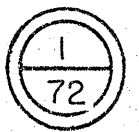


OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

IR-70-8(48) 213

FHWA REGION	STATE	FEDERAL PROJECT
5	OHIO	IR-70-8(48)213



PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI		NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
				BEGIN	END				
I	BEL	70	7.61	7.61	12.61	5.00	UNION & RICHLAND		

BEL-70-7.61
LIMITED ACCESS
PLAN NO.

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio. The Standard 19 87 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. _____ and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. I _____ and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 9-2-36

Robert J. ...
District Deputy Director of Transportation

Approved Date 10-16-86

Walter J. ...
Engineer, Bureau of Bridges and Structural Design

Approved Date 2/25/87

Wayne H. ...
Chief Engineer, Planning and Design

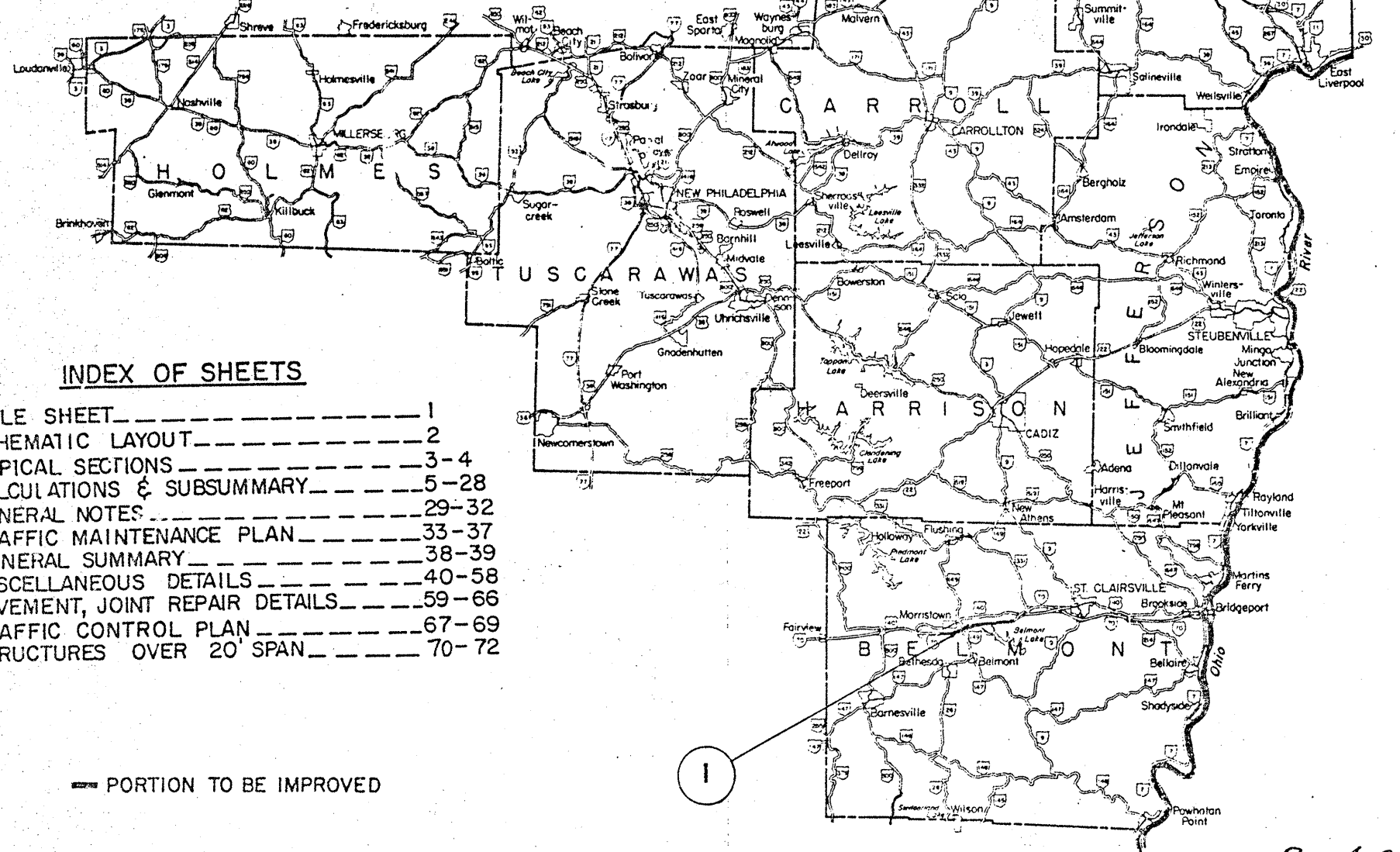
Approved Date 2-25-87

Walter J. ...
Director, Department of Transportation

LENGTH OF PROJECT = 26,360.00 LIN. FT. OR 4.992 MILES; LENGTH OF WORK = 26,637.00 LIN. FT. OR 5.045 MILES

DESIGN DESIGNATION

CURRENT ADT (1985)	19,160
DESIGN YEAR ADT (1995)	44,520
DHV	6 678
D	60%
T	13.4%
V	55 M.P.H.
LEGAL SPEED	55 M.P.H.



INDEX OF SHEETS

TITLE SHEET	1
SCHEMATIC LAYOUT	2
TYPICAL SECTIONS	3-4
CALCULATIONS & SUBSUMMARY	5-28
GENERAL NOTES	29-32
TRAFFIC MAINTENANCE PLAN	33-37
GENERAL SUMMARY	38-39
MISCELLANEOUS DETAILS	40-58
PAVEMENT, JOINT REPAIR DETAILS	59-66
TRAFFIC CONTROL PLAN	67-69
STRUCTURES OVER 20' SPAN	70-72

PORTION TO BE IMPROVED



DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR _____ DATE _____

STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
TC-35.10	BP-2	1-11-85	824
8-29-84	BP-3	12-6-76	846
TC-72.20	BP-4	1-11-85	847
2-26-82	BP-5	1-11-85	
GR-7	BP-13	1-11-85	850
2-5-82	GR-1	1-11-85	853
	GR-2B	2-5-82	933
	GR-4	2-5-82	947
	GR-4A	1-30-84	956
		10-8-82	
		11-24-86	
		10-17-83	
		2-25-86	
		6-26-78	
		8-21-80	
		10-17-83	
		6-26-78	

Rev. 4-27-87

375

6-30-87

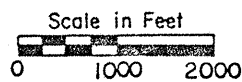
SCHEMATIC LAYOUT

FHWA REGION	STATE	PROJECT	
5	OHIO		

2
72

BEL-70-7.61

PLAN NO.



CURVE DATA
 P.I. STA. 479 + 80.61
 $\Delta = 33^\circ 52' 50''$ LT.
 D = $1^\circ 00'$
 R = 5729.58'
 T = 1745.18'
 L = 3388.06'
 E = 259.89'



CURVE DATA
 P.I. STA. 661 + 78.41
 $\Delta = 10^\circ 19' 36''$ LT.
 D = $0^\circ 28'$
 R = 12,277.70'
 T = 1109.44'
 L = 2212.84'
 E = 50.01'

BEGIN PROJECT
 STA. 411+40.00
 S.L.M. 7.61

END PROJECT
 STA. 675+00
 S.L.M. 12.61

IR-70-8(48)213

IR-70-8(48)213

NO WORK
 BRIDGE No.
 BEL-70-0775 L & R

BRIDGE No.
 BEL-70-1083

BRIDGE No.
 BEL-70-1223

BEGIN WORK
 STA. 410+77.50

END WORK
 STA. 677+14.50

BRIDGE No.
 BEL-70-0865

BRIDGE No.
 BEL-70-0963 L & R

CURVE DATA
 P.I. STA. 566 + 52.17
 $\Delta = 26^\circ 56' 09''$ RT.
 D = $1^\circ 00'$
 R = 5729.58'
 T = 1372.16'
 L = 2693.58'
 E = 50.01'

162.02'

Design Exceptions: (Noted Thus*)

BRIDGE PARAPET HEIGHT & SAFETY CURB WIDTH				
BRIDGE No.	Parapet Rail Height		Safety Curb Width	
	Required	Actual	Required	Actual
Bel-70-0775 L & R	3'-6"	*2'-10"	9" Max.	*1'-2"
Bel-70-0963 L & R	3'-6" Min.			
SUPERELEVATION				
Degree of Curve	Curve Location		Rate Required	Existing Condition
	From	To		
0°28' Lt.	P.C. Sta. 650+68.97	P.T. Sta. 672+81.81	0.016 Ft./Ft.	*Normal Crown Section in each Directional Roadway

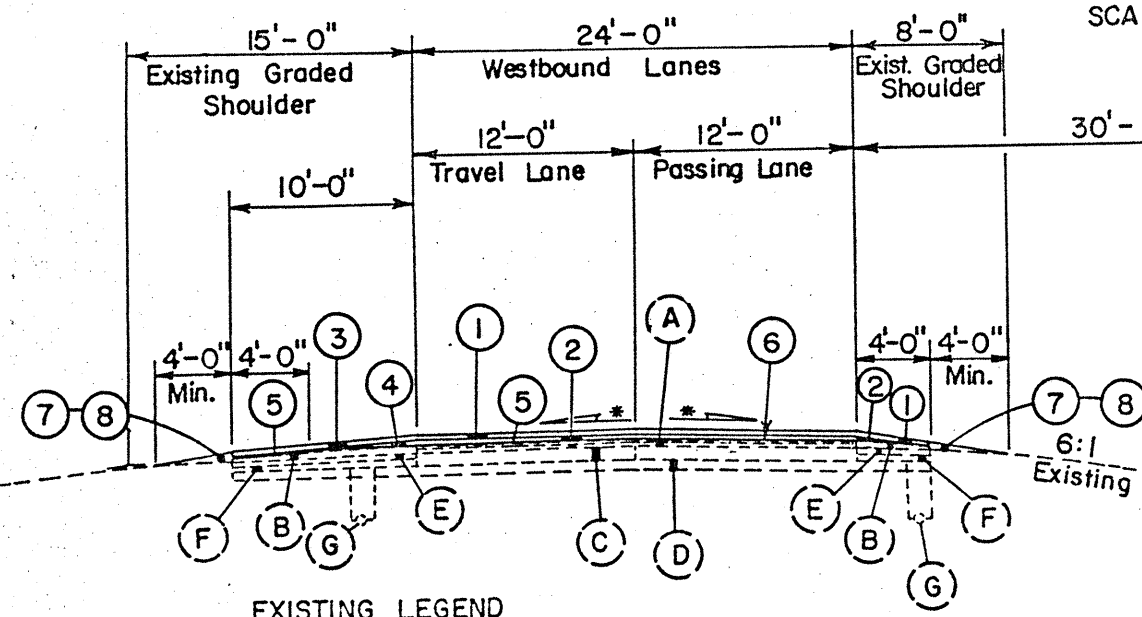
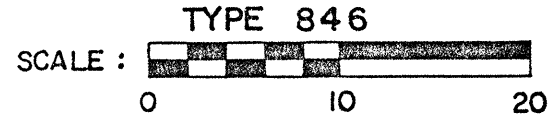
TYPICAL SECTIONS

FHWA REGION	STATE	FEDERAL PROJECT
5	OHIO	

3
72

BEL-70-761

PLAN NO.



EXISTING LEGEND

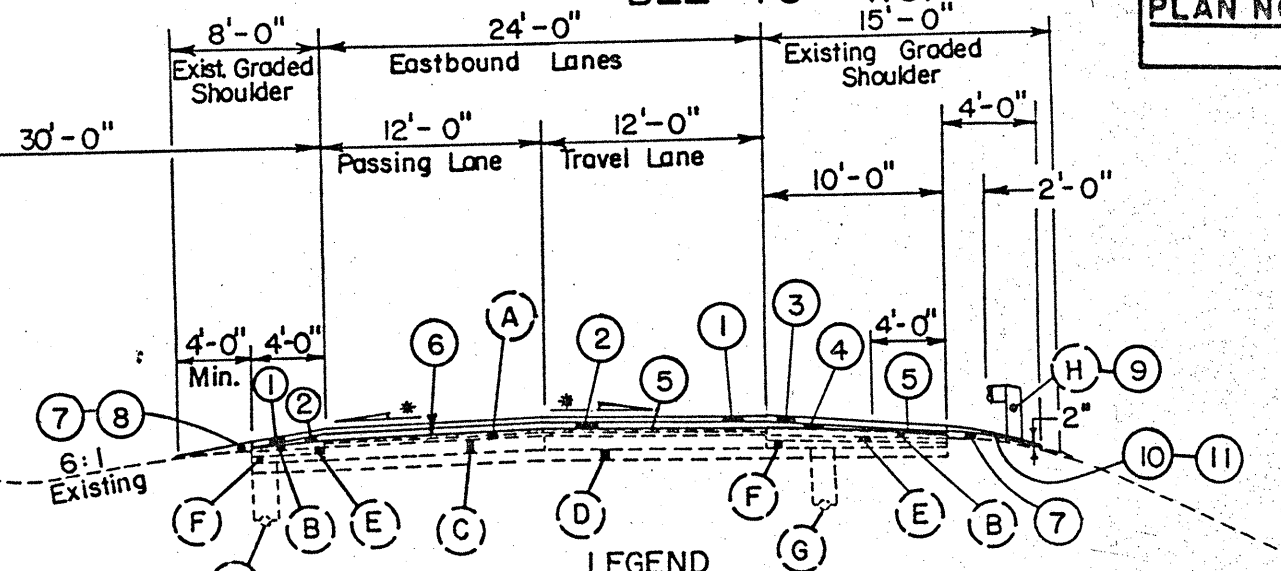
- (A) — EXISTING 3" ASPHALT CONCRETE
- (B) — EXISTING ASPHALT CONCRETE
- (C) — EXISTING 9" REINFORCED CONCRETE
- (D) — EXISTING SUBBASE
- (E) — EXISTING WATERPROOF AGGREGATE BASE
- (F) — EXISTING AGGREGATE BASE
- (G) — EXISTING 6" PIPE UNDERDRAIN
- (H) — EXISTING GUARDRAIL

NORMAL SECTION

LIMITING STATIONS
 STA. 411+40.00 TO STA. 461+01.43 = 4961.43 L.F.
 STA. 497+57.49 TO STA. 551+46.01 = 5388.52 L.F.
 STA. 581+07.59 TO STA. 675+00.00 = 9392.41 L.F.
 19,742.36 L.F.

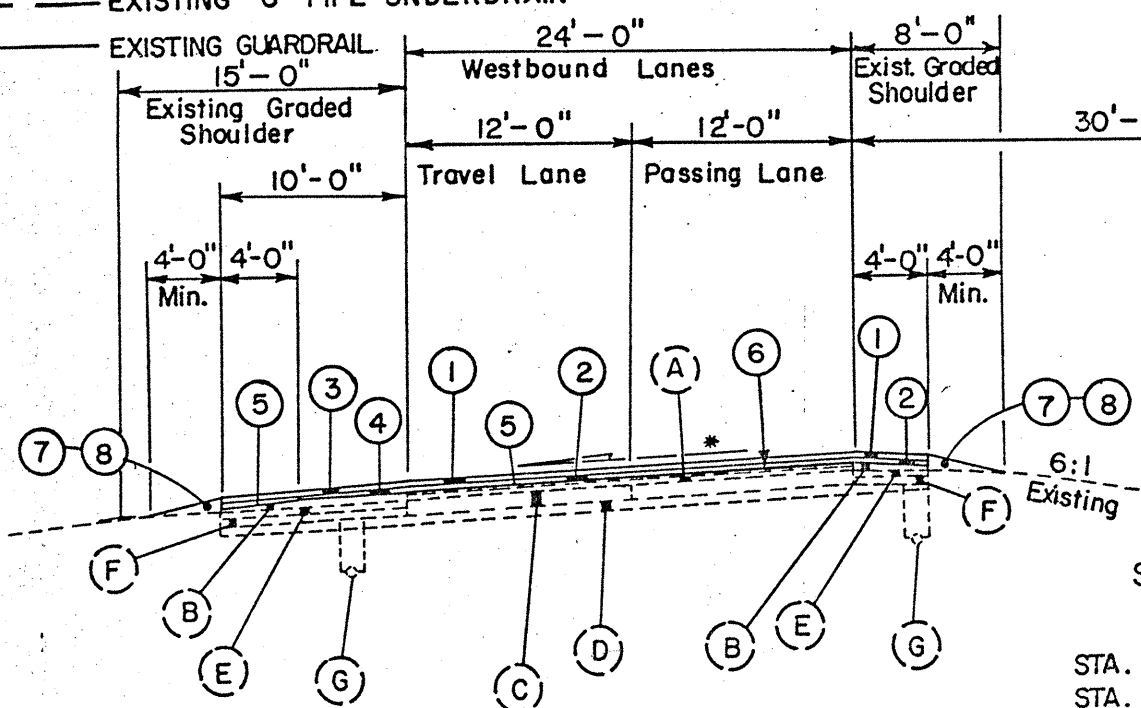
NOTE: See SH. No. 40 For Pavement And Shoulder Details.

* Same Slope as Existing Pav't.



LEGEND

- (1) — ITEM 846 — 3/4" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AC-20
- (2) — ITEM 846 — 3/4" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AC-20
- (3) — ITEM 448 — ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AC-20
- (4) — ITEM 448 — ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AC-20
- (5) — ITEM 407 — TACK COAT, AS PER PLAN
- (6) — ITEM SPECIAL — PAVEMENT PLANING, BITUMINOUS, 1" NOMINAL DEPTH (See Proposal Note)
- (7) — ITEM 203 — LINEAR GRADING (See General Note)
- (8) — ITEM 659 — SEEDING AND MULCHING (See General Note)



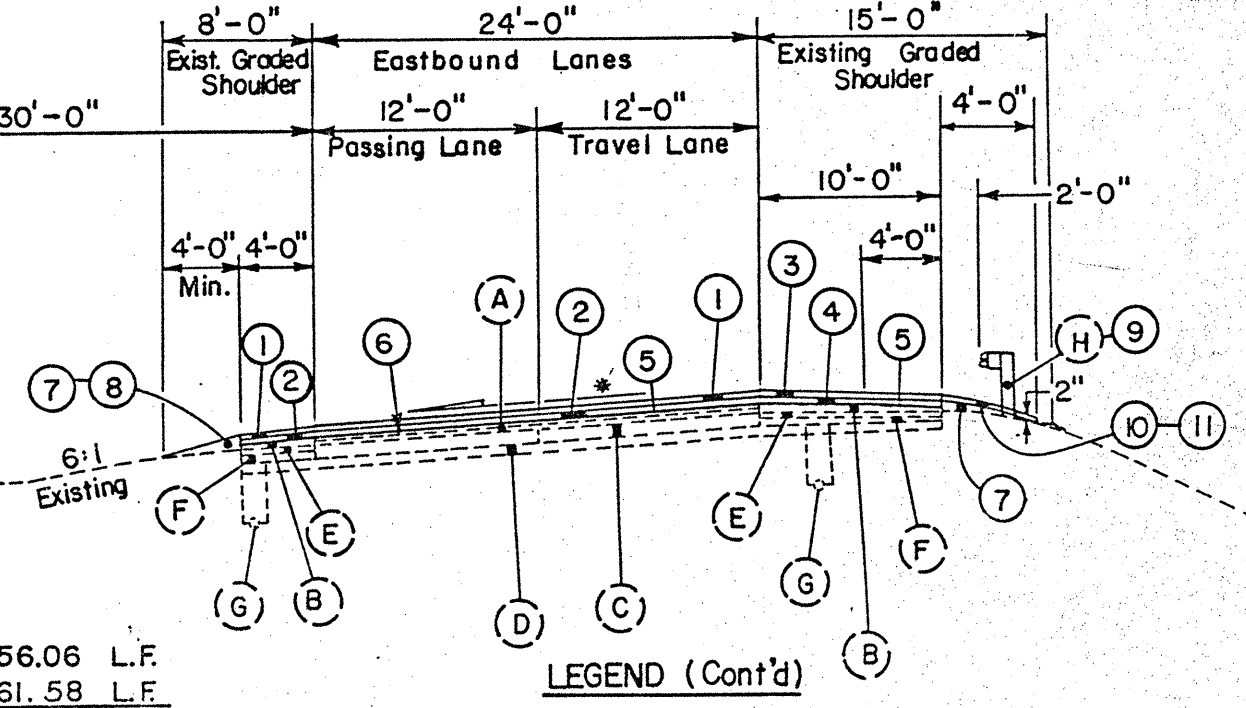
SUPERELEVATED SECTION

LIMITING STATIONS
 STA. 461+01.43 TO STA. 497+57.49 = 3656.06 L.F.
 STA. 551+46.01 TO STA. 581+07.59 = 2961.58 L.F.
 6617.64 L.F.

DEDUCT FOR BRIDGE NOs.:

BEL-70-0775 L&R = (-134.90 L.F.)
 BEL-70-0963 L&R = (-121.50 L.F.)
 (-256.40 L.F.)

TOTAL = 26,103.60 L.F.

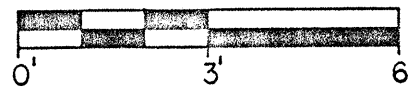


LEGEND (Cont'd)

- (9) — ITEM 606 — GUARDRAIL, TYPE 5
- (10) — ITEM 448 — 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 (Under Guardrail)
- (11) — ITEM 408 — BITUMINOUS PRIME COAT, AS PER PLAN (See General Notes).

TYPICAL SECTION

TYPE 846



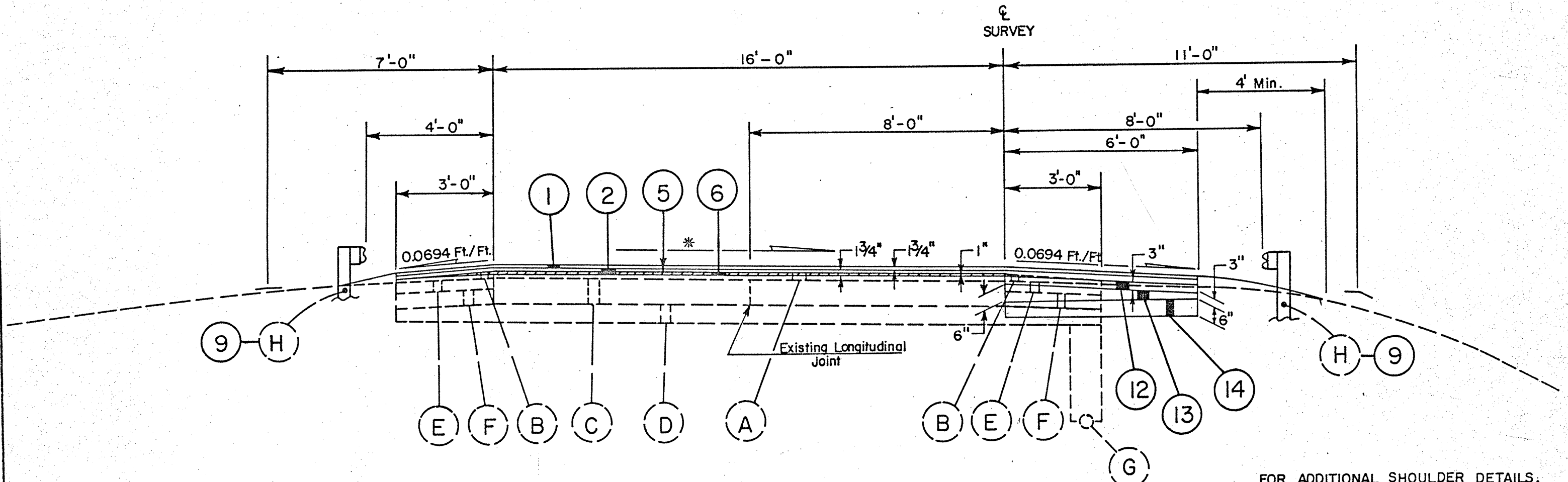
FHWA REGION	STATE	PROJECT
5	OHIO	

4
76

BEL-70-7.61

PLAN NO.

NOTE: LEFT & RIGHT SIDE CONFIGURATION IS REFERENCED TO THE DIRECTION OF TRAVEL.



* SAME SLOPE AS EXISTING PAV'T.

FOR ADDITIONAL SHOULDER DETAILS, SEE SHEET NO. 58.

NORMAL SECTION

LIMITING STATIONS

S.R. 149 INTERCHANGE	RAMP A	0 + 00	TO	16 + 10.15	=	1610.15 L.F.
	RAMP B	0 + 00	TO	14 + 21.53	=	1421.53 L.F.
	RAMP C	0 + 00	TO	13 + 48.52	=	1348.52 L.F.
	RAMP D	0 + 00	TO	13 + 94.91	=	1394.41 L.F.
ROADSIDE REST AREAS	RAMP E	0 + 00	TO	23 + 57.83	=	2357.83 L.F.
	RAMP F	0 + 00	TO	27 + 00.33	=	2700.33 L.F.
						<u>10,832.77 L.F.</u>

LEGEND

- (12) — ITEM 301 ~ 3" BITUMINOUS AGGREGATE BASE
- (13) — ITEM 304 ~ AGGREGATE BASE
- (14) — ITEM 310 ~ SUBBASE, TYPE I

FOR OTHER ITEMS SEE LEGEND ON SHEET NO. 3.

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/10/86		Date 4/15/86	

FHWA REGION	STATE	PROJECT	
5	OHIO		

5
72

MAINLINE PAVEMENT (EASTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN A

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS	
	FROM	TO				TACK COAT @ 0.10% GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.		
FEATHER	410+77.5	411+21.25	43.75	24	117	11.7	--	--	--	1.75	5.7		
	411+21.25	411+27.5	6.25	24	17	1.7	--	--	--	1.875 avg	0.9		
	411+27.5	411+40	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7		
E.B. PAVEMENT	411+40	417+19.55	579.55	24	1546	154.6	1546	1.75	75.2	1.75	75.2		
FEATHER	417+19.55	417+34.55	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9		
	417+34.55	417+94.55	60	24	160	16.0	160	--	--	2.0 avg	8.9		
	417+94.55	418+54.55	60	24	160	16.0	160	--	--	1.0	4.4		
BR. NO. BEL-70-0755 R													
FEATHER	419+89.45	420+49.45	60	24	160	16.0	160	--	--	1.0	4.4		
	420+49.45	421+09.45	60	24	160	16.0	160	--	--	2.0 avg	8.9		
	421+09.45	421+24.45	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9		
E.B. PAVEMENT	421+24.45	465+25	4400.55	24	11735	1173.5	11735	1.75	570.5	1.75	570.5		
FEATHER	465+25	465+37.5	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7		
	465+37.5	465+75	37.5	24	100	10.0	100	--	--	2.25 avg	6.3		
E.B. PAVEMENT	465+75	467+00	125	24	334	33.4	334	1.75	16.2	1.75	16.2		
FEATHER	467+00	467+37.5	37.5	24	100	10.0	100	--	--	2.25 avg	6.3		
	467+37.5	467+50	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7		
E.B. PAVEMENT	467+50	499+29.73	3179.73	24	8480	848.0	8480	1.75	412.2	1.75	412.2		
	499+29.73	500+29.73	100	30 avg	334	33.4	334	1.75	16.2	1.75	16.2		
	500+29.73	502+75	245.27	36	981	98.1	981	1.75	47.7	1.75	47.7		
	502+75	507+29.73	454.73	49.5 avg	2501	250.1	2501	1.75	121.6	1.75	121.6		
	507+29.73	508+29.73	100	36 avg	400	40.0	400	1.75	19.5	1.75	19.5		
FEATHER	508+29.73	516+74.30	844.57	24	2252	225.2	2252	1.75	109.5	1.75	109.5		
	516+74.30	516+89.30	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9		
	516+89.30	517+49.30	60	24	160	16.0	160	--	--	2.0 avg	8.9		
FEATHER	517+49.30	518+09.30	60	24	160	16.0	160	--	--	1.0	4.4		
	BR. NO. BEL-70-0963 R												
TOTALS - QUANTITIES CARRIED TO SH.No. 24						3007.9	29945		1397.9		1458.5		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/10/86		Date 4/15/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

6
72

MAINLINE PAVEMENT (EASTBOUND)

BEL-70-7.61

PLAN NO.

X AS PER PLAN A

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS
	FROM	TO				TACK COAT @ 0.10 X GAL. S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.	
BR. NO. BEL-70-0963 R												
FEATHER	519+30.80	519+90.80	60	24	160	16.0	160	--	--	1.0	4.4	
	519+90.80	520+50.80	60	24	160	16.0	160	--	--	2.0 avg	8.9	
	520+50.80	520+65.80	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9	
E.B. PAVEMENT	520+65.80	532+35.98	1170.18	24	3121	312.1	3121	1.75	151.7	1.75	151.7	
	532+35.98	544+35.98	1200	36.5 avg	4867	486.7	4867	1.75	236.6	1.75	236.6	INCL. RAMP B, S.C. LANE
	544+35.98	580+41	3605.02	24	9614	961.4	9614	1.75	467.3	1.75	467.3	
FEATHER	580+41	580+53.5	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7	PAVEMENT TRANSITION UNDER BR. NO. BEL-70-1083
	580+53.5	580+91	37.5	24	100	10.0	100	--	--	2.25 avg	6.3	
E.B. PAVEMENT	580+91	582+16	125	24	334	33.4	334	1.75	16.2	1.75	16.2	
FEATHER	582+16	582+53.5	37.5	24	100	10.0	100	--	--	2.25 avg	6.3	
	582+53.5	582+66	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7	
E.B. PAVEMENT	582+66	615+70.20	3304.2	24	8811	881.1	8811	1.75	428.3	1.75	428.3	
	615+70.20	616+70.20	100	30 avg	334	33.4	334	1.75	16.2	1.75	16.2	INCLUDES EXIT RAMP E
	616+70.20	619+15.47	245.27	36	981	98.1	981	1.75	47.7	1.75	47.7	SPEED CHANGE
	619+15.47	623+70.20	454.73	49.5 avg	2501	250.1	2501	1.75	121.6	1.75	121.6	LANE
	623+70.20	624+70.20	100	36 avg	400	40.0	400	1.75	19.4	1.75	19.4	INCL. GORE PAV'T.
	624+70.20	642+52.01	1781.81	24	4752	475.2	4752	1.75	231.0	1.75	231.0	
	642+52.01	654+19	1166.99	36.8 avg	4772	477.2	4772	1.75	232.0	1.75	232.0	INCL. ENTRANCE RAMP E
FEATHER	654+19	654+31.5	12.5	24.6 avg	34	3.4	34	1.5 avg	1.4	1.75	1.7	S.C. LANE
	654+31.5	654+52.01	20.51	24.2 avg	55	5.5	55	--	--	2.59 avg	4.0	PAVEMENT TRANSITION UNDER BR. NO. BEL-70-1223
	654+52.01	654+69	16.99	24	46	4.6	46	--	--	1.84 avg	2.4	
E.B. PAVEMENT	654+69	655+94	125	24	334	33.4	334	1.75	16.2	1.75	16.2	
FEATHER	655+94	656+31.5	37.5	24	100	10.0	100	--	--	2.25 avg	6.3	
	656+31.5	656+44	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7	
E.B. PAVEMENT	656+44	675+00	1856	24	4950	495.0	4950	1.75	240.6	1.75	240.6	
FEATHER	675+00	675+12.5	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7	
	675+12.5	675+18.75	6.25	24	17	1.7	--	--	--	1.875 avg	0.9	
	675+18.75	675+62.5	43.75	24	117	11.7	--	--	--	1.75	5.7	
TOTALS - QUANTITIES CARRIED TO SH.No. 24						4683.6	46702		2233.5		2280.4	

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/10/86		Date 4/15/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

7
72

MAINLINE PAVEMENT (WESTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN A

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS	
						TACK COAT @ 0.10 X GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1		
						GALS.	SQ. YDS.	INCHES	CU. YDS.	INCHES	CU. YDS.		
FEATHER	410+77.5	411+21.25	43.75	24	117	11.7	---	---	---	1.75	5.7		
	411+21.25	411+27.5	6.25	24	17	1.7	---	---	---	1.875 avg	0.9		
	411+27.5	411+40	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7		
W.B. PAVEMENT	411+40	417+64.55	624.55	24	1666	166.6	1666	1.75	81.0	1.75	81.0		
FEATHER	417+64.55	417+79.55	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9		
	417+79.55	418+39.55	60	24	160	16.0	160	---	---	2.0 avg	8.9		
	418+39.55	418+99.55	60	24	160	16.0	160	---	---	1.0	4.4		
BR. NO. BEL-70-0775 L													
FEATHER	420+34.45	420+94.45	60	24	160	16.0	160	---	---	1.0	4.4		
	420+94.45	421+54.45	60	24	160	16.0	160	---	---	2.0 avg	8.9		
	421+54.45	421+69.45	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9		
W.B. PAVEMENT	421+69.45	464+73	4303.55	24	11476	1147.6	11476	1.75	557.9	1.75	557.9		
FEATHER	464+73	464+85.5	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7		
	464+85.5	465+23	37.5	24	100	10.0	100	---	---	2.25 avg	6.3		
W.B. PAVEMENT	465+23	466+48	125	24	334	33.4	334	1.75	16.2	1.75	16.2		
FEATHER	466+48	466+85.5	37.5	24	100	10.0	100	---	---	2.25 avg	6.3		
	466+85.5	466+98	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7		
W.B. PAVEMENT	466+98	492+91.60	2593.6	24	6917	691.7	6917	1.75	336.2	1.75	336.2		
	492+91.60	504+91.60	1200	36.5 avg	4867	486.7	4867	1.75	236.6	1.75	236.6		
	504+91.60	516+76.05	1184.45	24	3159	315.9	3159	1.75	153.6	1.75	153.6		
FEATHER	516+76.05	516+91.05	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9		
	516+91.05	517+51.05	60	24	160	16.0	160	---	---	2.0 avg	8.9		
	517+51.05	518+11.05	60	24	160	16.0	160	---	---	1.0	4.4		
BR. NO. BEL-70-0963 L													
TOTALS - QUANTITIES CARRIED TO SH.No. 24						2993.5	29,801		1390.8		1451.4		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/10/86		Date 4/15/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

MAINLINE PAVEMENT (WESTBOUND)

* AS PER PLAN A

BEL-70-7.61

PLAN NO.

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846		REMARKS	
	FROM	TO				TACK COAT @ 0.10 GAL/S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.		THICKNESS INCHES
BR. NO. BEL-70-0963 L											
FEATHER	519+32.55	519+92.55	60	24	160	16.0	160	--	--	1.0	4.4
	519+92.55	520+52.55	60	24	160	16.0	160	--	--	2.0 avg	8.9
	520+52.55	520+67.55	15	24	40	4.0	40	1.5 avg	1.7	1.75	1.9
W.B. PAVEMENT	520+67.55	526+49.49	581.94	24	1552	155.2	1552	1.75	75.4	1.75	75.4
	526+49.49	527+49.49	100	36 avg	400	40.0	400	1.75	19.4	1.75	19.4
	527+49.49	532+04.22	454.73	49.5 avg	2501	250.1	2501	1.75	121.6	1.75	121.6
	532+04.22	534+49.49	245.27	36	981	98.1	981	1.75	47.7	1.75	47.7
	534+49.49	535+49.49	100	30 avg	334	33.4	334	1.75	16.2	1.75	16.2
	535+49.49	580+41	4491.51	24	11978	1197.8	11978	1.75	582.3	1.75	582.3
FEATHER	580+41	580+53.5	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7
	580+53.5	580+91	37.5	24	100	10.0	100	--	--	2.25 avg	6.3
W.B. PAVEMENT	580+91	582+16	125	24	334	33.4	334	1.75	16.2	1.75	16.2
FEATHER	582+16	582+53.5	37.5	24	100	10.0	100	--	--	2.25 avg	6.3
	582+53.5	582+66	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7
W.B. PAVEMENT	582+66	613+70.23	3104.23	24	8278	827.8	8278	1.75	402.4	1.75	402.4
	613+70.23	625+70.23	1200	36.5 avg	4867	486.7	4867	1.75	236.6	1.75	236.6
	625+70.23	646+50	2079.77	24	5546	554.6	5546	1.75	269.6	1.75	269.6
	646+50	647+50	100	36 avg	400	40.0	400	1.75	19.4	1.75	19.4
	647+50	652+55.58	505.58	49.5 avg	2781	278.1	2781	1.75	135.2	1.75	135.2
	652+55.58	654+50	194.42	36	778	77.8	778	1.75	37.8	1.75	37.8
	654+50	654+56	6	35.6 avg	24	2.4	24	1.75	1.2	1.75	1.2
FEATHER	654+56	654+68.5	12.5	34.5 avg	48	4.8	48	1.5 avg	2.0	1.75	2.3
	654+68.5	655+06	37.5	31.5 avg	132	13.2	132	--	--	2.25 avg	8.3
W.B. PAVEMENT	655+06	655+50	44	26.6 avg	130	13.0	130	1.75	6.3	1.75	6.3
	655+50	656+31	81	24	216	21.6	216	1.75	10.5	1.75	10.5
FEATHER	656+31	656+68.5	37.5	24	100	10.0	100	--	--	2.25 avg	6.3
	656+68.5	656+81	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7
W.B. PAVEMENT	656+81	675+00	1819	24	4851	485.1	4851	1.75	235.8	1.75	235.8
FEATHER	675+00	675+12.5	12.5	24	34	3.4	34	1.5 avg	1.4	1.75	1.7
	675+12.5	675+18.75	6.25	24	17	1.7	--	--	--	1.875 avg	0.9
	675+18.75	675+62.5	43.75	24	117	11.7	--	--	--	1.75	5.7
TOTALS - QUANTITIES CARRIED TO SH.No. 24						4706.1	46927		2242.9		2291.7

PAVEMENT CALCULATIONS

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/10/86		Date 4/16/86	

FHWA REGION	STATE	PROJECT	
5	OHIO		

9
72

S.R. 149 INTERCHANGE RAMP PAVEMENT

BEL-70-7.61

PLAN NO.

* AS PER PLAN A

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS
	FROM	TO				TACK COAT @ 0.10% GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.	
RAMP A	4+53.07	5+53.07	100	17 avg	189	18.9	189	1.75	9.2	1.75	9.2	FEATHER AT S.R. 149
	5+53.07	15+38.23	985.16	16	1752	175.2	1752	1.75	85.2	1.75	85.2	
	SEE DETAIL 3 SHEET No. 54				11	1.1	11	1.75	0.5	1.75	0.5	
					66	6.6	---	2.5 avg	4.6	1.75	3.2	
RAMP B	1+24.99	9+71.53	846.54	16	1505	150.5	1505	1.75	73.2	1.75	73.2	FEATHER AT S.R. 149
	9+71.53	11+21.53	150	17 avg	284	28.4	284	1.75	13.8	1.75	13.8	
	11+21.53	14+21.53	300	15 avg	500	50.0	500	1.75	24.3	1.75	24.3	
	SEE DETAIL 3 SHEET No. 54				136	13.6	136	1.75	6.6	1.75	6.6	
RAMP C	8+95.45	7+95.45	100	17 avg	189	18.9	189	1.75	9.2	1.75	9.2	
	7+95.45	0+72.64	722.81	16	1285	128.5	1285	1.75	62.5	1.75	62.5	
	SEE DETAIL 3 SHEET No. 54				14	1.4	14	1.75	0.7	1.75	0.7	
					66	6.6	---	2.5 avg	4.6	1.75	3.2	
RAMP D	12+80.86	4+00	880.86	16	1566	156.6	1566	1.75	76.1	1.75	76.1	
	4+00	3+00	100	17 avg	189	18.9	189	1.75	9.2	1.75	9.2	
	3+00	0+00	300	15 avg	500	50.0	500	1.75	24.3	1.75	24.3	
	SEE DETAIL 3 SHEET No. 54				115	11.5	115	1.75	5.6	1.75	5.6	
				96	9.6	---	2.5 avg	6.7	1.75	4.7		
				219		219	---	---	1.5 avg	9.1		
TOTALS - QUANTITIES CARRIED TO SH.No. 24						919.5	8454		423.3		451.8	PAVEMENT CALCULATIONS

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	4/10/86	Date	4/16/86

FHWA REGION	STATE	PROJECT
5	OHIO	

10
72

REST AREA RAMP PAVEMENT

BEL-70-7.61

PLAN NO.

