27	31.69	SEE SHEET NO. 34
	116+00	122+00			2076.44	72.10	158.62	155.73	SEE SHEET NO. 36
	122+00	142+25	2025	24	5400.00	187.50	412.50	405.00	
	142+25	148+41.04	616.04	30.7 avg.	2101.38	72.98	160.52	157.60	
	148+41.04	149+83.67	142.63	41.18 avg.	652.69	22.66	49.85	48.95	
	149+83.67	156+00	616.33	28	1917.47	66.58	146.47	143.81	
Southbound Collector Distributor Pavement	156+00	157+69.00	169.00	28.5 avg.	535.17	18.58	40.88	40.13	
	157+69.00	158+87.75	118.75	28.5	376.04	13.49	5.84	28.20	158.33
	0+00	4+00			594.80	20.65	45.44	44.61	SEE SHEET NO. 36, SPEED CHANGE LANE
	4+00	24+85.94	2085.94	16	3708.34	128.76	283.28	278.13	
	24+85.94	29+29.42			830.38	28.83	63.43	62.28	SEE SHEET NO. 35, SPEED CHANGE LANE

MAINLINE SHOULDER AND RAMP RESURFACING QUANTITIES

QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/1/94	Date: 6/2/94

F.H.W.A. REGION	STATE	PROJECT	10 57
5	OHIO		

BEL-7-17.99

Location	Station	Length	Width	Area	Thickness	446		407	301	304		203		408	202	Remarks	
						Asph. Conc. Surface Course, Type 1, AC-20 As Per Plan	2 3/4" Asph. Conc. Intermediate Course, Type 2, AC-20	Tack Coat At 0.075 Gal./S.Y.	3" Bituminous Aggregate Base	Avg. End Area	Aggregate Base,	Subgrade Compaction	Excavation (12.5" avg. depth)	Bituminous Prime Coat 0.4 Gal./S.Y.	Wearing Course Removed		
						From	To	Lin. Ft.	Lin. Ft.	Sq. Yd.	Inch	Cu. Yd.	Cu. Yd.	Gal.	Cu. Yd.	Sq. Yd.	Sq. Yd.
Northbound Shoulder	48+87.20	49+87.20	100	8	88.89	1 1/4	3.74	2.16	6.67								SEE SHT. #37
	49+87.20	51+35.76	148.56	8	132.05	1 1/4	4.59	10.09	9.90								
	51+35.76	54+35.76	300	10	333.33	1 1/4	11.57	25.46	25.00								LT. & RT. SHOULDER COMBINED
	54+35.76	90+02.40	3566.64	14	5548.11	1 1/4	192.64	423.81	416.11								
	90+02.40	96+30	627.60	10	697.33	1 1/4	24.21	53.26	52.30								
Northbound Collector Distributor	96+30	148+41.04	5211.04	8	4632.04	1 1/4	160.83	353.84	347.40								
	9+41.04	14+26.69	485.65	6	323.77	1 1/4	11.24	24.36	24.28	26.98	0.5	80.94	323.77	112.42	129.51		
	9+41.04	14+26.69	485.65	3	161.88	1 1/4	5.62	12.37	12.14								
	14+26.69	17+44.69		6	212.00	1 1/4	7.36	16.19	15.90	17.67	0.5	53.00	212.00	73.61	84.8	SEE SHT. # 34	
	14+26.69	17+44.69		3	82.77	1 1/4	2.87	6.32	6.21								SEE SHT. # 34
	17+44.69	21+95.57	450.88	6	300.59	1 1/4	10.44	22.96	22.54	25.05	0.5	75.15	300.59	104.37	120.4	RT. SHOULDER	
Southbound Shoulder	17+44.69	21+95.57	450.88	3	150.29	1 1/4	5.22	11.48	11.27								LT. SHOULDER
	48+87.20	49+87.20	100	8	88.89	1 1/4	3.74	2.16	6.67								SEE SHT. # 37
	49+87.20	51+35.76	148.56	11 avg.	181.57	1 1/4	6.30	13.87	13.62								
	51+35.76	54+35.76	300.00	14 avg.	466.67	1 1/4	16.20	35.65	35.00								
	54+35.76	73+98.89	1963.13	14	3053.76	1 1/4	106.03	233.27	229.03								
	73+98.89	74+98.89	100	14	155.56	1 1/4	6.55	3.78	11.67								SEE SHT. # 37
	76+65.39	77+65.39	100	14	155.56	1 1/4	6.55	3.78	11.67								SEE SHT. # 37
	77+65.39	89+89.42	1224.03	14	1904.05	1 1/4	66.11	145.44	142.80								
Southbound Collector Distributor	89+89.42	96+30	640.58	10	711.76	1 1/4	24.71	54.37	53.38								
	96+30	142+25	4595	8	4084.44	1 1/4	141.82	312.01	306.33								
	4+00	14+15	1015	6	676.67	1 1/4	23.50	51.69	50.75	56.39	0.5	169.17	676.67	234.95	270.67	RT. SHOULDER	
	4+00	14+15	1015	3	338.33	1 1/4	11.75	25.85	25.38								LT. SHOULDER
	14+15	17+33		6	57.22	1 1/4	1.98	4.37	4.29	4.76	0.5	14.30	57.22	19.86	22.88	SEE SHT. # 34	
	14+15	17+33		3	82.77	1 1/4	2.87	6.32	6.21								SEE SHT. # 34
Ramp A-B	17+33	24+85.94	752.94	6	501.96	1 1/4	17.43	38.34	37.65	41.83	0.5	125.49	501.96	174.29	200.78	RT. SHOULDER	
	17+33	24+85.94	752.94	3	250.98	1 1/4	8.71	19.17	18.82								LT. SHOULDER
Ramp A	1428+47.73	1428+97.73			638.79	1.01 avg.	17.93		47.91							111.11	SEE SHT. # 34, FEATHER AREA
	1428+47.73	1428+97.73			495.23	2.17 avg		29.85									SEE SHT. # 34, FEATHER AREA
Ramp B	0+00	0+55			149.00	0.85 avg	3.52		11.17							125.00	SEE SHT. # 34, FEATHER AREA
	0+55	0+85			106.70	1.17 avg	3.47		8.00								SEE SHT. # 34, FEATHER AREA
	0+85	0+85			106.70	2.17 avg		6.43									
	0+85	1+31.05			163.30	1 1/4	5.67	12.47	12.24								SEE SHT. # 34, FEATHER AREA
	1+31.05	4+79.77	348.72	16.56 avg.	641.64	1 1/4	22.28	49.01	48.12								
	4+79.77	8+00			262.80	1 1/4	9.13	18.53	19.71								SEE SHT. # 36
Ramp B	1+00	3+07.11			191.01	1 1/4	6.63	14.59	14.32								SEE SHT. # 36
	3+07.11	6+21.81	314.70	19 avg.	664.37	1 1/4	23.07	50.75	49.83								
	6+21.81	8+17.80	195.99	22	383.27	1 1/4	13.31	29.28	28.75								
	8+17.80	8+47.80			98.33	1.17 avg.	3.20		7.37								SEE SHT. # 34, FEATHER AREA
	8+17.80	8+47.80			98.33	2.17 avg		5.93									SEE SHT. # 34, FEATHER AREA
	8+47.80	8+70.24			1												

APPROACH ROAD INTERSECTION RESURFACING QUANTITIES AND RESURFACING SUMMARY

QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/1/94	Date: 6/2/94

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO	-	

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Location	Station	Area		446	407	301	304		203	408	202	Remarks	
			Thickness	Asph. Conc. Surface Course, Type 1, AC-20 As Per Plan	2 3/4" Asph. Conc. Intermediate Course, Type 2, AC-20	Tack Coat At 0.075 Gal./S.Y.	3" Bituminous Aggregate Base	Aggregate Base	Subgrade Compaction	Excavation (12.5" avg. depth)	Bituminous Prime Coat 0.4 Gal/S.Y.	Wearing Course Removed	
		Sq. Yd.	Inch	Cu. Yd.	Cu. Yd.	Gal.	Cu. Yd.	Cu. Yd.	Sq. Yd.	Cu. Yd.	Gal.	Sq. Yd.	
C.R. 32	15+03.40	15+55	300	1.01 avg.	8.42	-	22.50					41.67	SEE SHT # 34, FEATHER AREA
	15+23.40	15+55	187.78	2.17	-	11.32							SEE SHT # 34, FEATHER AREA
T.R. 1245	102+69.00	103+26.00	139.05	1.01 avg	3.90		10.43					55.55	SEE SHT # 34, FEATHER AREA
	102+69.00	103+26.00	60.16	2.17 avg		3.62							SEE SHT # 34, FEATHER AREA
MAINLINE PAVEMENT FROM SHEET # 9													
				2492.56	5359.45	5364.56						850.00	
MAINLINE SHOULDER & RAMPS FROM SHEET # 10				995.68	2129.21	2159.58	172.68	518.05	2072.21	719.50	829.04	319.44	
MEDIAN REPLACEMENT FROM SHEET # 13				67.23	147.89			70.91					
TOTALS-Carried To General Summary.			3567.79 USE 3568	7651.49 USE 7652.00	7557.07 USE 7560.00	172.68 USE 175.00	588.96 USE 590.00	2072.21 USE 2075.00	719.50 USE 720.00	829.04 USE 830.00	1266.66 USE 1300.00		

ITEM 659

SEEDING & MULCHING

FROM LINEAR GRADING METHOD 1 :

147.33 STA. X 100 X 8' WIDTH / 9 = 13082.67 S.Y.

FROM LINEAR GRADING METHOD 2 :

0.26 STA. X 100 X 4' WIDTH / 9 = 11.56 S.Y.

44.94 STA. X 100 X 2' WIDTH / 9 = 998.67 S.Y.

52.11 STA. X 100 X 4' WIDTH / 9 = 2316.00 S.Y.

1.87 STA. X 100 X 4' WIDTH / 9 = 83.11 S.Y.

9.19 STA. X 100 X 4' WIDTH / 9 = 408.44 S.Y.

7.69 STA. X 100 X 4' WIDTH / 9 = 341.78 S.Y.

6.56 STA. X 100 X 4' WIDTH / 9 = 291.56 S.Y.

7.24 STA. X 100 X 4' WIDTH / 9 = 321.78 S.Y.

7.50 STA. X 100 X 4' WIDTH / 9 = 333.33 S.Y.

11.75 STA. X 100 X 4' WIDTH / 9 = 522.22 S.Y.

8.5 STA. X 100 X 4' WIDTH / 9 = 377.78 S.Y.

2.56 STA. X 100 X 4' WIDTH / 9 = 113.78 S.Y.

FROM LINEAR GRADING METHOD 3 :

6.16 STA. X 100 X 4' WIDTH / 9 = 273.77 S.Y.

1.42 STA. X 100 X 10' WIDTH / 9 = 157.78 S.Y.

1.42 STA. X 100 X 12' WIDTH / 9 = 189.33 S.Y.

2 X 6.16 STA. X 100 X 12' WIDTH / 9 = 1642.67 S.Y.

2 X 3.48 STA. X 100 X 10' WIDTH / 9 = 773.33 S.Y.

2 X 2.28 STA. X 100 X 10' WIDTH / 9 = 506.66 S.Y.

2 X 3.14 STA. X 100 X 12' WIDTH / 9 = 837.33 S.Y.

GRAND TOTAL = 23583.55 S.Y. USE 24000.00 S.Y.

COMMERCIAL FERTILIZER

23583.55 S.Y. X 9 X 20 = 2.12 TON USE 2 TON

1000 X 2000 AGRICULTURAL LIMING

23583.55 S.Y. X 9 X 100 = 10.61 TON USE 11 TON

1000 X 2000 WATER

23583.55 S.Y. X 9 X 120 X 2 APPLICATION = 50.94 M.GAL

1000 X 1000 USE 51 M.GAL

< QUANTITIES CARRIED TO GENERAL SUMMARY >

LINEAR GRADING, METHOD 2 AND ASPHALT PAVING UNDER GUARDRAIL					
GUARDRAIL	STATION	LANE OR RAMP	LENGTH	203	448
				LINEAR GRADING METHOD 2	EXCAVATION
				LIN.FT.	STA. CU.YD. CU.YD.
1 GR	51+10	51+35.76		25.76	0.26 0.64 0.64
1 GR	51+35.76	96+30		4494.24	44.94 55.48
1 GR	96+30	148+41.04		5211.04	52.11 128.65 128.67
2 GR	64+95	66+94.50		187.50	1.87 4.63
7 GR	20+88	30+02		918.75	9.19 22.68
4 GR	67+36	75+00		768.75	7.69 18.98
5 GR	77+00	83+55		656.25	6.56 16.20
13 GR	107+96	115+20		724.00	7.24 18.52 17.88
14 GR	116+23.5	122+58		750.00	7.50 18.52 18.51
3 GR	2+95	14+70		1175.00	11.75 29.01
8 GR	21+37	29+87		850.00	8.50 21.00
9 GR	21+00	23+52		256.25	2.56 6.32
TOTALS - CARRIED TO GENERAL SUMMARY				160.17	166.33
				USE 160.00	USE 166.00
				340.00	

LINEAR GRADING METHOD 3					
STATION	RAMP	SIDE	LENGTH	203	LINEAR GRADING METHOD 3
FROM	TO		LIN.FT.	STA.	
142+25	156+00	S.B.	1375	13.75	
148+41.04	156+00	N.B.	758.96	7.58	
1+31.05	4+79.77	A L&R	697.44	6.97	
3+07.11	8+50	B L&R	1085.78	10.85	
CARRIED TO GENERAL SUMMARY				39.15	
				USE 39.00	

QUANTITIES	
Calc. BP	Chkd. NT
5	OHIO

Date: 6/1/94 Date: 6/2/94

F.H.W.A. REGION STATE PROJECT
12 57

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MEDIAN REMOVAL QUANTITIES

202					
STATION	LENGTH	AVERAGE WIDTH	CONCRETE MEDIAN REMOVED	CONCRETE BARRIER REMOVED AS PER PLAN	GUARDRAIL REMOVED, BARRIER DESIGN
FROM	TO	LIN.FT.	FT.	LIN.FT.	LIN.FT.
48+87.20	54+35.76	548.56	548.56		
S.B. 89+89.42	108+00	1810.58			1810.42
108+00	116+13.60	813.60	3'		271.20
116+13.60	122+00	586.40	4'		260.62
122+00	148+41.04	2641.04			2641.04
148+41.04	158+87.75	1046.71			1050.00
SUBTOTALS				531.82	4451.46 1050.00
Deduct for existing inlets :					
1-MD, 2-MD, 3-MD, 4-MD, 5-MD, 6-MD, 7-MD, 9-MD, 10-MD, 10A-MD, 11-MD, 12-MD, 13-MD, 14-MD					
I-3A, ea. @ 20' = 20'					
I-3B50, 3 ea. @ 20' & I-3C, 10 ea. @ 20' = 260'					
NOTE: 1-MD is new structure					
8-MD, I-2-6, 1X7.33X4 = 3.26 S.Y.					
9					
TOTAL DEDUCTION					
CARRIED TO TOTALS - GENERAL SUMMARY					
528.56 528.56 4191.46 1050.00					
USE 530.00 USE 530.00 USE 4192.00					

CURB REPLACEMENT			
DOWEL LIST			
SIZE	LOCATION	LANE OR RAMP	LENGTH
			LIN.FT.
NO. 4	FROM TO		LIN.FT.
	142+25	148+41.04	S.B. 309
	148+41.04	149+83.67	N.B.&S.B. 144
	149+83.67	156+00	N.B.&S.B. 618
	0+00	4+79.77	RAMP A 959.54
	3+07.11	8+67.80	RAMP B 1121.38
TOTAL (For Information Only)			
1955			

CURB REMOVAL AND REPLACEMENT			
202	609		
STATION	LANE OR RAMP	CURB REMOVED	CURB, TYPE 2-B, AS PER PLAN
76+74.64	76		

MEDIAN REPLACEMENT QUANTITIES

QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/1/94	Date: 6/2/94

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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ALGEBRAIC CALCULATIONS

QUANTITIES	
alc. BP	Chkd. NT
Date: 6/1/94	Date: 6/2/94

F.H.W.A. REGION	STATE	PROJECT	
5	<input checked="" type="checkbox"/> OHIO		
BEL-7-17.99			



GUARDRAIL & BARRIER REFLECTOR QUANTITIES

1* BRIDGE TERMINAL ASSEMBLY, TYPE 1, BARRIER DESIGN (SEE STD. DWG. GR-3.5)
5* GUARDRAIL, BARRIER DESIGN, TYPE 5 1** BI-DIRECTIONAL IMPACT ATTENUATOR

For underdrain notes and details, see sheet no. 33

REF. NO	ITEM SPECIAL ~ PIPE CLEANOUT QUANTITY (See note on sheet No. 17)							
	STATION & OFFSET		SPECIAL					
			PIPE CLEANOUT					
	FROM	TO	12"	15"	18"	21"	24"	30"
IP	NB 56+55,60'RT	NB 56+55,115'RT.		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
2P	NB 58+25,60'RT	NB 58+25,115'RT.					55	55
3P,4P,5P	NB 61+75,75'LT	NB 61+75,75'RT.		50			75	5
6P	NB 61+75,25'LT	NB 62+00,25'LT.		25				25
7P	NB 65+08,03'LT	NB 65+24,50'LT				25	25	
8P,9P	NBCD 20+58,8'LT	NB 20+81,38'LT	25	25				
IOP,IIP	NB 91+68,68'LT	NB 93+28,55'LT.	50		110			
I2P	NB 92+75,8'LT	NB 92+75,55'LT			50			
I3P	SR7 100+00,8'LT	SR7 100+00,42'LT				38		
I4P	SR7 100+00,42'LT	SR7 101+50,42'LT	150					
I5P	SR7 114+00,40'RT	SR7 114+00,15'RT		25				
I6P,I7P	SR7 126+93,45'LT	SR7 131+30,45'LT		437				
I8P,I9P	SR7 135+75,45'LT	SR7 136+25,45'LT		50				
SUB TOTALS			225	612	—	160	193	80
TOTAL (Carried To General Summary)					1300 LIN. FT.			

CATCH BASIN/INLET REPLACEMENT QUANTITIES								
STR. No.	SHT. No.	STATION	ITEM 604			REMARKS		
			C.B. NO. 2-3	C.B. NO. 2-4	C.B. NO. 5, AS PER PLAN			
3-CB	23	NB 61+75 50' RT.		1			NEW 4' HIGH STRUCTURE IN PLACE OF EX. C.B. NO. 2-4 STRUCTURE	
6-CB	23	SB 61+85 50' LT.		1			NEW STRUCTURE IN PLACE OF EX. C.B. NO. 2-3 STRUCTURE. MATCH EXISTING INVERT AND FLOWLINE ELEVATIONS.	
9-CB	24	NB 72+82 45' LT.			1		GRATE REPLACEMENT ONLY, C.B. No. 2-4	
I-MD	22	SR7 51+30			1		REMOVE INLET TOP AND TROUGH OF EX. INLET, NO. 3A. SEE SHT. #18 FOR DETAILS.	
I2-MD	29	SR7 151+00			1		NEW STRUCTURE IN PLACE OF EX. C.B. NO. 3A STRUCTURE. MATCH EXISTING INVERT AND FLOWLINE ELEVATIONS.	
I3-MD	29	SR7 153+40			1		NEW STRUCTURE IN PLACE OF EX. C.B. NO. 3 STRUCTURE. MATCH EXISTING INVERT AND FLOWLINE ELEVATIONS.	
I4-MD	29	SR7 155+77			1		NEW STRUCTURE IN PLACE OF EX. C.B. NO. 3A STRUCTURE. MATCH EXISTING INVERT AND FLOWLINE ELEVATIONS.	
TOTALS: (Carried To General Summary)			1	1	1	1	3	ITEM 202-CATCH BASIN OR INLET REMOVED
6								

QUANTITIES		F.H.W.A. REGION		STATE	PROJECT
Calc. BP	Chkd. NT	5	OHIO		
Date: 6/1/94	Date: 6/2/94				

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ITEM SPECIAL :-					
SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS					
LANE	NO OF JOINTS		AVG. WIDTH		LENGTH
	STRAIGHT	SKEWED	STRAIGHT	SKEWED *	STRAIGHT
	EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.
NORTHBOUND (TRAVEL LANE)	229	0	20.44	-	4680.76 0
NORTHBOUND (PASSING LANE)	225	0	13.50	-	3037.50 0
SOUTHBOUND (TRAVEL LANE)	232	158	20.00	20.08	4640.00 3172.64
SOUTHBOUND (PASSING LANE)	221	158	14.64	14.70	3235.44 2322.60
Northbound Collector Distributor	0	68	25	25.10	0 1706.80
Northbound Collector Distributor (SPEED CHANGE LANE FROM S.R. 7)	0	40	31.50	31.62	0 1264.80
Northbound Collector Distributor (SPEED CHANGE LANE TO S.R. 7)	0	40	19.00	19.07	0 762.80
Southbound Collector Distributor	0	104	25	25.10	0 2610.40
Southbound Collector Distributor (SPEED CHANGE LANE FROM S.R. 7)	0	38	27.50	27.61	0 1049.18
Southbound Collector Distributor (SPEED CHANGE LANE TO S.R. 7)	0	50	19	19.07	0 953.50
RAMP A	11	0	18.50	-	203.50 0
RAMP A (SPEED CHANGE LANE)	16	0	9.5	-	152.00 0
RAMP B	14	0	16.50	-	231.00 0
RAMP B (SPEED CHANGE LANE)	9	0	13	-	117.00 0
C.R. 32 INTERSECTION (S.B. RT. TURN LANE)	8	22	20	15.56	160.00 342.32
C.R. 32 INTERSECTION (N.B. LT. TURN LANE)	6	0	5.5	-	33.00 0
C.R. 32 (N.B. MEDIAN SPEED CHANGE LANE)	10	0	5.5	-	55.00 0
TOTALS (Carried To General Summary)					16545.20 14185.04
					30730.24 LIN.FT. USE 31000.00 LIN. FT.

QUANTITIES	
Calc.	BP
5	OHIO

Date: 6/1/94

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GENERAL NOTES

PROFILE AND ALIGNMENT

The proposed pavement resurfacing shall follow the alignment and profile of the existing pavement. Previous construction plans BEL-7-17.71-2014, BEL-7-19.86, BEL-470-5.90, BEL-7-17.86(18.87), showing the original alignment and profile, are available for inspection at the ODOT District 11 office. The proposed asphalt concrete overlay shall have a uniform thickness of 4 inches.

UNDERGROUND UTILITIES

The locations of underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 of the Ohio Revised Code.

UTILITY OWNERSHIP

The following utilities and owners are located within the work limits of the project:

TCI CABLEVISION of OHIO, Inc.
P.O. Box 469
Bridgeport, OH 43912
Phone (614) 633-2464

AMERITECH
160 N. 6th Street
Zanesville, OH 43701
Phone (614) 454-3508

OHIO POWER COMPANY
301 Cleveland Ave. s.w.
Canton, OH 44701
Phone (216) 438-7040

BELMONT COUNTY, SEWER AUTHORITY
Guernsey Street
Bridgeport, OH 43912
Phone (614) 676-5911

DISTRICT 11, ODOT
1072 High Avenue, Box 351
New Philadelphia, OH 44136
Phone (216) 339-6633

COLUMBIA GAS of OHIO, Inc.
P.O. Box 250
Cambridge, OH 43725
Phone (614) 432-8225

BELMONT CO. SAN. SEWER DIST.(Incl.Water)
P.O. Box 457
St. Clairsville, OH 43950
Phone (614) 695-3144

AT & T Telecommunications
R.D. 1 Box 33
Sycamore, PA. 15364
Phone (412) 627-8122

VILLAGE OF BRIDGEPORT
Water & Service
301 Main Street
Bridgeport, OH 43912
Phone (614) 635-2424

ITEM 203 - LINEAR GRADING, METHOD 1 AND METHOD 3

This work shall include all excavation and embankment required to grade beyond paved shoulders as shown in the details on sheet nos. 4 through 8. Vegetation, material buildup or excavated material on the shoulder or within the linear grading limit shall be removed and disposed of by the Contractor or wasted over fill slopes at the direction of the Engineer. Linear grading widths shown on the plans represent minimum requirements and the Engineer may increase these widths as determined by his analysis of project conditions at no additional cost to the State. The method of measurement shall be considered as one station per 100 linear feet measured separately for each directional roadway and for each side of ramps.

Payment for this work shall be made as follows:

Item 203 - Linear Grading Method 1 - This Item shall apply to outside shoulder areas without asphalt paving under guardrail.

Item 203 - Linear Grading Method 3 - This Item shall apply to outside shoulder areas beyond the curb.

Embankment material as per Section 203 shall be compacted as directed by the Engineer and seeded as shown on the Typical Sections in accordance with the specifications for Item 659 - Seeding and Mulching.

Payment for the above except for Item 659 shall be included in the unit price bid of Station for the appropriate linear grading item.

PAVING UNDER GUARDRAIL

This operation shall include preparation of the graded shoulder using 203, Linear Grading, Method 2 and paving under the guardrail using 448, Asphalt Concrete Intermediate Course, Type 1 (under guardrail), as per plan.

Item 203, Linear Grading, Method 2 shall consist of excavating topsoil, placing granular material and applying herbicide as specified in the plans and in accordance with the following:

All collected debris and topsoil, including rhizomes, roots and other vegetative plant material shall be removed and disposed of as specified in 203.05.

The removed material shall be replaced with compactable granular material conforming to 203.02 placed to grade as detailed on the Typical Section or as approved by the Engineer.

Herbicide shall be Treflan E.C., spike or an approved equal and shall be applied to the prepared area after final leveling and grading has been completed. The application shall be just prior to paving and shall strictly adhere to the manufacturer's instructions.

Only properly licensed personnel shall apply herbicides as required by the Ohio Revised Code.

All equipment, materials and labor required to perform the work outlined above shall be included for payment under Item 203, Linear Grading, Method 2.

Paving under guardrail shall consist of placing Item 448 to the depth specified using the following method:

- 1) Place Item 448
- 2) Bore asphalt at post locations (may be omitted if steel posts are used)
- 3) Set guardrail posts
- 4) patch around posts. The material used for patching shall be a bituminous concrete approved by the Engineer. Patched areas shall be compacted using either hand or mechanical methods.

Finished surfaces shall be smooth and sloped to drain away from the posts.

All equipment, materials and labor required to perform the work outlined above, with the exception of setting guardrail posts, shall be included for payment under Item 448, Asphalt Concrete Intermediate Course, Type 1 (under guardrail), as per plan.

ITEM 202 - CONCRETE BARRIER REMOVED, AS PER PLAN:

This item shall consist of removing the raised portion of the existing concrete barrier to the top of the existing concrete base as shown on sheet nos. 4 through 7, including horizontal sawing of the existing dowels or any other method approved by Engineer. All work necessary to complete this item shall be included in the contract unit price bid for ITEM 202, portion of concrete barrier removed, as per plan.

ITEM 622 - CONCRETE BARRIER, TYPE A, AS PER PLAN A:

This item shall consist of reconstructing concrete barrier at the locations indicated on the plans in accordance with the details shown on sheet no 30. All work necessary to complete this item including drilling and anchoring of dowels and the dowel bars shall be included in the contract unit price bid for Item 622, concrete barrier Type A, as per plan.

DEVIATION:
As per plan A ----- 7" vertical face above the base.

ITEM 606 ANCHOR ASSEMBLY, TYPE E

This item shall consist of furnishing and installing an ET- 2000, Option "B", Guardrail End Terminal as manufactured by Syro Steel Company, 1170 N. State Street, Girard, Ohio 44420 (Telephone: 216-545-4373).

The length of the ET-2000 System is considered to be 50', inclusive of two 25' long rail elements. Installation shall be in accordance with the manufacturer's specifications and at the locations shown in the plans.

Payment for the above work shall be made at the unit bid price for Item 606, Each, Anchor Assembly, Type E and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including all related hardware, not separately specified, as required by the manufacturer.

WORK LIMITS

The work limits shown on these plans are for physical construction only. The installation and operation of all temporary traffic control and temporary traffic control devices required by these plans shall be provided by the Contractor whether inside or outside these work limits.

QUANTITIES	
Calc. BP	Chkd. NT
5	OHIO

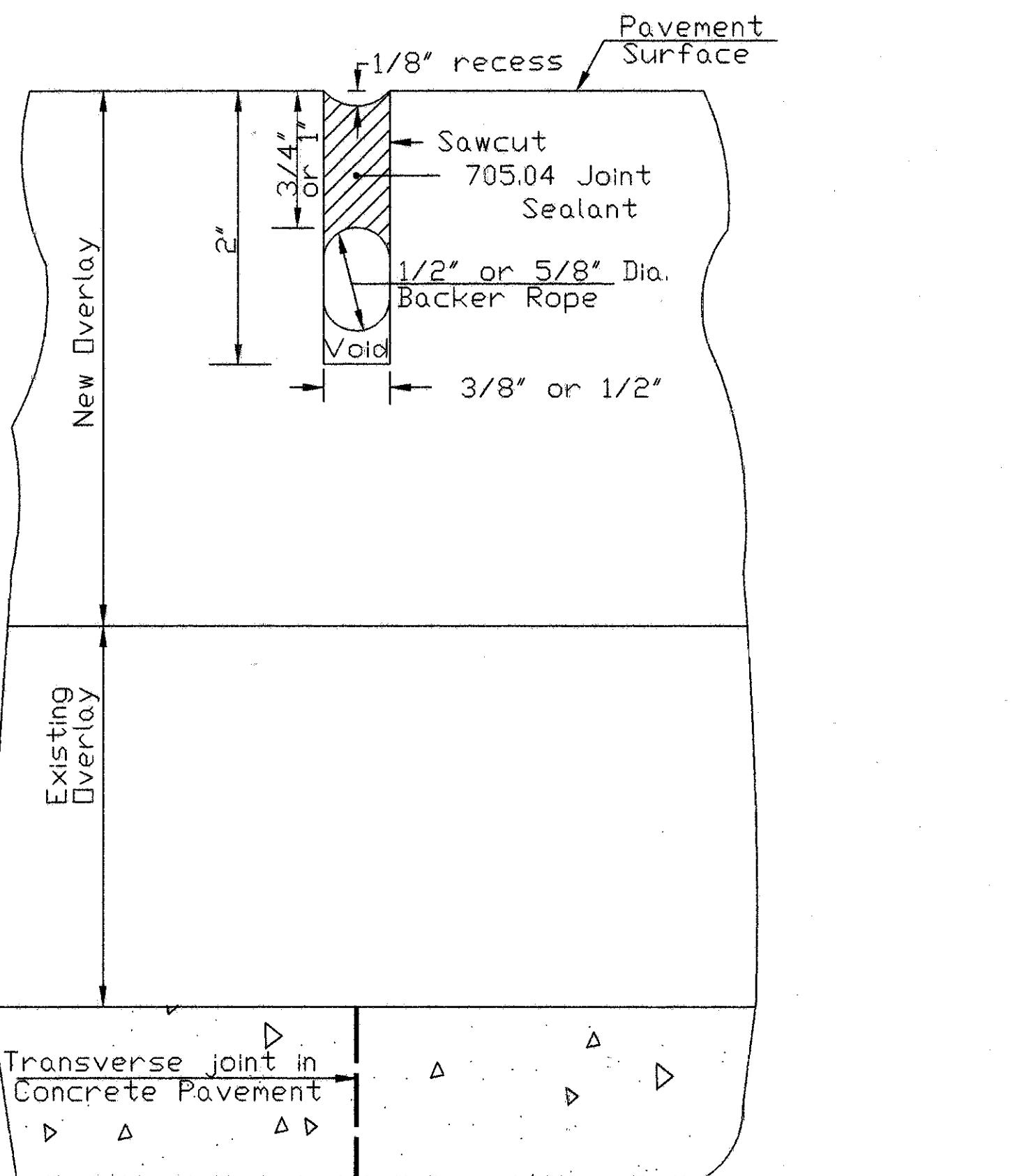
Date: 6/1/94 Date: 6/2/94

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17 5	OHIO	

GENERAL NOTES

ITEM SPECIAL - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS

See Proposal Note. The Contractor shall saw and seal the joints according to the dimensions shown in the detail below. The joints shall be sawed within 24 hours after placement of the surface course.



DETAIL FOR TRANSVERSE JOINT IN NEW ASPHALT CONCRETE OVERLAY

ITEM 604 - BARRIER MEDIAN INLET ADJUSTED

TO GRADE, AS PER PLAN:

This item shall consist of adjusting the existing barrier median inlets to grades at the locations indicated on the plans in accordance with the details shown on sheet no. 32. The contractor shall exercise care when lifting and removing the existing precast inlet top to avoid damaging it in any way which would render it unacceptable for re-use. After removal of the inlet top, grate and casting, a portion of the trough shall be removed to the limits indicated on the details, dowels shall be installed, and the modified portions of the inlet trough constructed as shown on the details. The inlet top shall then be reset and concrete aprons constructed as shown on standard drawing 1-3C or paved shoulder constructed as shown on standard drawing 1-3A. All work necessary to complete this item including the concrete aprons, but excluding dowel holes, shall be included in the contract unit price bid for Item 604. Barrier median inlet adjusted to grade, as per plan. Dowel holes will be paid for at the contract price bid per each Item 510, dowel holes.

CONTINGENCY QUANTITIES

The Contractor shall not order materials or perform work listed in the General Summary for items designed by plan note to be used "As Directed By the Engineer" unless authorized by the Engineer. The actual work locations and quantities used at the Engineer's discretion shall be made a matter of record by incorporation into the final change order governing completion of this project.

ITEM 407 - TACK COAT

The rate of application of 407 Tack Coat shall be subject to adjustment, as directed by the Engineer. Plan quantities indicate an average application rate of 0.075 gallons per square yard of tack coat for estimating purposes only.

GUARDRAIL REPLACEMENT

No hazard shall be left unprotected except for the actual time necessary to remove the existing guardrail, prepare the site, and install new guardrail in a continuous operation. The removal of all guardrail shall at all times be as directed by the Engineer. No guardrail shall be removed until the replacement material is on the site, ready for installation. Failure to comply with this requirement shall be deemed sufficient cause to order work suspended until such time as the Engineer is assured of compliance.

SEEDING

Quantities for seeding are calculated for the soil areas from Linear Grading, Methods 1, 2 and 3.

WATERING PERMANENT SEEDED AREAS

The estimated quantity of 51 M Gal. from sheet no. 12 is to be used as directed by the Engineer to promote growth and to care for the permanent seeded areas, as per Section 659.09

REVIEW OF DRAINAGE FACILITIES

Before any work is started on the project, and again before final acceptance by the State representative of the State and Contractor, along with local representatives, shall make an inspection of the existing sewers within the work limits which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenances shall be determined from field observation. Records of inspection shall be kept in writing by the State.

All new conduits, inlets and catch basins constructed as part of the project shall be free of all foreign matter and in a clean condition before the project will be accepted by the State.

All existing sewer inspected initially by the above-mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the condition resulting from the contractor's operations shall be corrected by the Contractor to the satisfaction of the Engineer.

Payment for all operations described above shall be included in the unit bid for the pertinent 603 conduit items of the contract.

ITEM 604 - INLET NO. 2-6, AS PER PLAN

This item shall consist of reconstructing the inlet at the location indicated on sheet no 32. All work necessary to complete this work shall be included in the contract unit price bid for ITEM-604, Inlet NO. 2-6, as per plan.

As per plan ----- 6" thick top slab.

Item - 604 - Inlet no. 2-6, As per plan

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

The following quantity, to be used as directed by the Engineer, has been carried to the General Summary for temporary soil erosion and sediment control measures:

Item 207 - Straw or Hay Bales - - - - - 104 Each
Item 207 - Filter Fabric Fence - - - - - 400 Lin. Ft.

ITEM SPECIAL, PIPE CLEANOUT

This item shall consist of removing all foreign material, material buildup, and obstructions from the inside of conduits.

The cleanout shall be accomplished by using a high pressure water jet, vacu-jet, or any other method as approved by the Engineer. The Contractor shall dispose of all collected material and debris as per 203.05.

For locations and quantities, see sheet no. 15.

Payment for the above work will be made at the contract price for Item 202, Item Special, Linear Feet, Pipe Cleanout, and shall include the cost of all labor, tools, equipment, materials, and incidentals necessary to complete the work.

SAME SEASON COMPLETION OF SURFACE COURSE

Any length of resurfacing work started in a construction season shall have the surface course placed that same season.

STATION MARKING

Station marking shall be provided on each side of the concrete barrier and on top of the concrete median at 100 foot intervals as per Standard Drawing MC-9.3.

UNDERDRAIN TRENCHING PRECAUTION

The Contractor shall take care in trenching for the proposed underdrains so as not to harm the existing telephone cable and gas line shown on the Plan Sheets on sheet no's 22 through 29.

ITEM SPECIAL - IMPACT ATTENUATOR (G.R.E.A.T TYPE)

This item shall consist of furnishing impact attenuators as required in the plans and shall include all related hardware, not separately specified, as required by the manufacturer to construct complete and functional G.R.E.A.T. impact attenuator systems.

The attenuators shall be placed in accordance with the manufacturer's specifications and in reasonably close conformity with details shown on sheet no 31. The impact attenuator shall be manufactured by Energy Absorption Systems, Inc. and distributed by Baldwin & Sours, 1312 Grandview Avenue, Columbus, Ohio 43212, phone 614-851-8800.

The concrete median barrier shall be transitioned to a rectangular shape for use as a concrete backup for the G.R.E.A.T. system. The manufacturer shall provide all details for the backup system which are not shown in the plan. The cost associated with constructing the backup system shall be considered incidental to and included with the cost of the impact attenuator.

The nose cover of the attenuator shall be yellow, and marked with three evenly spaced four (4) inch wide horizontal stripes of white reflective material meeting the requirements of Section 730.19 of the CMS for a permanent installation.

The Contractor shall be responsible for maintaining, repairing and otherwise restoring the impact attenuator in accordance with the manufacturer's maintenance instructions while it is in use during construction of the project. Such repairs shall be performed within 24 hours of the incident which caused damage to the attenuator.

The estimated quantity below shall be used as directed by the Engineer for use in the above mentioned restoration only when it is decided that minor or major repairs cannot be performed within the 24 hour time limitation.

Item Special - Replacement Impact Attenuator, G.R.E.A.T. Type, Model No. 206206SF6, Bi-directional ---- 1 Each

GENERAL NOTES

QUANTITIES	
Calc. BP	Chkd. NT
5	OHIO

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ITEM SPECIAL - IMPACT ATTENUATOR, G.R.E.A.T. TYPE -- continued

Payment for the above work, including furnishing, installing, maintaining, and restoring the attenuator after each vehicular impact, will be made at the respective contract price for Item Special, Each, Replacement Impact Attenuator, G.R.E.A.T. Type, Model No. 206206SF6, Bidirectional, and Item Special, Each, Impact Attenuator, G.R.E.A.T. Type, Model No. 206206SF6, Bidirectional, and shall include the cost of all labor, materials, equipment, and incidentals necessary to complete the work.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY)

An epoxy concrete sealer shall be applied to the following surfaces as shown in the Typical Sections:

- 1) The proposed 622 Type A, Type B-50, and Type D concrete barrier.
- 2) The proposed 612 concrete median.

The sealing operations shall be completed prior to installing the G.R.E.A.T. impact attenuators, and mounting the 802 barrier reflectors.

Refer to the Proposal Note for surface preparation requirements, application rates, material requirements, and application procedures.

The following quantity has been carried to the General Summary to seal the concrete surfaces as specified above:

Item Special, Sealing of Concrete Surfaces (Epoxy)-----4915 Sq.Yd.

ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC-20, AS PER PLAN

Materials furnished for fine and coarse aggregates used in these item shall exclude all stone and crushed carbonate stone.

RAISED PAVEMENT MARKER REMOVED FOR STORAGE, AS PER PLAN

The following quantity has been included in the General Summary for the purpose of removing existing raised pavement markers as per Section 202.071, excluding the requirement of filling the depressions.

Item 202 - Raised Pavement Marker Removed for Storage, As Per Plan - - 300 Each

ITEM 609, CURB, TYPE 2-B, AS PER PLAN

This item shall consist of drilling vertical 5/8" holes at 12" centers into the existing concrete pavement, anchoring the no. 4 bars with epoxy, polyester, or vinyl ester mortar per SS 852, and constructing TYPE 2-B curb per Standard Construction Drawing BP-5.1.

For details, see sheet no. 7. For quantities, see sheet no. 12.

Payment for the above work, including drilling and installing the no. 4 bars, will be made at the contract price for Item 609, Linear Feet, Curb, Type 2-B, As Per Plan, and shall include the cost of all labor, materials, equipment, and incidentals necessary to complete the work.

ITEM SPECIAL, IMPACT ATTENUATOR, TYPE 1

This work shall consist of furnishing and installing an impact attenuator system. The impact attenuator system shall be one of the following:

1. The brakemaster impact attenuating system manufactured by Energy-Absorption Systems, Inc., One East Wacker Drive, Chicago, Illinois 60601 (telephone 312-467-6750).

2. The C.A.T. impact attenuating system manufactured by Syro Steel Company, 1170 N. State Street, Girard, Ohio 44420 (telephone 216-545-4373).

The attenuator shall be placed in accordance with the manufacturer's specifications and at the locations shown on the plans.

The nose of the attenuator shall be marked with three, evenly spaced, four (4) inch wide, horizontal stripes of white reflective material meeting the requirements of CMS 730.19.

Payment for the above work shall be made at the unit bid price for ITEM SPECIAL, EACH, IMPACT ATTENUATOR, TYPE 1. This item shall include all labor, tools, equipment and materials necessary to complete this item in place, including all related hardware, not separately specified, as required by the manufacturer to construct a complete and functional impact attenuator system.

ITEM SPECIAL, IMPACT ATTENUATOR, TYPE 1, BI-DIRECTIONAL

This work shall consist of furnishing and installing an impact attenuator system.

The impact attenuator system shall be one of the following:

1. The brakemaster impact attenuating system manufactured by Energy Absorption Systems, Inc., which is distributed by Baldwin & Sours, 5623 Traube Road, Columbus, Ohio 43228 (telephone 614-851-8800).

2. The C.A.T. impact attenuating system manufactured by Syro Steel Company, 1170 N. State Street, Girard, Ohio 44420 (telephone 216-545-4373).

The attenuator shall be designed for bi-directional impacts, and shall be placed in accordance with manufacturer's specifications, and at the location shown on the plans.

The nose cover of the attenuator shall be marked with three, evenly spaced, four (4) inch wide, horizontal stripes of white reflective material meeting the requirements of 730.19 for a permanent installation.

Payment for the above work shall be made at the contract price for ITEM SPECIAL, EACH, IMPACT ATTENUATOR, TYPE 1, Bi-directional, and shall include the cost of all labor, tools, materials, equipment, and incidentals necessary to complete this item in place, including all related hardware, not separately specified, as required by the manufacturer to construct a complete and functional impact attenuator system.

ITEM 615, TEMPORARY PAVEMENT, CLASS A

The temporary pavement shall be placed in the void created from the removal of existing concrete barrier and shall consist of minimum 9" thick Item 301, Bituminous Aggregate Base to support the overlay.

Payment for the above work shall be made at the unit bid price for Item 615, Temporary Pavement, Class A and shall include the cost of all labor, materials, equipment and incidentals to complete the work.

ITEM 606, GUARDRAIL BARRIER DESIGN, TYPE 5

Guardrail posts shall be bored through Item 615, Temporary Pavement by means of pneumatic drills or other equipment approved by the Engineer.

Payment for Item 606, Guardrail Barrier Design, Type 5 shall be made at the unit bid price and shall include the cost of boring, all labor, materials, equipment and incidentals necessary to complete the work.

ITEM 604, CATCH BASIN, NO. 5, AS PER PLAN

Upper box and grate of CB, NO. 5 shall be placed over the base of existing structure. The grate shall be adjusted to provide positive drainage from the overlay.

Payment for Item 604, Catch Basin no. 5, shall be made at the unit bid price and shall include the cost of backfilling, all labor, materials, equipment and incidentals necessary to complete the work.

QUANTITIES			
Calc.	BP	Chkd.	NT
Date: 6/2/94		Date: 6/3/94	

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5	OHIO		

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MAINTENANCE OF TRAFFIC NOTES

MAINTAINING TRAFFIC

GENERAL

At least one lane of traffic shall be maintained in each direction at all times.

All work and traffic control devices shall be in accordance with Item 614 and other applicable portions of the Construction and Materials Specifications as well as in accordance with Part 7 of the Ohio Manual of Uniform Traffic Control Devices.

Traffic shall be maintained as specified by use of the existing and/or rescue pavement and shoulders.

Length and duration of lane closures and restrictions shall be at the approval of the Engineer. It is the intent to minimize the impact to the traveling public. Lane closures or restrictions over segments of the project in which no work is anticipated within a reasonable time frame, as determined by the Engineer, shall not be permitted. The level of utilization of maintenance of traffic devices shall commensurate with the work in progress.

If the project is shut down for winter and the permanent pavement markings have not been applied, then Class I Temporary Edge Lines and Lane Lines shall be applied to each directional roadway for the length of the project.

All work and traffic control devices shall be in accordance with 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment and materials shall be included in the lump sum contract price for 614, maintaining traffic, unless separately itemized in the plan.

BRIDGES

Portable concrete barrier, 32", shall be furnished, installed, maintained, and subsequently removed by the Contractor. All installations shall be subject to the approval of the Engineer.

Traffic shall be maintained as per Standard Drawing MT 95.30 for the remainder of the bridge work.

The following estimated quantities are included in the Maintenance of Traffic General Summary for the purpose of maintaining traffic on bridge no. BEL-7-1848L as specified above:

Item 614 - Object Marker, ----- 20 Each
Item 614 - Barrier Reflector, Type B ----- 20 Each
Item 622 - Portable Concrete Barrier, 32" ----- 510 L.F.

INTERCHANGE RAMPS

Ramp traffic shall be maintained by use of portions of the existing and/or rescue pavement and existing shoulders.

In no case shall traffic be permitted to form a queue which extends beyond the limits of the ramp onto the speed change lane, mainline or crossroad pavement. The limits and duration of any traffic stoppage shall at all times be subject to the direction of the Engineer.

SPEED CHANGE LANES

Speed change lane traffic shall be maintained by use of portions of the existing and/or rescue pavement and existing shoulders.

AT GRADE INTERSECTIONS

Access to the at grade intersections of CR 32 and TR 1245 shall be maintained at all times.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

The Contractor's equipment shall be operated in the direction of traffic. A qualified flagger shall be employed where the Contractor's equipment must merge with the traffic stream. The Contractor shall be equipped with at least one (1) amber flashing light. Pares, rollers and other equipment may be parked in areas along the highway when pavement repair or paving operations are scheduled to continue within the next workday; otherwise the equipment shall be stored at a storage area, the location of which shall have prior approval of the Engineer. When parking along the highway, the equipment shall be parked either thirty (30) feet from the outside edge of pavement or six (6) feet behind guardrail with a minimum of 125 feet of guardrail preceding the equipment. All other equipment, including private vehicles, shall be stored at the approved Contractor's storage area.

The Contractor shall designate an individual, other than the Superintendent and subject to the approval of the Engineer, to continuously inspect all traffic control devices whenever construction work is being performed within the work limits of the project. The designated individual shall also inspect all traffic control devices at the end of each work day. The designated individual shall also be available on an around-the-clock basis to repair and/or replace damaged or missing traffic control devices. Payment for the Traffic Control Inspector shall be included in the lump sum price bid for Item 614 - Maintaining Traffic.

CONCRETE MEDIAN BARRIER REPLACEMENT

Removing, grading and installing the replacement barrier in a continuous operation shall be limited to a 3000 linear feet length and shall at all times be subject to the approval of the Engineer. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

ITEM 622, PORTABLE CONCRETE BARRIER

It is anticipated that the same barrier will be used in various phases of construction. Movement of the concrete barrier between phases shall be accomplished in one working day. Flaggers shall be utilized for protection of vehicular traffic until movement of the barrier is complete.

ITEM 614, BARRIER REFLECTORS

Reflectors and their mounting shall conform to Supplemental Specification 802 except that spacing shall be as shown on sh. No. 14

ITEM SPECIAL, REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE FOOT FOR ITEM SPECIAL, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 100 SQUARE FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM SPECIAL, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM SPECIAL, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 40 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

ITEM SPECIAL-LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH: STATE HIGHWAY PATROL, LOCATED AT 660 EAST MAIN, COLUMBUS, OH 43205 (PH. NO. 614-466-2660).

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM SPECIAL-LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR 48 HOURS THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

QUANTITIES	
Calc. BP	Chkd. NT
5	<input type="checkbox"/> OHIO

F.H.W.A. REGION	STATE	PROJECT	
5	<input type="checkbox"/> OHIO		19A 57

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MAINTENANCE OF TRAFFIC NOTES

ITEM 614 - WORK ZONE SPEED LIMIT SIGN

The Contractor shall furnish, install, maintain, cover during suspension of work, and remove work zone speed limit signs and supports (R-10-48) (45 MPH) within the work limits in accordance with the following requirements.

The Contractor shall cover or remove any existing speed limit or minimum speed signs within the reduced speed zone. These signs shall be restored during suspension or termination of the reduced speed limit. The expense of covering or removal and restoration of existing speed limit or minimum speed signs is incidental to the pay item for the work zone speed limit signs.

The work zone speed limit signs may be erected and covered prior to starting work or may be erected uncovered no more than 4 hours before the actual start of work. The signs shall be removed or covered no later than 4 hours following restoration of all lanes of traffic with no restrictions as sooner as directed by the Engineer.

The Contractor shall erect a work zone speed limit sign in advance of any lane restriction which is 1/2 mile or more in length and which is expected to last at least 30 consecutive calendar days or as directed by the Engineer. The sign shall be mounted on both sides of divided highway, 500 feet in advance of the lane reduction taper. The sign shall be mounted on the right side, 250 feet in advance of the lane reduction taper on undivided highways. The sign shall be repeated, on the side nearest traffic, every 1 mile for 55 MPH zones and every 1/2 mile for 45 MPH zones. These signs shall also be erected immediately after each open entrance ramp with the zone.

The Contractor may use signs and supports in used but good condition provided the signs meet current ODOT specifications. Sign faces shall be reflectorized with Type G sheeting complying with the requirements of 730.19 and U.S. Department of Transportation Supplement Specification for Type III-C Sheetings, FP-85. Work zone speed limit signs shall be mounted on two (2) Item 630 Ground Mounted Supports, No. 4 posts.

Work zone speed limit sign and supports will be measured as the number of sign installations, including the sign and necessary supports. If a sign and support combination is removed and reerected at another location within the project due to changes in the speed zone directed by the Engineer, it shall be considered another unit.

Payment for accepted quantities, complete, in place will be made at the contract unit price. Payment shall be full compensation for all materials, labor, incidentals and equipment for furnishing, erection, maintenances, covering during suspension of work, and removal of the signs and supports.

The following quantity has been carried to the General Summary:

Item 614 - Work Zone Speed Limit Sign - - - - 22 Each

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

The Contractor shall notify the Engineer at least eighteen (18) days prior to implementing any work zone restrictions which will reduce the width or vertical clearance of any lane on which traffic will be maintained during construction.

The Engineer shall immediately notify the District Operations Department to advise the Bureau of Permits and Communications of the restrictions.

GENERAL SUMMARY

QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/2/94	Date: 6/6/94

H.W.A. REGION	STATE	PROJECT		
5	OHIO			

ITEM	SHEET NUMBER								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION		
	11	12	13	14	15	17	18	32							
														ROADWAY	
202	1300.00								202	23500	1300	SQ.YD.		WEARING COURSE REMOVED	
202	530.00								202	30600	530	SQ.YD.		CONCRETE MEDIAN REMOVED	
202	530.00								202	30700	530	LIN.FT.		CONCRETE BARRIER REMOVED	
202	4192.00								202	30701	4192	LIN.FT.		CONCRETE BARRIER REMOVED, AS PER PLAN (SEE SHT. #16)	
202	4225.00								202	32000	4225	LIN.FT.		CURB REMOVED	
202	17625								202	38000	17625	LIN.FT.		GUARDRAIL REMOVED	
202	1050.00								202	38300	1050	LIN.FT.		GUARDRAIL REMOVED, BARRIER DESIGN	
202									202	54101	300	EACH		RAISED PAVEMENT MARKER REMOVED FOR STORAGE, AS PER PLAN (SEE SHEET NO. 18)	
202									202	58300	6	EACH		CATCHBASIN OR INLET REMOVED	
SPECIAL									SPECIAL	202	70100	1300	LIN.FT.		PIPE CLEANOUT (SEE NOTE ON SHT. #17)
203	720.00	166.00							203	12000	886	CU.YD.		EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
203	2075.00								203	50000	2075	SQ.YD.		SUBGRADE COMPACTION	
203	147.00								203	60000	147	STATION		LINEAR GRADING, METHOD 1 (SEE NOTE ON SHT. #16)	
203	160.00								203	60000	160	STATION		LINEAR GRADING, METHOD 2 (SEE NOTE ON SHT. #16)	
203	39.00								203	60000	39	STATION		LINEAR GRADING, METHOD 3 (SEE NOTE ON SHT. #16)	
SPECIAL									SPECIAL	512	67502	4915	SQ.YD.		SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)
606	16475.00								606	13000	16475	LIN.FT.		GUARDRAIL, TYPE 5	
606	637.50								606	13050	637.50	LIN.FT.		GUARDRAIL, TYPE 5A	
606	856.0								606	15500	856	LIN.FT.		GUARDRAIL, BARRIER DESIGN, TYPE 5	
606	I								606	25000	I	EACH		ANCHOR ASSEMBLY, TYPE A	
606	3								606	26000	3	EACH		ANCHOR ASSEMBLY, TYPE B	
606	8								606	26100	8	EACH		ANCHOR ASSEMBLY, TYPE E (SEE NOTE ON SHT. #16)	
606	II								606	26500	II	EACH		ANCHOR ASSEMBLY, TYPE T	
606	3								606	35000	3	EACH		BRIDGE TERMINAL ASSEMBLY, TYPE I	
606	2								606	35004	2	EACH		BRIDGE TERMINAL ASSEMBLY, TYPE I, BARRIER DESIGN	
606	I								606	35100	I	EACH		BRIDGE TERMINAL ASSEMBLY, TYPE 2	
622	3585.00								622	23301	3585	LIN.FT.		CONCRETE BARRIER, TYPE A, AS PER PLAN A (SEE NOTE ON SHT. NO. 16)	
622	14.00								622	23302	14	LIN.FT.		CONCRETE BARRIER, TYPE A, REINFORCED	
622	1478.00								622	23404	1478	LIN.FT.		CONCRETE BARRIER, TYPE B-50	
622	100.00								622	24000	100	LIN.FT.		CONCRETE BARRIER, TYPE D	
SPECIAL	2								SPECIAL	690	10200	2	EACH		IMPACT ATTENUATOR, G.R.E.A.T TYPE (SEE NOTE ON SHT. #'S 17-18)
SPECIAL	I								SPECIAL	690	10350	1	EACH		IMPACT ATTENUATOR, TYPE I (SEE NOTE ON SHT. # 18)
SPECIAL	I								SPECIAL	690	10360	1	EACH		IMPACT ATTENUATOR, TYPE I, BI-DIRECTIONAL (SEE NOTE ON SHT. #18)
SPECIAL	I								SPECIAL	690	10410	1	EACH		REPLACEMENT IMPACT ATTENUATOR (SEE NOTE ON SHT. #'S 17-18)
														EROSION CONTROL	
207		400							207	30000	400	LIN.FT.		FILTER FABRIC FENCE (SEE PROPOSAL NOTE)	
207		104							207	70000	104	EACH		STRAW OR HAY BALES	
659	24000.00								659	10000	24000	SQ.YD.		SEEDING AND MULCHING	
659	2								659	20000	2	TON		COMMERCIAL FERTILIZER	
659	II								659	30000	II	TON		AGRICULTURAL LIMING	
659	51								659	35000	51	M.GAL		WATER	
														DRAINAGE	
510									201	510	09950	201	EACH		DOWEL HOLES WITH CEMENT GROUT
603	200.00								603	01500	200	LIN.FT.		6" CONDUIT, TYPE F, 707.15 NON PERFORATED, ASTM D-3034, SDR 35, SS 931 OR SS 944	
604									604	01601	I	EACH		CATCH BASIN, No. 5, AS PER PLAN (SEE SHT. #18)	
604									604	04900	I	EACH		CATCH BASIN, No. 2-3	
604									604	05300	I	EACH		CATCH BASIN, No. 2-4	
604									20	604	09000	20	EACH		CATCH BASIN ADJUSTED TO GRADE
604									604	09900	I	EACH		CATCH BASIN GRATE	
604									604	10901	I	EACH		INLET, No. 2-6, AS PER PLAN (SEE NOTE ON SHT. #17)	
604	3								604	14602	3	EACH		INLET, No. 3B50	
604									10	604	20801	10	EACH		INLET RECONSTRUCTED TO GRADE, AS PER PLAN (SEE SHT. #32)
604									3	604	34500	3	EACH		MANHOLE ADJUSTED TO GRADE
SPECIAL	I								SPECIAL	604	36600	I	EACH		PRECAST REINFORCED CONCRETE OUTLET
605	5064.00								605	11101	5064	LIN.FT.		6" SHALLOW PIPE UNDERDRAIN, 707.15, AS PER PLAN (SEE SHT. #33)	
														PAVEMENT	
301	175.00								301	10002	175	CU.YD.		BITUMINOUS AGGREGATE BASE, AC-20	
304	590.00								304	20000	590	CU.YD.		AGGREGATE BASE (SEE PROPOSAL NOTE)	
407	7560.00								407	10000	7560	GALLON		TACK COAT	
408	830.00								408	10000	830	GALLON		BITUMINOUS PRIME COAT	
413		31000.00							413	14000	31000	LIN.FT.		SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINT	
446	7652.00								446	01200	7652	CU.YD.		ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20	
446	3568.00								446	01401	3568	CU.YD.		ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC-20, AS PER PLAN (SEE NOTE ON SHT. NO. 18)	
448	340.00								448	14101	340	CU.YD.		ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I (UNDER GUARDRAIL), AS PER PLAN (SEE NOTE ON SHT. #16)	
609	4215.00								609	16001	4215	LIN.FT.		CURB, TYPE 2-B, AS PER PLAN (SEE SHEET # 18)	
612	665.00								612	40000	665	SQ.YD.		4" CONCRETE MEDIAN	

QUANTITIES		F.H.W.A. REGION	STATE	PROJECT	
Calc. BP	Chkd. NT	5	OHIO		
Date: 6/2/94	Date: 6/7/94	BEL-7-17.99			

GENERAL SUMMARY

ITEM	SHEET NUMBER							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
13	14	19	19A		38	39	40					
TRAFFIC CONTROL												
621				1361				621	00100	1361	EACH	RAISED PAVEMENT MARKER
630					84.00			630	02100	84	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 2 POST
630					30.00			630	03100	30	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 3 POST
630					254.00			630	04100	254	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 4 POST
630					96.00			630	07500	96	LIN.FT.	GROUND MOUNTED SUPPORT, W10x22 BEAM
630					22			630	85100	22	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERCTION
630					27			630	86002	27	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
630					1			630	97700	1	EACH	SIGNING, MISC., CONCRETE BARRIER MOUNTED SIGN SUPPORT (SEE SHEET #38 FOR DETAILS)
642					12.00			642	00102	12	MILE	EDGE LINE, TYPE 2
642					5.00			642	00202	5	MILE	LANE LINE, TYPE 2
642					0.02			642	00302	0.02	MILE	CENTER LINE, TYPE 2
642					2500.00			642	00402	2500	LIN.FT.	CHANNELIZING LINE, TYPE 2
642					228.00			642	00502	228	LIN.FT.	STOP LINE, TYPE 2
642					1430.00			642	00702	1430	LIN.FT.	TRANSVERSE LINE, TYPE 2
642					8			642	01302	8	EACH	LANE ARROW, TYPE-2
642					3			642	01412	3	EACH	WORD ON PAVEMENT, 96", TYPE 2
802	210							802	00100	210	EACH	BARRIER REFLECTOR, TYPE A
802	124							802	00200	124	EACH	BARRIER REFLECTOR, TYPE B
802	6							802	00300	6	EACH	BARRIER REFLECTOR, TYPE A2
MAINTENANCE OF TRAFFIC												
614		48						614	11100	48	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR (SEE NOTE ON SHT. #19)
614		22						614	12470	22	EACH	WORK ZONE SPEED LIMIT SIGN
SPECIAL		100						SPECIAL	614 12500	100	SO.FT.	REPLACEMENT SIGN (SEE NOTE ON SHT. No.19)
SPECIAL		40						SPECIAL	614 12600	40	EACH	REPLACEMENT DRUM (SEE NOTE ON SHT. No.19)
614		20						614	13300	20	EACH	BARRIER REFLECTOR, TYPE B
614		20						614	13350	20	EACH	OBJECT MARKER
614					18.00			614	22000	18	MILE	TEMPORARY EDGE LINE, CLASS I
614					1800.00			614	28000	1800	LIN.FT.	TEMPORARY CORE MARKING, CLASS II
615	244							615	20000	244	SQ.YD.	TEMPORARY PAVEMENT, CLASS A (SEE SHEET #18)
622		510.00						622	40020	510	LIN.FT.	PORTABLE CONCRETE BARRIER, 32"
FOR BRIDGE GENERAL SUMMARY, SEE SHT. #51												
FOR LIGHTING GENERAL SUMMARY, SEE SHT. #54												
614		LUMP						614	11000	LUMP		MAINTAINING TRAFFIC
619								619	15010	LUMP		FIELD OFFICE, TYPE B
623								623	10000	LUMP		CONSTRUCTION LAYOUT STAKES
624								624	10000	LUMP		MOBILIZATION

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23
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N

BENCH MARK

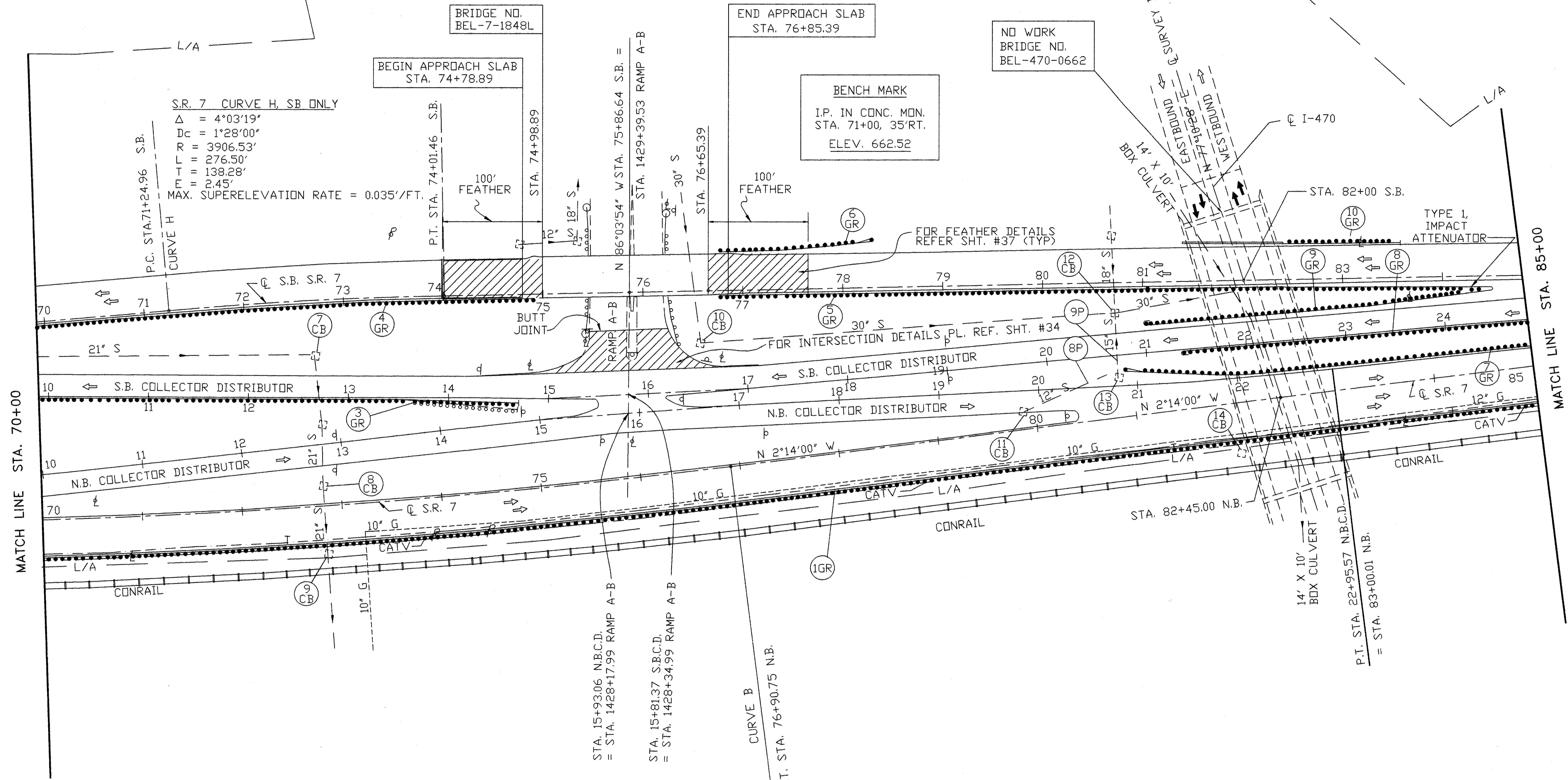
S.R. 7 CURVE B NB ONLY
P.I. STA. 68+20.13
 $\Delta = 14^\circ 00' 00''$ LT.
 $D_c = 0^\circ 48' 00''$
 $R = 7161.98'$
 $L = 1750.00'$
 $T = 879.38'$
 $E = 53.79'$
MAX. SUPERELEVATION RATE = 0.026 %

STA. 55+00 TO STA. 70+00

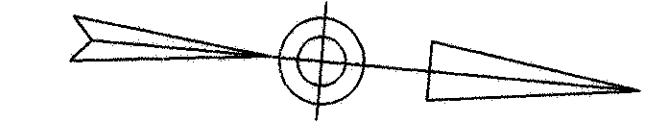
S.R. 7 CURVE B NB ONLY
 P.I. STA. 68+20.13
 $\Delta = 14^{\circ}00'00''$ LT,
 $D_c = 0^{\circ}48'00''$
 $R = 7161.98'$
 $L = 1750.00'$
 $T = 879.38'$
 $E = 53.79'$
 MAX. SUPERELEVATION RATE = 0.026 '/FT.

FOR CATCH BASIN QUANTITIES SEE SHT. NO. 15,32
FOR MEDIAN DRAINAGE QUANTITIES SEE SHT. NO. 32
FOR CONCRETE BARRIER QUANTITIES SEE SHT. NO. 13
FOR TRAFFIC CONTROL QUANTITIES, SEE SHT. NO. 14,38,39, and 40
FOR GUARDRAILS QUANTITIES, SEE SHT. NO. 14
FOR PIPE CLEANOUT QUANTITIES, SEE SHT. NO. 15

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R CATCH BASIN QUANTITIES SEE SHT. NO. 15,32
R MEDIAN DRAINAGE QUANTITIES SEE SHT. NO. 32
R CONCRETE BARRIER QUANTITIES SEE SHT. NO. 13
R TRAFFIC CONTROL QUANTITIES, SEE SHT. NO. 14,38,39, and 40
R GUARDRAILS QUANTITIES, SEE SHT. NO. 14
R PIPE CLEANOUT QUANTITIES, SEE SHT. NO. 15



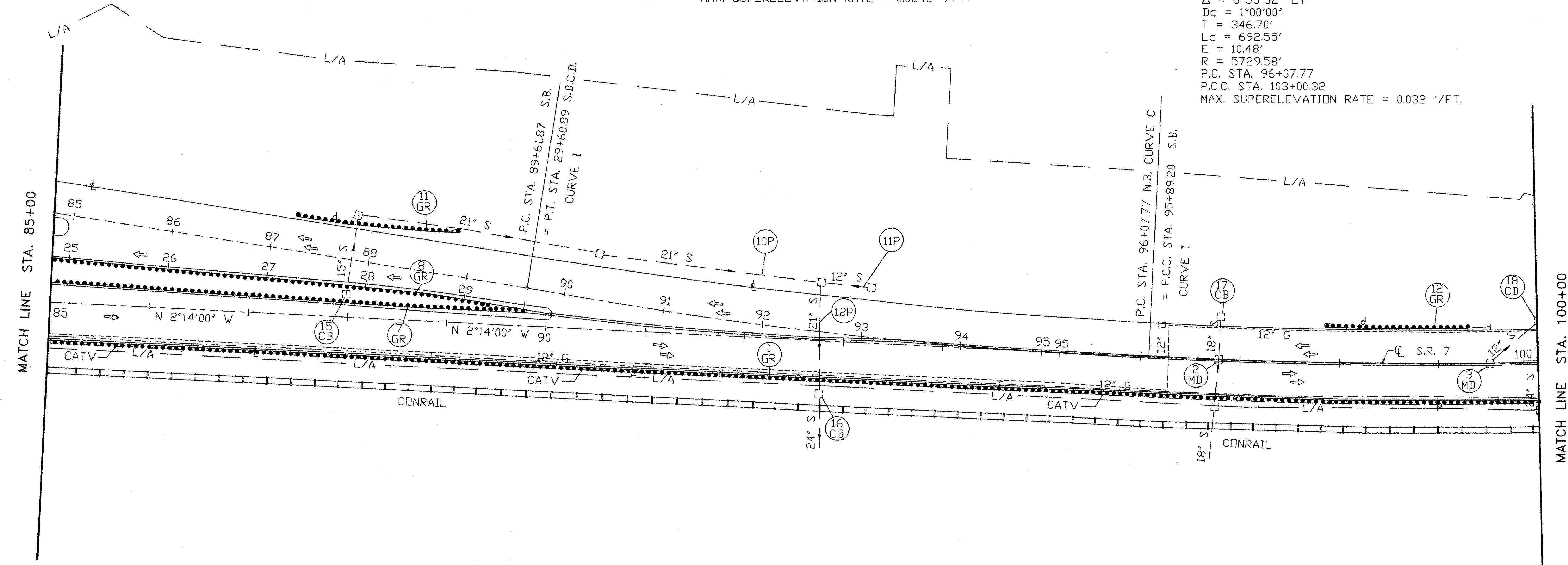
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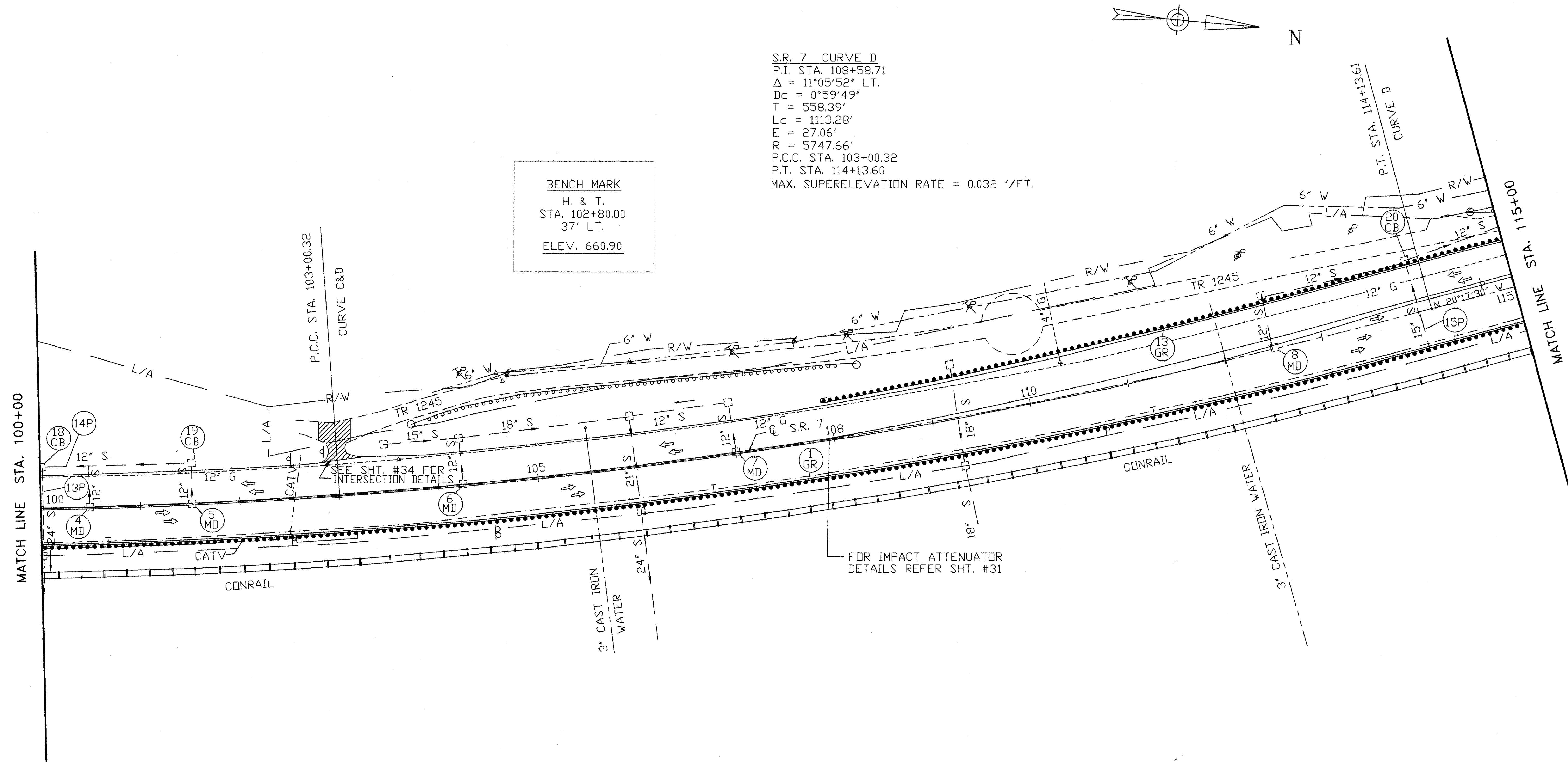
S.R. 7 CURVE I, SB ONLY

$\Delta = 6^{\circ}16'24''$
 $D_c = 1^{\circ}00'00''$
 $R = 5729.58'$
 $L = 627.33'$
 $T = 313.98'$
 $E = 8.60'$
 P.C. STA. 89+61.87
 P.C.C. STA. 95+89.20
 MAX. SUPERELEVATION RATE = 0.0242 '/FT.

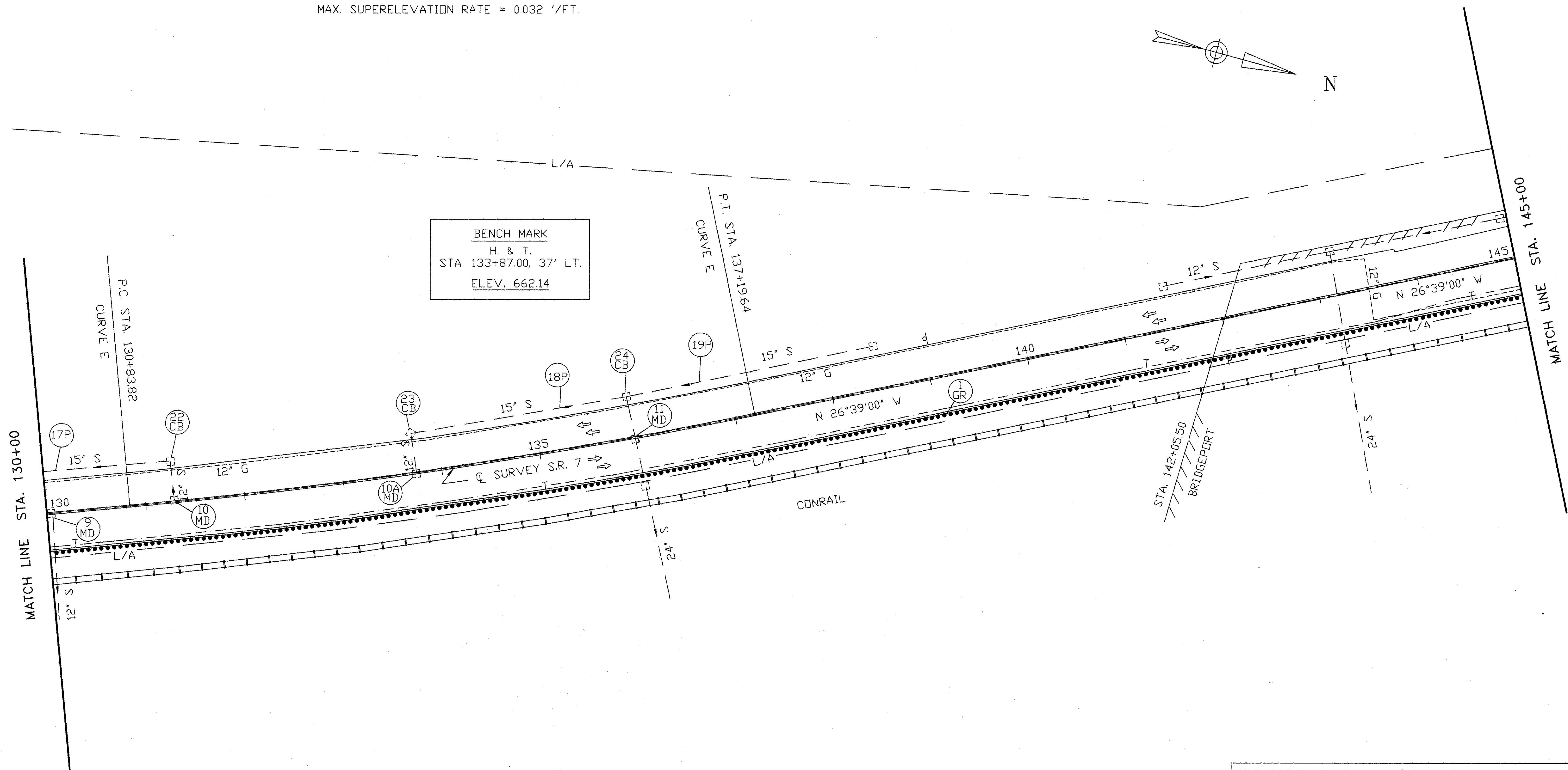
S.R. 7 CURVE C

P.I. STA. 99+54.47
 $\Delta = 6^{\circ}55'32''$ LT.
 $D_c = 1^{\circ}00'00''$
 $T = 346.70'$
 $L_c = 692.55'$
 $E = 10.48'$
 $R = 5729.58'$
 P.C. STA. 96+07.77
 P.C.C. STA. 103+00.32
 MAX. SUPERELEVATION RATE = 0.032 '/FT.





