STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HAS-22-20.07
HARRISON COUNTY
VILLAGE OF HOPEDALE
GREEN TOWNSHIP

RECONSTRUCTION OF EXISTING SEPARATED CROSSING WITH THE CONSOLIDATED RAIL CORPORATION

F.-31(3)

OHIO	1/80
FHWA REGION 5	
F.-31(3) FEDERAL PROJECT	

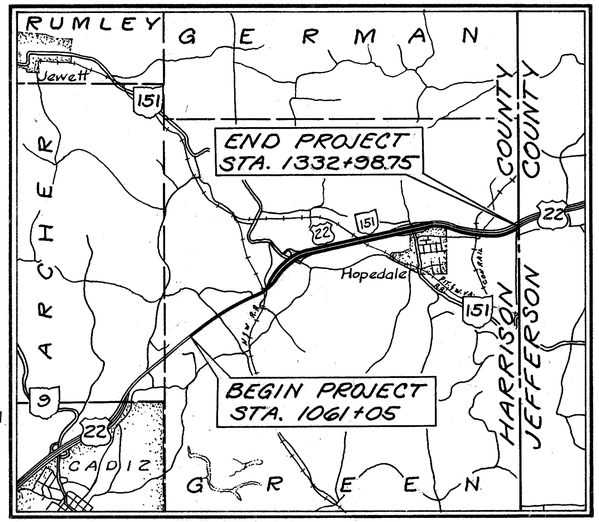
HAS-22-20.07

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line 352 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light

Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

INDEX OF SHEETS



LOCATION MAP

SCALE IN MILES
0 1 2 3 4

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan 0' 100' 200'
Profile: Horizontal 0' 20' 40', Vertical 0' 1' 2'
Cross Section: Horizontal 0' 5' 10', Vertical 0' 5' 10'
And Horizontal 0' 10' 20', Vertical 0' 10' 20'

LINE DATA

Begin Project Sta. 1061+05.00
End Project Sta. 1332+98.75
Equations: Sta. 1168+68.19 Bk. = Sta. 1168+75.64 Ah. ~Deduct 7.45 Lin. Ft.
Sta. 1280+62.94 Bk. = Sta. 1280+72.73 Ah. ~Deduct 9.79 Lin. Ft.
Sta. 1298+78.92 Bk. = Sta. 1298+80.75 Ah. ~Deduct 1.83 Lin. Ft.
Sta. 1329+83.81 Bk. = Sta. 1329+98.24 Ah. ~Deduct 14.43 Lin. Ft.
Net Length of Project = 27,160.25 Lin. Ft. or 5.144 Miles
Add For Approaches And Work:
U.S.R. 22:
Sta. 1060+00.00 To Sta. 1061+05.00 : 105.00 Lin. Ft.
Sta. 1332+98.75 To Sta. 1334+10.75 : 112.00 Lin. Ft.
S.R. 151 - C.R. 23 :
Sta. 242+00 To Sta. 270+00 : 2,800.00 Lin. Ft.
C.R. 4 - S.R. 151
Sta. 288+00 To Sta. 302+00 : 1,400.00 Lin. Ft.
Net Length of Work = 31,577.25 Lin. Ft. or 5.981 Miles

