F.H.W.A. REGION	STATE	PROJECT		1
5	OHIO			57

BEL-7-17.99
NH-1(197)

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

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 2 3
TREES STUMPS
(TO BE REMOVED)
UTILITY POLES:
TELEPHONE POWER LIGHT

LIMITED ACCESS (ONLY) L/A
RIGHT OF WAY (ONLY) R/W
LIMITED ACCESS & RIGHT OF WAY L/A & R/W
EXISTING RIGHT OF WAY R/W
PROPERTY LINE PL
EXISTING FENCE X PL X
RAILROAD OR
GUARDRAIL (EXISTING) (PROPOSED)

SHEET INDEX

LINE DATA

BEGIN PROJECT = STA. 49+87.20
END PROJECT = STA. 157+69.00

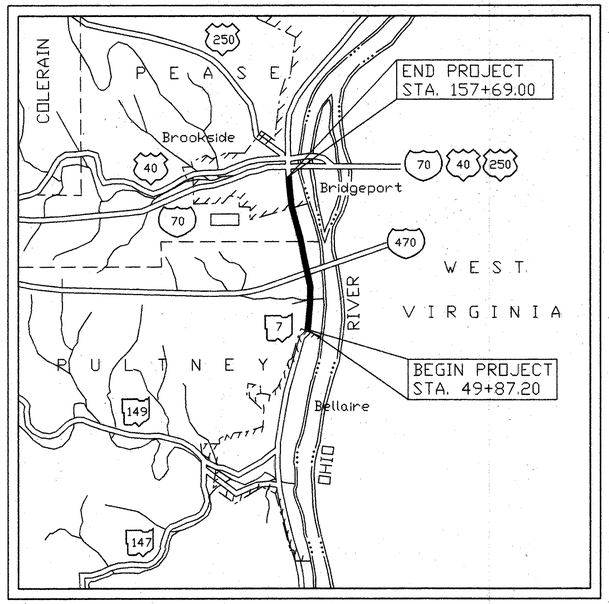
TOTAL PROJECT LENGTH = 10,781.80 LIN. FT. OR 2.04 MILES.

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. _____



LOCATION MAP

SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED_____
STATE & FEDERAL ROUTES_____
OTHER ROADS _____

SCALES

PLAN _____ 0' 50' 100'

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 John H. McClain
Date 3-4-96 District Deputy Director of Transportation

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

"UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE REVISED CODE OF OHIO, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED."

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

STATE OF OHIO
CHAU S. CHAN
E-47185
REGISTERED PROFESSIONAL ENGINEER

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	TC-71.10	9-10-91
GR-3.2	5-6-91	HL-20.31	5-1-87	MC-4	7-26-76	MT-99.10	11-14-86	TC-72.20	2-26-82
GR-3.5	1-31-94	HL-30.11	5-1-87	MC-6	1-30-84				
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

BEL-7
BEL-17.99
960412
57PGS
06-12-96
DIST.11

F.H.W.A. REGION	STATE	PROJECT		2
5	OHIO			57

BEL-7-17.99

SCHEMATIC PLAN

SCALE IN FEET
0 200 400

N

S.R. 7 CURVE A
P.I. STA. 50+56.53
Δ = 5° 54'00" LT.
Dc = 0° 20'00"
R = 17188.74'
L = 1770.00'
T = 885.78'
E = 22.81'
MAX. SUPERELEVATION RATE = 0.016 '/FT.

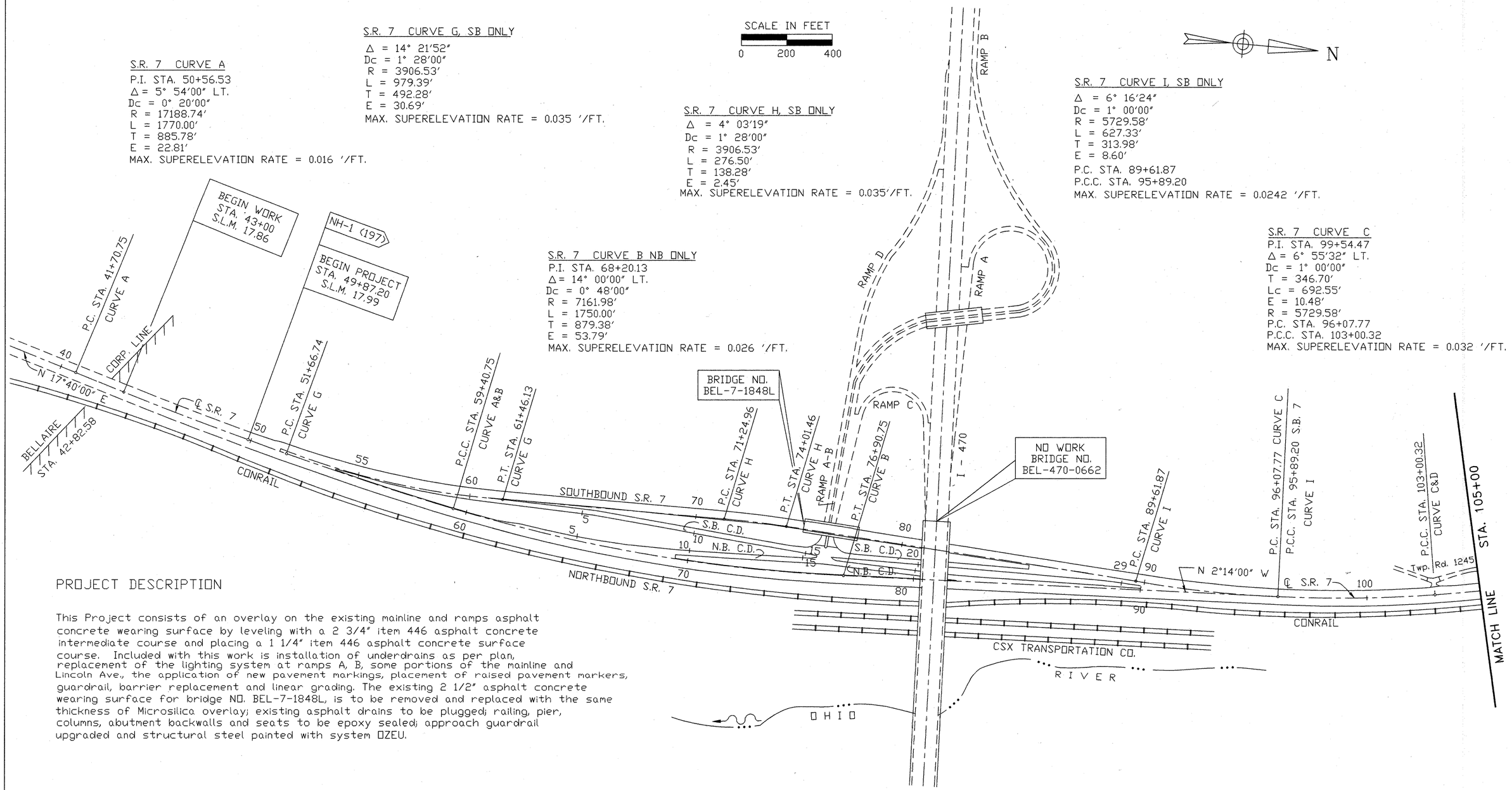
S.R. 7 CURVE G, SB ONLY
Δ = 14° 21'52"
Dc = 1° 28'00"
R = 3906.53'
L = 979.39'
T = 492.28'
E = 30.69'
MAX. SUPERELEVATION RATE = 0.035 '/FT.

S.R. 7 CURVE H, SB ONLY
Δ = 4° 03'19"
Dc = 1° 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
Δ = 6° 16'24"
Dc = 1° 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 B NB ONLY
P.I. STA. 68+20.13
Δ = 14° 00'00" LT.
Dc = 0° 48'00"
R = 7161.98'
L = 1750.00'
T = 879.38'
E = 53.79'
MAX. SUPERELEVATION RATE = 0.026 '/FT.

S.R. 7 CURVE C
P.I. STA. 99+54.47
Δ = 6° 55'32" LT.
Dc = 1° 00'00"
T = 346.70'
Lc = 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.



PROJECT DESCRIPTION

This Project consists of an overlay on the existing mainline and ramps asphalt concrete wearing surface by leveling with a 2 3/4" item 446 asphalt concrete intermediate course and placing a 1 1/4" item 446 asphalt concrete surface course. Included with this work is installation of underdrains as per plan, replacement of the lighting system at ramps A, B, some portions of the mainline and Lincoln Ave., the application of new pavement markings, placement of raised pavement markers, guardrail, barrier replacement and linear grading. The existing 2 1/2" asphalt concrete wearing surface for bridge NO. BEL-7-1848L, is to be removed and replaced with the same thickness of Microsilica overlay; existing asphalt drains to be plugged; railing, pier, columns, abutment backwalls and seats to be epoxy sealed; approach guardrail upgraded and structural steel painted with system OZEU.

07SCH1Z

SCHEMATIC PLAN

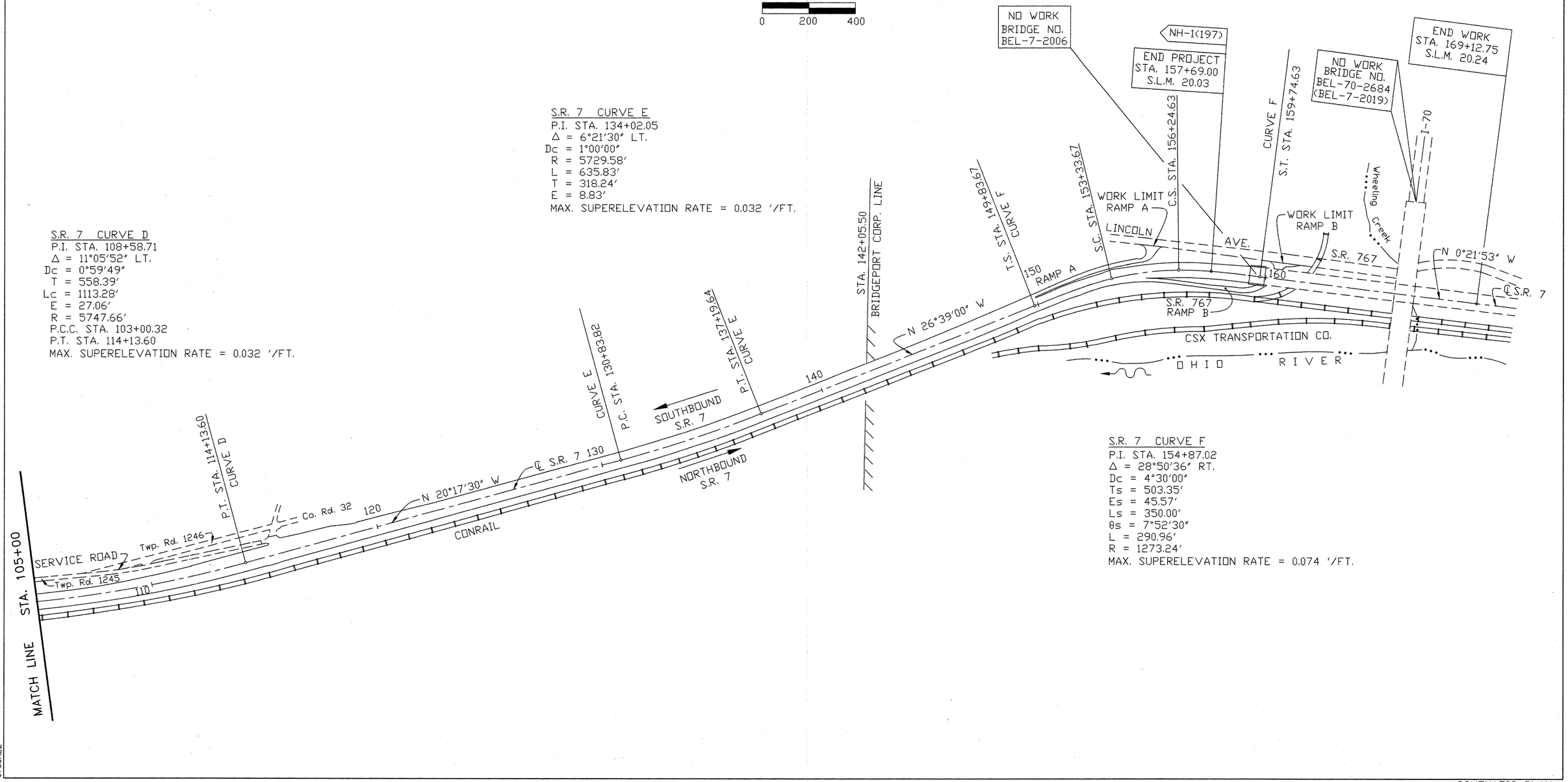
SCALE IN FEET
0 200 400

N

S.R. 7 CURVE D
P.I. STA. 108+58.71
Δ = 11°05'52" LT.
Dc = 0°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.

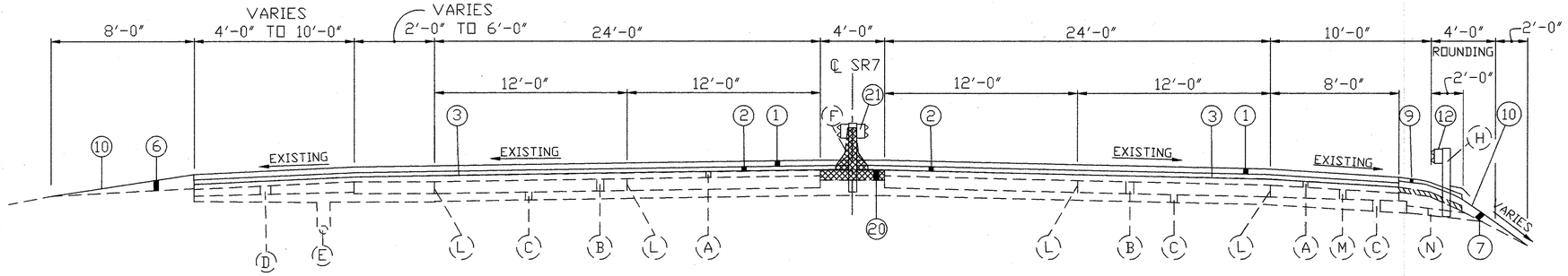
S.R. 7 CURVE E
P.I. STA. 134+02.05
Δ = 6°21'30" LT.
Dc = 1°00'00"
R = 5729.58'
L = 635.83'
T = 318.24'
E = 8.83'
MAX. SUPERELEVATION RATE = 0.032 '/FT.

S.R. 7 CURVE F
P.I. STA. 154+87.02
Δ = 28°50'36" RT.
Dc = 4°30'00"
Ts = 503.35'
Es = 45.57'
Ls = 350.00'
θs = 7°52'30"
L = 290.96'
R = 1273.24'
MAX. SUPERELEVATION RATE = 0.074 '/FT.



TYPICAL SECTIONS

TYPE 446



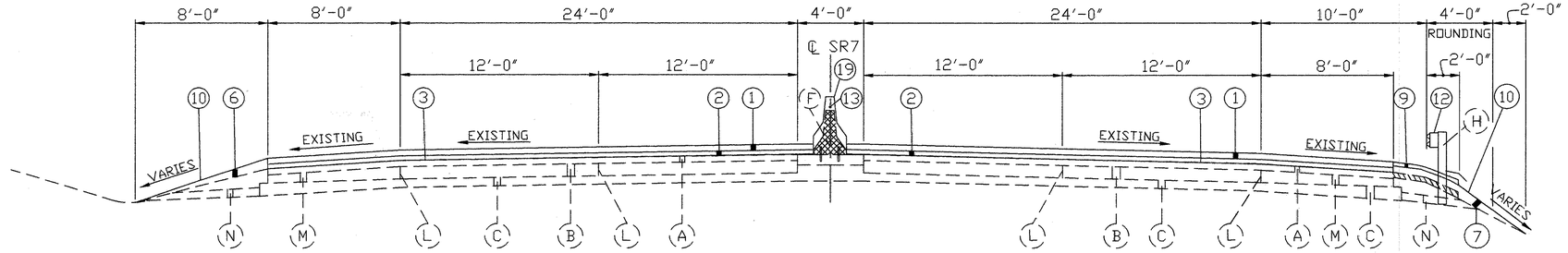
NORMAL SECTION

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



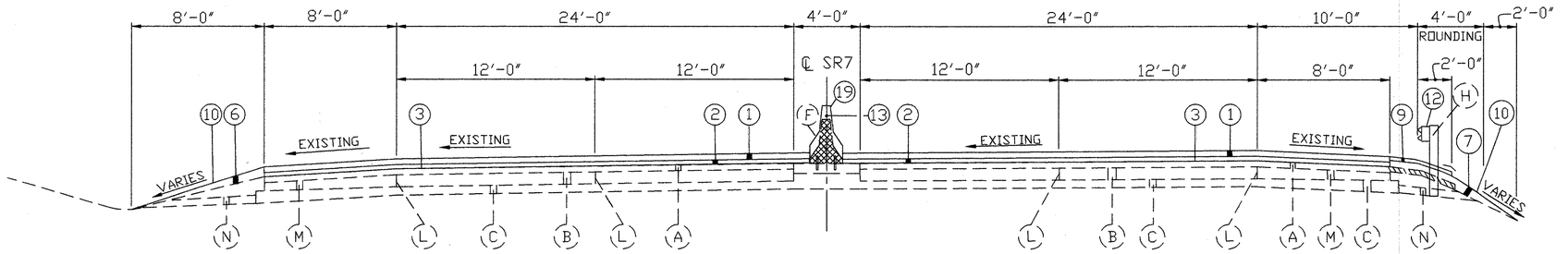
NORMAL SECTION

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



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

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

07TYP1Z

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

BEL-7-17.99

EXISTING LEGEND

- (A) EXISTING ASPHALT CONCRETE PAVEMENT (3" AVG.)
- (A1) EXISTING ASPHALT CONCRETE PAVEMENT (2" AVG.)
- (A2) EXISTING ASPHALT CONCRETE PAVEMENT (2 1/2" AVG.)
- (B) EXISTING 9" REINFORCED CONCRETE PAVEMENT
- (C) EXISTING SUBBASE
- (D) EXISTING BITUMINOUS AGGREGATE BASE
- (E) EXISTING 6" PIPE UNDERDRAIN TO REMAIN & FUNCTION
- (F) EXISTING CONCRETE BARRIER
- (G) EXISTING CONCRETE CURB
- (H) EXISTING GUARDRAIL
- (I) EXISTING CONCRETE MEDIAN
- (J) EXISTING AGGREGATE BASE
- (K) EXISTING SAFETY CURB ON RETAINING WALL
- (L) EXISTING LONGITUDINAL JOINT
- (M) EXISTING 9" CONCRETE BASE
- (N) EXISTING AGGREGATE DRAINS
- (O) EXISTING BARRIER GUARDRAIL
- (P) EXISTING PAVED GUTTER

PROPOSED LEGEND

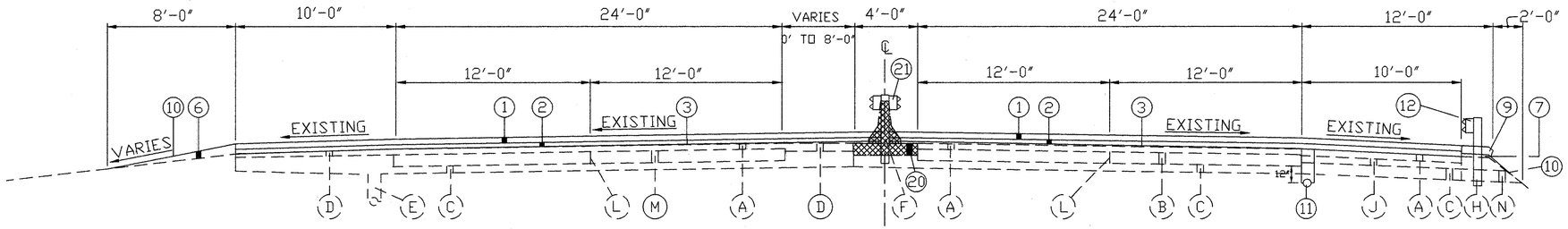
1. ITEM 446 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, AS PER PLAN
2. ITEM 446 - 2 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
3. ITEM 407 - TACK COAT
4. ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20
5. ITEM 304 - AGGREGATE BASE
6. ITEM 203 - LINEAR GRADING, METHOD 1
7. ITEM 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

TYPICAL SECTIONS

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

BEL-7-17.99

TYPE 446



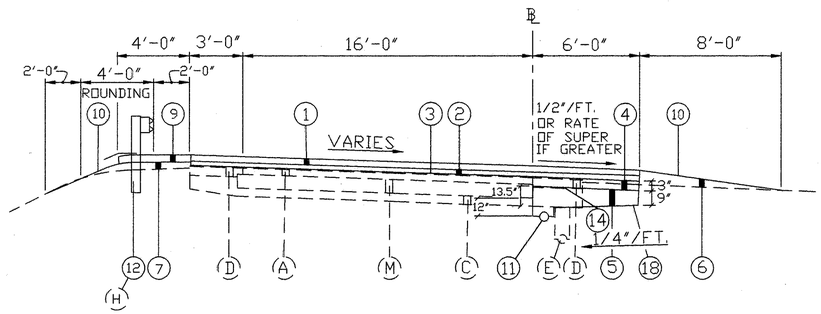
EXISTING BARRIER TO BE REPLACED

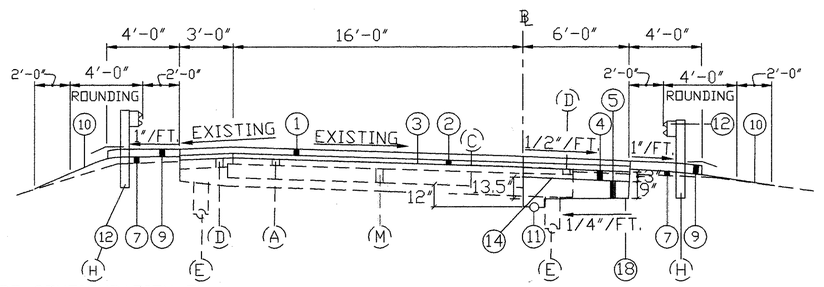
NOTE : PLEASE REFER SHEET # 33 FOR UNDERDRAIN DETAILS

NORMAL SECTION

S.R. 7 NORTHBOUND & SOUTHBOUND

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





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

SUPERELEVATED RAMP SECTION

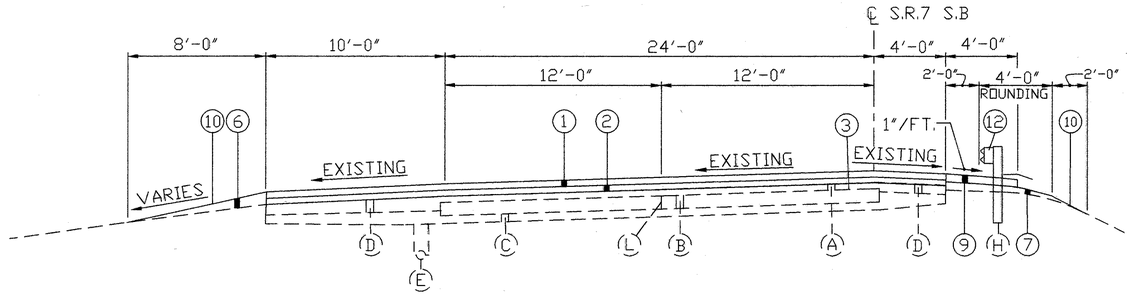
S.B. COLLECTOR DISTRIBUTOR STA. 4+00.00 TO STA. 6+66.86 = 266.86 LIN.FT.
N.B. COLLECTOR DISTRIBUTOR STA. 9+41.04 TO STA. 10+71.94 = 130.90 LIN.FT.
STA. 19+82.21 TO STA. 21+95.57 = 213.36 LIN.FT.

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.



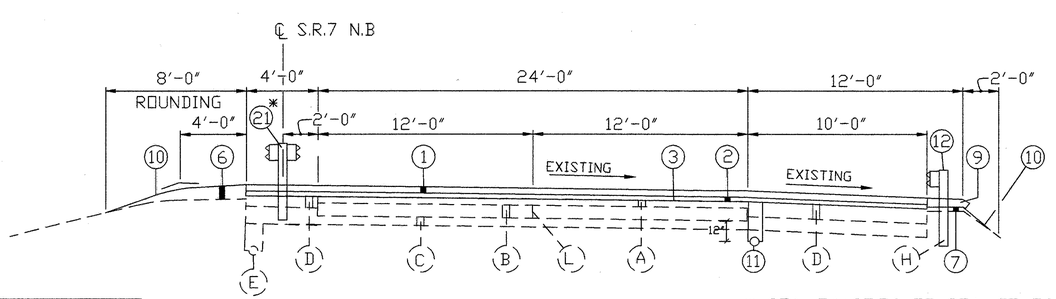
NORMAL SECTION

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



* STA. 54+35.76 TO STA. 55+56.17

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.

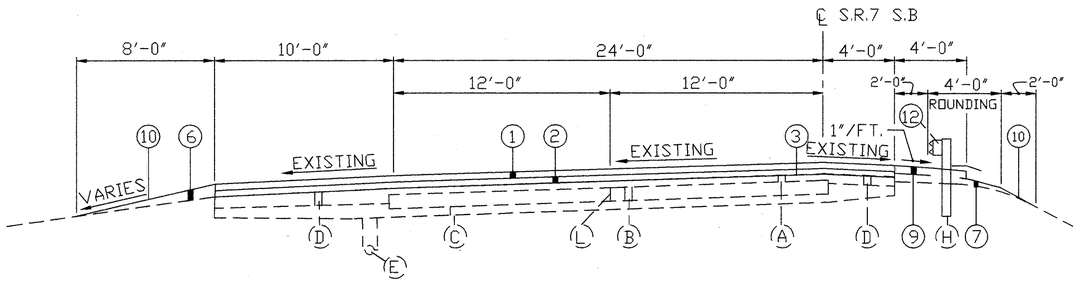
07TYP22

TYPICAL SECTIONS

TYPE 446

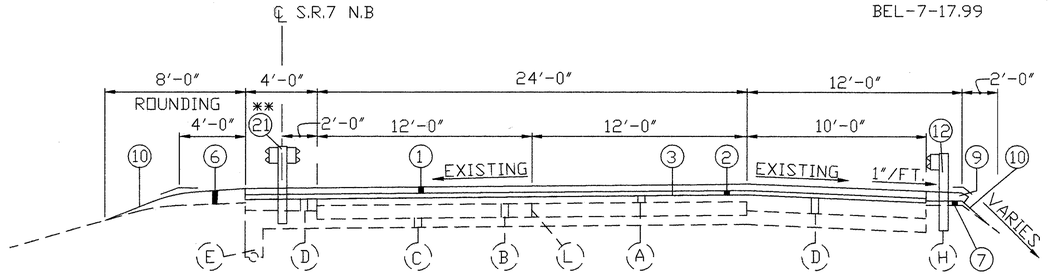
F.H.W.A. REGION	STATE	PROJECT		6 / 57
5	OHIO			

BEL-7-17.99



SUPERELEVATED SECTION
S.R.7 SOUTHBOUND

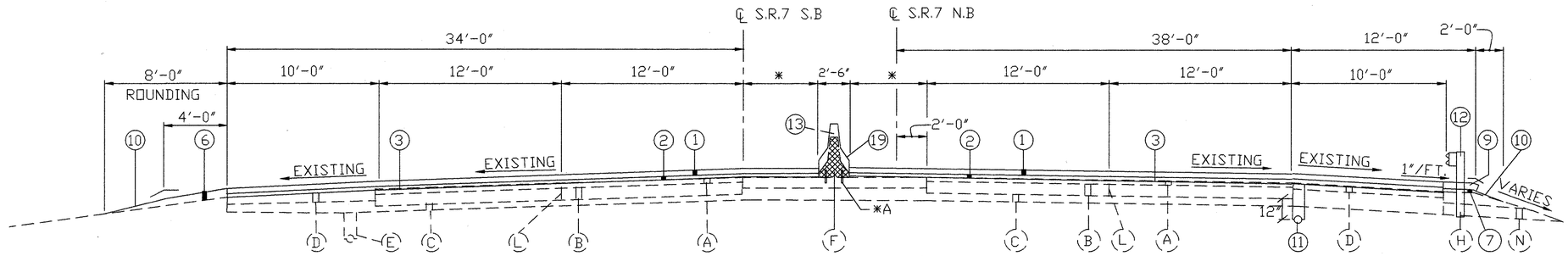
S.B. STA. 54+35.76 TO STA. 61+30.03 = 694.27 LIN.FT.
S.B. STA. 68+88.96 TO STA. 74+78.89 = 589.93 LIN.FT.
S.B. STA. 74+78.89 TO STA. 76+85.39 (BRIDGE AND APPROACH SLABS)
FOR DETAILS REF. SHEET No. 51
TOTAL = 1284.20 LIN.FT.