S.R. 7 CURVE E
P.I. STA. 134+02.05
= 6°21'30" LT.
Dc = 1°00'00"
R = 5729.58'
L = 635.83'
T = 318.24'
E = 8.83'
MAX. SUPERELEVATION RATE = 0.032 '/F



FOR CATCH BASIN QUANTITIES SEE SHT. No. 15,32
FOR MEDIAN DRAINAGE QUANTITIES SEE SHT No. 32
FOR CONCRETE BARRIER QUANTITIES SEE SHT. No. 13
FOR TRAFFIC CONTROL QUANTITIES, SEE SHT No. 14,38,39, and 40
FOR GUARDRAIL QUANTITIES SEE SHT. #14
FOR PIPE CLEANOUT QUANTITIES SEE SHT. #15

BENCH MARK

N.E. CORNER, LOWER CONC. STEP
NORTH SET OF STEPS
BRIDGEPORT POST OFFICE

ELEV. 654.27

◆ NH-1(197)

END PROJECT
STA. 157+69.0
S.L.M. 20.03

END WORK
STA. 169+12.75
S.L.M. 20.24

SEE SHT. #37 FOR
FEATHER DETAILS

NO WORK
BRIDGE NO.
BEL-7-2006

SEE SHT. #34 FOR
INTERSECTION DETAILS

S.R. 7. CURVE F-

L = 350.00'
 R = 1273.24'
 Theta = 07°52'30"
 X = 349.34'
 Y = 16.01'
 Stan = 116.88'
 I tan = 233.56'

S.R. 7 CURVE F

P.I. STA. 154+87.00
 = $28^{\circ}50'36''$ RT
 DC = $4^{\circ}30'00''$
 TS = 503.35'
 ES = 45.57'
 LS = 350.00'
 0S = $7^{\circ}52'30''$
 L = 290.96'
 R = 1273.24'

MAX. SUPERELEVATION RATE = 0.074 %

S.R. 7 CURVE F-3

S.R. 7 CURVE F

FOR CATCH BASIN QUANTITIES SEE SHT. No. 15,32
FOR MEDIAN DRAINAGE QUANTITIES SEE SHT No. 32
FOR CONCRETE BARRIER QUANTITIES SEE SHT. No. 13
FOR TRAFFIC CONTROL QUANTITIES, SEE SHT No. 14,38,39, and 40
FOR GUARDRAIL QUANTITIES SEE SHT. #14
FOR PIPE CLEANOUT QUANTITIES SEE SHT. #15

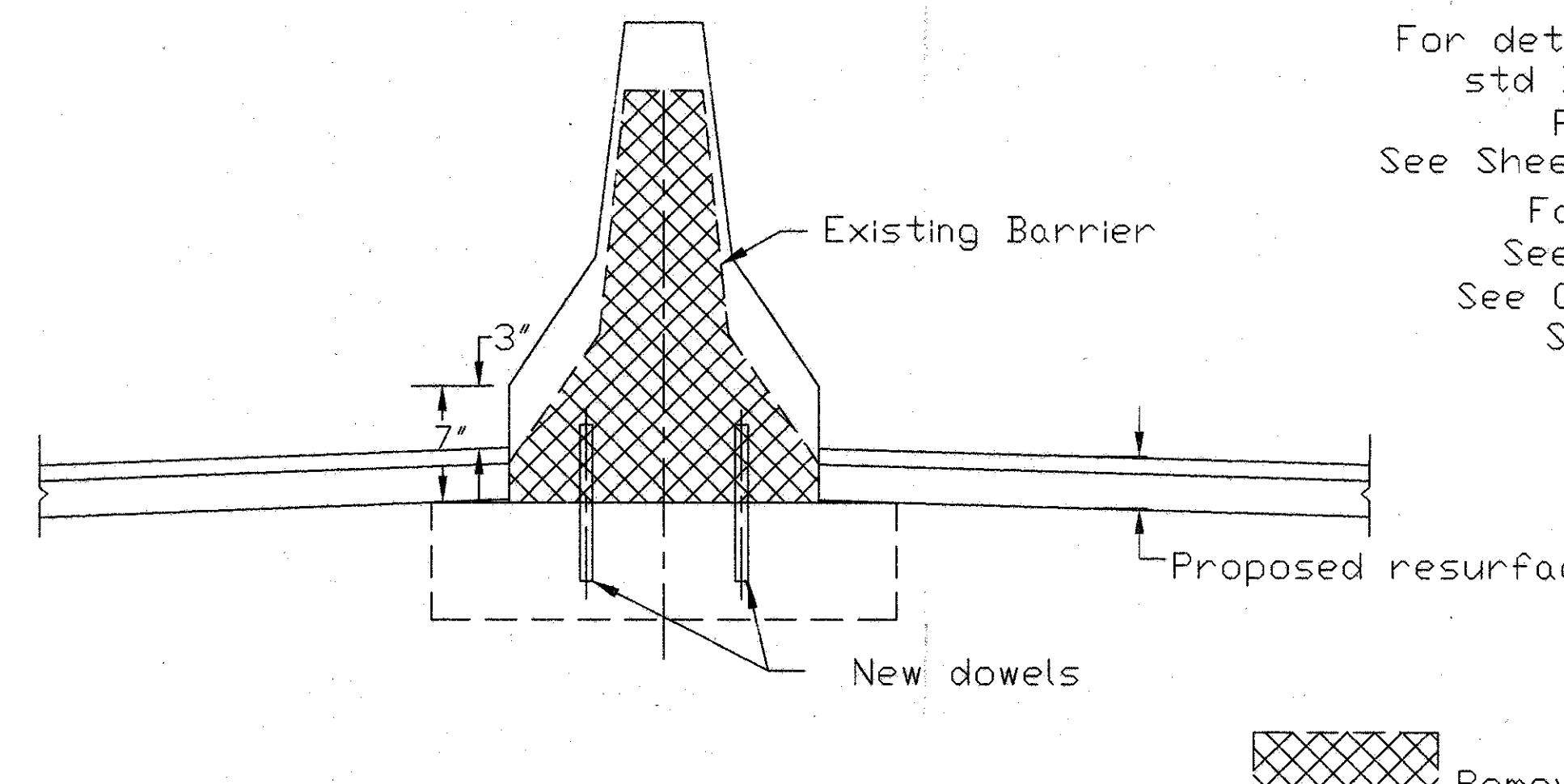
CONCRETE BARRIER DETAILS

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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57

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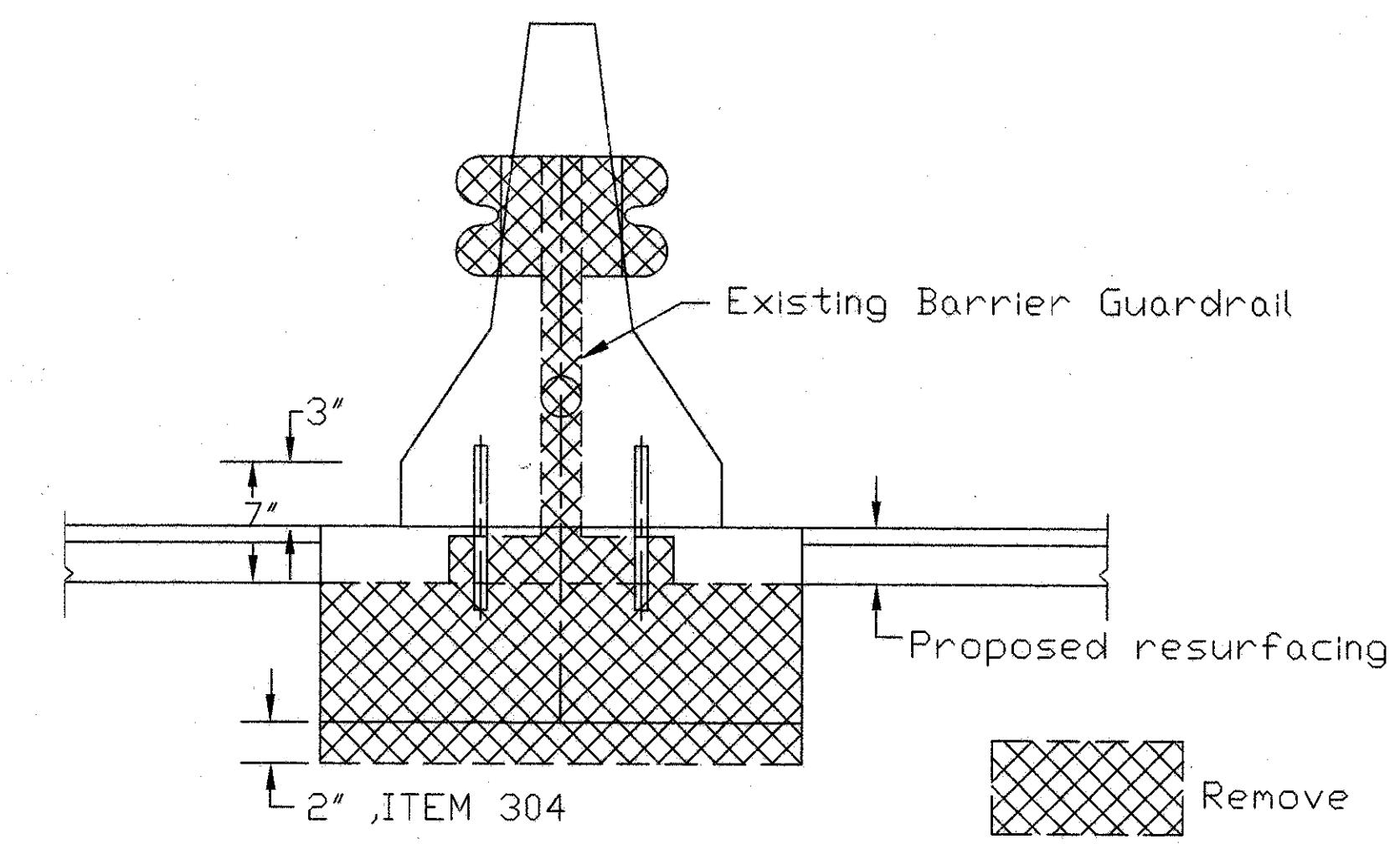
CONCRETE BARRIER, TYPE A, AS PER PLAN A



BARRIER RECONSTRUCTION DETAIL
REFER TYPICAL SECTION FOR STATIONING

For details not shown see
std Drawing MC-9.3
For location,
See Sheet Nos. 4 Through 8
For Quantities,
See Sheet No. 13
See General Note on
Sheet No. 16

CONCRETE BARRIER, TYPE B-50



BARRIER RECONSTRUCTION DETAIL
REFER TYPICAL SECTION FOR STATIONING

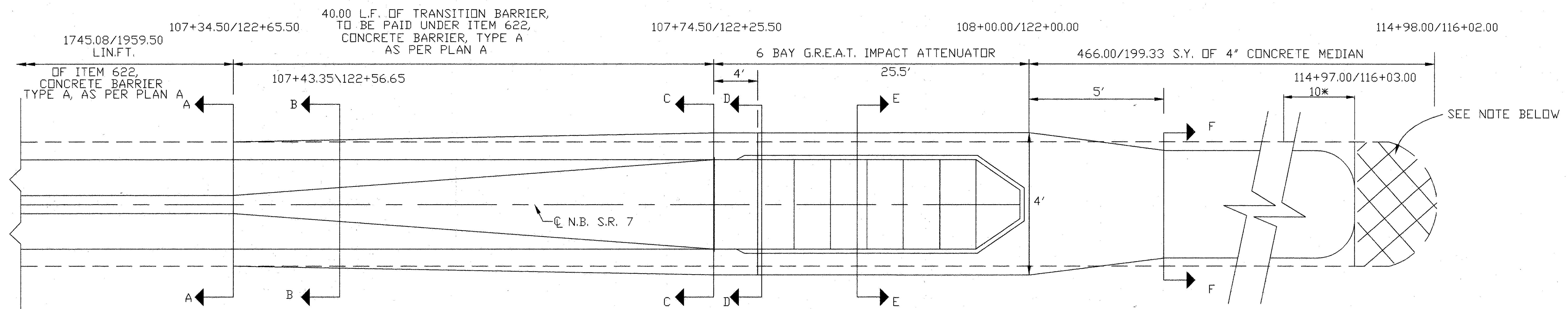
For details not shown see
std Drawing MC-9.3
For location,
See Sheet Nos. 4 Through 8
For Quantities,
See Sheet No. 13

CONCRETE MEDIAN DETAILS

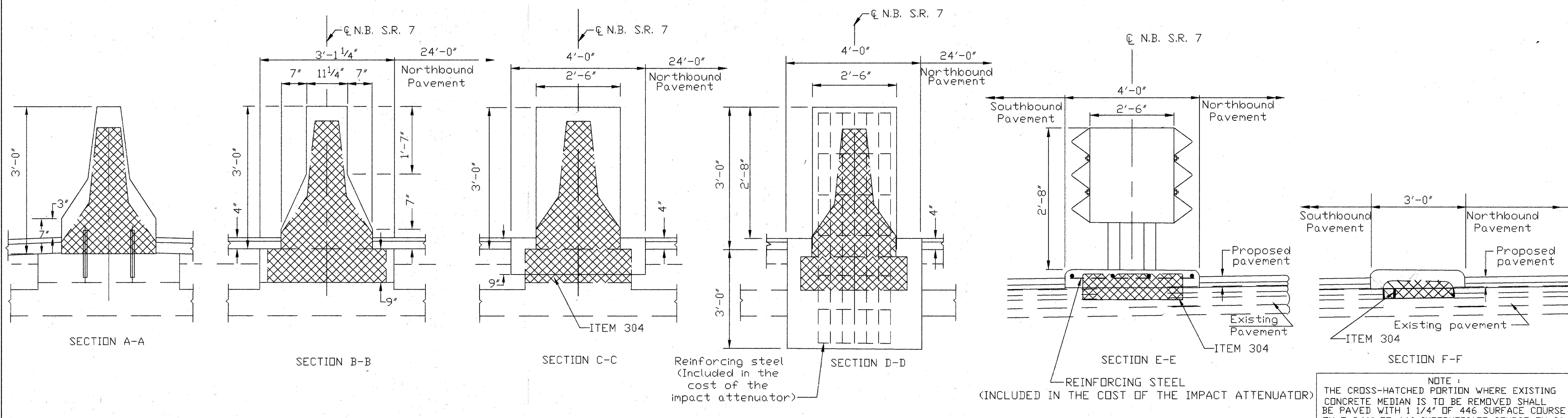
S.R. 7 STA. 107+34.50 TO STA. 122+65.50

F.H.W.A. REGION 5 STATE OHIO PROJECT 31 57

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* TAPER MEDIAN HEIGHT FROM 4" TO 2"

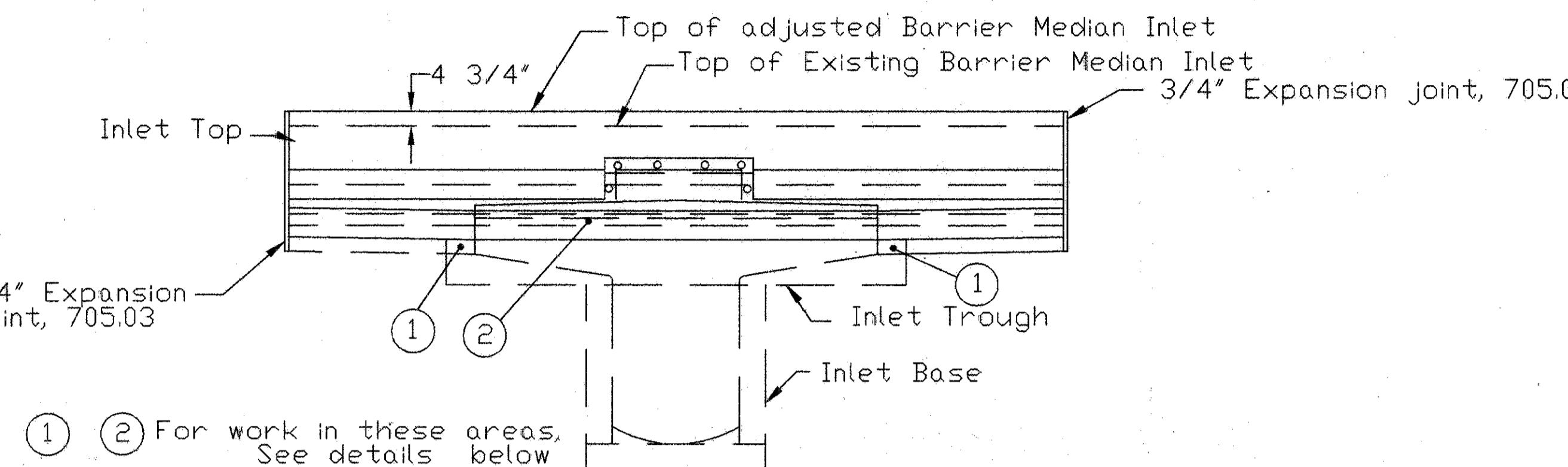


REINFORCING STEEL
(INCLUDED IN THE COST OF THE IMPACT ATTENUATOR)

NOTE:
THE CROSS-HATCHED PORTION WHERE EXISTING CONCRETE MEDIAN IS TO BE REMOVED SHALL BE PAVED WITH 1 1/4" OF 446 SURFACE COURSE ON 5 3/4" OF 446 INTERMEDIATE COURSE ON 9" ± CLASS C CONCRETE. THE COST OF THE CONCRETE SHALL BE INCLUDED IN ITEM 612 4" CONCRETE MEDIAN, UNIT PRICE BID.

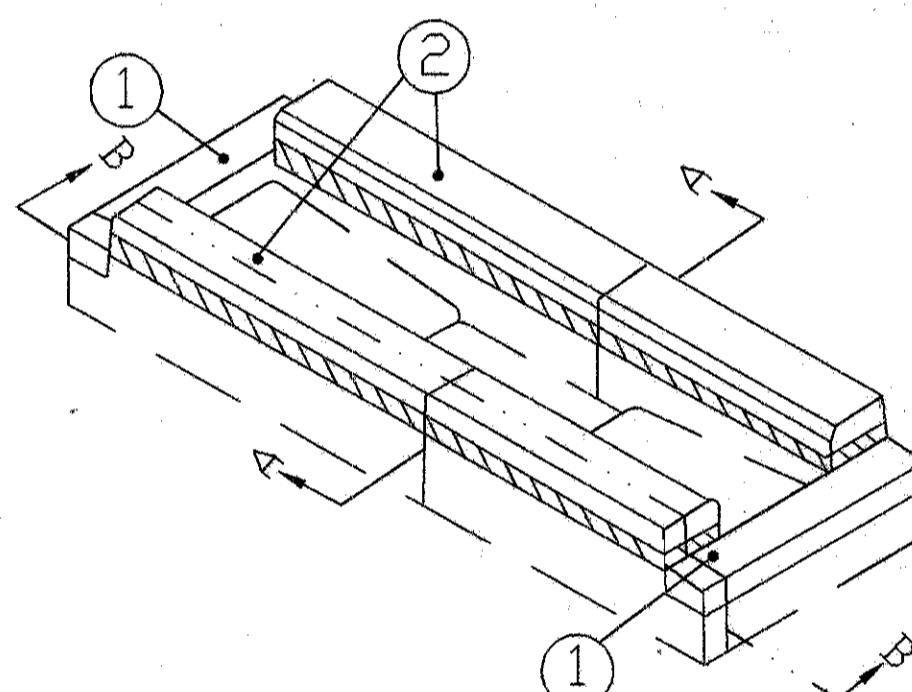
ITEM 604 — BARRIER MEDIAN INLET ADJUSTED TO GRADE, AS PER PLAN

QUANTITY = 10 EACH



ELEVATION

DETAILS NOT TO SCALE

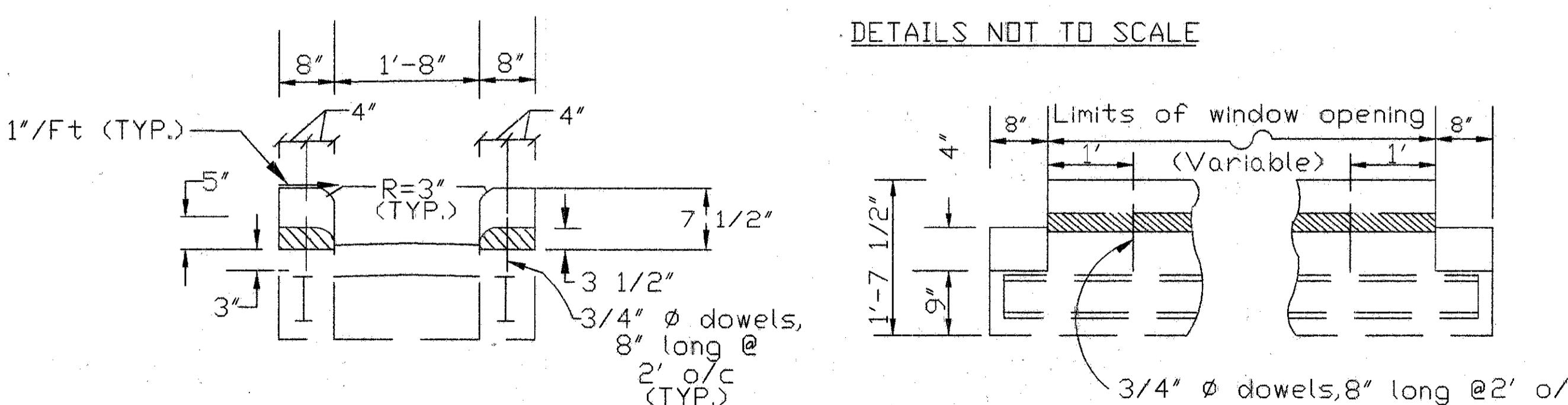


INLET WITHOUT GRATE

(2) THROUGH (7) (9) (10) (10A) (11) MD

THROUGH PORTION - PICTORIAL VIEW

Concrete : Cast in place concrete shall be Class 'C'



SECTION A-A

SECTION B-B

■ PORTION OF EXISTING INLET
TROUGH TO BE REMOVED

FOR DETAILS NOT SHOWN, SEE
STD. DWGS. I-3A & B, I-3C & D

QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/2/94	Date: 6/6/94

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

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REF. NO	SHEET NO.	STATION	OFFSET	SIDE	STRUCTURE ADJUSTED TO GRADE		
					604	604	604
					CATCH BASIN ADJUSTED TO GRADE	MANHOLE ADJUSTED TO GRADE	INLET NO. 2-6, AS PER PLAN
2-C.B.	23	S.B. 56+60	10'	LT.	1		
4-C.B.	23	S.B. 63+12	5'	RT.	1		
5-C.B.	23	S.B. 65+80	10'	RT.	1		
1-MH	23	S.B. 66+95	10'	RT.		1	
11-C.B.	24	N.B.C.D. 19+85	20'	RT.	1		
13-C.B.	24	N.B.C.D. 20+82	7'	LT.	1		
15-C.B.	25	S.B.C.D. 27+82	10'	LT.	1		
17-C.B.	25	S.B. 96+80	42'	LT.	1		
18-C.B.	25	S.R.7 100+00	41'	LT.	1		
19-C.B.	26	S.R.7 101+52	41'	LT.	1		
8-MD	26	S.R.7 112+50		CTR.			1*
20-C.B.	26	S.R.7 114+00	55'	LT.	1		
2-MH	27	S.R.7 115+02	62'	LT.		1	
21-C.B.	27	S.R.7 116+00	65'	LT.	1		
22-C.B.	28	S.R.7 131+30	40'	LT.	1		
23-C.B.	28	S.R.7 133+75	40'	LT.	1		
24-C.B.	28	S.R.7 135+97	40'	LT.	1		
25-C.B.	29	S.R.7 151+15	35'	LT.	1		
26-C.B.	29	S.R.7 151+00	27'	RT.	1		
27-C.B.	29	RAMP A 3+88	5'	RT.	1		
28-C.B.	29	RAMP B 1+32	0'	RT.	1		
29-C.B.	29	S.R.7 155+77	30'	RT.	1		
3-MH	29	S.R.7 155+82	35'	RT.		1	
30-C.B.	29	RAMP B 5+48	3'	RT.	1		
TOTAL (Carried to General Summary)					20	3	1

* SEE NOTE ON SHEET NO. 17

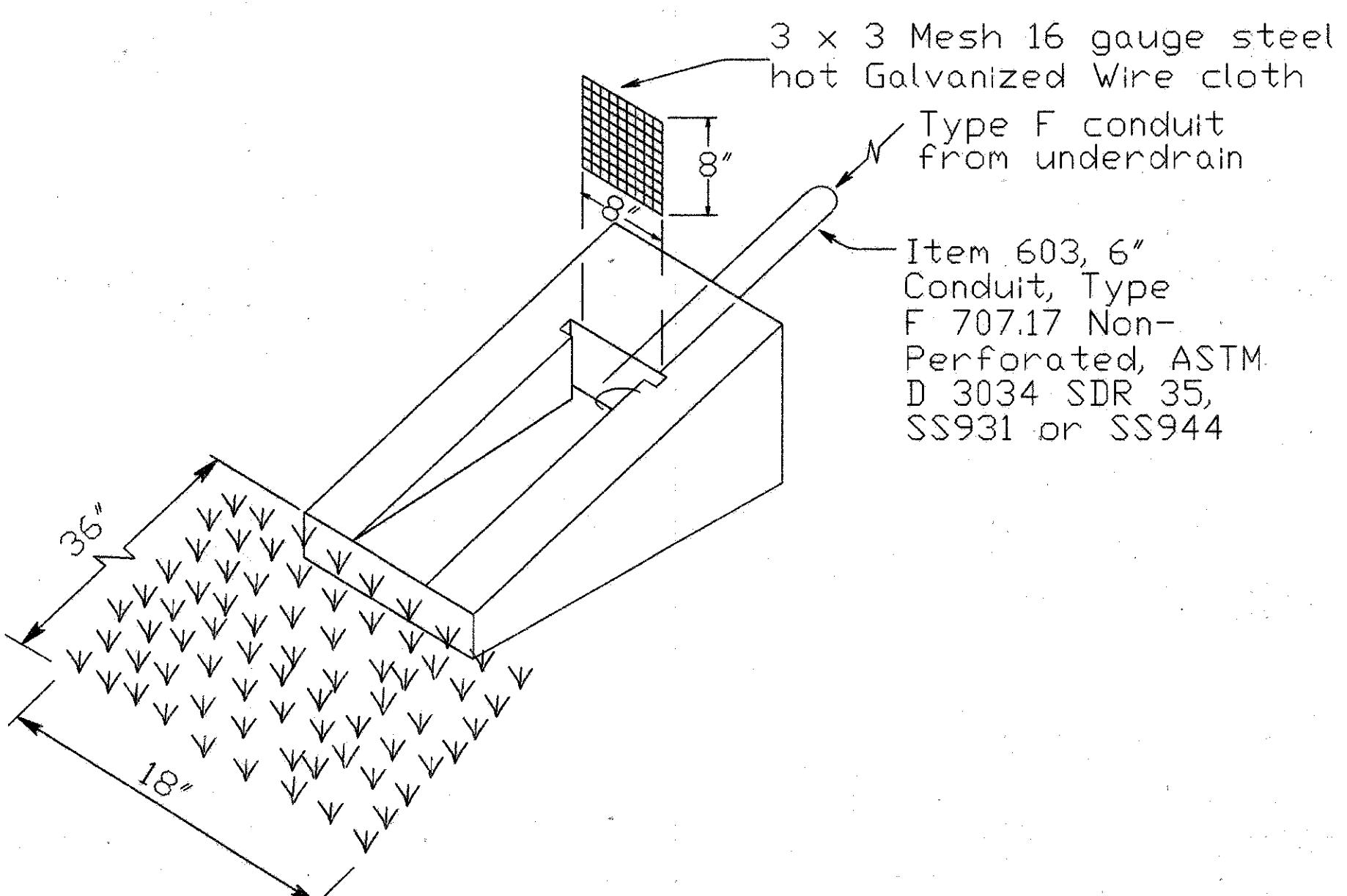
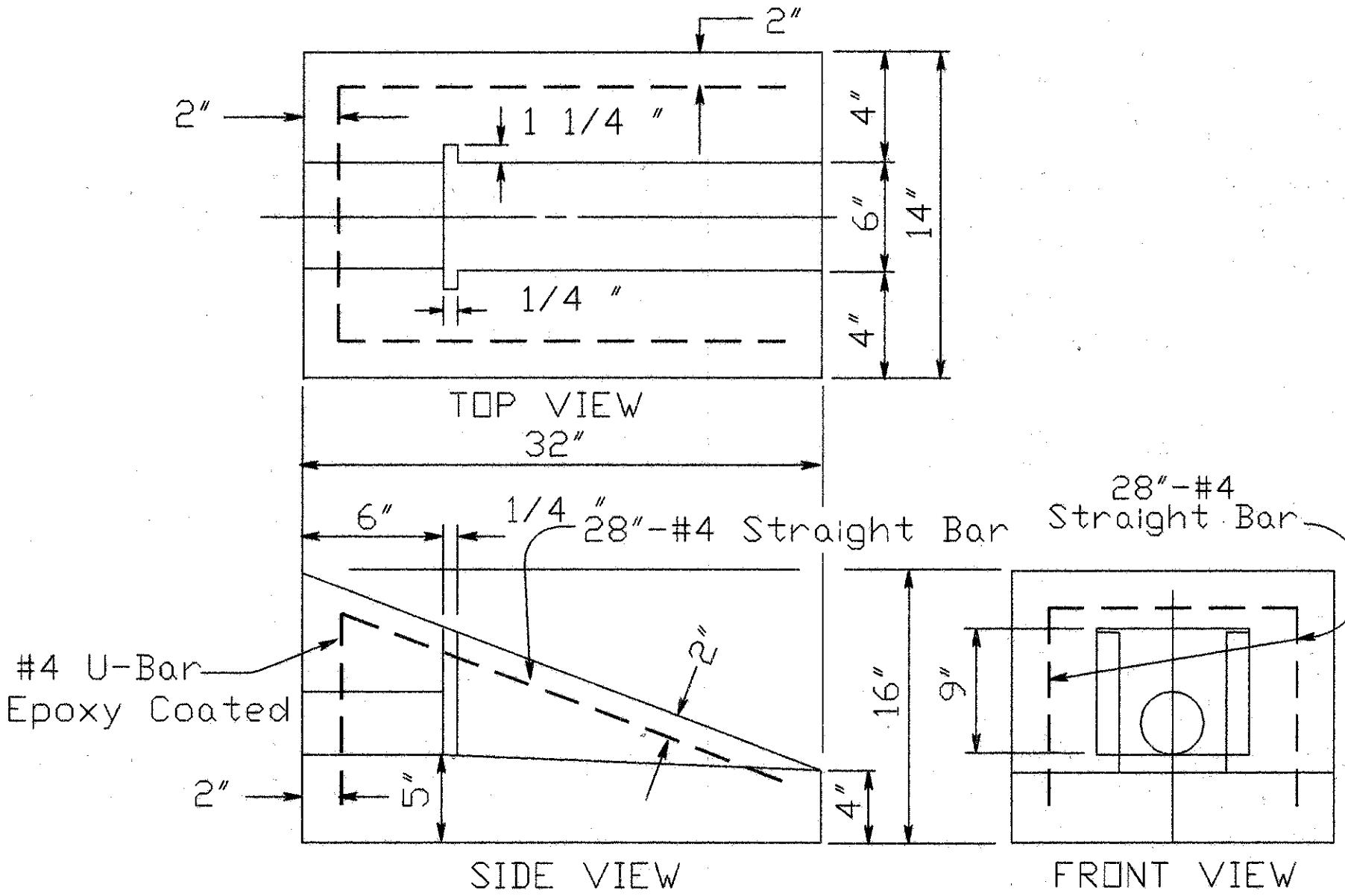
CALCULATIONS FOR DOWELS	
NO. OF MEDIAN DRAINAGE STRUCTURES MODIFIED	= 10
AVG. LENGTH	= 20'
TOTAL LENGTH	= $10 \times 20 \times 2$ = 400'
3/4" Ø DOWELS @ 2' O/C, 8" LONG	= $8/12" \times (400/2+1)$
3/4" Ø DOWELS, = 134 SAY, 150 LIN.FT.	
NO. OF DOWEL HOLES	= $400/2+1$ = 201 ----- ITEM 510
CARRIED TO GENERAL SUMMARY.	

FHWA REGION	STATE	PROJECT	
5	OHIO		33 57

BEL-7-17.99

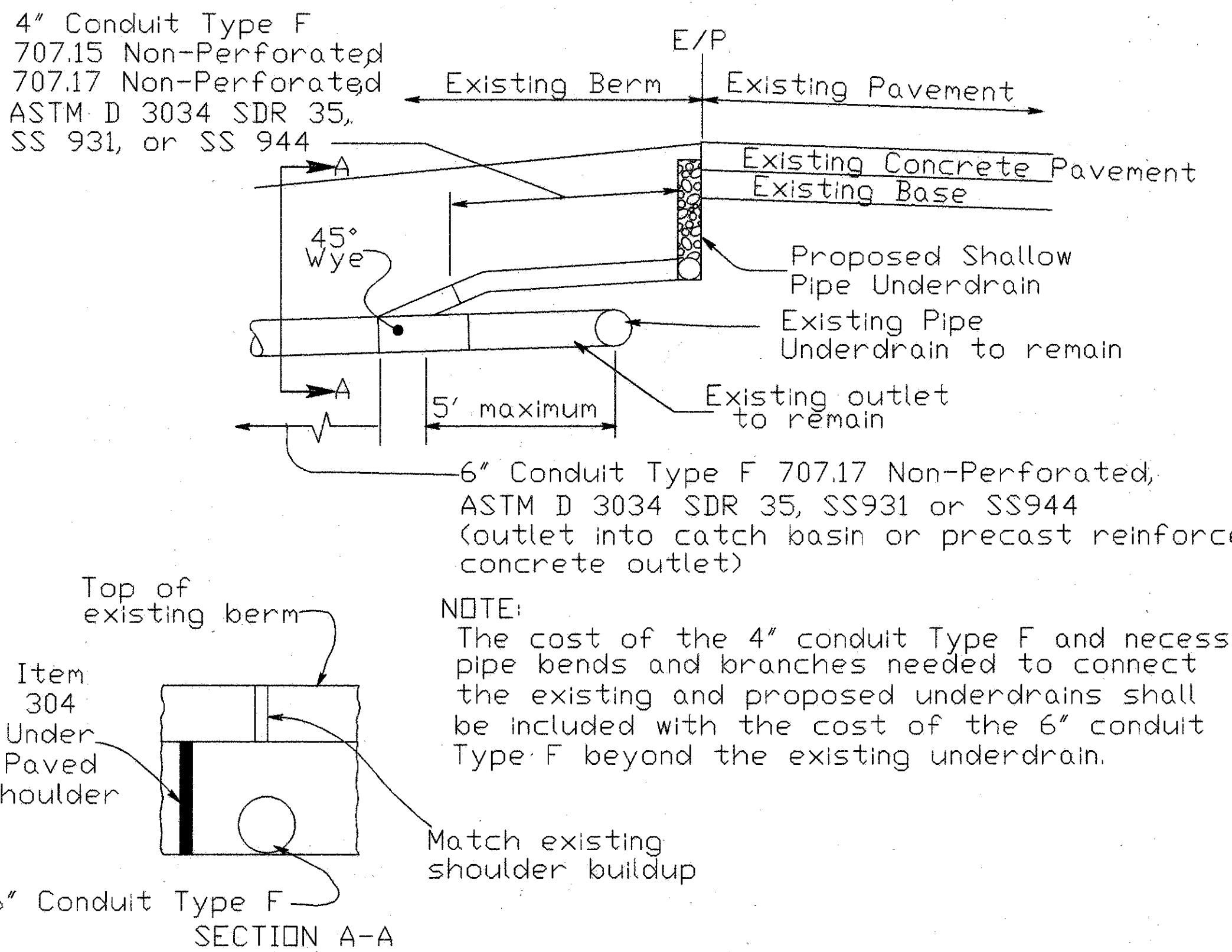
ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

The Concrete outlet shall meet the requirements of Item 604 in the Construction & Materials Specifications. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.

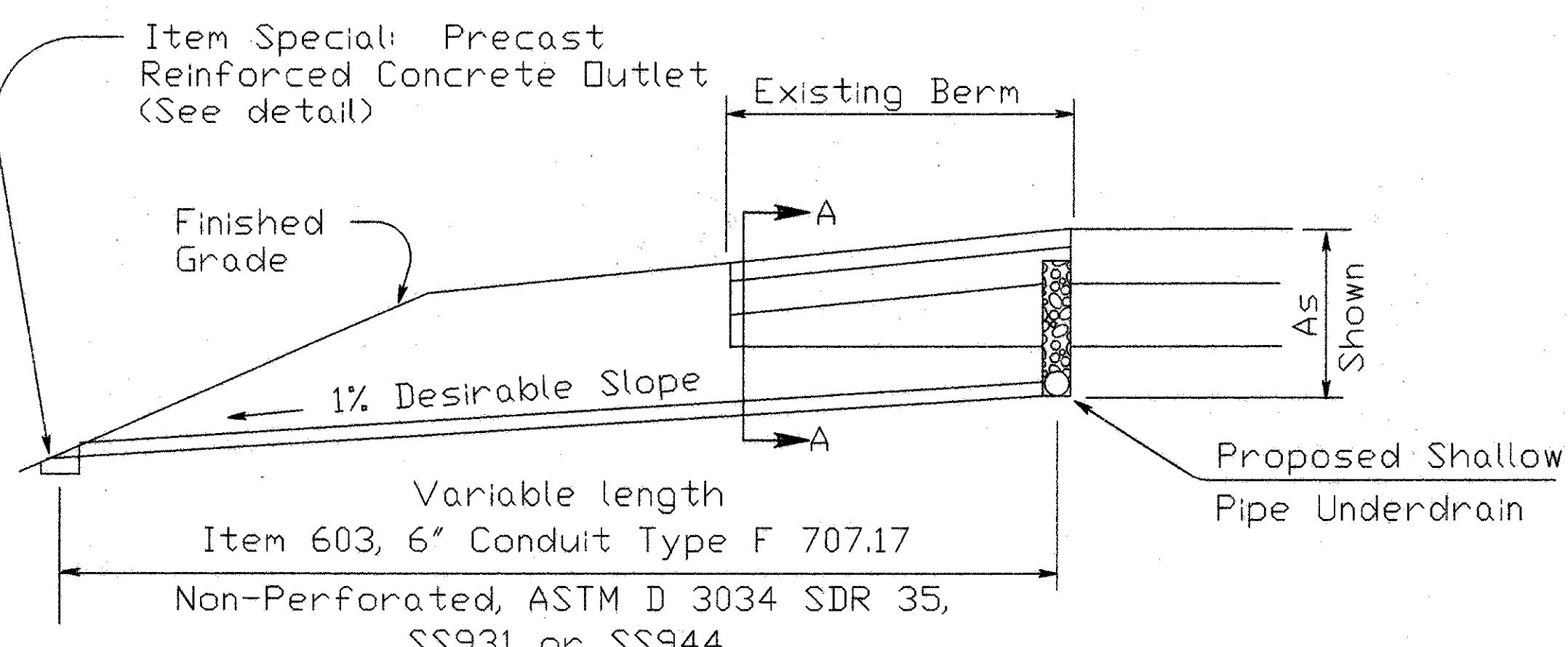


NOTE: The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

OUTLET DETAILS

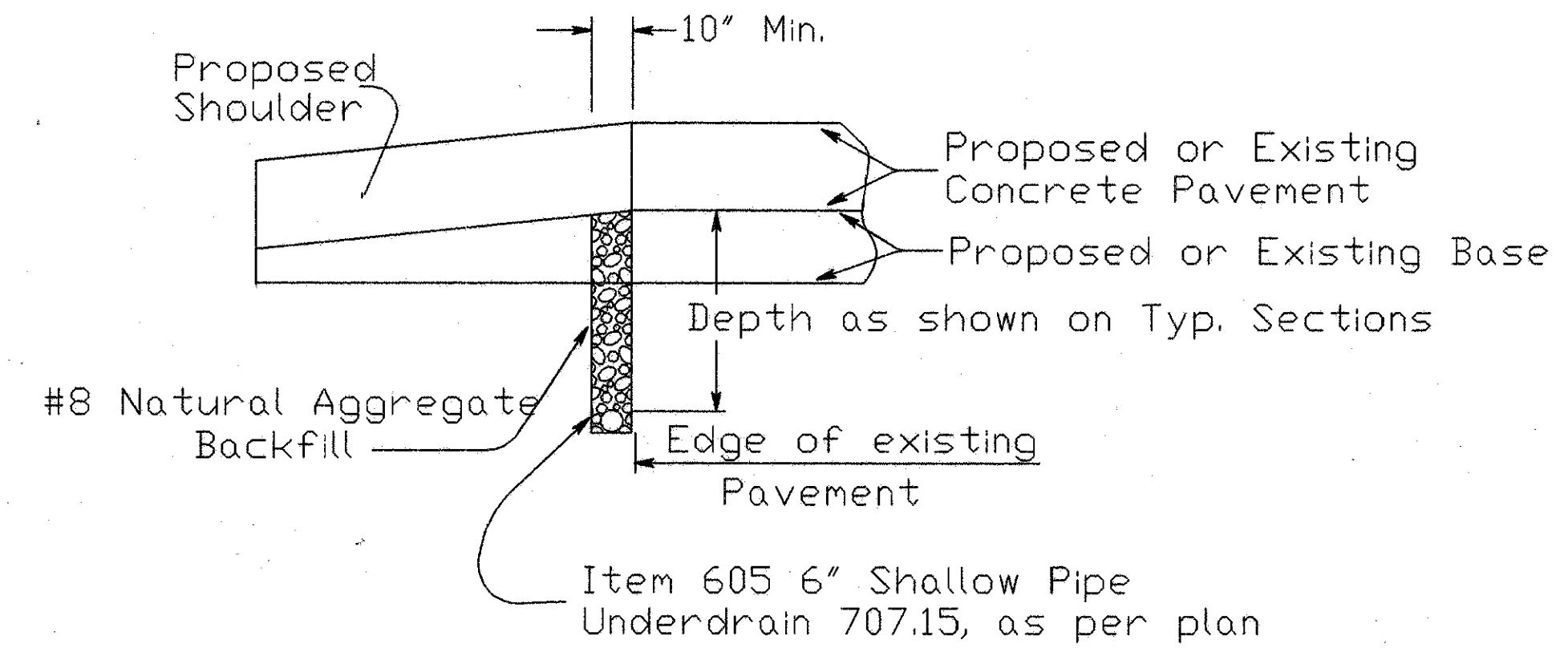


NOTE:
The cost of the 4" conduit Type F and necessary pipe bends and branches needed to connect the existing and proposed underdrains shall be included with the cost of the 6" conduit Type F beyond the existing underdrain.