Plan Prepared By:
District No. 11
Ohio Department
of Transporation

SUPPLEMENTAL SPECIFICATIONS		
852	6-8-79	
844	11-8-74	
845	6-27-77	
848	3-4-80	
~~850~~	~~6-27-77~~	
921	12-4-72	
953	3-8-79	
1001	1-3-77	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS							
				TC-35.10	10-5-77	SD-1-69	6-12-69
BP-5	4-16-79	MC-3	6-1-73	TC-41.10	8-19-77	AS-1-72	6-30-72
BP-11	1-3-75	MC-6	6-1-65	TC-41.20	4-1-77	BR-1-67	10-15-71
		MC-4	7-26-76	TC-41.50	4-1-77	RB-1-55	2-2-59
GR-1	12-6-76	CB-3A	5-1-79	TC-42.10	8-19-77	BR-1	5-29-79
GR-2B	12-6-76	BP-2	12-6-76	TC-42.20	4-1-77		
GR-3	12-6-76	BP-4	12-6-76	TC-51.10	6-2-75		
GR-3A	12-6-76			TC-51.11	6-2-75		
GR-3B	12-6-76			TC-52.10	4-1-77		
GR-4	12-6-76			TC-52.20	4-1-77		
GR-4A	7-26-76	T.C.-7.65	10-1-74	TC-61.10	3-23-79		
GR-5	1-1-71	T.C.-21.10	10-1-74	TC-71.10	4-9-79		
GR-6	1-1-71	T.C.-22.20	8-19-77	TC-72.20	4-3-79		

Rev. 6-13-80

LIMITED ACCESS

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

1979 SPECIFICATIONS

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

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

Approved Robert M. Short
Date 2-13-80 District Deputy Director of Transportation
Acting

Approved Robert B Pfeifer
Date 3-14-80 Engineer, Bureau of Bridges and Structural Design

Approved Howard E. Nolan
Date 5-13-80 Chief Engineer, Planning and Design

Approved David L. Weis
Date 5-13-80 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Project: HARRISON COUNTY, HAS-22-20.07
Date of Letting 19, Contract No.

SEAL

LD0300 Rev. 11-21-73

SCHEMATIC LAYOUT

FHWA REGION	STATE	PROJECT	
5	OHIO		

2/80

HAS-22-20.07

SCALE 0' 500' 1000'

BEGIN WORK STA. 1060+00

F-31(3)

BEGIN PROJECT STA. 1061+05 S.L.M. 20.07

105 L.F. Feather Length

1060 1070 1080 1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190

P.C. Sta. 1060+51.63

Co. Rd. 13

P.T. Sta. 1102+71.63

N 62° 43' 35" E

Twp. Rd. 60

T.S. Sta. 1118+88.19

S.C. Sta. 1122+88.19

C.S. Sta. 1126+11.52

S.T. Sta. 1130+11.52

177

N.& W. R.R.

Twp. Rd.

Bridge No. HAS-22-2126

P.I. Sta. 1081+67.63
Δ = 10° 33' Rt.
D_c = 0° 15'
R = 22918.32'
E = 97.48'
L = 4220.00'
T = 2116.00'

P.I. Sta. 1124+53.20
Δ = 18° 05' Lt.
D_c = 2° 30'
L_s = 400.00'
R = 2291.83'
E = 31.78'
L = 323.33'
T_s = 565.11'

Bridge No. HAS-22-2188 aka HAS-151-2310

BEGIN WORK S.R. 151 STA. 242+00

Ramp "K"

Ramp "J"

Ramp "L" S.R. 151

Ramp "M"

EQUATION DEDUCT 7.45'

N 44° 38' 35" E

T.S. Sta. 1150+54.86

S.C. Sta. 1154+54.86

C.S. Sta. 1164+68.19

S.T. Sta. 1165+68.19 Bk. = Sta. 1168+75.64 Ah.

Co. Rd. 23

END WORK CO. RD. #23 STA. 270+00

N 79° 58' 35" E

MATCH LINE STA. 1200+00

P.I. Sta. 1159+85.70
Δ = 35° 20' Rt.
D_c = 2° 30'
L_s = 400.00'
R = 2291.83'
E_s = 116.53'
L = 1013.33'
T_s = 930.84'

DESIGN DESIGNATION

(Between S.R. 151 Interchanges)

Current A.D.T. (1976)	=	5,320
Design Year A.D.T. (1996)	=	12,450
D.H.V.	=	1868
D	=	67%
T	=	9%
V	=	60 M.P.H.

MATCH LINE STA 1200+00

Pitts. & W. Va. R.R.