* AS PER PLAN A

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS
	FROM	TO				TACK COAT @ 0.10 * GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1	
						GALS.	SQ. YDS.	INCHES	CU.YDS.	INCHES	CU.YDS.	
EXIT RAMP E	4+53.07	5+53.07	100	17 avg	189	18.9	189	1.75	9.2	1.75	9.2	
	5+53.07	9+32.48	379.41	16	675	67.5	675	1.75	32.8	1.75	32.8	
	9+32.48	9+57.48	25	16	45	4.5	--	2.5 avg	3.1	1.75	2.2	FEATHER AT PARKING AREA
	9+57.48	9+87.48	30	16	54	5.4	--	--	--	1.5 avg	2.3	
ENTRANCE RAMP E	14+95.47	15+25.47	30	16	54	5.4	--	--	--	1.5 avg	2.3	FEATHER AT PARKING AREA
	15+25.47	15+50.47	25	16	45	4.5	--	2.5 avg	3.1	1.75	2.2	
	15+50.47	19+07.78	357.31	16	635	63.5	635	1.75	30.9	1.75	30.9	
	19+07.78	20+57.78	150	17 avg	284	28.4	284	1.75	13.8	1.75	13.8	
	20+57.78	23+57.78	300	15 avg	500	50.0	500	1.75	24.3	1.75	24.3	
EXIT RAMP F	21+97.44	21+34.94	62.5	17.4 avg	121	12.1	--	2.5 avg	8.4	1.75	5.9	FEATHER AT EXIT NOSE
	21+34.94	20+97.44	37.5	16.4 avg	69	6.9	--	--	--	2.25 avg	4.3	
	20+97.44	20+59.94	37.5	16	67	6.7	--	--	--	0.75 avg	1.4	
ENTRANCE RAMP F	9+07.5	8+32.5	75	16	134	13.4	--	--	--	1.5 avg	5.6	FEATHER ON RAMP
	8+32.5	7+70	62.5	16	111	11.1	--	2.5 avg	7.7	1.75	5.4	
	7+70	4+50	320	16	569	56.9	569	1.75	27.7	1.75	27.7	
	4+50	3+00	150	17 avg	284	28.4	284	1.75	13.8	1.75	13.8	
	3+00	0+00	300	15 avg	500	50.0	500	1.75	24.3	1.75	24.3	
TOTALS - QUANTITIES CARRIED TO SH.No. 24						433.6	3636		199.1		208.4	

QUANTITIES			
Calc.	S.H.C.	Chk'd.	R.D.A.
Date 4/11/86	Date 4/15/86		

FHWA REGION	STATE	PROJECT	
5	OHIO		

11
72

MAINLINE OUTSIDE SHOULDER (EASTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	448				REMARKS	
	FROM	TO				TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS SQ. YDS.	AVG. THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU. YDS.	AVG. THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU. YDS.		
FEATHER	410+77.5	411+21.25	43.75	10	49	4.9	--	--	--	1.5	2.0		
	411+21.25	411+27.5	6.25	10	7	0.7	--	--	--	1.563	0.3		
	411+27.5	411+40	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
E.B. SHOULDER	411+40	417+19.55	579.55	10	644	64.4	644	1.5	26.8	1.5	26.8		
FEATHER	417+19.55	417+34.55	15	10	17	1.7	17	1.375	0.6	1.5	0.7		
	417+34.55	417+49.55	15	10	17	1.7	17	--	--	2.625	1.2		
	417+49.55	417+94.55	45	10	50	5.0	50	--	--	1.75	2.4		
	417+94.55	418+47.33	52.78	10	59	5.9	59	--	--	1.0	1.6		
BR. NO. BEL-70-0755 R													
FEATHER	419+82.23	420+49.45	67.22	10	75	7.5	75	--	--	1.0	2.1		
	420+49.45	420+94.45	45	10	50	5.0	50	--	--	1.75	2.4		
	420+94.45	421+09.45	15	10	17	1.7	17	--	--	2.625	1.2		
	421+09.45	421+24.45	15	10	17	1.7	17	1.375	0.6	1.5	0.7		
E.B. SHOULDER	421+24.45	465+25	4400.55	10	4890	489.0	4890	1.5	203.8	1.5	203.8		
FEATHER	465+25	465+37.5	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
	465+37.5	465+50	12.5	10	14	1.4	14	--	--	2.625	1.0		
	465+50	465+75	25	10	28	2.8	28	--	--	2.0	1.6		
E.B. SHOULDER	465+75	467+00	125	10	139	13.9	139	1.5	5.8	1.5	5.8		
FEATHER	467+00	467+25	25	10	28	2.8	28	--	--	2.0	1.6		
	467+25	467+37.5	12.5	10	14	1.4	14	--	--	2.625	1.0		
	467+37.5	467+50	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
E.B. SHOULDER	467+50	499+29.73	3179.73	10	3533	353.3	3533	1.5	147.2	1.5	147.2		
	499+29.73	500+29.73	100	9 avg	100	10.0	100	1.5	4.2	1.5	4.2		
	500+29.73	507+29.73	700	8	622	62.2	622	1.5	25.9	1.5	25.9		
	508+29.73	516+74.30	844.57	10	939	93.9	939	1.5	39.1	1.5	39.1		
FEATHER	516+74.30	516+89.30	15	10	17	1.7	17	1.375	0.6	1.5	0.7		
	516+89.30	517+04.30	15	10	17	1.7	17	--	--	2.625	1.2		
	517+04.30	517+49.30	45	10	50	5.0	50	--	--	1.75	2.4		
	517+49.30	518+09.30	60	10	67	6.7	67	--	--	1.0	1.9		
BR. NO. BEL-70-0963 R													
TOTALS - QUANTITIES CARRIED TO SH.No. 24						1150.2	11446		456.1		480.6		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	4/14/86	Date	4/16/86

FHWA REGION	STATE	PROJECT	
5	OHIO		

12
72

MAINLINE OUTSIDE SHOULDER (EASTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	448				REMARKS
	FROM	TO				TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	AVG. THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	AVG. THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.	
BR. NO. BEL-70-0963 R												
FEATHER	519+30.80	519+90.80	60	10	67	6.7	67	--	--	1.0	1.9	
	519+90.80	520+35.80	45	10	50	5.0	50	--	--	1.75	2.4	
	520+35.80	520+50.80	15	10	17	1.7	17	--	--	2.625	1.2	
	520+50.80	520+65.80	15	10	17	1.7	17	1.375	0.6	1.5	0.7	
E.B. SHOULDER	520+65.80	527+35	669.2	10	744	74.4	744	1.5	31.0	1.5	31.0	
	527+35	532+35.98	500.98	15 avg	835	83.5	835	1.75	40.6	1.75	40.6	
	532+35.98	543+39.98	1104	8	982	98.2	982	1.5	40.9	1.5	40.9	RAMP B SPEED CHANGE LANE
	543+39.98	544+35.98	96	9 avg	96	9.6	96	1.5	4.0	1.5	4.0	
	544+35.98	580+41	3605.02	10	4006	400.6	4006	1.5	166.9	1.5	166.9	
FEATHER	580+41	580+53.5	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6	PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-1083
	580+53.5	580+66	12.5	10	14	1.4	14	--	--	2.625	1.0	
	580+66	580+91	25	10	28	2.8	28	--	--	2.0	1.6	
E.B. SHOULDER	580+91	582+16	125	10	139	13.9	139	1.5	5.8	1.5	5.8	
FEATHER	582+16	582+41	25	10	28	2.8	28	--	--	2.0	1.6	
	582+41	582+53.5	12.5	10	14	1.4	14	--	--	2.625	1.0	
	582+53.5	582+66	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6	
E.B. SHOULDER	582+66	615+70.20	3304.2	10	3672	367.2	3672	1.5	153.0	1.5	153.0	
	615+70.20	616+70.20	100	9 avg	100	10.0	100	1.5	4.2	1.5	4.2	EXIT RAMP E SPEED CHANGE LANE
	616+70.20	623+70.20	700	8	622	62.2	622	1.5	25.9	1.5	25.9	
	624+70.20	637+57.83	1287.63	10	1431	143.1	1431	1.5	59.6	1.5	59.6	
TOTALS - QUANTITIES CARRIED TO SH.No. 24						1289.0	12890		533.5		544.5	

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	4/14/86	Date	4/16/86

FHWA REGION	STATE	PROJECT
5	OHIO	

13
72

MAINLINE OUTSIDE SHOULDER (EASTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	448				REMARKS
	FROM	TO				TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	AVG. THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	AVG. THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.	
E.B. SHOULDER (cont'd)	637+57.83	642+52.01	494.18	15 avg	824	82.4	824	1.75	40.1	1.75	40.1	ENTRANCE RAMP E SPEED CHANGE LANE PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-1223
	642+52.01	653+56.01	1104	8	982	98.2	982	1.5	40.9	1.5	40.9	
	653+56.01	654+19	62.99	8.7 avg	61	6.1	61	1.5	2.5	1.5	2.5	
FEATHER	654+19	654+31.5	12.5	9.5 avg	13	1.3	13	1.375	0.5	1.5	0.5	
	654+31.5	654+44	12.5	9.7 avg	14	1.4	14	--	--	2.625	1.0	
	654+44	654+52.01	8.01	9.9 avg	9	0.9	9	--	--	2.34	0.6	
	654+52.01	654+69	16.99	10	19	1.9	19	--	--	1.84	1.0	
E.B. SHOULDER	654+69	655+94	125	10	139	13.9	139	1.5	5.8	1.5	5.8	
FEATHER	655+94	656+19	25	10	28	2.8	28	--	--	2.0	1.6	
	656+19	656+31.5	12.5	10	14	1.4	14	--	--	2.625	1.0	
	656+31.5	656+44	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6	
E.B. SHOULDER	656+44	675+00	1856	10	2062	206.2	2062	1.5	85.9	1.5	85.9	
FEATHER	675+00	675+12.5	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6	
	675+12.5	675+18.75	6.25	10	7	0.7	--	--	--	1.563	0.3	
	675+18.75	675+62.5	43.75	10	49	4.9	--	--	--	1.5	2.0	
TOTALS - QUANTITIES CARRIED TO SH.No. 24						424.9	4193		176.7		184.4	

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/14/86		Date 4/16/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

14
72

MAINLINE OUTSIDE SHOULDER (WESTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	448				REMARKS	
	FROM	TO				TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	AVG. THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	AVG. THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1		
						GALS.	SQ. YDS.	INCHES	CU. YDS.	INCHES	CU. YDS.		
FEATHER	410+77.5	411+21.25	43.75	10	49	4.9	---	---	---	1.5	2.0		
	411+21.25	411+27.5	6.25	10	7	0.7	---	---	---	1.563	0.3		
	411+27.5	411+40	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
W.B. SHOULDER	411+40	417+64.55	624.55	10	694	69.4	694	1.5	28.9	1.5	28.9		
FEATHER	417+64.55	417+79.55	15	10	17	1.7	17	1.375	0.6	1.5	0.7		
	417+79.55	417+94.55	15	10	17	1.7	17	---	---	2.625	1.2		
	417+94.55	418+39.55	45	10	50	5.0	50	---	---	1.75	2.4		
	418+39.55	419+06.77	67.22	10	75	7.5	75	---	---	1.0	2.1		
BR. NO. BEL-70-0775 R													
FEATHER	420+41.67	420+94.45	52.78	10	59	5.9	59	---	---	1.0	1.6		
	420+94.45	421+39.45	45	10	50	5.0	50	---	---	1.75	2.4		
	421+39.45	421+54.45	15	10	17	1.7	17	---	---	2.625	1.2		
	421+54.45	421+69.45	15	10	17	1.7	17	1.375	0.6	1.5	0.7		
W.B. SHOULDER	421+69.45	464+73	4303.55	10	4782	478.2	4782	1.5	199.3	1.5	199.3		
FEATHER	464+73	464+85.5	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
	464+85.5	464+98	12.5	10	14	1.4	14	---	---	2.625	1.0		
	464+98	465+23	25	10	28	2.8	28	---	---	2.0	1.6		
W.B. SHOULDER	465+23	466+48	125	10	139	13.9	139	1.5	5.8	1.5	5.8		
FEATHER	466+48	466+73	25	10	28	2.8	28	---	---	2.0	1.6		
	466+73	466+85.5	12.5	10	14	1.4	14	---	---	2.625	1.0		
	466+85.5	466+98	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
W.B. SHOULDER	466+98	492+91.60	2593.6	10	2882	288.2	2882	1.5	120.1	1.5	120.1		
	492+91.60	493+87.60	96	9 avg	96	9.6	96	1.5	4.0	1.5	4.0		
	493+87.60	504+91.60	1104	8	982	98.2	982	1.5	40.9	1.5	40.9		
	504+91.60	510+14.49	522.89	15 avg	872	87.2	872	1.75	42.4	1.75	42.4		
	510+14.49	516+76.05	661.56	10	735	73.5	735	1.5	30.6	1.5	30.6		
FEATHER	516+76.05	516+91.05	15	10	17	1.7	17	1.375	0.6	1.5	0.7		
	516+91.05	517+06.05	15	10	17	1.7	17	---	---	2.625	1.2		
	517+06.05	517+51.05	45	10	50	5.0	50	---	---	1.75	2.4		
	517+51.05	518+11.05	60	10	67	6.7	67	---	---	1.0	1.9		
BR. NO. BEL-70-0963 R													
TOTALS - QUANTITIES CARRIED TO SH.No. 24						1181.7	11761		475.3		499.8		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	4/14/86	Date	4/16/86

FHWA REGION	STATE	PROJECT
5	OHIO	

15
72

MAINLINE OUTSIDE SHOULDER (WESTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	448				REMARKS
						TACK COAT * @ 0.10 GAL. \ S.Y.	PAVEMENT PLANING, BITUMINOUS	AVG. THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	AVG. THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1	
	GALS.	SQ. YDS.	INCHES	CU. YDS.	INCHES	CU. YDS.						
BR. NO. BEL-70-0963 R												
FEATHER	519+32.55	519+92.55	60	10	67	6.7	67	--	--	1.0	1.9	
	519+92.55	520+37.55	45	10	50	5.0	50	--	--	1.75	2.4	
	520+37.55	520+52.55	15	10	17	1.7	17	--	--	2.625	1.2	
	520+52.55	520+67.55	15	10	17	1.7	17	1.375	0.6	1.5	0.7	
W.B. SHOULDER	520+67.55	526+49.49	581.94	10	647	64.7	647	1.5	27.0	1.5	27.0	
	527+49.49	534+49.49	700	8	622	62.2	622	1.5	25.9	1.5	25.9	RAMP C
	534+49.49	535+49.49	100	9 avg	100	10.0	100	1.5	4.2	1.5	4.2	SPEED CHANGE LANE
	535+49.49	580+41	4491.51	10	4991	499.1	4991	1.5	208.0	1.5	208.0	
FEATHER	580+41	580+53.5	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6	
	580+53.5	580+66	12.5	10	14	1.4	14	--	--	2.625	1.0	
	580+66	580+91	25	10	28	2.8	28	--	--	2.0	1.6	
W.B. SHOULDER	580+91	582+16	125	10	139	13.9	139	1.5	5.8	1.5	5.8	
FEATHER	582+16	582+41	25	10	28	2.8	28	--	--	2.0	1.6	
	582+41	582+53.5	12.5	10	14	1.4	14	--	--	2.625	1.0	
	582+53.5	582+66	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6	
W.B. SHOULDER	582+66	613+70.23	3104.23	10	3449	344.9	3449	1.5	143.7	1.5	143.7	
	613+70.23	614+66.23	96	9 avg	96	9.6	96	1.5	4.0	1.5	4.0	ENTRANCE RAMP F
	614+66.23	625+70.23	1104	8	982	98.2	982	1.5	40.9	1.5	40.9	SPEED CHANGE LANE
	625+70.23	630+95	524.77	15 avg	875	87.5	875	1.75	42.5	1.75	42.5	
TOTALS - QUANTITIES CARRIED TO SH.No. <u>24</u>						1216.4	12164		503.6		514.6	

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/14/88		Date 4/16/88	

FHWA REGION	STATE	PROJECT
5	OHIO	

16
72

MAINLINE OUTSIDE SHOULDER (WESTBOUND)

* AS PER PLAN B

BEL-70-7.61

PLAN NO.

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	448				REMARKS	
	FROM	TO				TACK COAT * @ 0.10 GAL. \ S.Y.	PAVEMENT PLANING, BITUMINOUS	AVG. THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	AVG. THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.		
W.B. SHOULDER (cont'd)	630+95	646+50	1555	10	1728	172.8	1728	1.5	72.0	1.5	72.0	EXIT RAMP F SPEED CHANGE LANE	
	647+50	654+50	700	8	622	62.2	622	1.5	25.9	1.5	25.9		
	654+50	654+56	6	8.1 avg	6	0.6	6	1.5	0.3	1.5	0.3		
FEATHER	654+56	654+68.5	12.5	8.3 avg	12	1.2	12	1.375	0.5	1.5	0.5		
	654+68.5	654+81	12.5	8.5 avg	12	1.2	12	--	--	2.625	0.9		
	654+81	655+06	25	8.9 avg	25	2.5	25	--	--	2.0	1.4		
W.B. SHOULDER	655+06	655+50	44	9.6 avg	47	4.7	47	1.5	2.0	1.5	2.0		
	655+50	656+31	81	10	90	9.0	90	1.5	3.8	1.5	3.8		
FEATHER	656+31	656+56	25	10	28	2.8	28	--	--	2.0	1.6		PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-1223
	656+56	656+68.5	12.5	10	14	1.4	14	--	--	2.625	1.0		
	656+68.5	656+81	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
W.B. SHOULDER	656+81	675+00	1819	10	2021	202.1	2021	1.5	84.2	1.5	84.2		
FEATHER	675+00	675+12.5	12.5	10	14	1.4	14	1.375	0.5	1.5	0.6		
	675+12.5	675+18.75	6.25	10	7	0.7	--	--	--	1.563	0.3		
	675+18.75	675+62.5	43.75	10	49	4.9	--	--	--	1.5	2.0		
TOTALS - QUANTITIES CARRIED TO SH.No. 24						468.9	4633		189.7		197.1		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	4/15/86	Date	4/16/86

FHWA REGION	STATE	PROJECT
5	OHIO	

17
72

MAINLINE MEDIAN SHOULDER (EASTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS	
	FROM	TO				TACK COAT * @ 0.10 GAL. \ S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.		
FEATHER	410+77.5	411+21.25	43.75	4	20	2.0	--	--	--	1.75	1.0		
	411+21.25	411+27.5	6.25	4	3	0.3	--	--	--	1.875 avg	0.2		
	411+27.5	411+40	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
E.B. SHOULDER	411+40	417+19.55	579.55	4	258	25.8	258	1.75	12.5	1.75	12.5		
FEATHER	417+19.55	417+34.55	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
	417+34.55	417+94.55	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	417+94.55	418+60.49	65.94	4	30	3.0	30	--	--	1.0	0.8		
BR. NO. BEL-70-0755 R													
FEATHER	419+95.39	420+49.45	54.06	4	24	2.4	24	--	--	1.0	0.7		
	420+49.45	421+09.45	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	421+09.45	421+24.45	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
E.B. SHOULDER	421+24.45	465+25	4400.55	4	1956	195.6	1956	1.75	95.1	1.75	95.1		
FEATHER	465+25	465+37.5	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3	PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-0865	
	465+37.5	465+75	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
E.B. SHOULDER	465+75	467+00	125	4	56	5.6	56	1.75	2.7	1.75	2.7		
FEATHER	467+00	467+37.5	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
	467+37.5	467+50	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
E.B. SHOULDER	467+50	516+74.30	4924.3	4	2189	218.9	2189	1.75	106.4	1.75	106.4		
FEATHER	516+74.30	516+89.30	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
	516+89.30	517+49.30	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	517+49.30	518+09.30	60	4	27	2.7	27	--	--	1.0	0.8		
BR. NO. BEL-70-0963 R													
FEATHER	519+30.80	519+90.80	60	4	27	2.7	27	--	--	1.0	0.8		
	519+90.80	520+50.80	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	520+50.80	520+65.80	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
E.B. SHOULDER	520+65.80	580+41	5975.2	4	2656	265.6	2656	1.75	129.1	1.75	129.1		
FEATHER	580+41	580+53.5	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3	PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-1083	
	580+53.5	580+91	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
E.B. SHOULDER	580+91	582+16	125	4	56	5.6	56	1.75	2.7	1.75	2.7		
FEATHER	582+16	582+53.5	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
	582+53.5	582+66	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
TOTALS - QUANTITIES CARRIED TO SH.No. 24						753.6	7513		351.2		365.9		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	4/15/88	Date	4/17/88

FHWA REGION	STATE	PROJECT
5	OHIO	

18
72

MAINLINE MEDIAN SHOULDERS (EASTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS	
	FROM	TO				TACK COAT * @ 0.10 GAL. \ S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1		GALS.
E.B. SHOULDER	582+66	654+19	7153	4	3179	317.9	3179	1.75	154.5	1.75	154.5		
FEATHER	654+19	654+31.5	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3	PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-1223	
	654+31.5	654+69	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
E.B. SHOULDER	654+69	655+94	125	4	56	5.6	56	1.75	2.7	1.75	2.7		
FEATHER	655+94	656+31.5	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
	656+31.5	656+44	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
E.B. SHOULDER	656+44	675+00	1856	4	825	82.5	825	1.75	40.1	1.75	40.1		
FEATHER	675+00	675+12.5	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
	675+12.5	675+18.75	6.25	4	3	0.3	--	--	--	1.875 avg	0.2		
	675+18.75	675+62.5	43.75	4	20	2.0	--	--	--	1.75	1.0		
TOTALS - QUANTITIES CARRIED TO SH.No. <u>24</u>						413.5	4112		198.2		201.6		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/15/86		Date 4/17/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

19
72

MAINLINE MEDIAN SHOULDER (WESTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS	
	FROM	TO				TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS INCHES	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2 CU.YDS.	THICKNESS INCHES	ASPH. CONC. SURFACE COURSE TYPE 1 CU.YDS.		
FEATHER	410+77.5	411+21.25	43.75	4	20	2.0	--	--	--	1.75	1.0		
	411+21.25	411+27.5	6.25	4	3	0.3	--	--	--	1.875 avg	0.2		
	411+27.5	411+40	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
W.B. SHOULDER	411+40	417+64.55	624.55	4	278	27.8	278	1.75	13.5	1.75	13.5		
FEATHER	417+64.55	417+79.55	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
	417+79.55	418+39.55	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	418+39.55	418+93.61	54.06	4	24	2.4	24	--	--	1.0	0.7		
BR. NO. BEL-70-0775 L													
FEATHER	420+28.51	420+94.45	65.94	4	30	3.0	30	--	--	1.0	0.8		
	420+94.45	421+54.45	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	421+54.45	421+69.45	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
W.B. SHOULDER	421+69.45	464+73	4303.55	4	1913	191.3	1913	1.75	93.0	1.75	93.0		
FEATHER	464+73	464+85.5	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3	PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-0865	
	464+85.5	465+23	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
W.B. SHOULDER	465+23	466+48	125	4	56	5.6	56	1.75	2.7	1.75	2.7		
FEATHER	466+48	466+85.5	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
	466+85.5	466+98	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
W.B. SHOULDER	466+98	516+76.05	4978.05	4	2213	221.3	2213	1.75	107.6	1.75	107.6		
FEATHER	516+76.05	516+91.05	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
	516+91.05	517+51.05	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	517+51.05	518+11.05	60	4	27	2.7	27	--	--	1.0	0.8		
BR. NO. BEL-70-0963 L													
FEATHER	519+32.55	519+92.55	60	4	27	2.7	27	--	--	1.0	0.8		
	519+92.55	520+52.55	60	4	27	2.7	27	--	--	2.0 avg	1.5		
	520+52.55	520+67.55	15	4	7	0.7	7	1.5 avg	0.3	1.75	0.3		
W.B. SHOULDER	520+67.55	654+56	13388.45	4	5951	595.1	5951	1.75	289.3	1.75	289.3		
FEATHER	654+56	654+68.5	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3	PAVEMENT TRANSITION UNDER BRIDGE NO. BEL-70-1083	
	654+68.5	655+06	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
W.B. SHOULDER	655+06	656+31	125	4	56	5.6	56	1.75	2.7	1.75	2.7		
FEATHER	656+31	656+68.5	37.5	4	17	1.7	17	--	--	2.25 avg	1.1		
	656+68.5	656+81	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3		
TOTALS - QUANTITIES CARRIED TO SH.No. 24						1083.2	10809		511.5		526.2		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/15/86		Date 4/17/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

20
72

MAINLINE MEDIAN SHOULDER (WESTBOUND)

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS
						TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1	
	GALS.	SQ. YDS.	INCHES	CU.YDS.	INCHES	CU.YDS.						
W.B. SHOULDER	656+81	675+00	1819	4	809	80.9	809	1.75	39.3	1.75	39.3	
FEATHER	675+00	675+12.5	12.5	4	6	0.6	6	1.5 avg	0.3	1.75	0.3	
	675+12.5	675+18.75	6.25	4	3	0.3	--	--	--	1.875 avg	0.2	
	675+18.75	675+62.5	43.75	4	20	2.0	--	--	--	1.75	1.0	
MEDIAN CROSS-OVER	459+75	PLANIMETERED AREA =			384	38.4	384	1.75	18.7	1.75	18.7	
	577+50	PLANIMETERED AREA =			384	38.4	384	1.75	18.7	1.75	18.7	
TOTALS - QUANTITIES CARRIED TO SH.No. 24						160.6	1583		77.0		78.2	

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date: 4/15/86		Date: 4/17/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

21
72

S.R. 149 INTERCHANGE RAMP SHOULDERS

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	SIDE	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS	
		FROM	TO				TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1		
							GALS.	SQ. YDS.	INCHES	CU. YDS.	INCHES	CU. YDS.		
RAMP A	LT.	4+69	15+38.23	1069.23	3	357	35.7	357	1.75	17.4	1.75	17.4		
	RT.	4+53.07	5+53.07	100	7 avg	78	7.8	78	1.75	3.8	1.75	3.8		
	RT.	5+53.07	15+38.23	985.16	6	657	65.7	657	1.75	31.9	1.75	31.9		
	LT.	SEE DETAIL <u>3</u> SHEET No. <u>54</u>			4.7	3	2	0.2	2	1.75	0.1	1.75	0.1	
					27.1	3	9	0.9	---	2.25 avg	0.6	1.75	0.4	FEATHER AT S.R. 149
					31.6	3	11	1.1	---	---	---	1.5 avg	0.5	
					7.3	6	5	0.5	5	1.75	0.2	1.75	0.2	
	RT.	SEE DETAIL <u>3</u> SHEET No. <u>54</u>			23	6	16	1.6	---	2.25 avg	1.1	1.75	0.8	FEATHER AT S.R. 149
				81.7	6	55	5.5	---	---	---	1.5 avg	2.3		
RAMP B	LT.	1+24.99	9+21.53	796.54	3	266	26.6	266	1.75	12.9	1.75	12.9		
	LT.	9+21.53	9+71+53	50	2.5 avg	14	1.4	14	1.75	0.7	1.75	0.7		
	RT.	1+24.99	10+41.53	916.54	6	611	61.1	611	1.75	29.7	1.75	29.7		
	RT.	10+41.53	11+21+53	80	7 avg	62	6.2	62	1.75	3.0	1.75	3.0		
	RT.	11+21.53	14+21.53	300	8	267	26.7	267	1.75	13.0	1.75	13.0		
	LT.	SEE DETAIL <u>3</u> SHEET No. <u>54</u>			58.0	3	20	2.0	20	1.75	1.0	1.75	1.0	
					30	3	10	1.0	---	2.25 avg	0.7	1.75	0.5	FEATHER AT S.R. 149
					18	3	6	0.6	---	---	---	1.5 avg	0.3	
				57.6	6	39	3.9	39	1.75	1.9	1.75	1.9		
RT.	SEE DETAIL <u>3</u> SHEET No. <u>54</u>			25.1	6	17	1.7	---	2.25 avg	1.2	1.75	0.8	FEATHER AT S.R. 149	
				74.1	6	50	5.0	---	---	---	1.5 avg	2.1		
RAMP C	LT.	8+84	0+72.64	811.36	3	271	27.1	271	1.75	13.2	1.75	13.2		
	RT.	8+95.45	7+95.45	100	7 avg	78	7.8	78	1.75	3.8	1.75	3.8		
	RT.	7+95.45	0+72.64	722.81	6	482	48.2	482	1.75	23.4	1.75	23.4		
	LT.	SEE DETAIL <u>3</u> SHEET No. <u>54</u>			5.4	3	2	0.2	2	1.75	0.1	1.75	0.1	
					27.2	3	9	0.9	---	2.25 avg	0.6	1.75	0.4	FEATHER AT S.R. 149
					31.1	3	11	1.1	---	---	---	1.5 avg	0.5	
					5.4	6	4	0.4	4	1.75	0.2	1.75	0.2	
	RT.	SEE DETAIL <u>3</u> SHEET No. <u>54</u>			25.6	6	17	1.7	---	2.25 avg	1.2	1.75	0.8	FEATHER AT S.R. 149
				88.9	6	60	6.0	---	---	---	1.5 avg	2.5		
TOTALS - QUANTITIES CARRIED TO SH.No. <u>24</u>							348.6	3215		161.7		168.2		

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/15/86		Date 4/17/86	

FHWA REGION	STATE	PROJECT	
5	OHIO		

22
72

S.R. 149 INTERCHANGE & REST AREA RAMP SHOULDERS

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	SIDE	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS	
		FROM	TO				TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS	THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1		
							GALS.	SQ. YDS.	INCHES	CU.YDS.	INCHES	CU.YDS.		
RAMP D (S.R. 149)	LT.	12+80.86	4+50	830.86	3	277	27.7	277	1.75	13.5	1.75	13.5		
	LT.	4+50	4+00	50	2.5 avg	14	1.4	14	1.75	0.7	1.75	0.7		
	RT.	12+80.86	3+60	920.86	6	614	61.4	614	1.75	29.8	1.75	29.8		
	RT.	3+60	6+00	60	7 avg	47	4.7	47	1.75	2.3	1.75	2.3		
	RT.	3+00	0+00	300	8	267	26.7	267	1.75	13.0	1.75	13.0		
	LT.	SEE DETAIL <u>3</u> , SHEET No. <u>54</u> .			46.9	3	17	1.7	17	1.75	0.8	1.75	0.8	
					28.7	3	10	1.0	--	2.25 avg	0.7	1.75	0.5	FEATHER AT S.R. 149
					24	3	8	0.8	--	--	--	1.5 avg	0.3	
					46.6	6	31	3.1	31	1.75	1.5	1.75	1.5	
	RT.				28.1	6	19	1.9	--	2.25 avg	1.3	1.75	0.9	FEATHER AT S.R. 149
				79.1	6	53	5.3	--	--	--	1.5 avg	2.2		
EXIT RAMP E	LT.	4+67	9+32.48	465.5	3	155	15.5	155	1.75	8.0	1.75	8.0		
	LT.	9+32.48	9+57.48	25	3	9	0.9	--	2.5 avg	0.6	1.75	0.4	FEATHER AT PARKING AREA	
	LT.	9+57.48	9+87.48	30	3	10	1.0	--	--	--	1.5 avg	0.4		
	RT.	4+53.07	5+53.07	100	7 avg	78	7.8	78	1.75	4.0	1.75	4.0		
	RT.	5+53.07	9+32.48	379.41	6	253	25.3	253	1.75	13.0	1.75	13.0		
	RT.	9+32.48	9+57.48	25	6	17	1.7	--	2.5 avg	1.2	1.75	0.8	FEATHER AT PARKING AREA	
	RT.	9+57.48	9+87.48	30	6	20	2.0	--	--	--	1.5 avg	0.8		
ENTRANCE RAMP E	LT.	14+95.47	15+25.47	30	3	10	1.0	--	--	--	1.5 avg	0.4	FEATHER AT PARKING AREA	
	LT.	15+25.47	15+50.47	25	3	9	0.9	--	2.5 avg	0.6	1.75	0.4		
	LT.	15+50.47	18+57.78	307.31	3	103	10.3	103	1.75	5.0	1.75	5.0		
	LT.	18+57.78	19+07.78	50	2.5 avg	14	1.4	14	1.75	0.7	1.75	0.7		
	RT.	14+95.47	15+25.47	30	6	20	2.0	--	--	--	1.5 avg	0.8	FEATHER AT PARKING AREA	
	RT.	15+25.47	15+50.47	25	6	17	1.7	--	2.5 avg	1.2	1.75	0.8		
	RT.	15+50.47	19+77.78	427.31	6	285	28.5	285	1.75	13.9	1.75	13.9		
	RT.	19+77.78	20+57.78	80	7 avg	62	6.2	62	1.75	3.0	1.75	3.0		
RT.	20+57.78	23+57.78	300	8	267	26.7	267	1.75	13.0	1.75	13.0			
TOTALS - QUANTITIES CARRIED TO SH.No. <u>24</u>							268.6	2484		127.8		130.9		

REST AREA RAMP SHOULDERS

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 4/15/86		Date 4/17/86	

FHWA REGION	STATE	PROJECT
5	OHIO	

23
72

BEL-70-7.61

PLAN NO.

* AS PER PLAN B

LOCATION	SIDE	STATION		LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	407	SPECIAL	846				REMARKS
		TACK COAT * @ 0.10 GAL./S.Y.	PAVEMENT PLANING, BITUMINOUS				THICKNESS	ASPH. CONC. INTERMEDIATE COURSE, TYPE 2	THICKNESS	ASPH. CONC. SURFACE COURSE TYPE 1			
		GALS.	SQ. YDS.				INCHES	CU.YDS.	INCHES	CU.YDS.			
		FROM	TO										
EXIT RAMP F	LT.	21+87.5	21+34.94	52.56	3	18	1.8	--	2.5 avg	1.3	1.75	0.9	FEATHER @ EXIT NOSE
	LT.	21+34.94	20+59.94	75	3	25	2.5	--	--	--	1.5 avg	1.0	
	RT.	21+97.44	21+34.94	62.5	7.4 avg	52	5.2	--	2.5 avg	3.6	1.75	2.5	FEATHER @ EXIT NOSE
	RT.	21+34.94	20+97.44	37.5	6.4 avg	27	2.7	--	--	--	2.25 avg	1.7	
	RT.	20+97.44	20+59.94	37.5	6	25	2.5	--	--	--	0.75 avg	0.5	
ENTRANCE RAMP F	LT.	9+07.5	8+32.5	75	3	25	2.5	--	--	--	1.5 avg	1.0	FEATHER ON RAMP
	LT.	8+32.5	7+70	62.5	3	21	2.1	--	2.5 avg	1.5	1.75	1.0	
	LT.	7+70	5+00	270	3	90	9.0	90	1.75	4.4	1.75	4.4	
	LT.	5+00	4+50	50	3	17	1.7	17	1.75	0.8	1.75	0.8	
	RT.	9+07.5	8+32.5	75	6	50	5.0	--	--	--	1.5 avg	2.1	FEATHER ON RAMP
	RT.	8+32.5	7+70	62.5	6	42	4.2	--	2.5 avg	2.9	1.75	2.0	
	RT.	7+70	3+80	390	6	260	26.0	260	1.75	12.6	1.75	12.6	
	RT.	3+80	3+00	80	7 avg	62	6.2	62	1.75	3.0	1.75	3.0	
RT.	3+00	0+00	300	8	267	26.7	267	1.75	13.0	1.75	13.0		
TOTALS - QUANTITIES CARRIED TO SH.No. 24							98.1	696		43.1		46.4	

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	6-27-86	Date	8-28-86

FHWA REGION	STATE	PROJECT	
5	OHIO		

24
72

BEL-70-7.61

PLAN NO.

RESURFACING SUMMARY

S H E E T N O.	DESCRIPTION	407		SPECIAL	846		448	
		TACK COAT @ 0.10 GAL./S.Y. AS PER PLAN "A"	TACK COAT @ 0.10 GAL./S.Y. AS PER PLAN "B"	PAVEMENT PLANING, BITUMINOUS	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2	ASPHALT CONCRETE SURFACE COURSE, TYPE 1	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2	ASPHALT CONCRETE SURFACE COURSE, TYPE 1
		GAL.	GAL.	SQ. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.
5	MAINLINE PAVEMENT (EASTBOUND)	3007.9		29,945	1397.9	1458.5		
6	MAINLINE PAVEMENT (EASTBOUND)	4683.6		46,702	2233.5	2280.4		
7	MAINLINE PAVEMENT (WESTBOUND)	2993.5		29,801	1390.8	1451.4		
8	MAINLINE PAVEMENT (WESTBOUND)	4706.1		46,927	2242.9	2291.7		
9	S.R. 149 INTERCHANGE RAMP PAVEMENT	919.5		8454	423.3	451.8		
10	REST AREA RAMP PAVEMENT	433.6		3636	199.1	208.4		
11	MAINLINE OUTSIDE SHOULDER (EASTBOUND)		1150.2	11,446			456.1	480.6
12	MAINLINE OUTSIDE SHOULDER (EASTBOUND)		1289.0	12,890			533.5	544.5
13	MAINLINE OUTSIDE SHOULDER (EASTBOUND)		424.9	4,193			176.7	184.4
14	MAINLINE OUTSIDE SHOULDER (WESTBOUND)		1181.7	11,761			475.3	499.8
15	MAINLINE OUTSIDE SHOULDER (WESTBOUND)		1216.4	12,164			503.6	514.6
16	MAINLINE OUTSIDE SHOULDER (WESTBOUND)		468.9	4,633			189.7	197.1
17	MAINLINE MEDIAN SHOULDER (EASTBOUND)		753.6	7,513	351.2	365.9		
18	MAINLINE MEDIAN SHOULDER (EASTBOUND)		413.5	4,112	198.2	201.6		
19	MAINLINE MEDIAN SHOULDER (WESTBOUND)		1083.2	10,809	511.5	526.2		
20	MAINLINE MEDIAN SHOULDER (WESTBOUND)		160.6	1,583	77.0	78.2		
21	S.R. 149 INTERCHANGE RAMP SHOULDERS		348.6	3,215	161.7	168.2		
22	S.R. 149 INTER. & REST AREA RAMP SHOULDERS		268.6	2,484	127.8	130.9		
23	REST AREA RAMP SHOULDERS		97.9	696	42.9	46.4		
TOTALS — QUANTITIES CARRIED TO GENERAL SUMMARY		16,744.2	8857.1	252,964	9357.8	9659.6	2,334.9	2,421.0

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	7-2-86	Date	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

25
72

BEL-70-7.61

PLAN NO.

FULL DEPTH RIGID PAVEMENT REMOVAL & RIGID REPLACEMENT SUMMARY

FROM SHEET NO.	SPECIAL				203	304	605		
	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT				FULL DEPTH PAVEMENT SAWING	SAWING & SEALING ASPHALT CONCRETE PAVEMENT JOINTS	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	AGGREGATE BASE	AGGREGATE DRAINS
	TYPE Y/Y CONTRACTION	TYPE T/EXP/T EXPANSION	TYPE T/EXP-X/T EXPANSION	TYPE Y/N/Y CONTRACTION					
	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	LIN. FT.	LIN. FT.	CU. YD.	CU. YD.	LIN. FT.
64	16,176				54,370	48,514	3510	3510	13,160
60	544				1346	1104			
65		474		336	1296	528			
66		448			1060	432			
62			76		280	128			
SUB-TOTALS	16,720	922	76	336	58,352	50,706	3510	3510	13,160
TOTALS	18,054				58,352	50,706	3510	3510	13,160

QUANTITIES CARRIED TO GENERAL SUMMARY

* 957' deducted due to guardrail runs 22-GR, 25-GR & 27-GR
** 960' deducted due to guardrail runs 23-GR, 24-GR & 26-GR

ITEM 659 - SEEDING & MULCHING

Linear Grading, Method 1 = 30,779 L.F. (From Sheet N^o 26)
 $30,779 \text{ L.F.} \times 4 \div 9 = 13,680 \text{ S.Y.}$
 Linear Grading, Method 3 = 52,209 L.F. (From Sheet N^o 26)
 $52,209 \text{ L.F.} \times 4 \div 9 = 23,204 \text{ S.Y.}$
 Linear Grading, Method 4 = 7,772 L.F. (From Sheet N^o 58)
 $7,772 \text{ L.F.} - 957' * = 6,815 \text{ L.F.}$
 $6,815 \text{ L.F.} \times 4 \div 9 = 3,029 \text{ S.Y.}$
 Linear Grading, Method 5 = 5,459 L.F. (From Sheet N^o 27)
 $5,459 \text{ L.F.} - 960' ** = 4,499 \text{ L.F.}$
 $4,499 \text{ L.F.} \times 4 \div 9 = 2,000 \text{ S.Y.}$
 Linear Grading, Ditch Cleanout = 8,802 L.F. (From Sheet N^o 28)
 $8,802 \text{ L.F.} \times 6 \div 9 = 5,868 \text{ S.Y.}$
TOTAL = 47,781 S.Y.