NOTE: For underdrain outlets into catch basins the above Type F Conduit shall be used between the underdrain & catch basin.

PIPE UNDERDRAIN DETAIL



DESCRIPTION: This item shall consist of furnishing and installing a pipe underdrain system in accordance with the specifications, details as shown on the plans, and as directed by the Engineer.

MATERIALS: The underdrain shall be a pipe underdrain system per Item 605. The outlets for the underdrain system shall be constructed as soon as possible after placement of the underdrain to drain the subbase & subgrade. All pipe bends & branches needed to connect the proposed underdrain to the proposed outlet or to an existing underdrain shall be manufactured fittings.

METHOD OF MEASUREMENT: Completed and accepted underdrains will be measured by the linear foot in place.

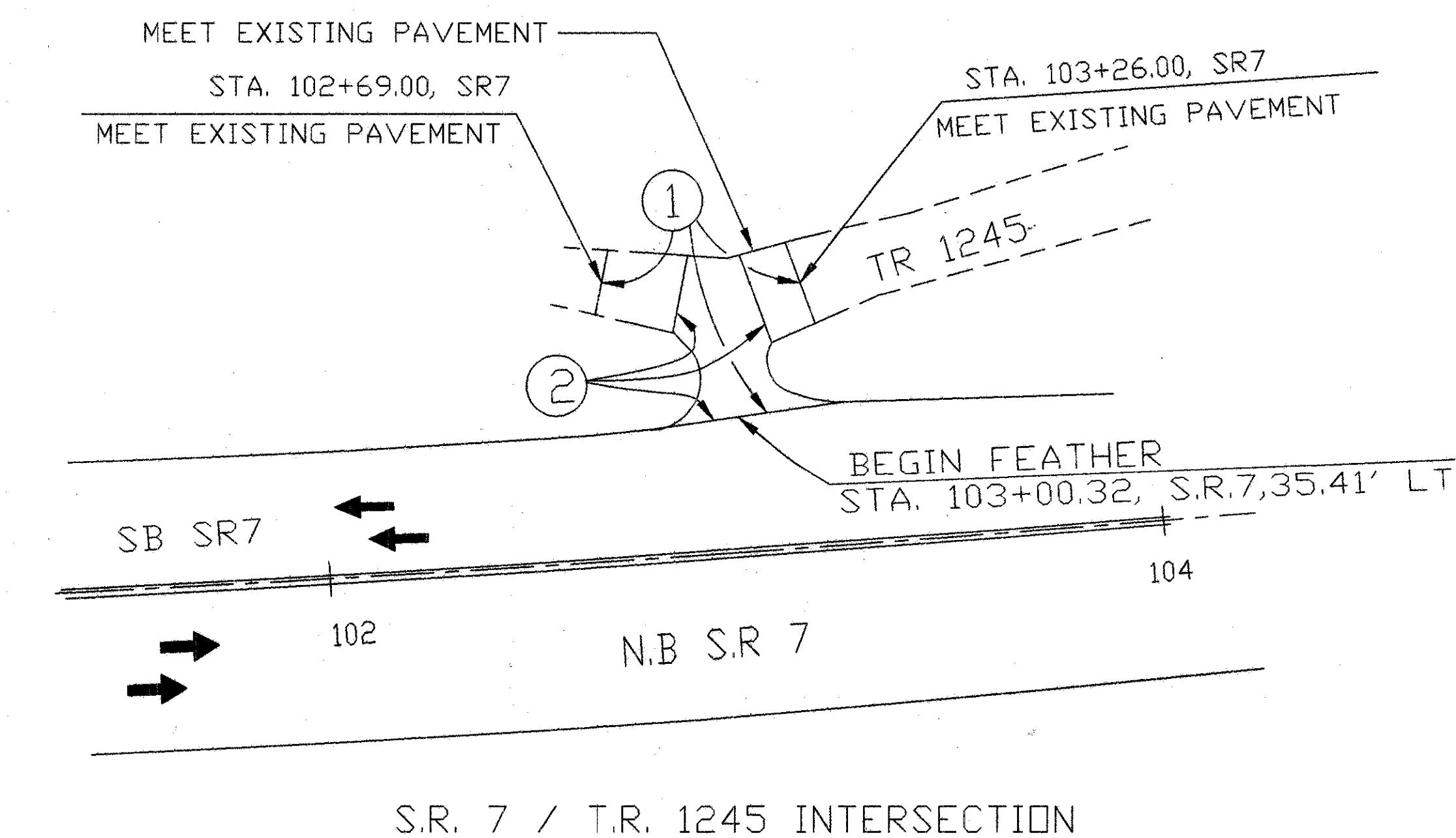
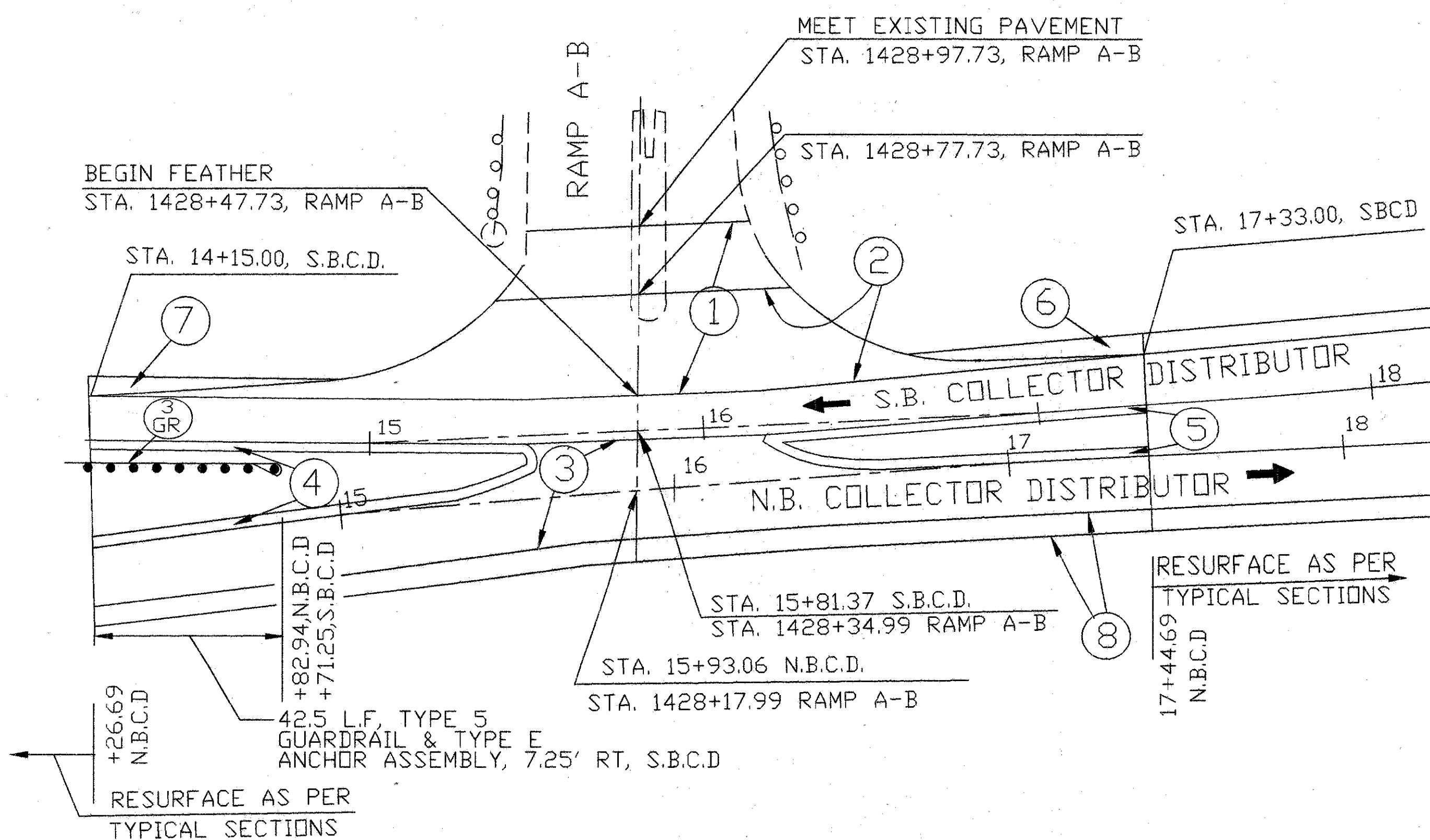
BASIS OF PAYMENT: Work completed and accepted under this item and measured will be paid for at the contract unit price bid per linear foot for Item 605 6" Shallow Pipe Underdrain 707.15, as per plan.

The price shall be full compensation for excavation and backfill for furnishing materials, including material for outlet fittings, for all labor, tools, equipment, and incidentals necessary to complete the work.

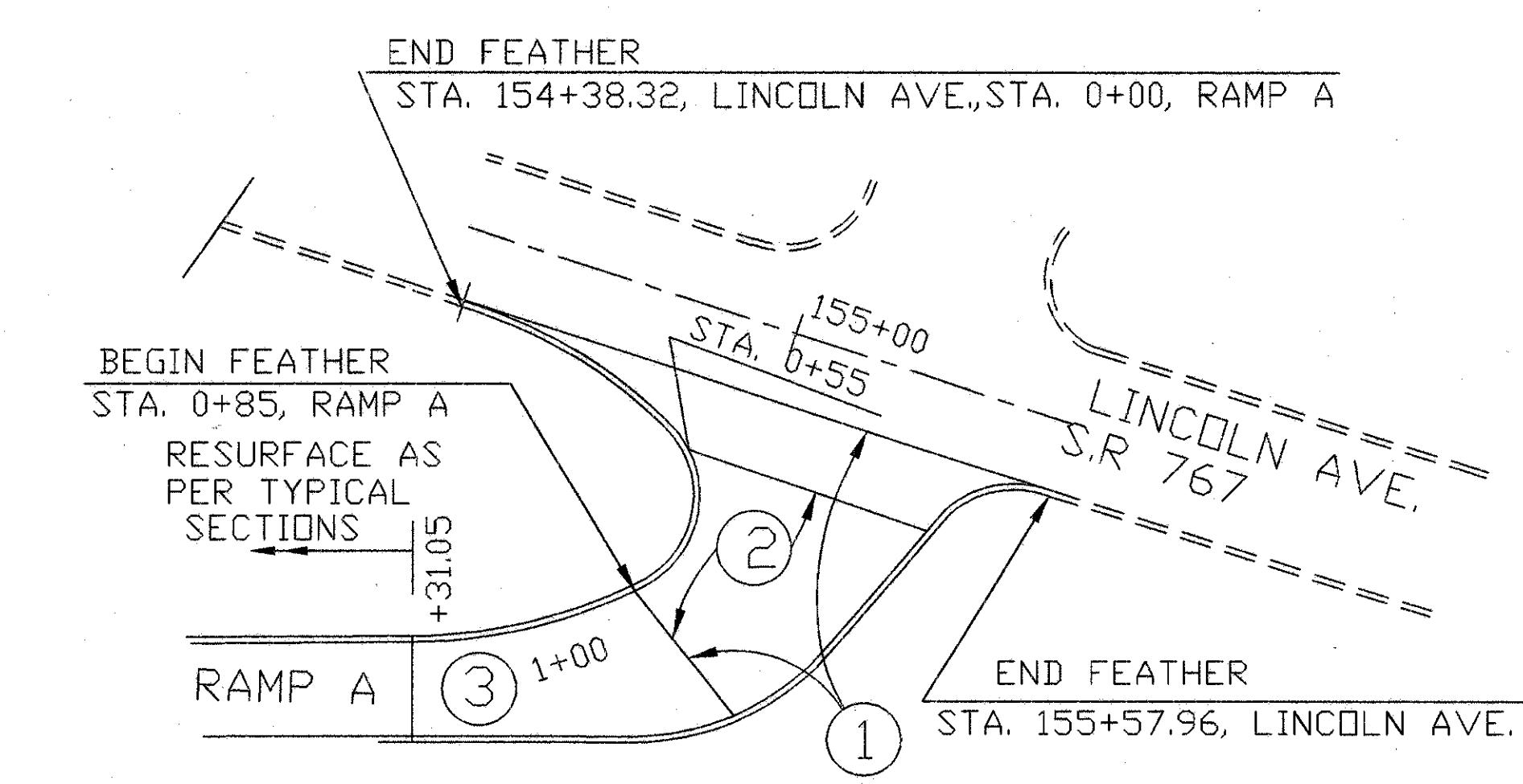
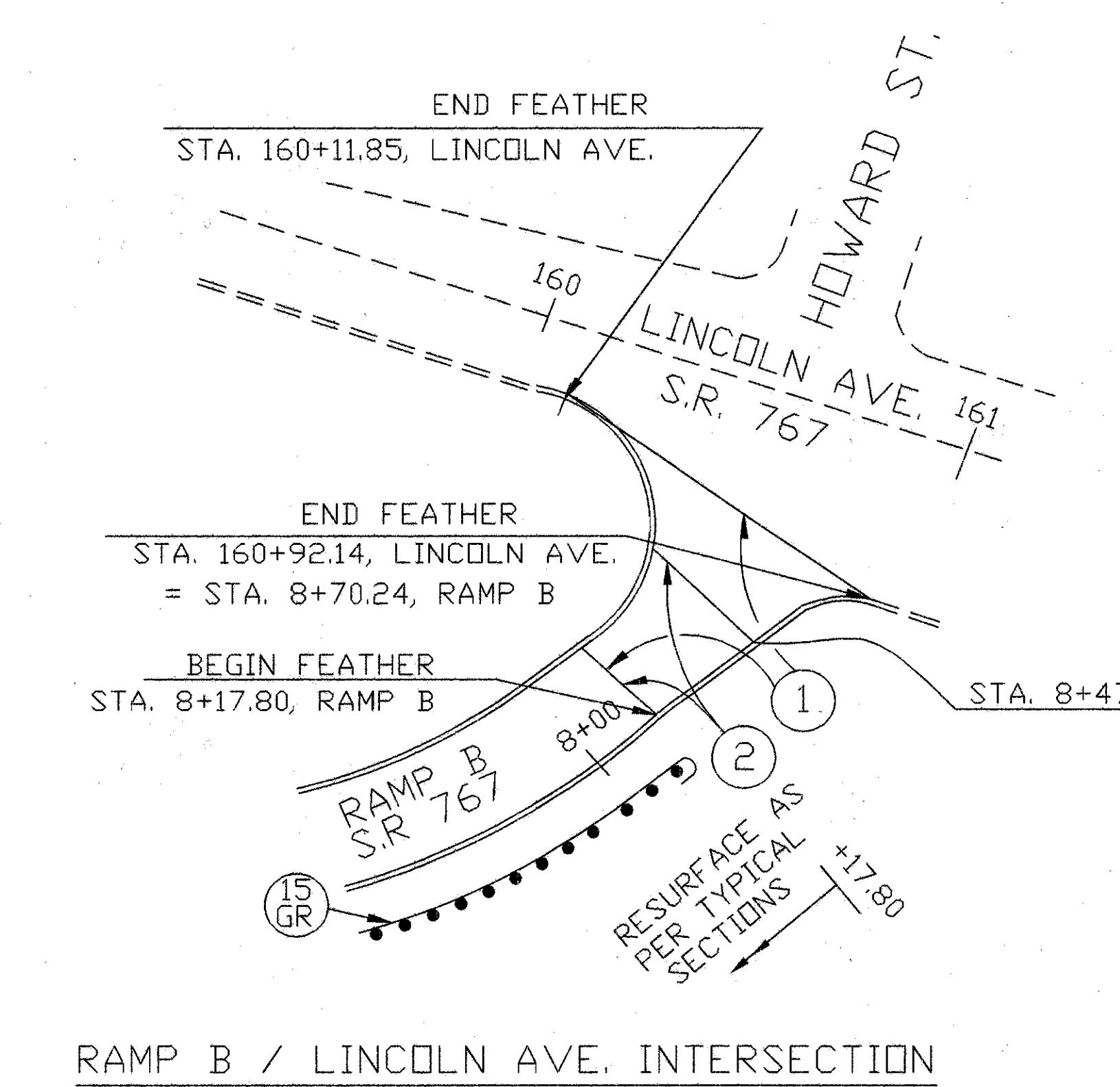
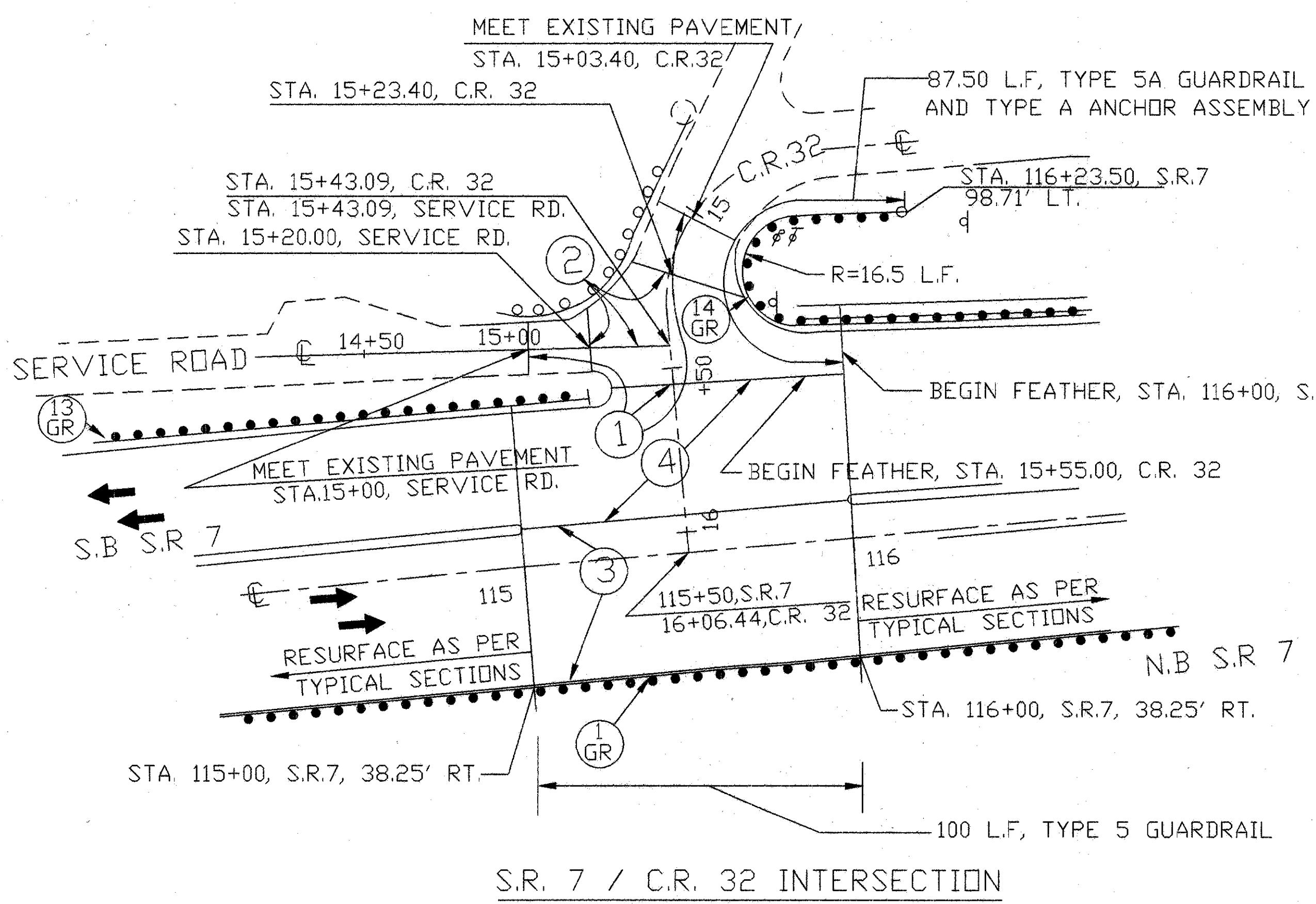
ITEM 605 6" SHALLOW PIPE
UNDERDRAIN 707.15, AS PER PLAN

DATE 2-5-93

RAMP, COLLECTOR DISTRIBUTOR AND APPROACH ROAD INTERSECTION DETAILS



INTERSECTION	AREA (Sq.Yd.)							
	1	2	3	4	5	6	7	8
RAMP A-B	638.79	495.23	678.16	89.65	75.88	31.43	25.79	212.00
CR 32	300	187.78	538.62	422.50				
TR 1245	139.05	60.16						
RAMP A	149.00	106.70	163.30					
RAMP B	122.22	98.33						



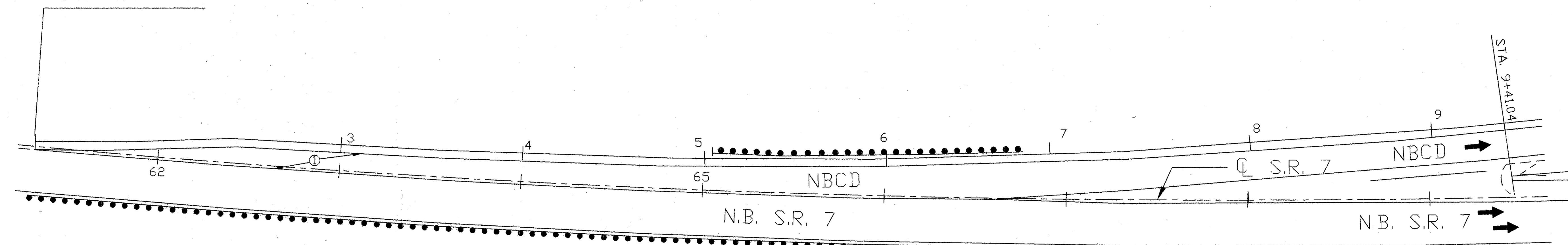
NOTE: SEE SHT. #37 FOR FEATHER DETAILS

EXTRA AREAS

QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/2/94	Date: 6/6/94

F.H.W.A. REGION	STATE	PROJECT	35 57
5	OHIO	BEL-7-17.99	

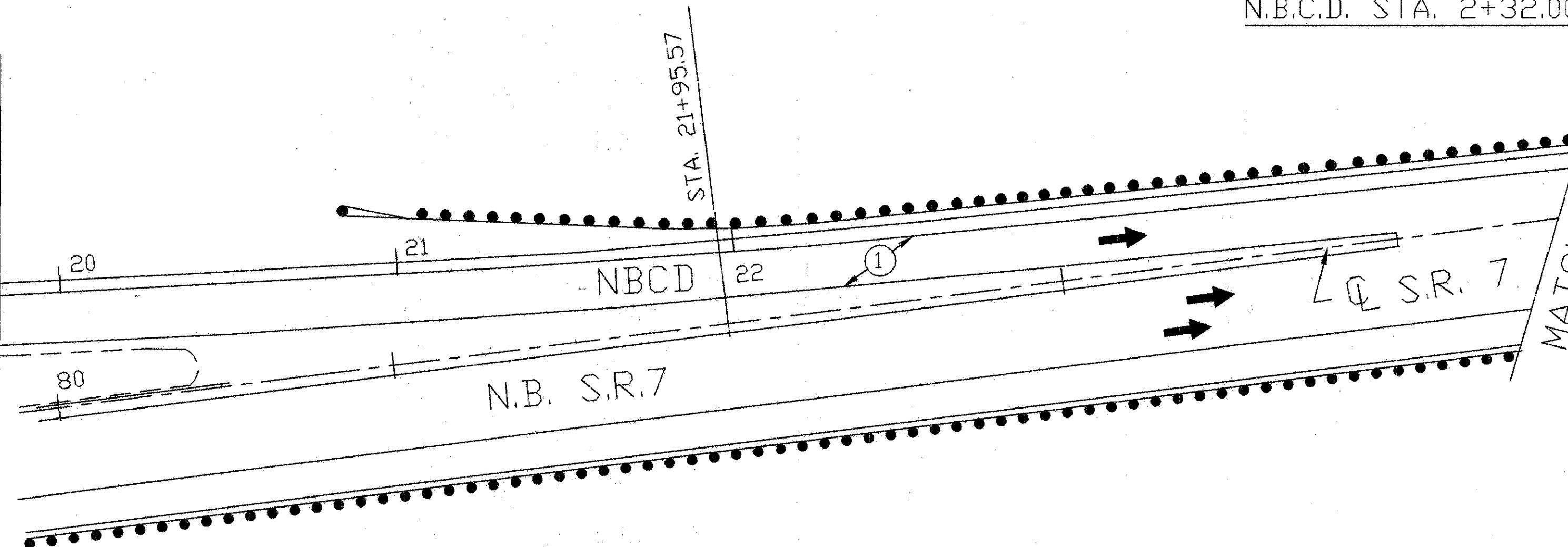
STA. 2+32.00 N.B.C.D.



N.B.C.D. STA. 2+32.00 TO STA. 9+41.04

STA. 19+82.21

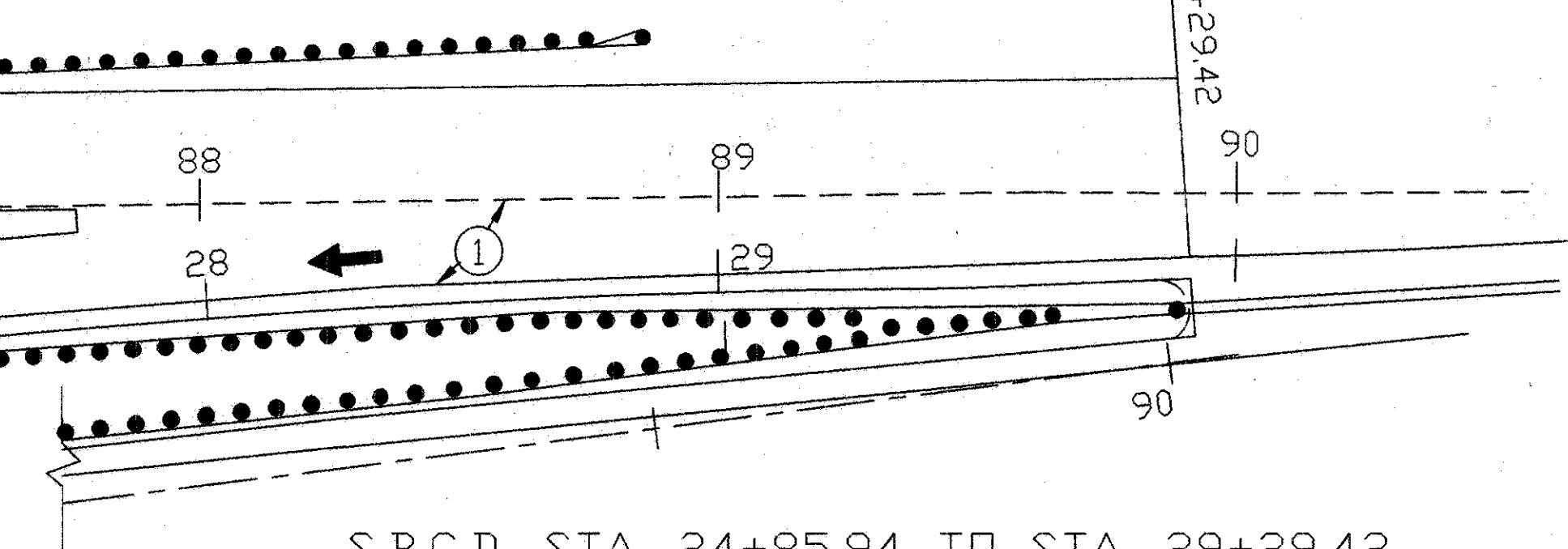
STA. 21+95.57



N.B.C.D. STA. 21+95.57 TO N.B. STA. 90+02.40

STA. 24+85.94

STA. 29+29.42



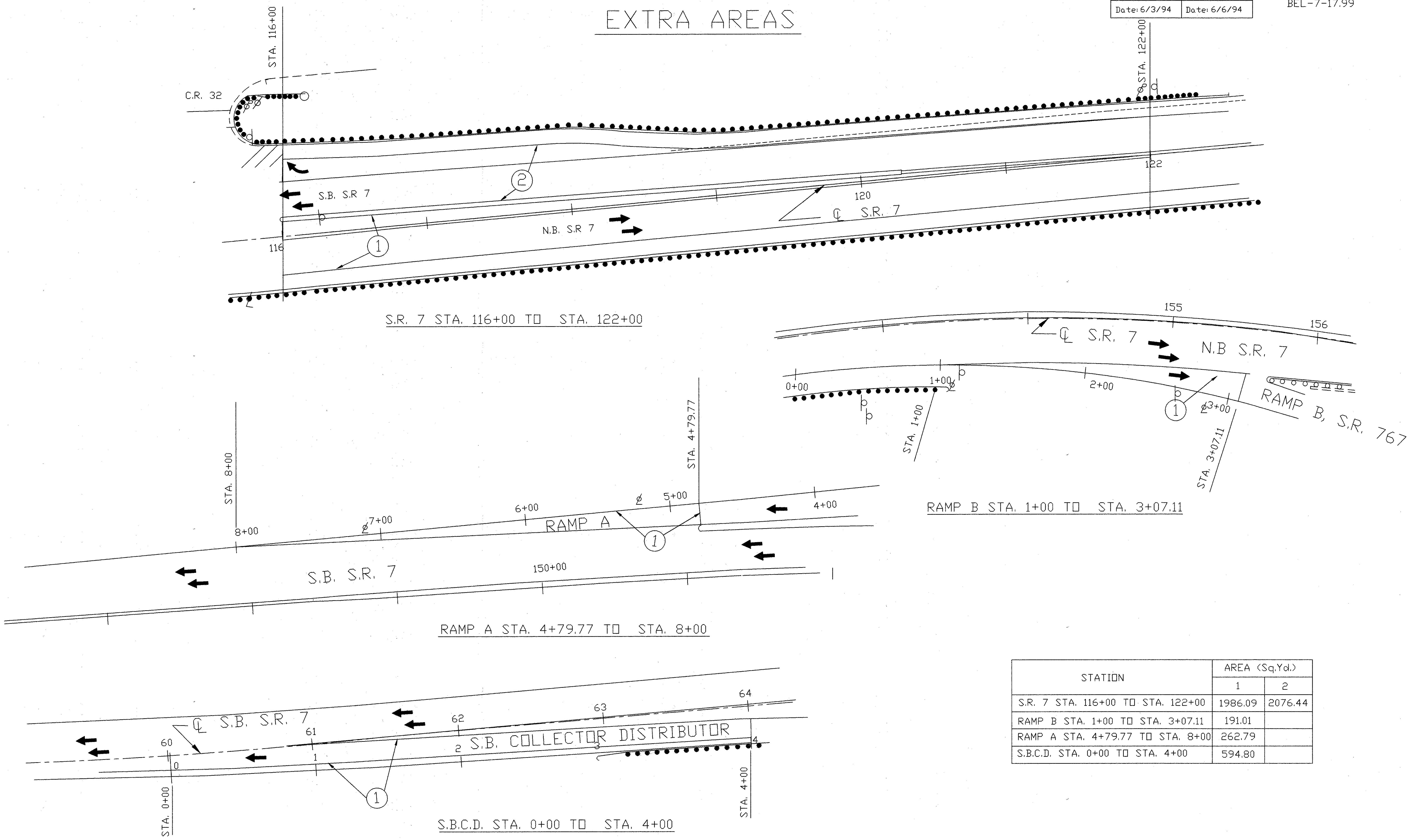
S.B.C.D. STA. 24+85.94 TO STA. 29+29.42

STATION	AREA (Sq.Yd.)
	1
N.B.C.D. STA. 2+32. TO STA. 9+41.04	1253.60
N.B.C.D. STA. 21+95.57 TO STA. N.B. 90+02.40	789.00
S.B.C.D. STA. 24+85.94 TO STA. 29+29.42	830.38