Bridge Nos. HAS-22-2283 L&R

1210 1220 1230 1240

N 79° 58' 35" E

Ramp "N"

Ramp "S"

Ramp "T"

Ramp "Q"

Bridge Nos. HAS-22-2362 L&R

S.R. 151

S.R. 151

END WORK S.R 151 STA. 302+00

Village of Hopedale

Corp. Line

BEGIN WORK CO. RD. #4 STA. 288+00

Co. Rd. 4

Twp. Rd 178

105 L.F. Feather Length

END W.B. LANE RESURFACING

1250 1260 1270 1280 1290 1300 1310 1320 1330

T.S. Sta. 1263+02.94

S.C. Sta. 1266+02.94

C.S. Sta. 1277+62.94

S.T. Sta. 1280+62.94 Bk. = Sta. 1280+72.73 Ah.

S 70° 49' 25" E

EQUATION DEDUCT 9.79

T.S. Sta. 1286+91.42

S.C. Sta. 1289+91.42

C.S. Sta. 1295+78.92

S.T. Sta. 1298+78.92 Bk. = Sta. 1298+80.73 Ah.

DEDUCT 1.83' EQUATION

CONRAIL

S 88° 34' 25" E

Bridge Nos. HAS-22-2460 L&R

T.S. Sta. 1310+37.98

S.C. Sta. 1313+37.98

Twp. Rd. 180

EQUATION DEDUCT 14.45'

C.S. Sta. 1320+83.81 Bk. = Sta. 1320+98.26 Ah.

S.T. Sta. 1320+83.81

F-31(3) END PROJECT STA. 1332+98.75 S.L.M. 25.21

END WORK STA. 1334+10.75

105 L.F. Feather Length

HARRISON COUNTY / JEFFERSON COUNTY

Twp. Rd. 65

N 58° 30' 35" E

P.I. Sta 1271+99.50
Δ = 29° 12' Rt.
D_c = 2° 00'
L_s = 300.00'
R = 2864.79'
E_s = 96.96'
L = 1160.00'
T_s = 896.56'

P.I 1292+88.95
Δ = 17° 45' Lt.
D_c = 2° 00'
L_s = 300.00'
R = 2864.79
E_s = 36.03'
L = 587.50'
T_s = 597.53'

P.I. Sta. 1320+34.68
Δ = 32° 55' Lt.
D_c = 2° 00'
L_s = 300.00'
R = 2864.79'
E_s = 123.77'
L_c = 1345.83'
T_s = 996.70'