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.



* VARIES 2'-6" TO 9'-0"

*A NO. 8 DEFORMED STEEL BARS, 12" LONG, SPACED ON STAGGERED 4' CENTERS

EXISTING BARRIER TO BE REPLACED

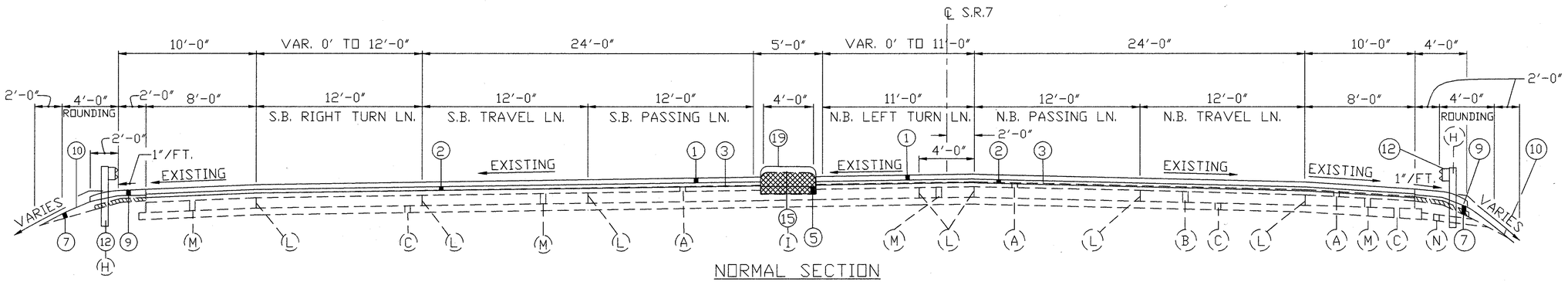
NOTE : PLEASE REFER SHEET # 33 FOR UNDERDRAIN DETAILS

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



NORMAL SECTION
S.R.7 SOUTHBOUND & NORTHBOUND

EXISTING ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION

EXISTING MEDIAN TO BE REPLACED

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

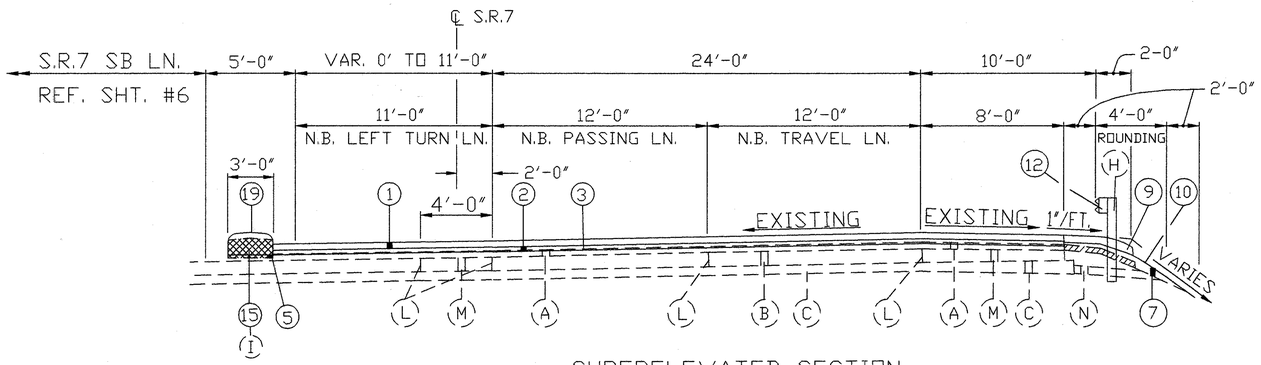
N.B. STA. 116+13.60 TO STA. 122+00.00 = 586.40 LIN.FT.

07TYP3Z

TYPICAL SECTIONS
TYPE 446

F.H.W.A. REGION	STATE	PROJECT		7 / 57
5	OHIO			

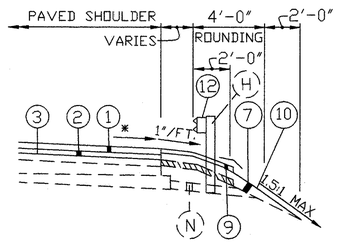
BEL-7-17.99



SUPERELEVATED SECTION
S.R.7 NORTHBOUND
STA. 108+00.00 & STA. 116+13.60 = 813.60 LIN.FT.

EXISTING ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION

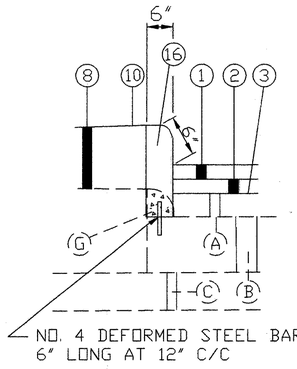
EXISTING MEDIAN TO BE REPLACED



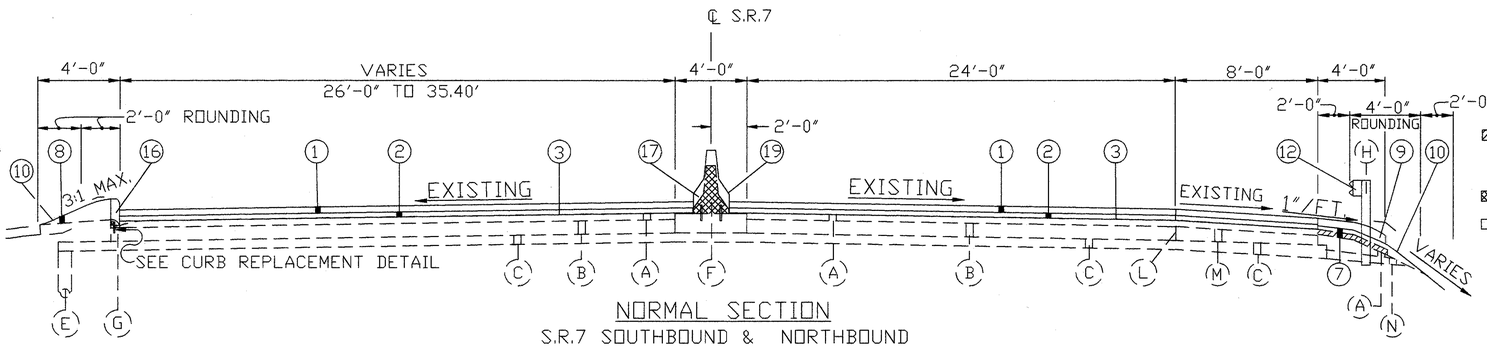
EXISTING ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION

* SAME SHOULDER SLOPE AS ON TYPICAL SECTIONS

PAVING UNDER GUARDRAIL DETAIL



CURB REPLACEMENT DETAIL

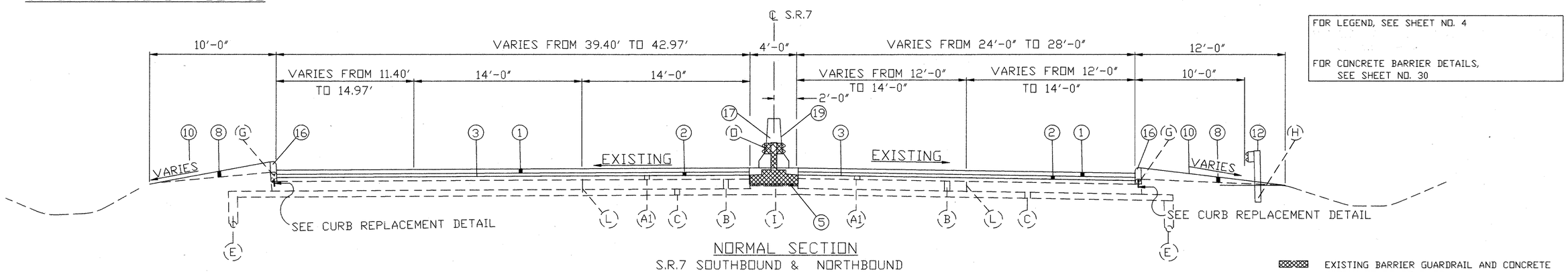


NORMAL SECTION
S.R.7 SOUTHBOUND & NORTHBOUND
STA. 142+25.00 TO STA. 148+41.04 = 616.04 LIN.FT.

EXISTING ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION

EXISTING BARRIER TO BE REPLACED

EXISTING CONCRETE CURB TO BE REPLACED



NORMAL SECTION
S.R.7 SOUTHBOUND & NORTHBOUND
STA. 148+41.04 TO STA. 149+83.67 = 142.63 LIN.FT.

FOR 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

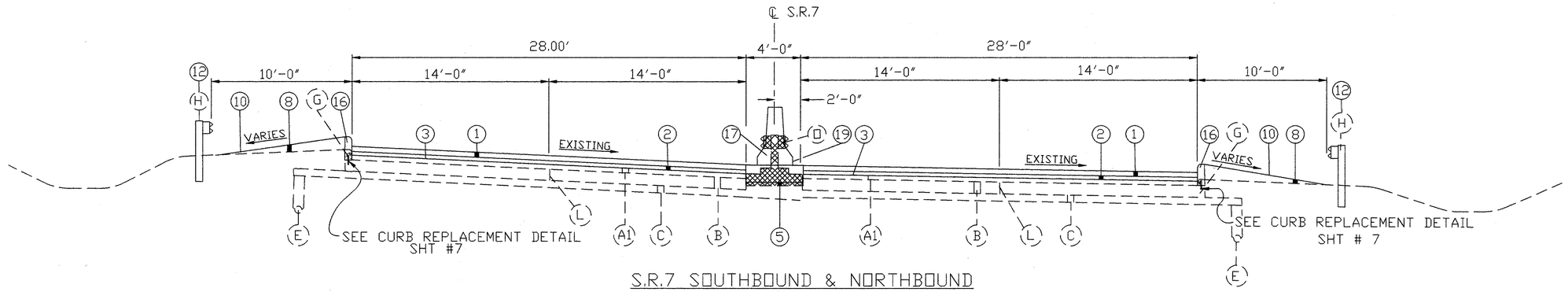
07TYP4Z

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

BEL-7-17.99

TYPICAL SECTIONS

TYPE 446



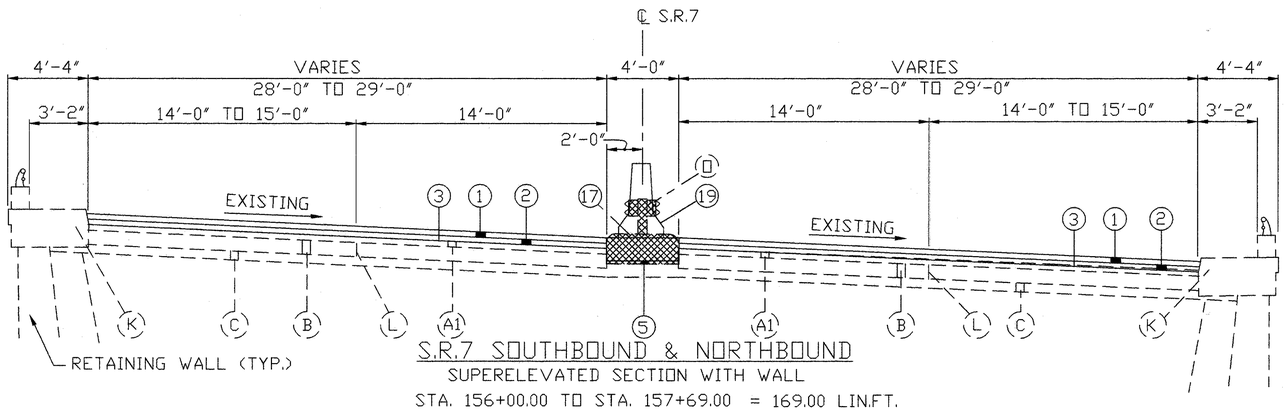
S.R.7 SOUTHBOUND & NORTHBOUND

SUPERELEVATED SECTION

STA. 149+83.67 TO STA. 156+00.00 = 616.33 LIN. FT.

EXISTING BARRIER GUARDRAIL AND EXISTING MEDIAN TO BE REMOVED

EXISTING CONCRETE CURB TO BE REPLACED



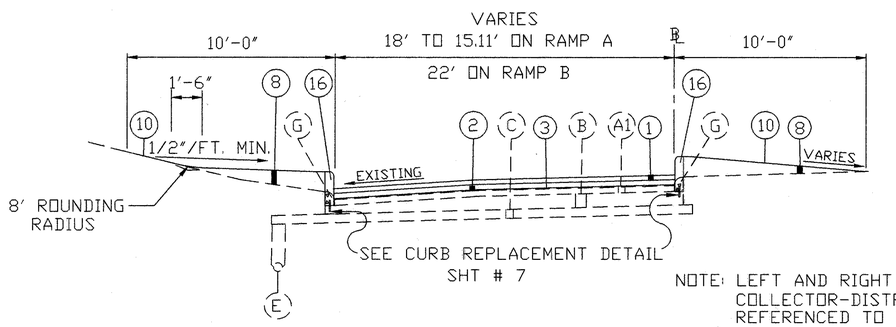
S.R.7 SOUTHBOUND & NORTHBOUND

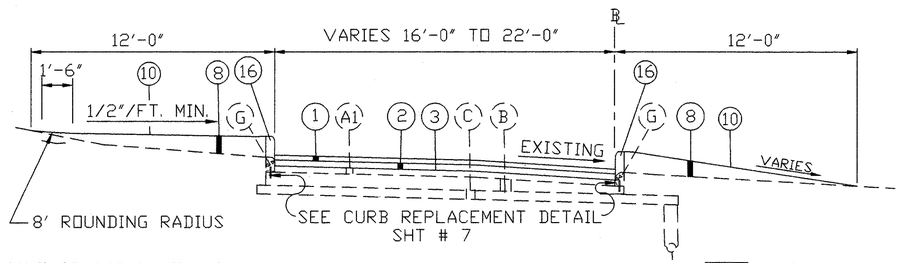
SUPERELEVATED SECTION WITH WALL

STA. 156+00.00 TO STA. 157+69.00 = 169.00 LIN.FT.

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.

EXISTING CONCRETE CURB TO BE REPLACED

SUPERELEVATED SECTION RAMPS A & B

* 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.

NORMAL SECTION RAMP B

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

07TYP5Z

MAINLINE PAVEMENT RESURFACING QUANTITIES

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

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

BEL-7-17.99

Location	Station From	Station To	Length Lin. Ft.	Width Lin. Ft.	Area Sq. Yd.	446 1 1/4" Asph. Conc. Surface Course, Type 1, AC-20 As Per Plan Cu. Yd.	446 2 3/4" Asph. Conc. Intermediate Course, Type 2, AC-20 Cu. Yd.	407 Tack Coat At 0.075 Gal./S.Y. Gal.	202 WEARING COURSE REMOVED SQ.YD	Remarks
Northbound Pavement	48+87.20	49+87.20	100	24	266.67	11.34	4.92	20.00	266.67	SEE SHEET NO. 37
	49+87.20	108+00	5812.80	24	15500.80	538.22	1184.09	1162.56		
	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		
	157+69.00	158+87.75	118.75	28.5 avg.	376.04	13.49	5.84	28.20	158.33	SEE SHEET NO. 37
Northbound Collector Distributor Pavement	2+32	9+41.04			1253.60	43.53	95.76	94.02		SEE SHEET NO. 35, SPEED CHANGE LANE
	9+41.04	14+26.69	485.65	16	863.38	29.98	65.95	64.75		
	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		
	21+95.57	N.B. 90+02.40			789.00	27.40	60.27	59.17		SEE SHEET NO. 35
Southbound Pavement	48+87.20	49+87.20	100	24	266.67	11.34	4.92	20.00	266.67	SEE SHEET NO. 37
	49+87.20	73+98.89	2411.69	24	6431.17	223.30	491.27	482.33		
	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		
	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		
	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	SEE SHEET NO. 37
Southbound Collector Distributor Pavement	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
TOTAL – CARRIED TO SHEET. # 11						2492.56	5359.45	5364.56	850.00	

RESURF10

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	
5	OHIO		

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57

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.	Cu. Yd.	Sq. Yd.	Cu. Yd.	Gal.	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								
	54+35.76	90+02.40	3566.64	14	5548.11	1 1/4	192.64	423.81	416.11								LT.& RT. SHOULDER COMBINED
	90+02.40	96+30	627.60	10	697.33	1 1/4	24.21	53.26	52.30								
	96+30	148+41.04	5211.04	8	4632.04	1 1/4	160.83	353.84	347.40								
Northbound Collector Distributor	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
	17+44.69	21+95.57	450.88	3	150.29	1 1/4	5.22	11.48	11.27								LT. SHOULDER
Southbound 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								
	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								
Southbound Collector Distributor	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
	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-B	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 A	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+55	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			122.22	0.85 avg	2.89		9.17							83.33	SEE SHT. # 34, FEATHER AREA
TOTAL - CARRIED TO SHEET. # 11							995.68	2129.21	2159.58	172.68		518.05	2072.21	719.50	829.04	319.44	

RESURF11

RESURFACING CALCULATIONS

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		

11
57

BEL-7-17.99

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 SHOULDERS & 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	

RESURF12

RESURFACING CALCULATIONS

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

F.H.W.A. REGION	STATE	PROJECT		12 / 57
5	OHIO			

BEL-7-17.99

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

$\frac{23583.55 \text{ S.Y.} \times 9 \times 20}{1000 \times 2000}$ = 2.12 TON USE 2 TON

AGRICULTURAL LIMING

$\frac{23583.55 \text{ S.Y.} \times 9 \times 100}{1000 \times 2000}$ = 10.61 TON USE 11 TON

WATER

$\frac{23583.55 \text{ S.Y.} \times 9 \times 120}{1000 \times 1000}$ X 2 APPLICATION = 50.94 M.GAL

USE 51 M.GAL

(QUANTITIES CARRIED TO GENERAL SUMMARY)

LINEAR GRADING METHOD 3

STATION		LANE OR RAMP	SIDE	LENGTH	203 LINEAR GRADING METHOD 3
FROM	TO			LIN.FT.	STA.
142+25	156+00	S.B.	LT.	1375	13.75
148+41.04	156+00	N.B.	RT.	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
TOTAL- CARRIED TO GENERAL SUMMARY					39.15 USE 39.00

LINEAR GRADING METHOD 1

STATION		LANE	LENGTH	203 LINEAR GRADING METHOD 1
FROM	TO		LIN.FT.	STA.
48+87.20	51+10	N.B. (RT.)	222.80	2.23
9+41.04	19+82.21	N.B.C.D. (RT.)	1041.17	10.41
7+00	20+88	N.B.C.D. (LT.)	1388.00	13.88
19+82.21	20+88	N.B.C.D. (LT.)	105.79	1.06
54+35.76	67+36	S.B. (RT.)	1300.24	13.00
83+55	89+89.42	S.B. (RT.)	634.42	6.34
48+87.20	74+78.79	S.B. (LT.)	2591.69	25.91
76+85.39	108+00	S.B. (LT.)	3114.61	31.14
115+20	116+23.50	S.B. (LT.)	103.50	1.04
122+00	142+25	S.B. (LT.)	2025.00	20.25
14+70	21+37	S.B.C.D. (RT.)	667.00	6.67
6+00	15+00	S.B.C.D. (LT.)	900.00	9.00
16+50	21+00	S.B.C.D. (LT.)	450.00	4.50
23+52	24+85.94	S.B.C.D. (LT.)	133.94	1.33
102+69	103+26	T.R. 1245 *	57.00	0.57
TOTAL- CARRIED TO GENERAL SUMMARY				147.33 USE 147.00

* SEE SHEET # 34

MEDIAN REMOVAL QUANTITIES

STATION		LENGTH		202 AVERAGE WIDTH	CONCRETE BARRIER REMOVED	CONCRETE MEDIAN REMOVED	CONCRETE BARRIER REMOVED AS PER PLAN	GUARDRAIL REMOVED, BARRIER DESIGN
FROM	TO	LIN.FT.		FT.	LIN.FT.	SQ.YD.	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			X			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					- 20.00		- 260.00	
8-MD, I-2-6, $\frac{1X7.33X4}{9}$ = 3.26 S.Y.						-3.26		
TOTAL DEDUCTION					- 20.00	-3.26	- 260.00	
TOTALS- CARRIED TO GENERAL SUMMARY					528.56 USE 530.00	528.56 USE 530.00	4191.46 USE 4192.00	1050.00

CURB REPLACEMENT DOWEL LIST

SIZE	LOCATION		LANE OR RAMP	LENGTH
	FROM	TO		LIN.FT.
NO. 4	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
	1+31.05	4+79.77	RAMP A	340
	3+07.11	8+50	RAMP B	544
TOTAL(For Information Only)				1955

CURB REMOVAL AND REPLACEMENT

STATION		LANE OR RAMP	202 CURB REMOVED	609 CURB, TYPE 2-B, AS PER PLAN
FROM	TO		LIN.FT.	LIN.FT.
76+74.64	76+78.14	S.B.	7.0	
142+25	148+41.04	S.B.	616.04	616.04
148+41.04	149+83.67	N.B.&S.B.	285.26	285.26
149+83.67	156+00	N.B.&S.B.	1232.66	1232.66
0+00	4+79.77	RAMP A	959.54	959.54
3+07.11	8+67.80	RAMP B	1121.38	1121.38
TOTALS- CARRIED TO GENERAL SUMMARY			4221.88 USE 4225.00	4214.88 USE 4215.00

LINEAR GRADING, METHOD 2 AND ASPHALT PAVING UNDER GUARDRAIL

GUARDRAIL REF. NO.	STATION		LANE OR RAMP	LENGTH	203 LINEAR GRADING METHOD 2	203 EXCAVATION	448 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, (UNDER GUARDRAIL) AS PER PLAN
	FROM	TO		LIN.FT.	STA.	CU.YD.	CU.YD.
1 GR	51+10	51+35.76	N.B.	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	N.B.C.D.	918.75	9.19		22.68
4 GR	67+36	75+00	S.B.	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	S.B.C.D.	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 USE 160.00	166.33 USE 166.00	340.00

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MEDIAN REPLACEMENT QUANTITIES

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

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STATION		LENGTH	WIDTH	304		612	622			SPECIAL	446		615		COMMENTS	SEE DETAIL SHEET No.
				AGGREGATE BASE		4" CONCRETE MEDIAN	CONCRETE BARRIER, TYPE A AS PER PLAN A	CONCRETE BARRIER, TYPE B-50	CONCRETE BARRIER, TYPE A REINFORCED	IMPACT ATTENUATOR, G.R.E.A.T. TYPE MODEL NO. 206206SF6, BI-DIRECTIONAL	1 1/4" ASPH. CONCRETE TYPE 1, AC-20 AS PER PLAN	2 3/4" ASPH CONC. INTERMEDIATE COURSE TYPE 2, AC-20	TEMPORARY PAVEMENT CLASS A			
FROM	TO	LIN.FT.	FT.	THK.,IN.	SQ.YD.	SQ.YD.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	CU.YD.	CU.YD.	SQ.YD.			
48+87.20	54+35.76	887.80	-	-	-	-			14		8.47	18.62	243.80		ITEM 622 AT STA. 48+87.20. SEE STD. DWG. GR-3.5 FOR GUARDRAIL TO BARRIER CONNECTION	
89+89.42	108+00	1810.58	-	-	-	-	1785.08			1	37.16	81.75			SEE STD. DWG. GR-3.5 FOR GUARDRAIL TO BARRIER CONNECTION	31
108+00	114+98.00	698.00	VARIES	4	25.85	466.00	-			-	2.70	5.94				31
116+02.00	122+00	598.00	3	4	22.15	199.33	-									31
122+00	157+83.00	3583.00	-	2	22.91	-	1999.50	1558.00		1	18.90	41.58			SEE STD. DWG. GR-3.5 FOR GUARDRAIL TO BARRIER CONNECTION, 6' TRANSITION SECTION FROM TYPE A TO TYPE B50 BETWEEN STA. 142+19 AND 142+25 AND PAID UNDER CONC. BARRIER TYPE A, AS PER PLAN A, 14' TRANSITION SECTION FROM TYPE B-50 TO EXISTING BARRIER GUARDRAIL BETWEEN STA 157+69.00 AND STA 157+83.00 TO BE PAID UNDER CONC. BARRIER , TYPE B-50.	
	TOTAL - This Sheet				70.91	665.33	3784.58	1558.00	14	2						
	Deduction for inlets :															
2-MD	I-3C inlet 10 ea.@ 20' = 200 L.F.															
3-MD																
4-MD																
5-MD																
6-MD																
7-MD																
9-MD																
10-MD																
10A-MD																
11-MD							-200									
12-MD	I-3B50 inlet 3 ea.@ 20' = 60 L.F.															
13-MD																
14-MD																
								-60								
8-MD	I-2-6 inlet 1 ea.@ 7.33' = 7.33 L.F.x 4 / 9 = 3.26 S.Y.															
						-3.26										
	TOTAL DEDUCTION					-3.26	-200	-60								
	Deduction for median light poles :															
	Quantity = 8 Total width = 8 X 2.5' = 20'															
	DEDUCTION							-20								
TOTALS	(Carried To Sheet #11)				70.91						67.23	147.89				
TOTALS	(Carried To General Summary)					662.07 USE 665.00	3584.58 USE 3585.00	1478.00	14	2			243.80 USE 244.00			

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GUARDRAIL & BARRIER REFLECTOR QUANTITIES