EXTRA AREAS

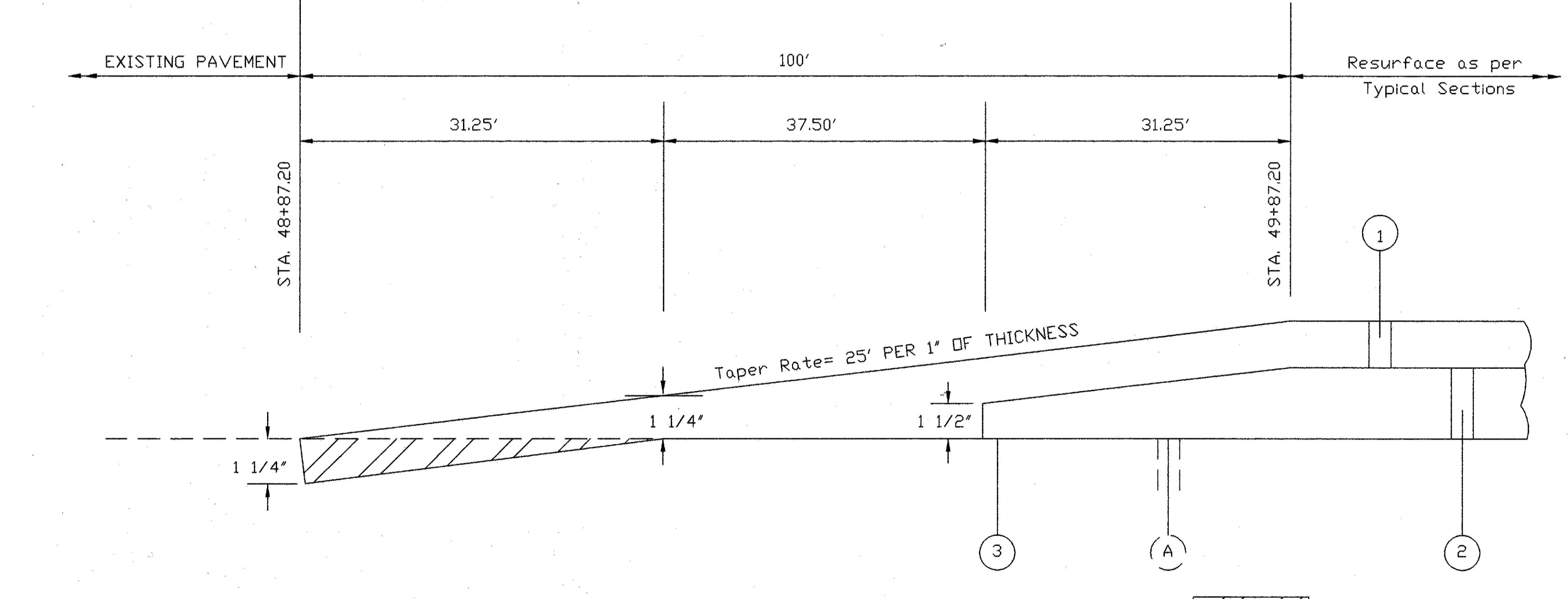
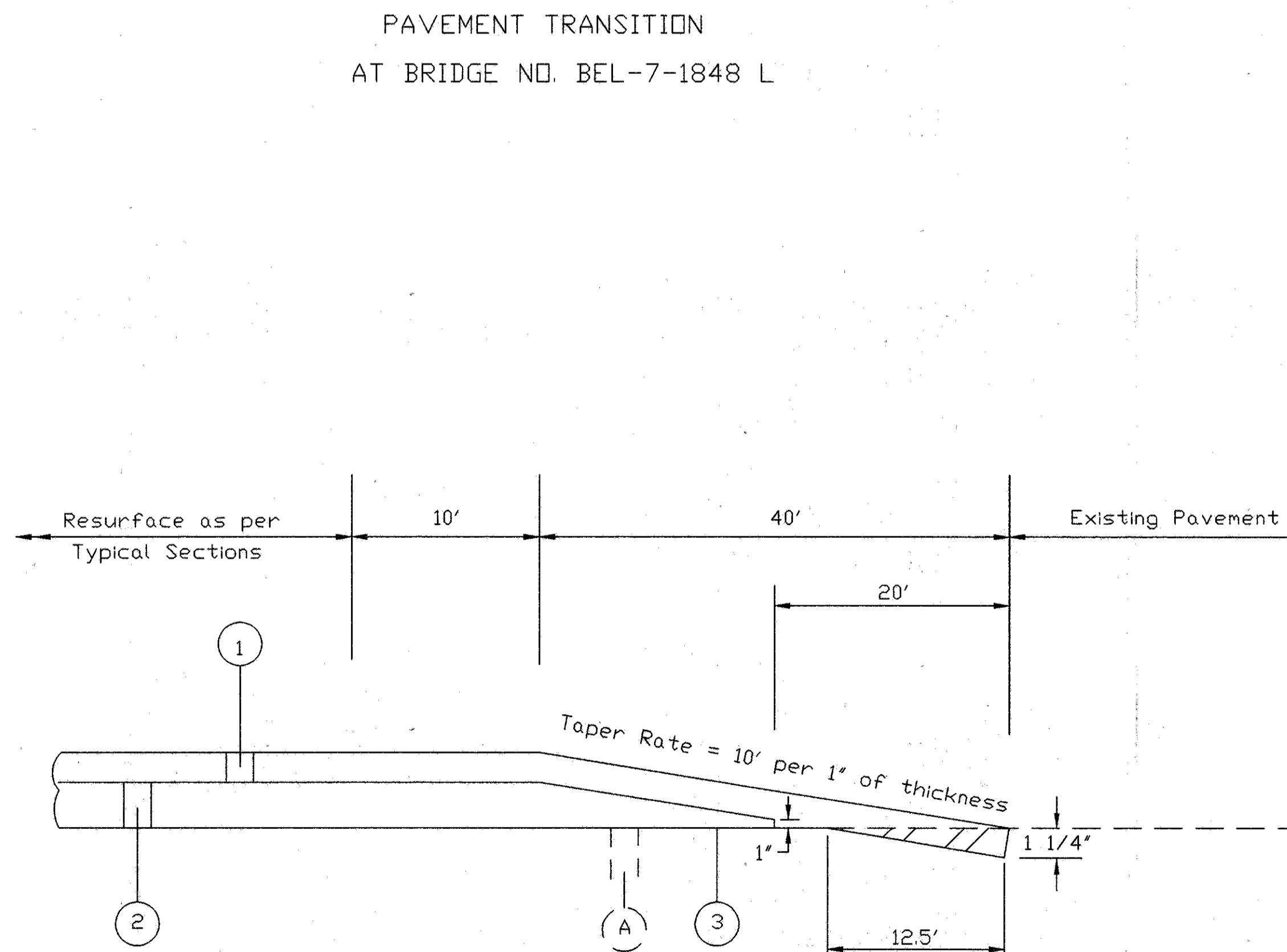
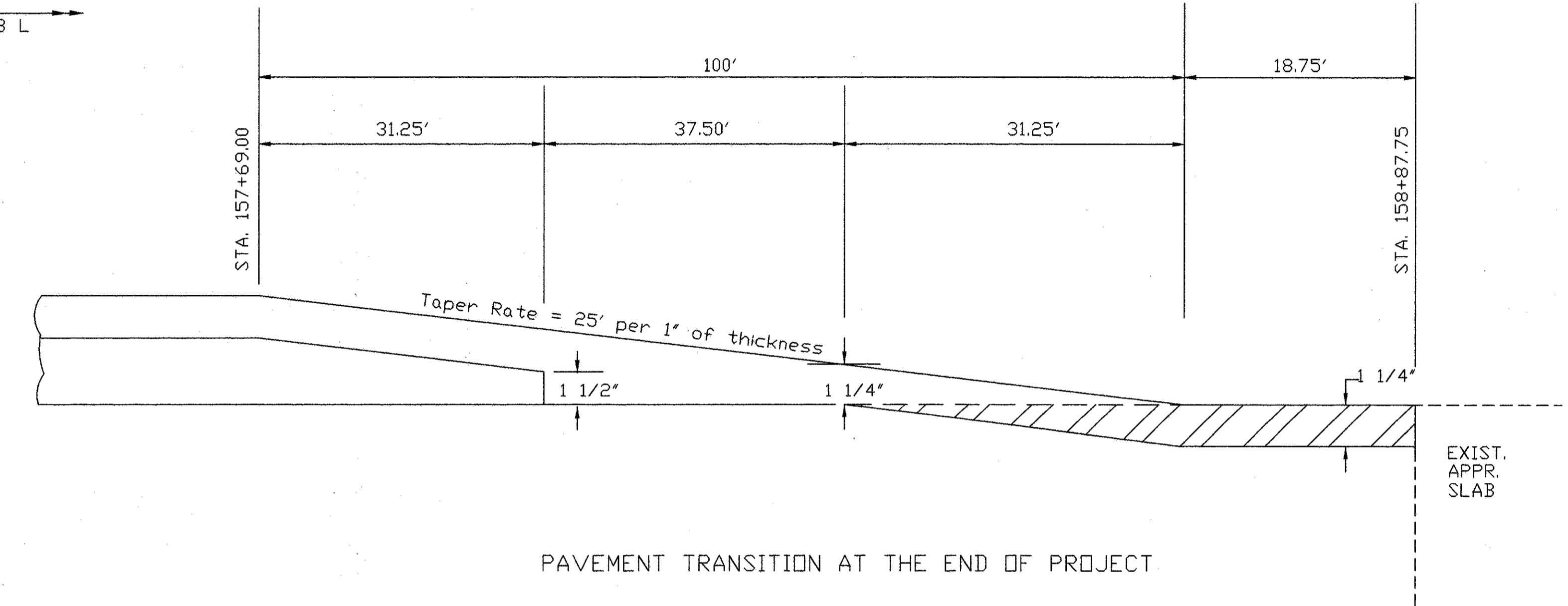
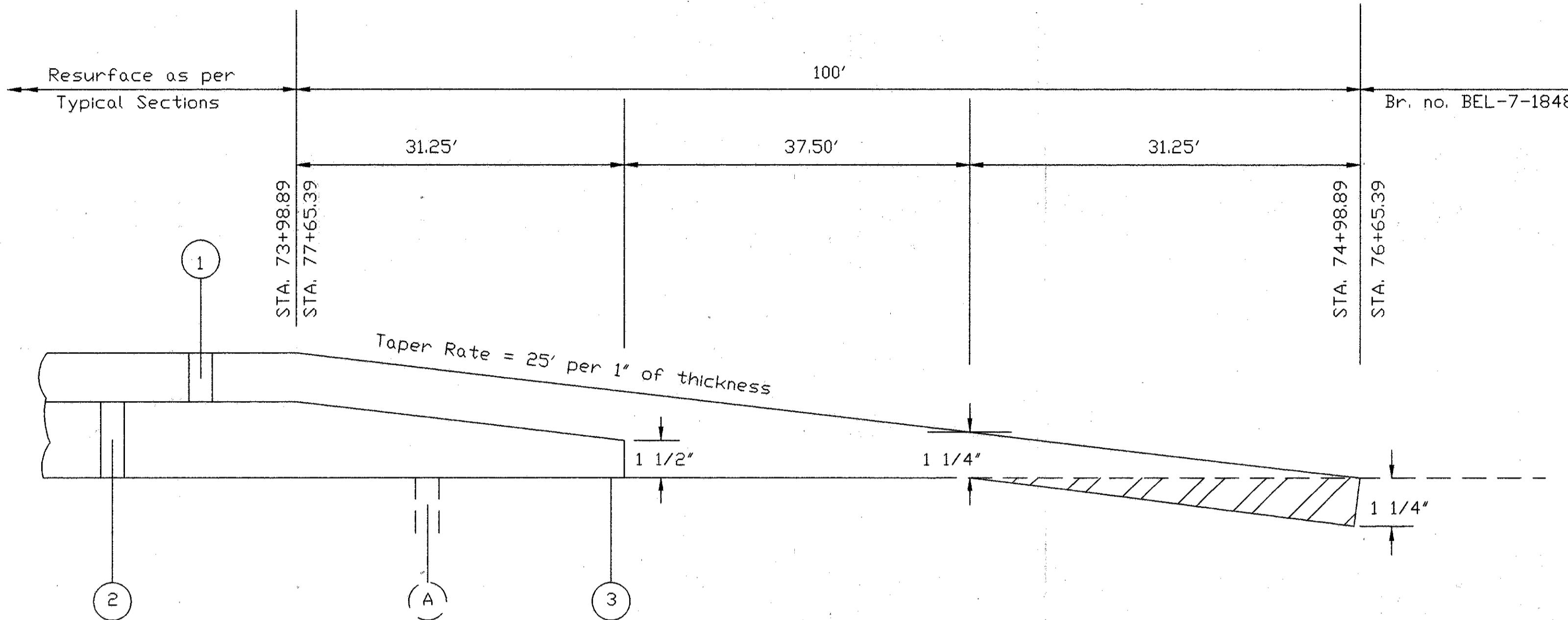
QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/3/94	Date: 6/6/94

F.H.W.A.
REGION 5 STATE OHIO PROJECT 36
57
BEL-7-1799



STATION	AREA (Sq.Yd.)	
	1	2
S.R. 7 STA. 116+00 TO STA. 122+00	1986.09	2076.44
RAMP B STA. 1+00 TO STA. 3+07.11	191.01	
RAMP A STA. 4+79.77 TO STA. 8+00	262.79	
S.B.C.D. STA. 0+00 TO STA. 4+00	594.80	

FEATHER DETAILS



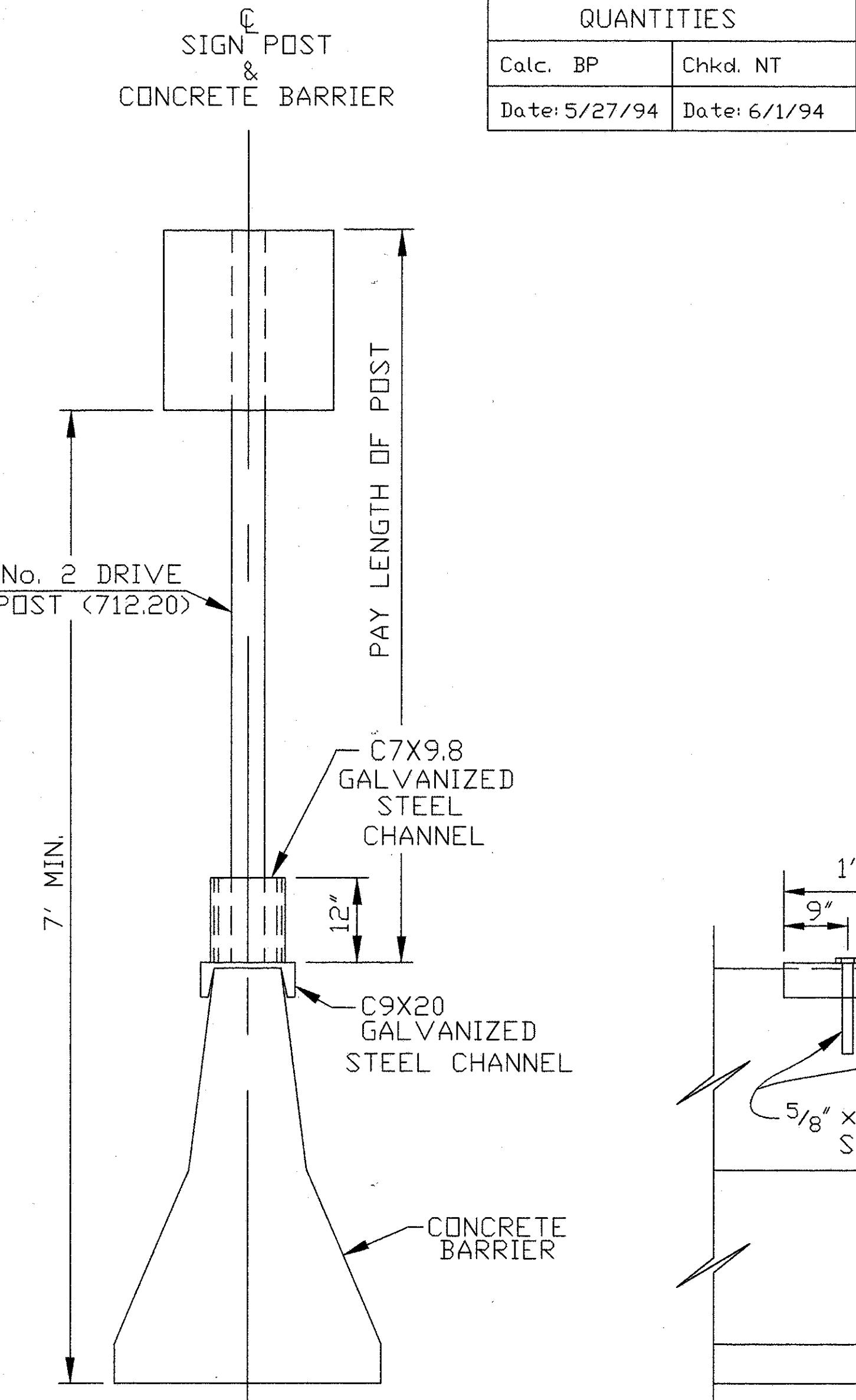
LEGEND

(A) EXISTING ASPHALT CONCRETE PAVEMENT
 ITEM 446 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, AS PER PLAN
 ITEM 446 - 2 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
 (1) ITEM 407 - TACK COAT

FOR APPROACH ROAD INTERSECTION DETAILS, SEE SHEET NO. 34
 FOR RAMP INTERSECTION DETAILS, SEE SHEET NO. 34
 FOR COLLECTOR DISTRIBUTOR INTERSECTION DETAILS, SEE SHEET NO. 34

REFER TO STANDARD CONSTRUCTION DRAWING BP-3.1 FOR ADDITIONAL DETAILS

ITEM 642 ~ PAVEMENT MARKING-TYPE 2											
STATION	LANE OR RAMP	SIDE OF LANE OR RAMP	Edge Line		Lane Line	Channel- izing Line	Transverse Line W-White Y-Yellow	Stop Line	Center Line	Lane Arrow	
			Yellow	White							
			Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each	
43+00	55+00	NORTH BOUND	LT.	1200							
			CTR.		1200						
			RT.		1200						
55+00	70+00		LT.	650	280	205	600	450-W			
			CTR.			1500					
			RT.		1500						
70+00	85+00		LT.	1360							
			CTR.			1500					
			RT.		1500						
85+00	100+00		LT.	1500		260					
			CTR.			1500					
			RT.		1500						
100+00	115+00		LT.	2000			100	400-Y	2	1	
			CTR.			1500					
			RT.		1500						
115+00	130+00		LT.	1410			100		20		
			CTR.			1500					
			RT.		1500						
130+00	145+00		LT.	1500							
			CTR.			1500					
			RT.		1500						
145+00	169+12.75	SOUTH BOUND	LT.	2413							
			CTR.			2413					
			RT.	2285	75	100	60-W				
43+00	55+00		LT.	1200		30			2		
			CTR.			1200					
			RT.	1200							
55+00	70+00		LT.	1500							
			CTR.			1500					
			RT.	1200	300	200					
70+00	85+00		LT.	1500							
			CTR.			1500					
			RT.		1500						
85+00	100+00		LT.	1500							
			CTR.			1500					
			RT.		1500						
100+00	115+00		LT.	1100		140	335	520-W			
			CTR.			1500					
			RT.		1500						
115+00	130+00		LT.	1400			200		2	1	
			CTR.			1500					
			RT.		1400						
130+00	145+00		LT.	1410							
			CTR.			1500					
			RT.		1500						
145+00	169+12.75		LT.	2413		250					
			CTR.			2413					
1+50	10+00	N.B.C.D.	RT.	2413							
			LT.	850							
			RT.		50	200					
10+00	24+92.59		LT.	1500							
3+00	9+90.74	S.B.C.D.	RT.		1190	140	170		20		
9+90.74	24+83.33		LT.	425			300				
24+83.33	29+00		RT.	700							
1427+72	1428+01.90		LT.	1500							
15+3.40	15+23.40	RAMP A-B	RT.		1500						
15+00	15+35		LT.	417							
0+00	6+00		CTR.								
1+00	8+70.24		RT.		30						
TOTALS (Carried To General Summary)			LT.	29988	30383	26696	2500	1030-W 400-Y 1430	228	80 (0.02 miles)	
			CTR.							8 3	
			RT.		550	600					
			LT.		550		100		55		
			RT.		870						
			RT.								
NOTE: LT, CTR, RT, ARE FROM PAVEMENT CENTER											



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PAYMENT WILL INCLUDE ALL LABOR, EQUIPMENT AND MATERIAL FOR ALL OF THE ABOVE AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR EACH ITEM 630 ~ CONCRETE BARRIER MOUNTED SIGN SUPPORT.

NOTES:

- 1.) FOR FASTENERS, SEE STD. DWG. TC-52.10 OR TC-52.20.
- 2.) FOR SPACING, SEE STD. DWG. TC-41.20.
- 3.) FOR SIGN ATTACHMENT DETAIL, SEE STD. DWG. TC-41.20.
- 4.) FOR DETAILS AND SPECIFICATIONS NOT SHOWN, SEE STD. DWG. TC-41.20.
- 5.) THE C7X9.8 GALVANIZED STEEL CHANNEL SHALL BE WELDED TO THE C9X20 GALVANIZED STEEL CHANNEL.
- 6.) THE NO. 2 DRIVE POST SHALL BE ATTACHED TO THE C7X9.8 GALVANIZED STEEL CHANNEL WITH TWO 5/16" STEEL HEX HEAD BOLTS. THE HOLES IN THE C7X9.8 STEEL CHANNEL SHALL BE DRILLED BEFORE GALVANIZING. THE HOLES SHALL BE 9" CENTER TO CENTER.
- 7.) THE 5/8" THREADED STEEL BOLTS SHALL BE ATTACHED TO THE CONCRETE BARRIER WITH GROUT MEETING THE REQUIREMENTS OF 255.02.
- 8.) SEE SHT. # 40 FOR QUANTITIES.

ITEM 621 ~ RAISED PAVEMENT MARKER								
STATION	LANE OR RAMP	LENGTH	Spacing	2-Way		1-Way		REMARKS
				White	Red	Yellow	White	
FROM	TO	Lin. Ft.	Feet	Each	Each	Each	Each	
43+00	55+00	N.B.	1200	80		15		WHITE EDGE LINE
55+00	110+00	N.B.	5500	80		69		WHITE EDGE LINE
66+50	69+50	N.B.	300	20		15		CHANNELIZING LINE
110+00	114+00	N.B.	400	40		10		WHITE EDGE LINE
114+00	117+00	N.B.	300	20		15		WHITE EDGE LINE
117+00	121+00	N.B.	400	40		10		WHITE EDGE LINE
121+00	153+35	N.B.	3235	80		40		WHITE EDGE LINE
154+75	155+75	N.B.	100	20		5		CHANNELIZING LINE
155+75	169+12.75	N.B.	1337.75	80		17		WHITE EDGE LINE
43+00	53+50	N.B.	1050	80		13		LANE LINE
53+50	69+50	N.B.	1600	80		20		LANE LINE
69+50	99+00	N.B.	2950	80		37		LANE LINE
99+00	115+00	N.B.	1600	80	20			LANE LINE, 2 WAY
116+00	139+75	N.B.	2375	80		30		LANE LINE
139+75	155+75	N.B.	1600	80		20		LANE LINE
155+75	169+12.75	N.B.	1337.75	80		17		LANE LINE
43+00	61+50	N.B.	1850	80		23		YELLOW EDGE LINE
66+50	67+75	N.B.	125	20		6		CHANNELIZING LINE
67+75	81+75	N.B.	1400	80		18		YELLOW EDGE LINE
81+75	85+00	N.B.	325	40		8		ONE WAY
90+00	106+00	N.B.	1600	80		20		YELLOW EDGE LINE
106+00	110+00	N.B.	400	40		10		YELLOW EDGE LINE
110+00	114+00	N.B.	400	40		10		YELLOW EDGE LINES OF ISLAND
114+00	115+00	N.B.	100	20		5		YELLOW EDGE LINE
114+00	115+00	N.B.	100	20		5		CHANNELIZING LANE, LEFT TURN
116+00	117+00	N.B.	100	20		5		CHANNELIZING LANE
116+00	117+00	N.B.	100	20		5		YELLOW EDGE LINE
117+00	121+00	N.B.	400	40		10		YELLOW EDGE LINE
121+00	169+12.75	N.B.	4812.75	80		60		YELLOW EDGE LINE
43+00	61+00	S.B.	1800	80		23		YELLOW EDGE LINE
62+75	64+25	S.B.	200	40		5		ONE WAY
64+25	65+75	S.B.	150	40		4		ONE WAY
65+75	85+00	S.B.	1925	80		24		YELLOW EDGE LINE
85+00	88+35	S.B.	335	20		16		CHANNELIZING LINE
89+00	110+00	S.B.	2100	80		26		YELLOW EDGE LINE
110+00	114+00	S.B.	400	40		10		YELLOW EDGE LINE
114+00	115+00	S.B.	100	20		5		YELLOW EDGE LINE
116+00	117+00	S.B.	100	20		5		YELLOW EDGE LINE
117+00	121+00	S.B.	400	40		10		YELLOW EDGE LINE
121+00	169+12.75	S.B.	4812.75	80		60		YELLOW EDGE LINE
43+00	85+00	S.B.	4200	80		53		LANE LINE
85+00	101+00	S.B.	1600	80		20		LANE LINE
101+00	116+00	S.B.	1500	80		19		LANE LINE
116+00	132+00	S.B.	1600	80	20			LANE LINE, 2 WAY
132+00	169+12.75	S.B.	3712.75	80		46		LANE LINE
43+00	115+00	S.B.	7200	80		90		WHITE EDGE LINE
116+00	117+75	S.B.	175	20		9		CHANNELIZING LINE
116+00	117+75	S.B.	175	20		9		WHITE EDGE LINE
117+75	121+75	S.B.	400	40		10		WHITE EDGE LINE
121+75	150+00	S.B.	2825	80		35		WHITE EDGE LINE
150+00	151+00	S.B.	100	40		3		WHITE EDGE LINE
151+00	169+12.75	S.B.	1812.75	80		23		WHITE EDGE LINE
6+50	9+50	N.B.C.D.	300	20		15		CHANNELIZING LINE
9+50	13+10	N.B.C.D.	360	40		9		WHITE EDGE LINE
13+10	16+25	N.B.C.D.	315	20		16		WHITE EDGE LINE
16+25	20+50	N.B.C.D.	425	80		5		WHITE EDGE LINE
20+50	25+00	N.B.C.D.	450	40		11		WHITE EDGE LINE
1+50	9+50	N.B.C.D.	800	80		10		YELLOW EDGE LINE
9+50	13+10	N.B.C.D.	360	40		9		YELLOW EDGE LINE
13+10	15+50	N.B.C.D.	240	20		12		YELLOW EDGE LINE
16+25	30+00	N.B.C.D.	1375	80		17		YELLOW EDGE LINE
1+00	15+50	S.B.C.D.	1450	80		18		YELLOW EDGE LINE

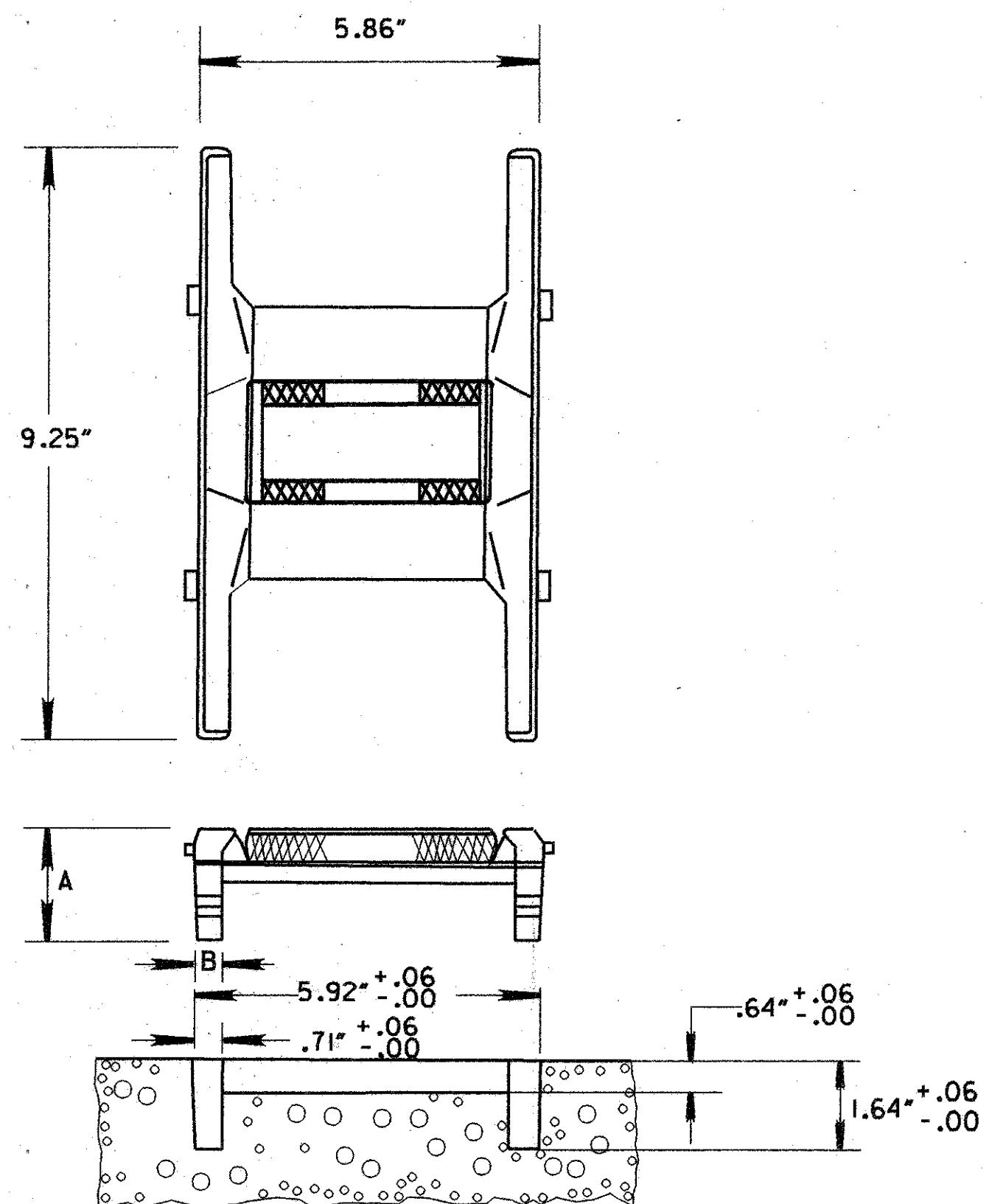
CONTINUED ON THE RIGHT

ITEM 621 ~ RAISED PAVEMENT MARKER								
STATION	LANE OR RAMP	LENGTH	Spacing	2-Way		1-Way		REMARKS
				White	Red	Yellow	White	
FROM	TO	Lin. Ft.	Feet	Each	Each	Each	Each	
16+25	18+25	S.B.C.D.	240	20		12		YELLOW EDGE LINE
18+65	22+25	S.B.C.D.	360	40		9		YELLOW EDGE LINE
22+25	29+00	S.B.C.D.	675	80		8		YELLOW EDGE LINE
2+75	6+00	S.B.C.D.	325	20		16		CHANNELIZING LINE
6+00	15+50	S.B.C.D.	950	80		12		WHITE EDGE LINE
16+25	18+65	S.B.C.D.	240	20		12		WHITE EDGE LINE
18+65	22+25	S.B.C.D.	360	40		9		WHITE EDGE LINE
22+25	25+00	S.B.C.D.	275	80		3		WHITE EDGE LINE
25+00	28+25	S.B.C.D.	325	20		16		CHANNELIZING LINE
00+00	1+50	RAMP A	150	20		8		WHITE EDGE LINE
1+50	6+00	RAMP A	450	40		11		WHITE EDGE LINE
0+00	1+50	RAMP A	150	20		8		YELLOW EDGE LINE
1+50	4+75	RAMP A	325	40		8		YELLOW EDGE LINE
4+75	6+00	RAMP A	150	20		7		CHANNELIZING LINE
1+00	8+70.24	RAMP B	770.24	40		19		WHITE EDGE LINE
2+25	3+25	RAMP B	100	20		5		CHANNELIZING LINE
3+25	8+70.24	RAMP B	545.24	40		13		YELLOW EDGE LINE
TOTAL								(Carried To General Summary)
								40 551 770
								1361

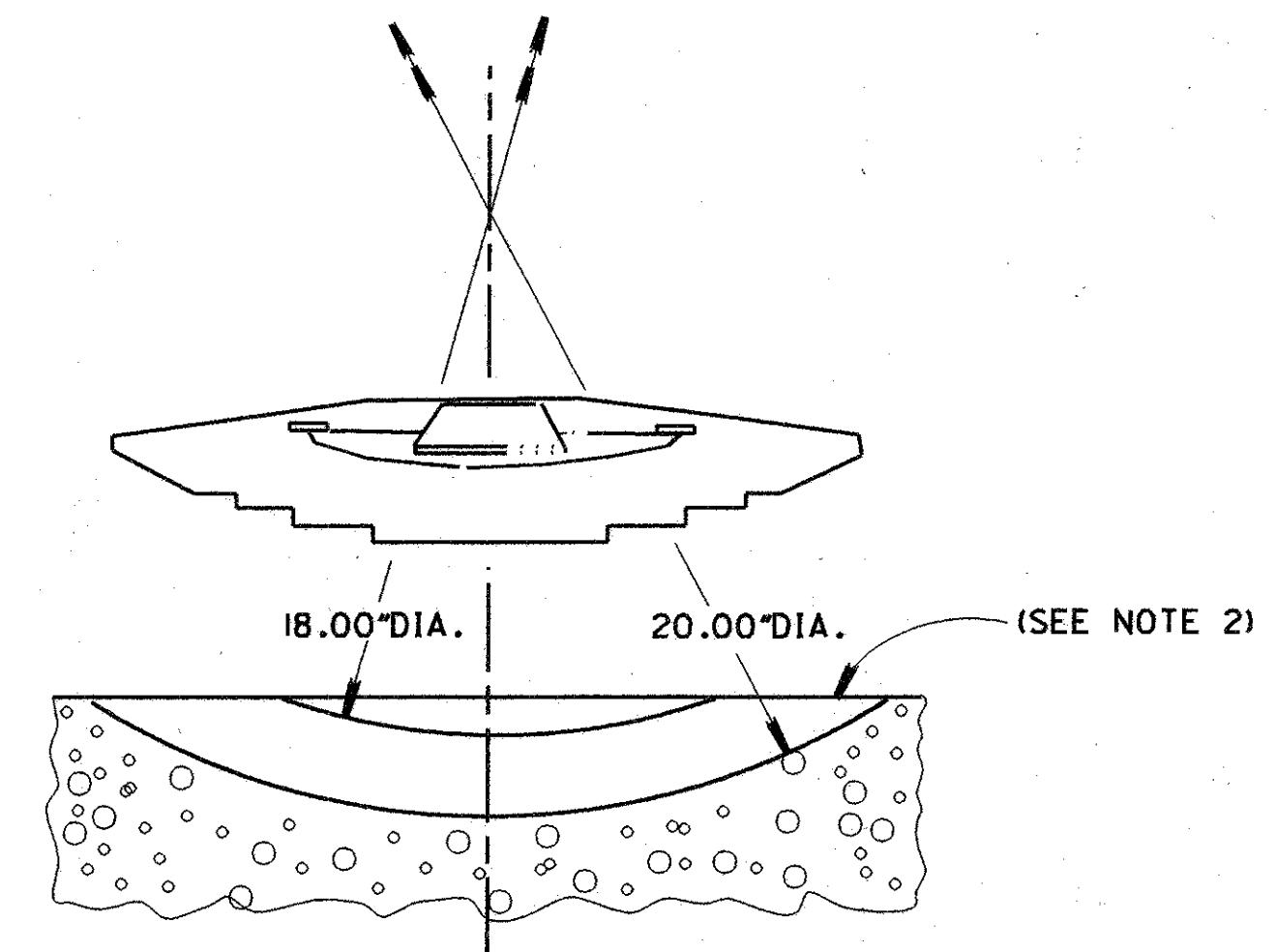
QUANTITIES	
Calc. BP	Chkd. NT
Date: 5/27/94	Date: 6/1/94

BEL-7-1799

CONVENTIONAL TYPE	LOW PROFILE TYPE
A 1.74"	1.69"
B .46"	.59"



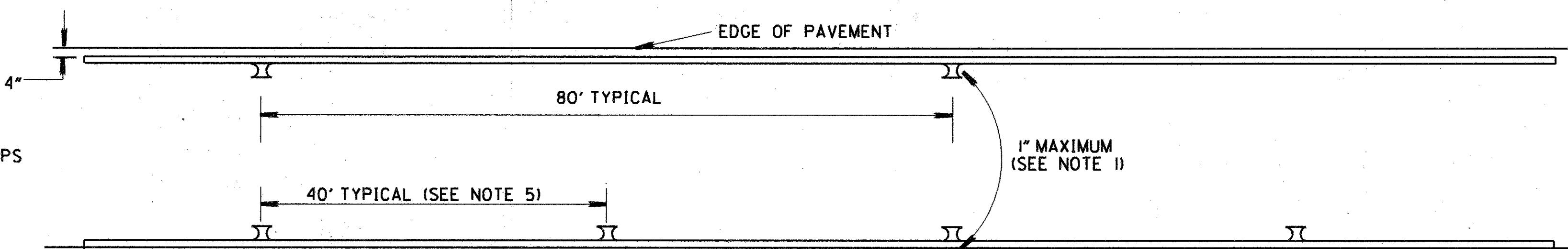
OPTIONAL FOR CONVENTIONAL TYPE



CASTING AND SAW CUT DETAILS

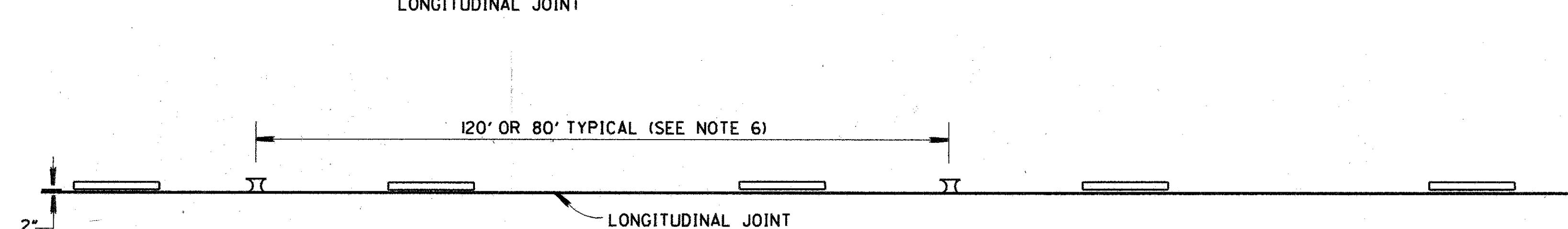
EDGE LINE

ONE WAY (WHITE) WITH RIGHT EDGE LINE OR
ONE WAY (YELLOW) WITH LEFT EDGE LINE OR
TWO WAY (YELLOW/RED) WITH LEFT EDGE LINE ON RAMPS
YELLOW SIDE FACING TRAFFIC



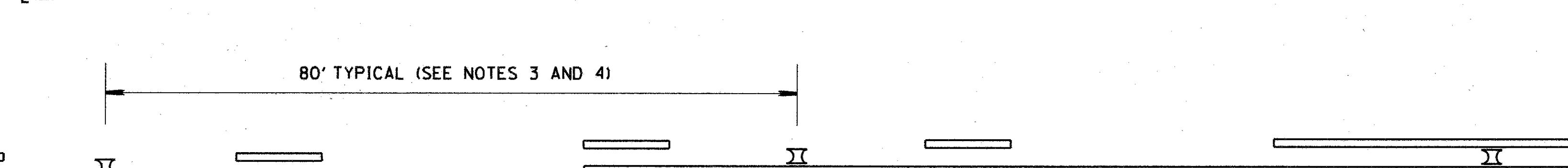
CHANNELIZING LINE

TWO WAY (WHITE/RED)
WHITE SIDE FACING TRAFFIC



LANE LINE

ONE WAY (WHITE) OR
TWO WAY (WHITE/RED)
WHITE SIDE FACING TRAFFIC



CENTER LINE

TWO WAY (YELLOW/YELLOW)

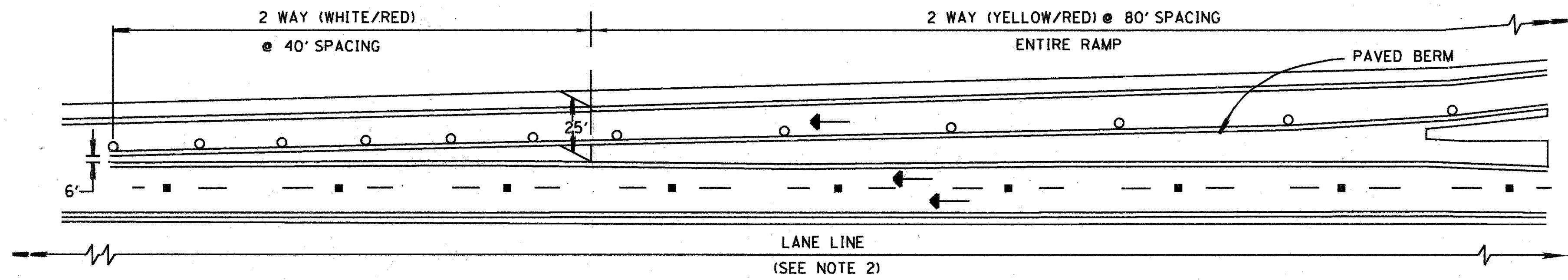


TYPICAL RAISED PAVEMENT MARKER PLACEMENT WITH LONGITUDINAL PAVEMENT MARKINGS

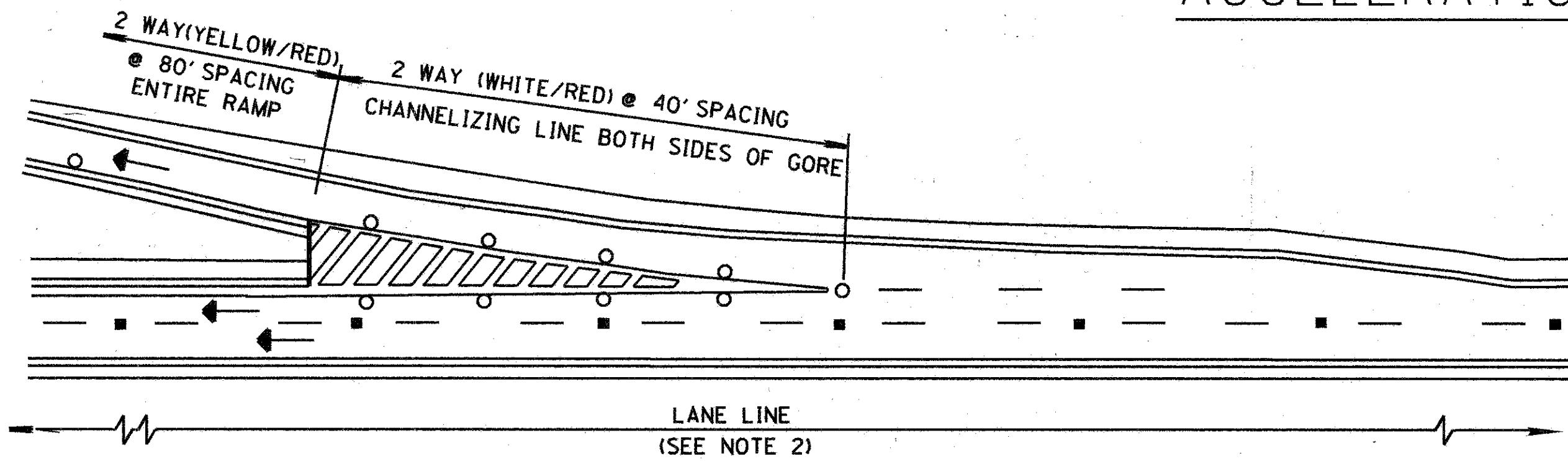
NOTES

1. CENTER LINE MARKERS SHALL BE PLACED BETWEEN THE TWO LINES. MARKERS INSTALLED ALONG AN EDGE LINE OR CHANNELIZING LINE SHALL BE PLACED SO THAT THE CASTING IS NO MORE THAN 1" FROM THE NEAR EDGE OF THE LINE. MARKERS INSTALLED ALONG A LANE LINE OR DASHED YELLOW CENTER LINE SHALL BE PLACED BETWEEN AND IN LINE WITH THE DASHES. MARKERS SHALL NOT BE PLACED OVER THE LINES EXCEPT WHERE THE LINES DEVIATE VISIBLE FROM THEIR CORRECT ALIGNMENT, AND THEN ONLY WITH THE APPROVAL OF THE ENGINEER.
2. TO FACILITATE THE CUTTING OF THE TWO PARALLEL SLOTS AND INTERVENING CONCAVED SURFACE SIMULTANEOUSLY, IT IS RECOMMENDED THAT AN ARBOR AND SAW BLADES ASSEMBLY BE USED. FOR ADDITIONAL DETAILS AND TOLERANCES OF THE CASTING AND ARBOR-SAW ASSEMBLY CONTACT THE CASTING MANUFACTURE.
3. FOR HORIZONTAL CURVES OF 5° OR GREATER, THE SPACING OF THE CENTER LINE MARKERS SHALL BE REDUCED TO 40 FEET BETWEEN P.C. OR T.S. AND P.T. OR S.T.
4. FOR HORIZONTAL CURVES OF 10° OR GREATER, THE SPACING OF THE CENTER LINE MARKERS MAY BE REDUCED TO 20 FEET BETWEEN P.C. OR T.S. AND P.T. OR S.T. WHEN USING 20 FOOT SPACING, 12 RAISED PAVEMENT MARKERS AT 40 FOOT SPACING SHALL BE INSTALLED ON EACH END OF THE 20 FOOT SPACING.
5. WHEN A CHANNELIZING LINE IS LESS THAN 80 FEET IN LENGTH, ONE RAISED PAVEMENT MARKER SHALL BE PLACED AT EACH END OF THE LINE AND ONE SHALL BE PLACED IN THE CENTER OF THE LINE.
6. RAISED PAVEMENT MARKERS ON LANE LINES ON FREEWAYS SHALL BE ONE WAY WHITE SPACED AT 120 FEET. ALL OTHER RAISED PAVEMENT MARKERS ON LANE LINES ON MULTILANE OR DIVIDED ROADWAYS SHALL BE TWO WAY RED/WHITE SPACED AT 80 FEET.