QUANTITIES	
Calc. By: JCN	Chkd By: REM
Date: 1-8-80	Date: 1-10-80

TYPICAL SECTIONS

TYPE 848

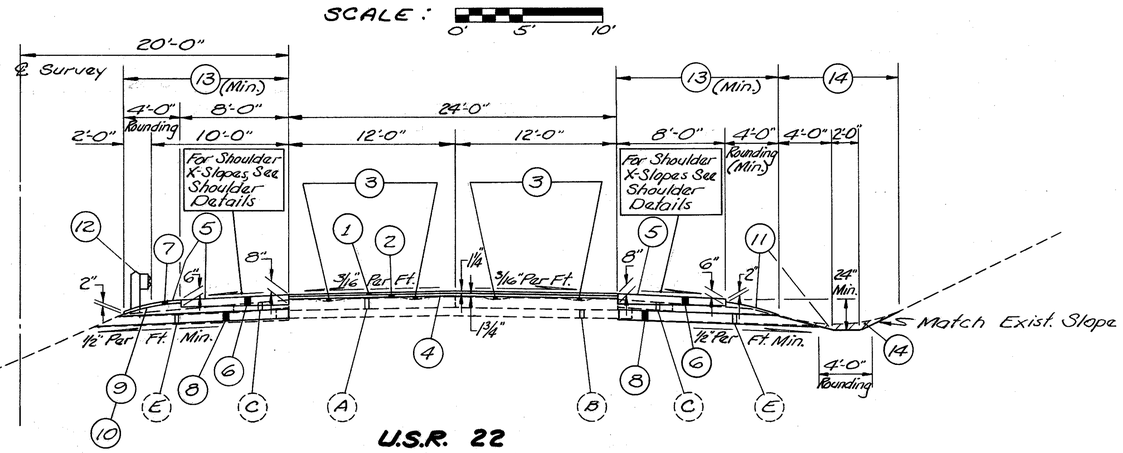
FHWA REGION	STATE	PROJECT	
5	OHIO		

3/80

HAS-22-20.07

CALCULATION OF ITEM 203
LINEAR GRADING (DITCH CLEANOUT)

STATION FROM	STATION TO	SIDE	LENGTH Lin. Ft.	Item 203 Linear Grading (Ditch Cleanout) Station
TWO LANE SECTION				
1060+00	1060+75	Lt.	75	0.75
1060+00	1061+25	Rt.	125	1.25
1073+00	1081+50	Lt.	850	8.50
1073+00	1081+50	Rt.	850	8.50
1088+00	1100+00	Lt.	1200	12.00
1088+50	1100+00	Rt.	1150	11.50
1105+50	1117+50	Rt.	1200	12.00
1106+50	1117+50	Lt.	1100	11.00
1125+25	1133+75	Lt.	850	8.50
1125+25	1133+50	Rt.	825	8.25
1134+50	1137+00	Rt.	250	2.50
TWO LANE SECTION TOTALS				84.75
EAST BOUND LANE				
1139+50	1145+00	Rt.	550	5.50
1149+50	1152+50	Rt.	300	3.00
1166+00	1167+50	Rt.	150	1.50
1168+50	1169+50	Rt.	100	1.00
1171+00	1175+25	Rt.	425	4.25
1176+50	1177+25	Rt.	75	0.75
1189+00	1193+00	Rt.	400	4.00
1195+00	1196+50	Rt.	150	1.50
1214+00	1225+00	Rt.	1100	11.00
1226+00	1226+25	Rt.	25	0.25
1232+00	1236+00	Rt.	400	4.00
1257+50	1259+00	Rt.	150	1.50
1226+00	1280+00	Rt.	1400	14.00
1282+00	1291+00	Rt.	850	8.50
1307+50	1322+50	Rt.	1500	15.00
1324+50	1331+00	Rt.	650	6.50
EAST BOUND LANE TOTAL				82.25
WEST BOUND LANE				
1140+00	1146+00	Lt.	600	6.00
1149+00	1154+00	Lt.	500	5.00
1155+50	1157+00	Lt.	150	1.50
1168+50	1170+50	Lt.	200	2.00
1171+50	1175+00	Lt.	350	3.50
1176+00	1178+50	Lt.	250	2.50
1188+00	1197+00	Lt.	900	9.00
1214+50	1216+00	Lt.	150	1.50
1217+50	1226+50	Lt.	900	9.00
1232+00	1238+50	Lt.	650	6.50
1256+00	1259+50	Lt.	350	3.50
WEST BOUND LANE TOTALS				50.00
TOTAL DITCH CLEANOUT				217.00
CARRIED TO GENERAL SUMMARY				