Reference No.	Plan Sheet No.	Station (±) From	Station (±) To	Side	202 Guardrail Removed Lin.Ft.	606 Guardrail, Type 5 Lin.Ft.	606 Guardrail, Type 5* Lin.Ft.	606 Guardrail, Type 5A Lin.Ft.	606 Anchor Assembly, Type E Ea.	606 Anchor Assembly, Type T Ea.	606 Anchor Assembly, Type A Ea.	606 Anchor Assembly, Type B Ea.	606 Bridge Terminal Assembly, Type 1* Ea.	606 Bridge Terminal Assembly, Type 1 Ea.	606 Bridge Terminal Assembly, Type 2 Ea.	802 Barrier Reflector, Type A Ea.	802 Barrier Reflector, Type B Ea.	802 Barrier Reflector, Type A2 Ea.	SPECIAL IMPACT ATTENUATOR, TYPE 1 Ea.	SPECIAL IMPACT ATTENUATOR, TYPE 1 Ea.	622 CONC. BARRIER, TYPE D LF	Comments
1 GR	22 THRU 29	N.B. 51+10	N.B. 153+28.75	RT.	10218.75	10056.25		100.00	1	1						104						
1A GR	22 & 23	S.R.7 48+87.20	S.R.7 57+75.00	℄	–		843.50						1			3		6		1**		CONC. BARRIER, TYPE A, REINF., AT STA. 48+87.20, IMPACT ATTENUATOR AT STA. 57+42.60, SEE STD. DWG. GR-3.5 FOR DET.
2 GR	23	N.B. 65+07	N.B. 66+94.50	LT.	187.50																	GUARDRAIL TYPE 5A AT BEL-470-0662
		N.B. 64+95	N.B. 66+94.50			137.50		-	1	1						4						
3 GR	23 & 24	S.B.C.D. 2+95	S.B.C.D. 14+70	RT.	1175.00	1112.50		-	1	1						14						
4 GR	23 & 24	S.B. 67+36	S.B. 75+16.23	RT.	781.25	768.75		-		1					1	10						SEE SHT. #52 FOR DEFLECTION PARAPET REPLACEMENT AND STD. DWG. GR-3.2 FOR GUARDRAIL CONNECTION DETAIL
5 GR	24	S.B. 76+72.55	S.B. 83+55	RT.	681.25																	SEE SHT. #52 FOR DEFLECTION PARAPET REPLACEMENT AND GUARDRAIL CONNECTION DETAIL, GUARDRAIL TYPE 5A AT BEL-470-0662
		S.B. 76+72.55	S.B. 84+68			662.50		100.00						1		10						
6 GR	24	S.B. 76+72.55	S.B. 78+27	LT.	156.25	143.75		-				1		1		3						SEE SHT. #52 FOR DEFLECTION PARAPET REPLACEMENT AND GUARDRAIL CONNECTION DETAIL
7 GR	24 & 25	N.B.C.D. 20+88	N.B.C.D.30+00.06	LT.	912.50	800.00		100.00				1				11						CONNECTS TO 8GR, TYPE 5A GUARDRAIL AT BEL-470-0662
8 GR	24 & 25	S.B.C.D. 21+37	S.B.C.D.29+90.5	RT.	856.25	743.75		100.00		1			1			11						GUARDRAIL TYPE 5A AT BEL-470-0662 CONNECTS TO CONCRETE BARRIER AT S.B. STA. 89+89.42
9 GR	24	S.B.C.D. 21+00	S.B.C.D. 23+52	LT.	256.25														1			CONNECTS WITH 5GR AND TYPE 1 IMPACT ATTENUATOR GUARDRAIL TYPE 5A AT BEL-470-0662
		S.B.C.D. 21+00	S.B.C.D. 24+36			181.25	12.5	100.00		1						5						
10 GR	24	S.B. 82+00	S.B. 83+63	LT.	162.50																100	SEE STD. DWG. GR-8.1
		S.B. 82+43	S.B. 83+63			68.75		-	1					1		3						
11 GR	25	S.B. 87+15	S.B. 88+87	LT.	162.50	125.00		12.50		1		1				3						TYPE 5A GUARDRAIL FOR SIGN PROTECTION
12 GR	25	S.B. 97+85	S.B. 99+55	LT.	162.50	87.50		12.50	1	1						3						TYPE 5A GUARDRAIL FOR SIGN PROTECTION
13 GR	26 & 27	S.R.7 107+96	S.R.7 115+20	LT.	725.00	662.50		-	1	1						9						
14 GR	27	S.R.7 116+23.50	S.R.7 122+58	LT.	750.00	562.50		112.50	1		1					9						SEE SHT. # 34 FOR DETAILS @ C.R.32 INTERSECTION, 25.00 LF OF TYPE 5A GUARDRAIL AT SR7 122+00
15 GR	29	RAMP B 5+05	RAMP B 8+17.80	RT.	312.50	250.00		-	1	1						5						
16 GR	29	S.R.7 155+68	S.R.7 156+23.97	RT.																		NO WORK
17 GR	29	S.R.7 155+50	S.R.7 157+00	LT.	125.00	112.50		-		1						3						CONNECT TO 25 LIN. FT. OF EXISTING BRIDGE TERMINAL ASSEMBLY
		S.B. 89+89.42	S.B. 96+30	℄													18					
		S.R.7 96+30	S.R.7 108+00	℄													28					
		S.R.7 122+00	S.R.7 158+87.75	℄													78					
TOTALS		Quantities Carried To General Summary			17625.00	16475.00	856.0	637.50	8	11	1	3	2	3	1	210	124	6	1	1	100.00	

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

UNDERDRAIN QUANTITIES

Station From	Station To	Lane	605 6" Shallow Pipe Underdrain, 707.15, As Per Plan Lin. Ft.	SPECIAL Precast Reinforced Concrete Outlet Ea.	603 6" Conduit, Type F 707.15 Non-Perforated, ASTM D-3034 SDR 35, SS 931 or SS 944 Lin. Ft.	6" Bends & Branches Tee Ea.	6" Bends & Branches 90° Bend Ea.	Outlet Station	Plug Station	Comments
51+50	55+50	N.B.S.R. 7	400						51+50	
					20	1		53+30		OUTLET INTO EXISTING CATCH BASIN 1-C.B.
									55+50	
80+80	96+25	N.B.S.R. 7	1545						80+80	
					20	1		82+00		OUTLET INTO EXISTING CATCH BASIN 13-C.B.
				1	20	1		90+00		
					20	1		92+75		OUTLET INTO EXISTING CATCH BASIN 15-C.B.
									96+25	
9+45	19+80	N.B.C.D.	1035						9+45	
					20	1		12+80		OUTLET INTO EXISTING CATCH BASIN 7-C.B.
					20			19+80		OUTLET INTO EXISTING CATCH BASIN 10-C.B.
4+00	24+84	S.B.C.D.	2084						4+00	
					20	1		5+77		OUTLET INTO EXISTING CATCH BASIN 5-C.B.
					20	1		12+70		OUTLET INTO EXISTING CATCH BASIN 6-C.B.
					20		1	16+55		OUTLET INTO EXISTING CATCH BASIN 9-C.B.
					20	1		20+72		OUTLET INTO EXISTING CATCH BASIN 11-C.B.
									24+84	
TOTALS (FOR INFO. ONLY)						8	1			
TOTALS (CARRIED TO GEN. SUMMARY)			5064	1	200.00					

For underdrain notes and details, see sheet no. 33

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

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ITEM SPECIAL ~ PIPE CLEANOUT QUANTITY
(See note on sheet No. 17)

REF. NO	STATION & OFFSET FROM	STATION & OFFSET TO	SPECIAL PIPE CLEANOUT 12" LIN. FT.	15" LIN. FT.	18" LIN. FT.	21" LIN. FT.	24" LIN. FT.	30" LIN. FT.	36" LIN. FT.
1P	NB 56+55,60'RT	NB 56+55,115'RT.					55		
2P	NB 58+25,60'RT	NB 58+25,115'RT.						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					
10P,11P	NB 91+68,68'LT	NB 93+28,55'LT.	50			110			
12P	NB 92+75,8'LT	NB 92+75,55'LT				50			
13P	SR7 100+00,8'LT	SR7 100+00,42'LT					38		
14P	SR7 100+00,42'LT	SR7 101+50,42'LT	150						
15P	SR7 114+00,40'RT	SR7 114+00,15'RT		25					
16P,17P	SR7 126+93,45'LT	SR7 131+30,45'LT		437					
18P,19P	SR7 135+75,45'LT	SR7 136+25,45'LT		50					
SUB TOTALS			225	612	——	160	193	80	30
TOTAL (Carried To General Summary)			1300 LIN. FT.						

CATCH BASIN/INLET REPLACEMENT QUANTITIES

STR. No.	SHT. No.	STATION	ITEM 604 C.B. NO. 2-3	C.B. NO. 2-4	C.B. NO. 5, AS PER PLAN	CATCH BASIN GRATE	INLET, NO. 3B50	REMARKS
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
1-MD	22	SR7 51+30			1			REMOVE INLET TOP AND TROUGH OF EX. INLET, NO. 3A. SEE SHT. #18 FOR DETAILS.
12-MD	29	SR7 151+00					1	NEW STRUCTURE IN PLACE OF EX. C.B. NO. 3A STRUCTURE. MATCH EXISTING INVERT AND FLOWLINE ELEVATIONS.
13-MD	29	SR7 153+40					1	NEW STRUCTURE IN PLACE OF EX. C.B. NO. 3 STRUCTURE. MATCH EXISTING INVERT AND FLOWLINE ELEVATIONS.
14-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	
			6					ITEM 202-CATCH BASIN OR INLET REMOVED

ITEM SPECIAL :-
SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS

LANE	NO OF JOINTS STRAIGHT EACH	NO OF JOINTS SKEWED EACH	AVG. WIDTH STRAIGHT LIN. FT.	AVG. WIDTH SKEWED * LIN. FT.	LENGTH STRAIGHT LIN. FT.	LENGTH SKEWED 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.	

NOTE : SEE SHT # 17 FOR DETAILS

* 5^ SKEW ANGLE

PAV66

CALCULATIONS

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

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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-(17.71-20.14), 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

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

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

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

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

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

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

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

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

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.

07GN1

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

F.H.W.A. REGION	STATE	PROJECT		17 / 57
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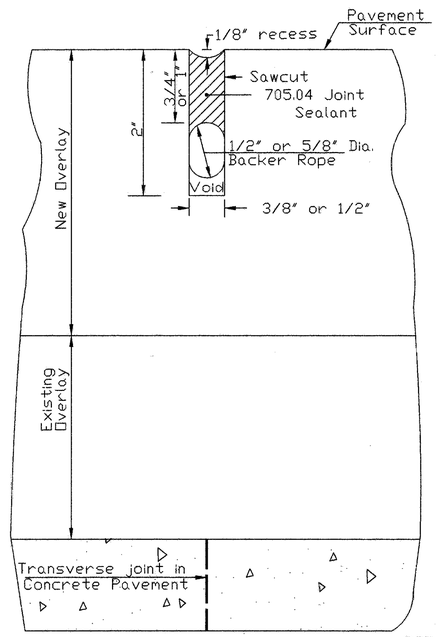
GENERAL NOTES

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.



DETAILS NOT TO SCALE

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

07GN2

GENERAL NOTES

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

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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 vinylester 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.

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

F.H.W.A. REGION	STATE	PROJECT		
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 filigree 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 preceeding 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 sht. 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 IN 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.

07MTGTNT

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

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

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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 Sheeting, 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.

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GENERAL SUMMARY

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

F.H.W.A. REGION	STATE	PROJECT		
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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								300				202	54101	300	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE, AS PER PLAN (SEE SHEET NO. 18)
202						6						202	58300	6	EACH	CATCHBASIN OR INLET REMOVED
SPECIAL						1300.00						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								4915.00				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				1								606	25000	1	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				11								606	26500	11	EACH	ANCHOR ASSEMBLY, TYPE T
606				3								606	35000	3	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1
606				2								606	35004	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1, BARRIER DESIGN
606				1								606	35100	1	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				1								SPECIAL	690 10350	1	EACH	IMPACT ATTENUATOR, TYPE 1 (SEE NOTE ON SHT. # 18)
SPECIAL				1								SPECIAL	690 10360	1	EACH	IMPACT ATTENUATOR, TYPE 1, BI-DIRECTIONAL (SEE NOTE ON SHT. #18)
SPECIAL							1					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		11										659	30000	11	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						1						604	01601	1	EACH	CATCH BASIN, No. 5, AS PER PLAN (SEE SHT. #18)
604						1						604	04900	1	EACH	CATCH BASIN, No. 2-3
604						1						604	05300	1	EACH	CATCH BASIN, No. 2-4
604											20	604	09000	20	EACH	CATCH BASIN ADJUSTED TO GRADE
604						1						604	09900	1	EACH	CATCH BASIN GRATE
604											1	604	10901	1	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				1								SPECIAL	604 36600	1	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 1, AC-20, AS PER PLAN (SEE NOTE ON SHT. NO. 18)
448		340.00										448	14101	340	CU.YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (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

BEL-GS2

QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/2/94	Date: 6/7/94

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

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 REERECTION
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	SQ.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 GORE 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

BEL TRFGS

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

BEL-7-17.99

BENCH MARK
I.P. IN CONC. MON.
STA. 51+85.76, 35'RT.
ELEV. 662.86

N

S.R. 7 CURVE A
P.I. STA. 50+56.53
Δ = 5° 54'00" LT.
Dc = 0° 20'00"
R = 17188.74'
L = 1770.00'
T = 885.78'
E = 22.81'
MAX. SUPERELEVATION RATE = 0.016 '/FT.

BEGIN WORK
STA. 43+00

P.C. STA. 41+70.75 N.B.
CURVE A1

CORP. LINE

40

45

℄ S.R. 7

L/A

8' X 4' CONC. BOX

BELLAIRE
STA. 42+82.58

CONRAIL

NH-1 (197)

BEGIN PROJECT
STA. 49+87.20
S.L.M. 17.99

S.B. PAVEMENT
STA. 51+35.76 =
N.B. PAVEMENT
STA. 51+35.76

P.C. STA. 51+66.74 N.B.
(S.B. 8' LT.)
CURVE G

S.R. 7 CURVE G, SB ONLY
Δ = 14° 21'52"
Dc = 1° 28'00"
R = 3906.53'
L = 979.39'
T = 492.28'
E = 30.69'
MAX. SUPERELEVATION RATE = 0.035 '/FT.

100'

50

52

53

54

55

18" S

℄ S.B. S.R. 7

CATV

1 MD

1A GR

1 GR

1 CB

MATCH LINE STA. 55+00

PROPOSED FEATHER JOINT
PER BP-3.1 (SEE SHT. #37)

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 No.14
FOR PIPE CLEANOUT QUANTITIES, SEE SHT. No. 15

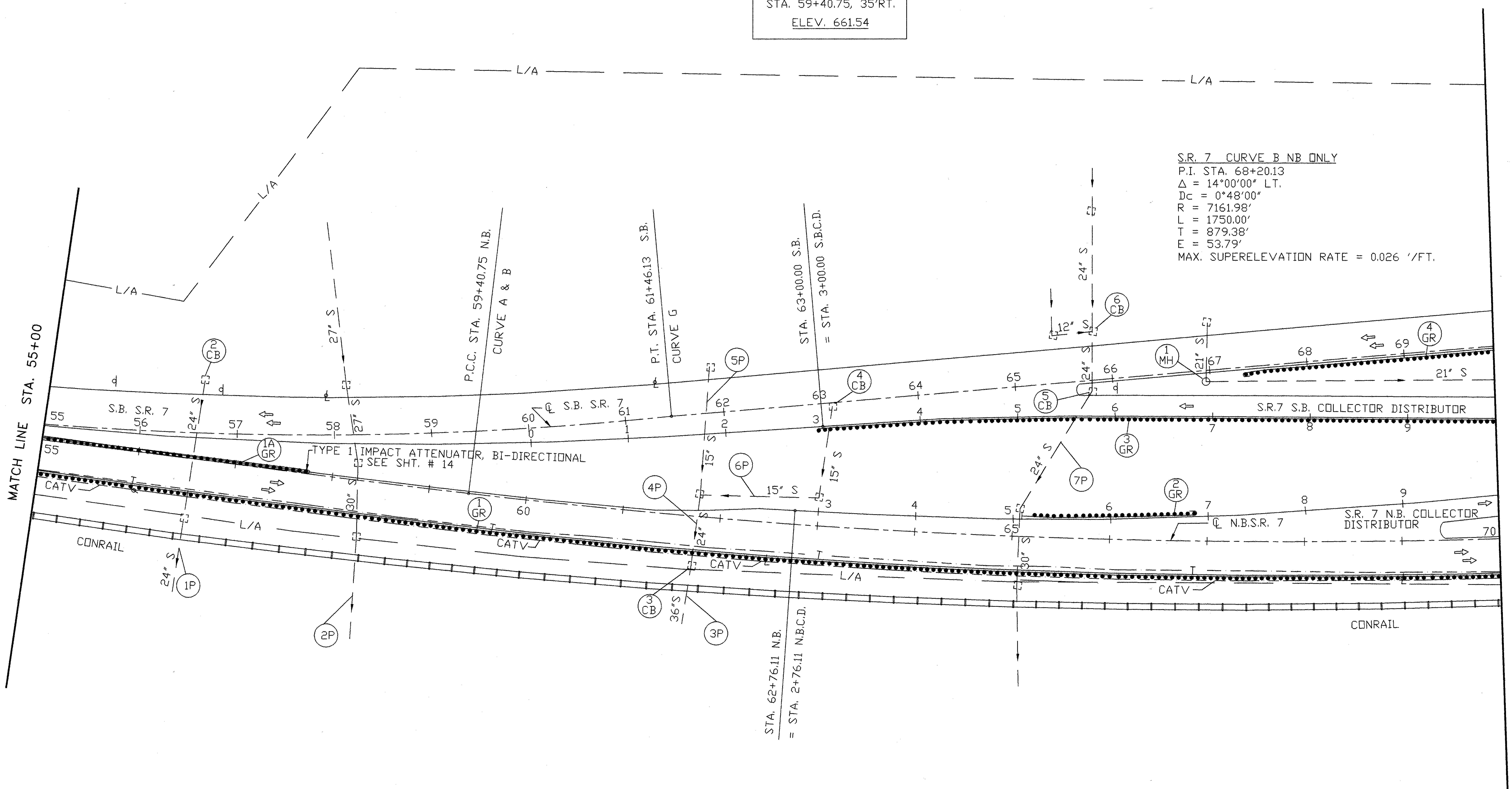
07PLAN1Z

STA. 40+00 TO STA. 55+00

BENCH MARK

I.P. IN CONC. MON.
STA. 59+40.75, 35'RT.
ELEV. 661.54

S.R. 7 CURVE B NB ONLY
P.I. STA. 68+20.13
Δ = 14°00'00" LT.
Dc = 0°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

STA. 55+00 TO STA. 70+00

07PLAN2Z

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

24
57

BEL-7-17.99

N

L/A

BRIDGE NO. BEL-7-1848L

BEGIN APPROACH SLAB STA. 74+78.89

END APPROACH SLAB STA. 76+85.39

NO WORK BRIDGE NO. BEL-470-0662

BENCH MARK

I.P. IN CONC. MON. STA. 71+00, 35'RT.

ELEV. 662.52

S.R. 7 CURVE H, SB ONLY

Δ = 4°03'19"
Dc = 1°28'00"
R = 3906.53'
L = 276.50'
T = 138.28'
E = 2.45'
MAX. SUPERELEVATION RATE = 0.035'/FT.

P.C. STA.71+24.96 S.B.
CURVE H
P.T. STA. 74+01.46 S.B.
STA. 74+98.89
100' FEATHER
STA. 76+65.39
100' FEATHER
STA. 1429+39.53 RAMP A-B
N 86°03'54" W STA. 75+86.64 S.B. =

℄ I-470 EASTBOUND
℄ I-470 WESTBOUND
℄ I-470
14' X 10' BOX CULVERT
STA. 82+00 S.B.
TYPE 1, IMPACT ATTENUATOR
FOR FEATHER DETAILS REFER SHT. #37 (TYP)
FOR INTERSECTION DETAILS PL. REF. SHT. #34

MATCH LINE STA. 70+00

MATCH LINE STA. 85+00

℄ S.B. S.R. 7
S.B. COLLECTOR DISTRIBUTOR
N.B. COLLECTOR DISTRIBUTOR
℄ S.R. 7
N 2°14'00" W
CONRAIL
CATV
L/A
BUTT JOINT
RAMP A-B
STA. 82+45.00 N.B.
14' X 10' BOX CULVERT
P.T. STA. 22+95.57 N.B.C.D.
= STA. 83+00.01 N.B.
STA. 15+93.06 N.B.C.D.
= STA. 1428+17.99 RAMP A-B
STA. 15+81.37 S.B.C.D.
= STA. 1428+34.99 RAMP A-B
CURVE B
P.T. STA. 76+90.75 N.B.

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

07PLAN3Z

STA. 70+00 TO STA. 85+00

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

25
57

BEL-7-17.99

BENCH MARK

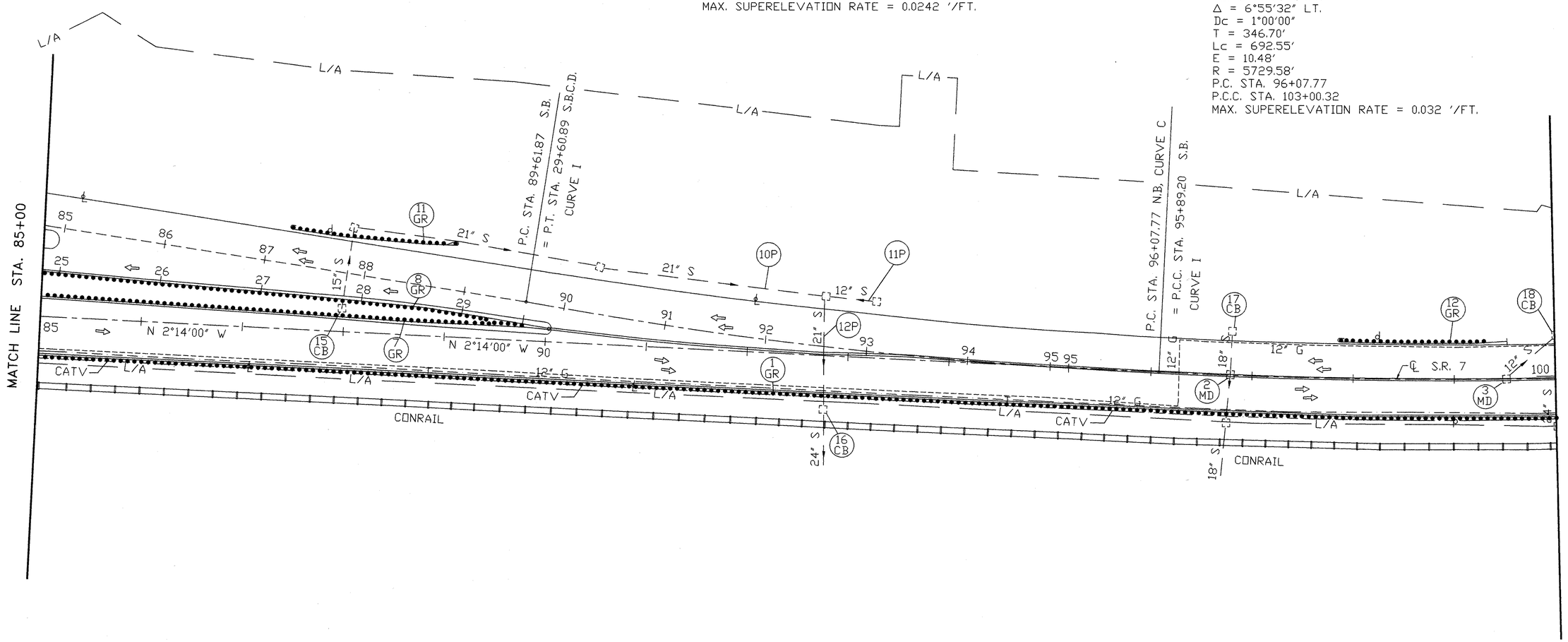
I.P. IN CONC. MON.
STA. 89+50.00, 35' RT.

ELEV. 663.71

S.R. 7 CURVE I, SB ONLY
Δ = 6°16'24"
Dc = 1°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
Δ = 6°55'32" LT.
Dc = 1°00'00"
T = 346.70'
Lc = 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.

N



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

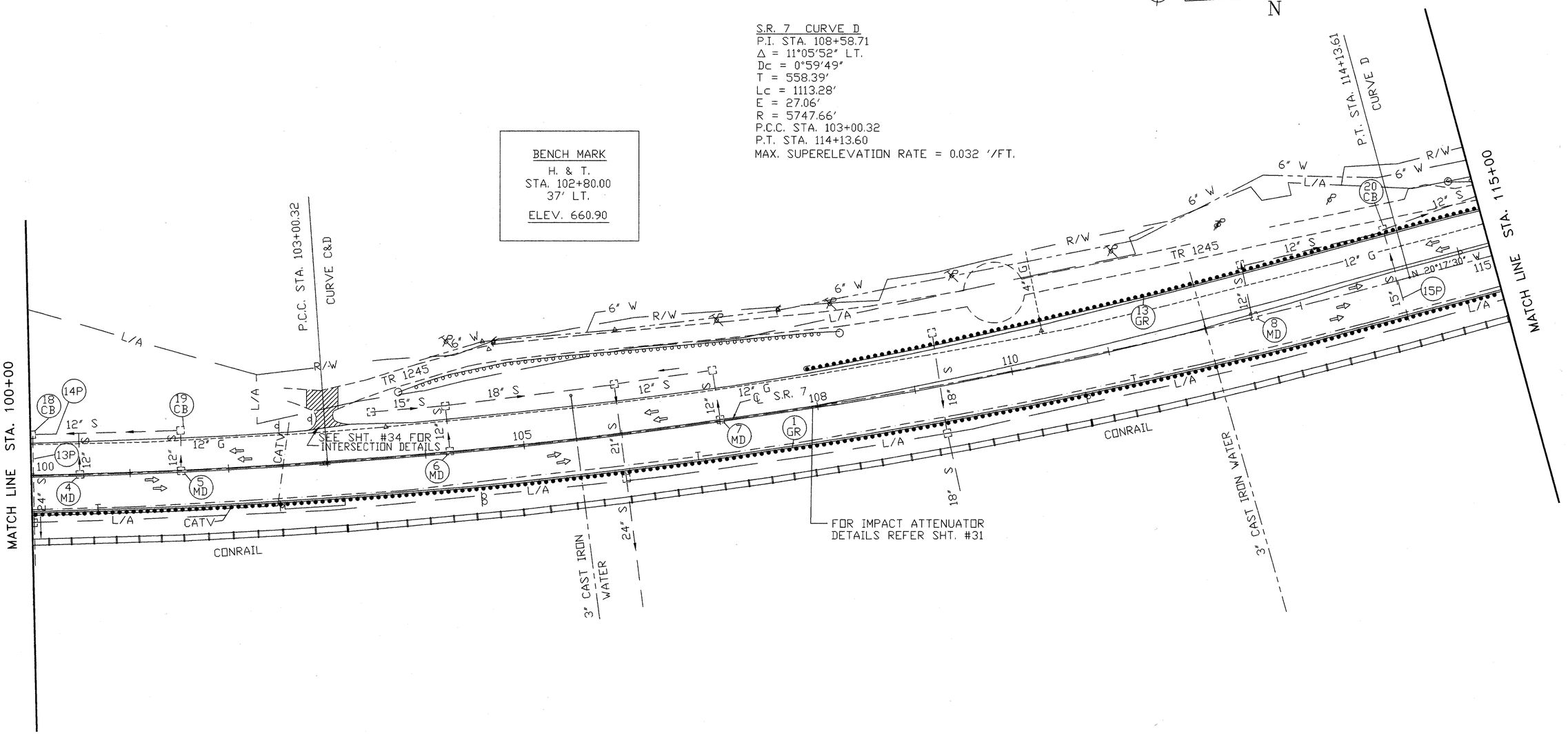
07PLAN42

STA. 85+00 TO STA. 100+00

N

S.R. 7 CURVE D
P.I. STA. 108+58.71
Δ = 11°05'52" LT.
Dc = 0°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.