ITEM 659 - COMMERCIAL FERTILIZER

$\frac{47,781 \text{ S.Y.} \times 9 \times 20}{2000 \times 1000} = 4.30 \text{ TON}$

ITEM 659 - AGRICULTURAL LIMING

$\frac{47,781 \text{ S.Y.} \times 9 \times 100}{2000 \times 1000} = 21.50 \text{ TON}$

QUANTITIES CARRIED TO GENERAL SUMMARY

* As Per Plan

LINEAR GRADING, METHOD 1				
STATION		LANE	LENGTH	203
				LINEAR GRADING METHOD 1
FROM	TO		LIN. FT.	STATION
410+77.5	413+70.5		293	2.93
420+29.9	433+49		1319.1	13.19
438+24	448+24		1000	10.00
457+24	461+59.4		435.4	4.35
491+37.4	498+74	EAST BOUND	736.6	7.37
503+74	513+12.5	EAST BOUND	938.5	9.39
521+27.4	537+87.5	EAST BOUND	1660.1	16.60
551+50	564+62.5	EAST BOUND	1312.5	13.13
572+32.4	581+37.5	EAST BOUND	905.1	9.05
582+00	588+74.5		674.5	6.75
596+87	610+77		1390	13.90
615+52	649+91		3439	34.39
655+63	675+62.5		1999.5	20.00
410+77.5	412+47.5		170	1.70
420+42.5	434+00.5		1358	13.58
437+25.5	451+00		1374.5	13.75
457+37.5	465+20		782.5	7.83
465+95	471+12.5		517.5	5.18
488+70	498+86.5		1016.5	10.17
504+74	504+92	WEST BOUND	18	0.18
510+14.5	512+52.5	WEST BOUND	238	2.38
523+54.2	534+41.5	WEST BOUND	1087.3	10.87
537+04	541+99	WEST BOUND	495	4.95
556+11.5	565+90	WEST BOUND	978.5	9.79
576+40.4	581+15.5		475.1	4.75
595+90.5	611+70		1579.5	15.80
616+20	648+45		3225	32.25
655+95	662+41		646	6.46
664+04	671+02		698	6.98
675+52	675+62.5		10.5	0.11
TOTAL-Carried To General Summary			30779	307.79

LINEAR GRADING, METHOD 2												
GUARDRAIL REF. N ^o	STATION		LANE	LENGTH	203	448				408		
					LINEAR GRADING METHOD 2	W I D T H	AREA	T H I C K.	2" ASPHALT CONCRETE SURFACE COURSE TYPE 1	BITUMINOUS PRIME COAT @ 0.50 gal/s.y *		
	FROM	TO		LIN. FT.	STATION	FT.	SQ. YD.	IN.	CU. YD.	GAL.		
1	413+70.5	418+45.5		475	4.75	4	211	2	11.7	105.5		
4	419+79.9	420+29.9		50	0.50		22		1.2	11.0		
7	433+49	438+24		475	4.75		211		11.7	105.5		
9	448+24	457+24	EAST BOUND	900	9.00		400		22.2	200.0		
11	461+59.4	491+37.4	EAST BOUND	3012.5	30.13		1339		74.4	669.5		
14	498+74	503+74	EAST BOUND	500	5.00		222		12.3	111.0		
16	513+12.5	518+00	EAST BOUND	487.5	4.88		217		12.0	108.5		
19	519+39.9	521+27.4	EAST BOUND	187.5	1.88		84		4.6	42.0		
28	537+87.4	551+50		1362.5	13.63		606		33.6	303.0		
31	564+62.5	572+32.4		762.5	7.63		339		18.8	169.5		
33	581+37.5	582+00		62.5	0.63		28		1.5	14.0		
35	588+74.5	596+87		812.5	8.13		361		20.1	180.5		
36	610+77	615+52		475	4.75		211		11.7	105.5		
38	649+91	655+63		575	5.75		256		14.2	128.0		
3	412+47.5	419+10		662.5	6.63		295		16.4	147.5		
8	434+00.5	437+25.5		325	3.25		145		8.0	72.5		
10	451+00	457+37.5		637.5	6.38		284		15.7	142.0		
12	465+20	465+95		75	0.75		34		1.9	17.0		
13	471+12.5	488+70		1737.5	17.38		772		42.9	386.9		
15	498+86.5	504+74		587.5	5.88		261		14.5	130.5		
18	512+52.4	518+02.4	WEST BOUND	550	5.50		245		13.6	122.5		
21	519+41.7	523+54.2	WEST BOUND	412.5	4.13		184		10.2	92.0		
29	534+41.5	537+04	WEST BOUND	262.5	2.63		117		6.5	58.5		
30	541+99	556+11.5	WEST BOUND	1412.5	14.13		628		34.9	314.0		
32	565+90	576+40.4	WEST BOUND	1062.5	10.63		472		26.2	236.0		
34	581+15.5	595+90.5		1475	14.75		656		36.4	328.0		
37	611+70	616+20		450	4.50		200		11.1	100.0		
39	648+45	655+95		750	7.50		334		18.5	167.0		
40	662+41	664+04		162.5	1.63		72		4.0	36.0		
41	671+02	675+52		450	4.50	4	200	2	11.1	100.0		
TOTALS - Carried To General Summary				21,158	211.58				521.9	4703.0		

LINEAR GRADING, METHOD 3				
STATION		LANE	LENGTH	203
				LINEAR GRADING METHOD 3
FROM	TO		LIN. FT.	STATION
410+77.5	418+60.5		783.0	7.83
419+95.4	459+35	EAST BOUND	3939.61	39.40
459+97	518+09.3	EAST BOUND	5812.3	58.12
519+30.8	577+10	EAST BOUND	5779.2	57.79
577+72	675+62.5	EAST BOUND	9790.5	97.91
410+77.5	418+93.6	WEST BOUND	816.11	8.16
420+28.5	459+53	WEST BOUND	3924.49	39.24
460+15	518+11.1	WEST BOUND	5796.05	57.96
519+32.6	577+28	WEST BOUND	5795.45	57.95
577+90	675+62.5	WEST BOUND	9772.5	97.73
TOTAL - Carried To General Summary			52,209	522.09

CALC. SHG DATE R.D.A.
 CHK. 6-27-86 DATE 8-28-86

* REFERENCED TO DIRECTION OF TRAVEL

LINEAR GRADING, METHOD 5					
RAMP	STATION		SIDE *	L E N G T H	203
	FROM	TO			LINEAR GRADING, METHOD 5
	FROM	TO		LIN. FT.	STATION
A	4+69	125+74 ^{S.R.} ₁₄₉	LT.	1132.62	11.33
B	125+81 ^{S.R.} ₁₄₉	9+71.5	↑	952.52	9.53
C	8+84	130+63 ^{S.R.} ₁₄₉		875.04	8.75
D	130+65 ^{S.R.} ₁₄₉	4+00		980.39	9.80
E	4+67	9+87.48		520.48	5.20
E	14+95.5	19+07.8		412.31	4.12
F	21+87.5	20+59.9	↓	127.56	1.28
F	9+07.5	4+50	LT.	457.5	4.58
TOTAL - Carried To General Summary				5,459	54.59

LINEAR GRADING (DITCH CLEANOUT)

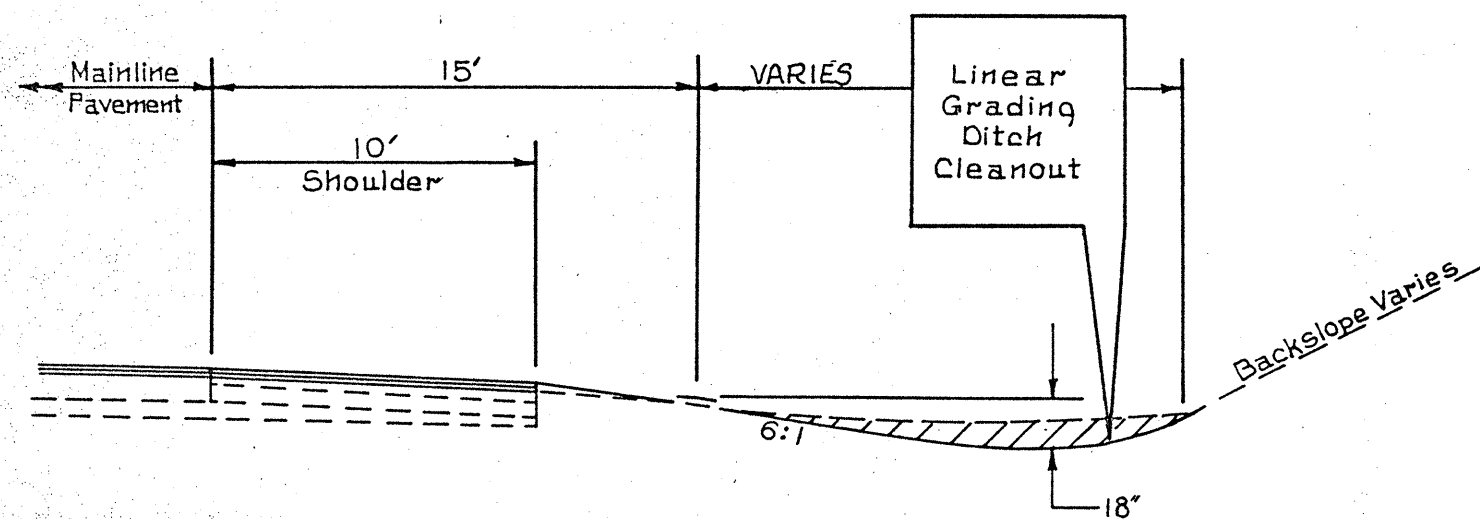
Calc. By <i>S.H.G.</i>	Chkd. By <i>R.D.A.</i>
<i>6-19-86</i>	<i>8-28-86</i>

FHWA REGION 5	STATE OHIO	PROJECT
------------------	---------------	---------

28
72

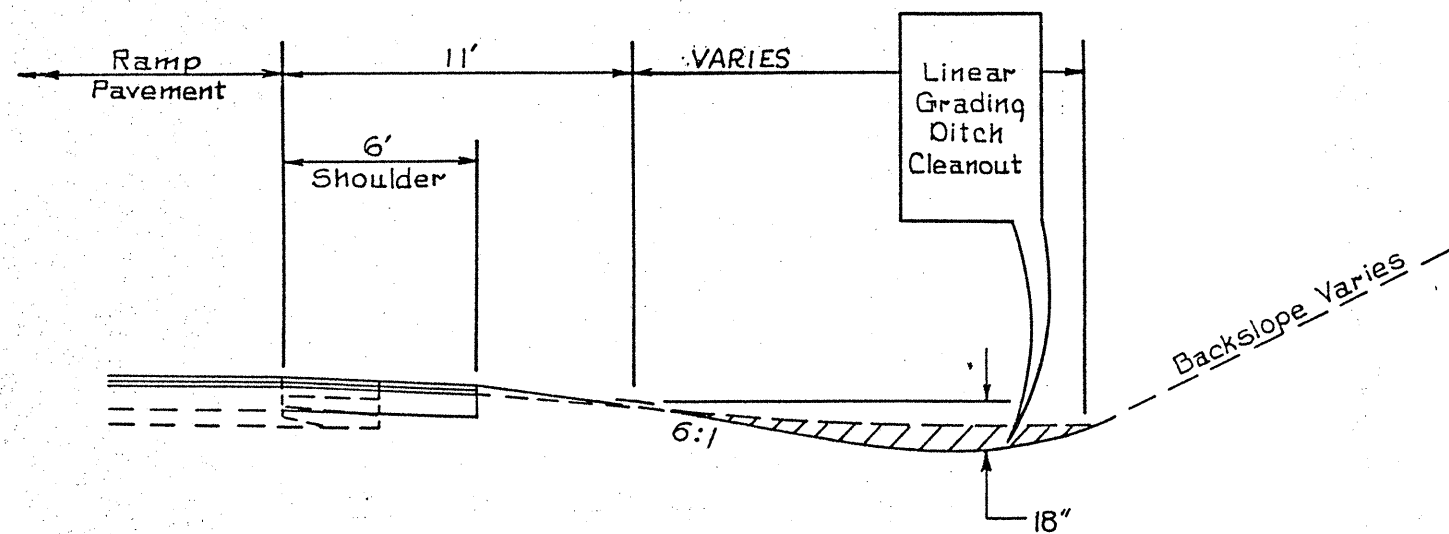
BEL-70-7.61

PLAN NO.



MAINLINE DITCH CLEANOUT

(See General Note on Sheet No. _____.)



RAMP DITCH CLEANOUT

ITEM 203 - LINEAR GRADING (DITCH CLEANOUT)

ROADWAY	LOCATION		SIDE	LENGTH	LINEAR GRADING (DITCH CLEANOUT)
	From	To			
Eastbound	420+55	431+34	Rt.	1079	10.79
	440+70	444+75	Rt.	405	4.05
	529+35	536+00	Rt.	665	6.65
	552+65	561+41	Rt.	876	8.76
	573+71	586+64	Rt.	1293	12.93
	617+13	623+70	Rt.	657	6.57
Westbound	421+93	431+72	Lt.	979	9.79
	491+22	492+73	Lt.	151	1.51
	527+50	530+95	Lt.	345	3.45
	558+00	565+65	Lt.	765	7.65
	603+62	609+21	Lt.	559	5.59
	618+00	621+95	Lt.	395	3.95
Exit Ramp "E"	4+53	7+16	Rt.*	263	2.63
Ramp "C"	5+26	8+96	Rt.*	370	3.70

TOTALS - Quantities Carried to General Summary **88.02**

*Referenced to Direction of Travel.

FHWA REGION	STATE	PROJECT	
5	OHIO		

29
72

BEL-70-7.61

PLAN NO.

FIELD OFFICE: The Contractor shall provide a suitable field office having a minimum of 800 sq. ft. of floor space. Payment shall be at the lump sum price bid for Item 619, Field Office.

5. Item 203 Linear Grading-Method 5-This item shall apply to all ramp shoulder areas without ramp shoulder widening.

CONTINGENCY QUANTITIES: The Contractor shall not order materials or perform work listed in the General Summary for items designated 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 203-LINEAR GRADING (DITCH CLEANOUT): This item shall consist of regrading mainline roadway ditches in cut sections to re-establish the original flow line and shall include all excavation necessary to re-construct the ditch in accordance with dimensions shown in the Details on sheet no. 28.

ALIGNMENT AND PROFILES: The work proposed by this project is for the resurfacing of existing pavement. The alignment of the existing pavement will not be changed and the profile of the proposed surface will be similar to that of the existing pavement except that it will be raised an amount equal to the thickness of the resurfacing courses specified in these plans.

Estimated Quantities and approximate locations are shown on sheet no. 28. The Engineer shall determine the need for this item at each location during construction and shall non-perform this work in any areas where it is not necessary.

407 TACK COAT: The tack coat and cover aggregate operation shall be determined at a pre-construction conference as per 407.05. Plan quantities indicate average application rates of 0.10 gallons per square yard of tack coat for estimating purposes only. If cover aggregate is required, an application rate of 7 lbs. per sq. yd. may be used for estimating purposes. The cover aggregate operation shall be in accordance with Spec. 407.06 and shall be included in the contract unit price bid for Item 407 Tack Coat, As Per Plan A.

The method of measurement shall be considered as one station per 100 linear ft. measured separately for each directional roadway or ramp.

Payment for the above work shall be included in the unit price bid per station for Item 203-Linear Grading (Ditch Cleanout).

499.02 CONCRETE FOR RIGID REPLACEMENT: The following classes of rigid replacement concrete as indicated below shall be used as per Item 499:

- (X) Class FS-This mixture is a fast-setting concrete for accelerated setting and strength development. The minimum cement content shall be 900 pounds per cubic yard and the maximum water cement ratio shall be 0.40. The rigid replacement may be opened to traffic after four hours provided test beams have attained a modulus of rupture of 400 psi.

CURB REMOVED, AS PER PLAN: Where called for on the plans, curb removed shall include all excavation and embankment necessary to grade the adjacent area to the level of the existing paved shoulder and sloped to drain. This item shall also include excavation necessary to expand the paved shoulder area as indicated on the plans. All graded areas not paved shall be seeded in accordance with 659. All work shall be as directed by the Engineer. All costs in performing the above work shall be included in the unit price bid for ITEM 203 CURB REMOVED, AS PER PLAN.

The concrete shall be kept plastic by means of a set-retarding admixture until the surface has been textured. The set-retarding mixture shall be used in accordance with the manufacturer's recommendations and the Engineer's instructions. Calcium chloride shall then be added and mixed with each batch of concrete just prior to placement.

PREVIOUS CONSTRUCTION PLANS: The following construction plans are available for reference by contacting the District 11 office in New Philadelphia, Ohio. BEL-40-7.61 (1962)
GUE-70-28.21/BEL-70-(0.00-0.04) (1973)

NOTE: This project will not require any additional right-of-way.

ITEM 203 LINEAR GRADING: This work shall include all excavation and embankment required to construct paved shoulders and any grading beyond paved shoulders. Any excess turf, material buildup or excavated material 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. The method of measurement shall be considered as one station per 100 linear feet measured separately for northbound and southbound lanes and for each side of ramps. Payment for this work will be made as follows:

If Type II (94 percent purity) calcium chloride is used, the addition rate shall be 1.6 percent by weight of the cement. Type I (77-80) percent purity) calcium chloride may be used at a rate of 2.0 percent by weight of the cement. When calcium chloride in a water solution is used, the water used shall be considered as part of the concrete mixing water and approximate adjustments shall be made for its inclusion in the total concrete mixture.

Any other approved accelerating admixture may be used at the rate recommended by the manufacturer provided it will produce the required strength in the allotted time.

Immediately after the curing compound has been applied, Class FS repairs shall be covered with polyethylene film and further covered with insulation board. The insulation board shall be Class E as specified in ASTM- C-208. The insulation board shall be wrapped in plastic film to protect it from rain and shall be placed tight against the surrounding concrete and weighted down to protect the fresh concrete from the weather.

1. Item 203-Linear Grading, Method 1-this item shall apply to mainline and speed change lane outside shoulder areas w/o asphalt concrete shoulder treatment.
2. Item 203 Linear Grading-Method 2-this item shall apply to mainline and speed change lanes outside shoulder areas with guard-rail and asphalt concrete shoulder treatment.
3. Item 203-Linear Grading-Method 3-this item shall apply to mainline median shoulder areas.
4. Item 203-Linear Grading-Method 4-this item shall apply to all ramp shoulder areas with ramp shoulder widening.

REFERENCES TO ITEM 848

All references to Item 848 appearing in these plans shall be considered to read Item 448.

- (X) Class MS-This mixture is a moderate-setting concrete for accelerated strength development. The rigid replacement may be opened to traffic after 24 hours provided test beams have attained a modulus of rupture of 400 psi. The minimum cement content shall be 800 pounds per cubic yard and the maximum water-cement ratio shall be 0.43.

An approved accelerating admixture may be used at the rate recommended by the manufacturer provided it will produce the required strength in the allotted time.

PROPORTIONING AND AGGREGATE SIZE: The proportioning of the concrete materials to meet the requirements of each class of rigid replacement concrete specified shall be the responsibility of the Contractor. The coarse aggregate may be any one of the following sizes: No. 57, No. 6, No. 67, or No. 8. When No. 8 size is used, the entrained air content shall be 8 percent \pm 2. Otherwise, the entrained air content shall be 6 percent \pm 2.

APPROVAL OF MIX DESIGN: The Engineer will approve the concrete mix design based on the Contractor's submitted proportions and the foregoing information. Submittal by the Contractor will be made in sufficient time to allow approval of materials and mix design prior to placing concrete.

SURFACE CLEANING OF EXISTING PAVED SHOULDERS: In addition to the requirements of 407.04, the paved surface of all mainline median shoulders and any other shoulder areas as may be designated by the Engineer shall be thoroughly cleaned of all foreign material and vegetation by brooming, high pressure water blasting and flushing.

Where accumulations of vegetation, soil or foreign material at the shoulder edge obstruct drainage of the shoulder surface and Item 203 Linear Grading is not specified, such materials shall be removed flush with the shoulder surface prior to brooming and water blasting. The excess material shall be removed and disposed of by the Contractor or wasted over fill slopes at the direction of the Engineer.

Payment for all of the above work shall be included in the unit price bid per gallon for Item 407-Tack Coat, As Per Plan "B".

ITEM 846-ASPALT CONCRETE: On this project, Supplemental Specification 846, Table 2-2 properties of Mixture for heavy traffic volumes shall apply.

ITEM 448-ASPALT CONCRETE: On this project, Specification 448, Table 2-2 properties of Mixture for heavy traffic volumes shall apply.

SEEDING: Quantities for seeding are calculated for the soil areas between the work limits as shown on the typical sections.

GUARDRAIL AT BRIDGE PIERS: Type 5 guardrail with 3'-1/2" post spacing shall be constructed in front of the outside pier columns for guardrail reference nos. 11-GR & 12-GR at Bridge No. Bel-70-0865; 33-GR & 34-GR at Bridge No. Bel-70-1083 and 38-GR & 39-GR at Bridge No. Bel-70-1223 in accordance with Standard Drawing GR-7.

Payment for all of the above shall be included in the unit price bid for Item 606 ~ Guardrail, Type 5, as per plan.

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 O.R.C.

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

Ohio Department of Transportation
District 11 Office
1072 West High Avenue Ext.
P.O. Box 351
New Philadelphia, Ohio 44663
Ph. (216) 339-6633

Belmont Co. Sanitary Sewer Dist.
P. O. Box 457
St. Clairsville, Ohio 43950
Ph. (614) 695-3144

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.

MAINTAINING TRAFFIC: I-70 At least one lane of traffic shall be maintained in each direction at all times. The length of restricted traffic zones shall be kept to a minimum consistent with the specification requirements for the protection of work items which necessitate the restriction. The limits and duration of lane closures shall be subject to the approval of the Engineer. Construction work shall be permitted on only one side of the directional roadway at a time and any open trench shall be adequately maintained and protected with barricades, drums or vertical panels. Pavement planing shall be completed in a directional roadway prior to starting full depth rigid pavement removal and rigid replacement operations in that roadway.

Full depth rigid replacement shall be performed in only one directional roadway at a time and a total length of this operation shall not exceed 10,000 feet at any given time. (These restrictions shall not apply to the full depth pavement sawing operation). The repairs must not extend through the winter with traffic on the sawed joints. If the Contractor cannot complete the repairs before winter, the slabs shall not be sawed. In addition any pavement which has been planed shall not be permitted to remain unsurfaced through the winter.

No pavement openings shall remain unfilled between 4:00 PM Friday and 8:00 AM Monday and 4:00 PM preceding and 8:00 AM after a legal holiday. Also, all lanes shall be open to traffic between 4PM preceding and 8:00 AM after a major legal holiday including holiday weekends.

BRIDGES: Two lanes of traffic shall not be permitted across a directional roadway bridge on which only one lane of rehabilitation has been completed.

⊗ or to the pavement planing operation

REST AREA RAMPS & SPEED CHANGE LANES: EASTBOUND & WESTBOUND Rest area ramps and speed change lane traffic shall be maintained at all times by use of portions of the existing and/or resurfaced pavement and existing shoulders.

Type FS Concrete shall be used for all ramp and speed change lane joint repairs.

S.R. 149 INTERCHANGE RAMPS: Type FS Concrete shall be used for all ramp pavement/joint repairs.

Ramp traffic shall be maintained at all times by use of portions of the existing and/or resurfaced pavement and existing shoulders.

Ramp traffic may be stopped by means of flaggers for intermittent periods not to exceed 10 minutes during ramp joint repair operations. However, 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.

GENERAL: Traffic shall be maintained as specified by use of the existing and/or resurfaced pavement, the existing shoulder and/or temporary roadways on existing shoulders surfaced with Item 404 Bituminous Concrete for Maintaining Traffic.

The limits and duration of use of temporary roadways shall be held to an absolute minimum and in all cases shall be subject to the approval of the Engineer.

The following estimated quantity has been included in the General Summary for the purpose of maintaining traffic as specified above.

Item 404 Bituminous Concrete for Maintaining Traffic-----200 Cu. Yds.

Payment for all of the above except Item 404 shall be included in the price bid for Item 614-Maintaining Traffic.

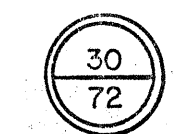
ITEM SPECIAL-LAW ENFORCEMENT OFFICER WITH PATROL CAR: In addition to the requirements of ITEM 614 and Sheet Nos. 33 thru 37, a uniformed special duty Law Enforcement Officer (L.E.O.) and an official Patrol Car with emergency flashers operating shall be provided in the following situations:

1. During the initial first day set-up period and last day tear-down period of a lane closure and channelization of directional traffic into a reduced number of lanes. A flashing arrow panel in accordance with standard drawing T.C. 35.10 shall replace the L.E.O. With Patrol Car between the set-up and tear-down periods. A downstream extension of such an arrangement shall not require the presence of a L.E.O. With Patrol Car.
2. When a new lane closure is initiated in another part of the project.

The following estimated quantities have been included in the General Summary for the above purposes. Item Special-Law Enforcement Officer With Patrol Car-200 hrs. The above requirements do not preclude the Contractors use of the L.E.O.'s services With Patrol Car for other purposes in the project area. However, when such usage is at the option of the Contractor, payment for the L.E.O.'s services involved shall be included in the lump sum bid for Item 614 Maintaining Traffic

FHWA REGION	STATE	PROJECT	
5	OHIO		

BEL-70-7.61



PLAN NO.

ITEM 202-WEARING COURSE REMOVED, AS PER PLAN: This item shall include the removal of the existing Asphalt wearing course from under Bridge No's BEL-70-0865, BEL-70-1083, & BEL-70-1223 as shown on Sh. No. 48, from the feather areas of intersection returns & ramps as shown on Sh. No. 49, and from the mainline feather as shown on Sh. No. 46. The following estimated quantity has been included in the General Summary for the work as specified above.

Item 202-Wearing Course Removed, As Per Plan -- 260L S.Y.

LOCATION OF GUARDRAIL: The location of guardrail runs as shown in these plans are subject to adjustment to assure that planned installations will afford maximum protection for traffic.

GUARDRAIL REMOVED FOR STORAGE: Guardrail designated for removal on this project shall be carefully dismantled and the salvageable rail elements stored for removal by State forces. All posts, blocks, bolts, damaged rail and other material not considered salvageable shall be disposed of as directed. The delineators shall be removed and reinstalled on the new guardrail in approximately the same location.

Payment for all of the above shall be at the unit price bid for 202 Guardrail Removed for Storage measured by the linear foot center to center of terminal posts or center of bridge connection splices.

MODIFICATION OF EXISTING APPROACH ANCHOR ASSEMBLY: Where the plans show an existing Type A anchor (buried end, single or barrier rail) to remain in place, if an existing intermediate post is presently located 12'-6" from the concrete anchor, the exposed portion of that post (including spacers) shall be removed flush with the top of the existing concrete encasement so as to conform with GR-4. At the direction of the Engineer, the 25' rail element of any anchor assembly may be replaced if the rail element is damaged or badly weathered.

Cost of the above work shall be included in the contract unit price bid for each as per Item 606-Modification of Existing Anchor Assembly.

GUARDRAIL REPLACEMENT: No hazard shall be left unprotected except for the actual time necessary to remove, grade, and reinstall 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 on this project until such time that the Engineer is assured of said compliance.

CONNECTIONS TO EXISTING GUARDRAIL: The Contractor shall connect new guardrail to any existing guardrail elements which will remain in place, such as existing guardrail or existing anchor assemblies. The cost of the connectors shall be included in the unit price bid for the appropriate guardrail item.

FHWA REGION	STATE	PROJECT	
5	OHIO		

31
72

BEL-70-7.61

PLAN NO.

ITEM 606 GUARDRAIL TYPE 5, AS PER PLAN: This work shall consist of constructing the Type 5 guardrail as per Standard Construction Drawing GR-2B and shall include boring thru the 448 berm treatment a depth of 6" at each post location, and using 3'-1/2" post spacing in front of bridge pier columns as described in the General Note on sheet 30. Payment for the above described work shall be included in the unit price bid for Item 606 Guardrail, Type 5, as per plan.

SHOULDER TREATMENT AND 408 PRIME COAT, AS PER PLAN: A 4 ft. width adjacent to the existing outside paved shoulder in guardrail areas shall be paved with a 2 inch compacted course of Item 448 Asphalt Concrete as shown on the Typical Section.

Prior to placing this material a Soil Sterilizer using one of the following brands, shall be applied at the rate recommended by the manufacturer:

1. Paraquat C.L. by Ortho
2. Pramitel
3. Krovar by Diamond Shamrock, or an approved equal

ITEM 408 Bituminous Prime Coat shall be applied at the rate of 0.5 gal. per sq. yd. prior to placing the 448 Asphalt Concrete.

After the 448 Asphalt Concrete has been placed and compacted, holes for guardrail posts shall then be bored thru the 848 and the post installed. The disturbed area around each post shall then be backfilled with 448.

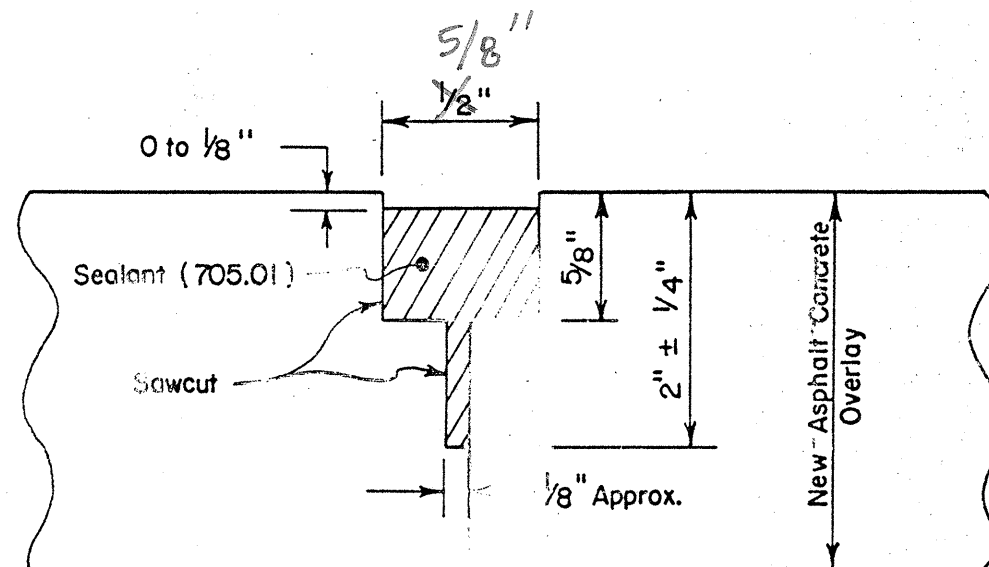
Payment for all of the above described resurfacing shall be included in Item 448 Asphalt Concrete Surface Course Type I with the following exceptions:

The Soil Sterilant and Prime Coat shall be paid for at the unit price bid for Item 408 Bituminous Prime Coat, As Per Plan. Payment for Guardrail shall be paid for at the unit price bid for Item 606 Guardrail, Type 5, As Per Plan.

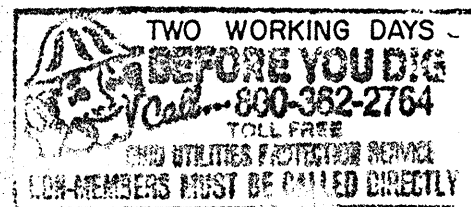
ITEM 202-Raised Pavement Markers Removed for Storage: IR-70
644 Each (Carried to General Summary).

ITEM SPECIAL - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS: (See Note in Proposal)

This item of work shall be performed in accordance with the Proposal Note for this item and the detail shown herein. Estimated quantities for this item of work have been provided in the General Summary based upon calculations shown on sheet no.s 60, 62, 64, 65 and 66.



DETAIL FOR TRANSVERSE JOINT IN NEW ASPHALT CONCRETE OVERLAY



GENERAL NOTES

BEL-70-761

FHWA REGION	STATE	PROJECT	
5	OHIO		

32
72

ITEM SPECIAL - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

DESCRIPTION. THIS WORK SHALL CONSIST OF PAVEMENT REMOVAL, SUBBASE/SUBGRADE CORRECTION, RIGID PAVEMENT REPLACEMENT, AND SHOULDER RESTORATION IN ACCORDANCE WITH DETAILS SHOWN IN THE PLANS. UNLESS OTHERWISE PROVIDED HEREIN, THE MATERIALS AND WORK SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF 202, 301, 305, 310, 402, 404, 451, 452, 453, 499, 846 AND 448 AS APPLICABLE. THE REQUIREMENTS OF ITEM 451.16 SHALL BE WAIVED FOR THIS WORK.

MATERIALS. CONCRETE SHALL BE CLASS C, ITEM 499 UNLESS OTHERWISE SPECIFIED IN THE PLANS.

JOINT SEALER SHALL MEET THE REQUIREMENTS OF ASTM D-3405, SHALL BE SAMPLED IN ACCORDANCE WITH 705.01 AND SHALL BE PRETESTED BEFORE SHIPMENT TO THE PROJECT.

BOND-BREAKER MATERIAL SHALL BE ON THE APPROVED LIST ISSUED BY THE LABORATORY.

*WITH THE EXCEPTION OF GEL TIME NONSHRINK NONMETALLIC GROUT SHALL MEET THE REQUIREMENTS OF ASTM C-881, TYPE 1, GRADE 3, CLASS A, B OR C. THE GROUT SHALL CONSIST OF A TWO COMPONENT EPOXY OR POLYESTER RESIN BONDING COMPOUND THAT WILL FIRMLY ANCHOR THE DOWEL/TIE BAR WITHIN 15 MINUTES.

THE GROUT SHALL BE ACCEPTED BY CERTIFICATION IN ACCORDANCE WITH ITEM 101.061.

FULL DEPTH PAVEMENT SAWING. THE LIMITS OF ALL REPAIRS WILL BE LOCATED AND MARKED BY THE ENGINEER. RIGID PAVEMENT AREAS EXHIBITING DETERIORATION AT THE SURFACE SHALL BE MARKED ONE (1) FOOT MINIMUM BEYOND THE LIMITS OF DETERIORATION BUT IN NO CASE SHALL THE MINIMUM DIMENSION OF THE RIGID REPLACEMENT BE LESS THAN SHOWN IN THE PLANS. PAVEMENT DESIGNATED TO BE REMOVED SHALL BE SAWED FULL DEPTH TRANSVERSELY AND ALONG THE LONGITUDINAL JOINT WITH A DIAMOND SAW BLADE. IF THE EXISTING PAVEMENT IS TO BE OVERLAID WITH ASPHALT CONCRETE, OTHER APPROVED METHODS OF FULL DEPTH SAWING MAY BE USED.

IN AREAS WITH AN EXISTING BITUMINOUS OVERLAY, AN OFF-SET CUT MAY BE MADE THROUGH THE OVERLAY AT THE OPTION OF THE CONTRACTOR, AND THE OVERLAY REMOVED TO PROVIDE CLEARANCE FOR THE FULL DEPTH SAW CUT THROUGH THE RIGID PAVEMENT. IF SUCH A SAW CUT IS MADE AT THE OPTION OF THE CONTRACTOR, IT SHALL BE AT NO ADDITIONAL COST TO THE STATE.

RIGID PAVEMENT REMOVAL. PROCEDURES USED FOR THE RIGID PAVEMENT REMOVAL SHALL NOT CAUSE SPALLING OR CRACKING OF THE ADJACENT PAVEMENT AND SHALL RESULT IN NO DISTURBANCE TO THE UNDERLYING SUBBASE/SUBGRADE OR SURFACED SHOULDER. THE CONTRACTOR MAY ELECT TO MAKE ADDITIONAL SAW CUTS TO FACILITATE THE REMOVAL OF THE PAVEMENT, HOWEVER, ONLY THE CUTS DESIGNATED BY THE ENGINEER WILL BE MEASURED FOR PAYMENT.

IF THE ADJACENT PAVEMENT IS DAMAGED DURING THE PAVEMENT SAWING OR RIGID PAVEMENT REMOVAL, AN ADDITIONAL FULL DEPTH DIAMOND BLADE SAW CUT SHALL BE MADE THE FULL WIDTH OF THE LANE AT A LENGTH THAT WILL ENCOMPASS THE DAMAGED PAVEMENT. THIS ADDITIONAL WORK WILL BE PERFORMED AT NO ADDITIONAL COST TO THE STATE.

SUBBASE/SUBGRADE CORRECTION. PRIOR TO PLACING THE CONCRETE FOR THE RIGID REPLACEMENT, ANY SUBBASE/SUBGRADE MATERIAL THAT IS DISTURBED BELOW THE DESIRED LEVEL OF CLEANOUT SHALL BE REMOVED AND THE PATCH AREA COMPACTED TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL REPLACE THE SUBBASE/SUBGRADE MATERIAL REMOVED WITH CONCRETE AS PART OF THE RIGID REPLACEMENT AT NO ADDITIONAL COST TO THE STATE.

FURNISHING AND PLACING NEW STEEL. ALL REINFORCEMENT, DOWELS AND TIE BARS SHALL BE OF THE SIZE INDICATED IN THE PLAN. DOWEL BARS SHALL BE SMOOTH AND EPOXY COATED AS PER 709.13. THE TIE BARS SHALL BE ROUND, DEFORMED BARS AND EPOXY COATED AS PER 709.13. DOWEL/TIE BAR HOLES SHALL BE DRILLED WITH HYDRAULIC OR ELECTRIC DRILLS. THE DOWEL/TIE BARS SHALL BE PERMANENTLY ANCHORED INTO THE EXISTING PAVEMENT WITH GROUT. THE

GROUT SHALL BE MECHANICALLY INJECTED INTO THE REAR PORTION OF THE HOLE. ENOUGH MATERIAL SHALL BE INJECTED TO PROVIDE COMPLETE COVERAGE AROUND THE DOWEL/TIE BAR TO INSURE THEY ARE PERMANENTLY ANCHORED INTO THE EXISTING PAVEMENT. A SATISFACTORY METHOD SHALL BE USED TO HOLD THE DOWEL/TIE BAR IN THE PROPER ALIGNMENT UNTIL THE GROUT HAS HARDENED.

RIGID REPLACEMENT. THE RIGID REPLACEMENT SHALL NOT BE PLACED UNTIL THE GROUT AROUND THE DOWEL/TIE BAR HAS HARDENED. FORMS SHALL BE USED TO PROVIDE A STRAIGHT AND NEAT EDGE AT THE SHOULDER. EACH PATCH SHALL BE CAST IN ONE CONTINUOUS FULL-DEPTH OPERATION. THE CONCRETE SHALL BE CONSOLIDATED IN PLACE BY USE OF AN INTERNAL TYPE VIBRATOR. THE CONCRETE SHALL BE CONSOLIDATED AROUND THE EDGES OF THE PATCH AND INTERNALLY. INTERNAL VIBRATORS FOR CONSOLIDATING THE CONCRETE SHALL BE AN APPROVED MECHANICAL SPUD TYPE. THE VIBRATORS SHALL BE CAPABLE OF VISIBLY AFFECTING THE CONCRETE FOR A DISTANCE OF 12 INCHES FROM THE VIBRATOR HEAD.

FINISHING AND TEXTURING. PATCHES THAT ARE LESS THAN 12 FEET IN LENGTH SHALL BE SCREEDED EITHER TRANSVERSELY OR LONGITUDINALLY AS DIRECTED BY THE ENGINEER. FOR PATCHES OVER 12 FEET IN LENGTH, THE SCREED SHALL BE PLACED PERPENDICULAR TO THE CENTERLINE.

WHILE THE CONCRETE IS STILL PLASTIC, THE CONTRACTOR SHALL TEST THE PATCH SURFACE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SLABS BY USE OF A STRAIGHTEDGE. FOR PATCHES 10 FEET, OR LESS IN LENGTH, THE STRAIGHTEDGING SHALL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE PAVEMENT CENTERLINE WITH THE ENDS RESTING ON THE EXISTING PAVEMENT AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. THE STRAIGHTEDGE SHOULD BE IN CONTACT WITH THE EXISTING PAVEMENT WHILE DRAWING IT ACROSS THE PATCH AND ANY HIGH OR LOW SPOTS EXCEEDING 1/8 INCH SHOULD BE CORRECTED. IF ANY CORRECTIONS ARE MADE, THE SURFACE SHALL BE RECHECKED.

THE SURFACE OF THE CONCRETE SHALL BE TEXTURED TO MATCH THE SURROUNDING PAVEMENT.

CURING. CONCRETE CURING COMPOUND SHALL BE APPLIED TO THE RIGID REPLACEMENT SURFACE IN ACCORDANCE WITH 451.10. THE RIGID REPLACEMENT IS TO BE OVERLAID WITH ASPHALT CONCRETE BEFORE OPENING TO TRAFFIC. THE CONTRACTOR MAY USE A 407 TACK COAT IN LIEU OF A CONCRETE CURING MEMBRANE AT A RATE OF 0.10 GALLONS PER SQUARE YARD.

JOINTS. TRANSVERSE JOINTS BETWEEN THE RIGID REPLACEMENT AND THE EXISTING RIGID PAVEMENT SHALL BE SAWED OR FORMED BEFORE THE REPAIR IS OPENED TO TRAFFIC. BOTH FACES OF THE JOINT SHALL BE THOROUGHLY CLEANED BY SAND-BLASTING TO THE DEPTH OF THE BOTTOM OF THE PROPOSED SEALER. THE SAND-BLAST CLEANING OPERATION SHALL BE SUCH THAT WHEN COMPLETED THE CONCRETE JOINT WHICH IS TO RECEIVE THE NEW JOINT SEALANT SHALL BE COMPLETELY FREE OF ALL DIRT, DUST, TAR AND ASPHALT, DISCOLORATION AND STAIN, AS WELL AS ANY AND ALL OTHER FORMS OF CONTAMINATION, LEAVING A CLEAN, NEWLY EXPOSED CONCRETE SURFACE. THE TOP OF THE FRESHLY PLACED SEALANT SHALL BE 1/4 INCH (± 1/16 INCH) BELOW THE PAVEMENT SURFACE. THE SHAPE FACTOR (DEPTH TO WIDTH RATIO) OF THE SEALANT SHALL BE BETWEEN ONE (1) AND TWO (2).

WEARING COURSE REPLACEMENT. EXISTING BITUMINOUS OVERLAY REMOVED SHALL BE REPLACED IN ACCORDANCE WITH DETAILS SHOWN IN THE PLANS AND THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT.

SHOULDER RESTORATION. PRIOR TO OPENING THE RIGID REPLACEMENT TO TRAFFIC, THE SHOULDER SHALL BE RESTORED TO THE ORIGINAL LINE AND GRADE USING AN AGGREGATE OR BITUMINOUS CONCRETE IN ACCORDANCE WITH THE PLANS OR AS APPROVED BY THE ENGINEER. THE LOW AREAS SHALL BE FILLED AND COMPACTED FLUSH WITH THE SURROUNDING SHOULDER. MATERIALS REMOVED FROM THE SHOULDER SHALL BE DISPOSED OF BY THE CONTRACTOR.

OPENING TO TRAFFIC. THE RIGID REPLACEMENT MAY BE OPENED TO TRAFFIC WHEN NEW CONCRETE HAS ATTAINED A MODULUS OF RUPTURE OF 400 P.S.I. BEAMS SHALL BE TESTED BY THE ENGINEER TO DETERMINE THE MODULUS OF RUPTURE.

TEMPORARY PATCHES. WHEN THE PAVEMENT HAS BEEN REMOVED AND THE CONTRACTOR IS UNABLE TO COMPLETE THE REQUIRED RIGID REPLACEMENT IN TIME FOR IT TO BE OPENED TO TRAFFIC ON SCHEDULE, THE EXCAVATION SHALL BE FILLED WITH A COMMERCIALY AVAILABLE BITUMINOUS MIXTURE OR OTHER SUITABLE TEMPORARY PATCH MATERIAL WITH A DURABLE SURFACE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THESE PATCHES WHILE THEY ARE IN SERVICE. THE COST OF PLACING, MAINTAINING, REMOVING AND DISPOSING OF THE TEMPORARY PATCHES WILL BE AT THE CONTRACTOR'S EXPENSE.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT. THE QUANTITY OF FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT TO BE PAID FOR SHALL BE THE NUMBER OF SQUARE YARDS OF RIGID PAVEMENT REMOVED TO THE LIMITS ESTABLISHED BY THE ENGINEER. ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL PAVEMENT REMOVED, SUBBASE/SUBGRADE CORRECTION, RIGID REPLACEMENT, FURNISHING AND PLACING NEW STEEL, JOINTS, WEARING COURSE REPLACEMENT, SHOULDER RESTORATION AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM. *AND MATERIALS

THE QUANTITY OF FULL DEPTH PAVEMENT SAWING TO BE PAID FOR SHALL BE THE NUMBER OF LINEAR FEET OF FULL DEPTH SAW CUTS COMPLETED AT THE DESIGNATED LIMITS OF THE REPAIR AREAS.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	SO. YDS.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT
SPECIAL	LIN. FT.	FULL DEPTH PAVEMENT SAWING

SUBBASE/SUBGRADE FAILURES

IF, AFTER REMOVAL OF THE RIGID PAVEMENT, THE ENGINEER DETERMINES THAT THE SUBBASE OR SUBGRADE HAS FAILED OR IS PUMPING, HE SHALL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE IT WITH COMPACTED 304 AGGREGATE AND PLACE AGGREGATE DRAINS AS NECESSARY. QUANTITIES OF ITEM 301 BITUMINOUS AGGREGATE BASE AND ITEM 304 AGGREGATE BASE HAVE BEEN PROVIDED TO RECONSTRUCT THE PORTION OF THE EXISTING PAVED BERM DISTURBED BY THE TRENCHING OPERATIONS FOR PLACING THE ITEM 605 AGGREGATE DRAINS.