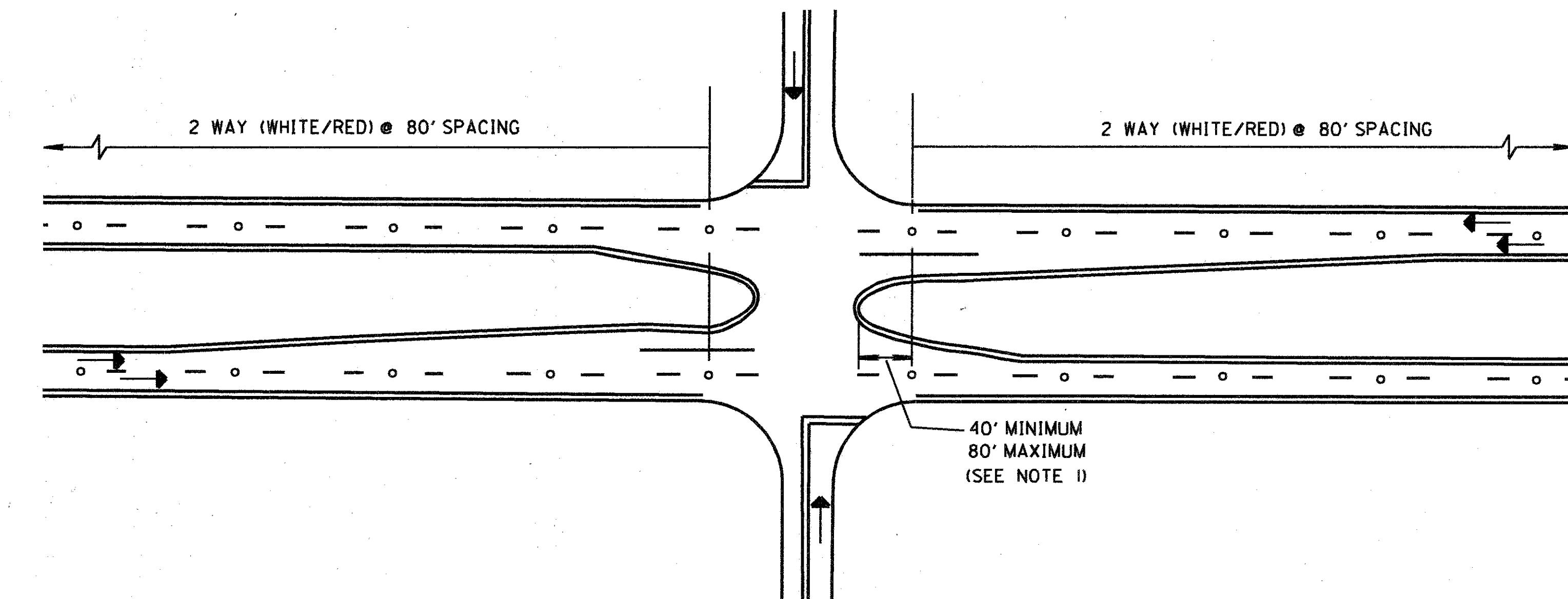
REVISED BY:	DATE:
206510	05/21/81
RAISED PAVEMENT MARKER	02/26/82
INSTALLATION DETAILS	02/01/90
	07/07/95
PLAN INSERT SHEET	



ACCELERATION LANE

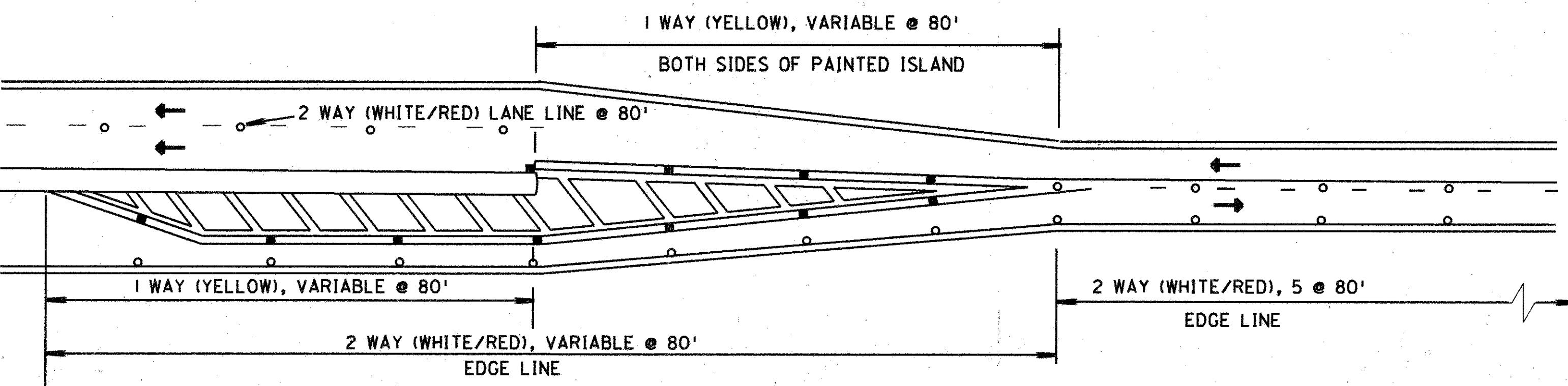


DECCELERATION LANE

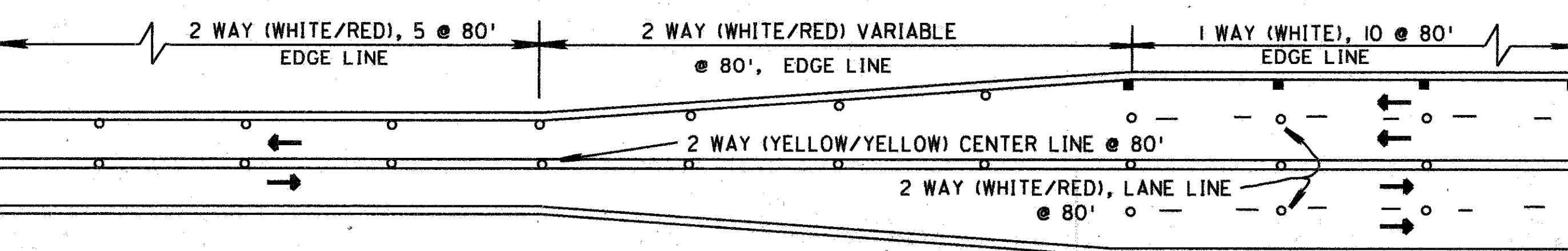


MULTILANE DIVIDED-CONTROLLED ACCESS

(SEE NOTE 2)



4 LANE DIVIDED TO 2 LANE TRANSITION



4 LANE UNDIVIDED TO 2 LANE TRANSITION

LEGEND

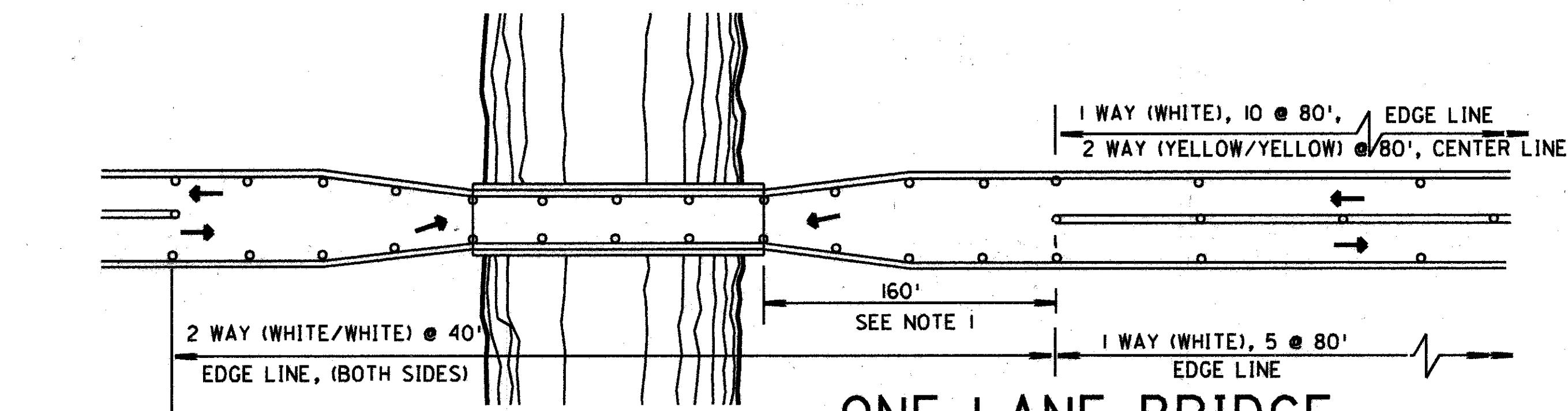
- 1 WAY REFLECTORS
- 2 WAY REFLECTORS

REVISED BY:

206511	DATE:
05/21/81 02/26/82 04/05/82 02/01/90 07/07/95	DATE
RAISED PAVEMENT MARKER DETAILS I	
PLAN INSERT SHEET	

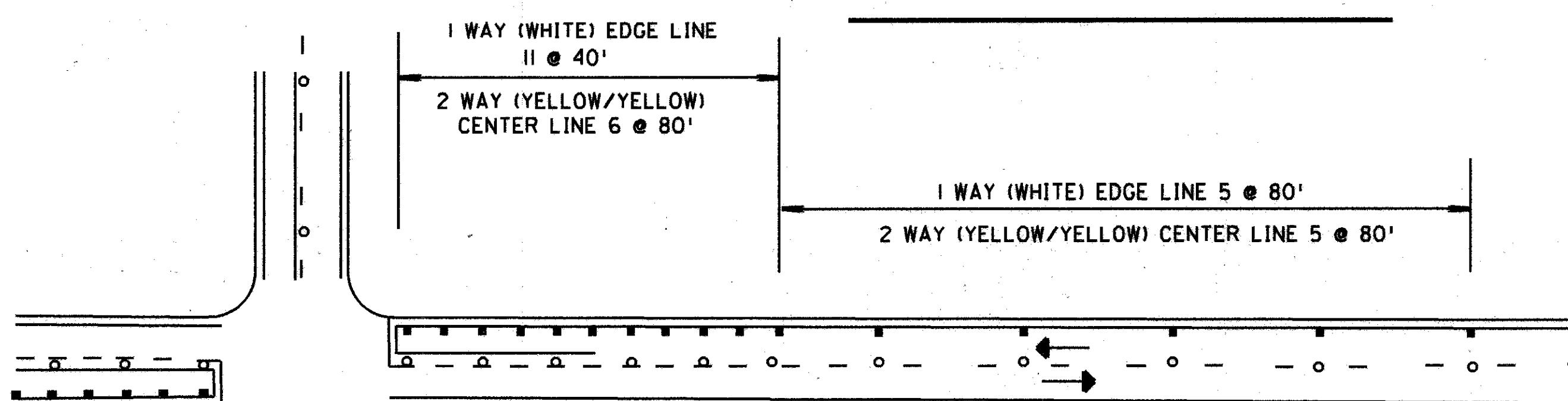
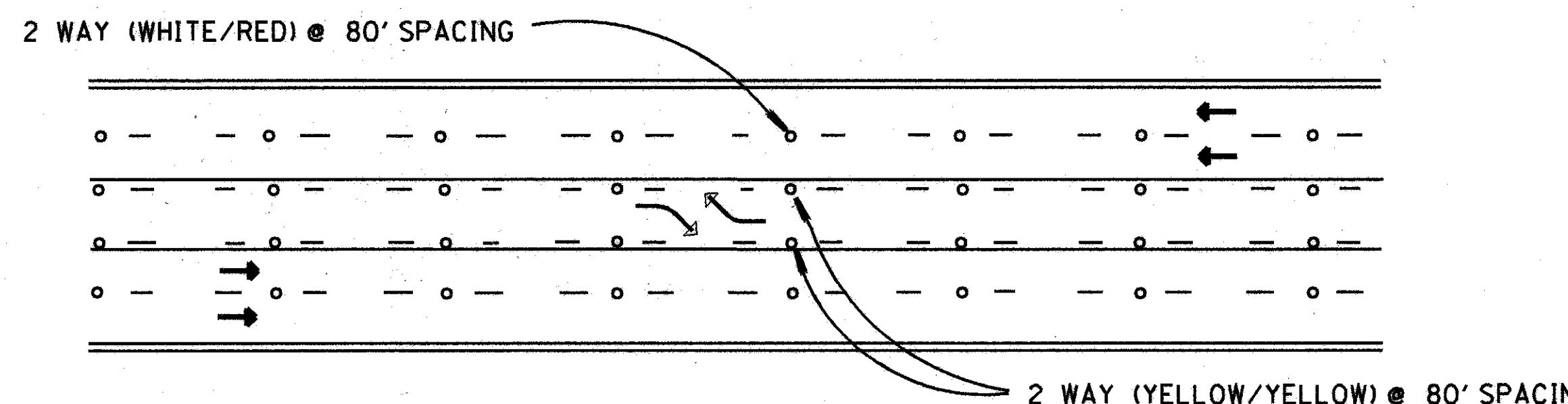
NOTES

1. FOR ONE LANE BRIDGES, PAINTED CENTER LINE AND CENTER LINE MARKERS SHALL BE OMITTED 160 FEET ON EACH SIDE AND ACROSS THE BRIDGE.
2. MARKERS SHALL BE REDUCED TO 40 FEET BETWEEN P.C. OR T.S. AND P.T. OR S.T.
3. FOR HORIZONTAL CURVES OF 10° OR GREATER, THE SPACING OF THE CENTER LINE MARKERS MAY BE REDUCED TO 20 FEET BETWEEN P.C. OR T.S. AND P.T. OR S.T. WHEN USING 20 FOOT SPACING, 12 RAISED PAVEMENT MARKERS AT 40 FOOT SPACING SHALL BE INSTALLED ON EACH END OF THE 20 FOOT SPACING.
4. A MINIMUM OF 3 EQUALLY SPACED RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON THE BACK TAPER.
5. WHEN A CHANNELIZING LINE IS LESS THAN 80 FEET LONG, ONE RAISED PAVEMENT MARKER SHALL BE PLACED AT EACH END OF THE LINE AND ONE SHALL BE PLACED IN THE CENTER OF THE LINE.
6. RAISED PAVEMENT MARKERS SHALL NOT BE PLACED ON EDGE LINES ON A THROUGH APPROACH.
7. ALL APPROACHES AT A SIGNALIZED INTERSECTION SHALL BE TREATED AS SHOWN IN THE STOP APPROACH DETAIL.

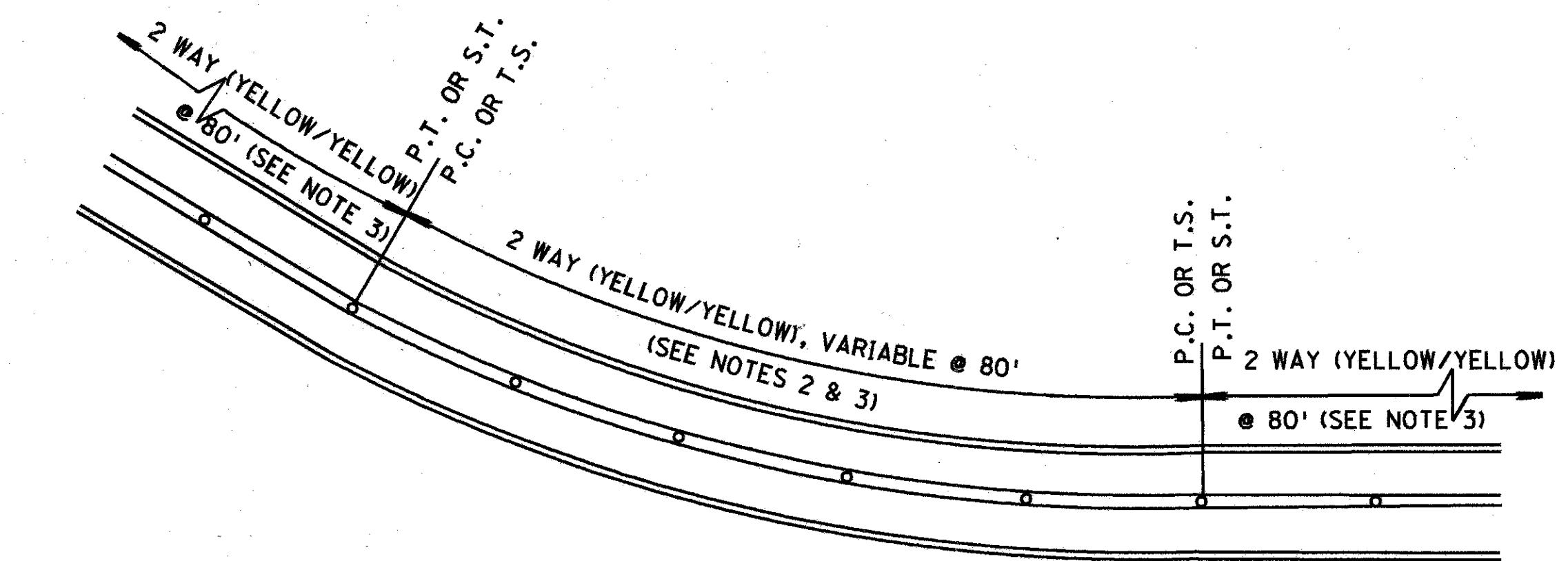


LEGEND

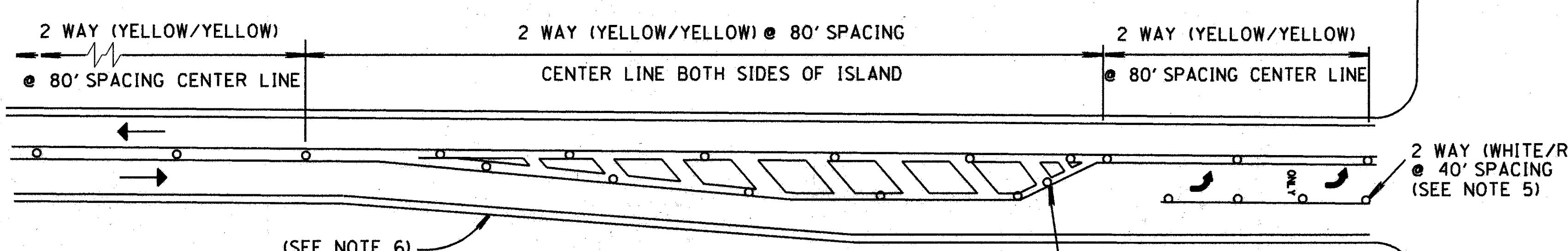
- 1 WAY REFLECTORS
- 2 WAY REFLECTORS

THROUGH APPROACH
(SEE NOTE 6)STOP APPROACH
(SEE NOTE 7)

TWO WAY LEFT TURN LANE



HORIZONTAL CURVE



APPROACH W/LEFT TURN LANE

REVISED BY:	DATE:
206512	DATE 05/21/81 06/08/89 02/01/90 07/07/95
RAISED PAVEMENT MARKER DETAILS II	
PLAN INSERT SHEET	

TRAFFIC CONTROL QUANTITIES

QUANTITIES			
Calc.	N.T.	Chkd.	R.W.
Date 6/2/94		Date: 6/6/94	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

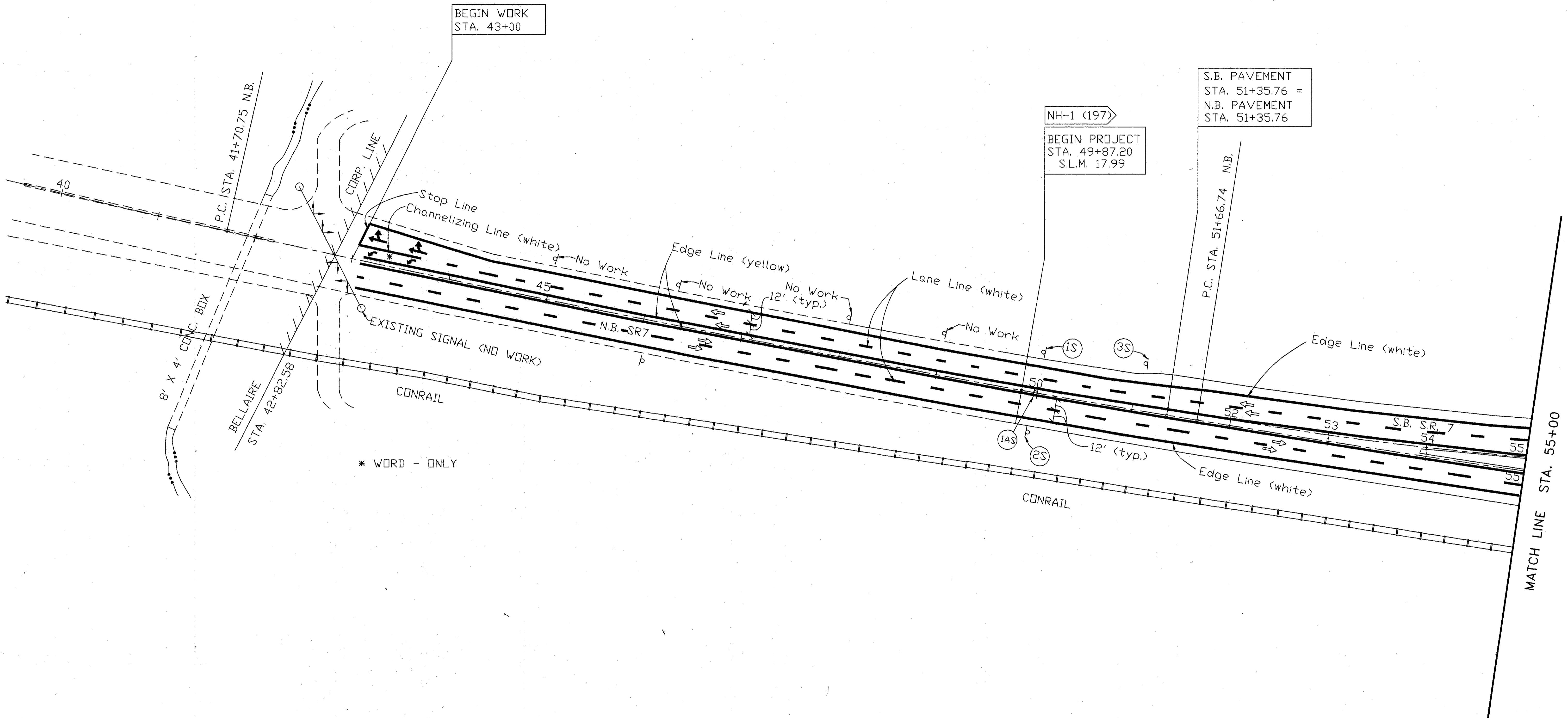
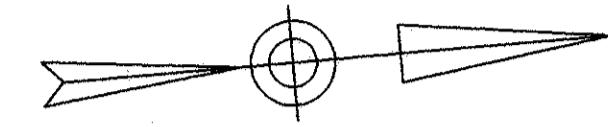
40
57

BEL-7-17.99

07 TRAFQZ

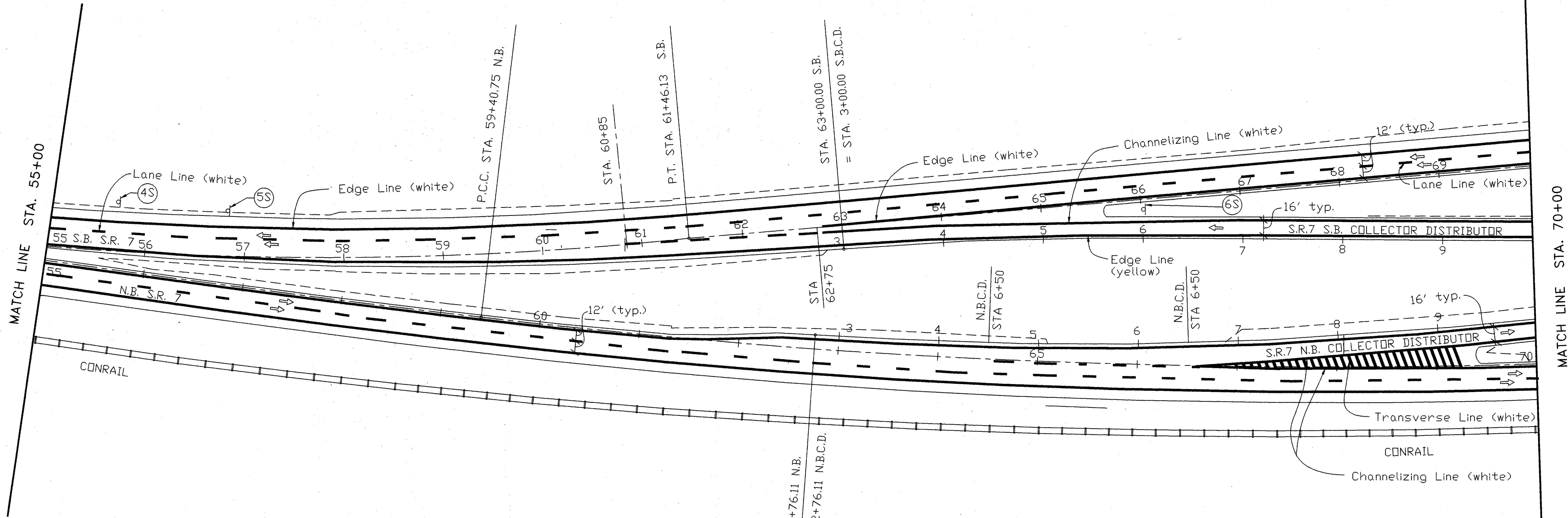
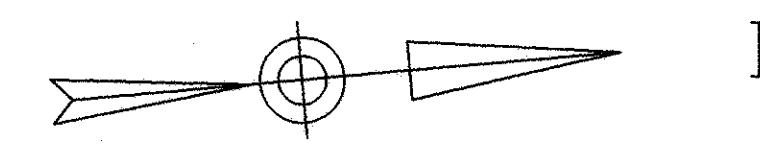
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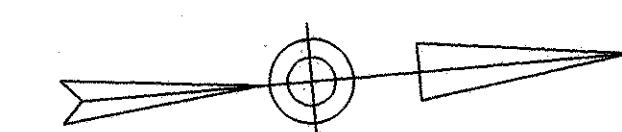
FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERCTION
QUANTITIES, SEE SHEET 40

BEL-7-17.99



FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERCTION
QUANTITIES, SEE SHEET 40

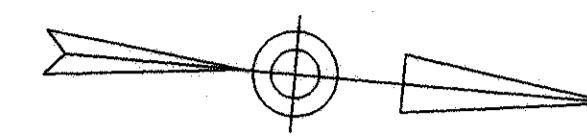
BEL-7-17.99



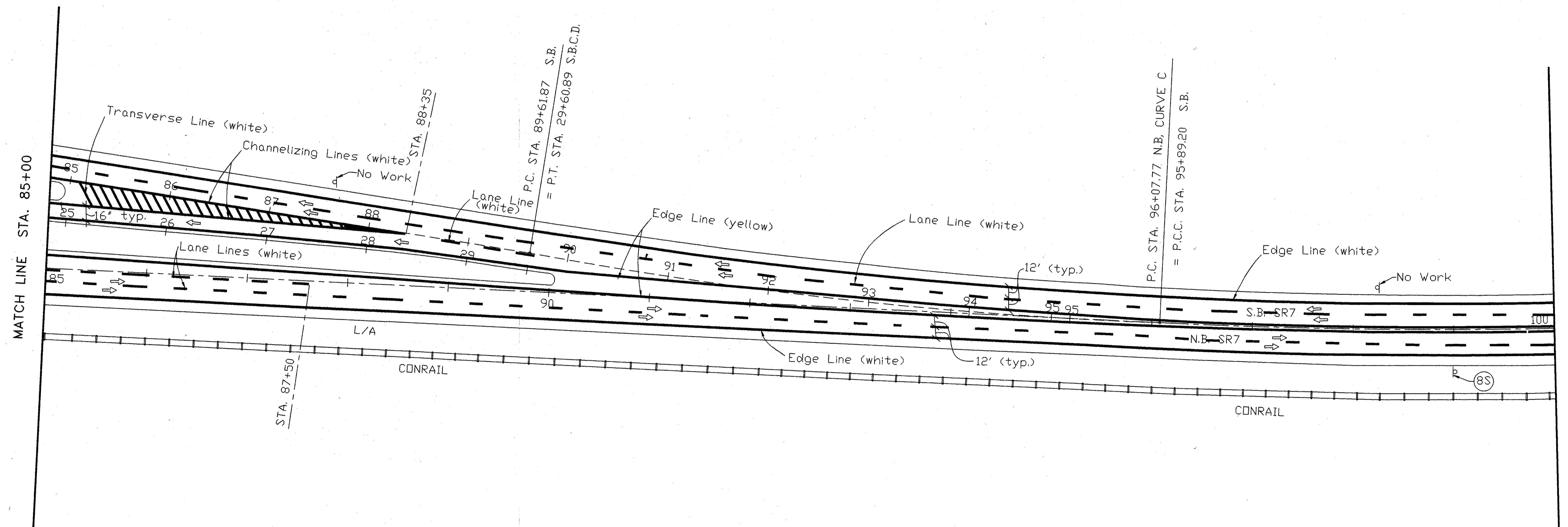
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FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECCTION
QUANTITIES, SEE SHEET 40

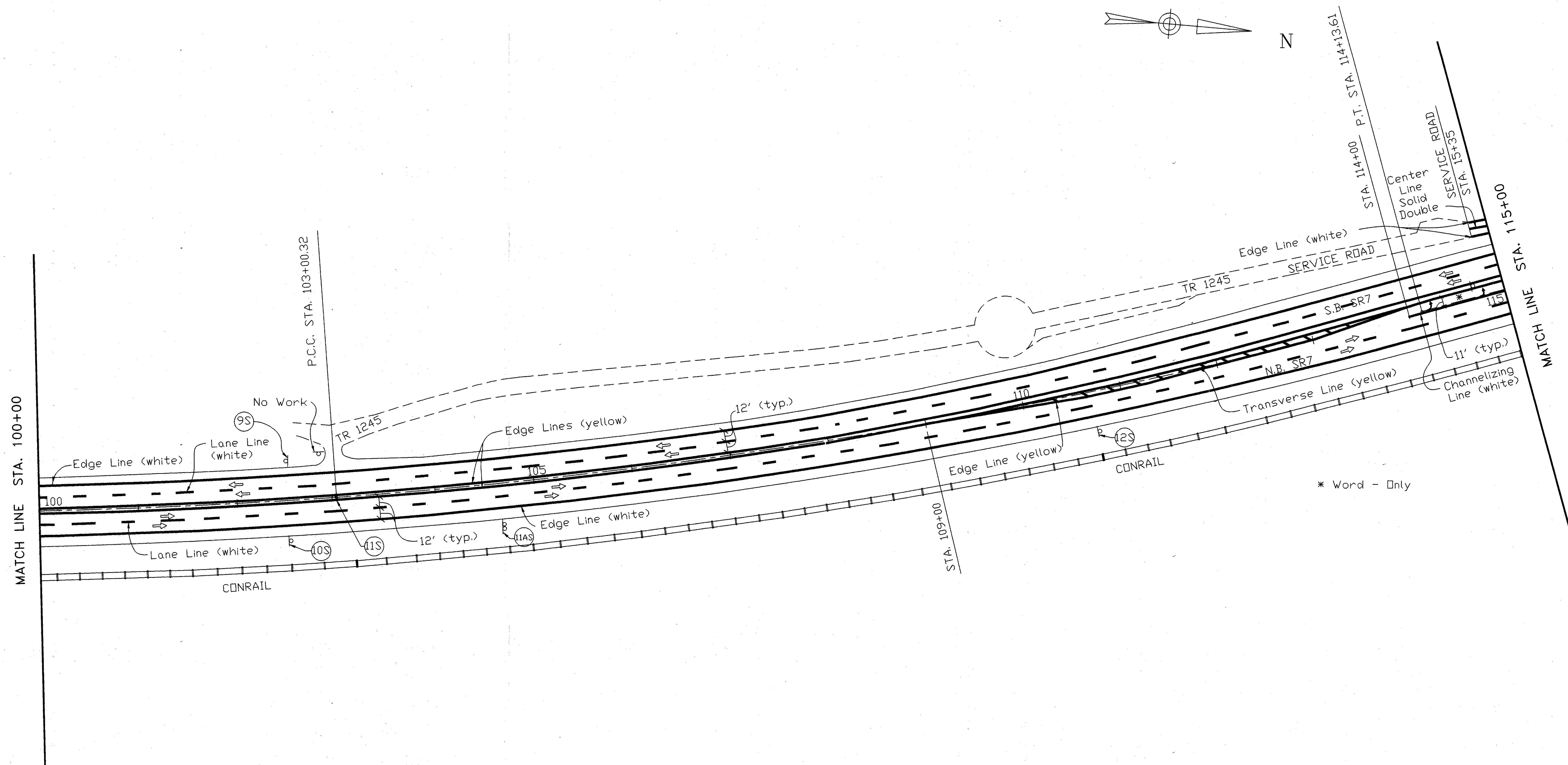
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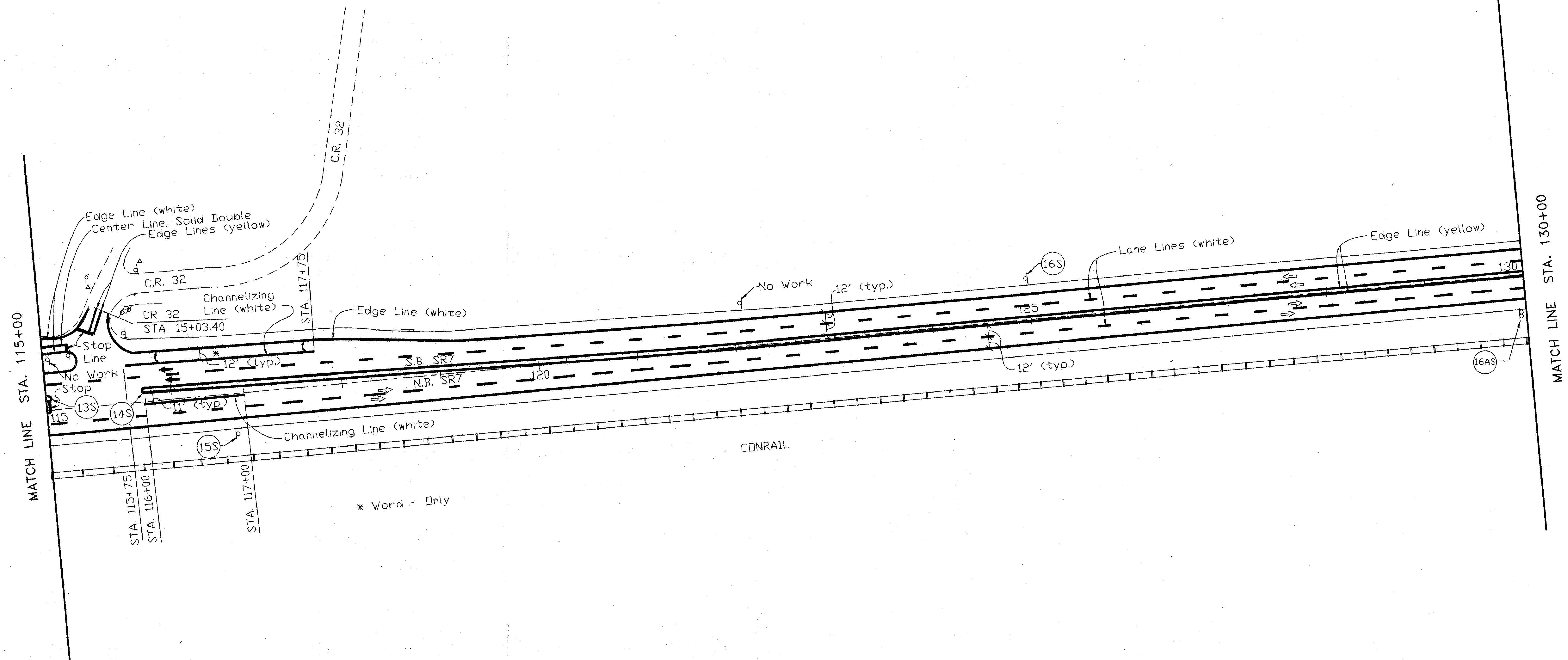
BEL-7-17.99