BENCH MARK
H. & T.
STA. 102+80.00
37' LT.
ELEV. 660.90



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

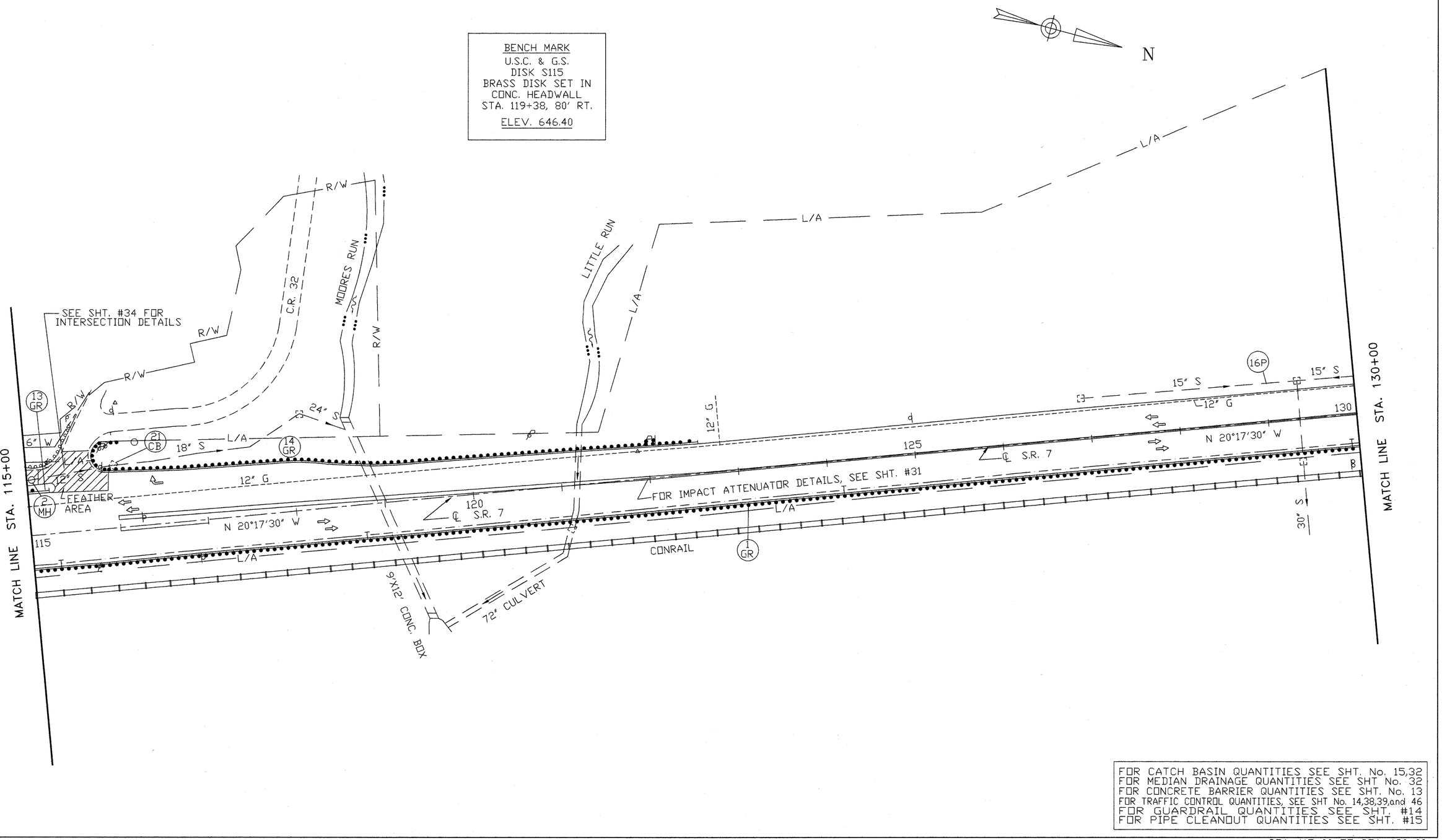
07PLAN5Z

STA. 100+00 TO STA. 115+00

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

BEL-7-17.99

BENCH MARK
U.S.C. & G.S.
DISK S115
BRASS DISK SET IN
CONC. HEADWALL
STA. 119+38, 80' RT.
ELEV. 646.40



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 46
FOR GUARDRAIL QUANTITIES SEE SHT. #14
FOR PIPE CLEANOUT QUANTITIES SEE SHT. #15

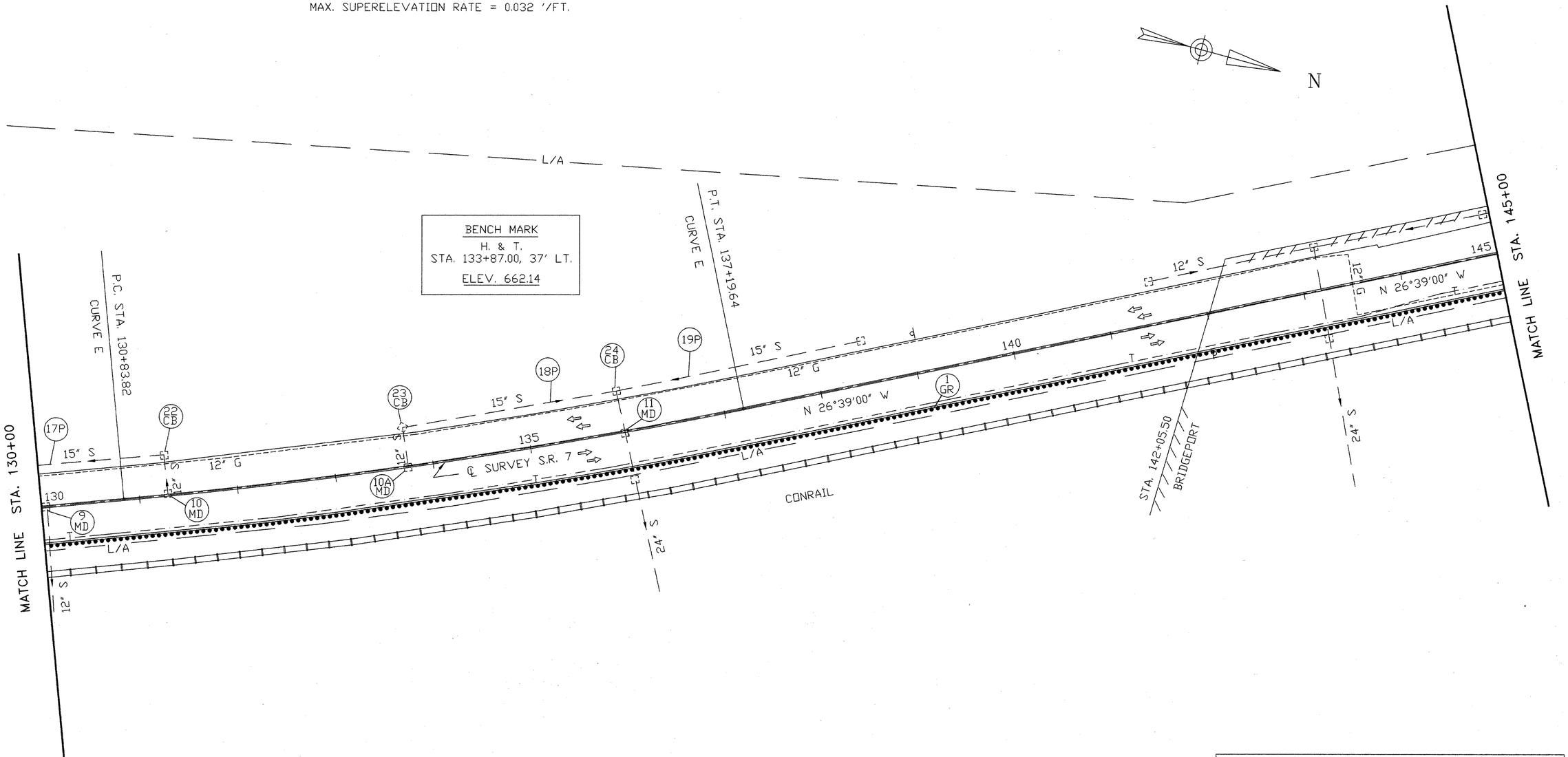
STA. 115+00 TO STA. 130+00

07PLAN6Z

F.H.W.A. REGION	STATE	PROJECT		28
5	OHIO			57

BEL-7-17.99

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 '/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 GUARDRAIL QUANTITIES SEE SHT. #14
FOR PIPE CLEANOUT QUANTITIES SEE SHT. #15

07PLAN7Z

STA. 130+00 TO STA. 145+00

F.H.W.A. REGION	STATE	PROJECT		29
5	OHIO			57

BEL-7-17.99

BENCH MARK

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

ELEV. 654.27

N

NH-1(197)

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

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

NO WORK
BRIDGE NO.
BEL-7-2006

SEE SHT. #34 FOR INTERSECTION DETAILS

SEE SHT. #37 FOR FEATHER DETAILS

SEE SHT. #34 FOR INTERSECTION DETAILS

STA. 4+74.00 RAMP A =
STA. 151+17.00, 47' LT.

CORP. LINE

MATCH LINE STA. 145+00

CONRAIL

LINCOLN AVE.
S.R 767

HOWARD ST.

S.R. 7

RAMP A

RAMP B

154+87.02
P.I.

T.S. STA. 149+83.67
CURVE F

S.C. STA. 153+33.67

STA. 152+36, 30'RT=
STA. 0+00 RAMP B

C.S. STA. 156+24.63

S.T. STA. 159+74.63
CURVE F

BEL-70-26.84
CBEL-7-20.19

N 26°39'00" W

N 00°21'53" W

PROPOSED FEATHER JOINT
PER BP-3.1 (SEE SHT. #37)

S.R. 7 CURVE F
P.I. STA. 154+87.02
= 28°50'36" RT.
Dc = 4°30'00"
Ts = 503.35'
Es = 45.57'
Ls = 350.00'
θs = 7°52'30"
L = 290.96'
R = 1273.24'
MAX. SUPERELEVATION RATE = 0.074 '/FT.

S.R. 7 CURVE F-1
L = 350.00'
R = 1273.24'
Theta = 07°52'30"
X = 349.34'
Y = 16.01'
Stan = 116.88'
Ltan = 233.56'

S.R. 7 CURVE F-2
Δ = 13°05'36"
R = 1273.24'
T = 146.12'
L = 290.96'

S.R. 7 CURVE F-3
L = 350.00'
R = 1273.24'
Theta = 07°52'30"
X = 349.34'
Y = 16.01'
Stan = 116.88'
Ltan = 233.56'

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

07PLAN8Z

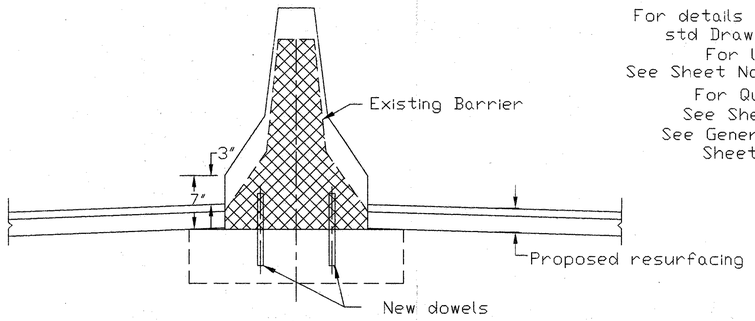
STA. 145+00 TO STA. 169+12.75

CONCRETE BARRIER DETAILS

F.H.W.A. REGION	STATE	PROJECT		30
5	OHIO			57

BEL-7-17.99

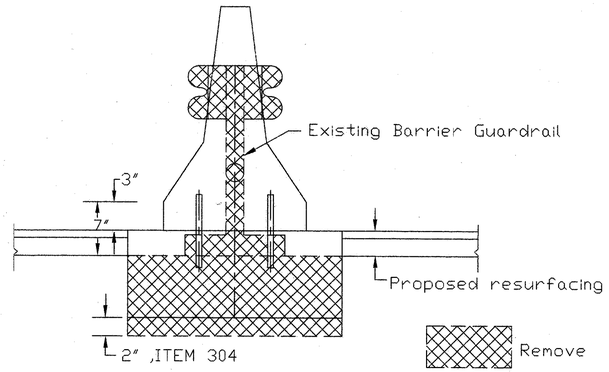
CONCRETE BARRIER, TYPE A, AS PER PLAN A



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

BARRIER RECONSTRUCTION DETAIL
REFER TYPICAL SECTION FOR STATIONING

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

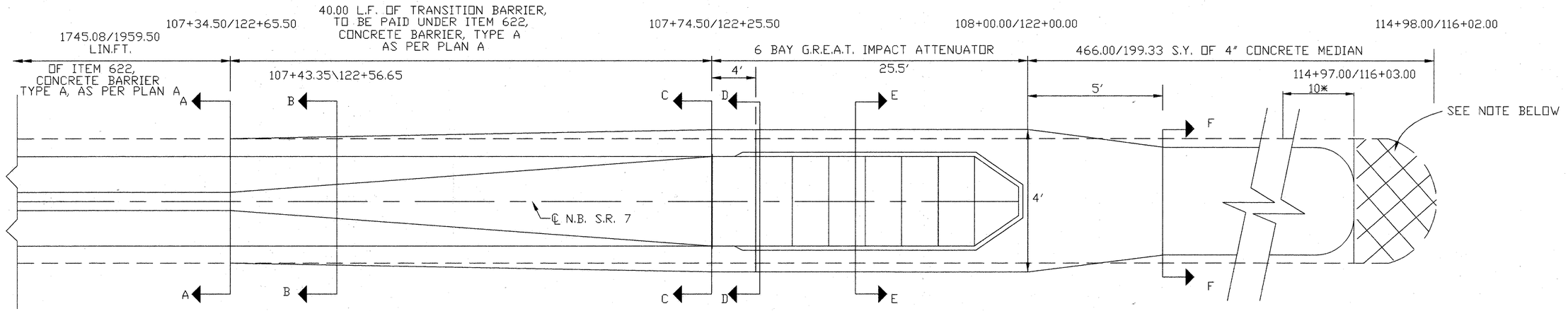
CONCBAR

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

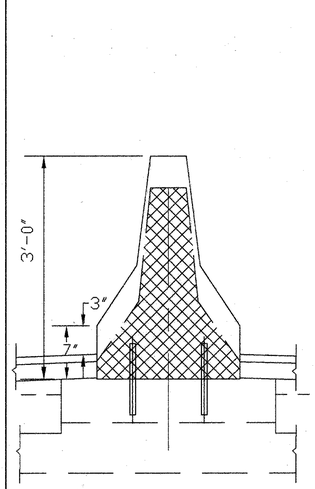
BEL-7-17.99

CONCRETE MEDIAN DETAILS

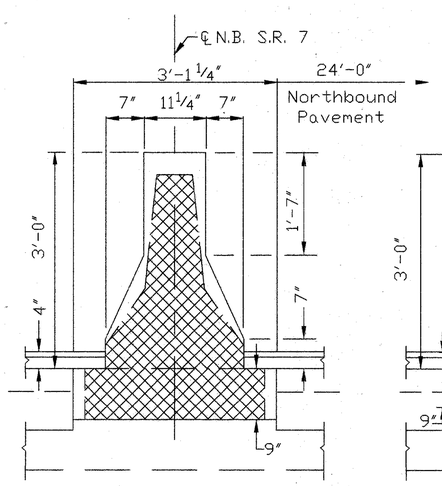
S.R. 7 STA. 107+34.50 TO STA. 122+65.50



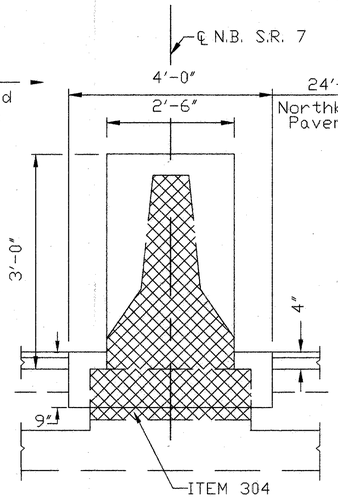
* TAPER MEDIAN HEIGHT FROM 4" TO 2"



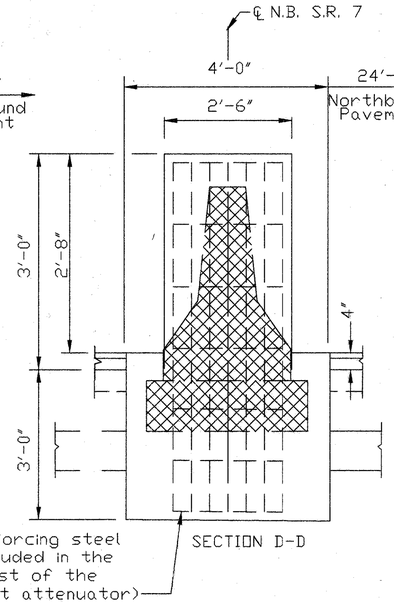
SECTION A-A



SECTION B-B

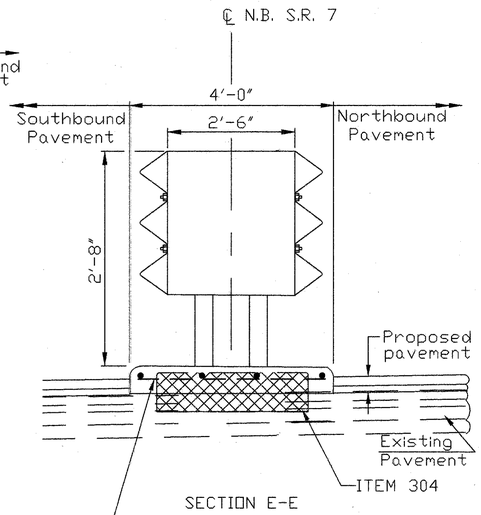


SECTION C-C



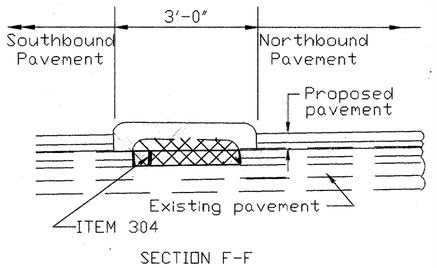
Reinforcing steel
(Included in the
cost of the
impact attenuator)

SECTION D-D



SECTION E-E

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



SECTION F-F

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.

TO BE REMOVED

CONCMED

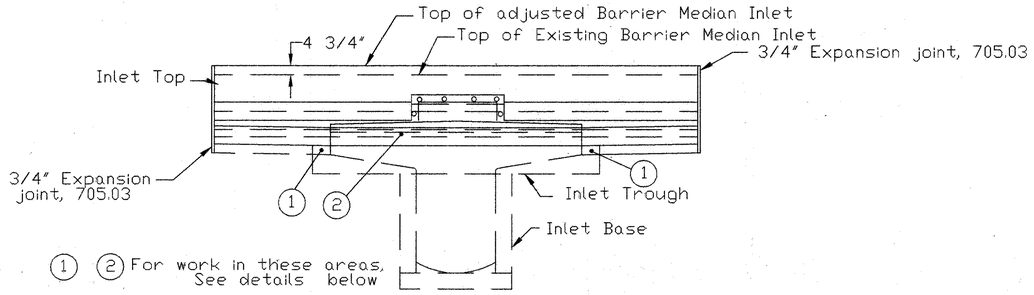
QUANTITIES	
Calc. BP	Chkd. NT
Date: 6/2/94	Date: 6/6/94

F.H.W.A. REGION	STATE	PROJECT		32 / 57
5	OHIO			

BEL-7-17.99

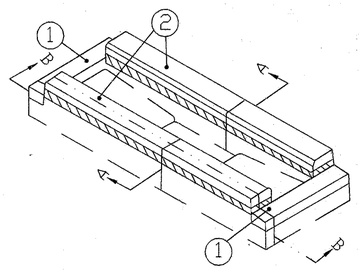
ITEM 604 — BARRIER MEDIAN INLET ADJUSTED TO GRADE, AS PER PLAN

QUANTITY = 10 EACH



ELEVATION

DETAILS NOT TO SCALE



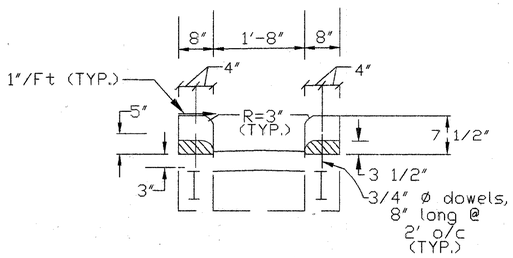
INLET WITHOUT GRATE

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

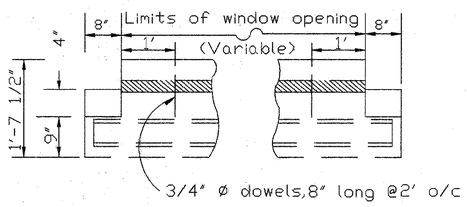
TROUGH PORTION - PICTORIAL VIEW

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

DETAILS NOT TO SCALE



SECTION A-A



SECTION B-B

▨ PORTION OF EXISTING INLET TROUGH TO BE REMOVED.

REF. NO	SHEET NO.	STATION	OFFSET	SIDE	604 CATCH BASIN ADJUSTED TO GRADE	604 MANHOLE ADJUSTED TO GRADE	604 INLET NO. 2-6, AS PER PLAN
					STRUCTURE ADJUSTED TO GRADE		
					EACH	EACH	EACH
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

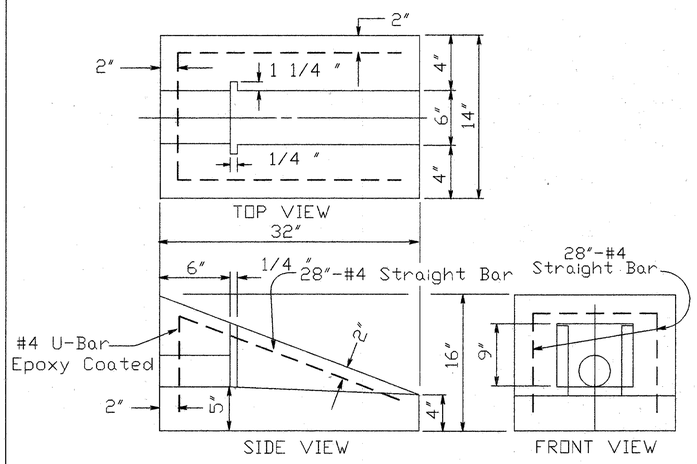
CALCULATIONS FOR DOWELS
NO. OF MEDIAN DRAINAGE STRUCTURES MODIFIED = 10 AVG. LENGTH = 20' TOTAL LENGTH = 10 X 20 X 2 = 400' 3/4"ø DOWELS @ 2' O/C, 8" LONG = 8/12" X (400/2+1) 3/4" ø DOWELS, = 134 SAY, 150 LIN.FT. NO. OF DOWEL HOLES = 400/2+1 = 201 -------- ITEM 510 CARRIED TO GENERAL SUMMARY.

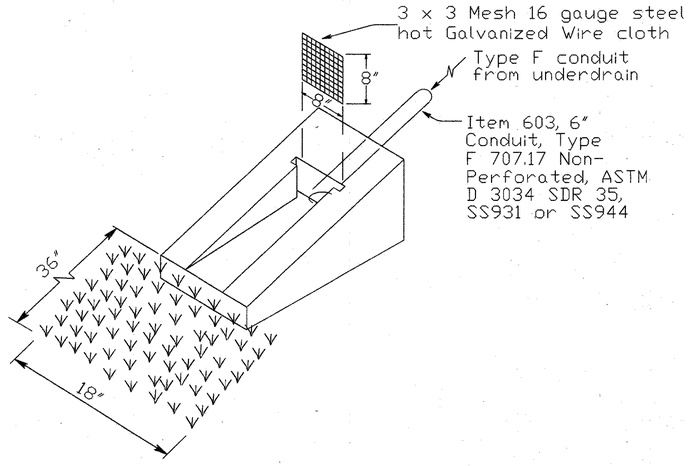
FOR DETAILS NOT SHOWN, SEE STD. DWGS. I-3A & B, I-3C & D

BARMED

ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

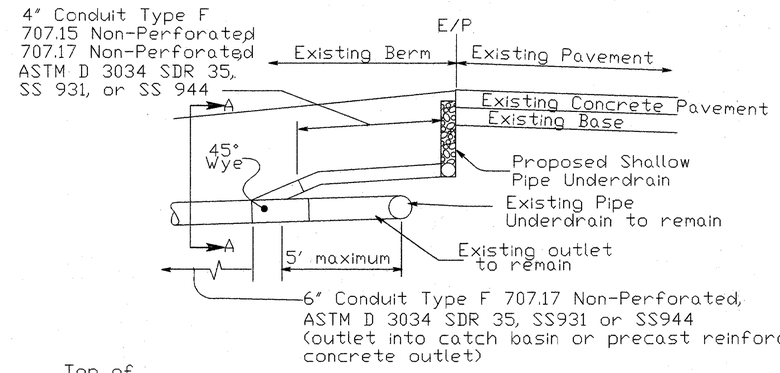
The Concrete outlet shall meet the requirements of Item 604 in the Construction & Materials Specifications. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.



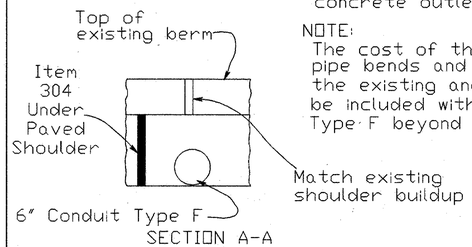


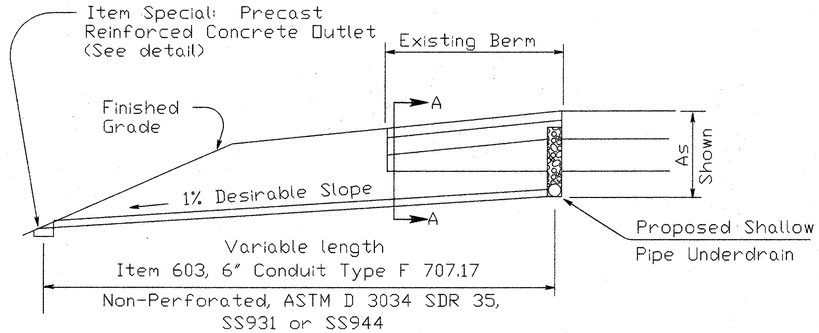
NOTE: The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

OUTLET DETAILS



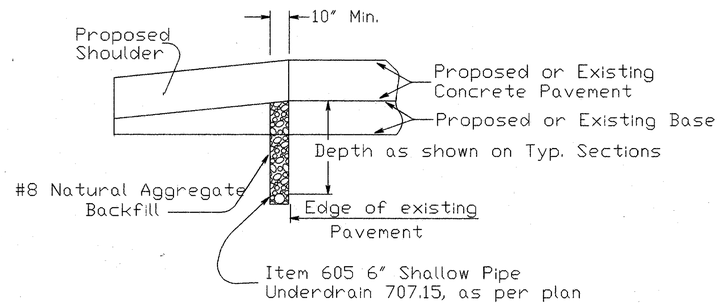
NOTE:
The cost of the 4" conduit Type F and necessary pipe bends and branches needed to connect the existing and proposed underdrains shall be included with the cost of the 6" conduit Type F beyond the existing underdrain.





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.