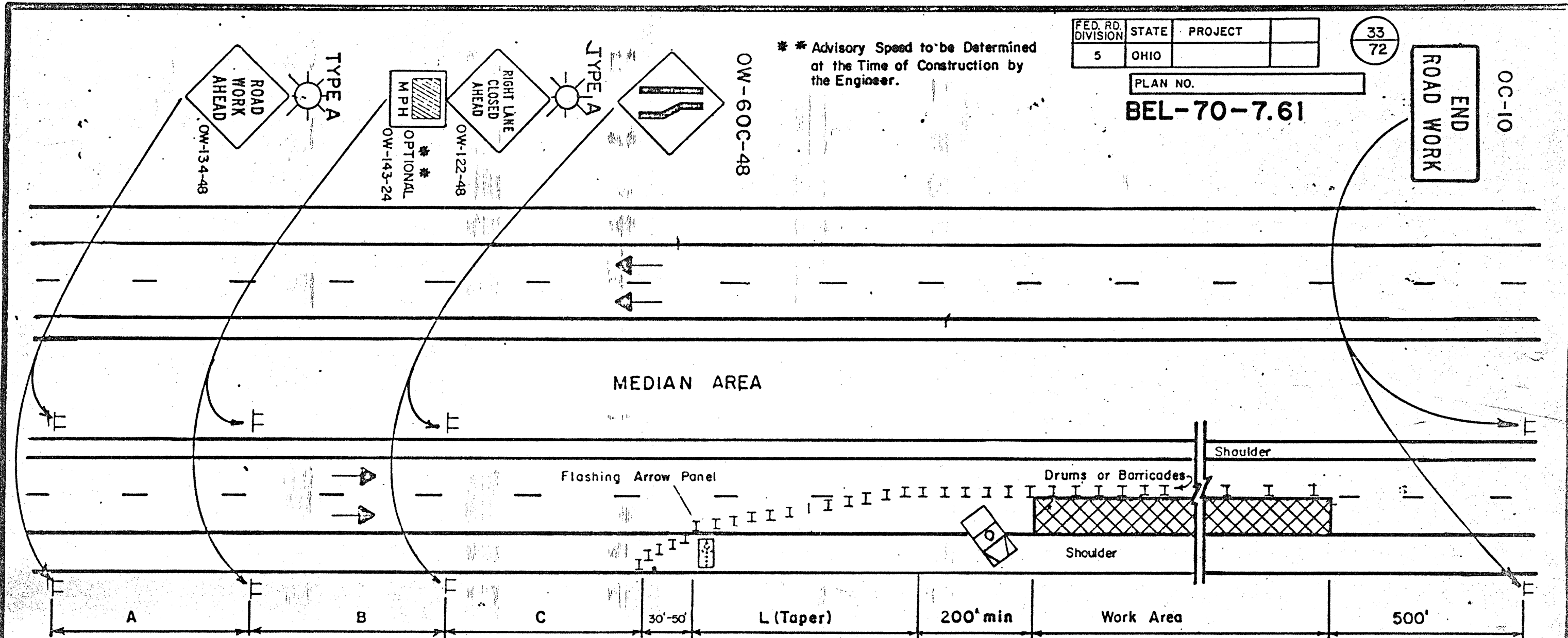
PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
203	CU. YDS.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
301	CU. YDS.	BITUMINOUS AGGREGATE BASE
304	CU. YDS.	AGGREGATE BASE
605	LIN. FT.	AGGREGATE DRAINS

STANDARD DRAWING BP-13

THE LAST SENTENCE OF THE FOOTNOTE (*) ON STANDARD DRAWING BP-13 SHALL BE REVISED TO READ "IF THE PATCH LENGTH EXCEEDS 20 FEET, THE FABRIC SHALL CONSIST OF W8.5 OR D8.5 LONGITUDINAL WIRES SPACED AT 6" C/C AND W4 OR D4 TRANSVERSE WIRES SPACED AT 12" C/C".

GENERAL NOTES



FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

33
72

PLAN NO.
BEL-70-7.61

** Advisory Speed to be Determined at the Time of Construction by the Engineer.

GENERAL NOTES:

- The taper length (L) shall be in accordance with Section 7F-17 of the OMUTCD. The location of the transition taper and location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. In order to determine the minimum number of channelizing devices for the transition taper see Table 7-5 OMUTCD. For a 55 MPH prevailing speed and a 12 ft. lane, not less than thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Not less than five (5) drums or barricades shall be used to form the taper on the shoulder. Drums or barricades shall be spaced approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100 to 120 feet for the balance of the work area. Cones may be substituted for barricades or drums for short term daylight lane closures only.
- The major standard level warning sign sizes may be used on divided streets or highways that are not classified as freeways or expressways.
- When work is being performed in the lane adjacent to the median on a divided highway an OW-123-48 sign(s) shall be substituted for the OW-122-48 sign(s) and an OW-600-48 sign(s) shall be substituted for the OW-60C sign(s).
- The work vehicle shown at the beginning of the work area shall be in place and unoccupied whenever workers are in the work area. This work vehicle shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer. The vehicle shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of a 1/4 mile.
- The flashing arrow panel shall meet requirements contained in TC-35.10.
- Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1.
- Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.
- Some work area locations may require more than just static or conventional signs to enhance communication with the driver. At these locations Portable Changeable Message Signs (PCMS) units are recommended. These devices should be located approximately 2000-4000 ft in advance of a lane closure or other point of required action. See Section 7G-8.1, OMUTCD for further guidance on use of PCMS units.

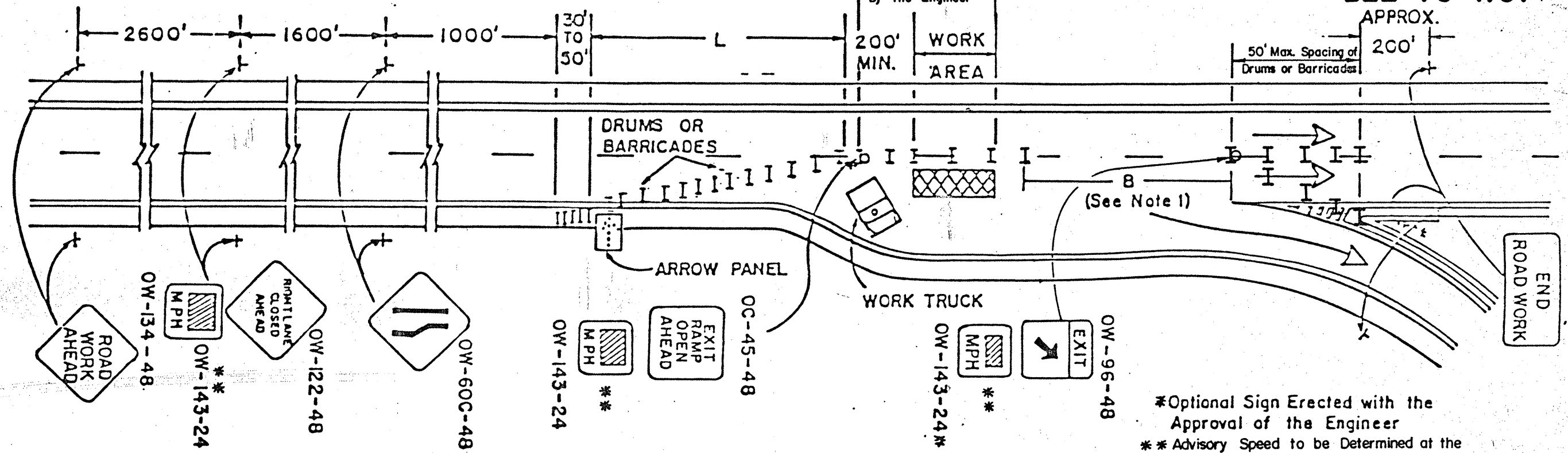
MINIMUM DISTANCE	A	B	C
MAJOR STANDARD	500'	500'	500'
URBAN FREEWAY & EXPRESSWAY	500' TO 1000'	500' TO 1000'	500' TO 1000'
RURAL FREEWAY & EXPRESSWAY	2600'	1600'	1000'

OHIO DEPARTMENT OF TRANSPORTATION	
CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY	DATE 2/82

PLAN NO. **BEL-70-7.61**

10. For night closures, each of the first two signs in the sequence (ROAD WORK AHEAD and RIGHT LANE CLOSED AHEAD) is required to be supplemented by a Type A flashing barricade warning light.

11. Work vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of 1/4 mile.



*Optional Sign Erected with the Approval of the Engineer
 ** Advisory Speed to be Determined at the Time of Construction by the Engineer.

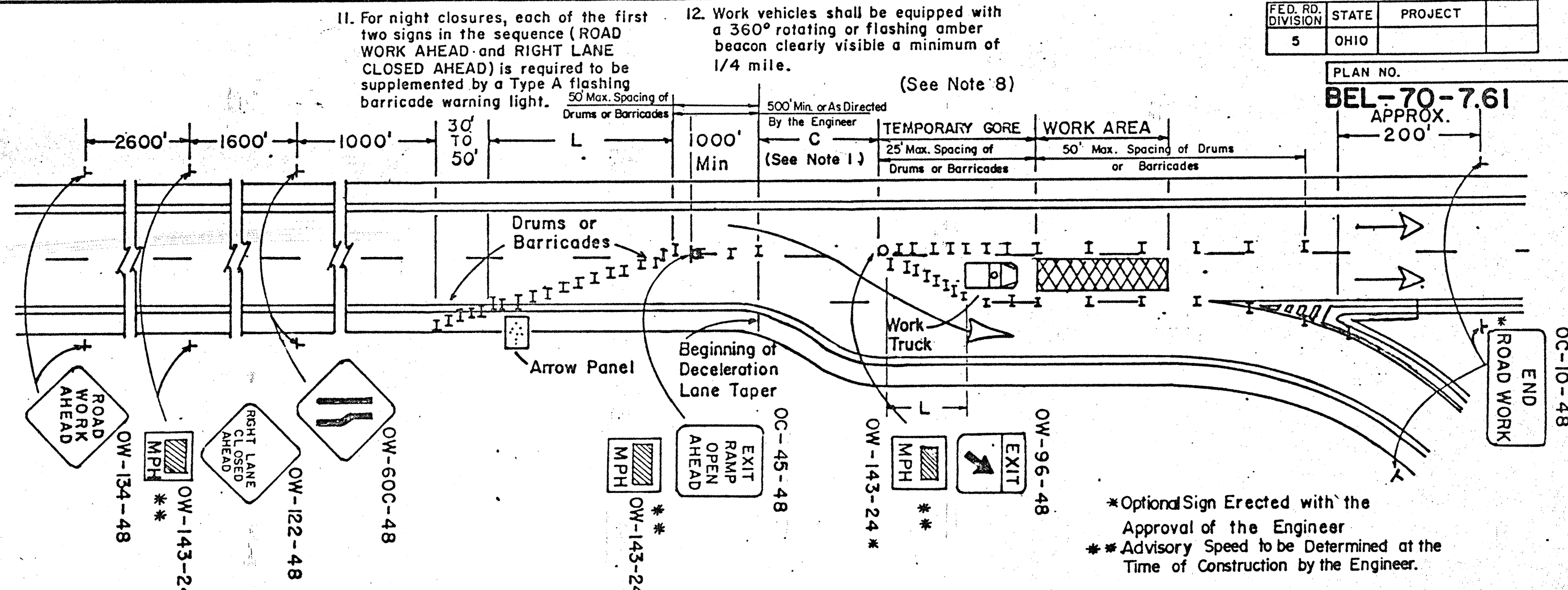
GENERAL NOTES

- THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "B" IS 100 FEET OR GREATER. WHEN "B" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE AT EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
- WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.
- THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
- THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS.
- TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND (⊗) CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
- TAPER FORMULAE:
 $L = S \times W$ FOR SPEEDS OF 45 OR MORE
 $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.
- THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

⊗ 100' to 120'

BUREAU OF TRAFFIC CONTROL OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE BEFORE EXIT GORE	
DATE	3-3-79
CH	CK -

PLAN NO.
BEL-70-7.61
APPROX. 200'



11. For night closures, each of the first two signs in the sequence (ROAD WORK AHEAD and RIGHT LANE CLOSED AHEAD) is required to be supplemented by a Type A flashing barricade warning light.

12. Work vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of 1/4 mile.

(See Note 8)

GENERAL NOTES

- THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "C" IS 100 FEET OR GREATER. WHEN "C" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE BEFORE EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
- WHEN WORK IS BEING PERFORMED IN ONLY THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED.
- THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
- THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS.
- TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND (⊗) CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
- WHEN CREATING A TEMPORARY GORE, CHANNELIZING DEVICES SHOULD BE SPACED 25' CENTER TO CENTER SO AS TO CREATE A "SOLID GORE" EFFECT.
- THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

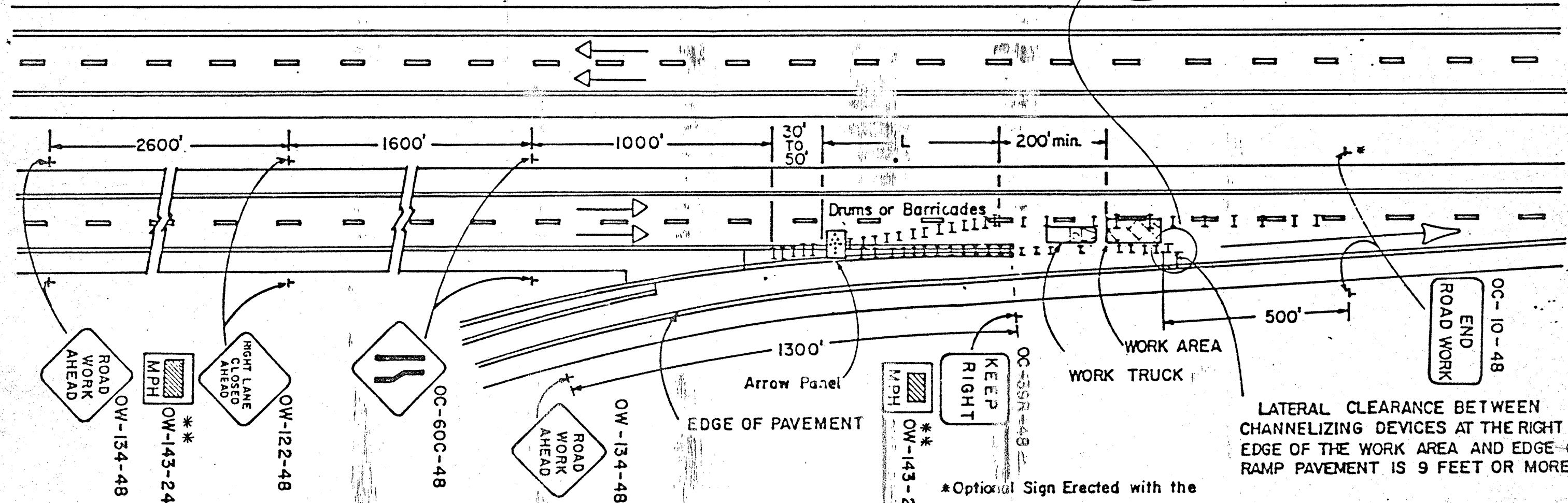
⊗ 100' to 120'

*Optional Sign Erected with the Approval of the Engineer
**Advisory Speed to be Determined at the Time of Construction by the Engineer.

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT EXIT GORE	DATE 8-3-79

PLAN NO.
BEL-70-7.61

10. For night closures, each of the first two signs in the sequence (ROAD WORK AHEAD and RIGHT LANE CLOSED AHEAD) is required to be supplemented by a Type A flashing barricade warning light.
11. Work vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of 1/4 mile.



LATERAL CLEARANCE BETWEEN CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND EDGE OF RAMP PAVEMENT IS 9 FEET OR MORE.

GENERAL NOTES

- THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL BE EMPLOYED WHEN THE LATERAL CLEARANCE BETWEEN THE CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND THE EDGE OF THE RAMP PAVEMENT IS 9 FEET OR MORE. WHEN THE CLEARANCE IS LESS THAN 9 FEET, THE TRAFFIC CONTROL ON "LANE CLOSURE AT ENTRANCE RAMP: PLAN B" SHOULD BE USED, OR THE RAMP SHOULD BE CLOSED, OR ALLOWING RAMP TRAFFIC TO USE THE BERM SHOULD BE CONSIDERED PROVIDED THE OPERATION IS "SHORT" IN DURATION. WHEN THE RAMP IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
- THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS.
- RAMP SIGNS SHALL BE DUAL MOUNTED ON MULTILANE RAMPS.

- THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
- THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMAN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED.
- TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND (⊗) CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

* Optional Sign Erected with the Approval of the Engineer
 ** Advisory Speed to be Determined at the Time of Construction by the Engineer.

7. TAPER FORMULAE:

$L = S \times W$ FOR SPEEDS OF 45 OR MORE.
 $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.

WHERE:

L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

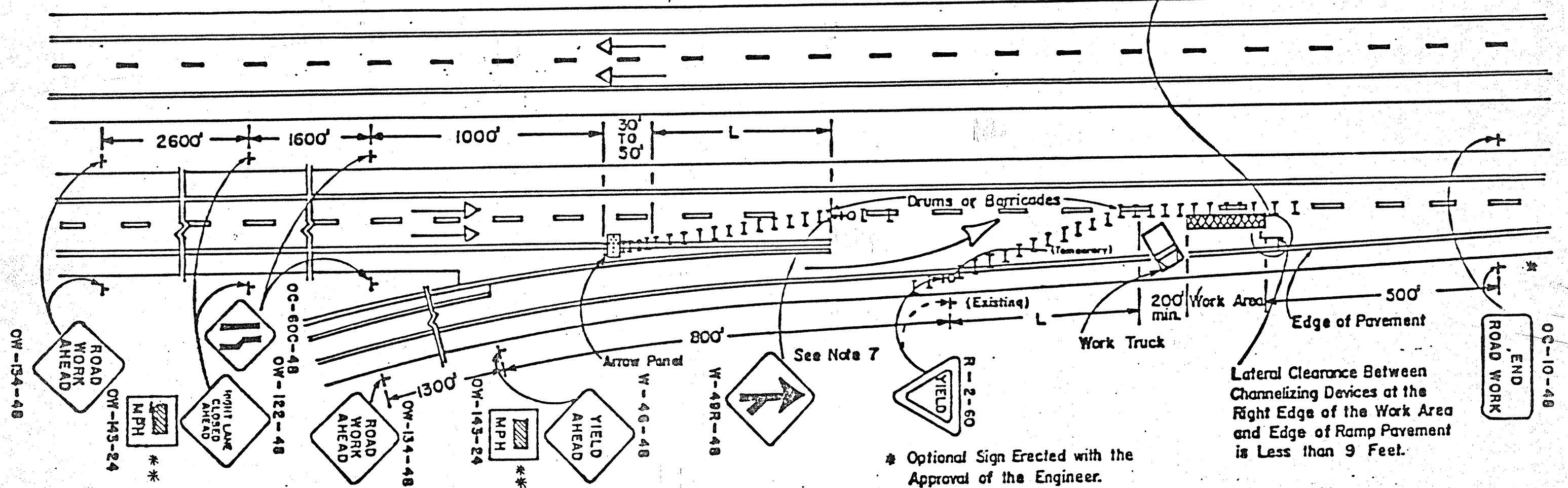
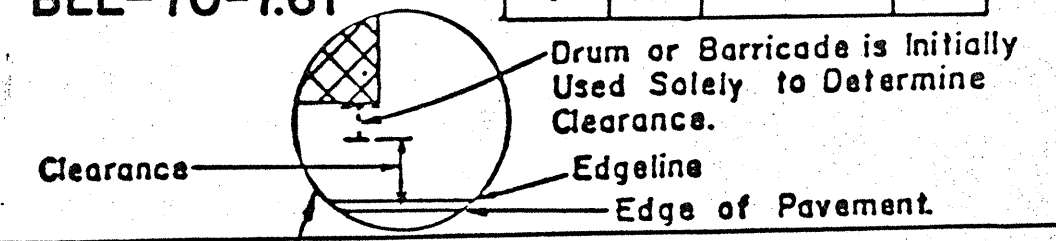
- THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

⊗ 100' to 120'

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT ENTRANCE RAMP: PLAN A	DATE 8-3-79

11. For night closures, each of the first two signs in the sequence (ROAD WORK AHEAD and RIGHT LANE CLOSED AHEAD) is required to be supplemented by a Type A flashing barricade warning light.

12. Work vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of 1/4 mile.



General Notes

1. This work area traffic control application shall be employed when the lateral clearance between channelizing devices at the right edge of the work area and the edge of the ramp pavement is less than 9 feet. When the clearance is more than 9 feet, the traffic control on "Lane Closure at Entrance Ramp: Plan A" should be used, or the ramp should be closed. When the ramp is closed, appropriate detour signs shall be provided.
2. Thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Five (5) channelizing devices shall be used to form the taper on the shoulder. Drums or barricades shall be spaced at 50 foot centers. Cones may be substituted for barricades or drums for the lane closures during daylight hours.
3. Ramp signs shall be dual mounted on multi-lane ramps. When the ramp is not long enough to allow placement as specified above, the signs may be spaced propor-

4. The flashing arrow panel shall be in accordance with TC-35.10.
5. The work truck shown at the beginning of the work area shall be in place and unoccupied whenever men are working within the work area. This truck shall be moved from the pavement whenever workmen are not in the work area. Other protective devices may be used in lieu of work truck shown when approved by the Engineer.
6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. Maximum spacing shall be 50' center to center in advance of the work area and (⊗) center to center within the limits of the work area.

* Optional Sign Erected with the Approval of the Engineer.

** Advisory Speed to be Determined at the Time of Construction by the Engineer.

7. It may be necessary to move the location of an existing Yield condition. In these cases, the permanent R-2 sign installation shall be covered and the temporary installation shall be mounted upon a drive post which shall be banded to a drum with stainless steel strapping material or other techniques subject to the approval of the Engineer.

8. Taper Formulae:
 $L = S \times W$ for Speeds of 45 or more.
 $L = W^2 / 60$ for Speeds 40 or less.

Where: =

- L = Minimum length of taper.
- S = Numerical value of posted speed limit prior to work or 85 percentile speed.
- W = Width of offset.

9. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

⊗ 100' to 120'

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT ENTRANCE RAMP PLAN B	DATE 3-3-79

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 6-27-86		Date 8-28-86	

FHWA REGION	STATE	PROJECT	
5	OHIO		

38
76

BEL-70-7.61

PLAN NO.

GENERAL SUMMARY

ITEM	SHEET NUMBER											GRAND TOTAL	UNIT	DESCRIPTION			
	25	26	27	28	30	31	44	51	55	58							
																	- ROADWAY -
202					2604							2,604	SQ. YD.				WEARING COURSE REMOVED, AS PER PLAN
202								56	56			112	SQ. YD.				CONCRETE MEDIAN PAVEMENT REMOVED
202								1734	1016			2,750	LIN. FT.				CURB REMOVED, AS PER PLAN
202								26,937.5				26,937.5	LIN. FT.				GUARDRAIL REMOVED FOR STORAGE
202								200				200	LIN. FT.				GUARDRAIL BARRIER DESIGN, REMOVED FOR STORAGE
202								644				644	EACH				RAISED PAVEMENT MARKERS REMOVED FOR STORAGE
203		308										308	STATION				LINEAR GRADING, METHOD 1
203		212										212	STATION				LINEAR GRADING, METHOD 2
203		522										522	STATION				LINEAR GRADING, METHOD 3
203										78		78	STATION				LINEAR GRADING, METHOD 4
203			55									55	STATION				LINEAR GRADING, METHOD 5
203				88								88	STATION				LINEAR GRADING (DITCH CLEANOUT)
203	3510										2119	5,629	CU. YD.				EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
404					200							200	CU. YD.				BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
606								5650				5,650	LIN. FT.				GUARDRAIL, TYPE 5
606								21,150				21,150	LIN. FT.				GUARDRAIL, TYPE 5, AS PER PLAN
606								200				200	LIN. FT.				GUARDRAIL, BARRIER DESIGN, TYPE 5
606								36				36	EACH				MODIFICATION OF EXISTING ANCHOR ASSEMBLY
606								1				1	EACH				ANCHOR ASSEMBLY, STANDARD TYPE A
606								9				9	EACH				ANCHOR ASSEMBLY, STANDARD TYPE T
																	- EROSION CONTROL -
659	47,781											47,781	SQ. YD.				SEEDING AND MULCHING
659	4.30											4.30	TON				COMMERCIAL FERTILIZER
659	21.50											21.50	TON				AGRICULTURAL LIMING
																	- DRAINAGE -
604								2	1			3	EACH				CATCH BASIN ADJUSTED TO GRADE
605	13,160											13,160	LIN. FT.				AGGREGATE DRAINS

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date 8-27-86		Date 8-28-86	

FHWA REGION	STATE	PROJECT	
5	OHIO		

39
76

BEL-70-7.61

PLAN NO.

GENERAL SUMMARY

ITEM	SHEET NUMBER										GRAND TOTAL	UNIT	DESCRIPTION	
	24	25	26	29	30	51	55	58		69				
- PAVEMENT -														
301						42	24	470				536	CU. YD.	BITUMINOUS AGGREGATE BASE, AC-20
304		3510						705				4,215	CU. YD.	AGGREGATE BASE
310								941				941	CU. YD.	SUBBASE, TYPE 2
407	16,744											16,744	GAL.	TACK COAT, AS PER PLAN "A"
407	8857											8,857	GAL.	TACK COAT, AS PER PLAN "B"
408			4703									4,703	GAL.	BITUMINOUS PRIME COAT, AS PER PLAN
846	9660					7	4					9,671	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
846	9358					7	4					9,369	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
448	2421											2,421	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
448	2335											2,335	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
448			522									522	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 (UNDER GUARDRAIL)
SPEC.	252,964											252,964	SQ. YD.	PAVEMENT PLANING, BITUMINOUS (SEE PROPOSAL NOTE)
SPEC.		18,054										18,054	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT
SPEC.		58,352										58,352	LIN. FT.	FULL DEPTH PAVEMENT SAWING
SPEC.		50,706										50,706	LIN. FT.	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS (SEE PROPOSAL NOTE)
- TRAFFIC CONTROL -														
621										23.26		23.26	MILE	EDGE LINES
621										10.42		10.42	MILE	LANE LINES
847										3995		3,995	LIN. FT.	CHANNELIZING LINES, 947.03 TYPE A
847										1200		1,200	LIN. FT.	TRANSVERSE LINES, 947.03 TYPE A
847										208		208	LIN. FT.	STOP LINES, 947.03 TYPE A
614										30.10		30.10	MILE	TEMPORARY LANE LINES, CLASS II
614										1200		1,200	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II
- STRUCTURES OVER 20' SPAN -														
BRIDGE No. BEL-70-0963 L & R: SEE SHEET No. 70:														
SPEC.					200							200	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR
614					LUMP							LUMP		MAINTAINING TRAFFIC
619					LUMP							LUMP		FIELD OFFICE
624												LUMP		MOBILIZATION

TYPICAL PAVEMENT & SHOULDER DETAILS

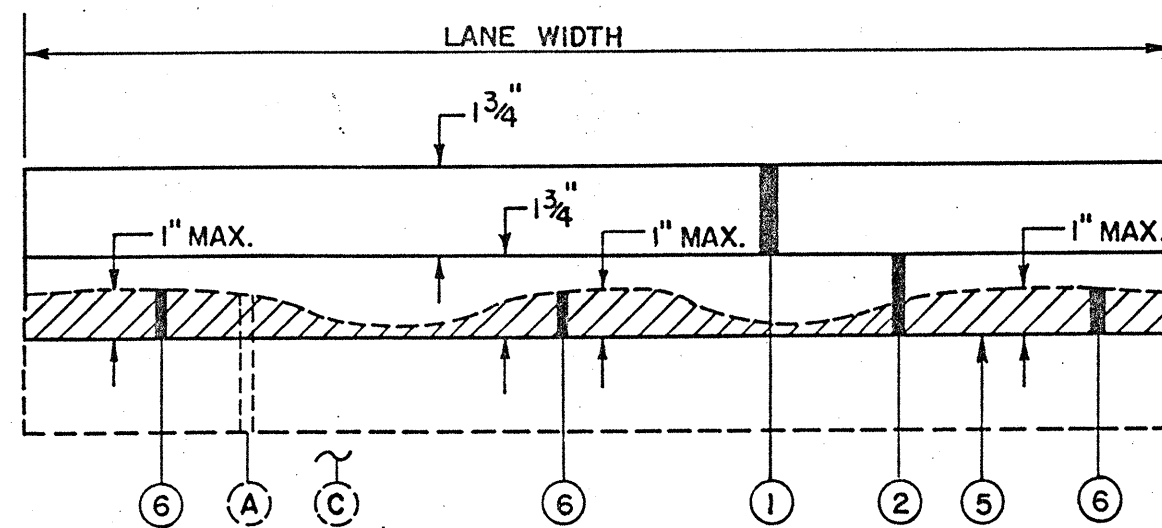
FHWA REGION	STATE	FEDERAL PROJECT	
5	OHIO		

40
72

BEL-70-7.61

PLAN NO.

MAINLINE PAVEMENT: (TRANSVERSE SECTION OF LANE)

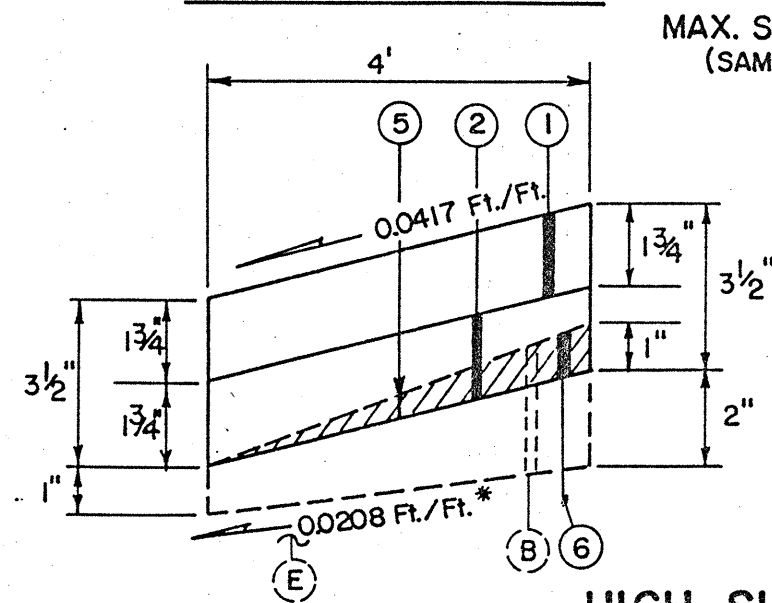


NOTE: FOR RAMP SHOULDER DETAILS,
SEE SHEET NO. 58

FOR LEGEND SEE SHEET NO. 3

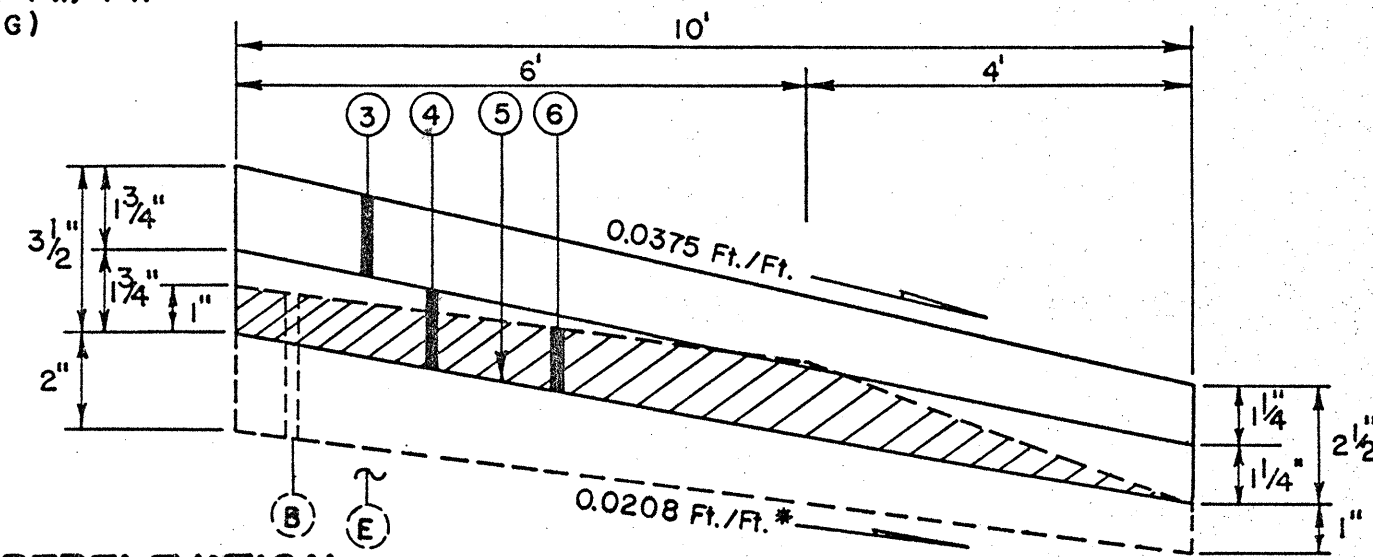
* AS PER ORIGINAL CONSTRUCTION PLAN

INSIDE SHOULDER:

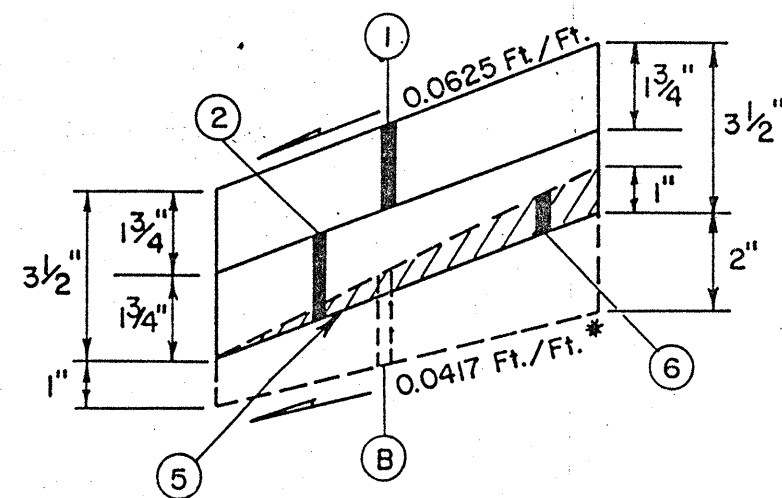


MAX. SUPER. = 0.032 FT./FT.
(SAME AS EXISTING)

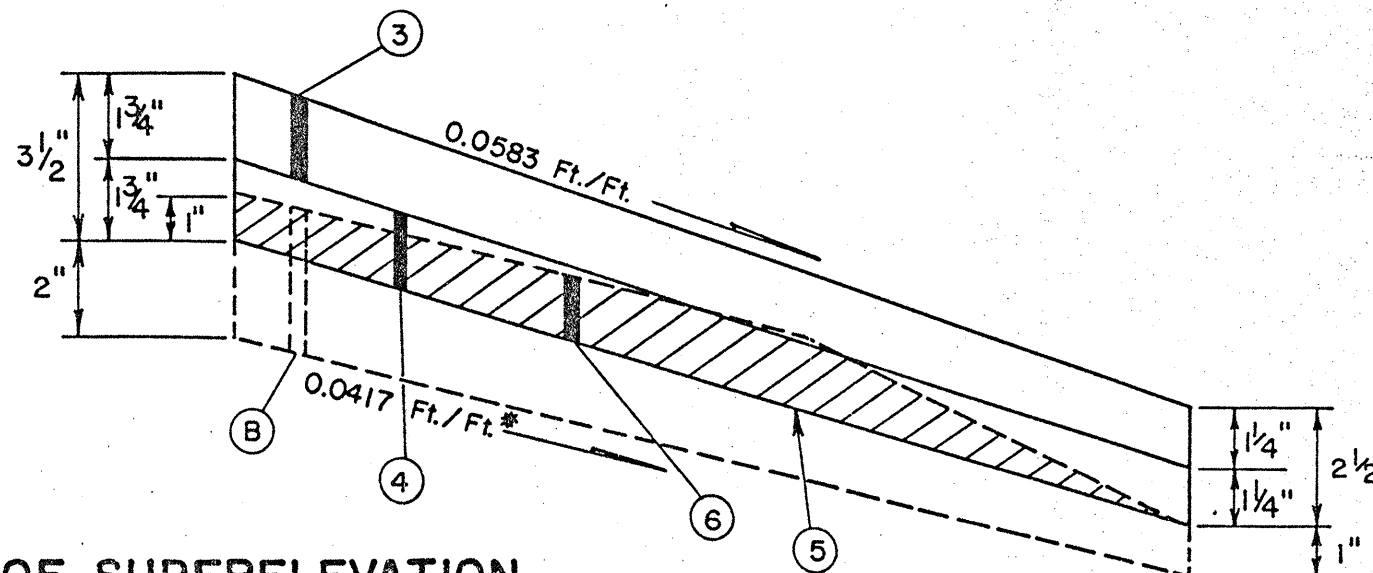
OUTSIDE SHOULDER:



HIGH SIDE OF SUPERELEVATION



NORMAL SECTION & LOW SIDE OF SUPERELEVATION



FHWA REGION	STATE	PROJECT
5	OHIO	

41
72

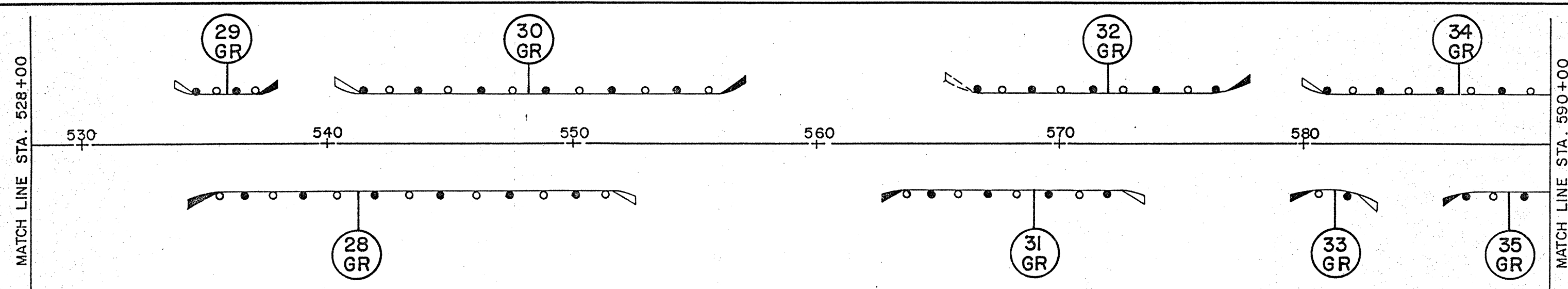
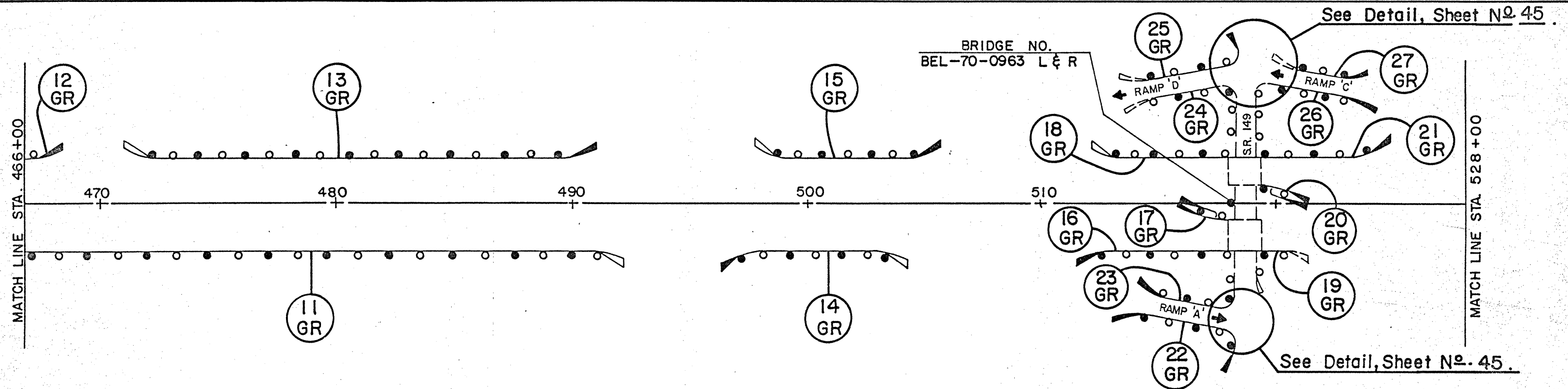
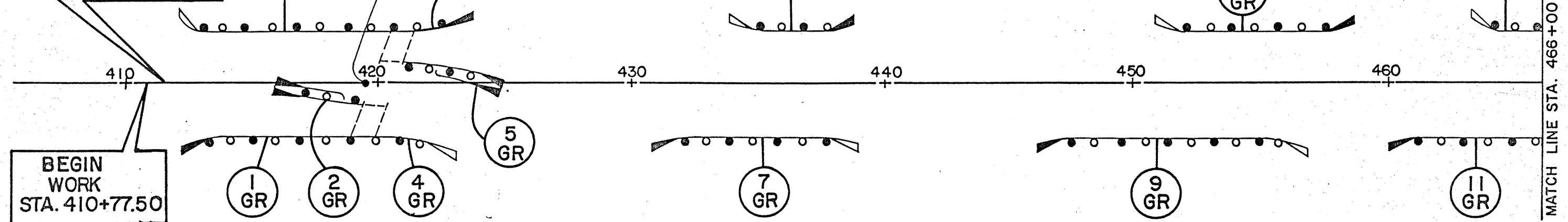
IR-70-8(48) 213

BEGIN PROJECT
STA. 411+40.00
S.L.M. 7.61

BRIDGE NO.
BEL-70-0775 L & R

BEL-70-7.61

PLAN NO.