U.S.R. 22
NORMAL SECTION

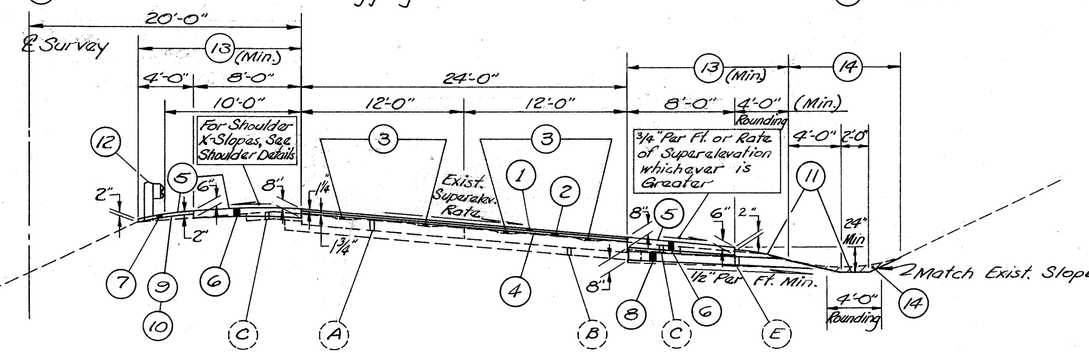
Sta.	to Sta.	
1061+05	1119+00	= 5795.00
1130+25	1135+00	= 475.00
	Total	= 6270.00 L.F.

~ EXISTING LEGEND ~

- (A) Existing 9" Reinforced Concrete
- (B) Existing Subbase
- (C) Existing Stabilized Aggr. Shoulder
- (E) Existing Stone Underdrains

~ LEGEND ~

- (1) Item 848 ~ 1¼" Asphalt Concrete, Surface Course, Type 1, AC-20
- (2) Item 848 ~ 1¾" Asphalt Concrete, Intermediate Course, Type 2, AC-20
- (3) Item 848 ~ 0" Minimum Asphalt Concrete, Intermediate Course, Type 2, AC-20
- (4) Item 407 ~ Tack Coat: RC-250, MS-2, RS-1, SS-1 or SS-1h applied at the rate of 0.1 Gal. Per Sq. Yd. and Cover Aggregate @ 7 lbs. Per Sq. Yd.
- (5) Item 409 ~ Seal Coat: Bituminous Material; MC 800, MC 3000, CBAE 800, RS-1 RS-2, CRS-1, CRS-2, RT-9 or RT-10 applied at the rate of 0.3 Gal. Per Sq. Yd. and No 8 Cover Aggregate @ 0.008 Cu. Yd. Per Sq. Yd.
- (6) Item 301 ~ Bituminous Aggregate Base: AC-20, RT-11 or RT-12
- (7) Item 848 ~ 2" Asphalt Concrete Surface Course, Type 1, AC-20 (See Note ⊛)
- (8) Item 605 ~ Aggregate Drains (See General Note, Sheet No. 14)
- (9) Item 408 ~ Bituminous Prime Coat: MC-30, MC-70, Primer 20, RT-2 or RT-3, As Per Plan (See Note ⊛)
- (10) Soil Sterilizer (See Note ⊛) (Included in 408 Pay Item)
- (11) Item 659 ~ Seeding & Mulching (See General Note, Sheet No. 15)
- (12) Item 606 ~ Guard Rail, Type S, As Per Plan
- (13) Item 203 ~ Linear Grading (See General Note, Sheet No. 14)
- (14) Item 203 ~ Linear Grading (Ditch Cleanout) See General Note, Sheet No 15)



U.S.R 22
SUPERELEVATED SECTION

Sta.	to Sta.	
1119+00	1130+25	= 1125.00 L.F.

NOTE ⊛: See General Note Pertaining to Shoulder Treatment & 408 Prime Coat, As Per Plan for Prime Coat And Soil Sterilizer Specifications and Application Rates.

NOTE: For Shoulder Details & Superelevation Rates, See Sheet No. 7.