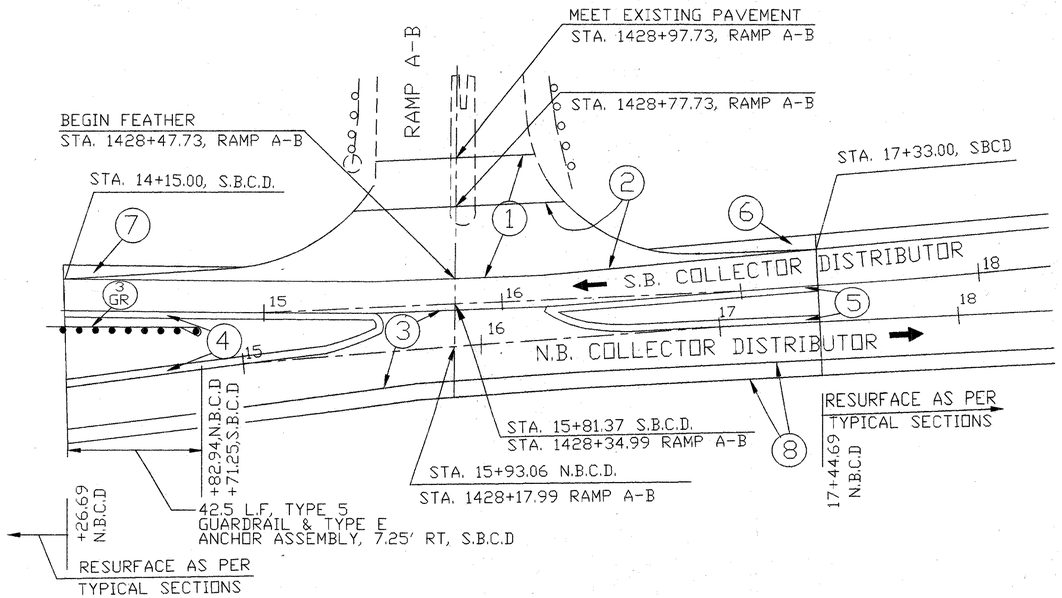
ITEM 605 6" SHALLOW PIPE UNDERDRAIN 707.15, AS PER PLAN

DATE 2-5-93

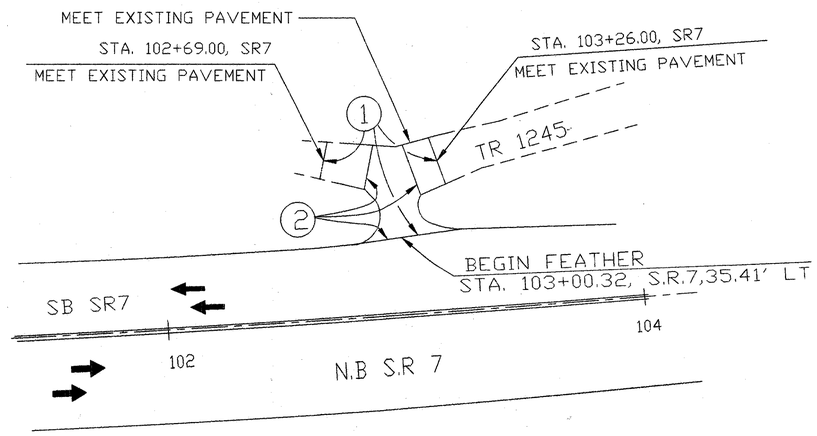
UNDERDRN

RAMP, COLLECTOR DISTRIBUTOR AND APPROACH ROAD INTERSECTION DETAILS

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

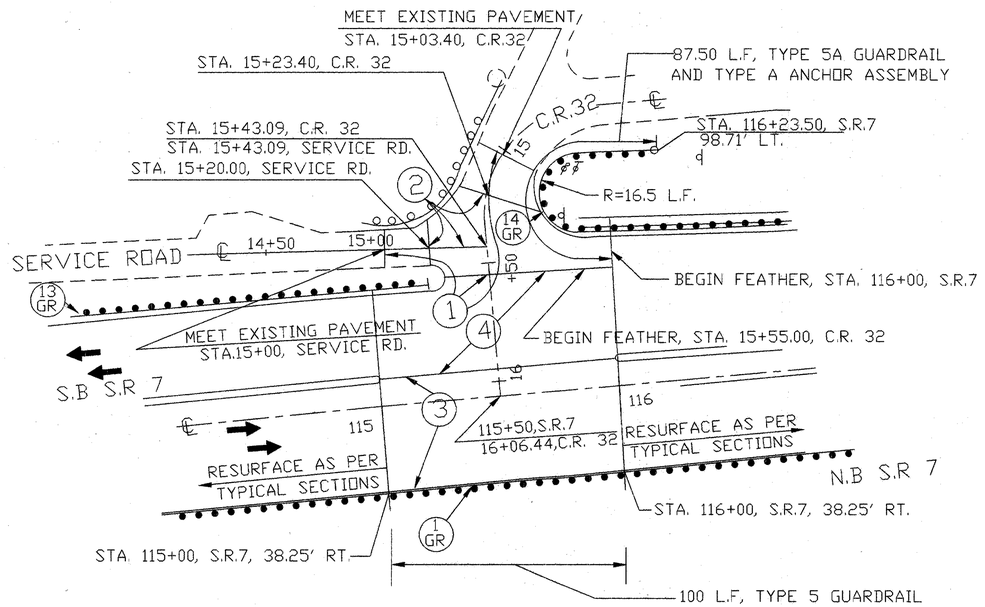


COLLECTOR DISTRIBUTOR / RAMP A-B INTERSECTION

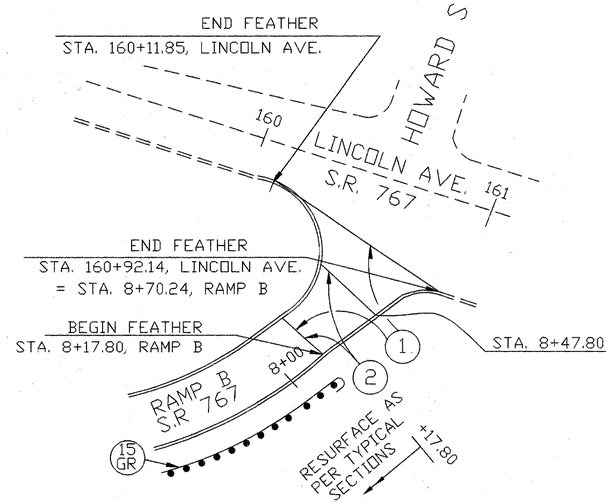


S.R. 7 / T.R. 1245 INTERSECTION

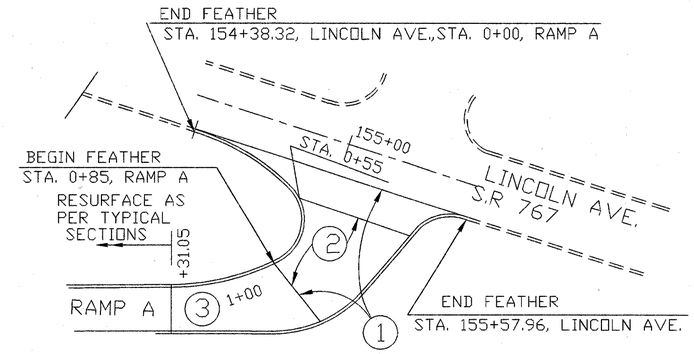
INTERSECTION	AREA (Sq.Yd.)							
	1	2	3	4	5	6	7	8
RAMP A-B	638.79	495.23	678.16	89.65	75.88	31.43	25.79	212.00
CR 32	300	187.78	538.62	422.50				
TR 1245	139.05	60.16						
RAMP A	149.00	106.70	163.30					
RAMP B	122.22	98.33						



S.R. 7 / C.R. 32 INTERSECTION



RAMP B / LINCOLN AVE. INTERSECTION



RAMP A / LINCOLN AVE. INTERSECTION

NOTE: SEE SHT. #37 FOR FEATHER DETAILS

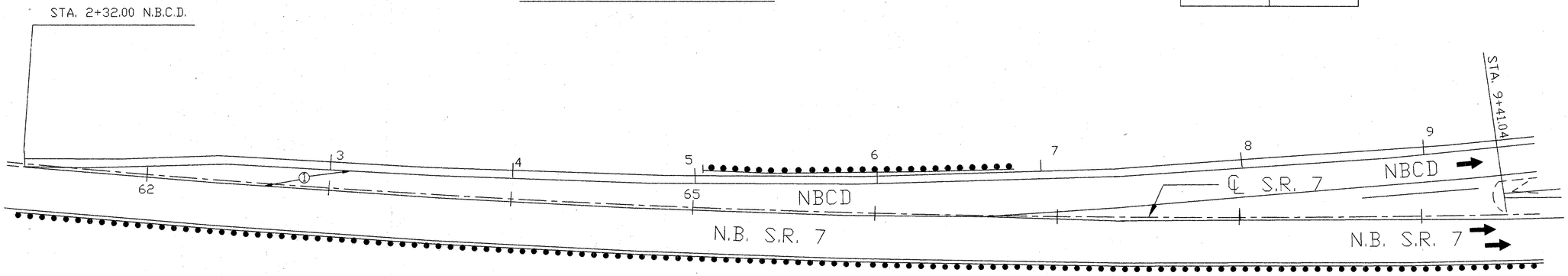
EXTRA AREAS

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

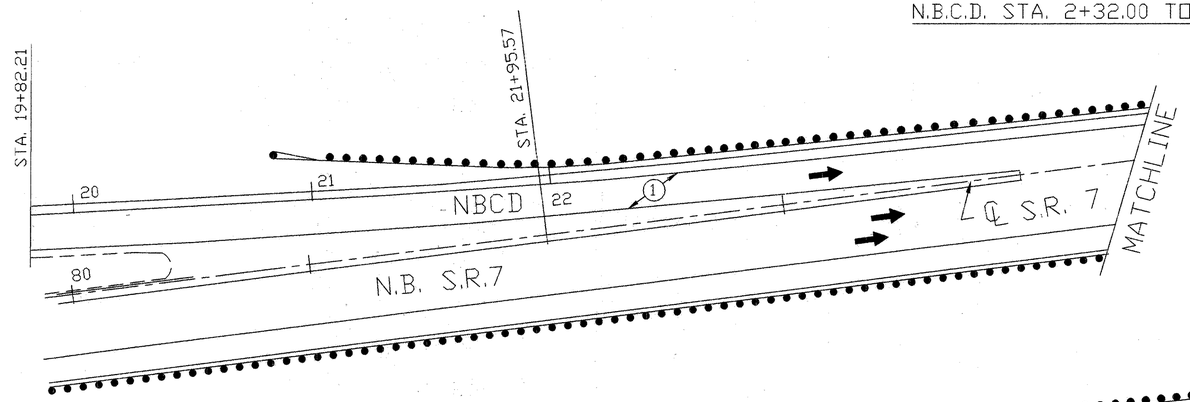
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

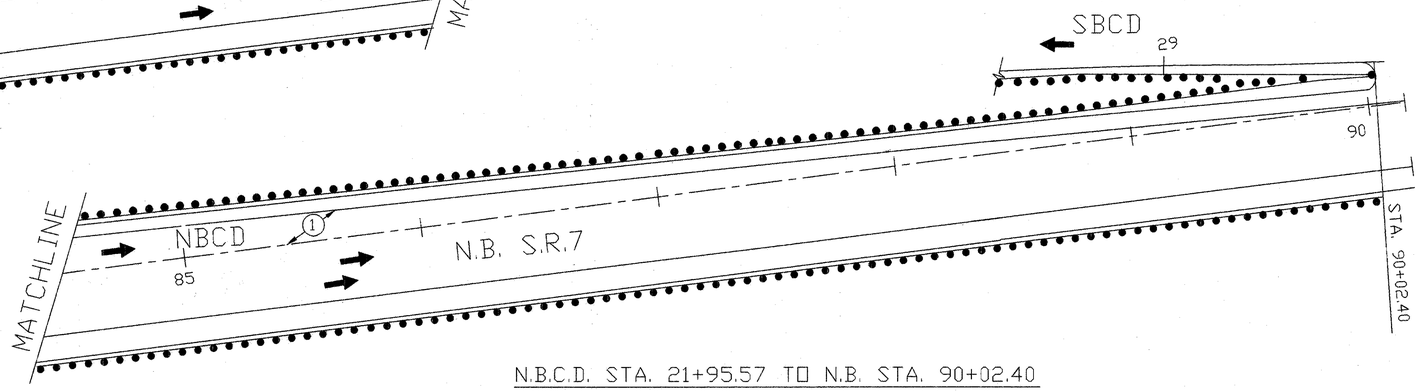
BEL-7-17.99

35/57

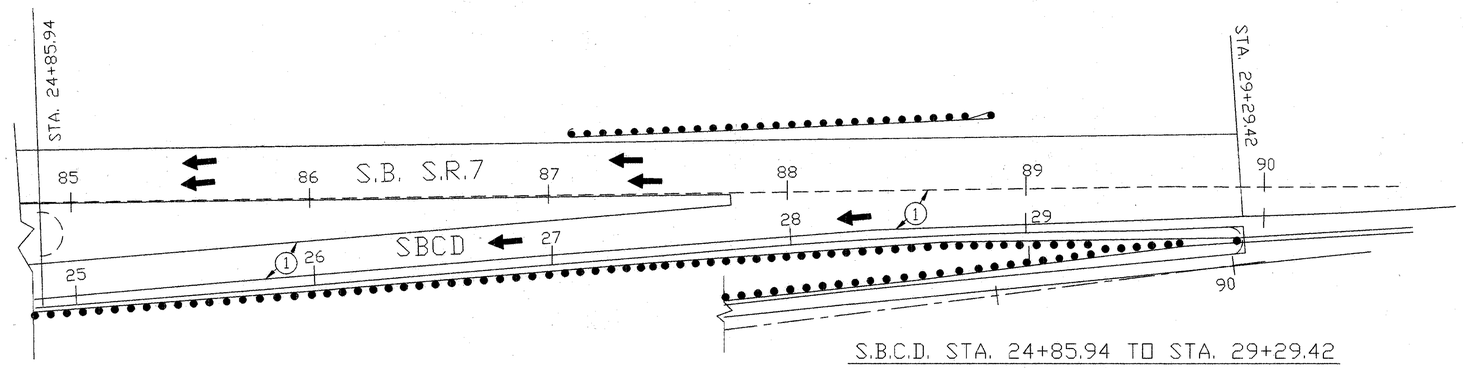


N.B.C.D. STA. 2+32.00 TO STA. 9+41.04





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



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

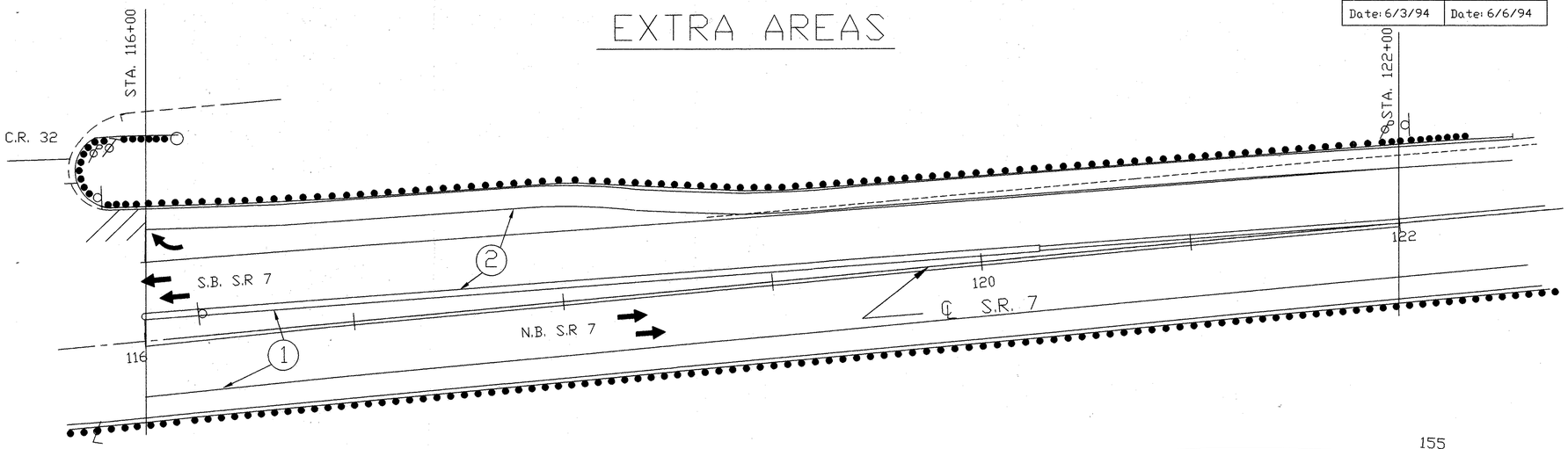
07EXTRA1

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

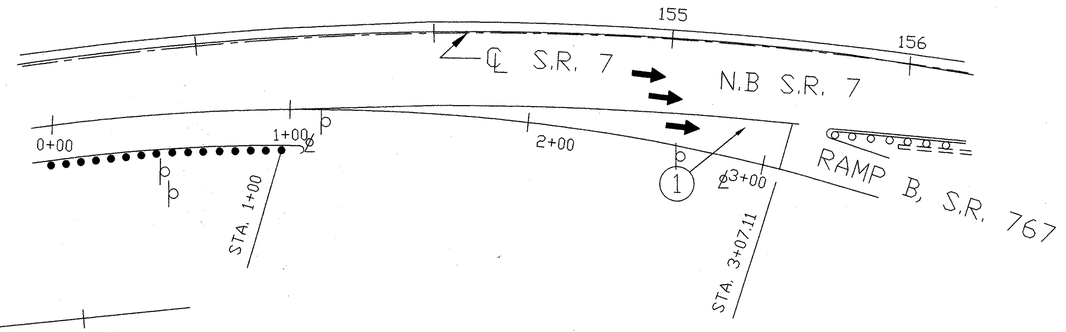
F.H.W.A. REGION	STATE	PROJECT	
5	□HI□		

BEL-7-17.99

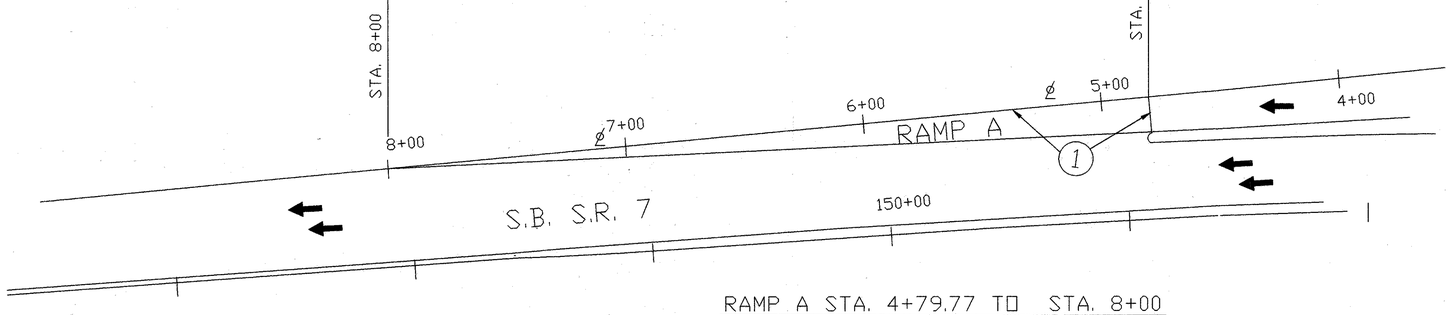
EXTRA AREAS



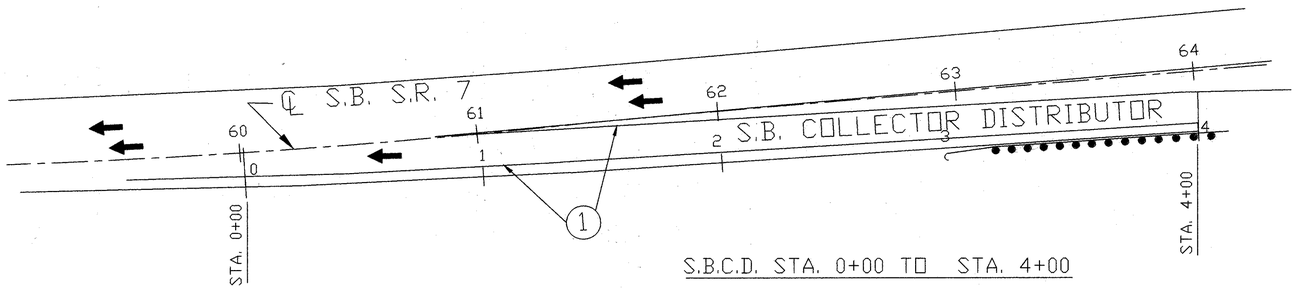
S.R. 7 STA. 116+00 TO STA. 122+00



RAMP B STA. 1+00 TO STA. 3+07.11



RAMP A STA. 4+79.77 TO STA. 8+00



S.B.C.D. STA. 0+00 TO STA. 4+00

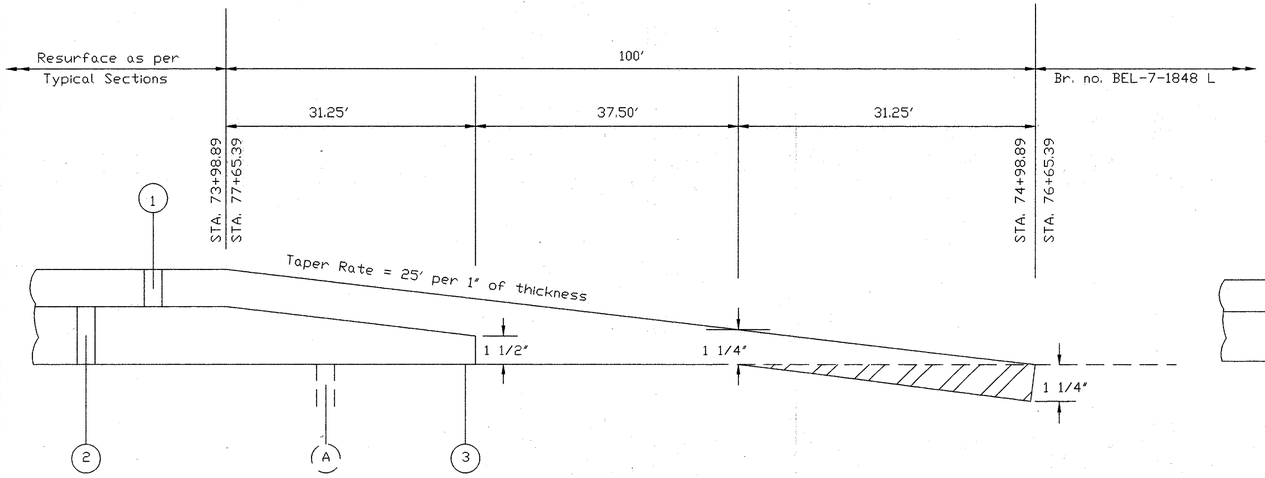
STATION	AREA (Sq.Yd.)	
	1	2
S.R. 7 STA. 116+00 TO STA. 122+00	1986.09	2076.44
RAMP B STA. 1+00 TO STA. 3+07.11	191.01	
RAMP A STA. 4+79.77 TO STA. 8+00	262.79	
S.B.C.D. STA. 0+00 TO STA. 4+00	594.80	

07EXTRA2

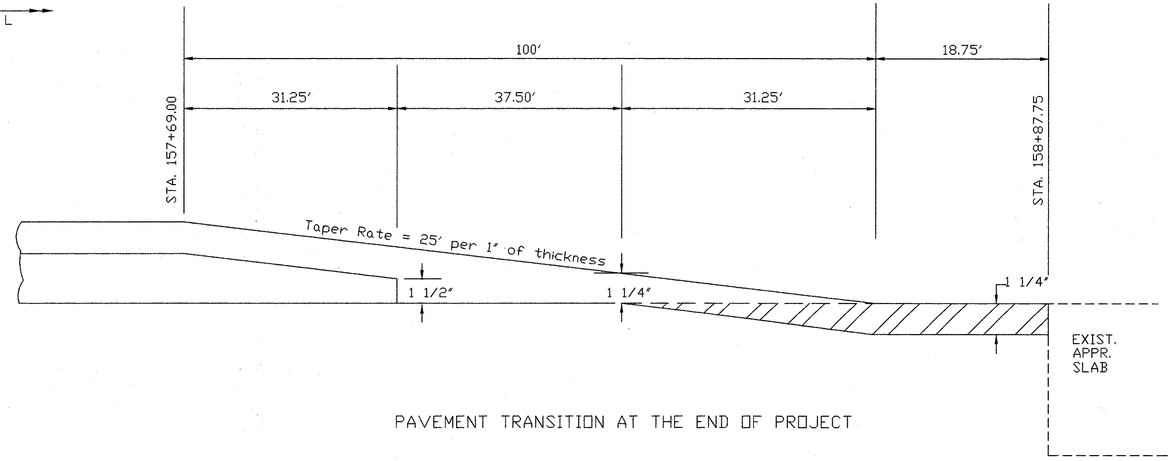
FEATHER DETAILS

F.H.W.A. REGION	STATE	PROJECT		37
5	OHIO			57

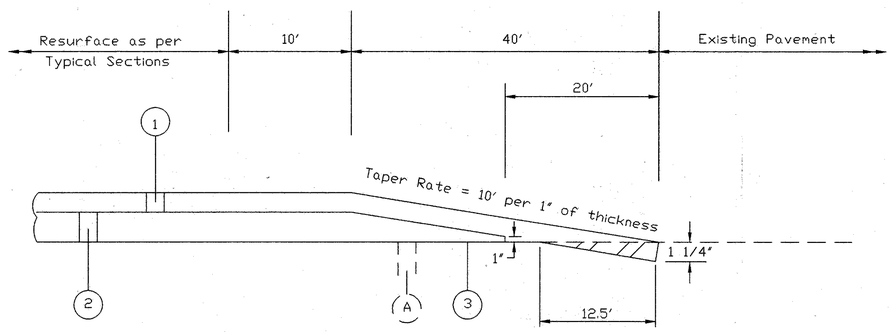
BEL-7-17.99



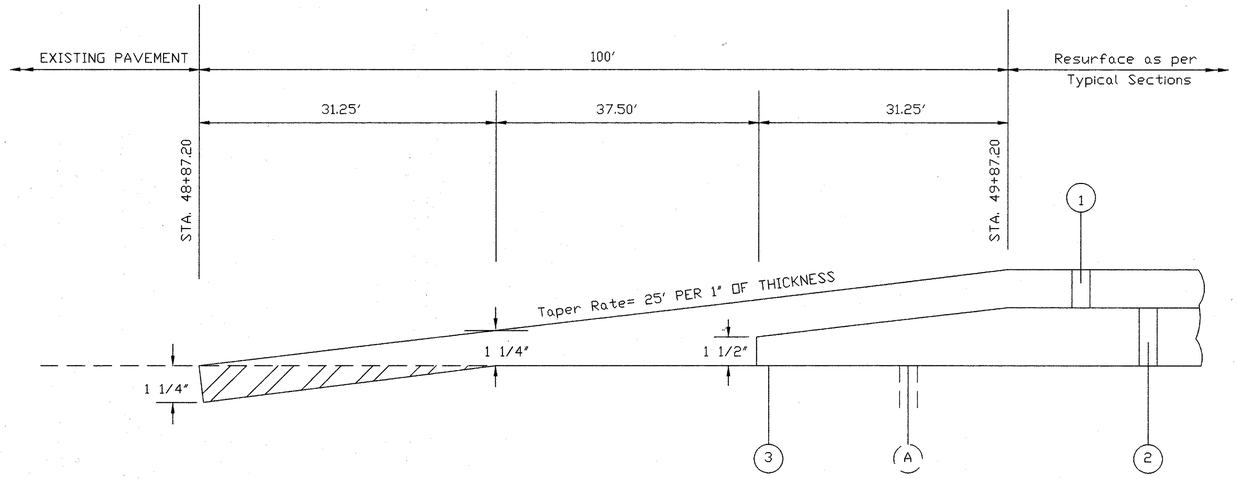
PAVEMENT TRANSITION
AT BRIDGE NO. BEL-7-1848 L



PAVEMENT TRANSITION AT THE END OF PROJECT



PAVEMENT TRANSITION AT RAMPS,
SERVICE AND APPROACH ROADS



PAVEMENT TRANSITION AT BEGINNING OF PROJECT

ITEM 202 WEARING COURSE REMOVAL

LEGEND

(A) EXISTING ASPHALT CONCRETE PAVEMENT
(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

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

FEADET

FEATHER DETAILS.