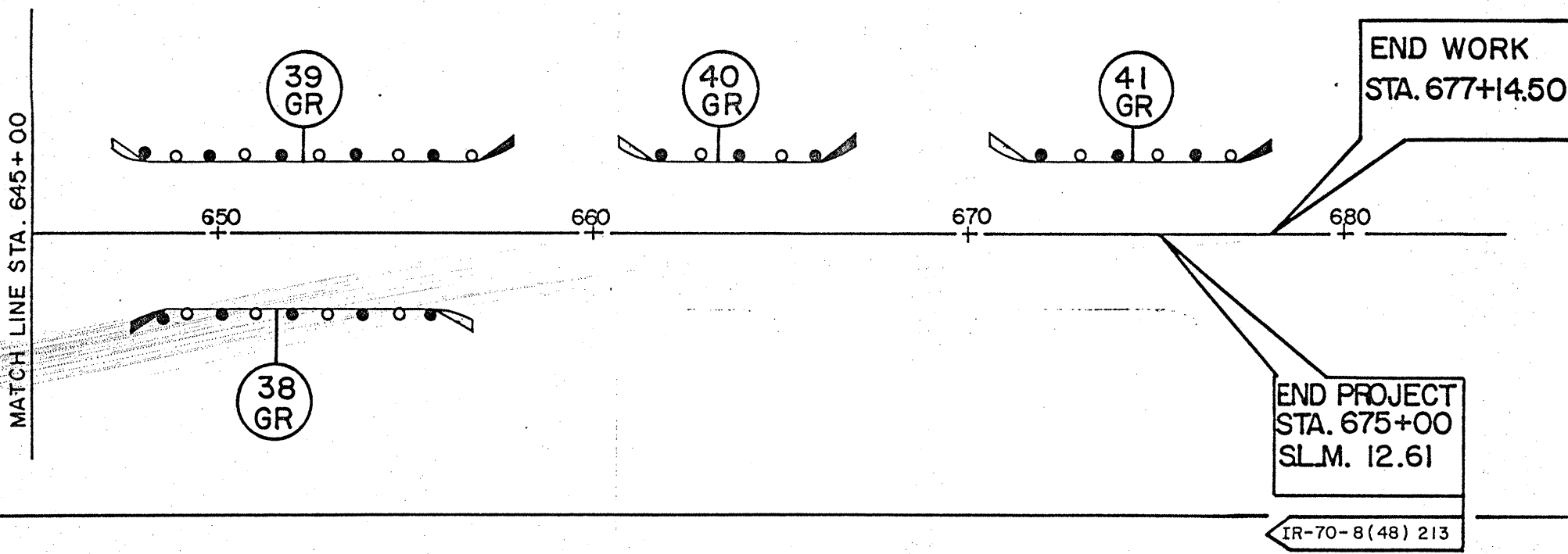
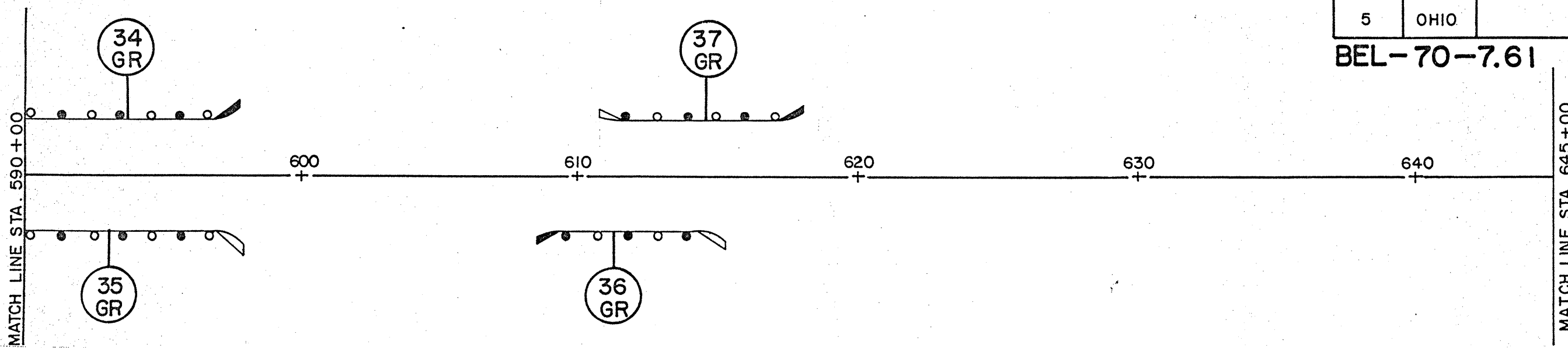


FHWA REGION	STATE	PROJECT	
5	OHIO		

42
72

BEL-70-7.61

PLAN NO.



GUARDRAIL SUMMARY

QUANTITIES			
CALC.	S.H.G.	DATE	7-3-86
CHK'D	R.D.A.	DATE	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

43
72

BEL-70-7.61

PLAN NO.

* BRIDGE TERMINAL ASSEMBLY

REFERENCE NO.	STATION (±)		202		606						COMMENTS
			GUARDRAIL REMOVED FOR STORAGE	GUARDRAIL BARRIER DESIGN, REMOVED FOR STORAGE	GUARDRAIL, TYPE 5	GUARDRAIL, BARRIER, DESIGN, TYPE 5	GUARDRAIL, TYPE 5, AS PER PLAN	MODIFICATION OF EXISTING ANCHOR ASSEMBLY	ANCHOR ASSEMBLY, STANDARD TYPE		
									A	T	
FROM	TO	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH		
1 - GR	412+20.5	418+45.5	600		125		475	1		connect to existing B.T.A. *	
2 - GR	416+39.7	418+64.7	150	50	150	50		1		connect to existing B.T.A. *	
3 - GR	412+47.5	419+10	662.5				662.5			connect to existing B.T.A. *	
4 - GR	419+79.9	420+29.9	50				50			connect to existing B.T.A. *	
5 - GR	420+24.2	422+11.7	112.5	50	112.5	50		1		connect to existing B.T.A. *	
6 - GR	420+42.6	421+92.6	125		125			1		connect to existing B.T.A. *	
7 - GR	431+61.5	438+24	637.5		162.5		475	1			
8 - GR	434+00.5	438+50.5	425		100		325	1			
9 - GR	446+74	457+24	1025		125		900	1			
10 - GR	451+00	458+87.5	762.5		125		637.5	1			
11 - GR	460+34.4	491+37.4	3112.5		100		3012.5 #	1		# USE 3'-1/2" POST SPACING IN FRONT OF PIER COLUMNS AS PER STANDARD DRAWING G.R. 7. (SEE GENERAL NOTE ON SHEET NO.30).	
12 - GR	465+20	467+20	175		100		75 #	1			
13 - GR	471+12.5	490+70	1912.5		175		1737.5	1			
14 - GR	497+24	503+74	625		125		500	1			
15 - GR	498+86.5	506+36.5	725		137.5		587.5	1			
16 - GR	511+62.5	518+00	612.5		125		487.5	1		connect to existing B.T.A. *	
17 - GR	516+00	518+00	125	50	125	50		1		connect to existing B.T.A. *	
18 - GR	512+52.4	518+02.4	550				550			connect to existing B.T.A. *	
19 - GR	519+39.9	521+27.4	187.5				187.5			connect to existing B.T.A. *	
20 - GR	519+41.7	521+41.7	125	50	125	50		1		connect to existing B.T.A. *	
21 - GR	519+41.7	524+79.2	512.5		100		412.5	1		connect to existing B.T.A. *	
22 - GR	12+77.5 Ramp 'A' Rt.	124+13 S.R. 149 LT.	350		325			2	2	INCLUDES 50 L.F. OF 45' R CURVED G.R. (4 panels)	
23 - GR	13+56.5 Ramp 'A' Lt.	126+07 S.R. 149 LT.	237.5		212.5			1	2	INCLUDES 75 L.F. OF 40' R CURVED G.R. (6 panels)	
SUB-TOTALS: QUANTITIES CARRIED TO SHEET NO. 44			13,800	200	2675	200	11,075	20		4	

GUARDRAIL SUMMARY

QUANTITIES			
CALC.	S.H.G.	DATE	7-3-86
CHKD.	R.D.A.	DATE	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

44
72

BEL-70-7.61

PLAN

* INCLUDES TYPE-A ANCHOR ASSEMBLY

REFERENCE NO.	STATION (±)		202			606					COMMENTS	
			GUARDRAIL REMOVED FOR STORAGE	GUARDRAIL BARRIER DESIGN, REMOVED FOR STORAGE	LIN. FT.	GUARDRAIL, TYPE 5	GUARDRAIL, BARRIER DESIGN, TYPE 5	GUARDRAIL, TYPE 5, AS PER PLAN	MODIFICATION OF EXISTING ANCHOR ASSEMBLY	ANCHOR. ASSEMBLY, STANDARD TYPE		
										A		T
FROM	TO	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH			
24-GR	11+54.4 RAMP D' LT.	130+23 S.R. 149 LT.	250			225					2	INCLUDES 62.5 L.F. OF 45' R CURVED G.R. (5 panels)
25-GR	11+50.3 RAMP D' RT.	131+87 S.R. 149 LT.	250			237.5		1			1	INCLUDES 62.5 L.F. OF 50' R CURVED G.R. (5 panels)
26-GR	130+34 S.R. 149 RT.	4+97.7 RAMP C' LT.	512.5 *			462.5		1		1	2	INCLUDES 75 L.F. OF 40' R CURVED G.R. (6 panels)
27-GR	1+16.5 RAMP C' RT.	4+41.5 RAMP C' RT.	300			300		1				
28-GR	536+25	551+50	1500			137.5		1362.5	1			
29-GR	534+41.5	538+54	387.5			125		262.5	1			
30-GR	541+99	557+74	1550			137.5		1412.5	1			
31-GR	563+37.5	572+32.4	862.5			100		762.5	1			
32-GR	565+90	577+90.4	1187.5			125		1062.5	1			
33-GR	580+12.5	582+00	162.5			100		62.5 †	1			† USE 3'-1/2" POST SPACING IN FRONT OF PIER COLUMNS AS PER STANDARD DRAWING G.R. 7. (SEE GENERAL NOTE ON SHEET NO. 30)
34-GR	581+15.5	597+40.5	1600			125		1475 †	1			
35-GR	586+74.5	596+87	987.5			175		812.5	1			
36-GR	609+52	615+52	575			100		475	1			
37-GR	611+70	617+82.5	587.5			137.5		450	1			
38-GR	648+66	655+63	675			100		575 †	1			† USE 3'-1/2" POST SPACING IN FRONT OF PIER COLUMNS AS PER STANDARD DRAWING G.R. 7. (SEE GENERAL NOTE ON SHEET NO. 30)
39-GR	648+45	657+20	850			100		750 †	1			
40-GR	662+41	665+79	312.5			150		162.5	1			
41-GR	671+02	677+14.5	587.5			137.5		450	1			
SUB-TOTALS ~ THIS SHEET			13,137.5			2975		10,075	16	1	5	
SUB-TOTALS ~ FROM SHEET NO. 43			13,800	200		2675	200	11,075	20		4	
TOTALS - QUANTITIES CARRIED TO GENERAL SUMMARY			26,937.5	200		5650	200	21,150	36	1	9	

GUARDRAIL SUMMARY

FHWA REGION	STATE	FEDERAL PROJECT	
5	OHIO		

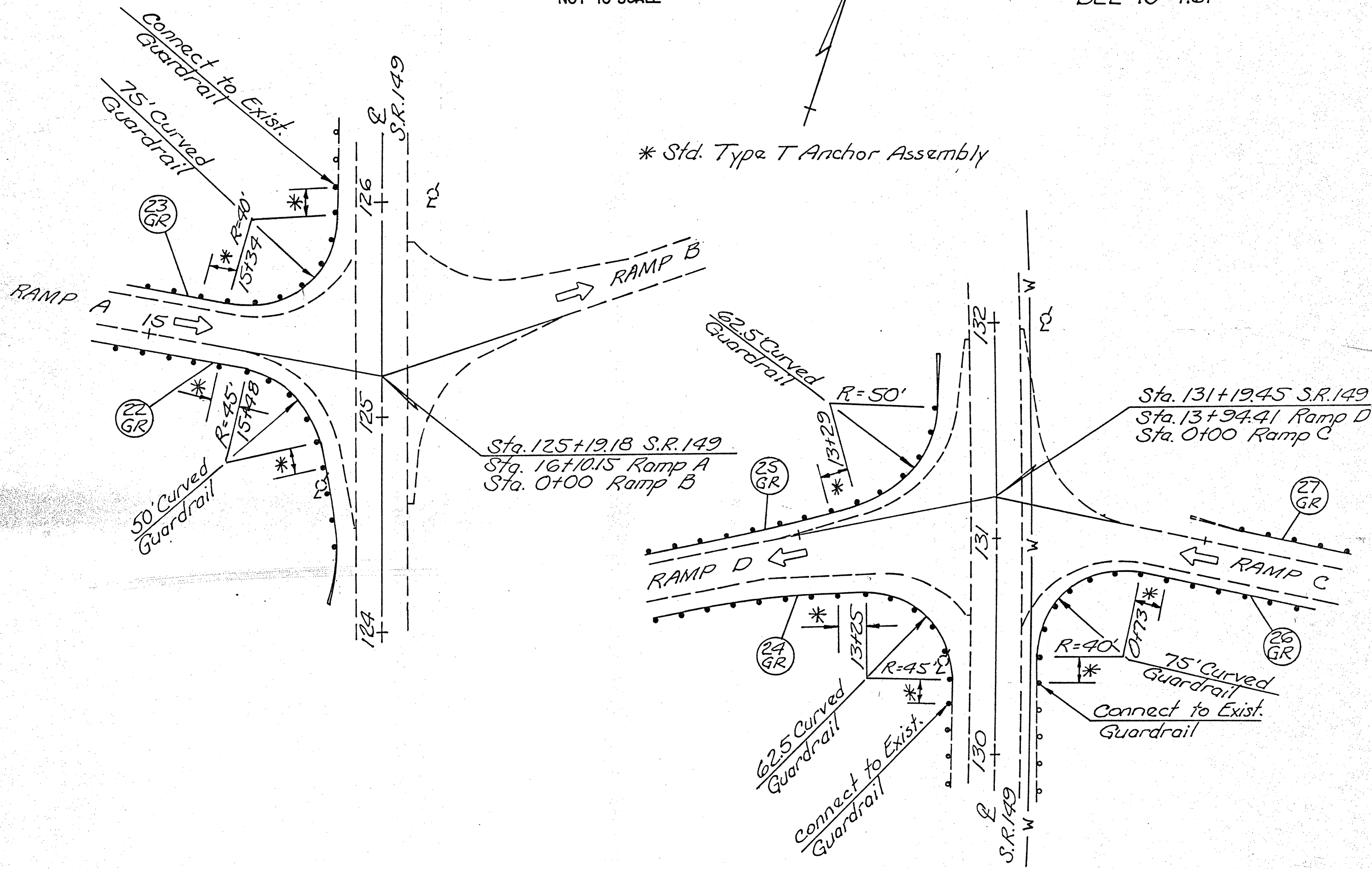
45
72

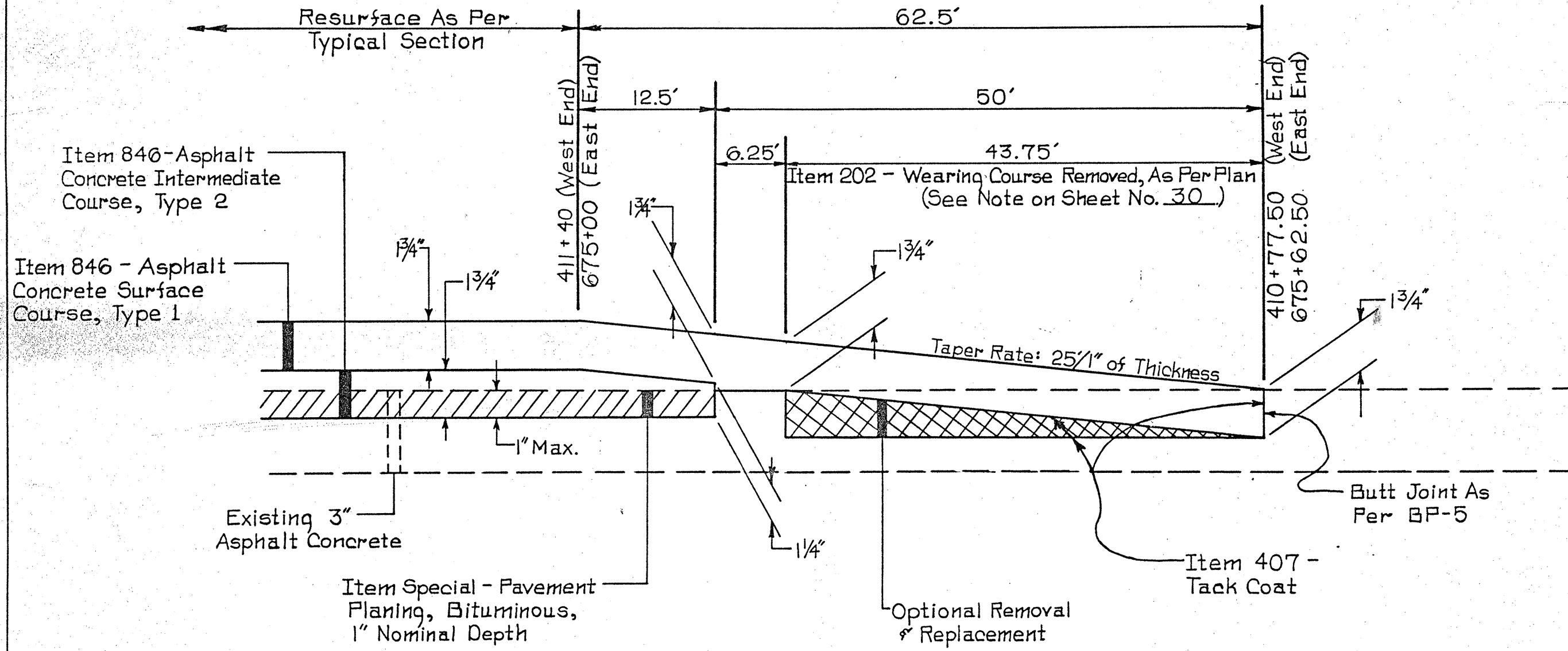
BEL-70-7.61

NOT TO SCALE



* Std. Type T Anchor Assembly





PAVEMENT TRANSITION AT EACH END OF PROJECT

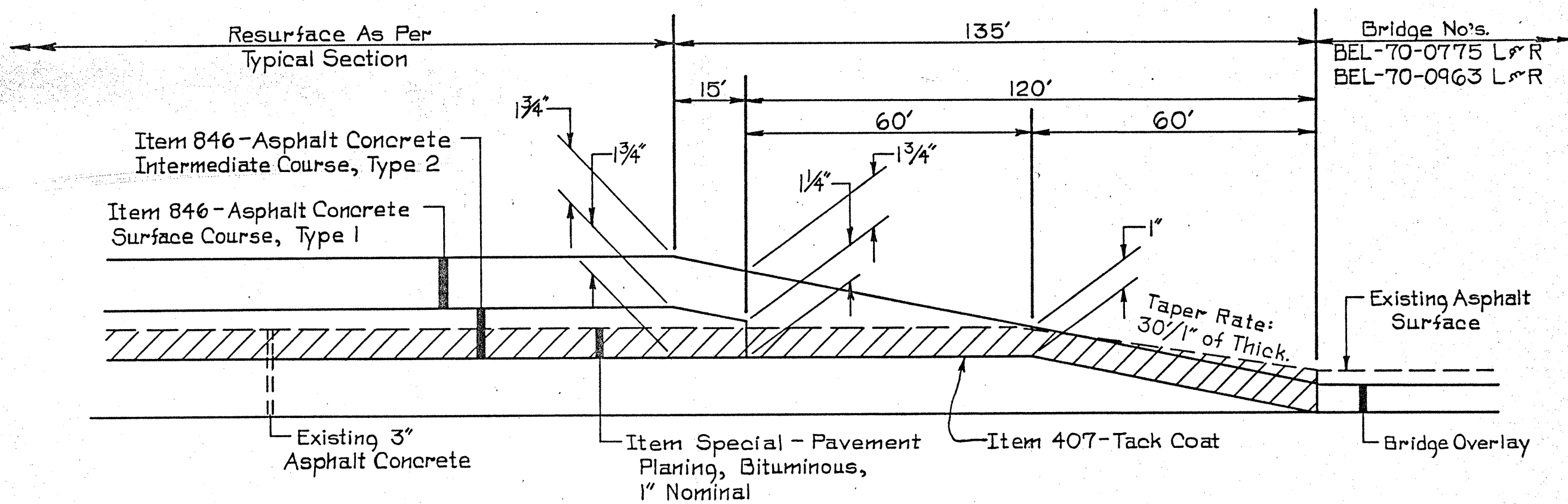
Not to Scale

FHWA REGION	STATE	PROJECT
5	OHIO	

47
72

BEL-70-7.61

PLAN NO.



PAVEMENT TRANSITION @ BRIDGE No's. { BEL-70-0775 L & R
 { BEL-70-0963 L & R

Not to Scale

FHWA REGION	STATE	PROJECT
5	OHIO	

48
72

MIN. VERTICAL CLEARANCES:
(From Finished Pav't. Surface)

BEL-70-7.61

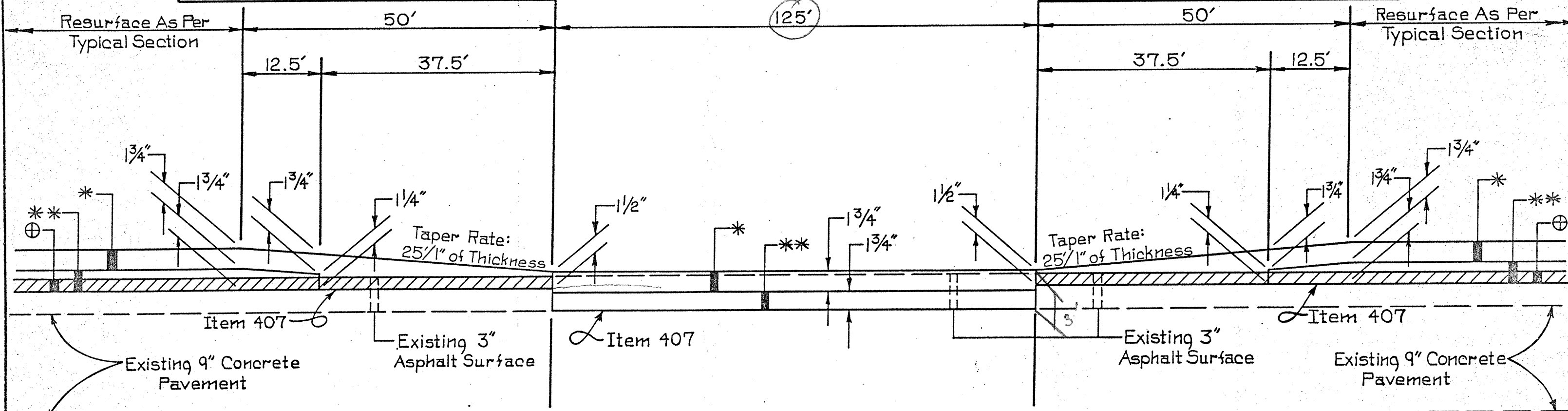
PLAN NO.

Bridge No's. { BEL-70-0865-16.26' @ W.B. Outside Edge Pav't.
BEL-70-1083-16.34' @ W.B. Outside Edge Shoulder
BEL-70-1223-16.05' @ E.B. Pav't. ϕ

NOTE: See Resurfacing Tables For Locations of Pavement Transitions, Sheet No's. 5 thru 19.

BEL-70-0865: Sta. 465+75 (E. Bound)
Sta. 465+23 (W. Bound)
BEL-70-1083: Sta. 580+91 (E. Bound)
Sta. 580+91 (W. Bound)
BEL-70-1233: Sta. 654+69 (E. Bound)
Sta. 655+06 (W. Bound)

BEL-70-0865: Sta. 467+00 (E. Bound)
Sta. 466+48 (W. Bound)
BEL-70-1083: Sta. 582+16 (E. Bound)
Sta. 582+16 (W. Bound)
BEL-70-1223: Sta. 655+94 (E. Bound)
Sta. 656+31 (W. Bound)



- * Item 846 - Asphalt Concrete Surface Course, Type 1
- ** Item 846 - Asphalt Concrete Intermediate Course, Type 2
- ⊕ Item Special - Pavement Planing, Bituminous, 1" Nominal Depth

Remove Existing Asphalt Surface And Replace With Item 846 As Shown Above
(SEE GENERAL NOTE: Item (202) - Wearing Course Removed, As Per Plan On Sheet No. 30)

PAVEMENT TRANSITION UNDER BRIDGE No's.

{ BEL-70-0865
BEL-70-1083
BEL-70-1223

Not to Scale

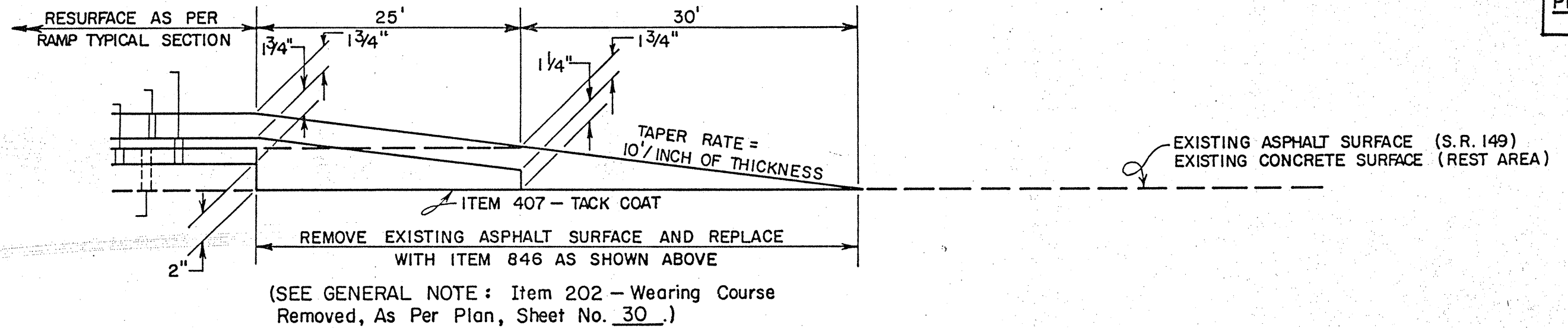
PAVEMENT TRANSITION DETAILS

FHWA REGION	STATE	PROJECT
5	OHIO	

49
72

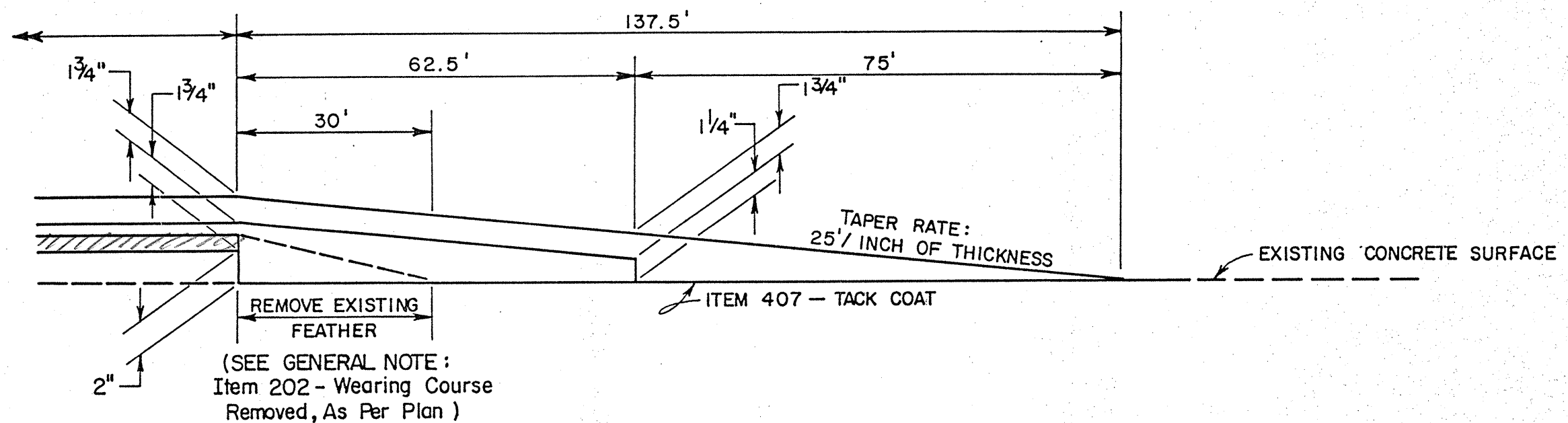
BEL-70-7.61

PLAN NO.



@ S.R. 149
INTERSECTION / FEATHER DETAIL
RAMP 'E' FEATHER DETAIL

NOT TO SCALE

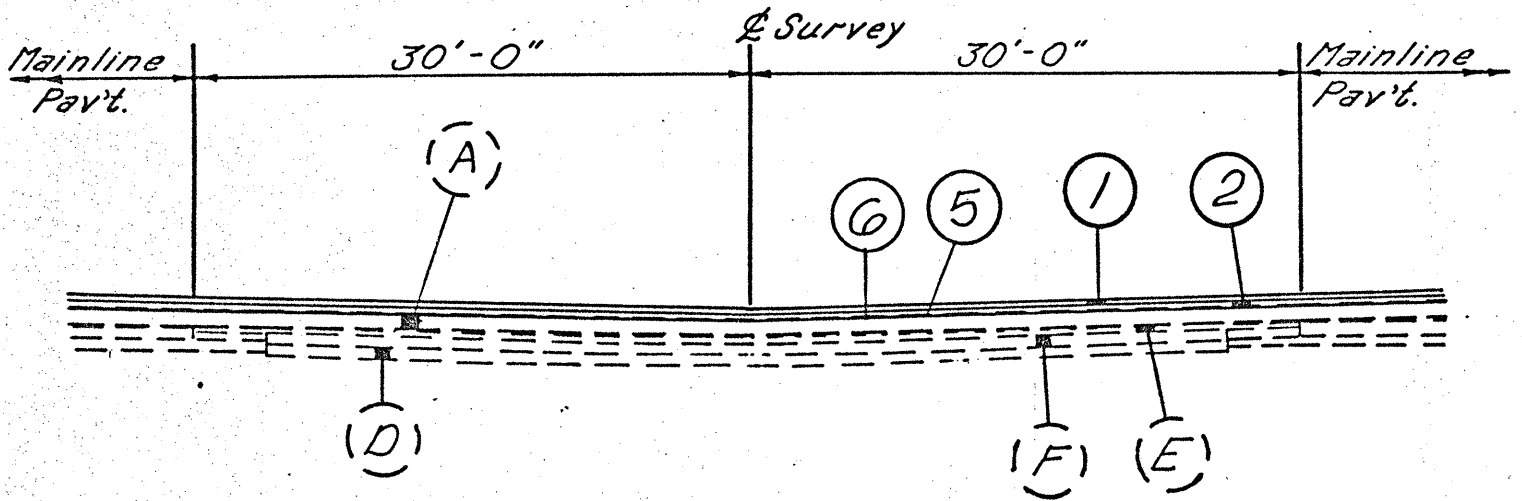
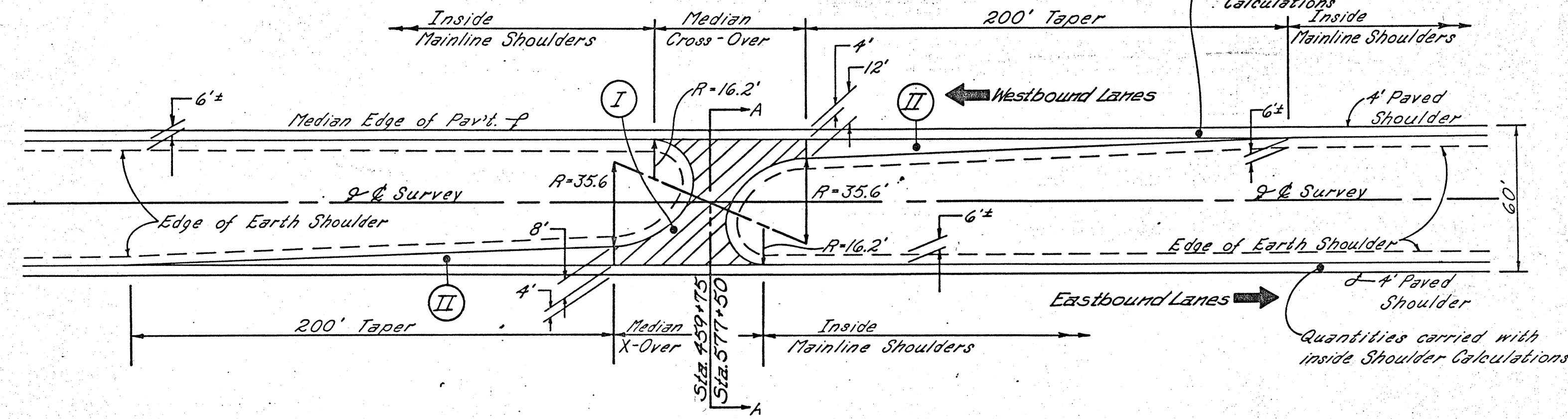


RAMP 'F' FEATHER DETAIL

NOT TO SCALE

BEL-70-7.61

PLAN NO.



SECTION A-A

Calculation of Median Cross-Over Area

- (I) — Planimetered Area = 206.22 S.Y.
- (II) — Tapers - $(200 \times 8) \frac{1}{2} \div 9 = 88.89$ S.Y.
 $\times 2$ (Tapers)
 177.78 S.Y.

Total - $206.22 + 177.78 = 384$ S.Y.

Square Yard Area Used in
Pavement Calculations on
Sheet No. 20

- Existing Legend
- (E) — Existing Bituminous Aggregate Base
 - (F) — Existing Waterproof Aggregate Base
 - (D) — Existing Subbase
 - (A) — Existing 3" Asphalt Concrete

For Proposed Legend
See Sheet # 3

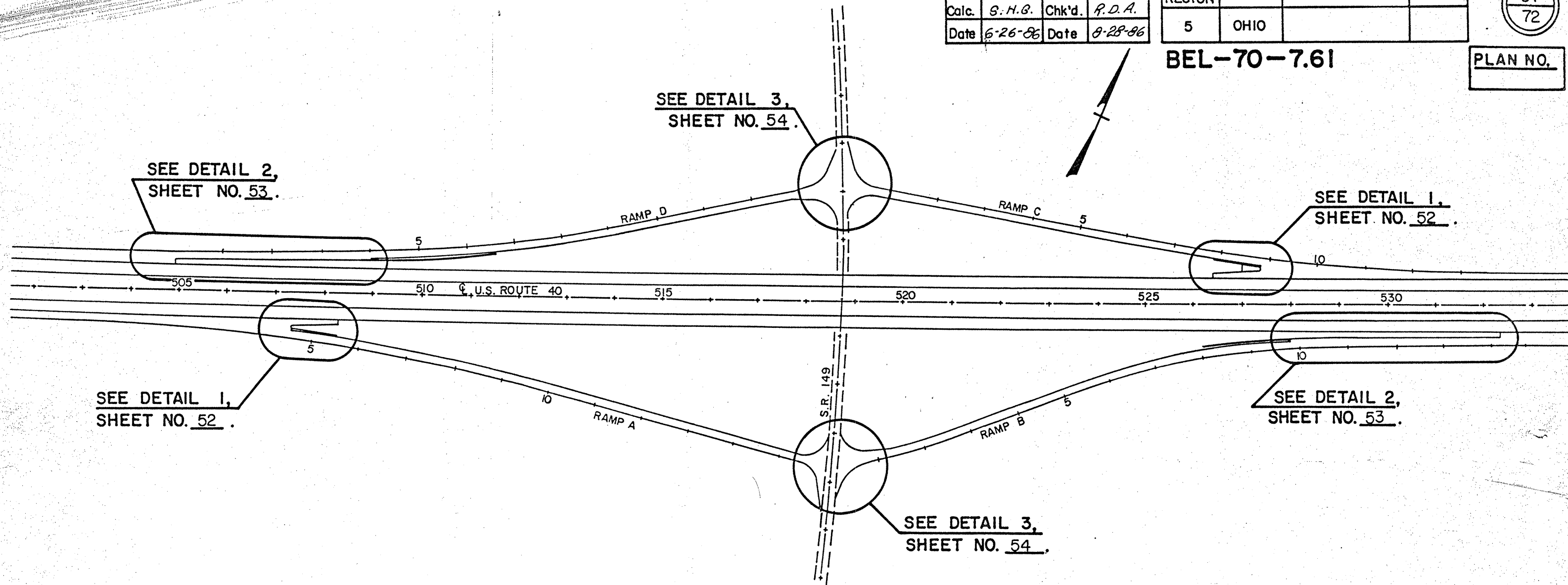
QUANTITIES			
Calc.	S. H. G.	Chk'd.	P. D. A.
Date	6-26-86	Date	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

51
72

BEL-70-7.61

PLAN NO.




S.R. 149 INTERCHANGE QUANTITIES

FROM SHEET NO.	DESCRIPTION	202		301	604	846	
		CURB REMOVED, AS PER PLAN	CONCRETE MEDIAN PAVEMENT REMOVED	BITUMINOUS AGGREGATE BASE	CATCH BASIN ADJUSTED TO GRADE	1 3/4" ASPH. CONCRETE INTERMEDIATE COURSE, TYPE 2	1 3/4" ASPH. CONCRETE SURFACE COURSE, TYPE 1
		LIN. FT.	SQ. YD.	CU. YD.	EACH	CU. YD.	CU. YD.
52	DETAIL 1	414	56.0	7.0		1.4	1.4
53	DETAIL 2	1320		34.8	2	5.5	5.5
TOTALS		1734	56.0	41.8	2	6.9	6.9

QUANTITIES CARRIED TO GENERAL SUMMARY

CALCULATIONS

Ramp 'A' & Ramp 'C' { Item 301 ~ 14 S.Y. x 9 ÷ 36 = 3.5 C.Y.
 Ramp 'C' { 1 3/4" Item 846 ~ 14 S.Y. x 1 3/4" ÷ 36 = 0.7 C.Y.

 Area To Be Paved

Planimetered Area = 14 S.Y.

QUANTITIES			
Calc.	S.H.G.	Chk'd.	P.D.A.
Date	6-26-86	Date	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

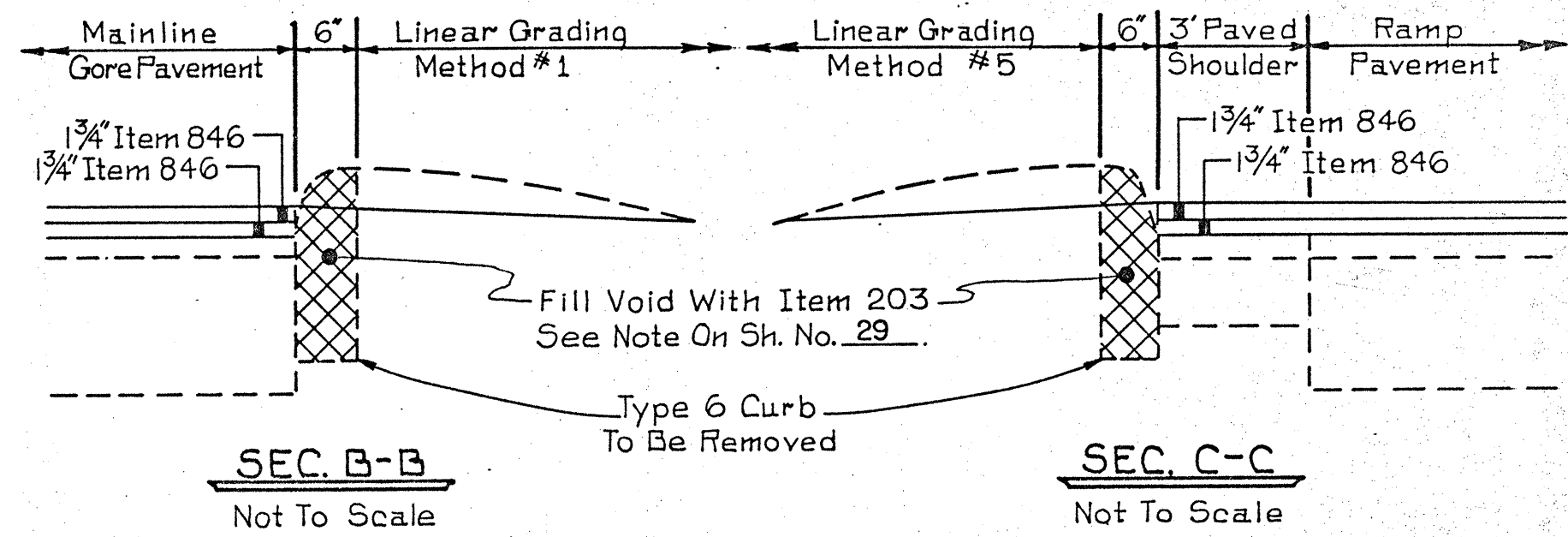
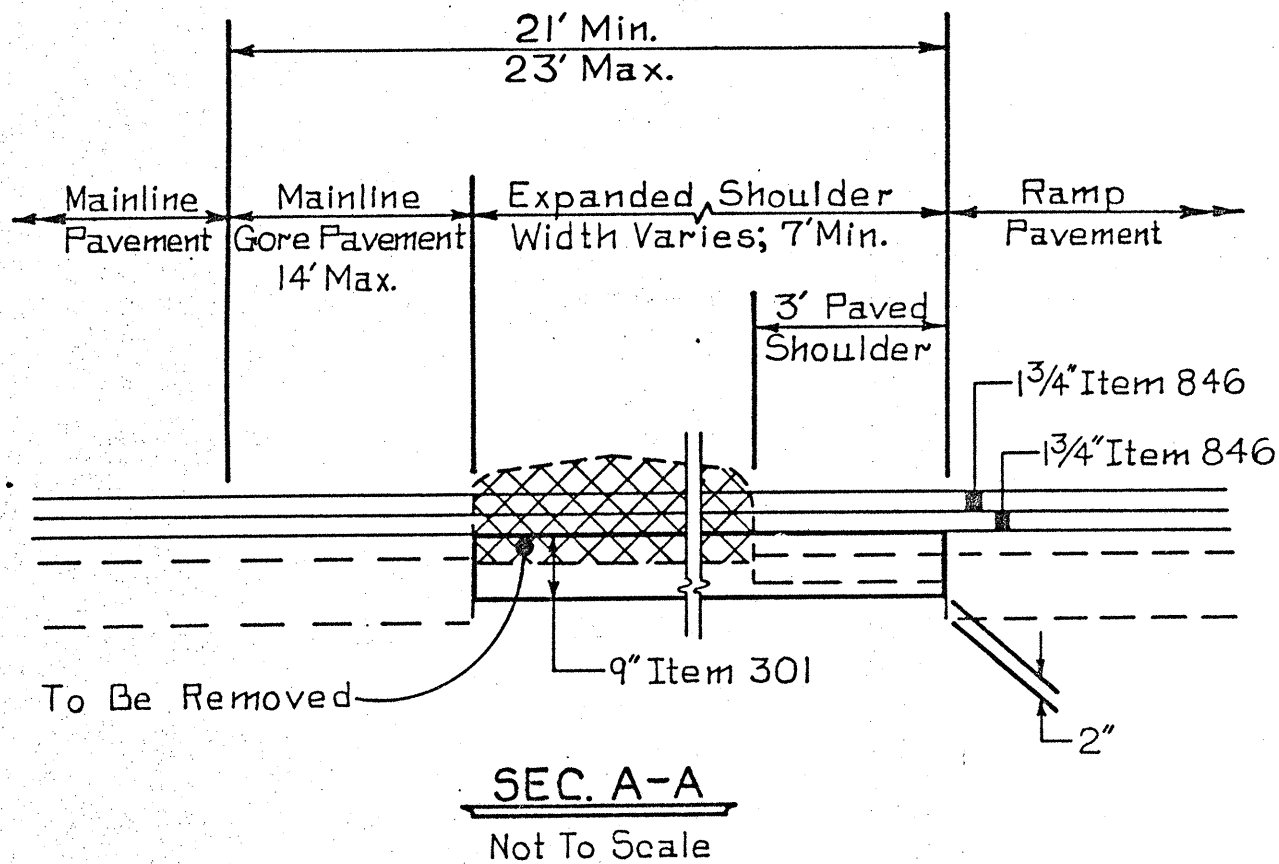
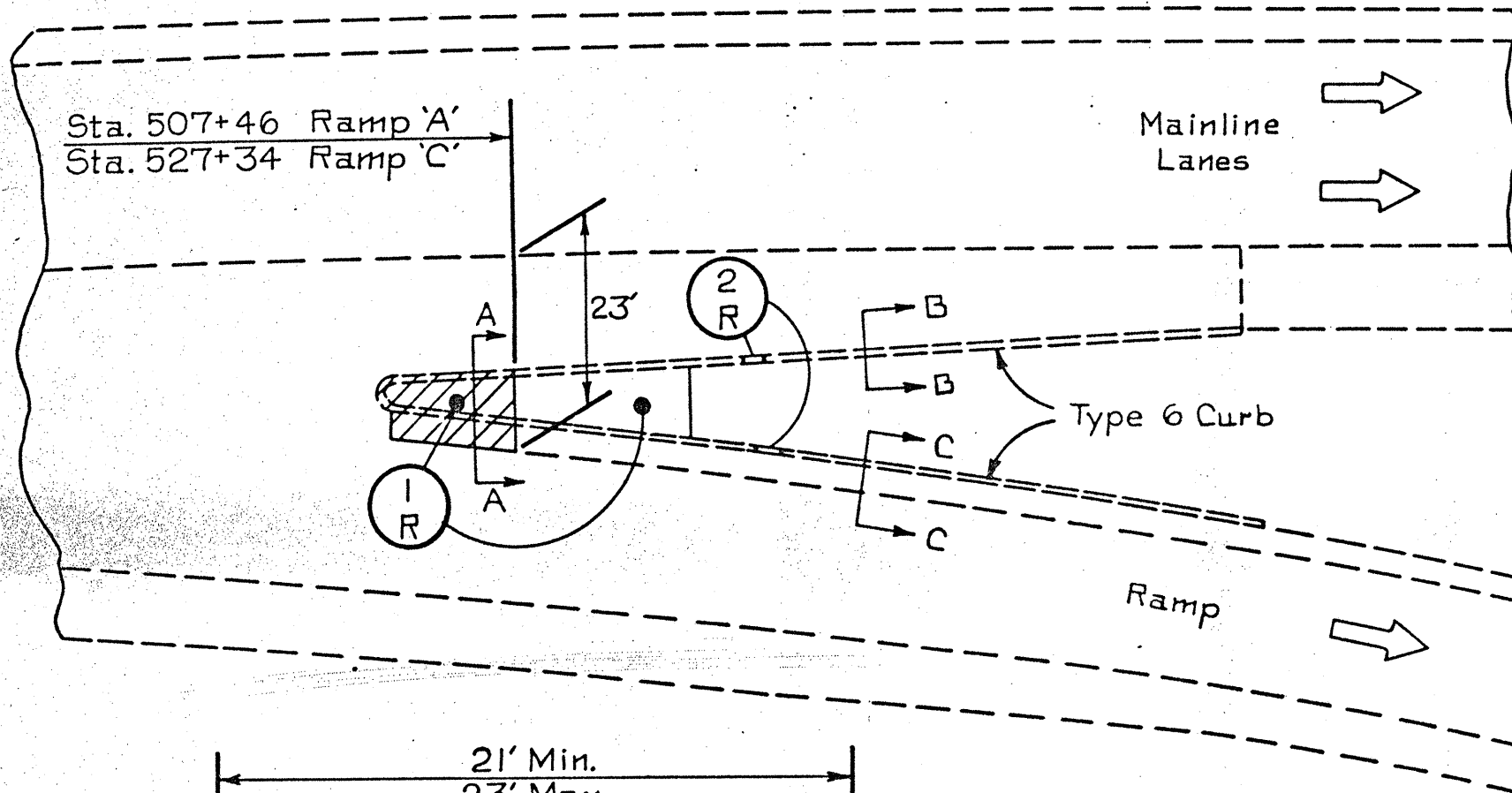
52
72

BEL-70-7.61

PLAN NO.