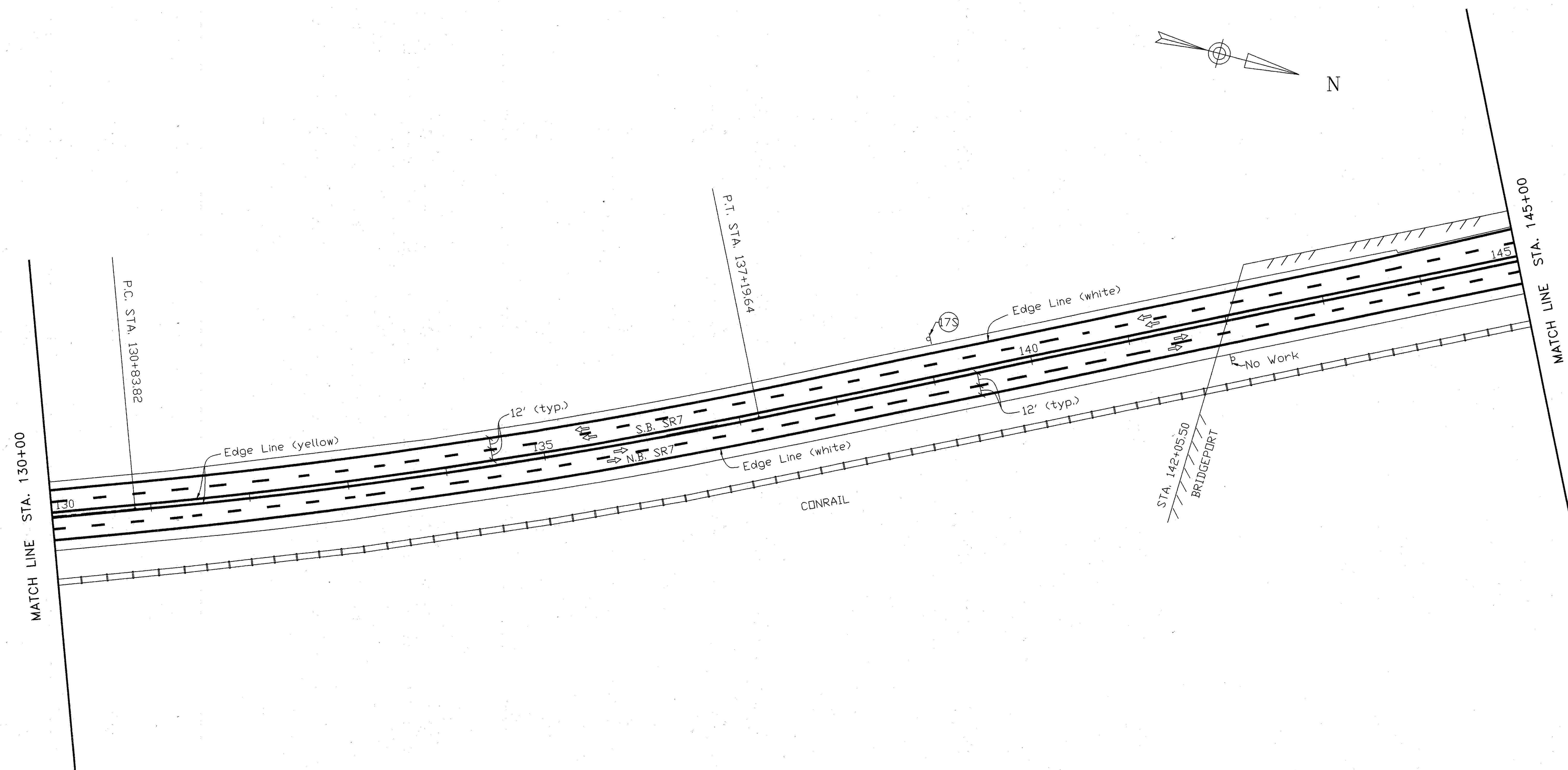
BEL-7-17.99

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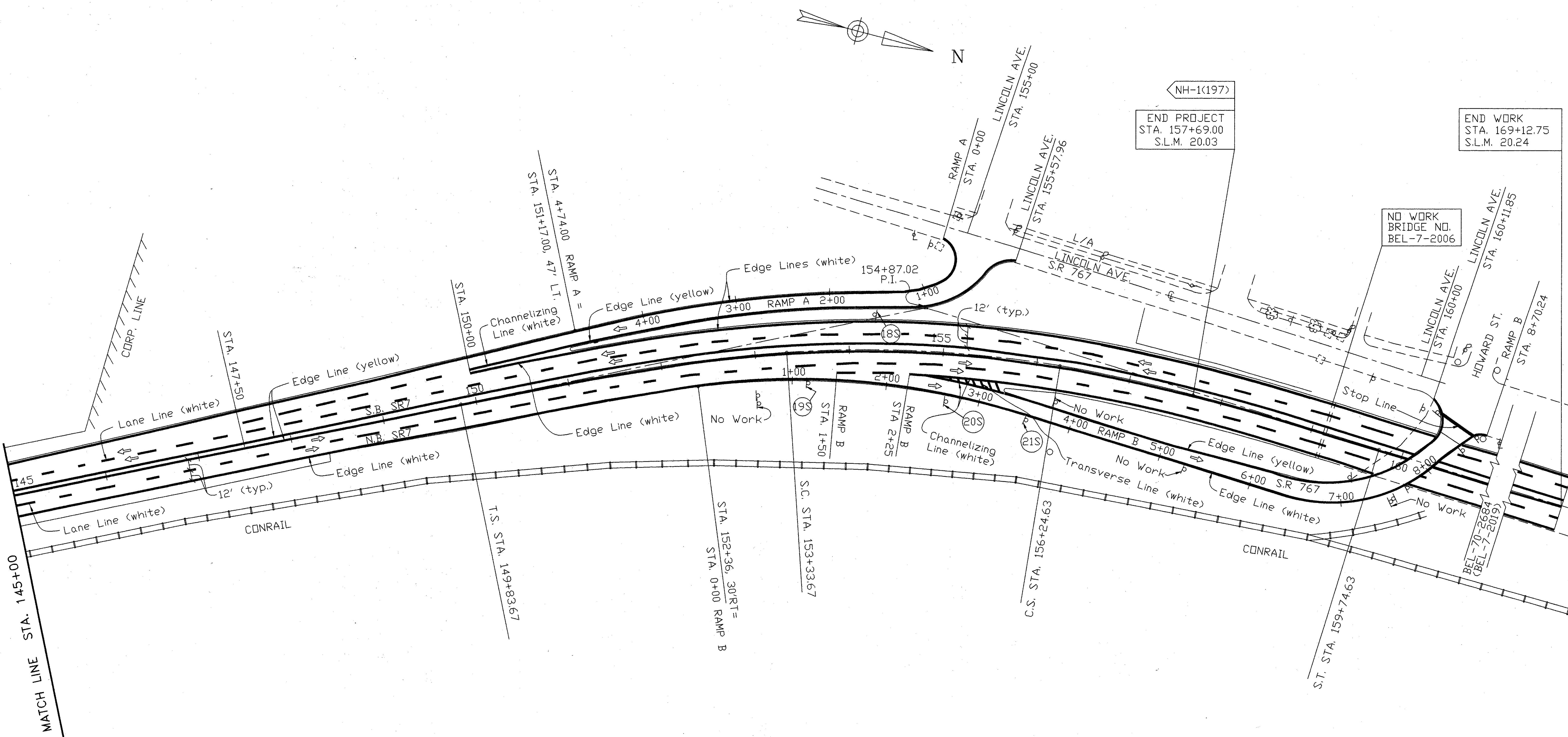
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FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERCTION
QUANTITIES, SEE SHEET 40

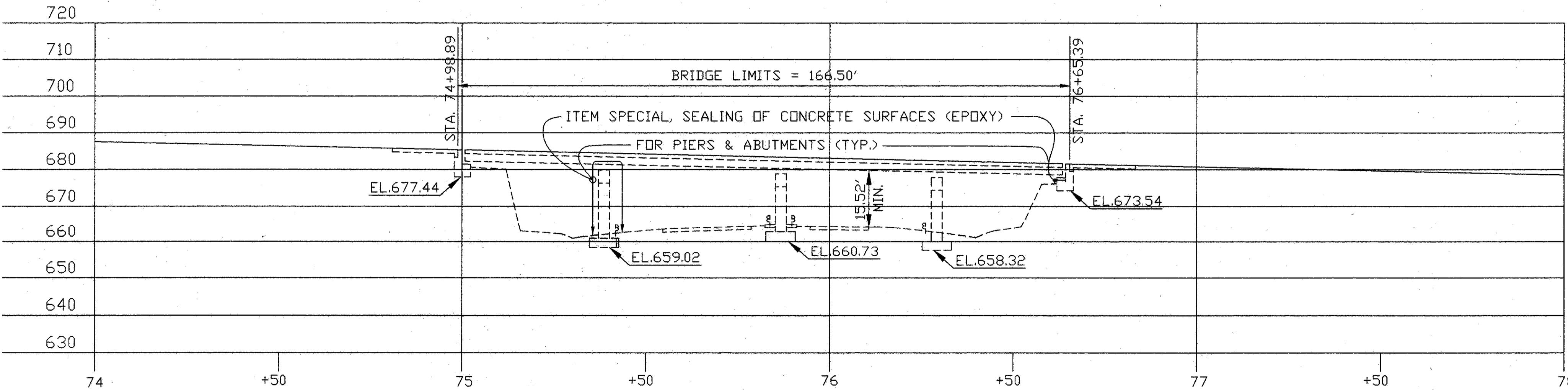
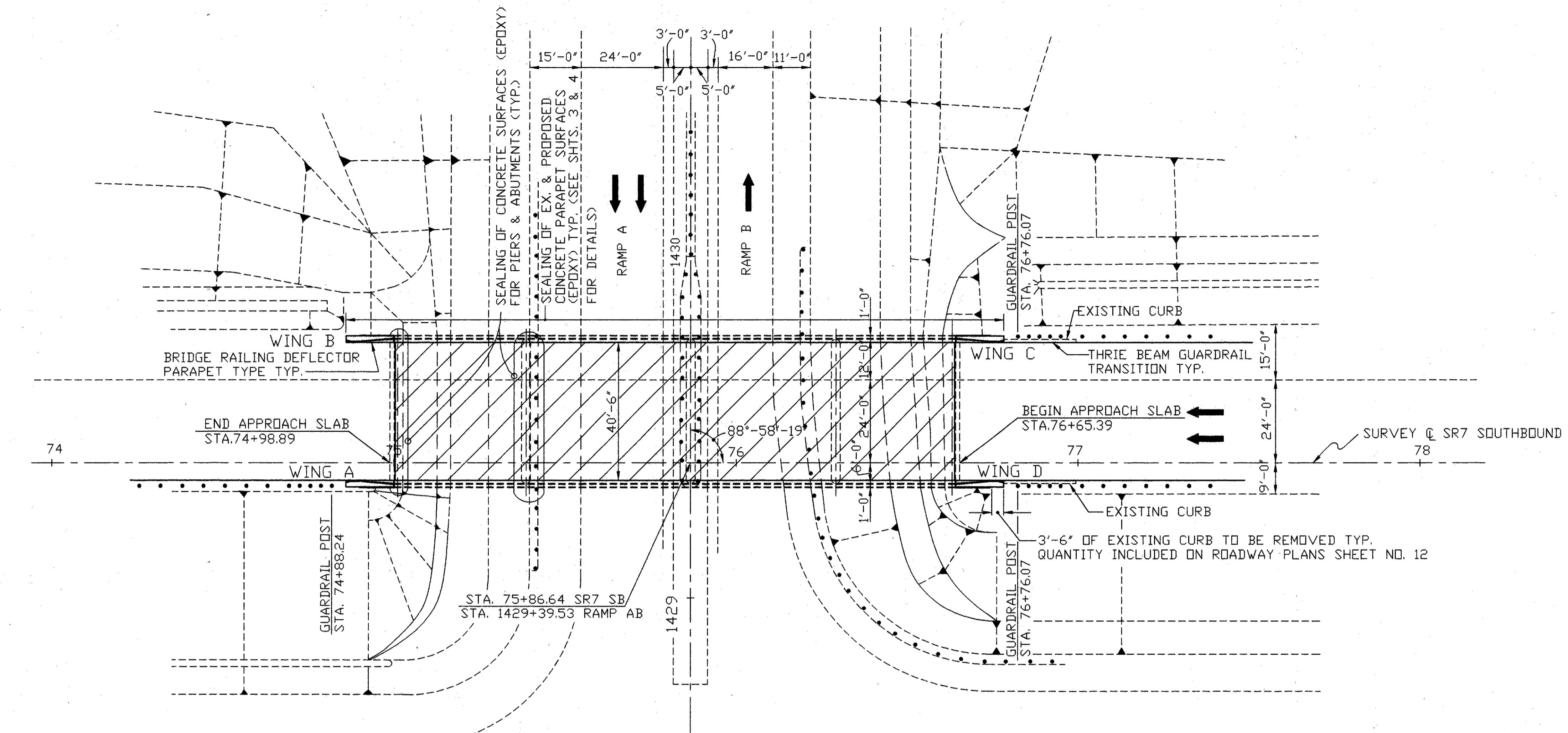


FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERCTION
QUANTITIES, SEE SHEET 40



FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERCTION
QUANTITIES, SEE SHEET 40

BEL-7-17.99



ELEVATION

07 SITE

PROJECT DESCRIPTION

1. Replace the existing $2\frac{1}{2}$ inch asphalt concrete wearing surface with the same thickness of Microsilica Modified Concrete Overlay.
2. Plug the existing asphalt drains.
3. Epoxy seal railing, pier columns and abutment backwalls and seats.
4. Paint structural steel with system DZEU. Do not paint galvanized scuppers or sign brackets.
5. Partial removal and reconstruction including extensions of existing wingwalls.

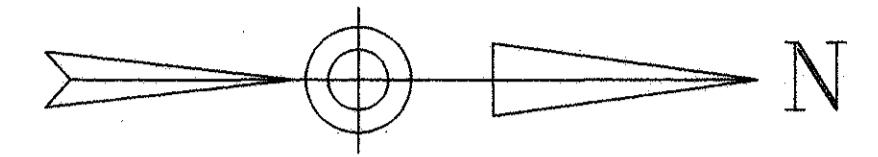
EXISTING STRUCTURE

TYPE: Continuous steel beams with reinforced concrete deck and superstructure.
SPANs: 37.5'-48'-42.5'-34'c/c Brgs.
ROADWAY: 42'-0" f/f parapets
LOADING: HS-20-44
SKEW: 1'-01"-41" Lt. Fwd.
WEARING SURFACE: $2\frac{1}{2}$ Asphalt concrete.
APPROACH SLABS: AS-1-72 (20' Long)
ALIGNMENT: Tangent
SUPERELEVATION: Runout on bridge.

PROPOSED STRUCTURE

TYPE: Continuous steel beams with reinforced concrete deck and superstructure.
SPANs: 37.5'-48'-42.5'-34'c/c Brgs.
ROADWAY: 42'-0" f/f parapets
LOADING: HS-20-44
SKEW: 1'-01"-41" Lt. Fwd.
WEARING SURFACE: $2\frac{1}{2}$ Micro-silica Modified Concrete Overlay
APPROACH SLABS: AS-1-72 (20' Long)
ALIGNMENT: Tangent
SUPERELEVATION: Runout on bridge.

	CENTRAL ENGINEERING, INC.		1 / 4			
	13550 FALLING WATER RD. SUITE 202 STRONGSVILLE, OH 44136					
SITE PLAN						
BRIDGE NO. BEL - 7 - 1848L OVER RAMP AB						
DESIGNED YL	DRAWN YL	TRACED RW	REVIEWED RC 3/95			
REVISED SITE PLAN						

49
57

BRIDGE GENERAL NOTES

ITEM SPECIAL - SEALING CONCRETE SURFACES (EPOXY)
An epoxy concrete sealer shall be applied to the concrete rail as shown on the Typical Sections for the full length of the bridge including wingwalls. Sealer shall also be applied to all piers and the face of the backwall and all horizontal and vertical faces of the bridge seat to the ground line. See Proposal Note for the surface preparation requirements, application rates, material requirements and application procedures.

GENERAL PROVISIONS

The Contractor's attention is called to all of section 100 of the Construction and Material Specifications of Ohio Department of Transportation and specifically to the items listed below as provided for in this section:

COOPERATION OF CONTRACTOR

The Contractor shall leave his ladders, platform or scaffold in place for a sufficient length of time and in such a manner to permit the Engineer or Inspector to safely examine the work performed.

The Contractor shall not perform work on Sundays or legal holidays without approval of the Engineer.

PRIOR INSPECTION OF WORK

Prospective bidders are required to make an inspection of the bridges in the field and to review the plans and specifications before submitting bids.

PAINT COLOR

The Urethane Finish Coat shall be Blue FS-595A-15450.

ITEM 815 - GRINDING FLANGE EDGES

The quantity for this item is to grind all four exposed bottom flange edges per lineal foot per beam from two feet beyond and over the pavement of each ramp beneath the bridge.

REPLACEMENT OF EXISTING REINFORCING STEEL

Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the Contractor's concrete removal operations shall be replaced with new steel at their cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in Item 509 for this purpose.

CUT LINE & CONSTRUCTION JOINT PREPARATION

Saw cut boundaries of proposed concrete removals 1" deep. Remove concrete to a rough surface. Where practicable, the existing reinforcing steel where required in the plans shall be left in place. Prior to concrete placement abrasively clean joint surface and exposed reinforcement to remove loose and disintegrated concrete and loose rust. Then, the joint surface and exposed reinforcement shall be thoroughly cleaned of all dirt, dust, or other foreign material by the use of water, air under pressure, or other methods that produce satisfactory results. Concrete bonding surfaces shall be wet without free water as concrete is placed.

PORTIONS OF STRUCTURES REMOVED, AS PER PLAN

This shall include the elements indicated in the plans and general notes and are not separately listed for payment, except for wearing course removal. Items to be removed include all existing materials being replaced by new construction and miscellaneous items that are not shown to be incorporated into the final construction and are directed to be removed by the Engineer. The use of explosives, headache balls and/or hoe-rams will not be permitted. The method of removal and the weight of hammer shall be approved by the Engineer. All work shall be done in a manner that will not cut, elongate or damage the existing reinforcing steel to be preserved. Chipping hammers shall not be heavier than the nominal 90-pound class. Pneumatic hammers shall not be placed in direct contact with reinforcing steel that is to be retained in the rebuilt structure.

MAINTAINING TRAFFIC

The Contractor shall furnish and install all Warning and Regulatory signs, lights, barricades, pavement markings, and any other devices necessary to maintain traffic as indicated in the OHIO MANUAL OF TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE OPERATIONS, current edition, latest revisions. Payment shall be included in the unit price for Item 614, Maintaining Traffic.

To prevent damage to vehicles traveling under structures which are being painted, the Contractor shall install and maintain suitable shields between his operations and vehicles using open traffic lanes. The shields shall be of a type and construction approved by the Engineer, to prevent paint from dropping onto or blown into pavement lanes open to traffic. They shall be suitably anchored and reinforced to prevent interfering with normal traffic operations in the open lanes. Payment for the shields shall be included in the lump sum price bid for Item 614 - Maintaining Traffic.

CLASS "S" CONCRETE MISC.: DEFLECTOR PARAPET

The Railing shall be constructed per details shown on Sheet 4/4

Design specifications: This structure conforms to "Standard specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation officials, 1992, and the ODOT Bridge Design Manual.

Design data: concrete class S $f_c=4500$ psi, reinforcing steel ASTM A615, A616 or A617 grade 60 $f_y=24,000$ psi.

Payment: additional guardrail cost in excess of normal guardrail cost, such as: terminal connector, steel plate bolts, nuts, plate washers, and other hardware shall be included with bridge terminal assembly for payment. Quantities of concrete and reinforcing steel for parapet are included with their appropriate item in sheet 3/4.

Posts shall be square-sawed pressure treated wood as per 710.14. Posts shall be fabricated with square ends. Bolt holes shall be bored and tops of posts trimmed. If required, after posts are set. Posts may be set in drilled holes or driven to grade. Steel posts and blockouts may be furnished as an alternate, provided that the strength equals or exceeds the strength of wood posts and blockouts.

ITEM SPECIAL - MICRO-SILICA CONCRETE OVERLAY

All related items for the placement of the Micro-silica concrete overlay shall be done as per the Proposal Note.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

Existing asphalt drains in the wearing course shall be filled and plugged with concrete.

ITEM 815 - SURFACE PREPARATION OF EXISTING STEEL (OZEU)

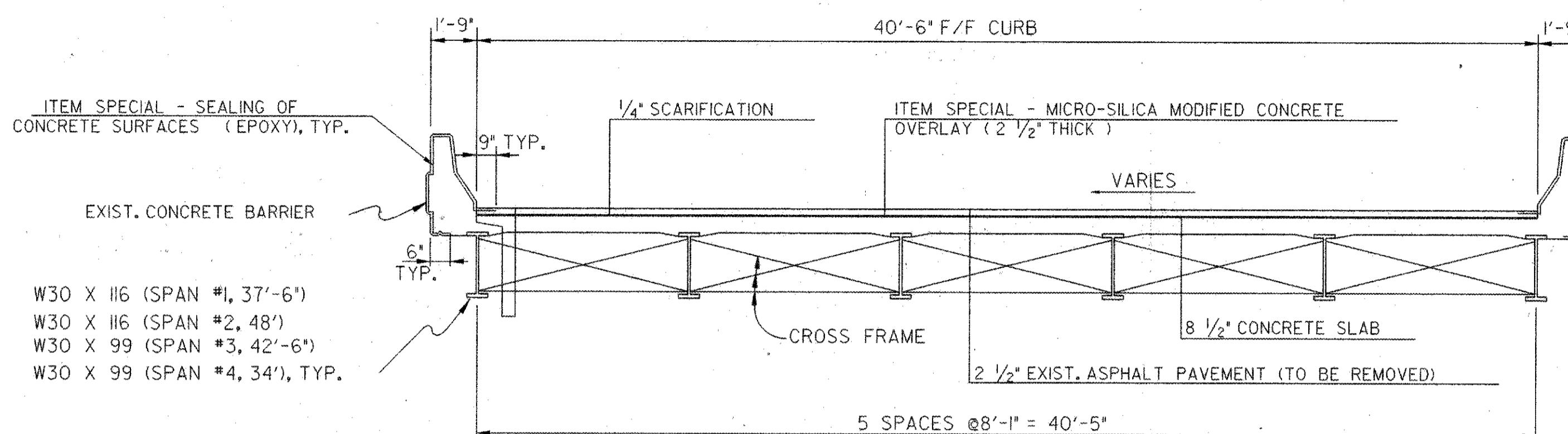
Exposed structural steel shall be painted with system OZEU except for galvanized scuppers and sign brackets.

C CENTRAL ENGINEERING, INC. 13550 FALLING WATER RD. SUITE 202, STRONGSVILLE, OH 44136						2/4
GENERAL NOTES BRIDGE NO. BEL - 7 - 1848L OVER RAMP AB						
DESIGNED N.T.	DRAWN Y.L.	TRACED	CHECKED R.R.	REVIEWED R.C.	DATE 3/95	REVISED
BRIDGE GENERAL NOTES						

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		51 57

BEL-7-17.99

DECK SECTION



BRIDGE DECK
STA. 75+00.62 TO STA 76+63.66 = 163.04 LIN. FT.

BRIDGE GENERAL SUMMARY

ESTIMATED QUANTITIES					PARAPET	GENERAL
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION		
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN		
202	23500	735	SQ. YD.	WEARING COURSE REMOVED		
SPECIAL	202 70000	326	LIN. FT.	FILL AND PLUG EXISTING CONDUIT (SEE NOTE ON SHT.50) [2/4]		
509	15800	1133	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60	1033 LB.	100 LB.
511	34450	14	CU.YD	CLASS 'S' CONCRETE, MISC.: DEFLECTOR PARAPET		
SPECIAL	512 67502	861	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) *		
SPECIAL	519 22006	735	SQ. YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY (2 1/2" THICK) *		
SPECIAL	519 22100	10	CU. YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) *		
SPECIAL	519 22300	LUMP		TEST SLAB. *		
815	00050	9005	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU		
815	00056	9005	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU		
815	00060	9005	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU		
815	00066	9005	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU		
815	00508	1152	LIN. FT.	GRINDING FLANGE EDGES		

* SEE PROPOSAL NOTE

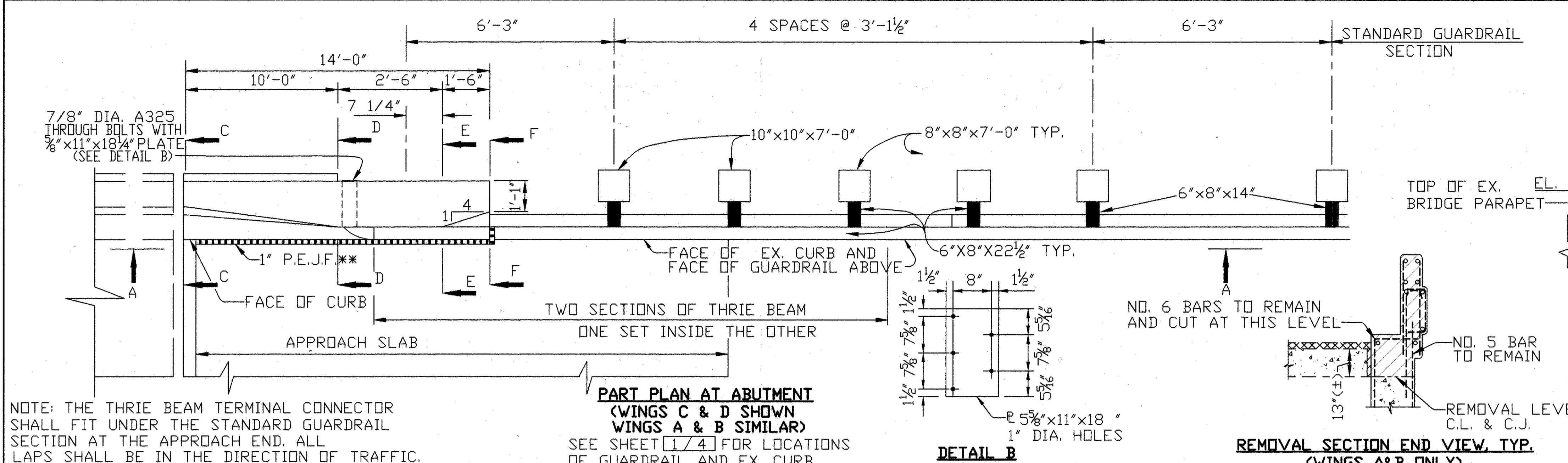
CALCULATIONS

Item Special - Sealing of Concrete Surfaces (Epoxy)
 Railing 189' x 9.16' x 2 sides / 9 = 385 S.Y.
 Backwall 43.6' x 15' x 2 ends / 9 = 146 S.Y.
 Piers 990 S.F. x 3 Piers / 9 = 330 S.Y.
 Total = 861 S.Y.

Item 815 - OZEU
 x-frames
 WF30x116 (7.44) (93.5') (6) (1.25) = 5218 S.F.
 WF30x 99 (7.37) (68.5') (6) (1.25) = 3787 S.F.
 Total = 9005 S.F.

ITEM 815 - Grinding Flange Edges
 48' x 6 beams X4 = 1152.00 L.F.

DECK SECTION & ESTIMATED QUANTITIES						
BRIDGE NO. BEL - 7 - 1848L OVER RAMP AB						
DESIGNED YL	DRAWN YL	TRACED RC	CHECKED RW	REVIEWED RC	DATE 3/95	REVISED
DECK SECTION						



NOTE: THE THREE BEAM TERMINAL CONNECTOR SHALL FIT UNDER THE STANDARD GUARDRAIL SECTION AT THE APPROACH END. ALL LAPS SHALL BE IN THE DIRECTION OF TRAFFIC.

SEE SHEET 1/4 FOR LOCATIONS OF GUARDRAIL AND EX. CURB.

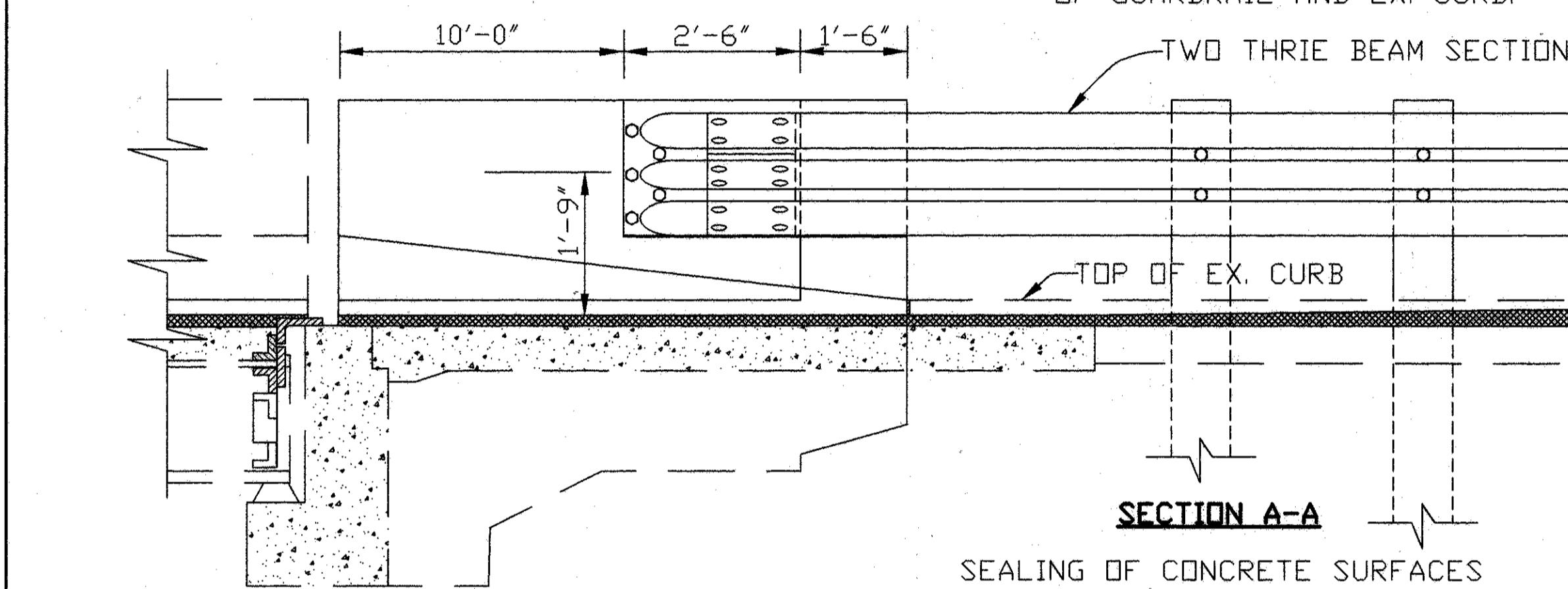
PART PLAN AT ABUTMENT
(WINGS C & D SHOWN
WINGS A & B SIMILAR)

DETAIL B

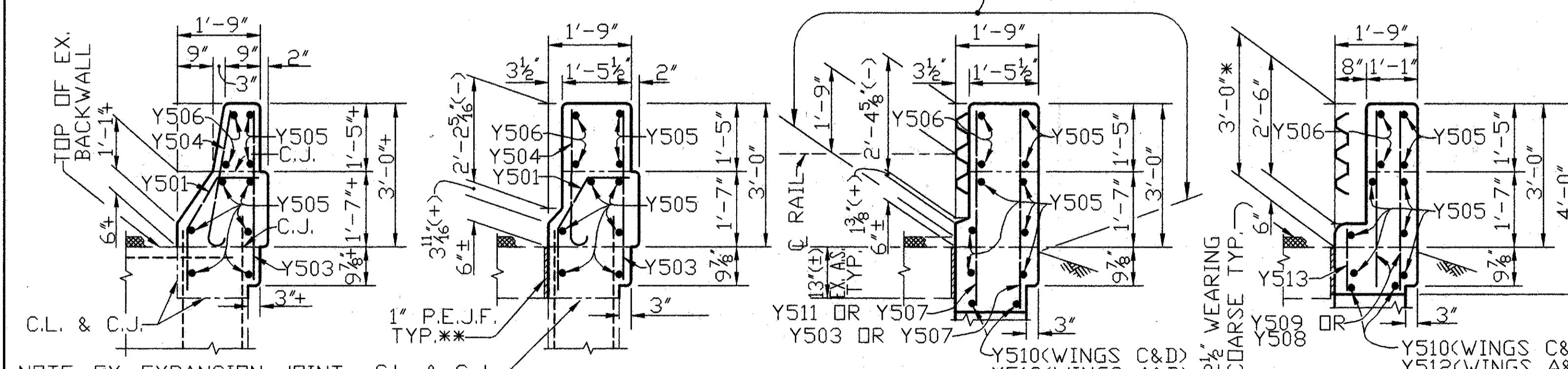
NO. 6 BARS TO REMAIN AND CUT AT THIS LEVEL

NO. 5 BAR TO REMAIN
REMOVAL LEVEL
C.L. & C.J.

REMOVAL SECTION END VIEW, TYP.
(WINGS A&B ONLY)



SECTION A-A



NOTE: EX. EXPANSION JOINT C.L. & C.J.
ARMOR NOT SHOWN.

SECTION C-C

+ THESE DIMENSIONS SHALL BE FIELD ADJUSTED TO MATCH EXISTING BRIDGE PARAPET.

* TOP OF PARAPET ELEVATIONS SHALL BE DETERMINED AS FOLLOWS: EL. "X" SHALL BE DETERMINED BY MATCHING THE EXISTING ADJACENT BRIDGE PARAPET. EL. "Y" SHALL BE DETERMINED BY MEASURING UP 3'-0" FROM TOP OF EXISTING CONCRETE APPROACH SLAB AS SHOWN.

** TO BE INCLUDED FOR PAY WITH ITEM 511, CLASS "S" CONCRETE, MISC. DEFLECTOR PARAPET

NOTES:

BARS CALLED FOR REMOVAL AND HAVING AN EXTENSION INTO THE REMAINING CONCRETE SHALL BE CUT FLUSH WITH THE CONCRETE REMOVAL SURFACE TO ALLOW INSTALLATION OF NEW REINFORCEMENT.

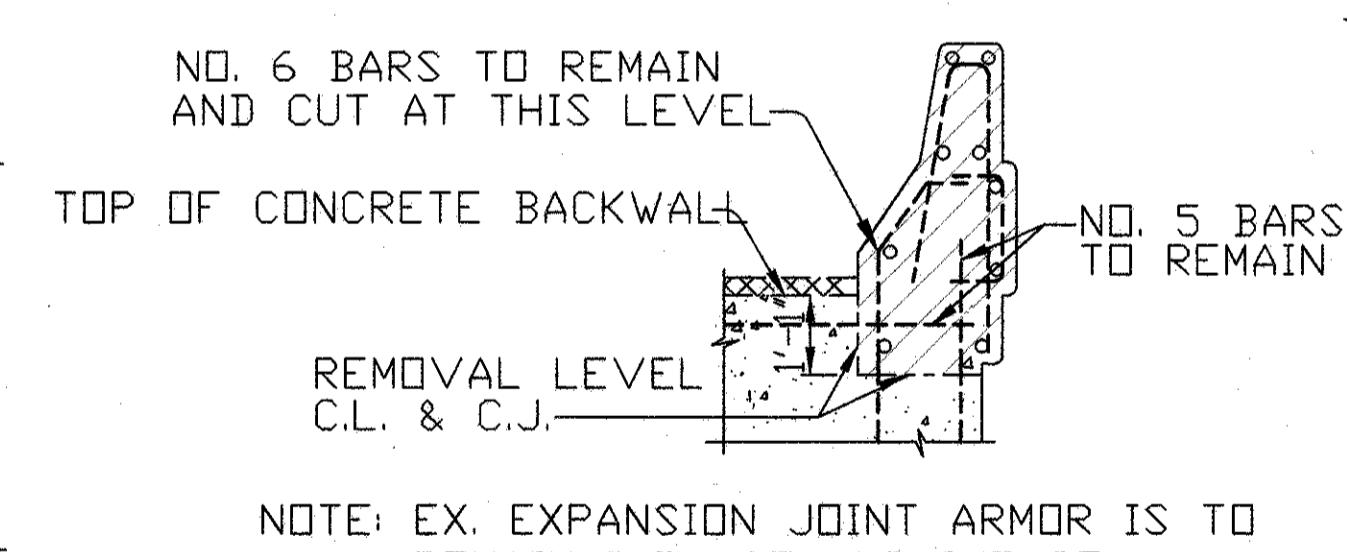
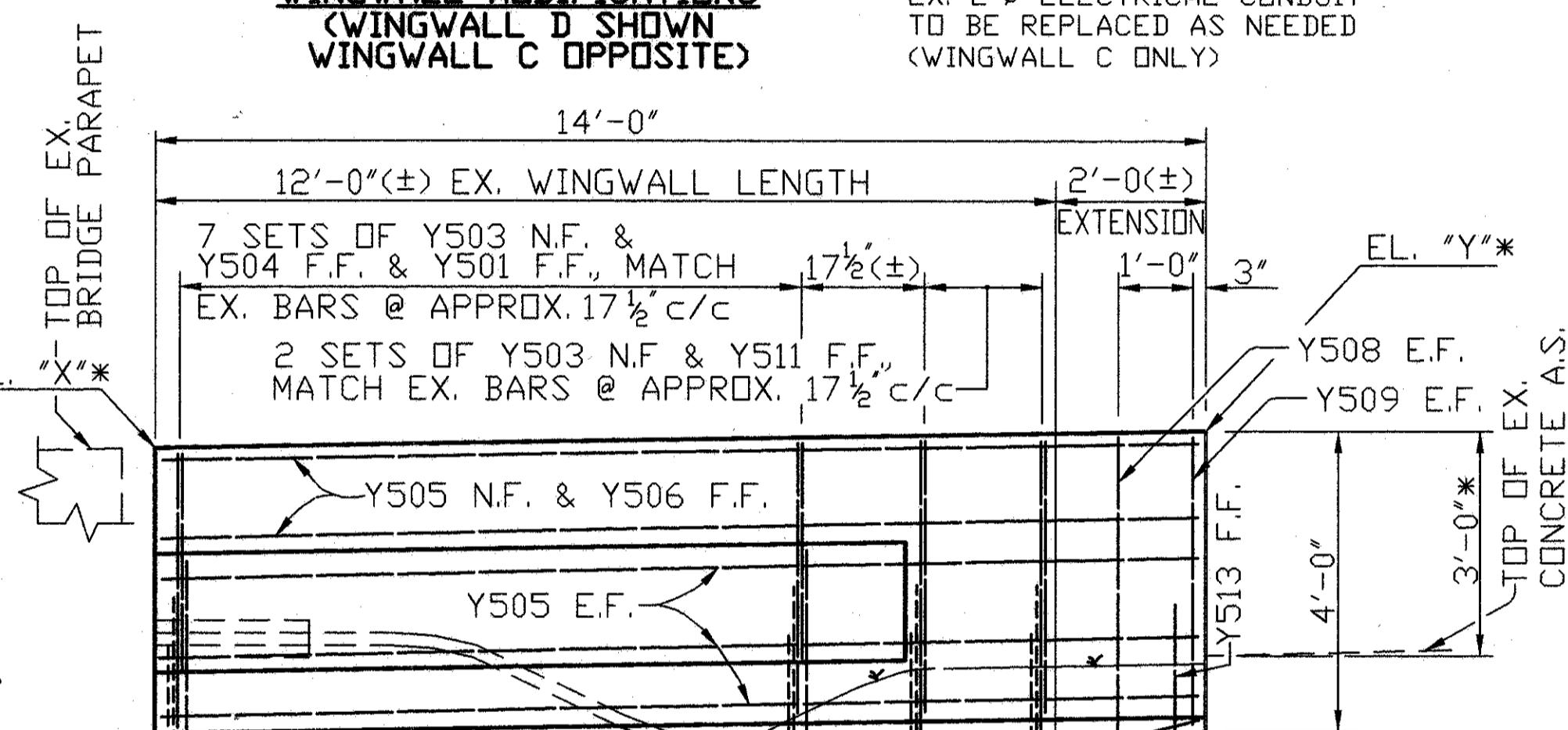
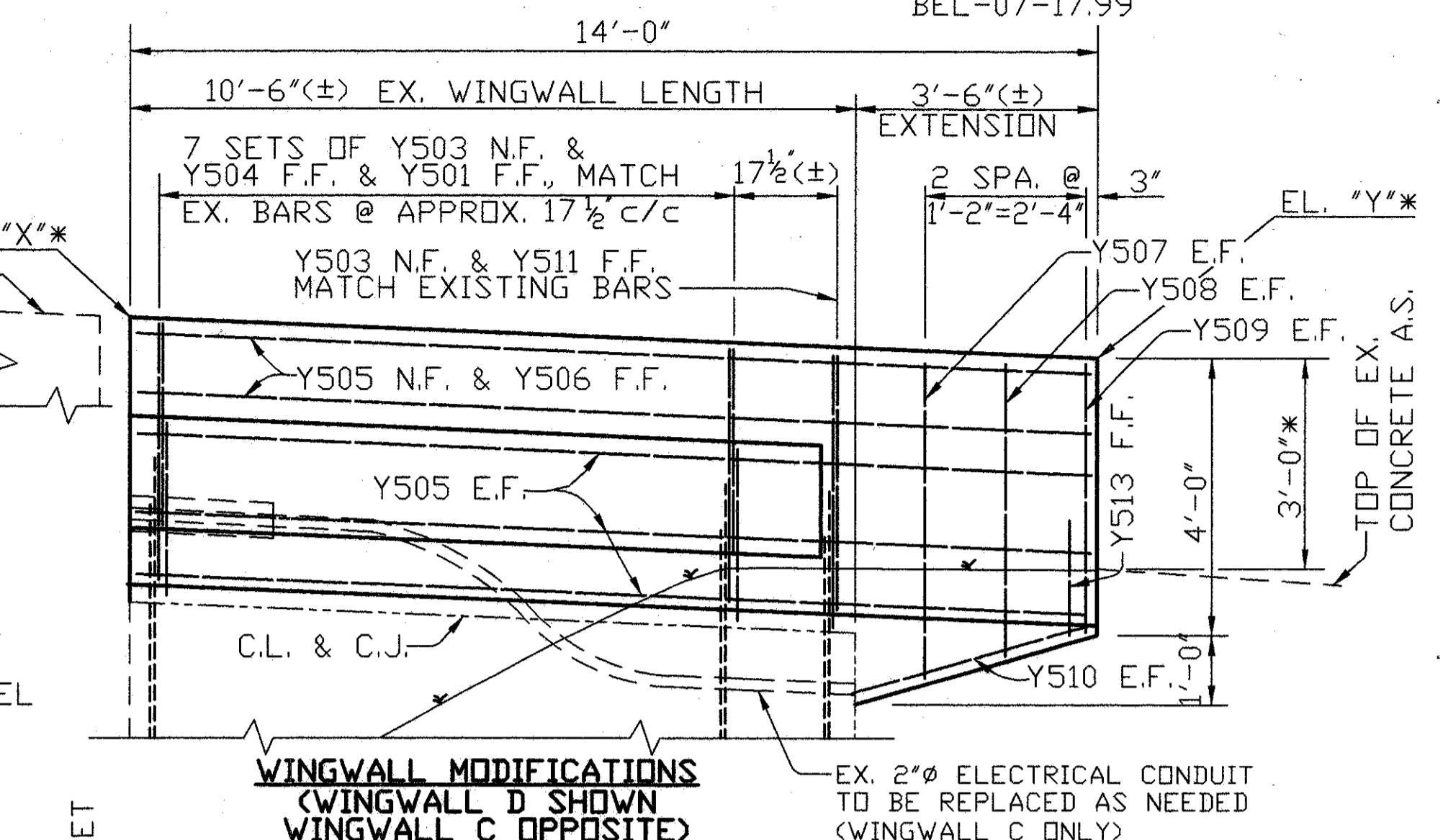
EXCAVATION REQUIRED FOR WINGWALL EXTENSIONS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511 CLASS "S" CONCRETE MISC. DEFLECTOR PARAPET.