ITEM 642 ~ PAVEMENT MARKING-TYPE 2

STATION FROM	STATION TO	LANE OR RAMP	SIDE OF LANE OR RAMP	Edge Line Yellow	Edge Line White	Lane Line	Channel-izing Line	Transverse Line W-White Y-Yellow	Stop Line	Center Line	Lane Arrow	Word On Pavement, 96"
				Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each	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		LT.	2413								
			CTR.			2413						
			RT.		2285	75	100	60-W				
43+00	55+00	SOUTH BOUND	LT.		1200		30				2	
			CTR.			1200			36			
			RT.	1200							2	1
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.		1500							
			CTR.			1500						
			RT.	1100		140	335	520-W				
115+00	130+00		LT.		1400		200				2	1
			CTR.			1500						
			RT.	1500								
130+00	145+00		LT.		1500							
			CTR.			1500						
			RT.	1410								
145+00	169+12.75		LT.		2413	250						
			CTR.			2413						
			RT.	1500								
1+50	10+00	N.B.C.D.	LT.	2413								
			RT.		50	200						
10+00	24+92.59		LT.	850								
			RT.		1190	140	170		20			
3+00	9+90.74	S.B.C.D.	LT.		425		300					
			RT.	1500								
9+90.74	24+83.33		LT.		1500							
			RT.	1500					25			
24+83.33	29+00		LT.				335					
			RT.	417								
1427+72	1428+01.90	RAMP A-B	LT.		30							
			CTR.	75								
			RT.		30				35			
15+3.40	15+23.40	C.R. 32	LT.		20							
			CTR.							80		
			RT.		20				25			
15+00	15+35	SERVICE ROAD	LT.		35							
			CTR.	70								
			RT.		35				12			
0+00	6+00	RAMP A	LT.	470			130					
			RT.		600							
1+00	8+70.24	RAMP B	LT.	550			100		55			
			RT.		870							
TOTALS (Carried To General Summary)				29988	30383	26696	2500	1030-W 400-Y	228	80 (0.02 miles)	8	3
				11.43, USE 12.0 MILES		5.0 MILES		1430				

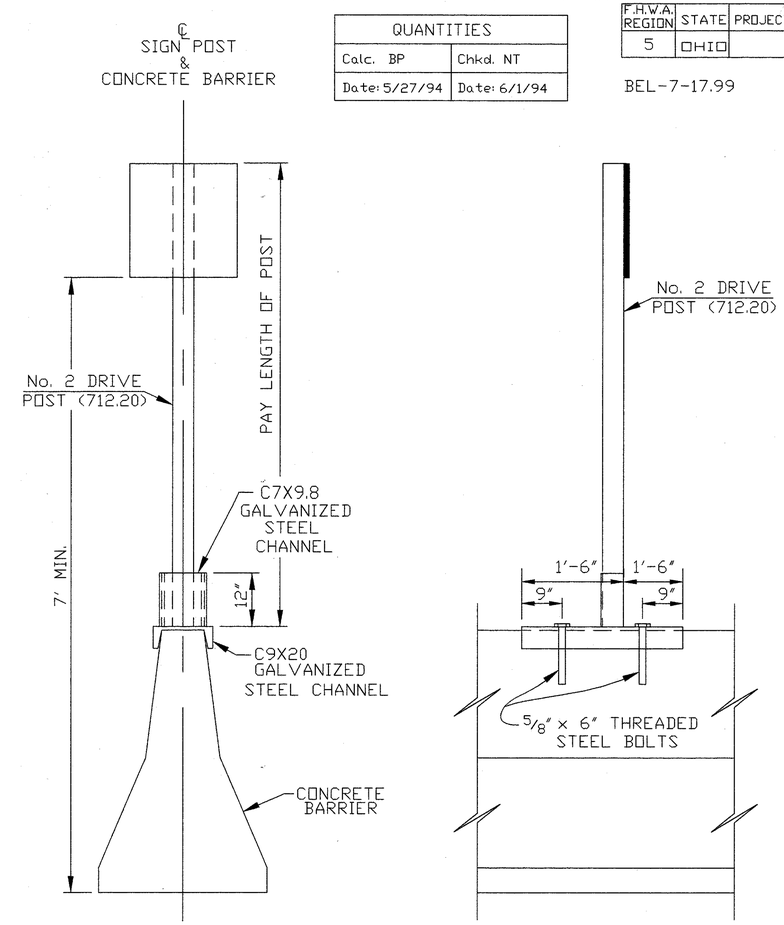
NOTE: LT.,CTR.,RT. ARE FROM PAVEMENT CENTER

PAV64

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

F.H.W.A. REGION	STATE	PROJECT		38 / 57
5	OHIO			

BEL-7-17.99



ITEM 630 ~ CONCRETE BARRIER MOUNTED SIGN SUPPORT DETAIL

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 GALVINIZING. 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.

F.H.W.A. REGION	STATE	PROJECT			39 / 57
5	OHIO				

BEL-7-17.99

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

ITEM 621 ~ RAISED PAVEMENT MARKER

STATION FROM	STATION TO	LANE OR RAMP	LENGTH Lin. Ft.	Spacing Feet	2-Way White/Red Each	1-Way Yellow Each	1-Way White Each	REMARKS
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

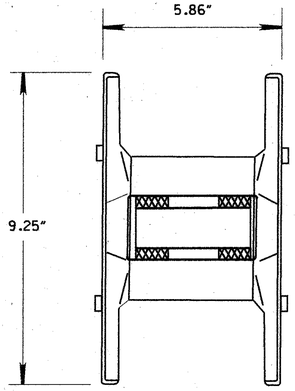
STATION FROM	STATION TO	LANE OR RAMP	LENGTH Lin. Ft.	Spacing Feet	2-Way White/Red Each	1-Way Yellow Each	1-Way White Each	REMARKS
16+25	18+25	S.B.C.D.	240	20		12		YELLOW EDGE LINE
18+65	22+25	S.B.C.D.	360	40		9		YELLOW EDGE LINE
22+25	29+00	S.B.C.D.	675	80		8		YELLOW EDGE LINE
2+75	6+00	S.B.C.D.	325	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			

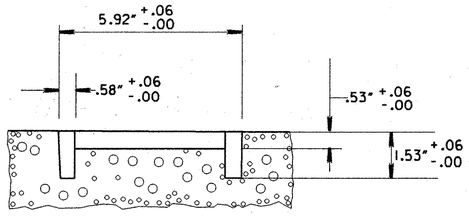
ITEM 614 ~ TEMPORARY PAVEMENT MARKING

STATION FROM	STATION TO	LANE OR RAMP	NO. OF APPLI-CATIONS	TEMPORARY EDGE LINE, CLASS I Yellow Lin. Ft.	TEMPORARY EDGE LINE, CLASS I White Lin. Ft.	TEMPORARY GORE MARKING, CLASS II Lin. Ft.
46+45	164+00	N.B.	2	13710.00		
46+45	115+00		2	9600.00		
116+00	164+00		2		23510.00	
46+45	164+00	S.B.	2	13710.00		
46+45	115+00		2	9600.00		
116+00	164+00		2		13760.00	
46+45	115+25		2		9650.00	
115+75	164+00		2			
N.B.C.D.						600.00
S.B.C.D.						600.00
RAMP B						600.00
TOTALS (Carried To General Summary)				46620.00	46920.00	1800.00
				17.72 Miles USE 18.00 Miles		

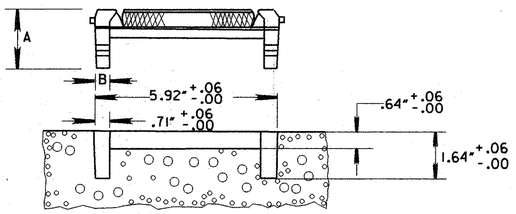
PAV65

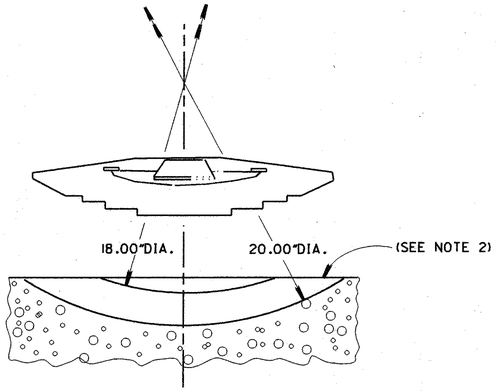
	CONVENTIONAL TYPE	LOW PROFILE TYPE
A	1.74"	1.69"
B	.46"	.59"





OPTIONAL FOR CONVENTIONAL TYPE





CASTING AND SAW CUT DETAILS

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 VISIBLY 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.

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

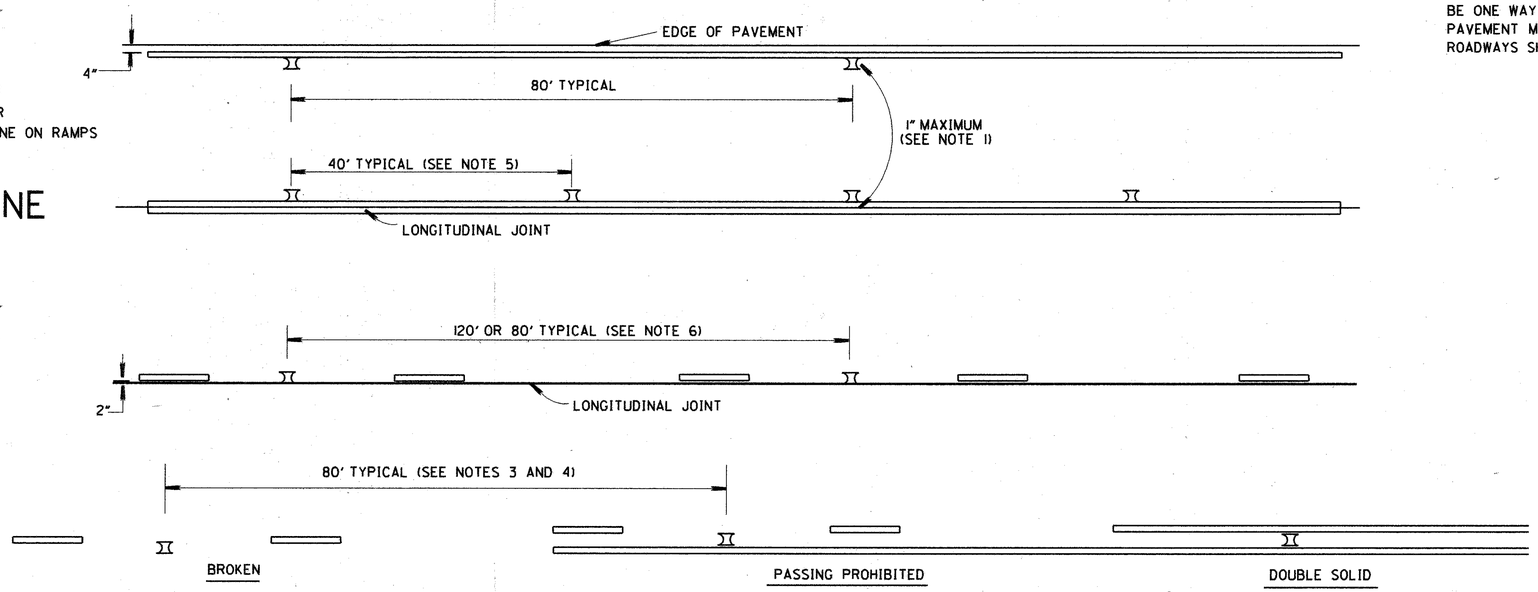
TWO WAY (WHITE/RED)
WHITE SIDE FACING TRAFFIC

LANE LINE

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

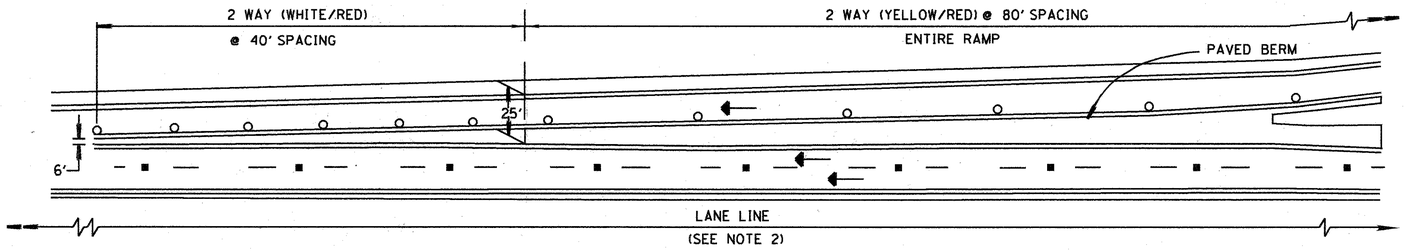
CENTER LINE

TWO WAY (YELLOW/YELLOW)

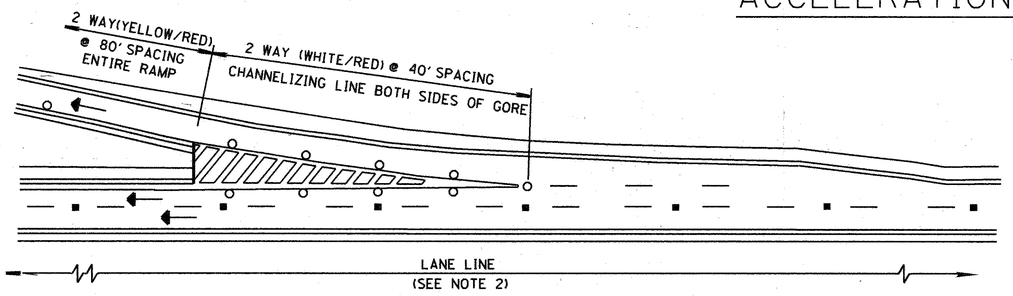


TYPICAL RAISED PAVEMENT MARKER PLACEMENT WITH LONGITUDINAL PAVEMENT MARKINGS

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



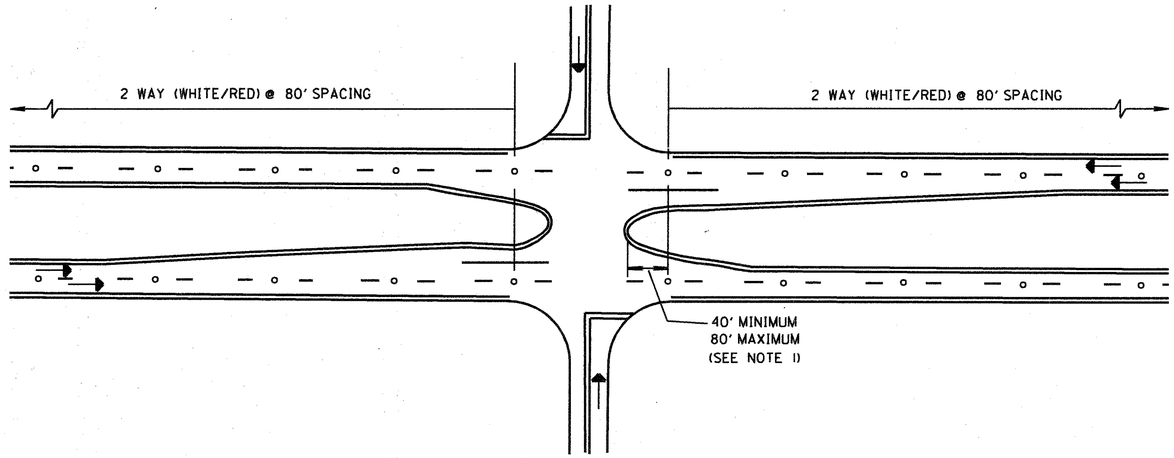
ACCELERATION LANE



DECELERATION LANE

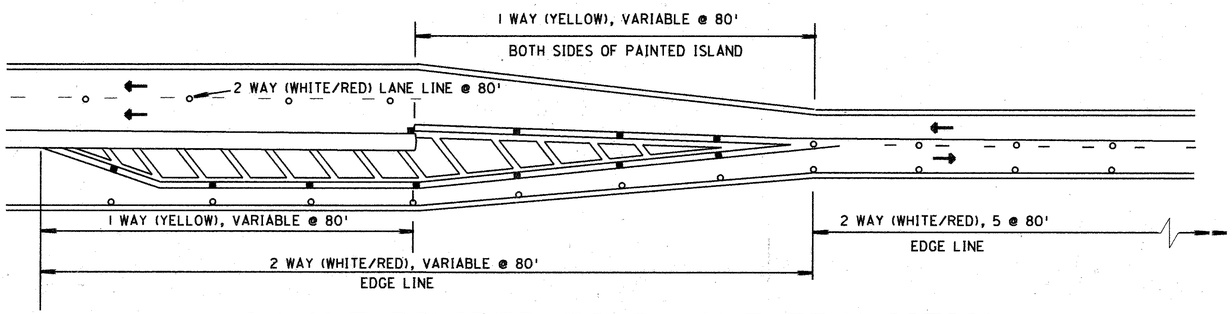
NOTES

1. RAISED PAVEMENT MARKERS SHALL NOT BE PLACED IN THE DIRECTIONAL ROADWAYS WITHIN THE INTERSECTION AREA.
2. 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.

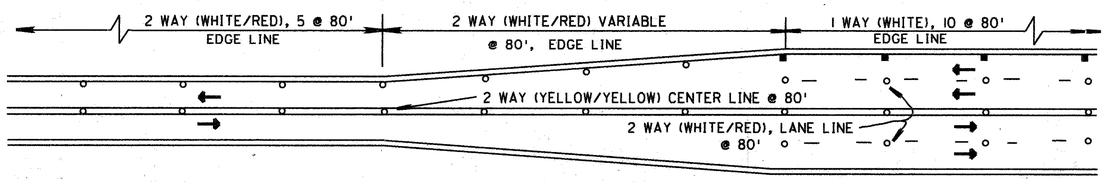


MULTILANE DIVIDED-CONTROLLED ACCESS

(SEE NOTE 2)



4 LANE DIVIDED TO 2 LANE TRANSITION



4 LANE UNDIVIDED TO 2 LANE TRANSITION

LEGEND

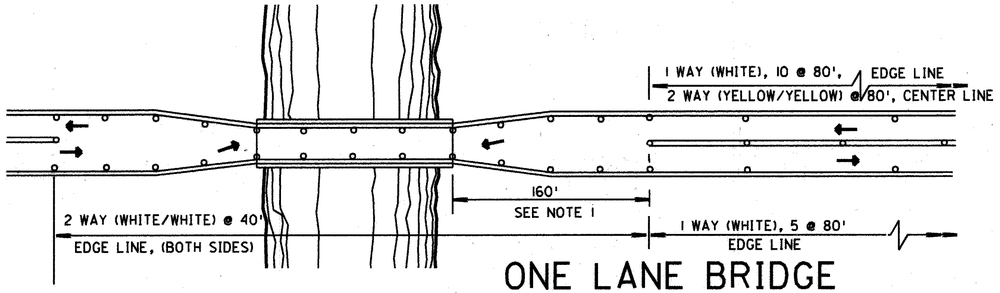
■ 1 WAY REFLECTORS

○ 2 WAY REFLECTORS

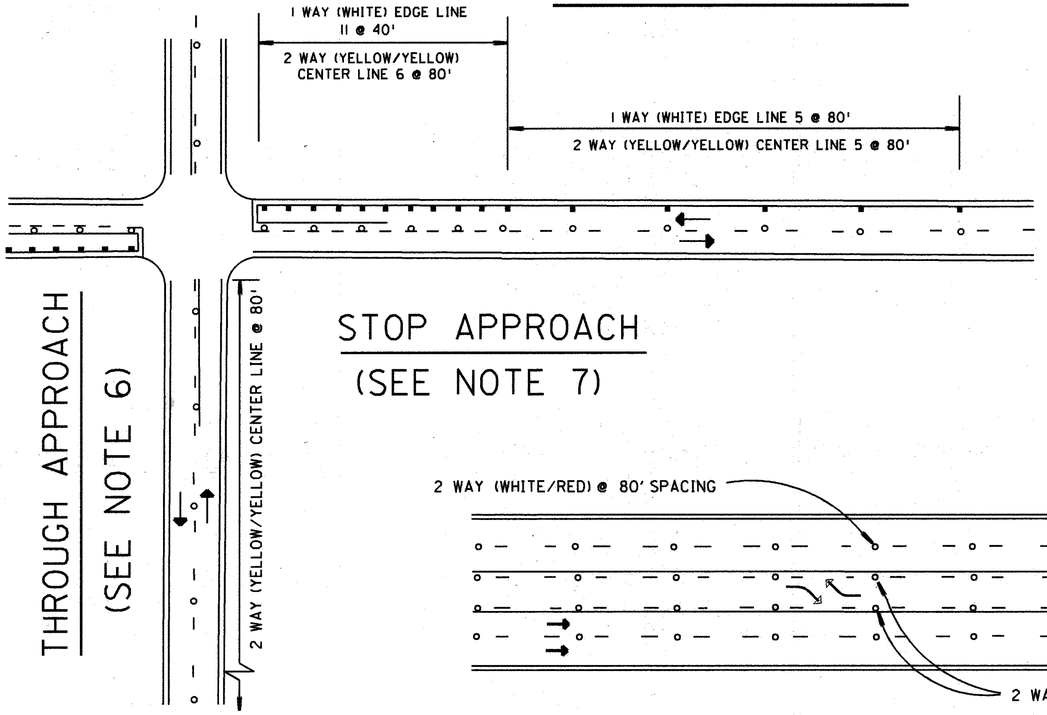
REVISED BY:

DATE:

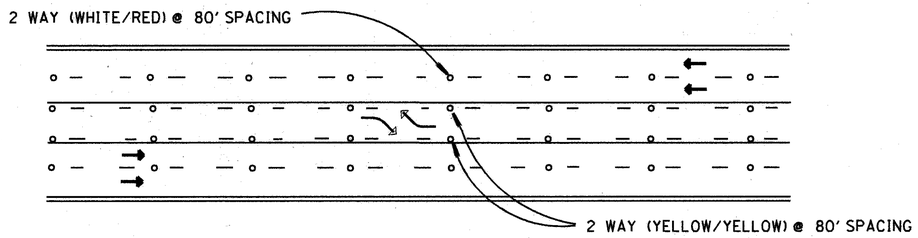
206511	DATE
RAISED PAVEMENT MARKER DETAILS I	05/21/81 02/26/82 04/05/82 02/01/90 07/07/95
PLAN INSERT SHEET	



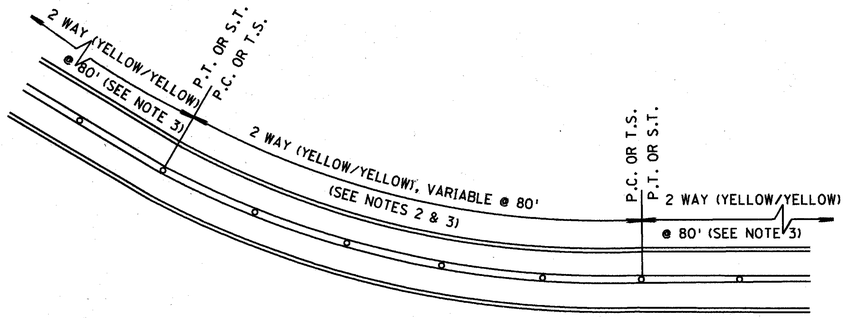
ONE LANE BRIDGE



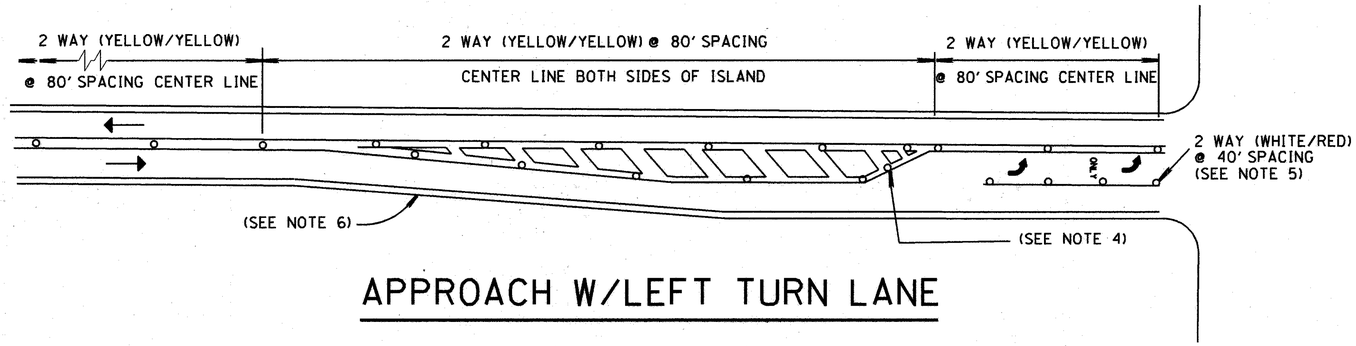
STOP APPROACH
(SEE NOTE 7)



TWO WAY LEFT TURN LANE



HORIZONTAL CURVE



APPROACH W/LEFT TURN LANE

LEGEND

- ■ 1 WAY REFLECTORS
- ○ 2 WAY REFLECTORS

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.

REVISED BY: DATE:

206512

RAISED PAVEMENT MARKER DETAILS II

PLAN INSERT SHEET

DATE
05/21/81
06/08/89
02/01/90
07/07/95

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

SHEET NO.	REF. NO.	STATION	SIDE OF ℄	WORK REQUIRED	SIGN LEGEND			SUPPORT LENGTHS	ITEM 630 REMOVAL OF GROUND MOUNTED SIGN & REERECTION EACH.		REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL EACH.		GROUND MOUNTED SUPPORT, NO. 2 POST LIN.FT.	GROUND MOUNTED SUPPORT, NO. 3 POST LIN.FT.	GROUND MOUNTED SUPPORT, NO. 4 POST LIN.FT.		SIGNING, MISC.: CONC. BARRIER MOUNTED SIGN SUPPORT EACH	GROUND MOUNTED SUPPORTS, W 10X22 LIN.FT.	REMARKS
41	1S	50+00	LT.	REMOVE SIGN & SUPPORTS RE-ERECT SIGN ON NEW SUPPORTS	MILE MARKER			12'		1		1	12						
41	1AS	50+00	℄		LT. LANE TURN LT.			15'		1		1	12						
41	2S	50+00	RT.		MILE MARKER			12'		1		1	12						
41	3S	51+00	LT.		LANE CONTROL			16'		1		1			16				
42	4S	55+00	LT.		MERGE			2@15'		1		2			30				
42	5S	57+00	LT.		FASTEN SEAT BELT			16'		1		1			16				
42	6S	66+00	RT.		MERGE			2@15'		1		2			30				
43	7S	80+20	LT.		MERGE			2@15'		1		2			30				
44	8S	99+00	RT.		NORTH RT. 7			15'		1		1			15				
45	9S	102+50	LT.		MILE MARKER			12'		1		1	12						
45	10S	102+50	RT.		MILE MARKER			12'		1		1	12						
45	11S	103+00	℄		RIGHT ARROW			7'		1		1	7				1		SEE SHT. # 38
45	11AS	104+90	RT.		WHEELING/ BRIDGEPORT EXIT 1 MILE			2@24'										48	
45	12S	110+50	RT.		INTERSECTION AHEAD			2@14'		1		2			28				
46	13S	114+70	℄		NO U-TURN			15'		1		1		15					
46	14S	116+10	℄		NO U-TURN			15'		1		1		15					
46	15S	117+00	RT.		NORTH RT. 7			15'		1		1			15				
46	16S	125+00	LT.		INTERSECTION AHEAD			2@14'		1		2			28				
46	16AS	130+00	RT.		WHEELING/ BRIDGEPORT EXIT ½ MILE			2@24'										48	
47	17S	139+00	LT.		SOUTH RT. 7			15'		1		1			15				
48	18S	154+50	LT.		MILE MARKER			12'		1		1	12						
48	19S	155+00	RT.		MILE MARKER			12'		1		1	12						
48	20S	RAMP B 3+50	RT.		25 MPH			17'		1		1			17				
48	21S	5+30	RT.		SIGNAL AHEAD			14'		1		1			14				
				TOTALS (CARRIED TO GENERAL SUMMARY)					22		27		91.00	30.00	254.00		1	96.00	

07TRAFQZ

F.H.W.A. REGION	STATE	PROJECT		41
5	OHIO			57

BEL-7-17.99

N

BEGIN WORK
STA. 43+00

P.C. STA. 41+70.75 N.B.

CORP. LINE

40

Stop Line

Channelizing Line (white)

No Work

Edge Line (yellow)

45

No Work

No Work

12' (typ.)

N.B. SR7

EXISTING SIGNAL (NO WORK)

8' X 4' CONC. BOX

BELLAIRE
STA. 42+82.58

CONRAIL

* WORD - ONLY

NH-1 (197)

BEGIN PROJECT
STA. 49+87.20
S.L.M. 17.99

Lane Line (white)

No Work

1S

3S

50

1AS

2S

12' (typ.)

S.B. PAVEMENT
STA. 51+35.76 =
N.B. PAVEMENT
STA. 51+35.76

P.C. STA. 51+66.74 N.B.