REFERENCE NO.	202		301	846	
	Curb Removed, As Per Plan	Concrete Median Pavement Removed	Bituminous Aggregate Base	1 3/4" Asphalt Concrete Intermediate Course Type 2	1 3/4" Asphalt Concrete Surface Course Type 1
	Lin. Ft.	Sq. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.
RAMP 'A'					
1 - R		28.0	3.5	0.7	0.7
2 - R	207				
RAMP 'C'					
1 - R		28.0	3.5	0.7	0.7
2 - R	207				
TOTALS	414	560	7.0	1.4	1.4

Quantities Carried To Sheet No. 51



CALCULATIONS

Ramp 'B'

2-R { Item 301 - $502' \times 1' \times \frac{11}{12}' \div 27 = 17.0$ Cu. Yd.
 Item 846 - $502' \times 1' \times \frac{1.75}{12} \div 27 = 2.7$ Cu. Yd.

Ramp 'D'

2-R { Item 301 - $525' \times 1' \times \frac{11}{12}' \div 27 = 17.0$ Cu. Yd.
 Item 846 - $525' \times 1' \times \frac{1.75}{12} \div 27 = 2.8$ Cu. Yd.

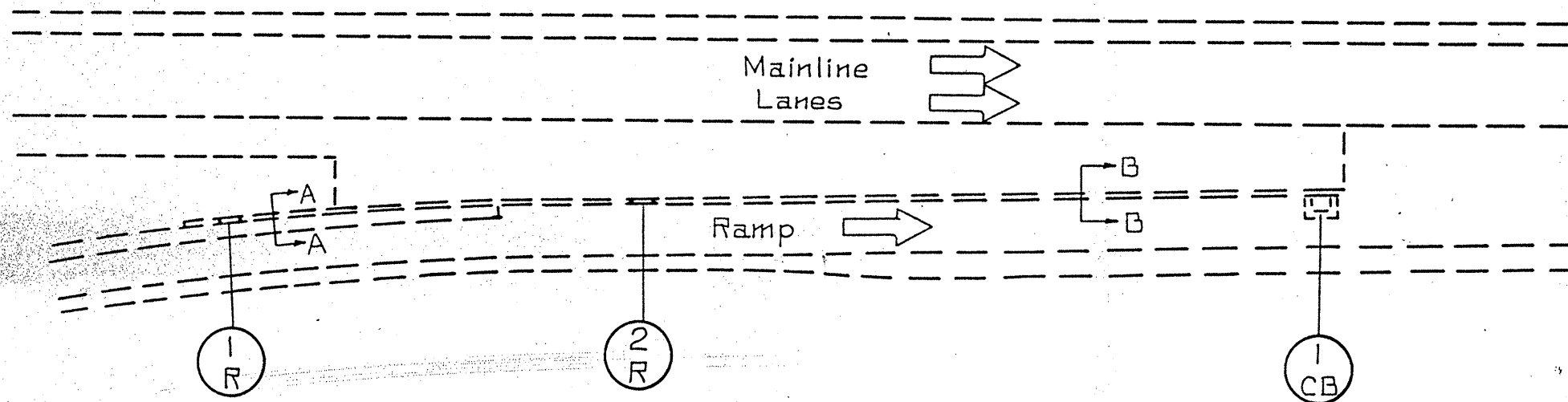
QUANTITIES			
Calc.	S.H.G.	Chk'd.	B.L.G.
Date	6-24-86	Date	6-26-86

FHWA REGION	STATE	PROJECT
5	OHIO	

53
72

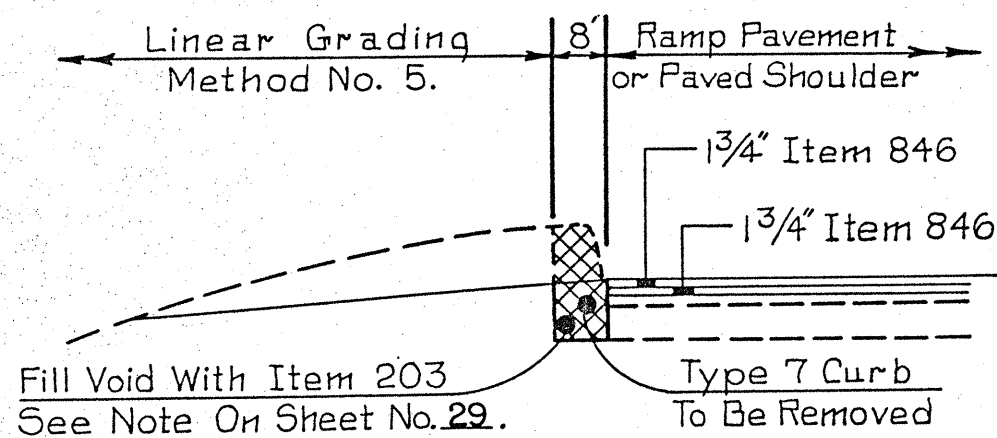
BEL-70-7.61

PLAN NO.



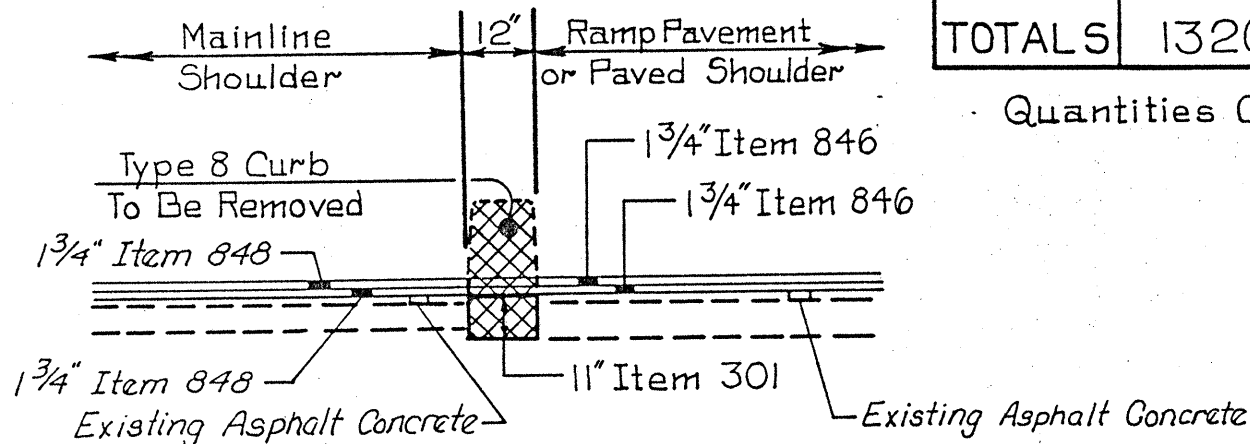
REFERENCE NO.	QUANTITIES				
	202	301	604	846	
	Curb Removed As Per Plan	Bituminous Aggregate Base	Catch Basin Adjusted to Grade	1 3/4" Asphalt Concrete Intermediate Course Type 2	1 3/4" Asphalt Concrete Surface Course Type 1
	Lin. Ft.	Cu. Yd.	Each	Cu. Yd.	Cu. Yd.
Ramp 'B'					
1 - R	118				
2 - R	502	17.0		2.7	2.7
1 - CB					
Ramp 'D'					
1 - R	175				
2 - R	525	17.8		2.8	2.8
1 - CB			1		
TOTALS	1320	34.8	2	5.5	5.5

Quantities Carried to Sheet No. 51.



SEC. A-A

Not To Scale



SEC. B-B

Not To Scale

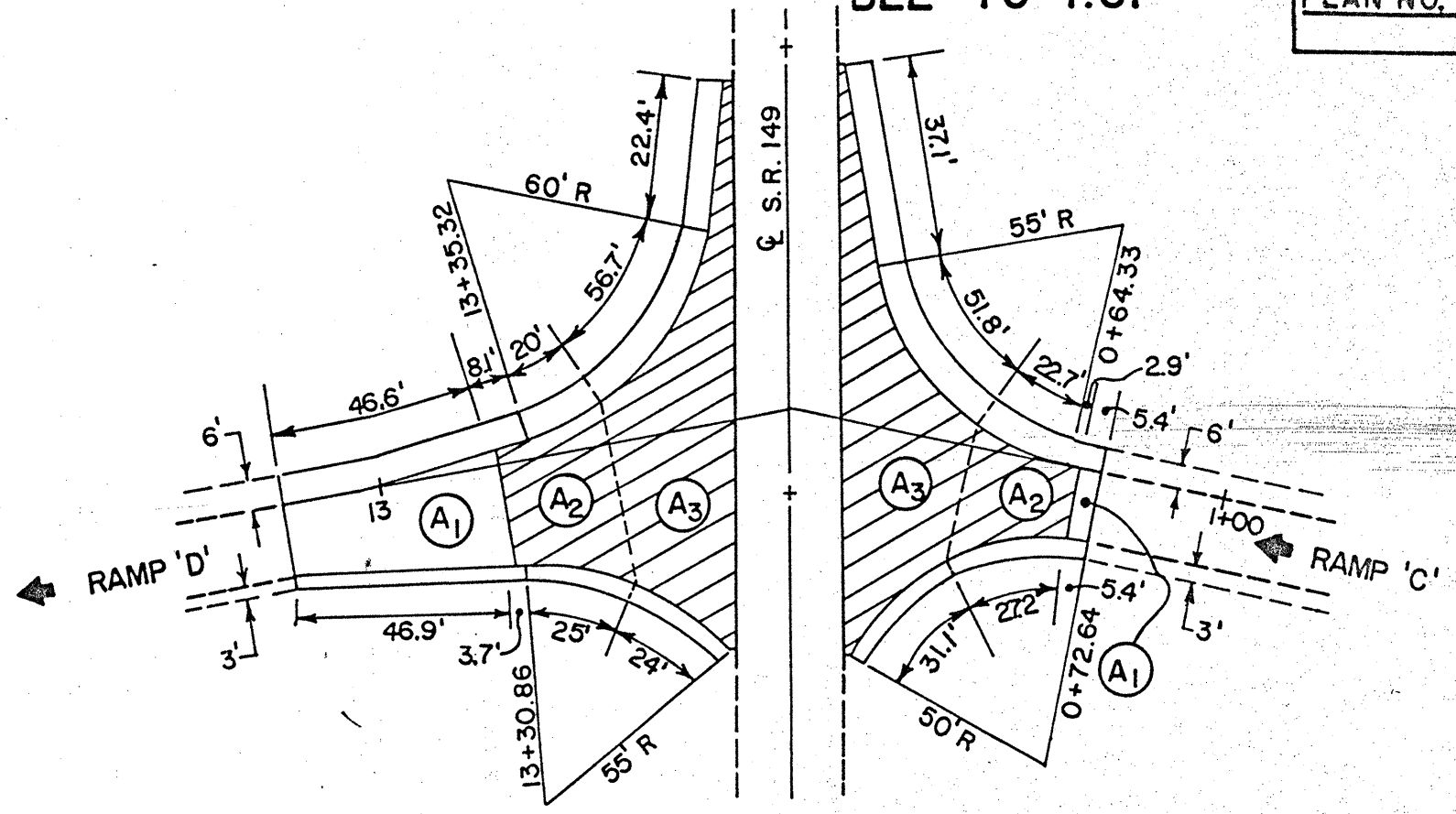
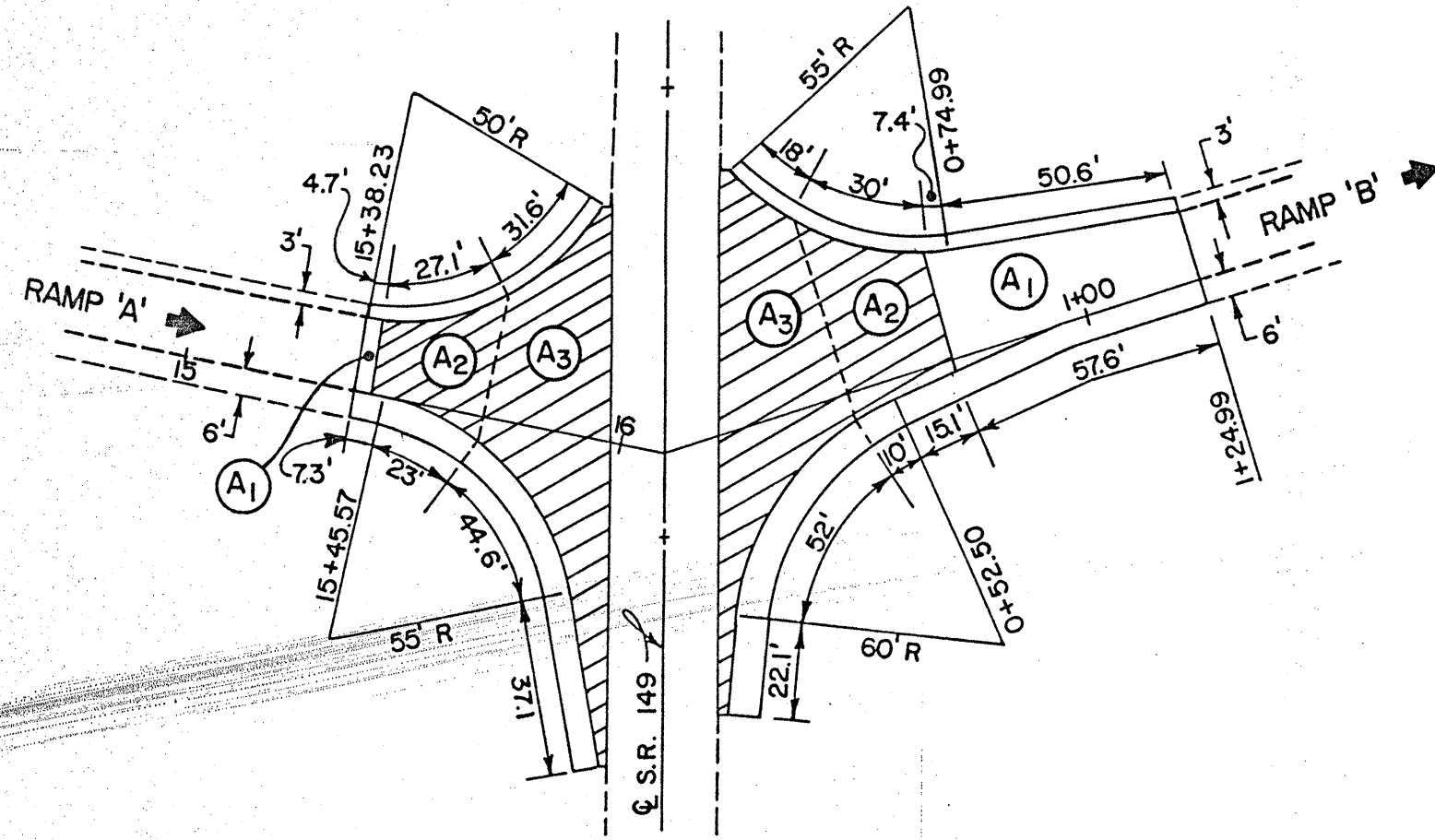
QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	6-27-86	Date	8-28-86


FHWA REGION	STATE	PROJECT
5	OHIO	

54
72

PLAN NO.

BEL-70-7.61



 55' FEATHER AS SHOWN ON SHEET NO. 49.
 & WEARING COURSE REMOVED
 (See General Note On Sheet No. 30.)

	PLANIMETERED AREAS USED IN PAVEMENT CALCULATIONS ON SHEET NO 9			LENGTHS USED IN SHOULDER CALCULATIONS ON SHEET NO ^s . 21 & 22.					
	A ₁ SQ. YD.	A ₂ SQ. YD.	A ₃ SQ. YD.	LA ₁		LA ₂		LA ₃	
				LT. L.F.	RT. L.F.	LT. L.F.	RT. L.F.	LT. L.F.	RT. L.F.
RAMP 'A'	11	66	212	4.7	7.3	27.1	23	31.6	44.6 + 37.1 = 81.7
RAMP 'B'	136	101	204	50.6 + 7.4 = 58.0	57.6	30	10 + 15.1 = 25.1	18	52 + 22.1 = 74.1
RAMP 'C'	14	66	215	5.4	5.4	27.2	22.7 + 2.9 = 25.6	31.1	37.1 + 51.8 = 88.9
RAMP 'D'	115	96	219	46.9	46.6	25 + 37 = 28.7	20 + 8.1 = 28.1	24	56.7 + 22.4 = 79.1

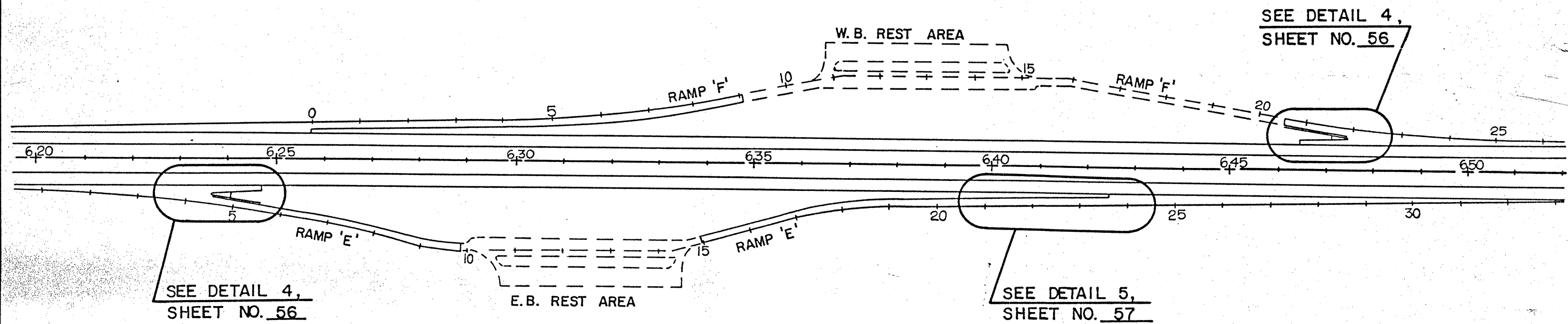
BEL-70-7.61

PLAN NO.

REST AREA QUANTITIES							
FROM SHEET NO.	DESCRIPTION	202		301	604	846	
		CURB REMOVED, AS PER PLAN	CONCRETE MEDIAN PAVEMENT REMOVED	BITUMINOUS AGGREGATE BASE	CATCH BASIN ADJUSTED TO GRADE	1 3/4" ASPH. CONCRETE INTERMEDIATE COURSE, TYPE 2	1 3/4" ASPH. CONCRETE SURFACE COURSE, TYPE 1
		LIN. FT.	SQ. YD.	CU. YD.	EACH	CU. YD.	CU. YD.
56	DETAIL 4	414	56.0	7.0		1.4	1.4
57	DETAIL 5	602		17.0	1	2.7	2.7
TOTALS		1016	56.0	24.0	1	4.1	4.1

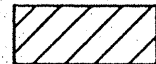
QUANTITIES			
Calc.	S.H.G.	Chk'd.	P.D.A.
Date	6-26-86	Date	8-29-86

QUANTITIES CARRIED TO GENERAL SUMMARY

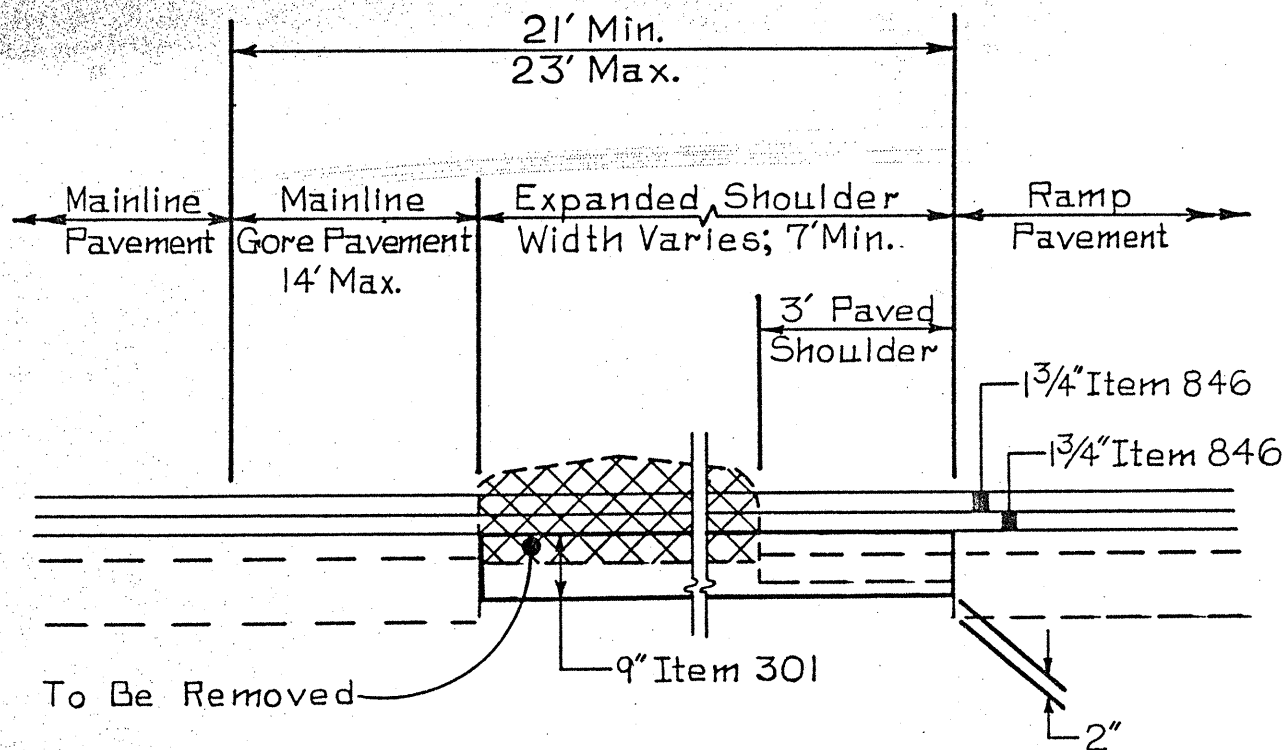
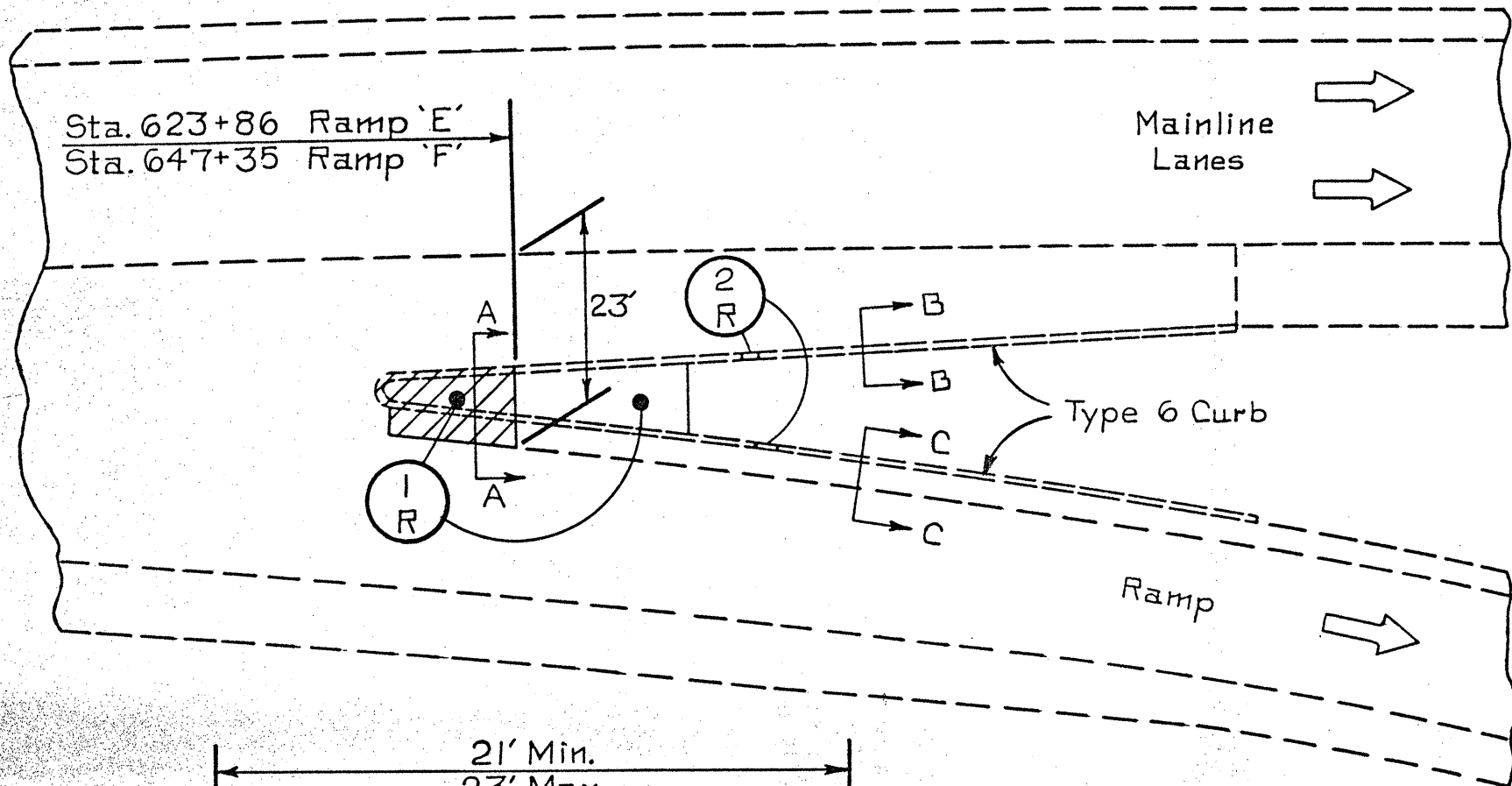


CALCULATIONS

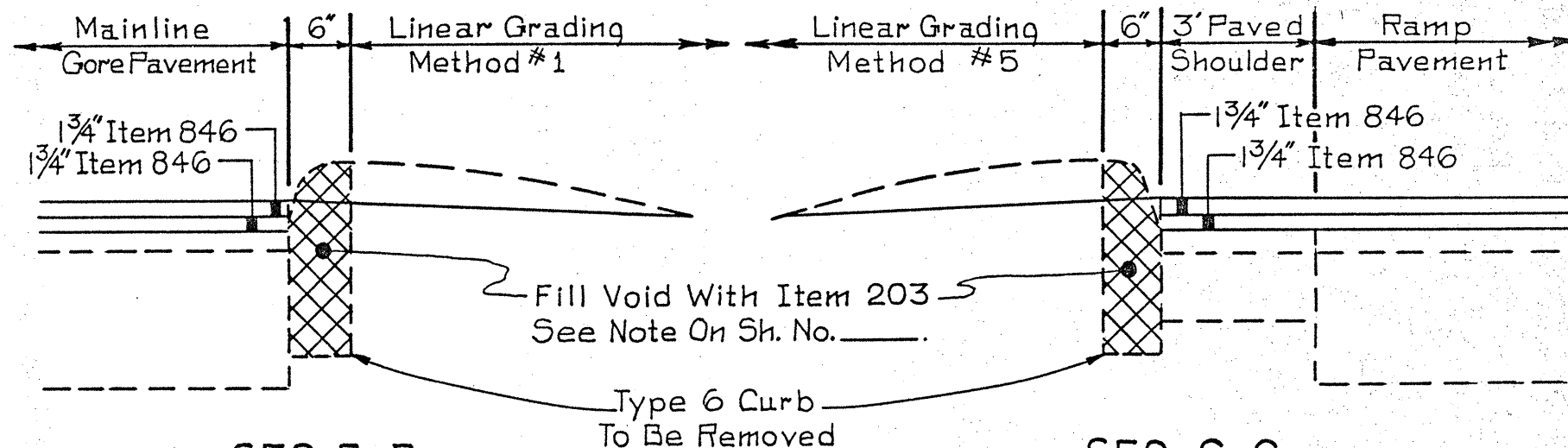
Ramp 'E' & Ramp 'F' { Item 301 ~ 14 S.Y. x 9 ÷ 36 = 3.5 C.Y.
 Ramp 'F' { 1 3/4" Item 846 ~ 14 S.Y. x 1 3/4" ÷ 36 = 0.7 C.Y.

 Area To Be Paved

Planimetered Area = 14 S.Y.



SEC. A-A
Not To Scale



SEC. B-B
Not To Scale

SEC. C-C
Not To Scale

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	6-26-86	Date	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

56
72

BEL-70-7.61

PLAN NO.

REFERENCE NO.	202		301	846	
	Curb Removed, As Per Plan	Concrete Median Pavement Removed	Bituminous Aggregate Base	1 3/4" Asphalt Concrete Intermediate Course Type 2	1 3/4" Asphalt Concrete Surface Course Type 1
	Lin.Ft.	Sq. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.
RAMP 'E'					
1 - R		28.0	3.5	0.7	0.7
2 - R	207				
RAMP 'F'					
1 - R		28.0	3.5	0.7	0.7
2 - R	207				
TOTALS	414	560	7.0	1.4	1.4

Quantities Carried To Sheet No. 55

CALCULATIONS

$$2 - R \begin{cases} \text{Item 301} - 500' \times 1' \times \frac{1}{12}' \div 27 = 17.0 \text{ Cu. Yd.} \\ \text{Item 846} - 500' \times 1' \times 1.75 \div 27 = 2.7 \text{ Cu. Yd.} \end{cases}$$

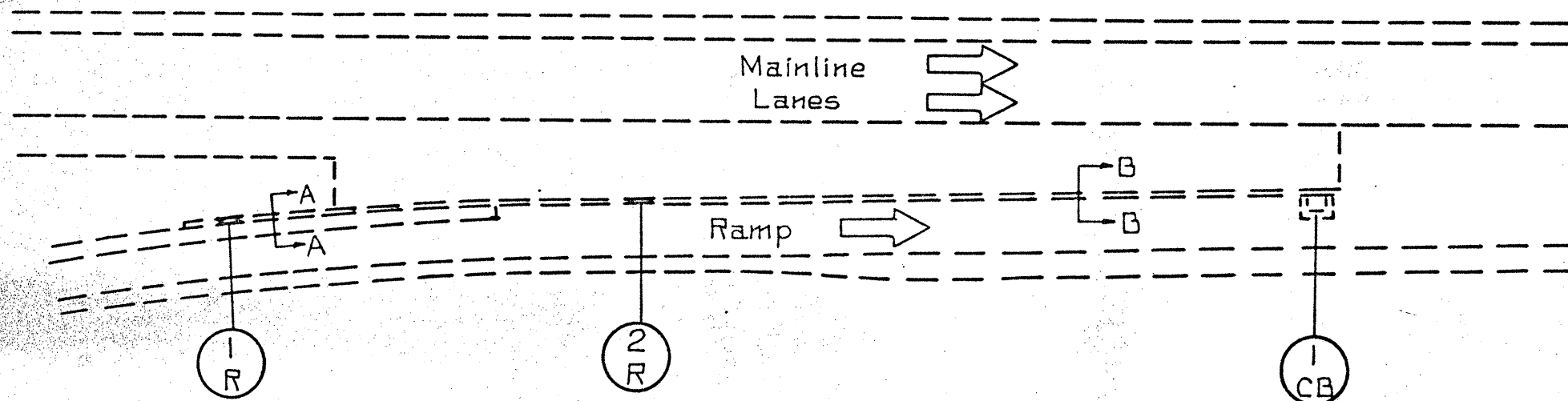
QUANTITIES			
Calc.	S.H.G.	Chk'd.	B.L.G.
Date	6-24-86	Date	6-26-86

FHWA REGION	STATE	PROJECT
5	OHIO	

57
72

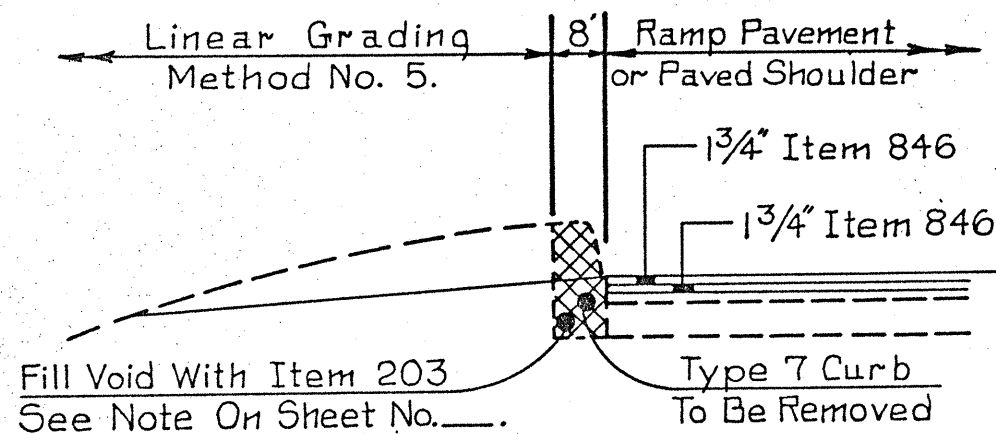
BEL-70-7.61

PLAN NO.