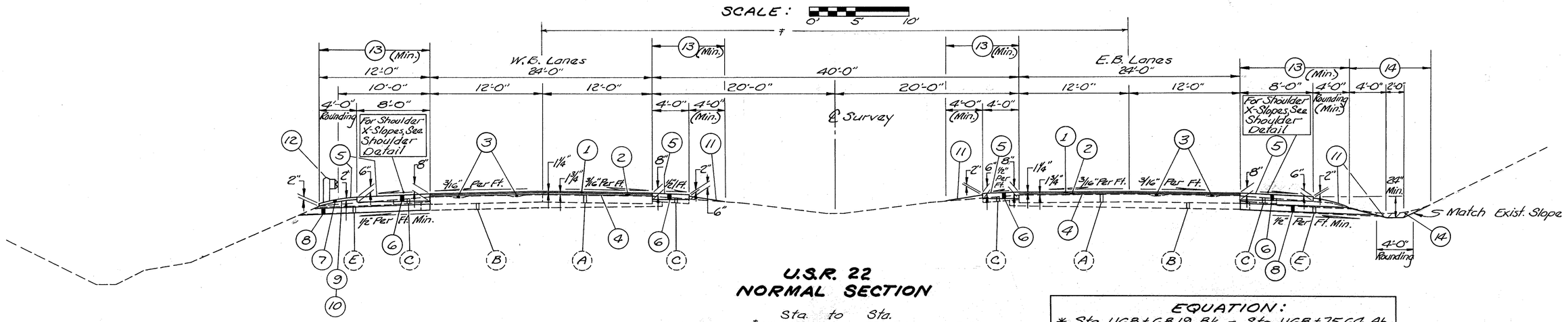
TYPICAL SECTIONS

TYPE 848

FHWA REGION	STATE	PROJECT	
5	OHIO		

4/80

HAS-22-20.07



U.S.R. 22
NORMAL SECTION

Sta.	to	Sta.	
#1135+00		1150+50	= 1,550.00 L.F.
*1168+75.64Ah.		1262+03.90	= 9,328.26 L.F.
		Total	= 10,878.26 L.F.

EQUATION:
* Sta. 1168+68.19 Bk. = Sta. 1168+75.64 Ah. (Deduct 7.45)
** Sta. 1280+62.94 Bk. = Sta. 1280+72.73 Ah. (Deduct 9.79)