Edge Line (white)

52

53

S.B. SR. 7

54

55

56

Edge Line (white)

CONRAIL

MATCH LINE STA. 55+00

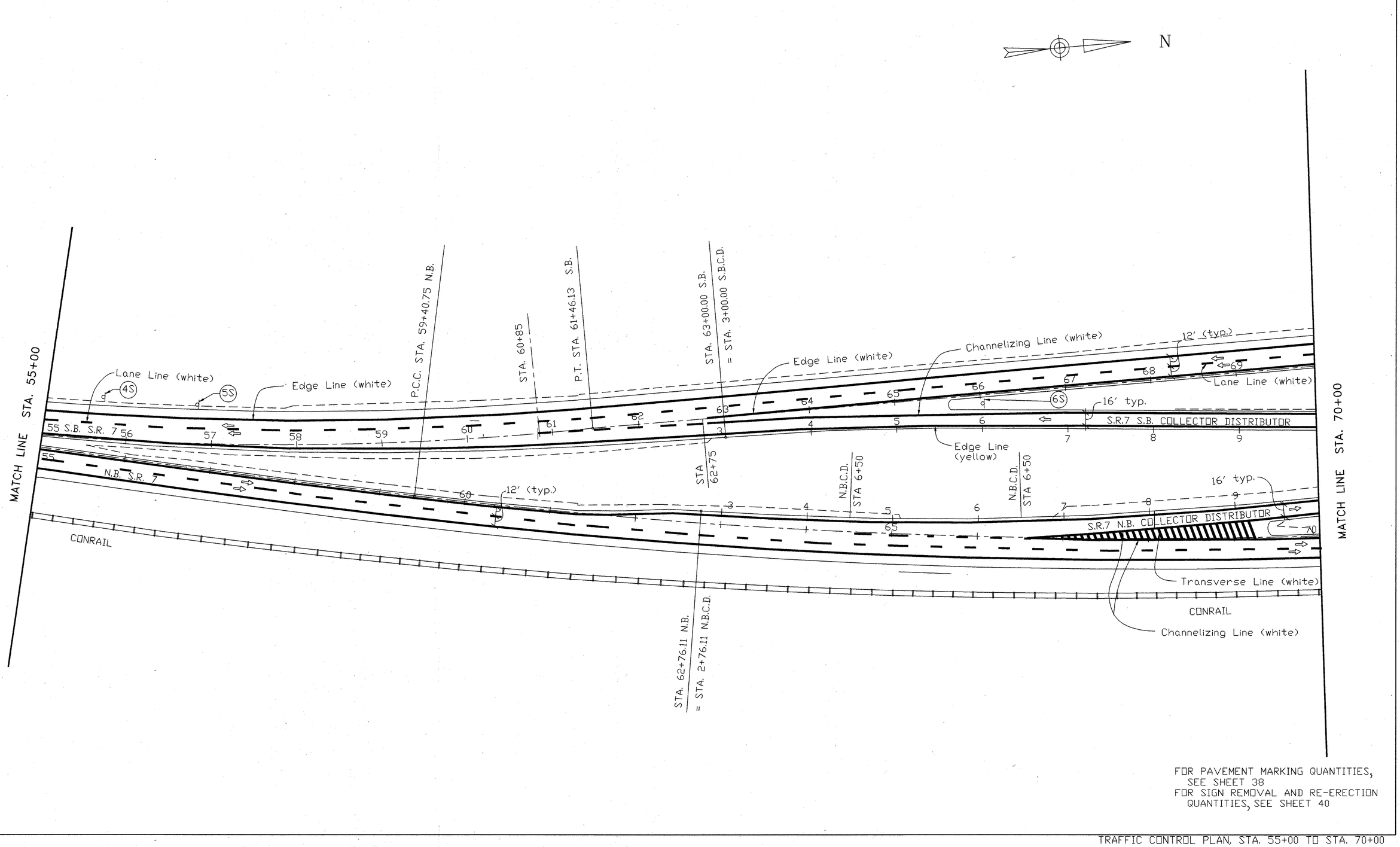
FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION
QUANTITIES, SEE SHEET 40

07PAVT1

TRAFFIC CONTROL PLAN, STA. 40+00 TO STA. 55+00

F.H.W.A. REGION	STATE	PROJECT		42 / 57
5	OHIO			

BEL-7-17.99



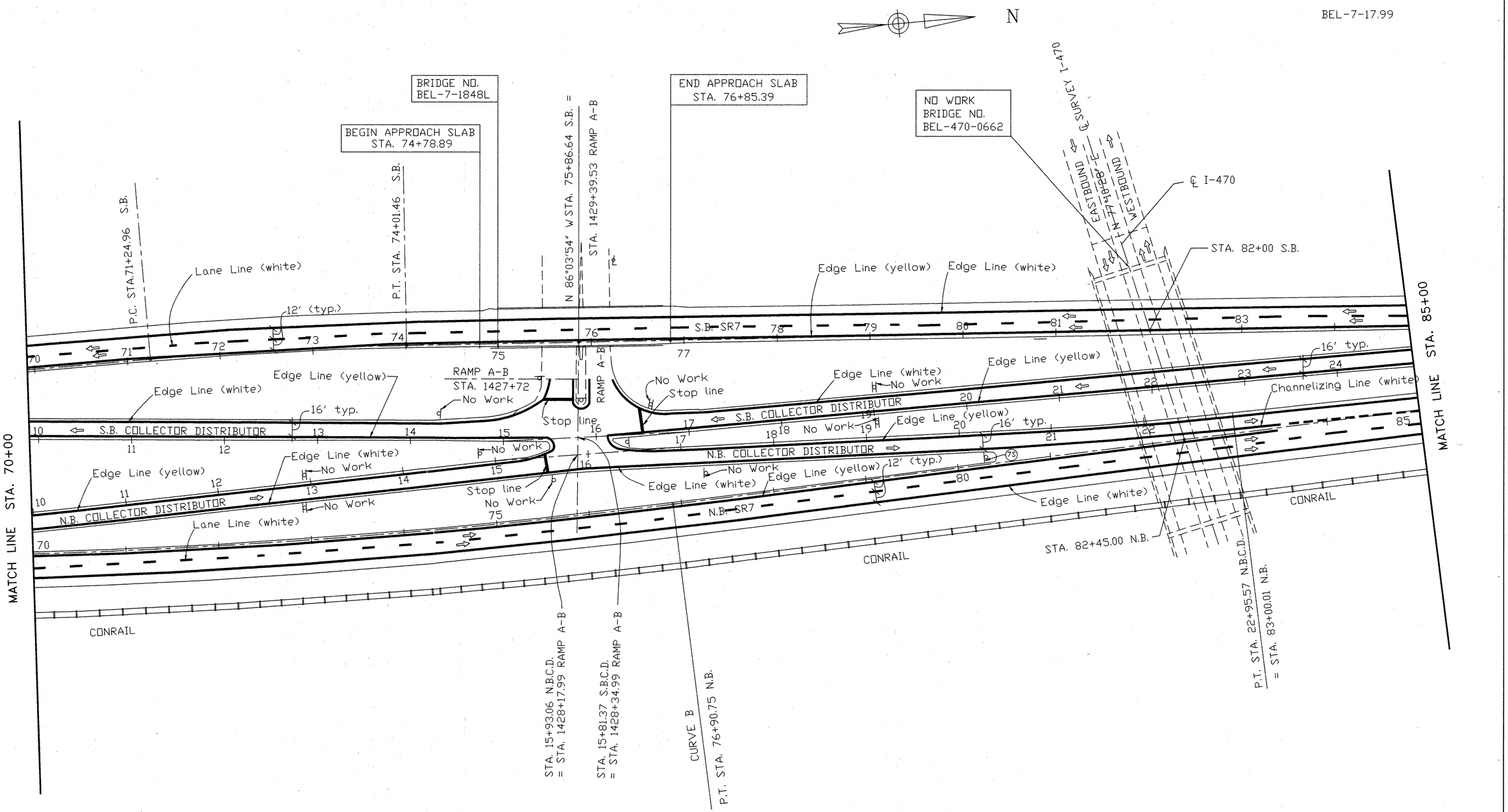
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION QUANTITIES, SEE SHEET 40

07PAVT2

TRAFFIC CONTROL PLAN, STA. 55+00 TO STA. 70+00

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

BEL-7-17.99



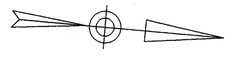
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION QUANTITIES, SEE SHEET 40

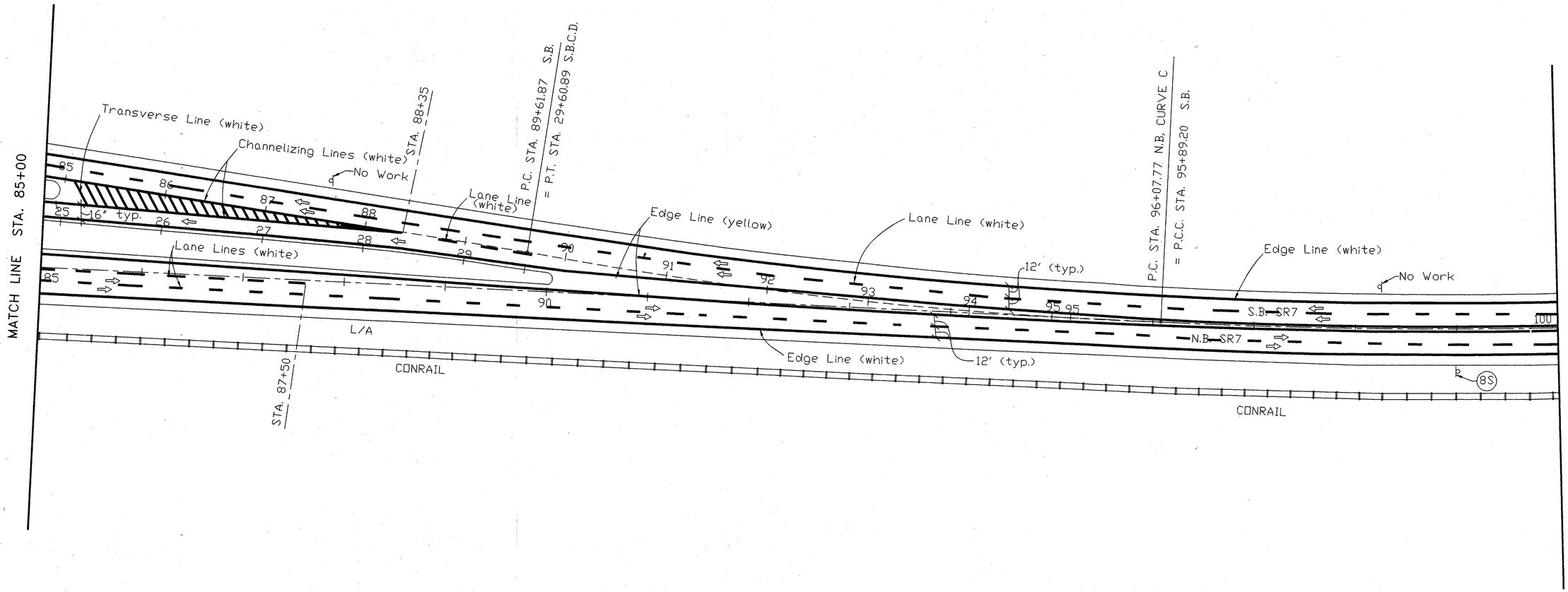
07PAVT3

TRAFFIC CONTROL PLAN, STA. 70+00 TO STA. 85+00

F.H.W.A. REGION	STATE	PROJECT		44
5	OHIO			57

BEL-7-17.99





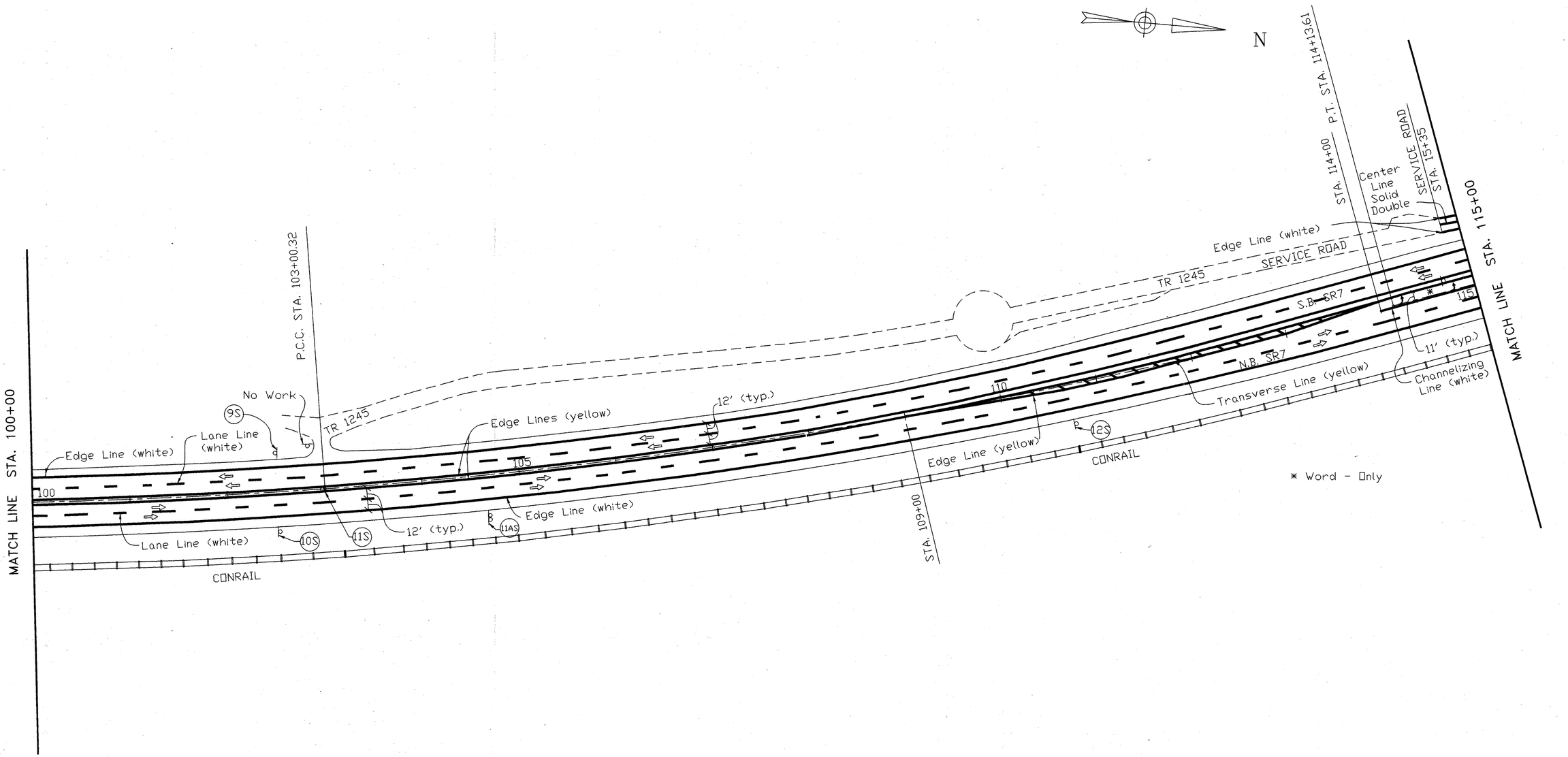
FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION
QUANTITIES, SEE SHEET 40

07PAVT4

TRAFFIC CONTROL PLAN, STA. 85+00 TO STA. 100+00

F.H.W.A. REGION	STATE	PROJECT		45 / 57
5	OHIO			

BEL-7-17.99



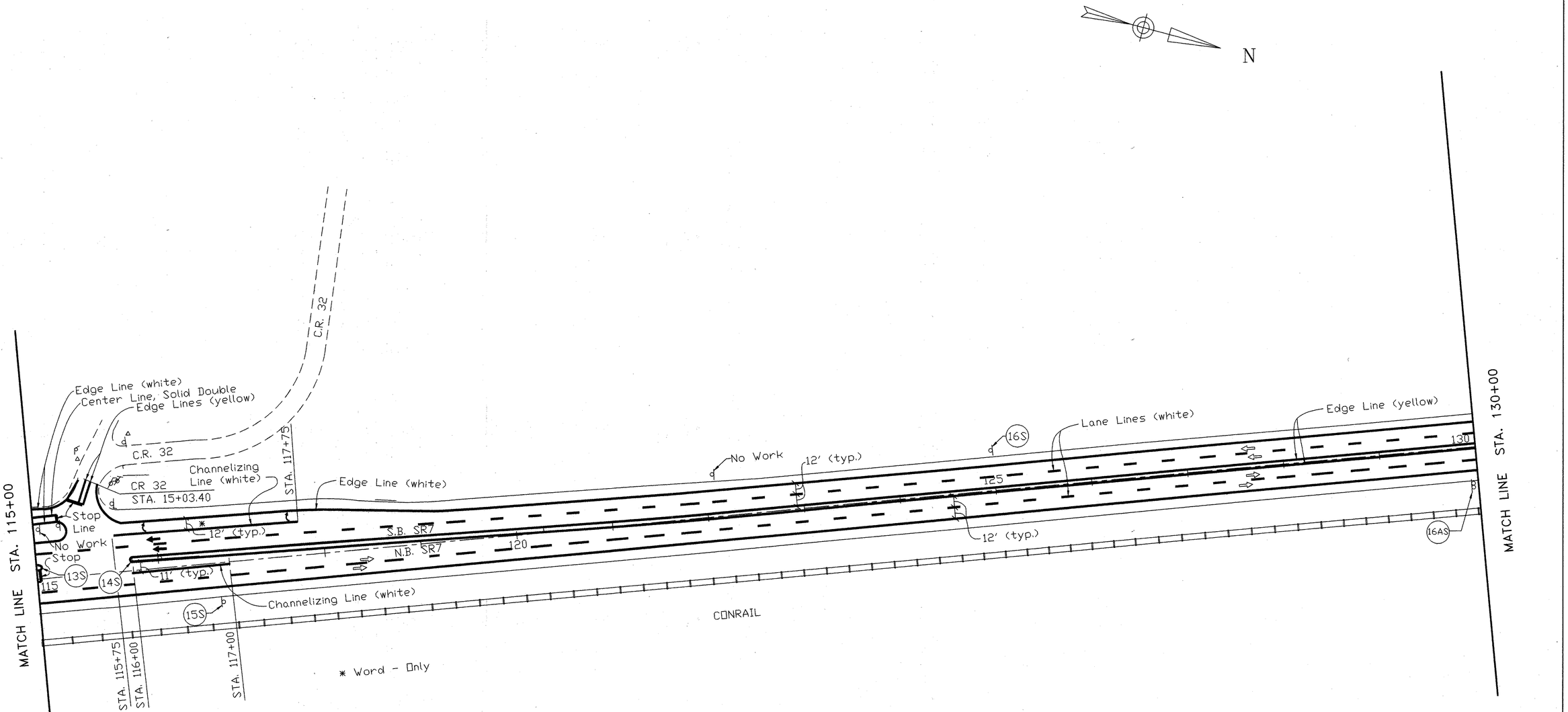
FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION
QUANTITIES, SEE SHEET 40

07PAVT5

TRAFFIC CONTROL PLAN, STA. 100+00 TO STA. 115+00

F.H.W.A. REGION	STATE	PROJECT		46
5	OHIO			57

BEL-7-17.99



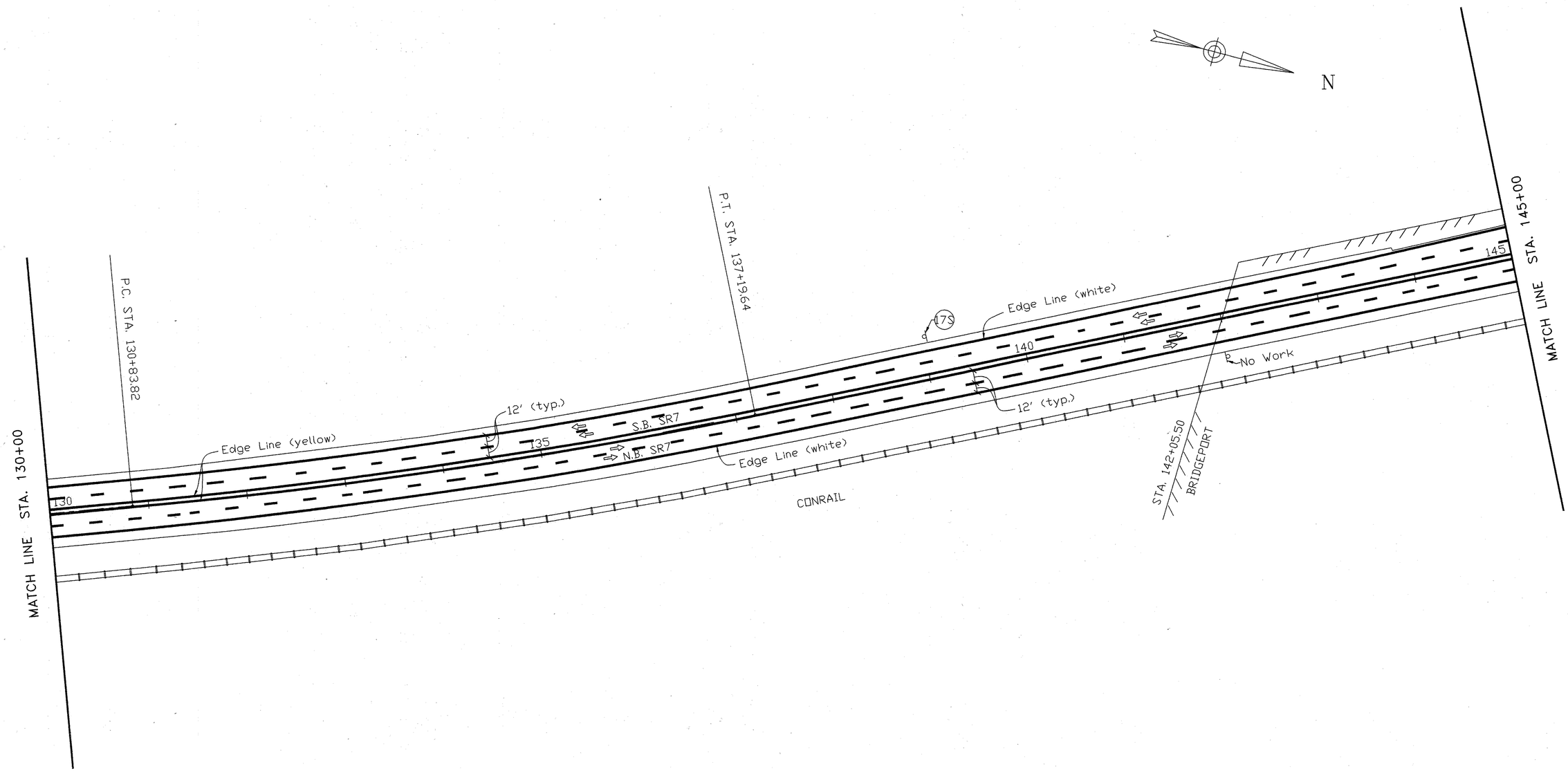
FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION
QUANTITIES, SEE SHEET 40

07PAVT6

TRAFFIC CONTROL PLAN, STA. 115+00 TO STA. 130+00

F.H.W.A. REGION	STATE	PROJECT		47 / 57
5	OHIO			

BEL-7-17.99



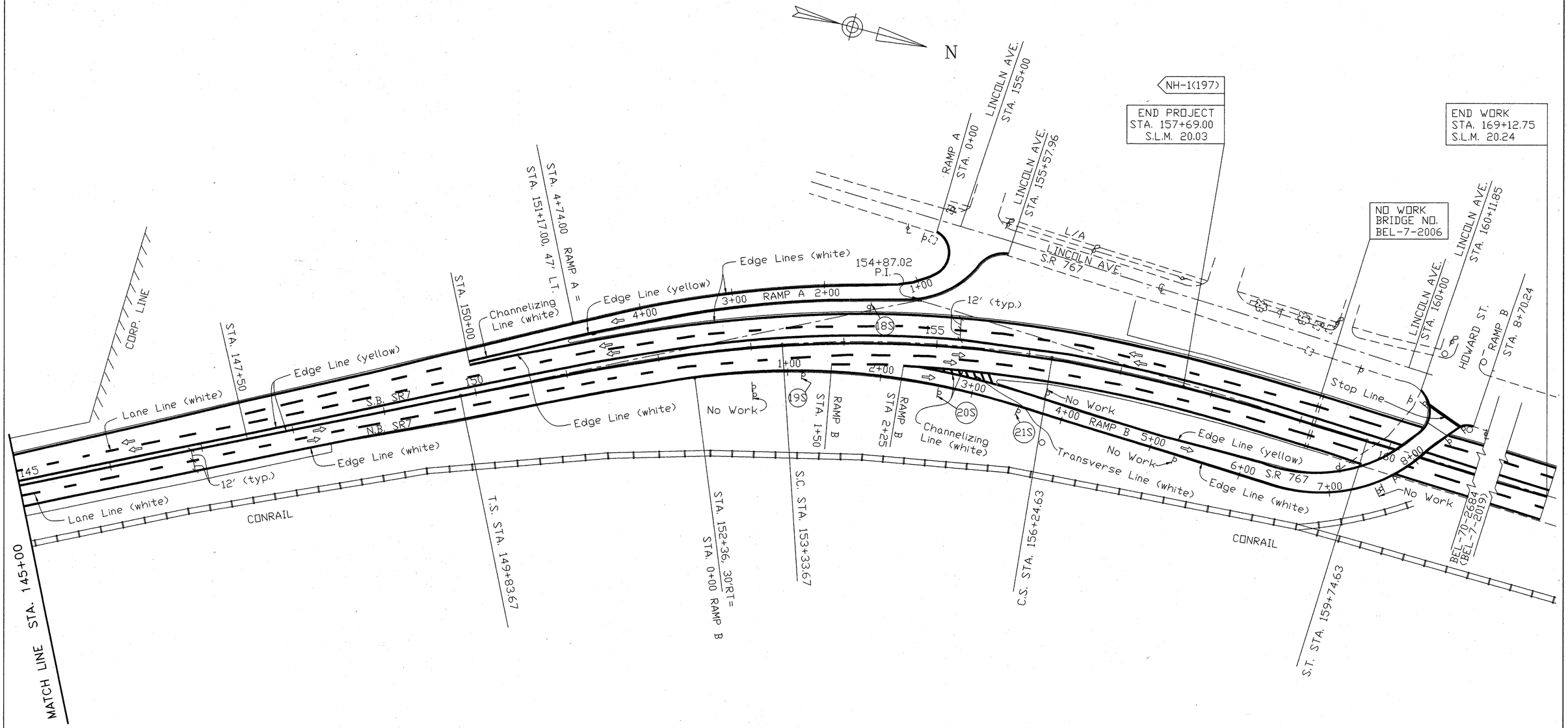
FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION
QUANTITIES, SEE SHEET 40