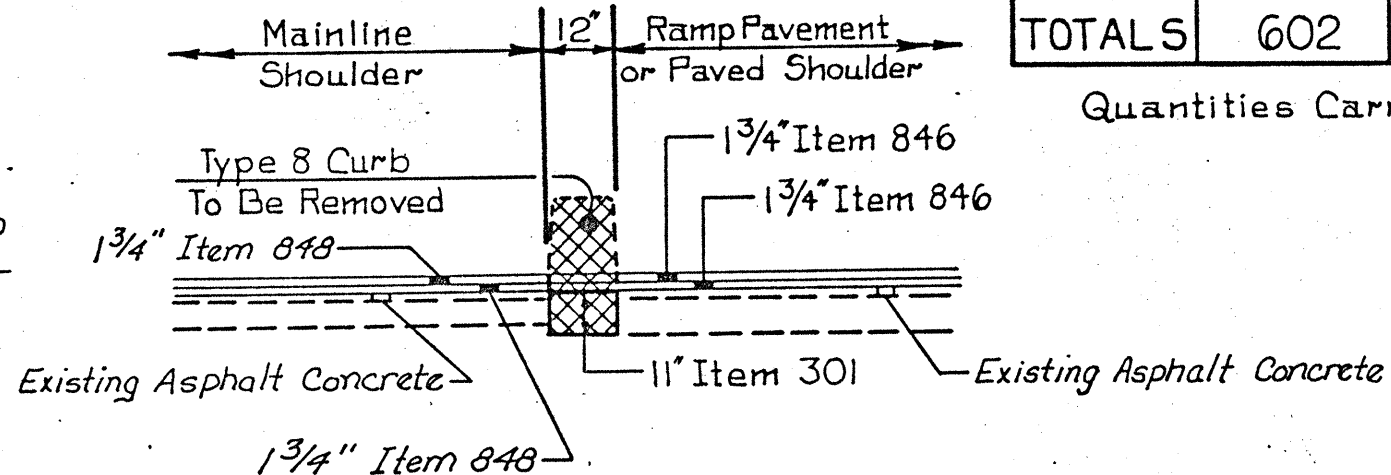
QUANTITIES					
REFERENCE NO.	202	301	604	846	
	Curb Removed As Per Plan	Bituminous Aggregate Base	Catch Basin Adjusted to Grade	1 3/4" Asphalt Concrete Intermediate Course Type 1	1 3/4" Asphalt Concrete Surface Course Type 2
	Lin. Ft.	Cu. Yd.	Each	Cu. Yd.	Cu. Yd.
Ramp 'E'					
1 - R	102				
2 - R	500	17.0		2.7	2.7
1 - CB			1		
TOTALS	602	17.0	1	2.7	2.7

Quantities Carried to Sheet No. 55



SEC. A-A

Not To Scale



SEC. B-B

Not To Scale

RAMP SHOULDER WIDENING DETAILS & QUANTITIES

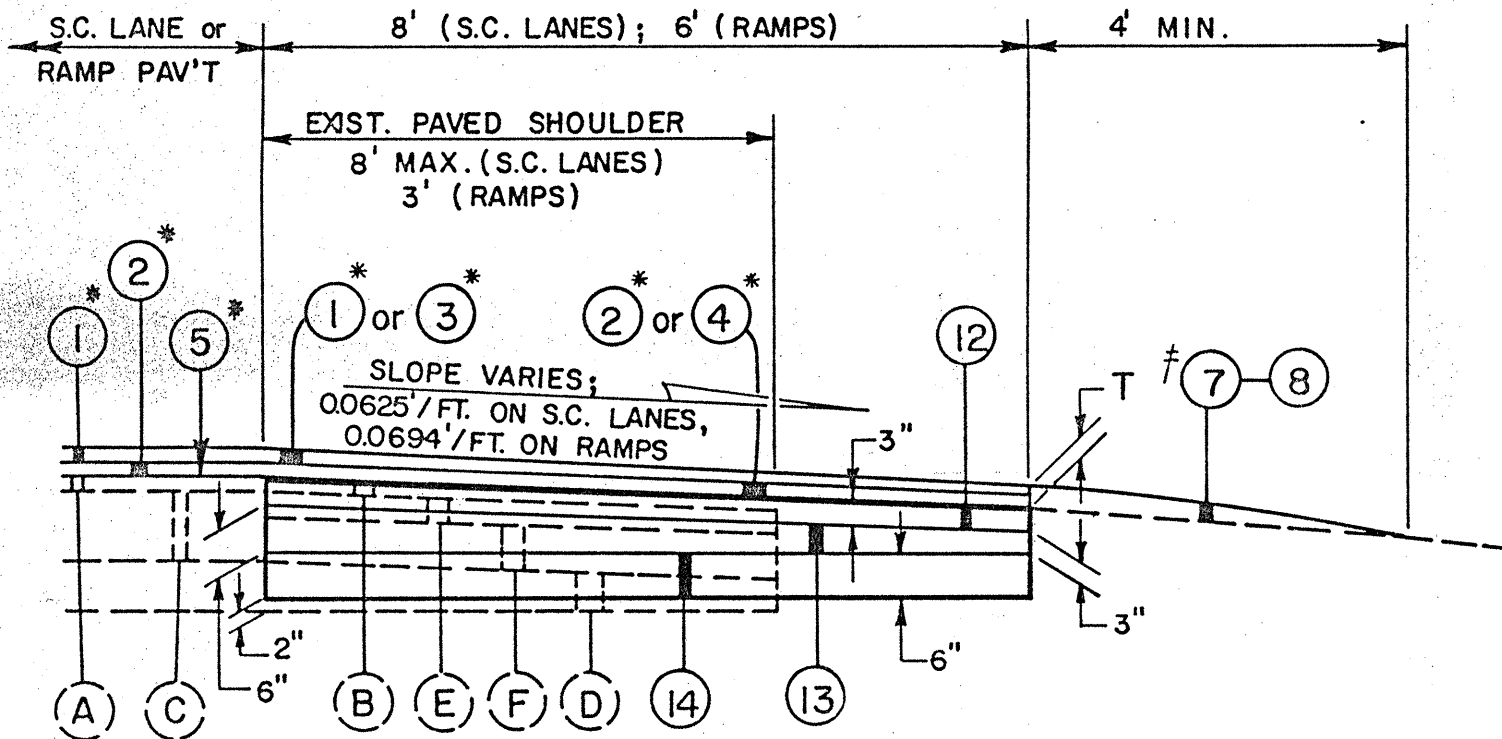
QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	6-25-86	Date	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

58
72

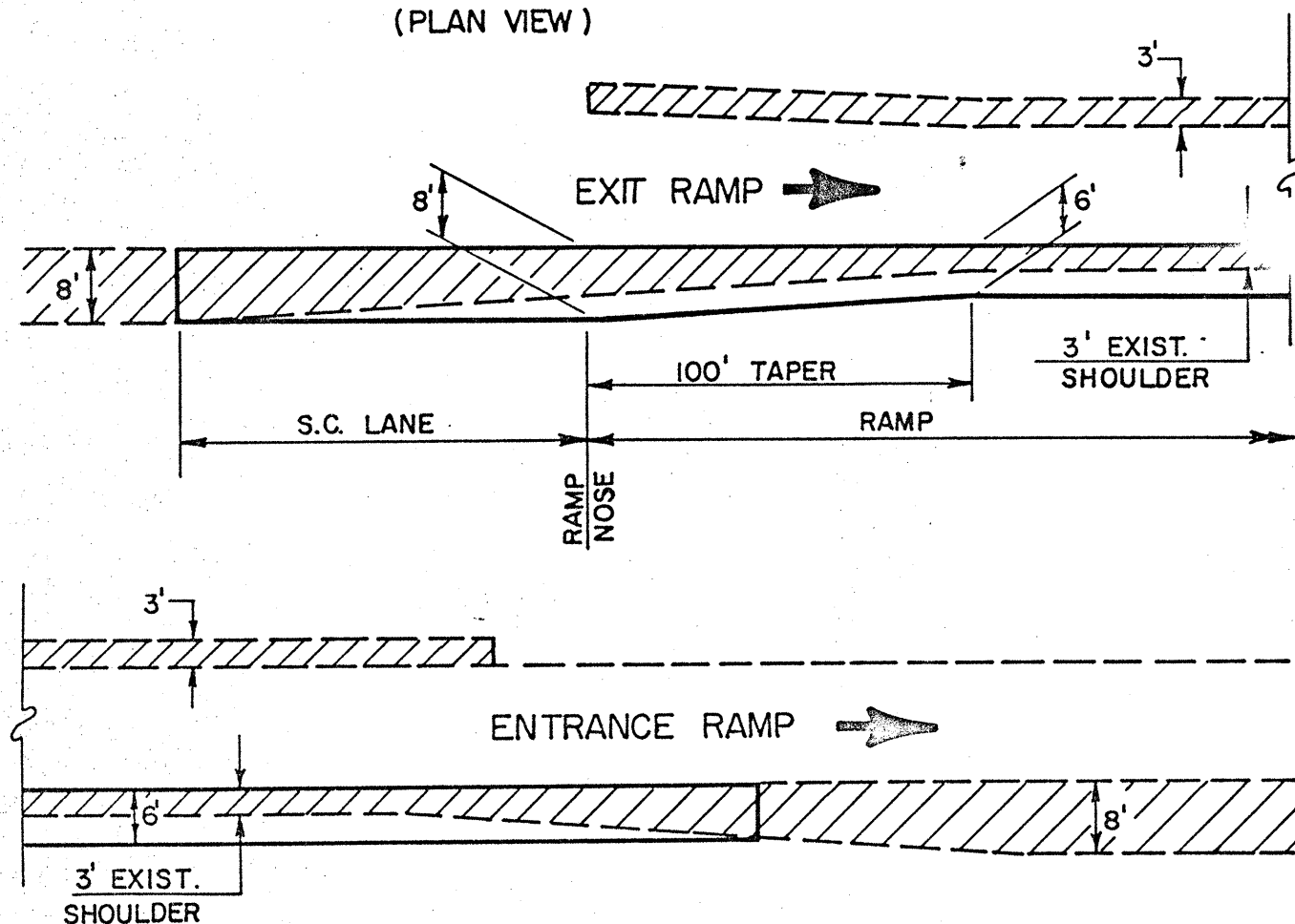
BEL-70-7.61

PLAN NO.



SEE SHEET Nos 3 & 4 FOR LEGEND

TYPICAL SHOULDER TAPER DETAIL
(PLAN VIEW)



NO SCALE

PAVED SHOULDER WIDENING

ROADWAY	STATION		SIDE	LENGTH LIN. FT.	WIDTH FT.	203		301	304	310
	FROM	TO				LINEAR GRADING METHOD 4	EXCA- VATION	BITU- MINOUS AGGREGATE BASE	AGGREGATE BASE	SUBBASE, TYPE II
	STA.	CU. YD.				CU. YD.	CU. YD.	CU. YD.		
RAMP S.C.	502+75	507+29.73	RT.	454.73	8	4.55	152	33.7	50.5	67.4
RAMP A	4+53.07	5+53.07	RT.	100	7 AVG.	1.00	29	6.5	9.7	13.0
	5+53.07	124+49 (S.R. 149)	RT.	1097.23	6	10.97	274	61.0	91.4	121.9
RAMP B	124+61 (S.R. 149)	10+41.53	RT.	1073.34	6	10.73	269	59.6	89.4	119.3
RAMP S.C.	532+04.22	527+49.49	LT.	454.73	8	4.55	152	33.7	50.5	67.4
RAMP C	8+95.45	7+95.45	RT.	100	7 AVG.	1.00	29	6.5	9.7	13.0
	7+95.45	131+96 (S.R. 149)	RT.	786.49	6	7.86	197	43.7	65.5	87.4
RAMP D	131+93 (S.R. 149)	3+60	RT.	1074.6	6	10.75	269	59.7	89.6	119.4
RAMP E	619+15.47	623+70.20	RT.	454.73	8	4.55	152	33.7	50.5	67.4
RAMP E	4+53.07	5+53.07	RT.	100	7 AVG.	1.00	29	6.5	9.7	13.0
	5+53.07	9+87.48	RT.	434.41	6	4.34	109	24.1	36.2	48.3
ENT. RAMP E	15+07.78	19+77.78	RT.	470	6	4.70	118	26.1	39.2	52.2
RAMP S.C.L.	652+55.58	647+50	LT.	505.58	8	5.06	169	37.5	56.2	74.9
EXIT RAMP F	21+97.44	20+97.44	RT.	100	7 AVG.	1.00	29	6.5	9.7	13.0
	20+97.44	20+59.94	RT.	37.5	6	0.38	10	2.1	3.1	4.2
ENT. RAMP F	9+07.75	3+80	RT.	527.75	6	5.28	132	29.3	44.0	58.6
TOTAL LENGTH				7772						
TOTALS - QUANTITIES CARRIED TO GENERAL SUMMARY						77.72	2119	470.2	704.9	940.4

* NOTE: ITEMS (1), (2), (3), (4) & (5) ON SHOULDERS ARE INCLUDED IN MAINLINE QUANTITIES.

$$T = \begin{cases} 2\frac{1}{2}" \text{ ON S.C. LANES (} \frac{1}{4}" \text{ EACH COURSE) } \\ 3\frac{1}{2}" \text{ ON RAMPS (} 1\frac{3}{4}" \text{ EACH COURSE) } \end{cases}$$

PAVEMENT REPAIR DETAILS

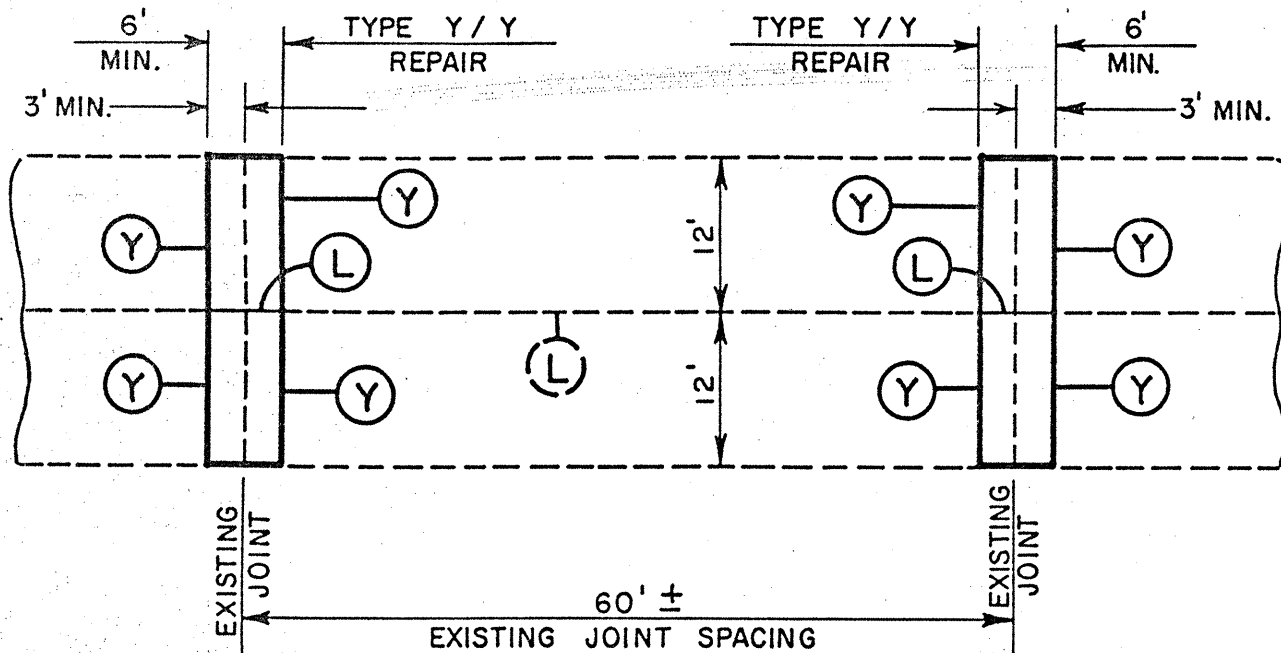
QUANTITIES	
Calc.	Chk'd.
Date	Date

FHWA REGION	STATE	PROJECT
5	OHIO	

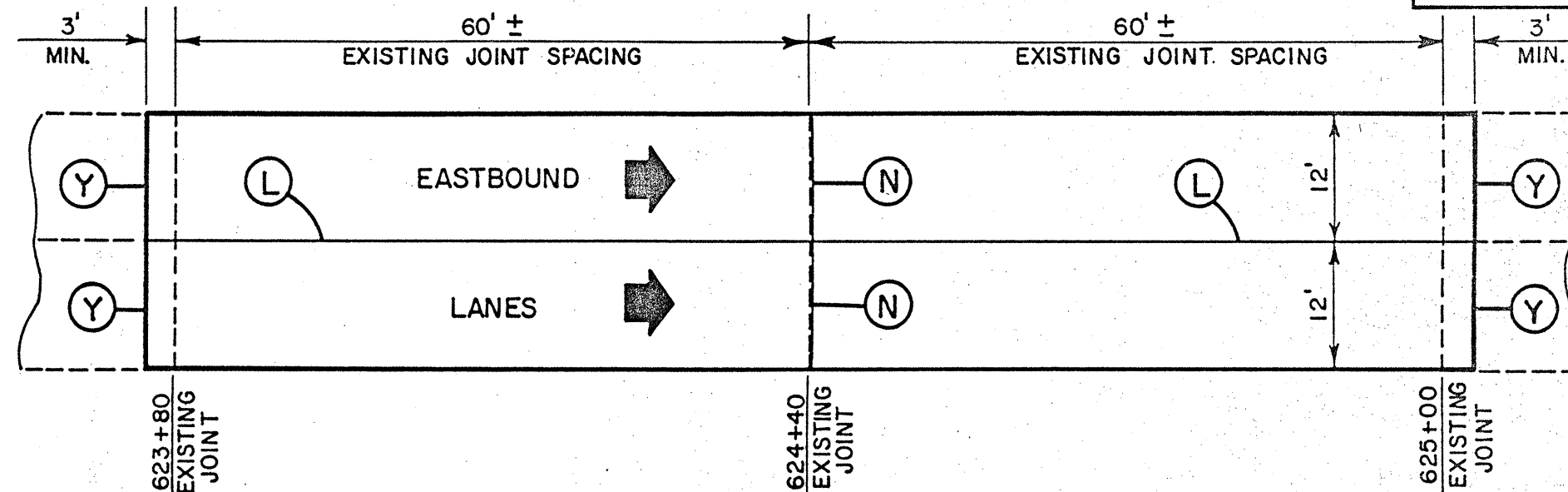
59
72

BEL-70-7.61

PLAN NO.

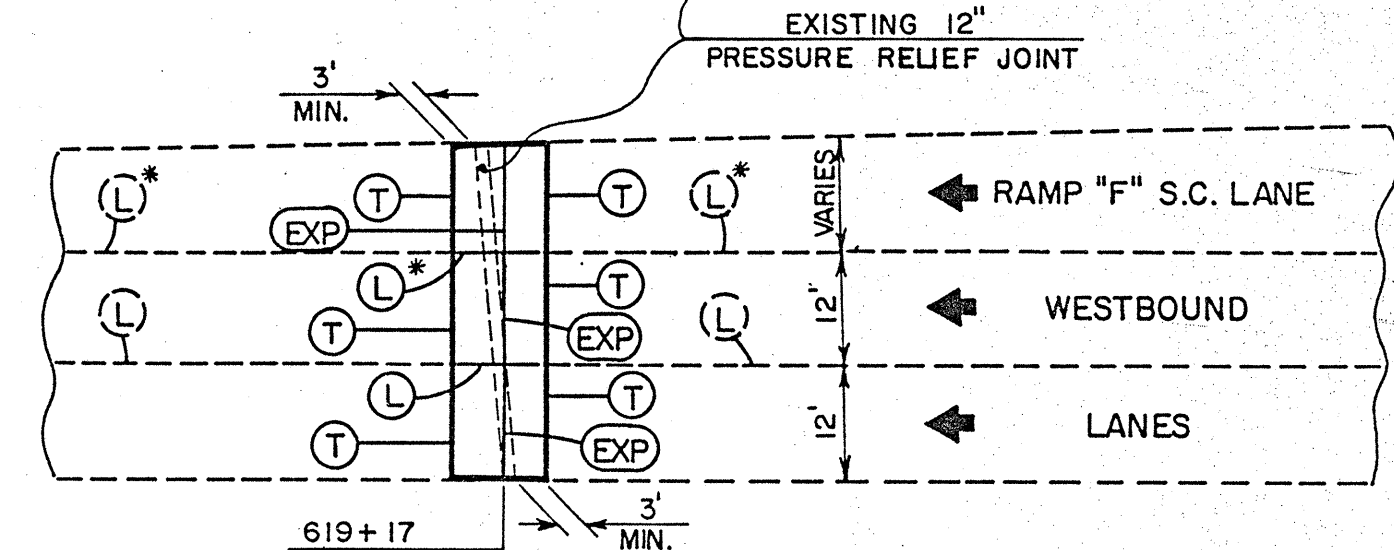
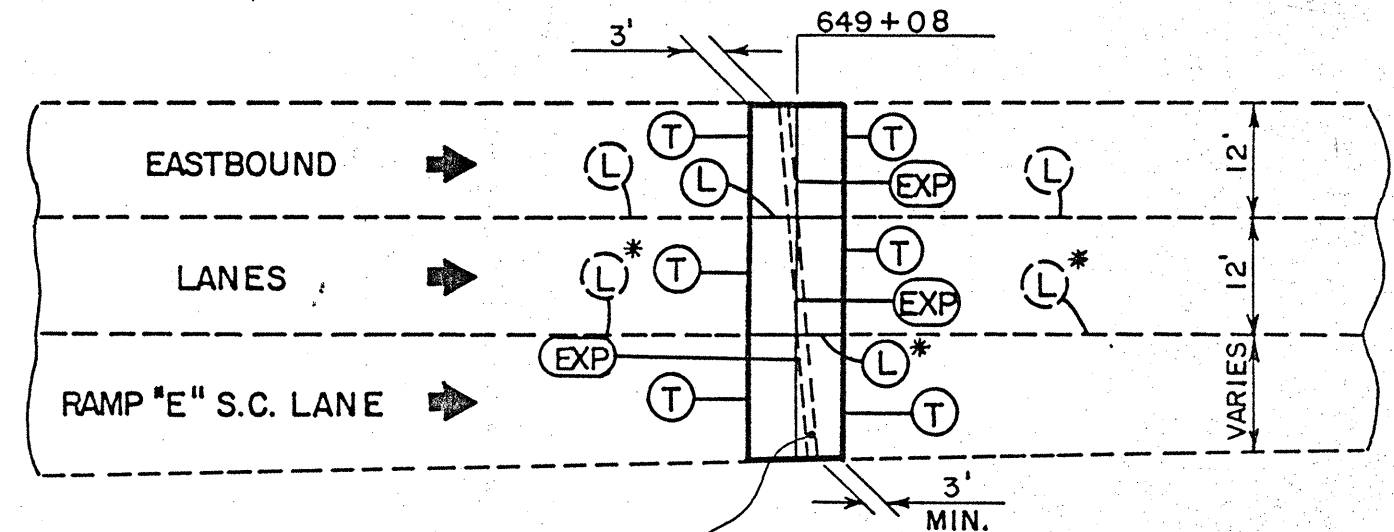


TYPE Y/Y (CONTRACTION)
(FOR QUANTITIES SEE SHEET NO. 64.)



TYPE Y/N/Y (CONTRACTION)
(FOR QUANTITIES SEE SHEET NO. 65.)

* W/O TIEBARS



TYPE T/EXP/T (EXPANSION)
(FOR QUANTITIES SEE SHEET NOS. 65 & 66.)

FOR ADDITIONAL DETAILS SEE SHEET NO. 63.

JOINT TYPE LEGEND

- (Y) — TYPE Y (CONTRACTION)
 - (T) — TYPE T (TIED)
 - (X) — TYPE X (EXPANSION)
 - (EXP) — TYPE EXP (EXPANSION AS PER BP-4 WITH EXPANSION JOINT FILLER 705.03)
 - (N) — TYPE N (CONTRACTION)
 - (L) — LONGITUDINAL JOINT
 - (L) — EXISTING LONGITUDINAL JOINT
- SEE DETAIL & NOTES ON BP-13 AND NOTES ON SHEET NO. 32.
- SEE NOTES ON SHEET NO. 2 & BP-13

PAVEMENT REPAIR DETAIL & QUANTITIES AT EXISTING FULL DEPTH FLEXIBLE REPAIRS

QUANTITIES			
Calc.	S. H. G.	Chk'd.	R. D. A.
Date	6-20-86	Date	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

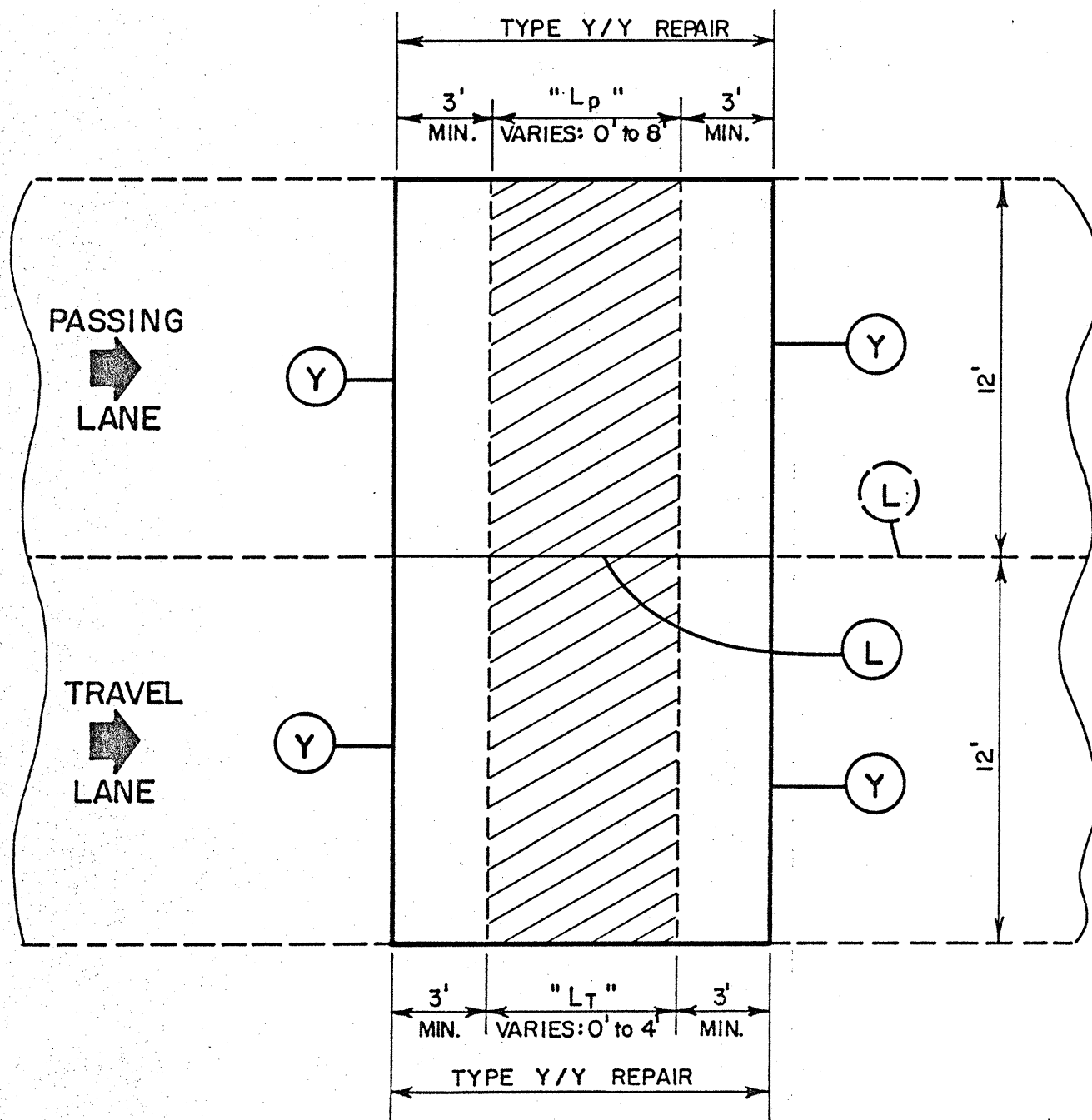
60
72

BEL - 70 - 7.61

PLAN NO.

EXISTING FULL DEPTH FLEXIBLE REPAIR

FOR JOINT LEGEND, SEE SHEET NO. 59.
FOR ADDITIONAL DETAILS, SEE SHEET NO. 63.



TYPE Y/Y (CONTRACTION)

@ EXISTING FULL DEPTH
FLEXIBLE REPAIRS

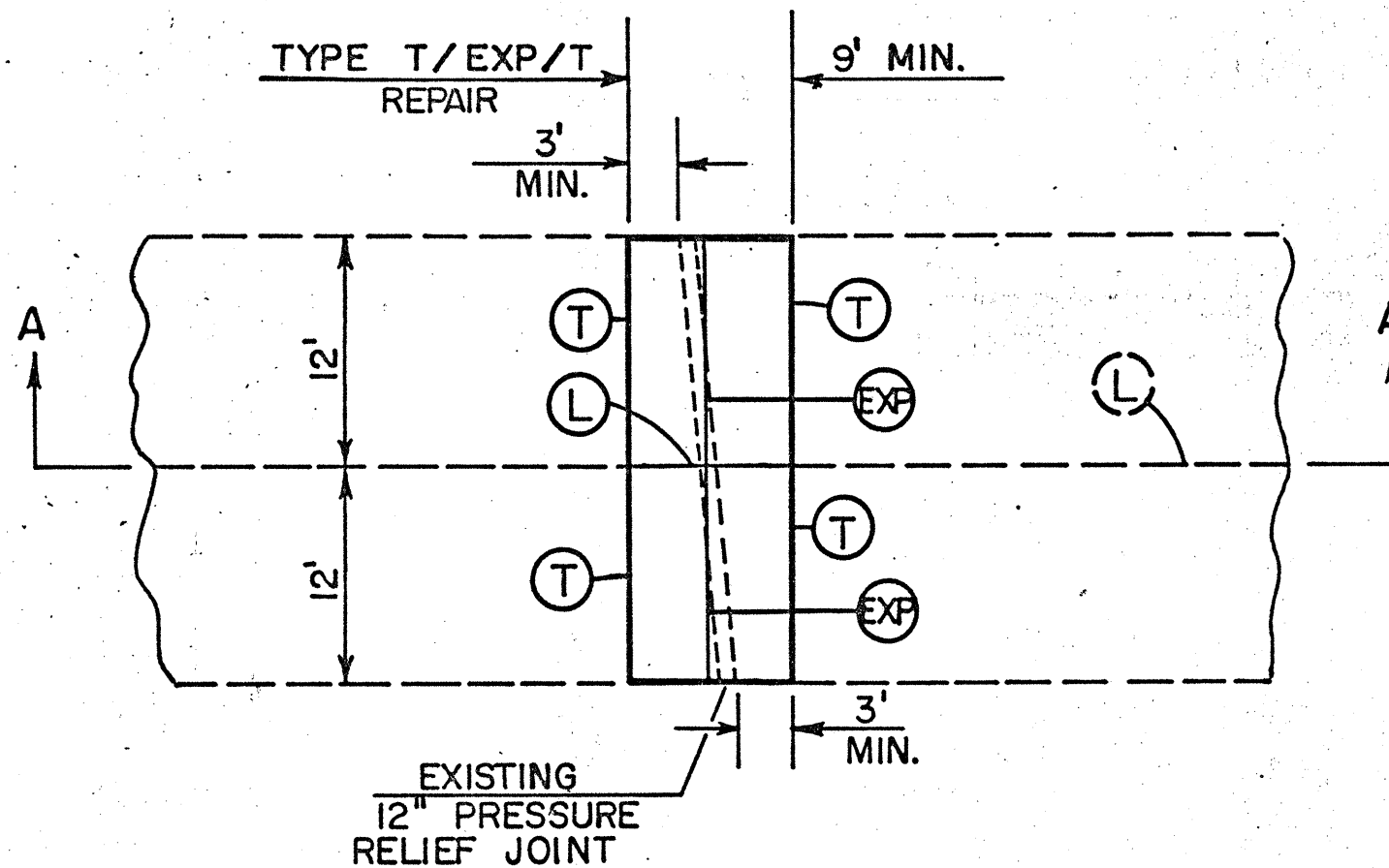
EXISTING JOINT STATION LOCATION (±)	LANE	SPECIAL					
		FULL DEPTH RIGID PAV'T. REMOVAL & RIGID REPLACEMENT				FULL DEPTH PAV'T. SAWING	SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS
		TYPE Y/Y (CONTRACTION.)					
		"L _p "	PASSING LANE	"L _T "	TRAVEL LANE		
FT.	SQ. YD.	FT.	SQ. YD.	LIN. FT.	LIN. FT.		
435 + 83	EAST BOUND	0	8	4	14	58	48
483 + 22		4	14	4	14	58	48
537 + 50		0	8	4	14	58	48
543 + 51		3	12	0	8	57	48
594 + 49		5	15	0	8	59	48
597 + 49		5	15	0	8	59	48
657 + 09		4	14	4	14	58	48
537 + 19		4	14	3	12	58	48
548 + 60		0	8	4	14	58	48
655 + 50		4	14	4	14	58	48
656 + 56	WEST BOUND	4	14	4	14	58	48
664 + 69		4	14	0	8	58	48
665 + 24		4	14	0	8	58	48
666 + 34		6	16	0	8	60	48
667 + 95		3	12	0	8	57	48
668 + 48		8	19	0	8	62	48
669 + 05		5	15	0	8	59	48
669 + 58		5	15	0	8	59	48
671 + 19		5	15	0	8	59	48
671 + 75		3	12	0	8	57	48
672 + 29	5	15	0	8	59	48	
672 + 83	5	15	0	8	59	48	
674 + 50	6	16	0	8	60	48	
LANE SUB-TOTALS		314		230		1346	1104
TOTALS - Carried To Sheet No. 25.		544				1346	1104

FHWA REGION	STATE	PROJECT
5	OHIO	

61
72

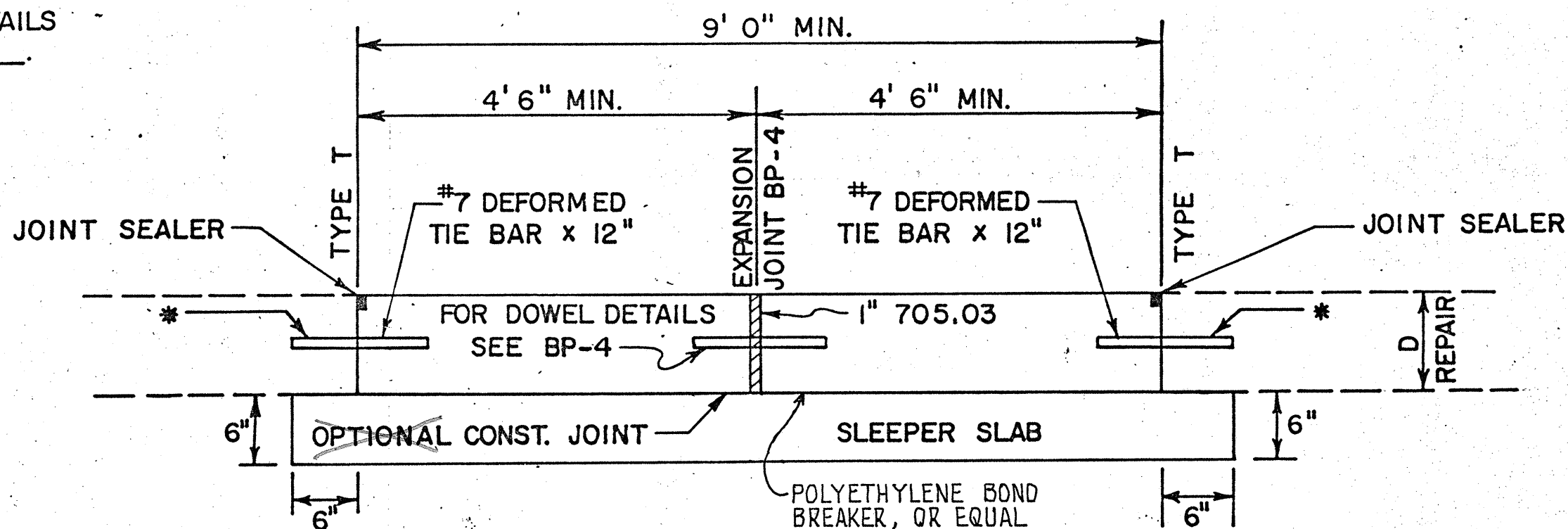
BEL-70-7.61

PLAN NO.



FOR JOINT LEGEND
SEE SHEET NO. 59

FOR ADDITIONAL DETAILS
SEE SHEET NO. 63



* DRILLED HOLE INTO
EXISTING PAVEMENT

SEC. A-A

NO SCALE

TYPE T/EXP/T (EXPANSION)

(FOR LOCATIONS & QUANTITIES SEE SHEET NO. 65&66)

RAMP TERMINAL JOINT DETAILS

QUANTITIES			
Calc.	S.H.G.	Chk'd	R.D.A.
Date	6-20-86	Date	8-28-86

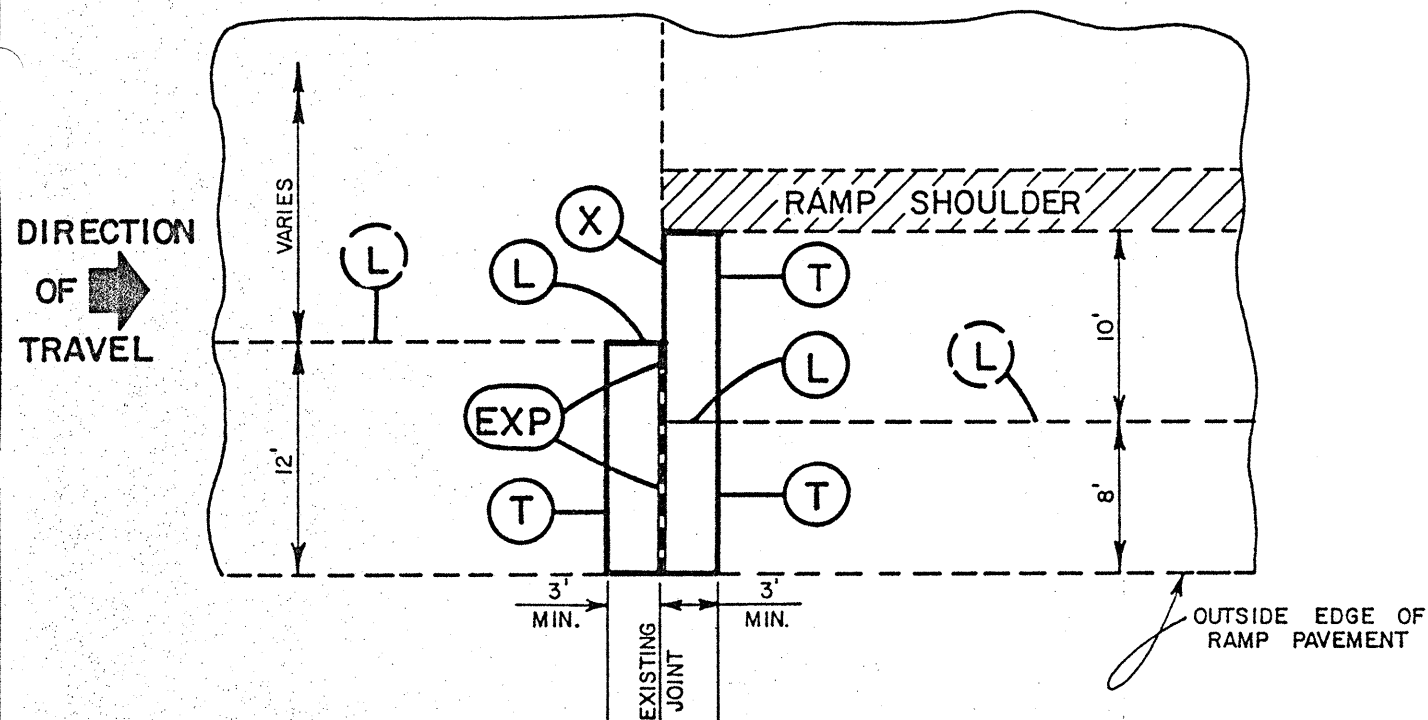
FHWA REGION	STATE	PROJECT
5	OHIO	

62
72

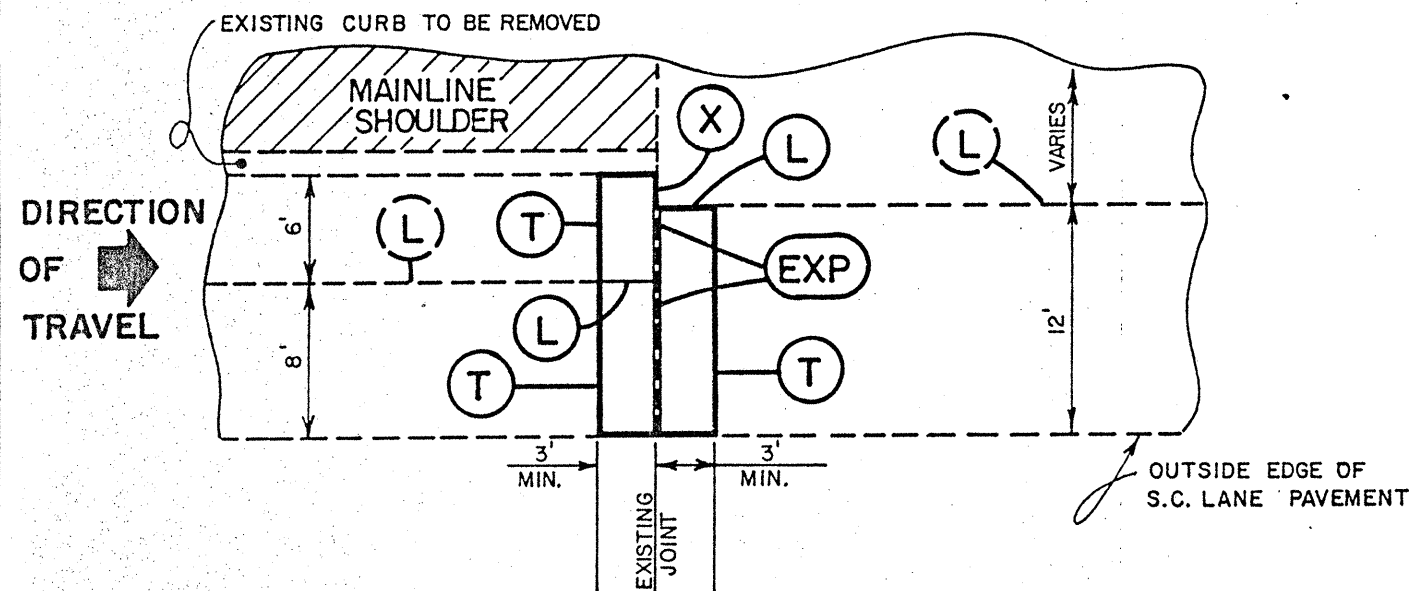
BEL-70-7.61

PLAN NO.

FOR JOINT LEGEND SEE SHEET NO. 59 .
FOR ADDITIONAL DETAILS SEE SHEET NO. 63 .



**EXIT RAMPS
(DETAIL "A")**



**ENTRANCE RAMPS
(DETAIL "B")**

TYPE T/EXP-X/T (EXPANSION)

QUANTITIES					
EXISTING JOINT STATION LOCATION	ROADWAY	DETAIL	SPECIAL		
			FULL DEPTH RIGID PAV'T. REMOVAL & RIGID REPLACEMENT	FULL DEPTH PAV'T. SAWING	SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS
			TYPE T / EXP-X / T (EXPANSION)		
			SQ. YD.	LIN. FT.	LIN. FT.
4+53.07	RAMP A	"A"	10	39	18
14+21.53	RAMP B	"B"	9	31	14
8+95.45	RAMP C	"A"	10	39	18
0+00	RAMP D	"B"	9	31	14
4+53.07	OFF-RAMP E	"A"	10	39	18
23+57.78	ON-RAMP E	"B"	9	31	14
21+97.44	OFF-RAMP F	"A"	10	39	18
0+00	ON-RAMP F	"B"	9	31	14
TOTALS			76	280	128

QUANTITIES CARRIED TO SHEET NO. 25 .