LEGEND

(±) INDICATES EXISTING DIMENSION
INDICATED DIMENSION TO MATCH EXISTING
INDICATES VARIANCE LESS THAN
1/16 FROM TRUE DIMENSION
CONSTRUCTION JOINT
C.J.
C.L.
N.F.
F.F.
E.F.
EX.
TYP.
APPROX.
A.S.
EL.
P.E.J.F.
REMOVED EXPANSION JOINT FILLER
REMOVAL AREA

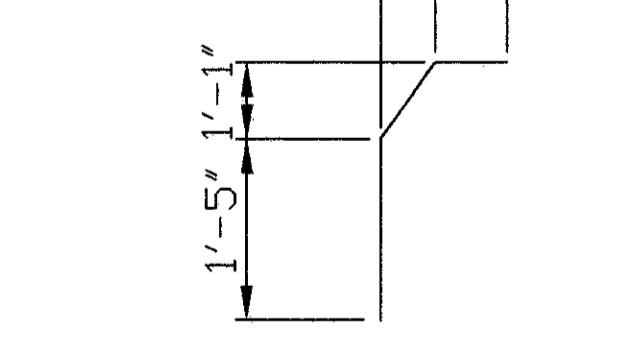
MARK NO.	LENGTH	SHP.	WEIGHT (lbs.)
Y501 28	3'-9"	BT.	110
Y503 34	3'-8"	STR.	130
Y504 28	3'-1"	BT.	90
Y505 32	13'-8"	STR.	456
Y506 8	13'-8"	BT.	114
Y507 4	4'-4"	STR.	18
Y508 8	4'-0"	STR.	33
Y509 8	3'-9"	STR.	31
Y510 4	3'-4"	STR.	14
Y511 6	3'-11"	STR.	25
Y512 4	1'-8"	STR.	7
Y513 4	1'-2"	STR.	5
TOTAL			1033

ALL REINFORCING BARS SHALL
BE EPOXY COATED



NOTE: EX. EXPANSION JOINT ARMOR IS TO
REMAIN INPLACE AND INTACT.

REMOVAL SECTION AT BACKWALL, TYP.



CENTRAL ENGINEERING, INC. 4 / 4
13550 FALLING WATER RD, SUITE 202, STRONGSVILLE, OH 44136

WINGWALL REMOVALS & MODIFICATIONS
WITH DEFLECTOR PARAPET TYPE
BRIDGE NO. BEL - 7 - 1848L
OVER
RAMP AB

DESIGNED N.T. DRAWN S.U./J.B. TRACED R.R. CHECKED R.R. REVIEWED DATE R.C. 3/95 REVISED

DEFLECTOR DETAIL

LIGHTING GENERAL NOTES

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

53
57

BEL-7-17.99

POWER SUPPLY:

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

OHIO POWER CO.
301 CLEVELAND AVE. S.W.
CANTON, OH 44701

SERVICE: 240 VOLTS/480 VOLTS, 3 WIRE, GROUNDED NEUTRAL SINGLE CIRCUIT,
STATE ROUTE 7 (ODOT).
120VOLTS/240VOLTS, 3 WIRE, GROUNDED NEUTRAL SINGLE CIRCUIT,
LINCOLN AVENUE (BRIDGEPORT).

ELECTRICAL ENERGY FROM EXISTING POWER SERVICES SHALL CONTINUE TO BE CHARGED TO THE MAINTAINING AGENCY. THE CONTRACTOR SHALL PAY ELECTRICAL ENERGY CHARGES FOR NEW POWER SERVICES ESTABLISHED BY THIS PROJECT. UPON COMPLETION OF THIS PROJECT, POWER SERVICE ELECTRICAL ENERGY ACCOUNTS SHALL BE TRANSFERRED TO THE MAINTAINING AGENCIES NOTED IN THE PLANS. THIS SHALL INCLUDE NEW POWER SERVICE ESTABLISHED BY THIS PROJECT AS WELL AS REASSIGNMENT OF EXISTING SERVICE DUE TO WORK PERFORMED BY THIS PROJECT.

PADLOCKS AND KEYS:

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BAHANNON 660A, AND SHALL BE KEYED IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION 63I.08 PARAGRAPH 3. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM BEING LOCKED.

UNDERDRAINS FOR PULL BOXES:

REFERENCE IS MADE TO STANDARD DRAWING HL-30.II FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. AN ESTIMATED QUANTITY OF 200 LINEAR FEET OF ITEM 603 - 4" CONDUIT, TYPE E IS INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 202 - LIGHT POLE FOUNDATION REMOVED:

THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL OF THE EXISTING LIGHT POLE FOUNDATION TO A MINIMUM OF ONE FOOT BELOW GRADE AND THE RESTORATION OF THE DISTURBED AREA. ALL MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND ANY MATERIAL REQUIRED TO RESTORE THE DISTURBED AREA SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THIS ITEM. PAYMENT WILL BE MADE FOR EACH LIGHT POLE FOUNDATION REMOVED.

ITEM 202 - LIGHT POLE FOUNDATION REMOVED, AS PER PLAN:

THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL OF THE EXISTING LIGHT POLE FOUNDATION COMPLETELY TO PROVIDE SUFFICIENT AREA TO INSTALL A PULL BOX. ALL MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR. PAYMENT WILL BE MADE FOR EACH LIGHT POLE FOUNDATION REMOVED, AS PER PLAN.

ITEM 202 - REMOVAL MISC.: LIGHT POLE FOUNDATION REMOVED

THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL OF WIRING PRIOR TO THE REMOVAL OF EXISTING LIGHT POLE FOUNDATION AND THEN THE REMOVAL OF THE EXISTING LIGHT POLE FOUNDATION TO A MINIMUM OF ONE FOOT BELOW GRADE AND THE RESTORATION OF THE DISTURBED AREA. RECONNECT THE EXISTING CIRCUIT BY USING WATERTIGHT CABLE SPLICE KITS AND DISTRIBUTION CABLE NO. 4AWG AND PAYED FOR AS PART OF THIS ITEM. ALL MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND ANY MATERIAL REQUIRED TO RESTORE THE DISTURBED AREA SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THIS ITEM. PAYMENT WILL BE MADE FOR EACH LIGHT POLE FOUNDATION REMOVED.

ITEM 202 - PULL BOX REMOVED:

THIS ITEM OF WORK SHALL CONSIST OF REMOVAL OF THE EXISTING PULL BOX AND CONTENTS AND THE RESTORATION OF THE DISTURBED AREA. ALL REMOVED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND ANY MATERIAL REQUIRED TO RESTORE THE DISTURBED AREA SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THIS ITEM. PAYMENT WILL BE MADE FOR EACH PULL BOX REMOVED, AS PER PLAN.

ITEM 202 - PULL BOX REMOVED, AS PER PLAN:

THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL OF THE EXISTING PULL BOX COMPLETELY TO PROVIDE SUFFICIENT AREA TO INSTALL A NEW PULL BOX. ALL MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR. PAYMENT WILL BE MADE FOR EACH PULL BOX REMOVED, AS PER PLAN.

ITEM 202 - LIGHT POLE REMOVED, AS PER PLAN:

THIS ITEM OF WORK SHALL CONSIST OF REMOVAL OF THE EXISTING LIGHT POLE, ARM, LUMINAIRE, TRANSFORMER BASE AND POLE AND BRACKET CABLE. ALL MATERIALS REMOVED SHALL BE THE PROPERTY OF THE CONTRACTOR. PAYMENT WILL BE MADE FOR EACH LIGHT POLE REMOVED, AS PER PLAN.

ITEM 202 - LUMINAIRE REMOVED, AS PER PLAN:

THIS ITEM OF WORK SHALL CONSIST OF REMOVAL OF THE EXISTING LUMINAIRE, AND EXISTING POLE AND BRACKET CABLE. ALL MATERIALS REMOVED SHALL BE THE PROPERTY OF THE CONTRACTOR. PAYMENT WILL BE MADE FOR EACH LUMINAIRE REMOVED, AS PER PLAN.

ITEM 202 - EXISTING CONDUIT CLEANED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING THE EXISTING ELECTRICAL CABLE FROM EXISTING CONDUIT THAT IS IN THE GROUND. THE CONTRACTOR SHALL TAKE CARE SO AS NOT TO DAMAGE THE EXISTING CONDUIT SO THAT NEW DISTRIBUTION CABLE CAN BE PULLED THRU THE CONDUIT. THE CONTRACTOR WILL REPAIR AND/OR REPLACE ANY CONDUIT THAT IS DAMAGED DURING THE REMOVAL OF THE EXISTING ELECTRICAL CABLE. ALL MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF PROPERLY. PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCLUDED IN UNIT PRICE BID PER LINEAL FOOT OF EXISTING CONDUIT CLEANED, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO DO THE WORK.

ITEM 625 - PULL BOX 713.08, 18", AS PER PLAN:

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A PULL BOX IN A LOCATION WHERE A LIGHT POLE FOUNDATION HAS BEEN REMOVED. ANY ADDITIONAL REMOVAL AND ANY MATERIAL REQUIRED TO RESTORE THE DISTURBED AREA SHALL BE PROVIDED BY THE CONTRACTOR AS A PART OF THIS ITEM. PAYMENT WILL BE MADE FOR EACH PULL BOX, 713.08, 18", AS PER PLAN.

ITEM 625 - MAINTENANCE OF EXISTING LIGHTING:

THE CONTRACTOR SHALL CONSTRUCT THE NEW LIGHTING SYSTEM IN SUCH A MANNER THAT THE ROADWAY WILL BE WITHOUT LIGHTING FOR A MINIMUM AMOUNT OF TIME AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL BE EXPECTED TO SUBMIT HIS PLANS TO THE ENGINEER FOR CONSTRUCTING THIS PROJECT SO ONLY PORTIONS OF AN INTERCHANGE WILL BE WITHOUT LIGHTING FOR NOT LONGER THAN TEN (10) CALENDAR DAYS. THE ENGINEER SHALL APPROVE THE METHOD OF CONSTRUCTION PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY CONNECTIONS TO MAINTAIN THE LIGHTING INCLUDING ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY.

THE CONTRACTOR SHALL HAVE EITHER EXISTING OR NEW HIGHWAY LIGHTING OPERATIONAL DURING THE HOLIDAYS WEEKENDS OF NEW YEARS (JAN. 1), MOTHERS DAY, EASTER, MEMORIAL DAY, INDEPENDENCE DAY (JULY 4), LABOR DAY, THANKSGIVING AND CHRISTMAS (DEC. 25).

DURING CONSTRUCTION, SHOULD THE CONTRACTOR NEED ANY EXISTING BURIED LIGHTING ELECTRICAL CABLE LOCATED FOR ANY REASON, HE WILL LOCATE THE LIGHTING ELECTRICAL CABLE AS PART OF THIS ITEM OF WORK.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE AS A LUMP SUM BID FOR ITEM 625 MAINTENANCE OF EXISTING LIGHTING.

ITEM 625- LUMINAIRE, CONVENTIONAL:

LUMINAIRES SHALL BE STYLE B, 480 VOLT, 250 WATT, TYPE III, FOR USE WITH HIGH PRESSURE SODIUM LAMPS.

ITEM 625 - UNDERPASS LUMINAIRE, 713.13: AS PER PLAN

UNDERPASS LUMINAIRES SHALL BE HOLOPHONE UNDERPASS WALLPACK II, CROUSE-HINDS WA, OR GENERAL ELECTRIC WL-250 UNDERPASS UNIT OR EQUAL APPROVED BY THE ENGINEER, AND 10-AMPERE INTEGRAL FUSE. THE INTEGRAL HIGH PRESSURE SODIUM BALLAST SHALL BE OF A REGULATOR TYPE RATED FOR 240 VOLTS, 100 WATTS. LUMINAIRE WILL BE POST TOP MOUNTED.

ITEM 625 - LUMINAIRE, MISCELLANEOUS:

LUMINAIRES SHALL BE STYLE B, 480 VOLT, 250 WATT, TYPE II, FOR USE WITH HIGH PRESSURE SODIUM LAMPS.

ITEM 625 - LUMINAIRE, MISCELLANEOUS:

LUMINAIRES SHALL BE STYLE B, 240 VOLT, 250 WATT, TYPE III, FOR USE WITH HIGH PRESSURE SODIUM LAMPS.

LAMPS:

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC LUCALOX, PHILLIPS CERAMALUX, SYLVANIA LUMALUX, OR APPROVED BY THE ENGINEER.

LIGHTING CONTROL CENTER DATA							
Control Center	Connected Load KVA	Service Entrance Conductor Size-AWG.	Enclosure Rating Amps.	Circuit Number	Circuit Load Amps.	Circuit Fuse Size Amps.	Remarks
LACC LINCOLN AVE. 155+55	1.67	* 4	60	L	6.95	30	NEW
SR 7 CC ODOT 155+37	TO BE DETERMINED	* 2	100		TO BE DETERMINED	60	NEW
EXISTING CC 160+07							EXISTING

GENERAL SUMMARY

CALC BY INM
DATE 03-05-96
CHKD BY JCN
DATE 03-06-96

OHIO
FHWA 5
REGION 5

54
57

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ITEM	SHEET NUMBER										ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
	53	55													
202			1								202	75300	1	Each	Pull Box Removed
202			2								202	75301	2	Each	Pull Box Removed, As Per Plan
202			14								202	75401	14	Each	Light Pole Removed, As Per Plan
202			10								202	75500	10	Each	Light Pole Foundation Removed
202			2								202	75501	2	Each	Light Pole Foundation Removed, As Per Plan
202			5								202	75507	5	Each	Luminaire Removed, As Per Plan
202			100								202	75711	100	Lin Ft	Existing Conduit Cleaned, As Per Plan
202			2								202	98100	2	Each	Removal Misc: Light Pole Foundation Removed
603			240								603	00400	240	Lin Ft	4" Conduit, Type E
625			39								625	00500	39	Each	Connector Kit, Type II
625			38								625	01500	38	Each	Cable Splicing Kit
625			1								625	02894	1	Each	Light Pole, Design ATON18
625			1								625	05714	1	Each	Light Pole, Design A10BB40
625			4								625	05720	4	Each	Light Pole, Design A12BB40
625			4								625	06400	4	Each	Light Pole, Design AT15B41.7
625			3								625	10500	3	Each	Light Pole, Misc.: Design A12B15B40
625			5								625	14100	5	Each	Light Pole Foundation, 24"x8' Deep
625			8								625	14300	8	Each	Median Light Pole Foundation, 8' Deep
625			5325								625	23200	5325	Lin Ft	No. 4 AWG 5000 Volt Distribution Cable
625			825								625	23300	825	Lin Ft	No. 2 AWG 5000 Volt Distribution Cable
625			1863								625	23400	1863	Lin Ft	No. 10 AWG Pole and Bracket Cable
625			535								625	24100	535	Lin Ft	1-1/2" Duct Cable With Two No. 4 AWG 5000 Volt Cable
625			1380								625	24320	1380	Lin Ft	1-1/2" Duct Cable With Three No. 4 AWG 5000 Volt Cable
625			40								625	25500	40	Lin Ft	Conduit, 3", 713.04
625			265								625	25900	265	Lin Ft	Conduit, Jacked or Drilled Under Pavement, Size: 3"
625			16								625	26250	16	Each	Luminaire, Conventional: 240V/480V, 250W, HPS, Style B, Type III
625			1								625	27500	1	Each	Luminaire, Underpass, 713.13, As Per Plan
625			4								625	27600	4	Each	Luminaire, Misc.: 240V/480V, 250W, HPS, Style B, Type II
625			5								625	27600	5	Each	Luminaire, Misc.: 120V/240V, 250W, HPS, Style B, Type III
625			5								625	28000	5	Each	Glare Shield
625			1785								625	29000	1785	Lin Ft	Trench
625			5								625	30700	5	Each	Pull Box, 713.08, 18"
625			2								625	30701	2	Each	Pull Box, 713.08, 18", As Per Plan
625			5								625	30706	5	Each	Pull Box, 713.08, 24"
625			9								625	31500	9	Each	Median Pull Box
625			20								625	32000	20	Each	Ground Rod
625			2								625	34001	2	Each	Power Service, As Per Plan
625			Lump								625	38000	Lump	Lump	High Voltage Test
625			Lump								Special	62540000	Lump	Lump	Maintain Existing Lighting
631			1								631	84000	1	Each	Sign Service

LIGHTING QUANTITIES SUB-SUMMARY

BEL-7-17.99

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

55
57

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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57

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CONTROL CENTERS
120/240V SERVICE (LINCOLN AVE.) (BRIDGEPORT)
240/480V (STATE ROUTE 7)
(SEE DETAIL SHEET 57)

SCALE
0 25 50 100
INCH = 50 FEET

END PROJECT
STA. 157+69.00
S.L.M. 20.03

PROVIDE EMPTY RACEWAY OF
END OF FULL MEDIAN
160+00, LINC.AVE.
III-250W-10'

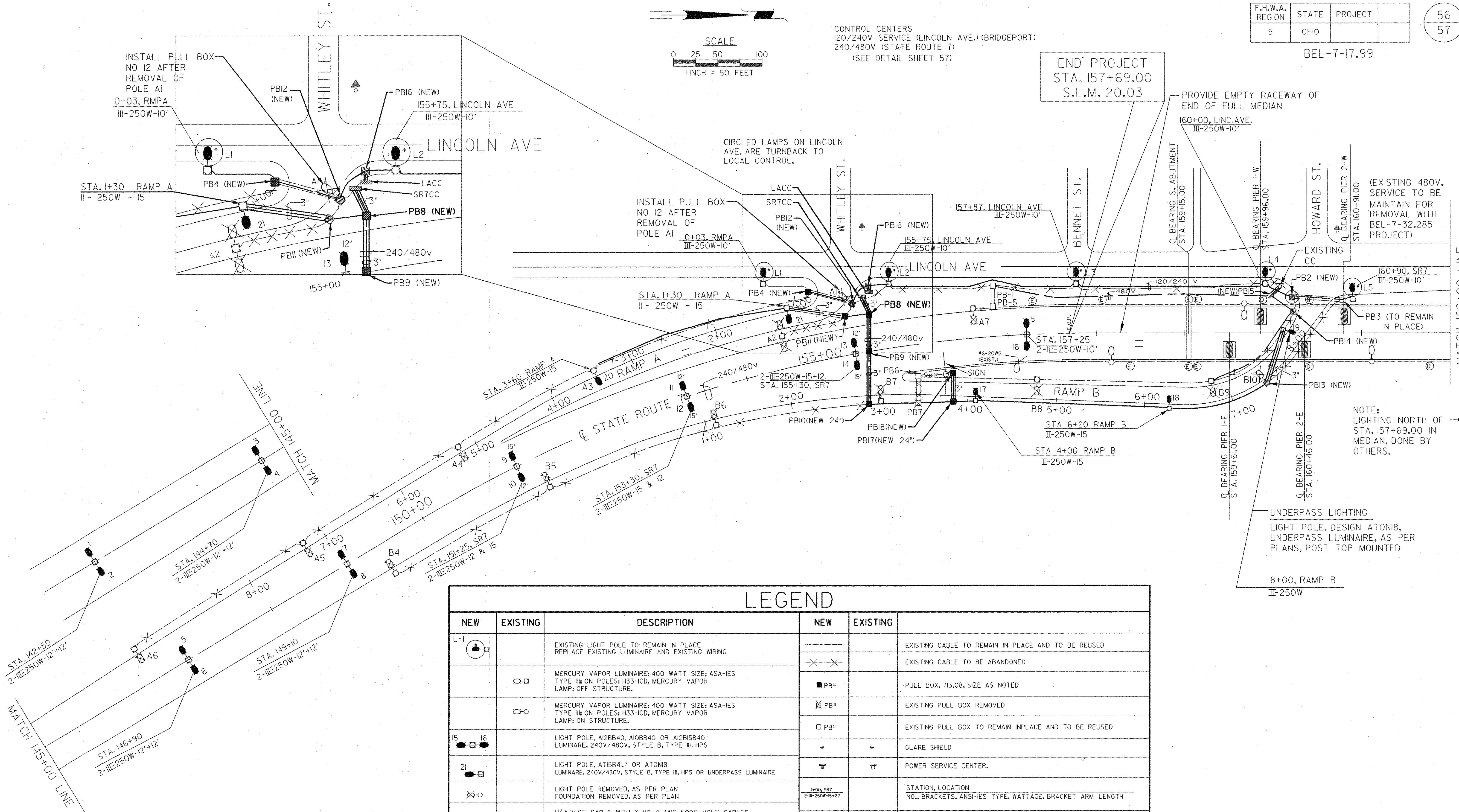
(EXISTING 480V
SERVICE TO BE
MAINTAIN FOR
REMOVAL WITH
BEL-7-32,285
PROJECT)

MATCH 162+00 LINE

MATCH 162+00 LINE

NOTE:
LIGHTING NORTH OF
STA. 157+69.00 IN
MEDIAN, DONE BY
OTHERS.

UNDERPASS LIGHTING
LIGHT POLE, DESIGN ATON18,
UNDERPASS LUMINAIRE, AS PER
PLANS, POST TOP MOUNTED
8+00, RAMP B
II-250W



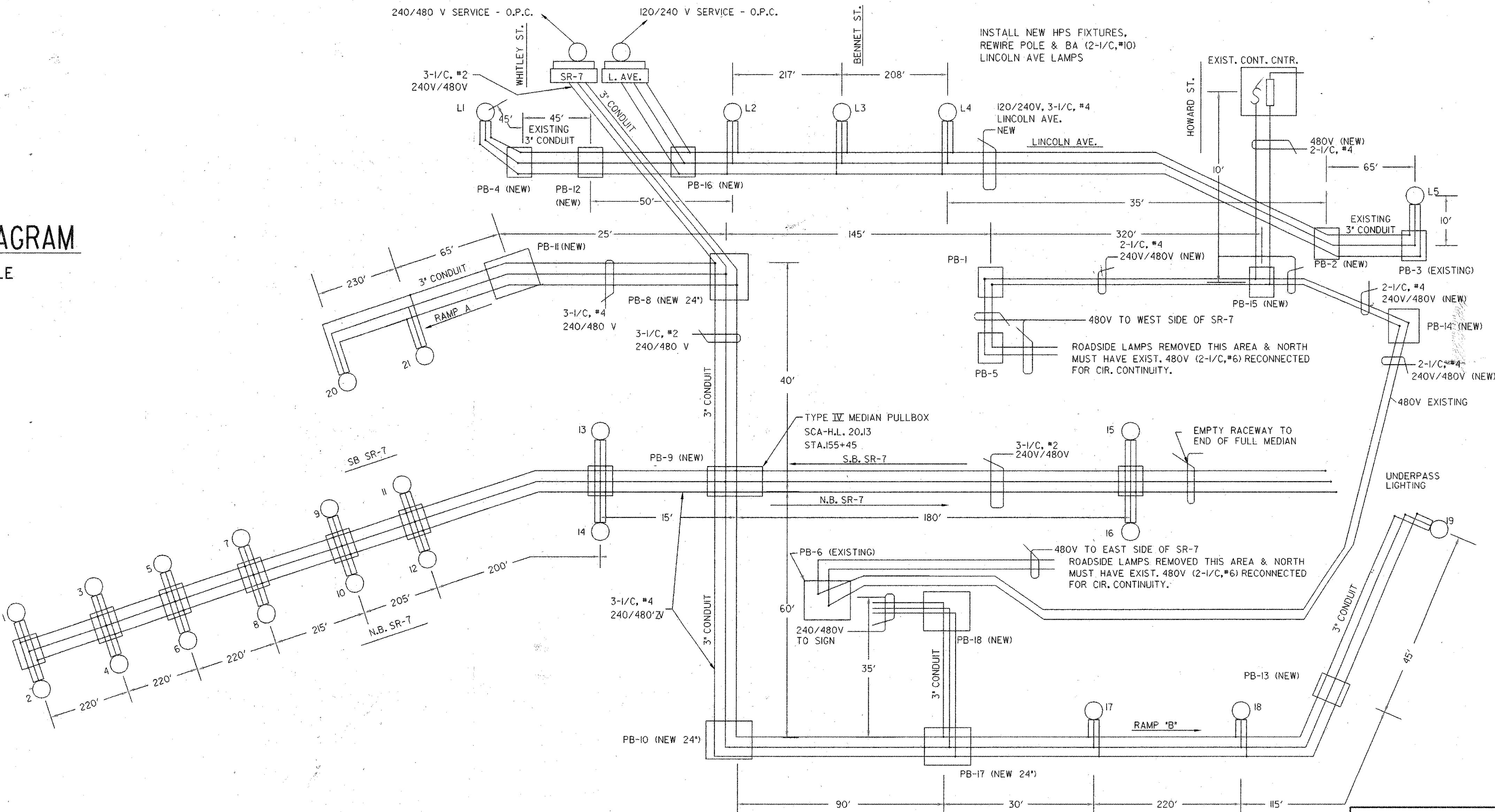
LEGEND

NEW	EXISTING	DESCRIPTION	NEW	EXISTING
L-1		EXISTING LIGHT POLE TO REMAIN IN PLACE REPLACE EXISTING LUMINAIRE AND EXISTING WIRING	—	EXISTING CABLE TO REMAIN IN PLACE AND TO BE REUSED
	○-○	MERCURY VAPOR LUMINAIRE: 400 WATT SIZE; ASA-IES TYPE III; ON POLES; H33-ICD, MERCURY VAPOR LAMP; OFF STRUCTURE.	×-×	EXISTING CABLE TO BE ABANDONED
	○-○	MERCURY VAPOR LUMINAIRE: 400 WATT SIZE; ASA-IES TYPE III; ON POLES; H33-ICD, MERCURY VAPOR LAMP; ON STRUCTURE.	■ PB*	PULL BOX, 713.08, SIZE AS NOTED
15	16	LIGHT POLE, A12BB40, A10BB40 OR A12B1B40 LUMINAIRE, 240V/480V, STYLE B, TYPE III, HPS	☒ PB*	EXISTING PULL BOX REMOVED
21		LIGHT POLE, AT15B41.7 OR ATON18 LUMINAIRE, 240V/480V, STYLE B, TYPE III, HPS OR UNDERPASS LUMINAIRE	□ PB*	EXISTING PULL BOX TO REMAIN INPLACE AND TO BE REUSED
	☒-○	LIGHT POLE REMOVED, AS PER PLAN FOUNDATION REMOVED, AS PER PLAN	*	GLARE SHIELD
		1½" DUCT CABLE, WITH 3 NO. 4 AWG, 5000 VOLT CABLES	□	POWER SERVICE CENTER.
		1½" DUCT CABLE, WITH 2 NO. 4 AWG, 5000 VOLT CABLES		
		DISTRIBUTION CABLE IN CONDUIT		
		3" CONDUIT, (JACKED OR DRILLED) OR (LAID IN TRENCH)		
		EXISTING CONDUIT TO REMAIN IN PLACE AND TO BE REUSED		
☒-☒		EXISTING CONDUIT TO BE ABANDONED		

FOR LIGHTING QUANTITIES, SEE SHEET NO. 55
FOR PULL BOX LOCATIONS, SEE TABLE ON SHEET NO. 57
FOR LIGHT POLE LOCATIONS, SEE TABLE ON SHEET NO. 57

CABLING DIAGRAM

NOT TO SCALE

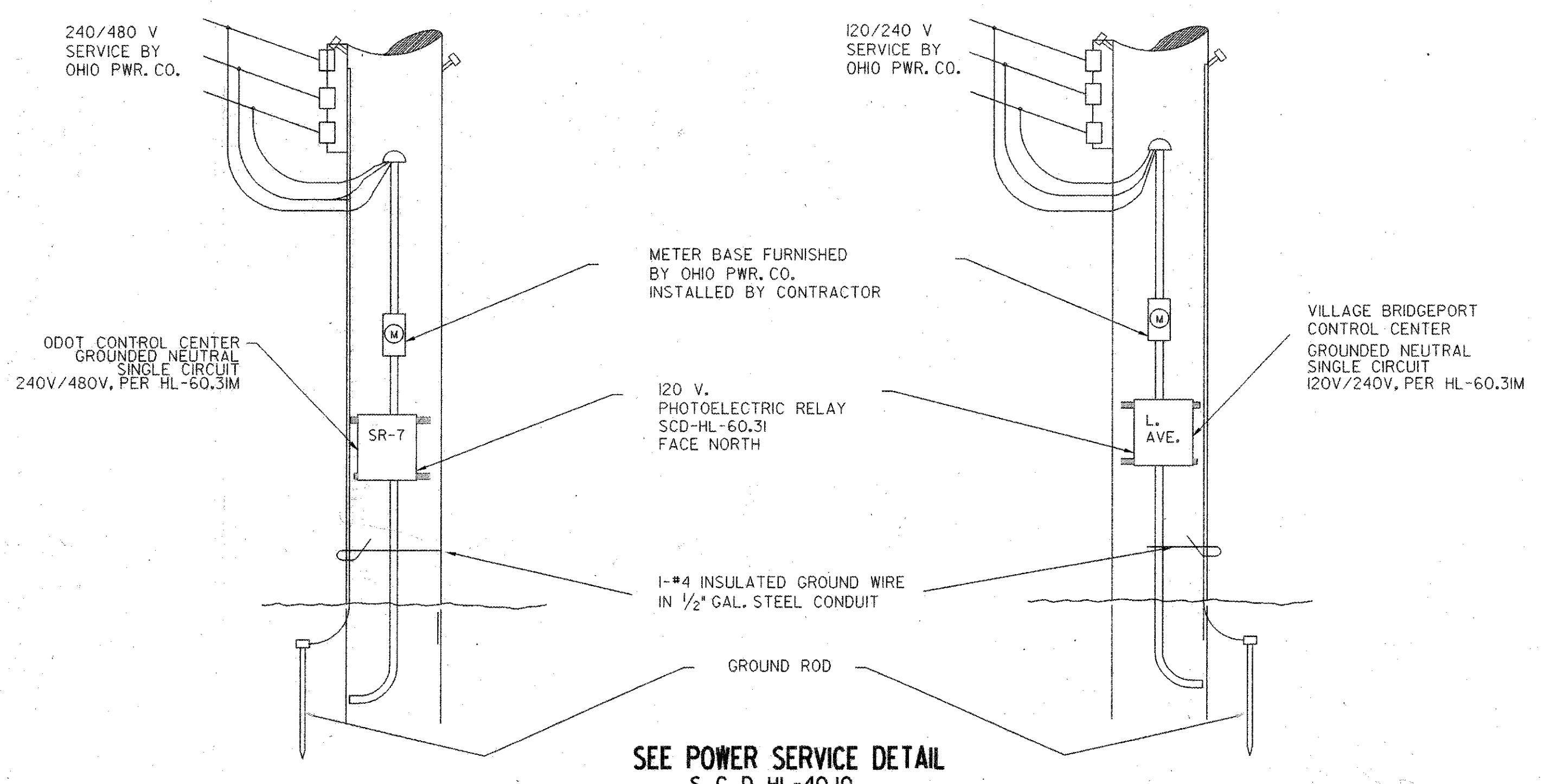


NOTES:

- ① INSTALL MEDIAN CONDUIT AS PER SCD HL 30.33
- ② ALL OPENINGS FOR PULL BOXES, HANDHOLES, JUNCTION BOXES SHALL OPEN ON NORTHBOUND/WESTBOUND SIDE OF ROADWAY.

PULL BOX LOCATIONS

PULL BOX NO.	STATION	ROAD	SIDE	OFFSET	SIZE	REMARKS		
							FEET	INCHES
PB-1	156+83	LINCOLN AVE.	RT.			EXISTING TO REMAIN IN PLACE AND TO BE REUSED		
PB-2	160+30	LINCOLN AVE.	RT.	35 +/-	18	REMOVE EXISTING AND REPLACE NEW PULL BOX		
PB-3	160+78	SR 7	LT.			EXISTING TO REMAIN IN PLACE AND TO BE REUSED		
PB-4	0+45	RAMP "A"	LT.	10'	18	REMOVE EXISTING AND REPLACE WITH NEW PULL BOX		
PB-5	156+85	SR 7	LT.			EXISTING TO REMAIN IN PLACE AND TO BE REUSED		
PB-6	3+48	RAMP "B"	LT.			EXISTING TO REMAIN IN PLACE AND TO BE REUSED		
PB-7	3+48	RAMP "B"	RT.			EXISTING PULL BOX TO BE REMOVED		
PB-8	155+45	SR 7	LT.	43	24	NEW PULL BOX		
PB-9	155+45	SR 7	CTR.			MEDIAN PULL BOX		
PB-10	2+80	RAMP "B"	RT.	14.5	24	NEW PULL BOX		
PB-11	155+20	SR 7	LT.	45	18	NEW PULL BOX		
PB-12	0+37	RAMP "A"	RT.	40	18	NEW PULL BOX		
PB-13	7+35	RAMP "B"	RT.	14.5	18	NEW PULL BOX		
PB-14	8+28	RAMP "B"	LT.	27	18	NEW PULL BOX		
PB-15	160+05	LINCOLN AVE.	RT.	33 +/-	24	NEW PULL BOX		
PB-16	155+55	LINCOLN AVE.	RT.	20 +/-	24	NEW PULL BOX		
PB-17	3+85	RAMP "B"	RT.	14.5	24	NEW PULL BOX		
PB-18	3+85	RAMP "B"	LT.	25 +/-	18	NEW PULL BOX		



SEE POWER SERVICE DETAIL
SCD HL-40.10

LIGHT POLE NO.	STATION	ROAD	SIDE	OFFSET	POLE DESIGN	REMARKS
L 1	0+03	RAMP "A"	RT.			EXISTING POLE TO REMAIN AND TO BE REUSED
L 2	155+75	LINCOLN AVE.	RT.			EXISTING POLE TO REMAIN AND TO BE REUSED
L 3	157+87	LINCOLN AVE.	RT.			EXISTING POLE TO REMAIN AND TO BE REUSED
L 4	160+00	LINCOLN AVE.	RT.			EXISTING POLE TO REMAIN AND TO BE REUSED
L 5	160+90	SR 7	LT.			EXISTING POLE TO REMAIN AND TO BE REUSED
18 & 2	142+50	SR 7	CTR.		A12BB40	MEDIAN MOUNTED POLE
3 & 4	144+70	SR 7	CTR.		A12BB40	MEDIAN MOUNTED POLE
5 & 6	146+90	SR 7	CTR.		A12BB40	MEDIAN MOUNTED POLE
7 & 8	149+10	SR 7	CTR.		A12BB40	MEDIAN MOUNTED POLE
9 & 10	151+25	SR 7	CTR.		A12B15B40	MEDIAN MOUNTED POLE
11 & 12	153+30	SR 7	CTR.		A12B15B40	MEDIAN MOUNTED POLE
13 & 14	155+30	SR 7	CTR.		A12B15B40	MEDIAN MOUNTED POLE
15 & 16	157+25	SR 7	CTR.		A10BB40	MEDIAN MOUNTED POLE
17	4+00	RAMP "B"	RT.	14.5	AT15B41.7	NEW LIGHT POLE
18	6+20	RAMP "B"	RT.	127	AT15B41.7	NEW LIGHT POLE
19	8+00	RAMP "B"	LT.	23	AT0B18	NEW LIGHT POLE
20	3+60	RAMP "A"	RT.	14.5	AT15B41.7	NEW LIGHT POLE
21	1+30	RAMP "A"	RT.	14.5	AT15B41.7	NEW LIGHT POLE