07PAVT7

TRAFFIC CONTROL PLAN, STA. 130+00 TO STA. 145+00

F.H.W.A. REGION	STATE	PROJECT		48
5	OHIO			57

BEL-7-17.99



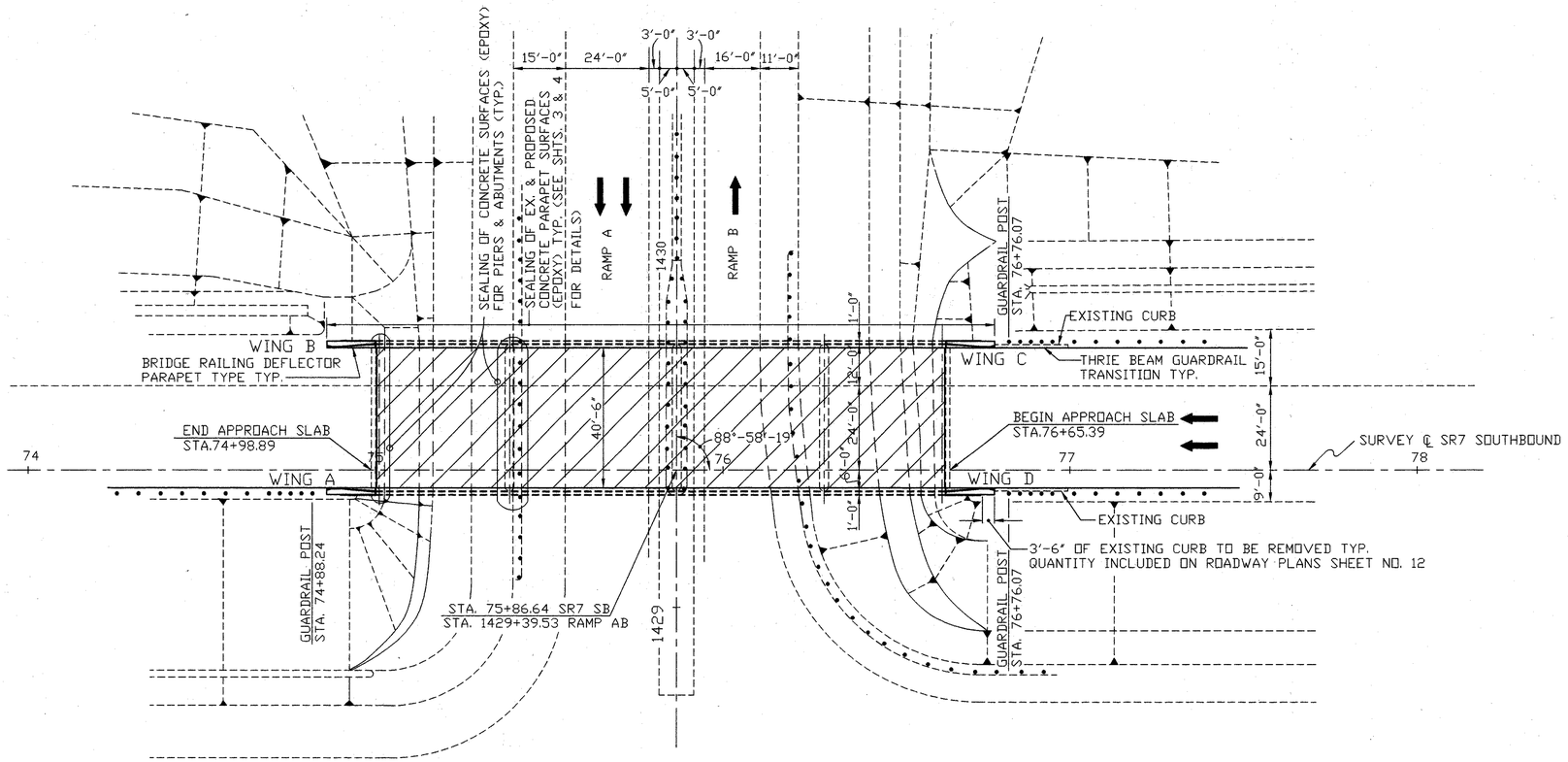
FOR PAVEMENT MARKING QUANTITIES,
SEE SHEET 38
FOR SIGN REMOVAL AND RE-ERECTION
QUANTITIES, SEE SHEET 40

07PAVT8

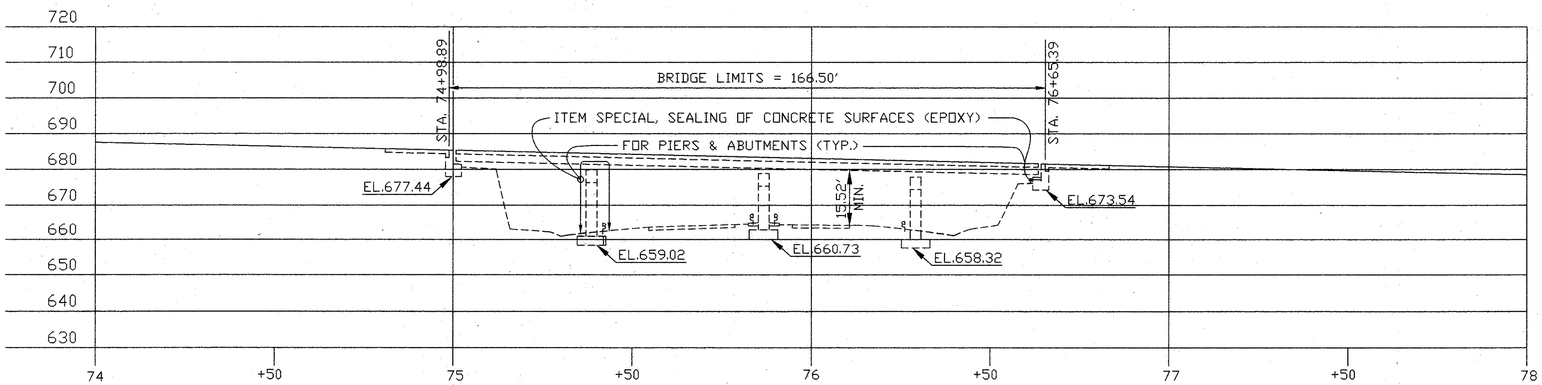
TRAFFIC CONTROL PLAN, STA. 145+00 TO STA. 169+12.75

F.H.W.A. REGION	STATE	PROJECT		49
5	OHIO			57

BEL-7-17.99



PLAN



ELEVATION

PROJECT DESCRIPTION

1.) Replace the existing 2½ 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 OZEU. 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 superstrucure.
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: 2½ 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 superstrucure.
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: 2½ Micro-silica Modified Concrete Overlay
APPROACH SLABS: AS-1-72 (20' Long)
ALIGNMENT: Tangent
SUPERELEVATION: Runout on bridge.

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

1 / 4

SITE PLAN
BRIDGE NO. BEL - 7 - 1848L
OVER
RAMP AB

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
YL	YL		RW	RC	3/95	

07SITE

F.H.W.A. REGION	STATE	PROJECT		50
5	OHIO			57

BEL-7-17.99

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 fc=4500 psi, reinforcing steel ASTM. A615, A616 or A617 grade 60 fs=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.

CENTRAL ENGINEERING, INC. 2 / 4
13550 FALLING WATER RD., SUITE 202, STRONGSVILLE, OH 44136

GENERAL NOTES
BRIDGE NO. BEL - 7 - 1848L
OVER
RAMP AB

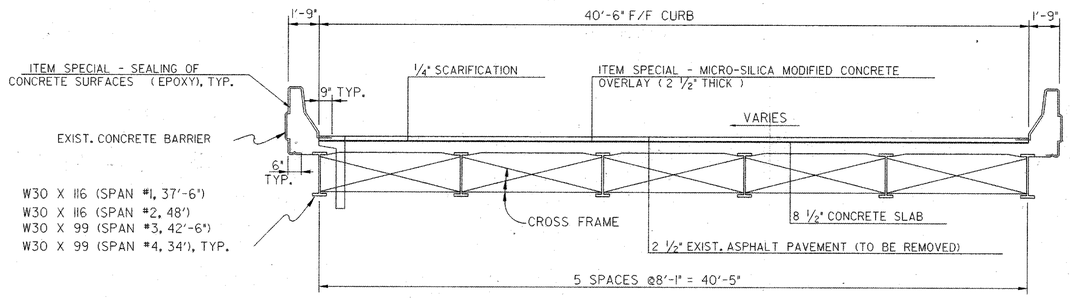
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
N.T.	Y.L.		R.R.	R.C. 3/95	

07BRIDGN

F.H.W.A. REGION	STATE	PROJECT		51
5	OHIO			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) 274		
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.

CENTRAL ENGINEERING, INC. 3 / 4
13550 FALLING WATER RD., SUITE 202, STRONGSVILLE, OH 44136

DECK SECTION & ESTIMATED QUANITIES
BRIDGE NO. BEL - 7 - 1848L
OVER
RAMP AB

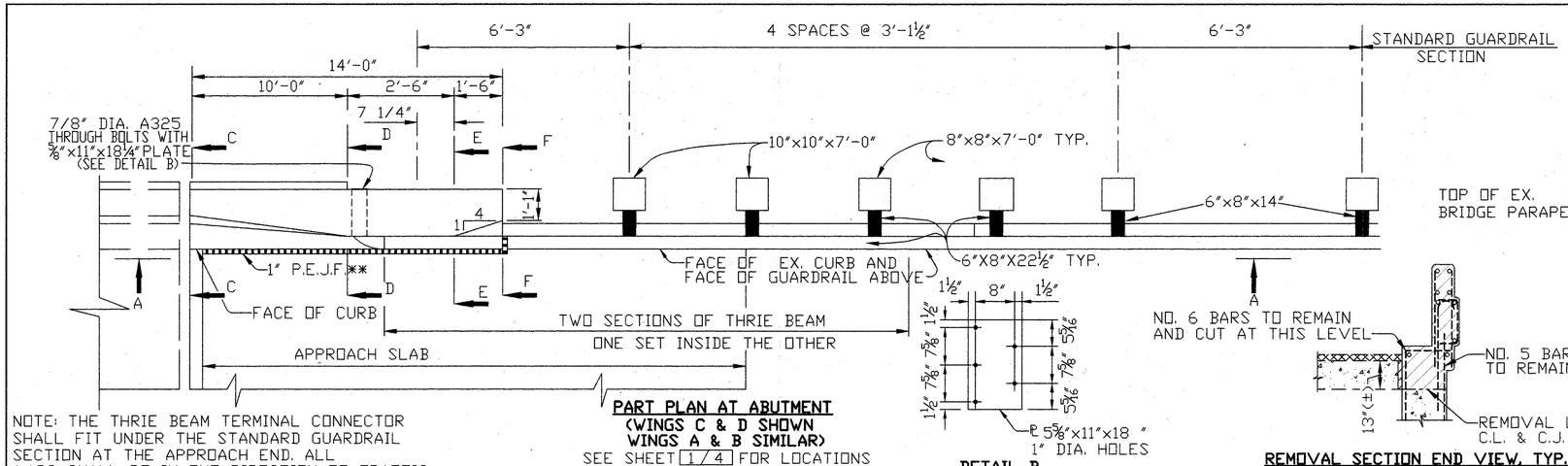
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
YL	YL		RW	RC	3/95	

DECK SECTION

07DECK

F.H.W.A. REGION	STATE	PROJECT		52 / 57
5	OHIO			

BEL-07-17.99



+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
±	ADJUSTED DIMENSION TO MATCH EXISTING
(+) (-)	INDICATES VARIANCE LESS THAN 1/16 FROM TRUE DIMENSION
C.J.	CONSTRUCTION JOINT
C.L.	CUT LINE
N.F.	NEAR FACE
F.F.	FAR FACE
E.F.	EACH FACE
EX.	EXISTING
TYP.	TYPICAL
APPROX.	APPROXIMATELY
A.S.	APPROACH SLAB
EL.	ELEVATION
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
	REMOVAL AREA

REINFORCING BAR LIST

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

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

DEFLECTOR DETAIL

07PARA

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 631.08 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-30.11 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

GENNOTES

GENERAL SUMMARY

CALC BY JNW DATE 03-05-96		OHIO	54
CHKD BY JCN DATE 03-06-96		FHWA REGION 5	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 AI0BB40
625		4	625	05720	4	Each	Light Pole, Design AI2BB40
625		4	625	06400	4	Each	Light Pole, Design AT15B41.7
625		3	625	10500	3	Each	Light Pole, Misc.: Design AI2BI5B40
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

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

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					202								603	625																									631
					EA	EA	EA	EA	EA	EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	LS	EA
REFERENCE NUMBER	SHEET NUMBER	SIDE	ROADWAY	STATION TO STATION	PULL BOX REMOVED	PULL BOX REMOVED, AS PER PLAN	LIGHT POLE REMOVED, AS PER PLAN	LIGHT POLE FOUNDATION REMOVED	LIGHT POLE FOUNDATION REMOVED, AS PER PLAN	LUMINAIRE REMOVED AS PER PLAN	REMOVAL MISC.: LIGHT POLE FOUNDATION REMOVED	EXISTING CONDUIT CLEANED, AS PER PLAN	4" CONDUIT, TYPE E	CONNECTOR KIT, TYPE II	CABLE SPLICING KIT	LIGHT POLE, DESIGN AT0NI8	LIGHT POLE, DESIGN AI0BB40	LIGHT POLE, DESIGN AI2BB40	LIGHT POLE, DESIGN AT15B41.7	LIGHT POLE, MISC.: DESIGN AI2BI5B40	LIGHT POLE FOUNDATION, 24' X 8' DEEP	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	1-1/2" DUCT CABLE, WITH TWO NO. 4 AWG 5000 VOLT CABLE	1-1/2" DUCT CABLE, WITH THREE NO. 4 AWG 5000 VOLT CABLE	CONDUIT, 3", 713.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, SIZE: 3"	LUMINAIRE, CONVENTIONAL: 240V/480V, 250W, HPS, STYLE B, TYPE III	LUMINAIRE, UNDERPASS, 713.13, AS PER PLAN	LUMINAIRE, MISC.: 240V/480V, 250W, HPS, STYLE B, TYPE II	LUMINAIRE, MISC.: 120V/240V, 250W, HPS, STYLE B, TYPE III	GLARE SHIELD	TRENCH	PULL BOX, 713.08, 18"	PULL BOX, 713.08, 18", AS PER PLAN	PULL BOX, 713.08, 24"	MEDIAN PULL BOX	GROUND ROD	POWER SERVICE, AS PER PLAN	HIGH VOLTAGE TEST	SIGN SERVICE
LACC	56	RT	LA	155+55																																			
PBI6		RT	LA	155+55 - 155+55									20		3								45					5							5			1	LUMP	
PBI2		RT	LA	155+55 - 0+73									20		3												30								20		1			
PB4		RT	RMPA	0+73 - 0+45		1						45	20		3								165																	
				PB4 - LI																							55								45					
LI		RT	RMPA	0+03						1				2											85										1					
PBI6		RT	LA	155+55 - 155+75																							25								15					
L2		RT	LA	155+75						1				2											85										1					
		RT	LA	155+75 - 157+87																							227								217					
L3		RT	LA	157+87						1				2											85										1					
		RT	LA	155+87 - 160+00																							218								208					
L4		RT	LA	160+00						1				2											85										1					
PB2		RT	LA	160+00 - 160+30		1							20		3												45								35	1				
		RT	LA/SR7	160+30LA - 160+90SR7								55											225					10								10					
L5		LT	SR7	160+90						1				2											85										1					
SR7CC		LT	SR7	155+37																																		1	1	LUMP	
PB8		LT	SR7	155+37 - 155+45									20		3									105				25								25		1			
PBII		LT	SR7	155+45 - 155+20									20		3												35								25	1				
				PBII-21																			225						65											
21		RT	RMPA	1+30										2				1		1					114						1				1					
		RT	RMPA	1+30 - 3+60																							240								230					
20		RT	RMPA	3+60										2				1		1					114						1				1					
		L/CL	SR7	155+45																				150				40											
PB9		CL	SR7	155+45										3																						1				
		CL	SR7	155+45 - 155+30																			75																	
13/14		CL	SR7	155+30										2						1		1			138					2							1	1		
		CL	SR7	155+30 - 153+30																			630																	
11/12		CL	SR7	153+30										2						1		1			138					2							1	1		
		CL	SR7	153+30 - 151+25																			645																	
9/10		CL	SR7	151+25										2						1		1			138					2							1	1		
		CL	SR7	151+25 - 149+10																			675																	
7/8		CL	SR7	149+10										2					1			1			128					2							1	1		
		CL	SR7	149+10 - 146+90																			690																	
5/6		CL	SR7	146+90										2					1			1			128					2							1	1		
		CL	SR7	146+90 - 144+70																			690																	
3/4		CL	SR7	144+70										2					1			1			128					2							1	1		
		CL	SR7	144+70 - 142+50																			690																	
1/2		CL	SR7	142+50										2					1			1			128					2							1	1		
		CL	SR7	155+45 - 157+25																				570																	
15/16		CL	SR7	157+25										2				1				1			120					2							1	1		
		CL/R	SR7	155+45																			210					60											
PBI0		RT	RMPB	2+80									20		3																						1			
		RT	RMPB	2+80 - 3+85																							105								95					
PBI7		RT	RMPB	3+85									20		3								135					35								1			
PBI8		LT	RMPB	3+85									20		3																					1			
		RT	RMPB	3+85 - 4+00																							25								15					
17		RT	RMPB	4+00										2				1		1					114						1				1					
		RT	RMPB	4+00 - 6+20																							230								220					
18		RT	RMPB	6+20										2				1		1					114						1				1					
PBI3		RT	RMPB	6+20 - 7+35									20		3												125								115		1			
		R/L	RMPB	7+35 - 8+00																			225					65											
19		LT	RMPB	8+00										2		1				1					36							1				1					
AI		LT	RMPA	0+73			1		1																															
A2		LT	SR7	154+50			1	1																																
A3		RT	RMPA	3+45			1	1																																
A4		LT	SR7	150+70			1	1																																
A5		LT	SR7	148+70			1	1																																
A6		LT	SR7	146+45			1	1																																
A7		LT	SR7	156+60			1	1																																
B4		RT	SR7	149+40			1	1																																
B5		RT	SR7	151+40			1	1																																
B6		RT	RMPB	1+11			1	1																																
B7		RT	RMPB	3+00			1	1																																
B8		LT	RMPB	4+78			1				1																													
B9		LT	RMPB	6+85			1				1																													
BI0		RT	RMPB	7+45			1		1																															
PBI4		RT	RMPB	6+85 - 8+28									20		2											140								130	1				
PBI5		RT	LA	8+28 RAMPB-160+05 LA									20		2											40								30		1			
PBI		RT	LA	156+83											2											330								320					
PB7		LT-RT	RMPB	3+48	1										2																									
SIGN		LT	RMPB	3+75 - SIGN																							20								10					1
XCC	56	RT	LA	160+05 - 160+16																						25								15					
TOTAL					1	2	14	10	2	5	2	100	240	39	38	1	1	4	4	3	5	8	5325	825	1863	535	1380	40	265	16	1	4	5	5	1785	5	2	5	9	20	2	LUMP	1

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FEBRUARY 15, 1996

F.H.W.A. REGION	STATE	PROJECT	
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SCALE
0 25 50 100
1 INCH = 50 FEET
CONTROL CENTERS
120/240V SERVICE (LINCOLN AVE.) (BRIDGEPORT)
240/480V (STATE ROUTE 7)
(SEE DETAIL SHEET 57)
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'
WHITLEY ST.
LINCOLN AVE
INSTALL PULL BOX
NO 12 AFTER
REMOVAL OF
POLE A1
0+03, RMPA
III-250W-10'
PB12
(NEW)
PB16 (NEW)
155+75, LINCOLN AVE
III-250W-10'
STA. 1+30 RAMP A
II- 250W - 15
PB4 (NEW)
LACC
SR7CC
PB8 (NEW)
PB11 (NEW)
240/480v
PB9 (NEW)
155+00
CIRCLED LAMPS ON LINCOLN
AVE. ARE TURNBACK TO
LOCAL CONTROL.
157+87, LINCOLN AVE
III-250W-10'
BENNET ST.
℄ BEARING S. ABUTMENT
STA. 159+15.00
℄ BEARING PIER 1-W
STA. 159+96.00
HOWARD ST.
℄ BEARING PIER 2-W
STA. 160+91.00
(EXISTING 480V.
SERVICE TO BE
MAINTAIN FOR
REMOVAL WITH
BEL-7-32.285
PROJECT)
EXISTING
CC
PB2 (NEW)
160+90, SR7
III-250W-10'
PB3 (TO REMAIN
IN PLACE)
PB14 (NEW)
PB13 (NEW)
MATCH 162+00 LINE
STA. 157+25
2-III-250W-10'
SIGN
STA. 3+60 RAMP A
II-250W-15
RAMP A
℄ STATE ROUTE 7
2-III-250W-15+12
STA. 155+30, SR7
PB10(NEW 24")
PB18(NEW)
PB17(NEW 24")
RAMP B
STA 6+20 RAMP B
II-250W-15
STA 4+00 RAMP B
II-250W-15
NOTE:
LIGHTING NORTH OF
STA. 157+69.00 IN
MEDIAN, DONE BY
OTHERS.
℄ BEARING PIER 1-E
STA. 159+61.00
℄ BEARING PIER 2-E
STA. 160+46.00
UNDERPASS LIGHTING
LIGHT POLE, DESIGN ATON18,
UNDERPASS LUMINAIRE, AS PER
PLANS, POST TOP MOUNTED
8+00, RAMP B
II-250W
STA. 153+30, SR7
2-III-250W-15 & 12
STA. 151+25, SR7
2-III-250W-12 & 15
150+00
MATCH 145+00 LINE
STA. 144+70
2-III-250W-12'+12'
STA. 142+50
2-III-250W-12'+12'
STA. 149+10
2-III-250W-12'+12'
STA. 146+90
2-III-250W-12'+12'
MATCH 145+00 LINE

LEGEND

NEW	EXISTING	DESCRIPTION	NEW	EXISTING	DESCRIPTION
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 A12B15B40 LUMINARE, 240V/480V, STYLE B, TYPE III, HPS	PB*		EXISTING PULL BOX REMOVED
21		LIGHT POLE, AT15B4L7 OR ATON18 LUMINARE, 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	1+00, SR7 2-III-250W-15+22		STATION, LOCATION NO., BRACKETS, ANSI-IES TYPE, WATTAGE, BRACKET ARM LENGTH
		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

LAYOUT01

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

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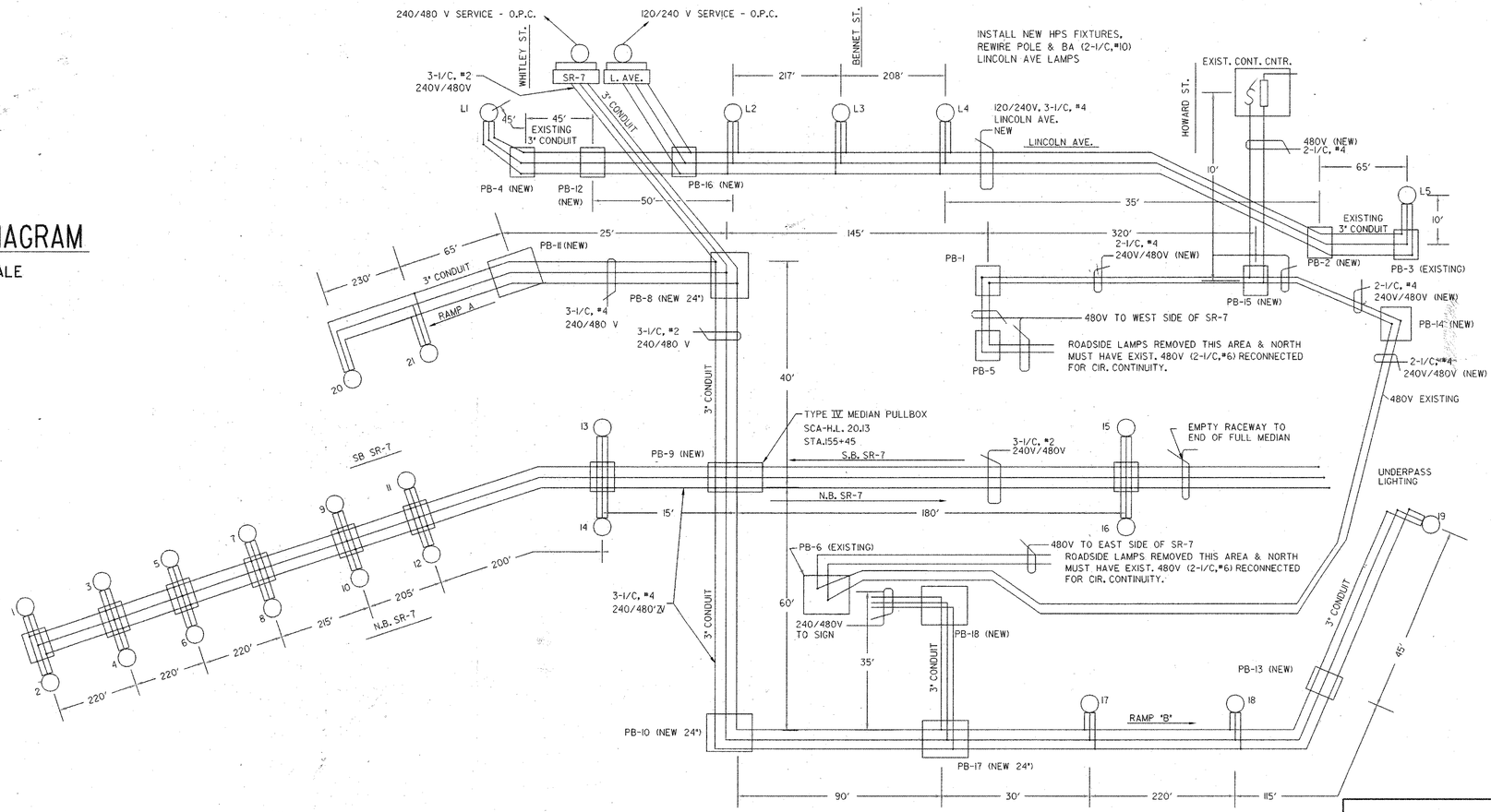
CABLING DIAGRAM

NOT TO SCALE

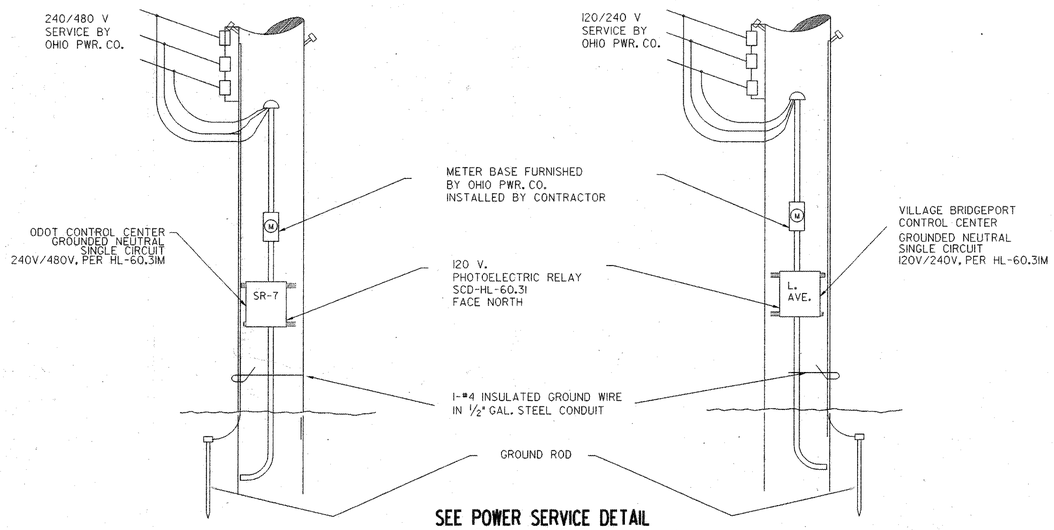


NOTES:

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	LINCON AVE.	RT.	33 +/-	24	NEW PULL BOX
PB-16	155+55	LINCON 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
S C D HL-40.10

LIGHT POLE LOCATIONS

LIGHT POLE NO.	STATION	ROAD	SIDE	OFFSET	POLE DESIGN	REMARKS
				FEET		
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
1 & 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.		A12BI5B40	MEDIAN MOUNTED POLE
11 & 12	153+30	SR 7	CTR.		A12BI5B40	MEDIAN MOUNTED POLE
13 & 14	155+30	SR 7	CTR.		A12BI5B40	MEDIAN MOUNTED POLE
15 & 16	157+25	SR 7	CTR.		A10BB40	MEDIAN MOUNTED POLE
17	4+00	RAMP "B"	RT.	14.5	ATI5B41.7	NEW LIGHT POLE
18	6+20	RAMP "B"	RT.	12+/-	ATI5B41.7	NEW LIGHT POLE
19	8+00	RAMP "B"	LT.	23	AT0BI8	NEW LIGHT POLE
20	3+60	RAMP "A"	RT.	14.5	ATI5B41.7	NEW LIGHT POLE
21	1+30	RAMP "A"	RT.	14.5	ATI5B41.7	NEW LIGHT POLE

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FEBRUARY 14, 1996

DATE: FEBRUARY 1996

LIGHTING PLAN DETAILS