FULL DEPTH SAWING DETAIL

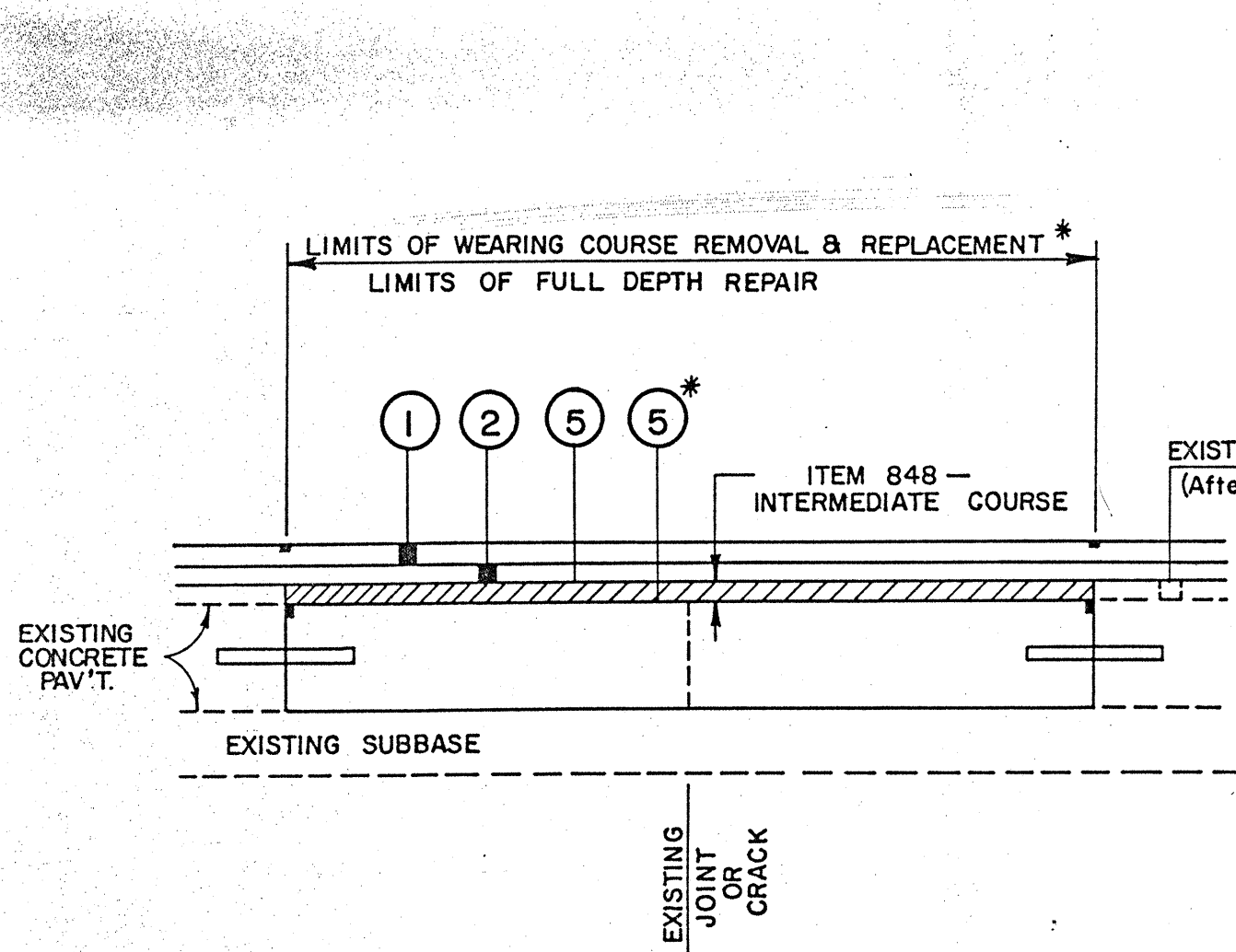
FHWA REGION	STATE	PROJECT	
5	OHIO		

63
72

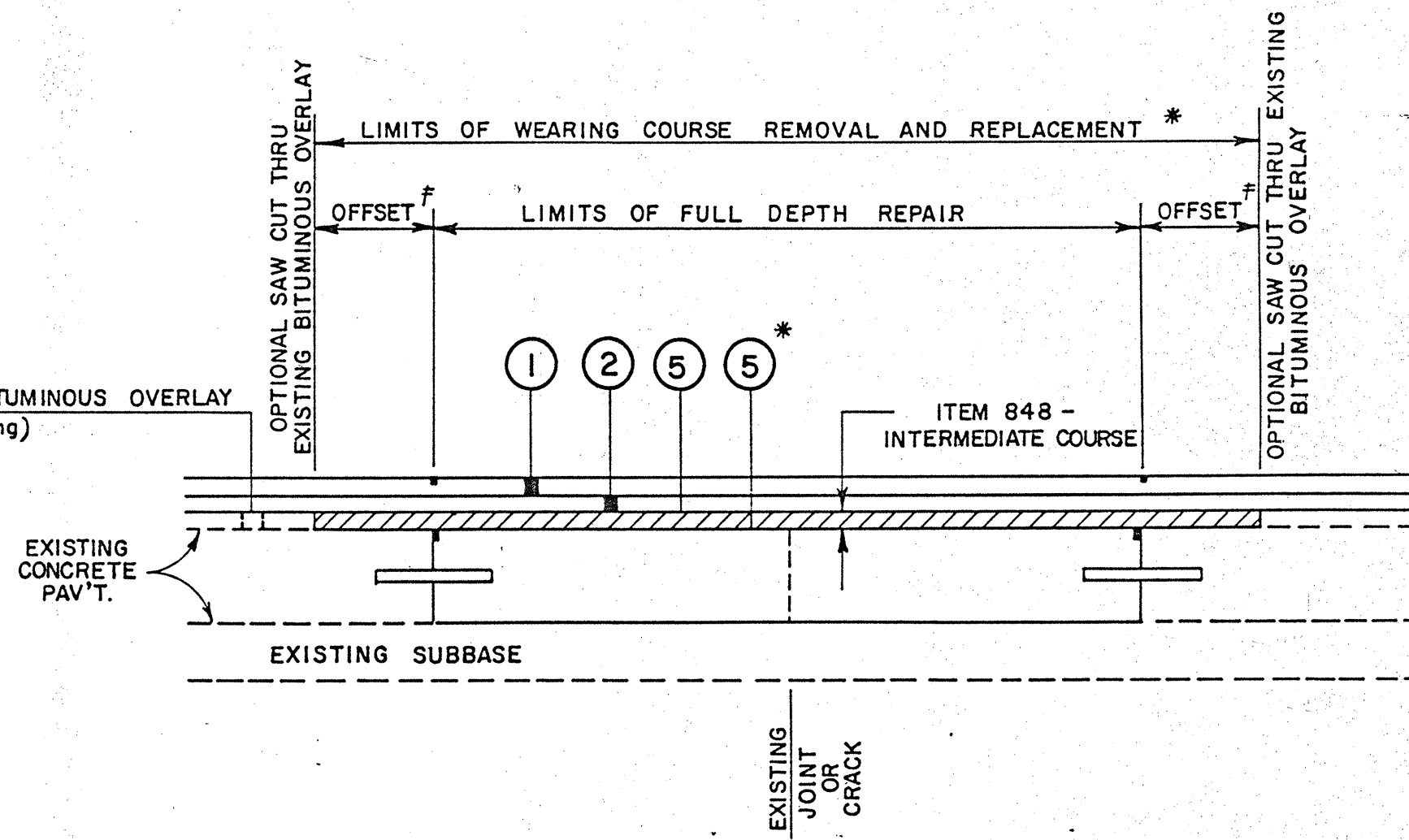
BEL-70-7.61

PLAN NO.

SEE SHEET NO. 3 FOR LEGEND.



ALTERNATE 1



ALTERNATE 2
(AT THE OPTION OF THE CONTRACTOR)

* NOTE: SEE GENERAL NOTE ON SHEET NO. 32.
TACK COAT APPLIED TO THE PAVEMENT REPAIR PRIOR TO REPLACING THE WEARING COURSE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT.

OFFSET LENGTH TO BE DETERMINED BY THE CONTRACTOR.

PAVEMENT REPAIR CALCULATIONS

QUANTITIES			
Calc.	S. H. G.	Chk'd.	R. D. A.
Date	6-23-86	Date	8-28-86

FHWA REGION	STATE	PROJECT	
5	OHIO		

64
72

BEL-70-7.61

PLAN NO.

EXISTING MAINLINE TRANSVERSE JOINT CALCULATIONS:

Project Length: Sta. 411+40 to Sta. 675+00 = 26,360 Lin. Ft.
(Eastbound & Westbound) x 2 directions
52,720 Lin. Ft.

Deduct for Bridges & Approach Slabs:

BEL-70-0775 L&R = 2(134.9' + 2(25')) = -369.80 Lin. Ft.
 BEL-70-0963 L&R = 2(121.50' + 2(25')) = -343.00 Lin. Ft.
 -712.80 Lin. Ft.

: Total Length of 24' Wide Pavement = 52,007.20 Lin. Ft.

Total No. of Calculated Mainline Transverse Joints:
 (52,007.20' x 1 Joint/60 Lin. Ft.) +
 10 additional = 877 Joints

CALCULATED QUANTITIES FOR FULL DEPTH JOINT REPAIR:

Item Special - Full Depth Rigid Pav't. Removal & Rigid Replacement:

1). Mainline - Type Y/Y (Contraction) transverse joints (in addition to the 23 joints specified for full depth replacement on Sheet No. 60):

24' x 6' + 9 = 16 Sq. Yd./Joint x (877-23) Joints = 13,664 Sq. Yds.

2). Speed Change Lane - Type Y/Y (Contraction) transverse joints:

Ramp S.C. Lane	No. of Joints (by field insp.)	Sum Length of Joints (Lin Ft.)
Ramp 'A'	13	219
Ramp 'B'	20	243
Ramp 'C'	13	200
Ramp 'D'	20	248
Exit Ramp 'E'	13	196
Ent. Ramp 'E'	20	248
Exit Ramp 'F'	13	217
Ent. Ramp 'F'	19	238
TOTAL =		1809 Lin. Ft.
1809'x6' ÷ 9 =		1206 Sq. Yd.

3.) Ramps - Type Y/Y (Contraction) transverse joints:

Ramp	No. of Joints (by field insp.)	
'A'	19	
'B'	24	
'C'	15	
'D'	23	
Exit 'E'	9	
Ent. 'E'	15	
Exit 'F'	2	
Ent. 'F'	15	
TOTAL =		122 Joints

16'x6' ÷ 9 = 10.7 Sq. Yd./Joint x 122 Joints = 1306 Sq. Yd.

SUMMARY: Mainline = 13,664 Sq. Yd.
 S.C. Lanes = 1,206 Sq. Yd.
 Ramps = 1,306 Sq. Yd.
 TOTAL TYPE Y/Y = 16,176 Sq. Yd.

Item Special - Full Depth Pavement Sawing:

Mainline: (2x24') + 6' = 54'/Joint x (877-23) Joints = 46,116 Lin. Ft.
 S.C. Lanes: 2 x 1809' = 3,618 Lin. Ft.
 Ramps: (2x16')+6' = 38'/Joint x 122 Joints = 4,636 Lin. Ft.
 TOTAL = 54,370 Lin. Ft.

Item Special - Sawing & Sealing Asphalt Concrete Pav't. Joints:

Mainline: 2x24' = 48'/Joint x 854 Joints = 40,992 Lin. Ft.
 S.C. Lanes: 2 x 1809' = 3,618 Lin. Ft.
 Ramps: 2x16' = 32'/Joint x 122 Joints = 3,904 Lin. Ft.
 TOTAL = 48,514 Lin. Ft.

The following estimated quantities are for items to be used as directed by the Engineer at joint repairs where the subbase or subgrade has failed or is pumping:

Estimate 75% of joints are pumping:
 877 Joints x 0.75 = 658 Joints

Item 203-Excavation Not Including Embankment Construction:

16 Sq. Yd./Joint x 12" (est. depth) ÷ 36 = 5.3 Cu. Yd./Joint x
 658 Joints = 3,510 Cu. Yd.

Item 304 - Aggregate Base:

3,510 Cu. Yd.

Item 605 - Aggregate Drains: 20 Lin. Ft./Joint x 658 Joints

= 13,160 Lin. Ft.

(Above Quantities Carried to Sheet No. 25)

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

I-70 MAINLINE EXPANSION JOINT REPAIRS AND SLAB REPLACEMENT AREAS

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	8-20-88	Date	8-28-88

FHWA REGION	STATE	PROJECT
5	OHIO	

65
72

BEL-70-7.61

PLAN NO.

EXISTING JOINT STATION LOCATION (±) (STENCIL STATIONS)	LANE	SPECIAL												FULL DEPTH PAVEMENT SAWING LIN.FT.	SAWING & SEALING ASPHALT CONCRETE PAVEMENT JOINTS LIN.FT.	COMMENTS	
		FULL DEPTH RIGID REMOVAL AND RIGID REPLACEMENT															
		TYPE Y/Y (CONTRACTION)		TYPE T/EXP/T (EXPANSION)		TYPE T/T (TIED)		TYPE N/Y (TIED/CONT.)		TYPE T/Y (TIED/CONT.)		TYPE Y/N/Y (CONTRACTION)					
		PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE				
SQ.YD.		SQ.YD.		SQ.YD.		SQ.YD.		SQ.YD.		SQ.YD.							
417+30	EASTBOUND	EXISTING 12" PRESSURE RELIEF JOINT (NO WORK)															
418+54.55/419+89.45		BRIDGE NO. BEL - 70 - 0775 R															
429+99				12	12									57	24		
440+42				12	12									57	24		
450+94				12	12									57	24		
461+44				12	12									57	24		
472+16				12	12									57	24		
493+83				12	12									57	24		
516+50				12	12									57	24		
518+09.30/519+30.80			BRIDGE NO. BEL - 70 - 0963 R														
520+57			EXISTING 12" PRESSURE RELIEF JOINT (NO WORK)														
532+48					12	12									57	24	
546+41					12	12									57	24	
557+26					12	12									57	24	
567+70					12	12									57	24	
578+17					12	12									57	24	
589+37					12	12									57	24	
599+72					12	12									57	24	
611+28					12	12									57	24	
625+53					12	12									57	24	
635+85					12	12									57	24	
649+08					42 *										96	24	SEE DETAIL SH. NO. 59.
666+29					12	12									57	24	
673+80/675+00													168	168	174	72	
LANE SUB-TOTALS				216	216							168	168	1296	528		
TOTALS - QUANTITY CARRIED TO SHEET No. 25				474								336		1296	528		

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

I-70 MAINLINE EXPANSION JOINT REPAIRS AND SLAB REPLACEMENT AREAS

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	6-20-86	Date	8-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

66
72

BEL-70-7.61

PLAN NO.

EXISTING JOINT STATION LOCATION (±) (STENCIL STATIONS)	LANE	SPECIAL												FULL DEPTH PAVEMENT SAWING	SAWING & SEALING ASPHALT CONCRETE PAVEMENT JOINTS	COMMENTS	
		FULL DEPTH RIGID REMOVAL AND RIGID REPLACEMENT															
		TYPE Y/Y (CONTRACTION)		TYPE T/EXP/T (EXPANSION)		TYPE T/T (TIED)		TYPE N/Y (TIED/CONT.)		TYPE T/Y (TIED/CONT.)		TYPE Y/N/Y (CONTRACTION)					
		PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE				
		SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	SQ.YD.	LIN.FT.	LIN.FT.			
416+69	WESTBOUND	EXISTING 12" PRESSURE RELIEF JOINT (NO WORK)															
418+99.55/420+34.45		BRIDGE NO. BEL - 70 - 0775 L															
430+49				12	12									57	24		
440+54				12	12									57	24		
450+53				12	12									57	24		
461+14				12	12									57	24		
474+49				12	12									57	24		
484+37				12	12									57	24		
494+19				12	12									57	24		
506+70				12	12									57	24		
515+46				12	12									57	24		
518+11.05/519+32.55			BRIDGE NO. BEL - 70 - 0963 L														
520+49			EXISTING 12" PRESSURE RELIEF JOINT (NO WORK)														
525+17					12	12								57	24		
567+18					12	12								57	24		
576+57					12	12								57	24		
588+13					12	12								57	24		
608+48					12	12								57	24		
619+17					40 *									91	24		* SEE DETAIL ON SH. NO. 59.
631+49					12	12								57	24		
643+64					12	12								57	24		
663+82					12	12								57	24		
LANE SUB-TOTALS				204	204								1060	432			
TOTALS - QUANTITY CARRIED TO SHEET No. 25				448									1060	432			

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE EVALUATED BY THE ENGINEER IN ACCORDANCE WITH THE THREE PERFORMANCE PARAMETERS CONTAINED IN SUPPLEMENT 1047. THE MARKINGS SHALL BE REPAIRED OR REPLACED WHEN THE NUMERICAL RATING OF A PARAMETER IS (a) SIX OR LOWER FOR DURABILITY, (b) FOUR OR LOWER FOR VISUAL EFFECTIVENESS AND (c) FOUR OR LOWER FOR NIGHT VISIBILITY. THE CONTRACTOR SHALL REPAIR OR REPLACE UNSATISFACTORY MARKINGS IMMEDIATELY AND AT NO ADDITIONAL COST TO THE STATE.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMTCD FULL PATTERN STANDARD DIMENSION EDGE LINE OR CENTER LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167-36) SIGN OR "UNMARKED NO PASSING ZONES" (OW-168-36) SIGN OR BOTH AS MAY BE APPROPRIATE. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL ALSO BE ERECTED ON EACH ENTRANCE RAMP, AT INTERSECTIONS OF THROUGH ROADS TO WARN ENTERING OR TURNING TRAFFIC OF THE CONDITION AND AT LEAST ONCE EVERY TWO MILES ALONG THE ROADWAY. THESE SIGNS SHALL BE REMOVED WHEN THEY NO LONGER APPLY.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR C PREFORMED MATERIAL.

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) PARAGRAPH 621.14 SHALL NOT APPLY, (2) WHERE THE MARKINGS ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT SURFACES OR PLANED ASPHALT PAVEMENT SURFACES, THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

WIDTH OF LINE, IN.	GALLONS PER MILE OF LINE			
	4	6	8	12
SOLID LINE	24	36	48	72
DASHED LINE	6	9		144
DOTTED LINE	8	12		

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT, INCLUDING RAMPS, PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

LINE PLACEMENT TOLERANCE FOR FINAL SURFACES SHALL BE IN ACCORDANCE WITH 621.052. ON SURFACES OTHER THAN THE FINAL, THE TOLERANCE PERMITTED SHALL BE TWICE THAT IN 621.052.

LAYOUT AND PREMARKING SHALL BE IN ACCORDANCE WITH 621.051.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE FULL DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

- 1) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 2) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 3) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 2.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE AND 24 GALLONS PER MILE FOR GORE MARKINGS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

INTERIM MARKINGS

WITHIN 21 CALENDAR DAYS AFTER OPENING ANY LENGTH OF PAVEMENT TO TRAFFIC, THE 621 OR 847 PAVEMENT MARKINGS CALLED FOR IN THE PLANS SHALL BE APPLIED. EQUIVALENT 614 CLASS I, PAINT MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I PAINT MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF \$200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

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 PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

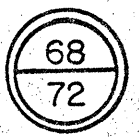
ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS _____
614	MILES	TEMPORARY CENTER LINES, CLASS _____
614	LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, _____
614	MILES	TEMPORARY EDGE LINES, CLASS I, _____
614	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II, _____
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, _____
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, _____
614	EACH	TEMPORARY LANE ARROWS, CLASS I, _____
614	EACH	TEMPORARY RAILROAD SYMBOL MARKINGS, CLASS I, _____
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, _____
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, _____
614	LIN. FT.	TEMPORARY DOTTED LINES, CLASS I, _____

*TYPE MATERIAL (621 PAINT, 947.03 TYPE B OR 947.03 TYPE C OR LEFT BLANK TO PERMIT ANY OF THE THREE)

‡ MAINLINE STATIONING

QUANTITIES			
Calc.	S.H.G.	Chkd.	R.D.A.
Date	6-9-86	Date	8-29-86

FHWA REGION	STATE	PROJECT
5	OHIO	



BEL-70-7.61

PLAN NO.

PAVEMENT MARKING

STATION		LANE	SIDE	621			847 - 947.03 TYPE A			
				EDGE LINES			LANE LINES	CHANNEL-IZING LINES	TRANS-VERSE LINES (WHITE)	STOP LINES
				YELLOW	WHITE	TOTAL				
FROM	TO									
410+77.50	675+62.50	EASTBOUND LANES	CTR.				26,485.00			
410+77.50	675+62.50		LT.	26,485.00		26,485.00				
410+77.50	534+75.98		RT.		12,398.48	12,398.48				
532+35.98	644+92.01		RT.		11,256.03	11,256.03				
642+52.01	675+62.50		RT.		3,310.49	3,310.49				
504+88	507+46		RT.					258		
532+35.98	534+75.98		RT.					240		
621+26	623+84		RT.					258		
642+52.01	644+92.01		RT.					240		
410+77.50	675+62.50		WESTBOUND LANES	CTR.				26,485.00		
410+77.50	675+62.50	RT.		26,485.00		26,485.00				
410+77.50	504+91.60	LT.			9,414.10	9,414.10				
502+51.60	625+70.23	LT.			12,318.63	12,318.63				
623+30.23	675+62.50	LT.			5,232.27	5,232.27				
502+51.60	504+91.60	LT.						240		
527+39.5	529+97.5	LT.						258		
623+30.23	625+70.23	LT.						240		
647+41.5	650+06	LT.						265		
502+58.9 ‡	504+88 ‡	RT.						229.1		
4+69	15+84	LT.	1,127.0		1,127.0					
4+69	16+04	RT.		1,164.2	1,164.2					
2+12	4+69	LT.					257	295		
15+94		LT. & RT.							105	
0+31	14+21.53	LT.	1,402.5		1,402.5					
124+60.98 (SR) (49)	14+21.53	RT.		1,453.4	1,453.4					
14+21.53	19+49.53					288	240			
SUB-TOTALS (CARRIED TO SHEET NO. 69.)				55,499.5	56,547.6	112,047.1	53,487.1	2496	295	105

* NOTE: LEFT & RIGHT CONFIGURATION IS REFERENCED TO THE DIRECTION OF TRAVEL.

≠ MAINLINE STATIONING

QUANTITIES			
Calc.	S.H.G.	Chk'd.	R.D.A.
Date	6-9-86	Date	8-29-86

FHWA REGION	STATE	PROJECT
5	OHIO	

69
72

BEL-70-7.61

PLAN NO.

PAVEMENT MARKING

STATION		LANE	SIDE	621			847-947.03 TYPE A			
				EDGE LINES			LANE LINES	CHANNEL-IZING LINES	TRANS-VERSE LINES (WHITE)	STOP LINES
				YELLOW	WHITE	TOTAL				
FROM	TO									
13+67	11+41	RAMP "C"	LT.*			226				
8+84	0+24		LT.*	875.0		875.0				
8+84	131+96.03 (S.R. 149)		RT.*		931.3	931.3				
11+41	8+84		LT.*				257	295		
1+05			LT. & RT.							103
13+72	0+00	RAMP "D"	LT.*	1380.4		1380.4				
131+92.92 (S.R. 149)	0+00		RT.*		1434.6	1434.6				
504+91.60 ≠	499+63.60 ≠	RAMP "E" OFF RAMP	LT.			288	240			
618+98.1 ≠	621+26. ≠		RT.				227.9			
4+67	9+87.48		LT.	520.48		520.48				
4+67	9+87.48		RT.		520.48	520.48				
2+10	4+67		LT.				257	295		
14+95.47	23+57.78	RAMP "E" ON RAMP	LT.	862.31		862.31				
14+95.47	23+57.78		RT.		862.31	862.31				
642+52.01 ≠	647+80.01 ≠		RT.				288	240		
26+73.4	24+52	RAMP "F" OFF RAMP	LT.*			221.4				
21+87.5	15+46.27		LT.*	641.23		641.23				
21+87.5	15+46.27		RT.*		641.23	641.23				
24+52	21+87.5		LT.*				265	315		
10+41	0+00		LT.*	1041		1041				
10+41	0+00	RAMP "F" ON RAMP	RT.*		1041	1041				
625+70.23 ≠	620+42.23 ≠		LT.				288	240		
SUB-TOTALS — THIS SHEET				5320.42	5430.92	10,751.34	1539.3	1499	905	103
SUB-TOTALS — FROM SHEET NO. 68				55,499.5	56,547.6	112,047.1	53,487.1	2496	295	105
TOTALS — (CARRIED TO GENERAL SUMMARY)				60,819.92	61,978.52	122,798.44	55,026.4	3995	1200	208
				23.26 MILES		10.42 Miles				

ITEM 614 — TEMPORARY PAVEMENT MARKING

STATION		LANE	TEMPORARY LANE LINES, CLASS II	TEMPORARY GORE MARKINGS, CLASS II	
FROM	TO		LIN. FT.	LIN. FT.	
410+77.50	675+62.50	E. B.	79,455		
410+77.50	675+62.50	W. B.	79,455		
RAMP "A" — OFF RAMP		S.R. 149 INTERCHANGE		300	
RAMP "B" — ON RAMP					
RAMP "C" — OFF RAMP				300	
RAMP "D" — ON RAMP					
RAMP "E" — OFF RAMP			REST AREA		300
RAMP "E" — ON RAMP					
RAMP "F" — OFF RAMP				300	
RAMP "F" — ON RAMP					
TOTALS — (CARRIED TO GENERAL SUMMARY)			158,910	1200	
			30.10 Miles		

⊕ ~ BASED ON THREE APPLICATIONS.

⊙ ~ BASED ON TWO APPLICATIONS.

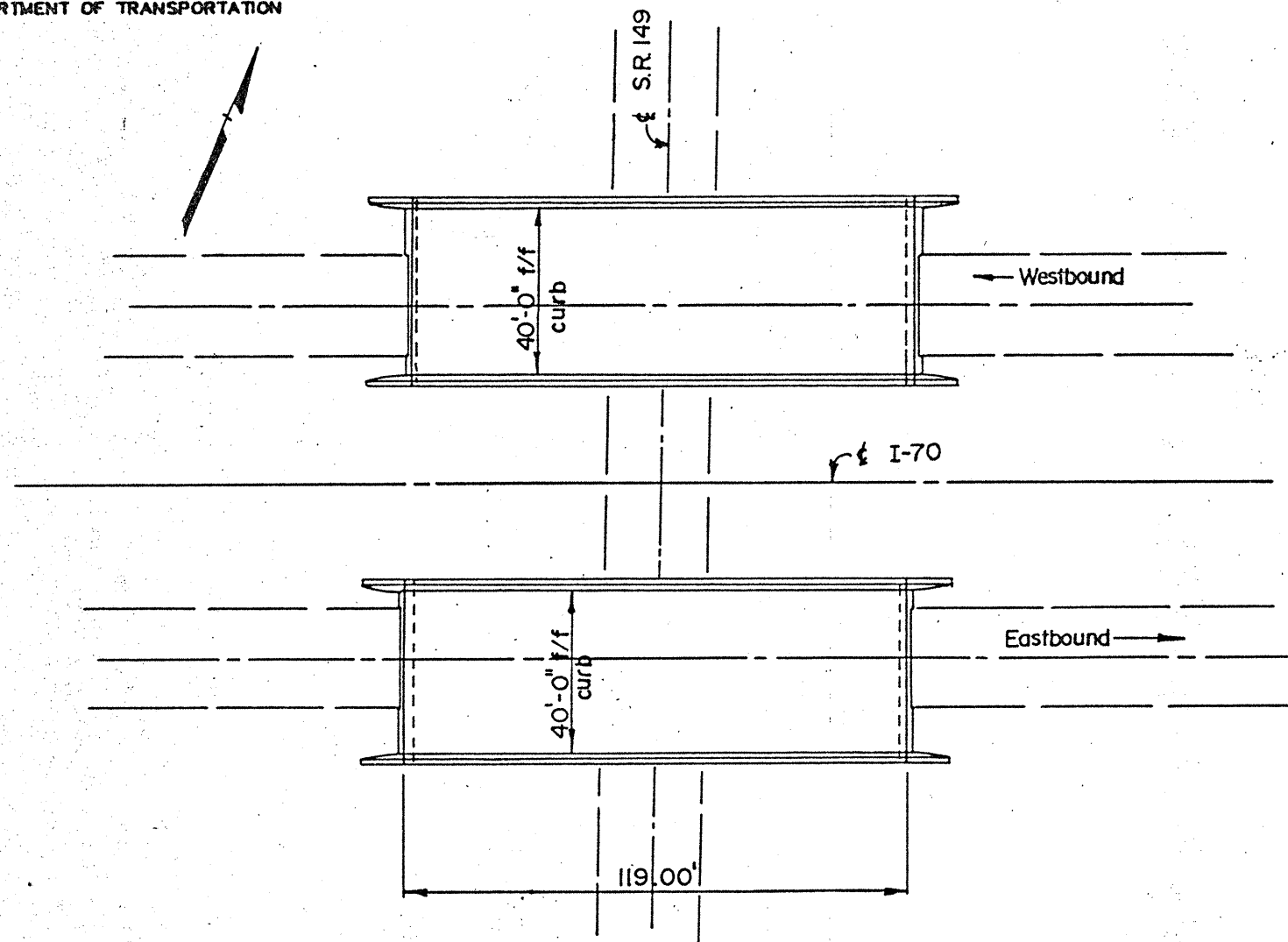
QUANTITIES			
Calc.	W.R.G.	Chk'd.	R.D.A.
Date 6-24-86	Date 8-21-86		

FHWA REGION	STATE	PROJECT
5	OHIO	

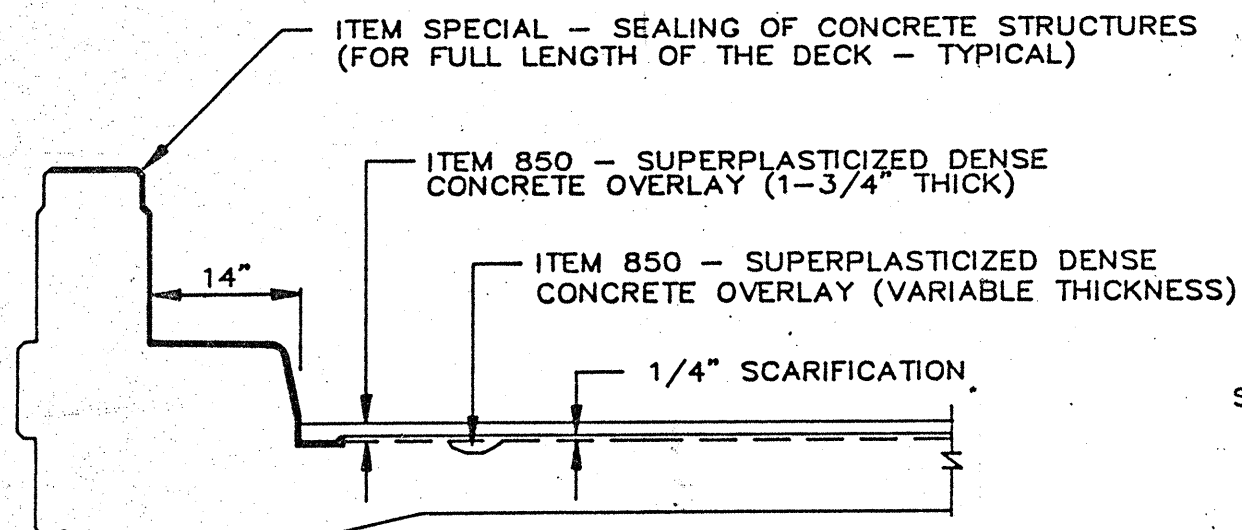
70
72

BEL-70-7.61

PLAN NO.



PLAN
BEL-70-0963 L/R



TYPICAL SECTION

See sheet **3 / 3** for scupper and end finish details.

SUB-TOTALS		BRIDGE QUANTITIES			
LEFT	RIGHT	ITEM	TOTAL	UNIT	DESCRIPTION
529	529	202	1058	SQ. YD.	Wearing course removed
85	85	516	170	LN.FT.	Joint sealer, modified as per plan
2	2	850	4	CU.YD.	Full depth repair
529	529	850	1058	SQ.YD.	Superplasticized dense concrete overlay (1-3/4" thick)
5	7	850	12	CU.YD.	Superplasticized dense concrete overlay (variable thickness)
128	128	SPECIAL	256	SQ.YD.	Sealing of concrete structures (See Proposal Note)

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF MAINTENANCE

1 / 3

GENERAL PLAN AND BRIDGE QUANTITIES
BRIDGE No. BEL-70-0963 L&R
OVER S.R.149

DESIGNED	DRAWN	TRACED	REVIEWED	DATE	REVISED
W.R.G.					

FHWA REGION	STATE	PROJECT	
5	OHIO		

71
72

BRIDGE NOTES

BEL-70-7.61

PLAN NO.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02. CONTRACT BID PRICES SHALL BE BASED UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ESTIMATED QUANTITIES:

SPECIFIC LOCATIONS AND USAGE OF THE ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED AS DIRECTED BY THE ENGINEER SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIALS SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

ALIGNMENT AND PROFILE:

THE WORK PROPOSED BY THE PROJECT IS FOR THE RESURFACING OF THE BRIDGE DECKS. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED, AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT EXCEPT THAT IT WILL BE RAISED AN AMOUNT EQUAL TO THE THICKNESS OF THE OVERLAY AS SPECIFIED IN THESE PLANS.

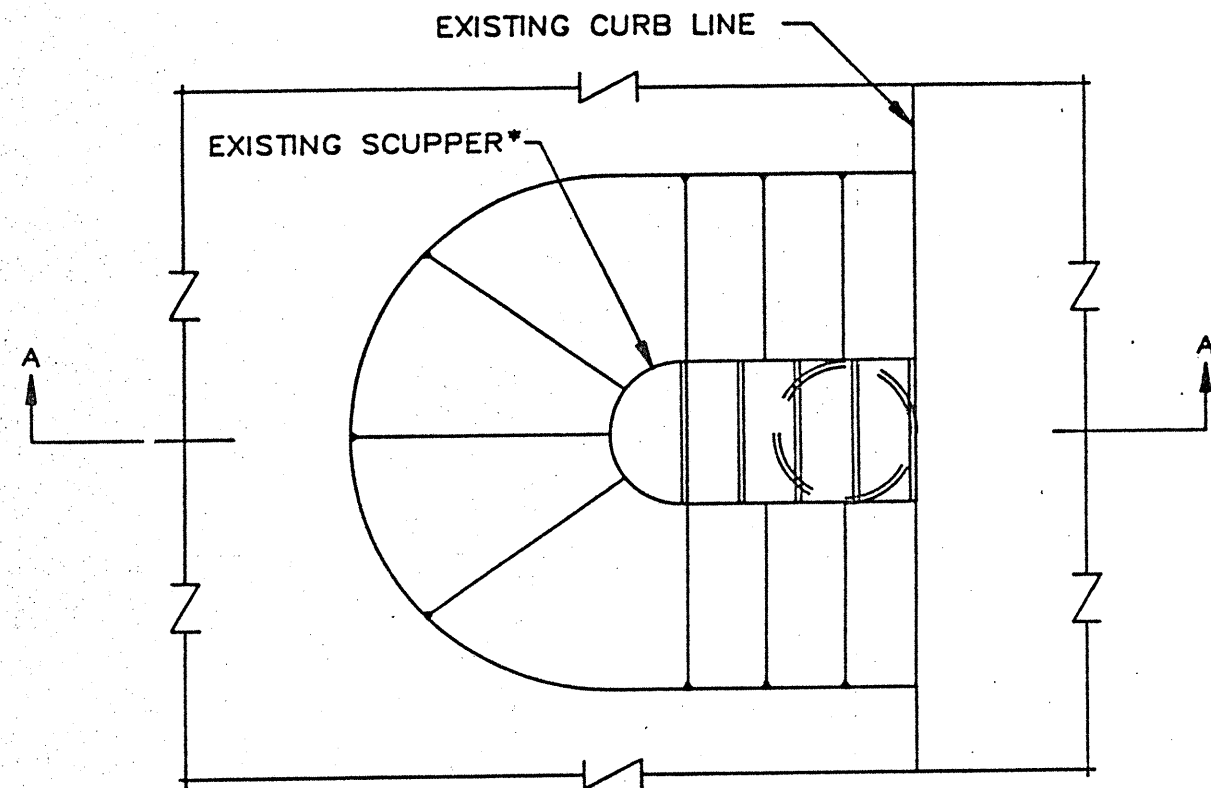
MAINTAINING TRAFFIC:

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED DECK REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY AFFECTED BY THE WORK DONE UNDER THIS CONTRACT.

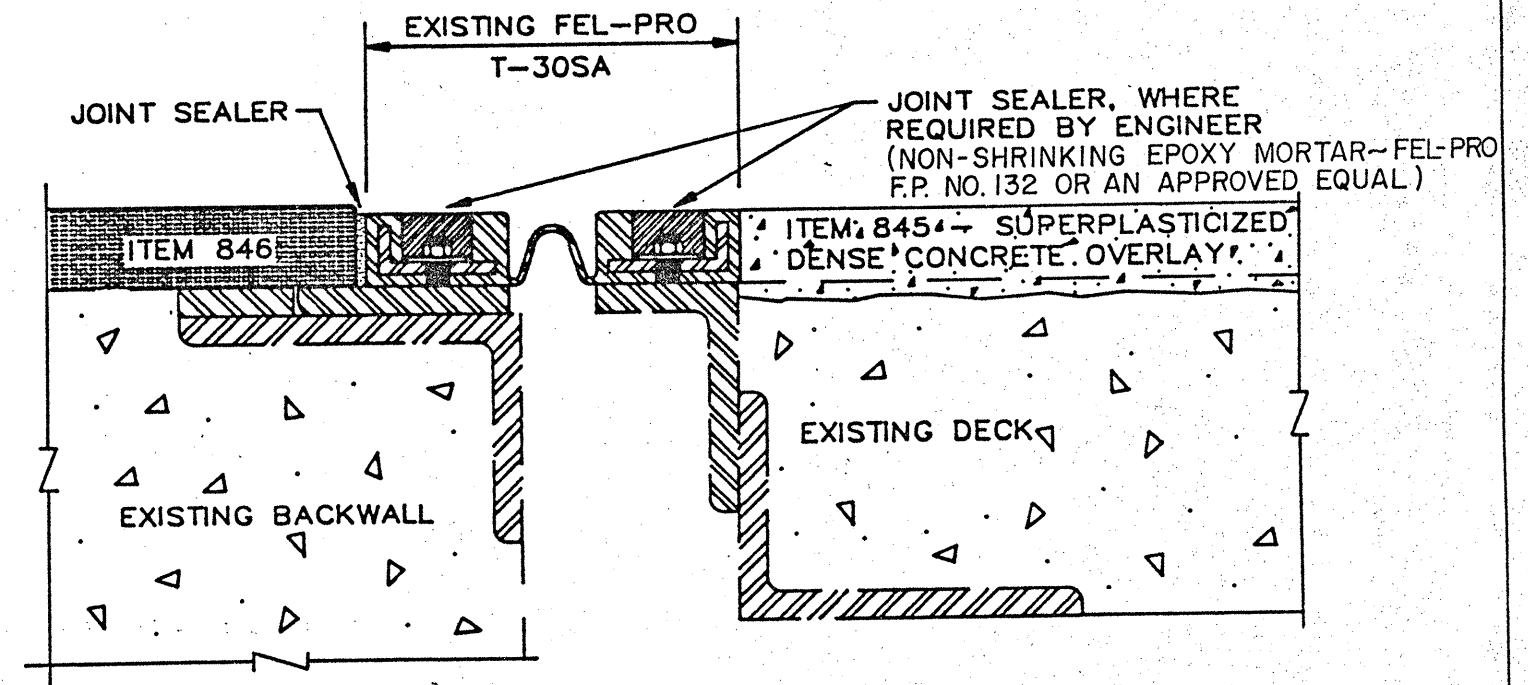
ITEM SPECIAL - SEALING OF CONCRETE STRUCTURES:

A CONCRETE SEALER, A NON-EPOXY OR AN EPOXY SEALER, SHALL BE APPLIED TO THE FOLLOWING SURFACES: FACE AND TOP OF CURB AND PARAPET FOR THE FULL LENGTH OF BRIDGE. SEE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS AND APPLICATION PROCEDURES.

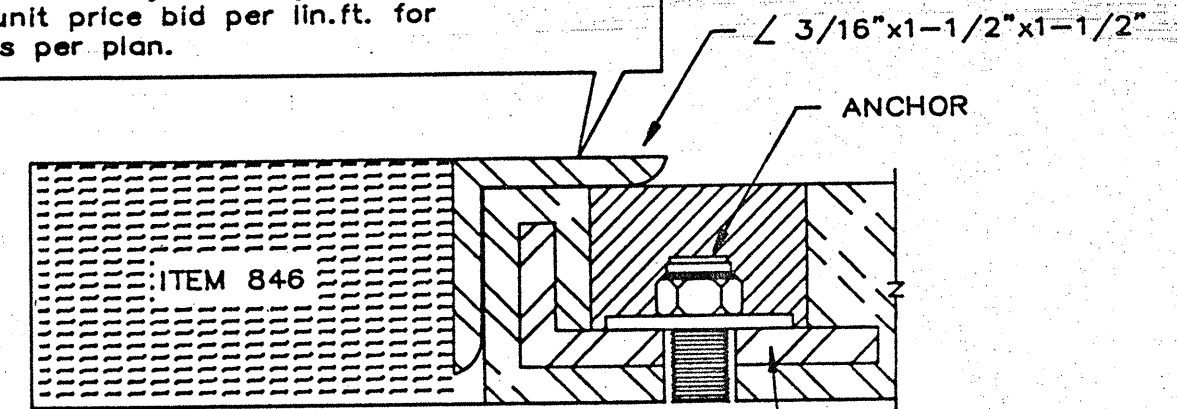
STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF MAINTENANCE					2 / 3
BRIDGE NOTES BRIDGE No. BEL-70-0963 L&R OVER S.R.149					
DESIGNED	DRAWN	TRACED	REVIEWED	DATE	REVISED
W.R.G.	_____	_____	_____	_____	_____



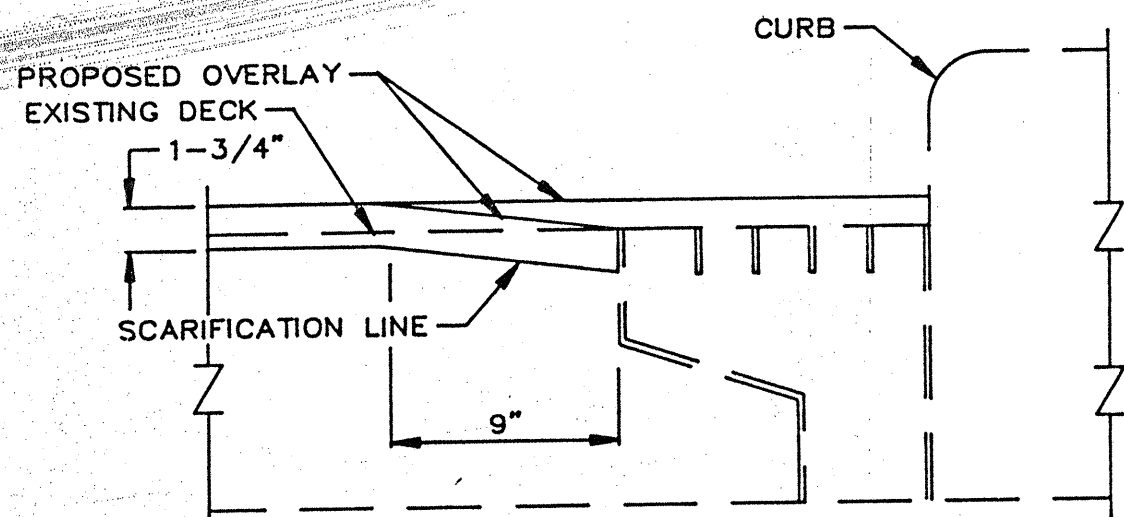
PLAN VIEW



Before placing Item 846, install a 3/16"x1-1/2"x1-1/2" angle as shown, and pave against it. Remove angle after paving operations are completed and fill the void with joint sealer. Also, apply joint sealer to fill any exposed anchors and reinforcing plates, as directed by the Engineer. Cost for the above shall be included in the unit price bid per lin.ft. for Item 516 - Joint sealer, modified as per plan.



END FINISH DETAILS



SECTION A-A

* SCUPPERS AS FOUND MAY BE REVERSED 180° OR OF ANOTHER TYPE THAN THAT SHOWN

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF MAINTENANCE

GENERAL PLAN AND BRIDGE QUANTITIES
BRIDGE No. BEL-70-0963 L&R
OVER S.R.149

DESIGNED	DRAWN	TRACED	REVIEWED	DATE	REVISED
W.R.G.					