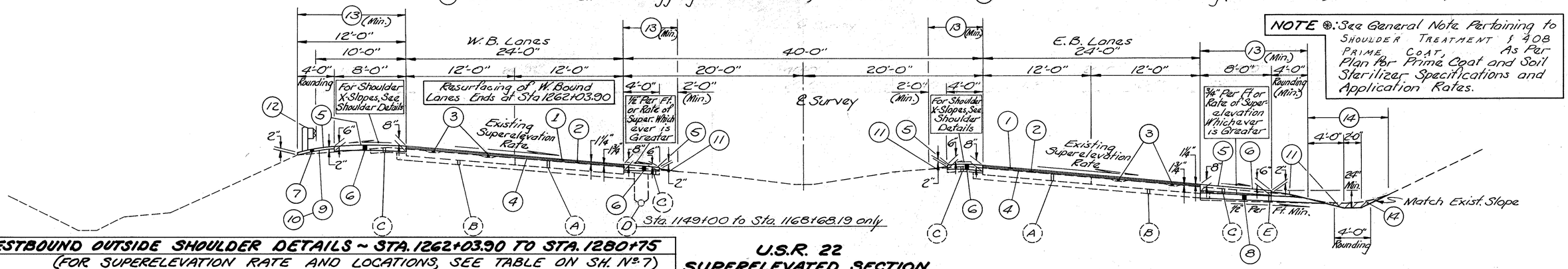
~LEGEND~

1. Item 848~1¼" Asphalt Concrete, Surface Course, Type 1, AC-20
2. Item 848~1¾" Asphalt Concrete, Intermediate Course, Type 2, AC-20
3. Item 848~0" Minimum Asphalt Concrete, Intermediate Course, Type 1, (See Note)
4. Item 407~Tack Coat: RC-250, MS-2, RS-1, SS-1 or SS-1h applied at the rate of 0.1 Gal. Per Sq. Yd. and Cover Aggregate @ 7 lbs. Per Sq. Yd.
5. Item 409~Seal Coat Bituminous Material: MC 800, MC 3000, CBAE 800, RS-1 RS-2, CRS-1, CRS-2, RT-9 or RT-10 applied at the rate of 0.3 Gal. Per Sq. Yd and No. 8 Cover Aggregate @ 0.008 Cu. Yd. Per Sq. Yd.
6. Item 301~Bituminous Aggregate Base: AC-20, RT-11 or RT-12
7. Item 848~2" Asphalt Concrete Surface Course, Type 1, AC-20. (See General Note, Sheet No. 14)
8. Item 605~Aggregate Drains (See General Note, Sheet No. 14)
9. Item 408~Bituminous Prime Coat: MC-30, MC-70, Primer 20, RT-2 or RT-3, As Per Plan (See Note ⊛)
10. Soil Sterilizer (See Note ⊛) (Included in 408 Pay Item)
11. Item 659~Seeding & Mulching (See General Note, Sheet No. 15)
12. Item 606~Guard Rail, Type 5, As Per Plan
13. Item 203~Linear Grading (See General Note, Sheet No. 14)
14. Item 203 Linear Grading (Ditch Cleanout) (See General Note, Sheet No. 15)

~EXISTING LEGEND~

- (A) Existing 9" Reinforced Concrete
- (B) Existing Subbase
- (C) Existing Stabilized Aggr. Shoulder
- (D) Existing 6" Pipe Underdrains
- (E) Existing Stone Underdrains

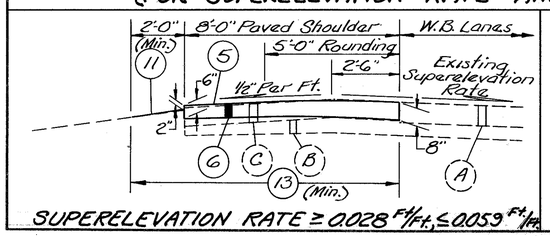
Transition from a two lane into a divided highway occurs between these stations.



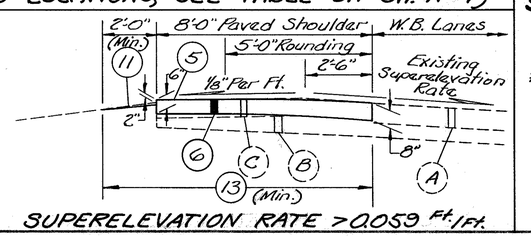
NOTE ⊛: See General Note Pertaining to Shoulder Treatment & 408 Prime Coat, As Per Plan for Prime Coat and Soil Sterilizer Specifications and Application Rates.

WESTBOUND OUTSIDE SHOULDER DETAILS ~ STA. 1262+03.90 TO STA. 1280+75

(FOR SUPERELEVATION RATE AND LOCATIONS, SEE TABLE ON SH. No. 7)



SUPERELEVATION RATE ≥ 0.028 Ft/Ft, ≤ 0.059 Ft/Ft



SUPERELEVATION RATE > 0.059 Ft/Ft

U.S.R. 22
SUPERELEVATED SECTION

Sta.	to	Sta.	
1150+50		*1168+68.19 Bk.	= 1,818.19 L.F.
** 1262+03.90		1280+75	= 1,861.31 L.F.
		Total	= 3,679.50 L.F.

(Resurface E.B. Lanes only. For W.Bound Shoulder Treatment, See Details Lower Left Side This Sheet and Sheet Nos 7 & 8)

NOTE: For Shoulder Details & Superelevation Rates, See Sheet Nos 7 & 8.

TYPICAL SECTIONS

TYPE 848

FHWA REGION	STATE	PROJECT	
5	OHIO		

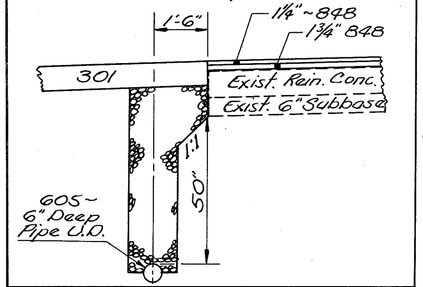
5/80

HAS-22-20.07

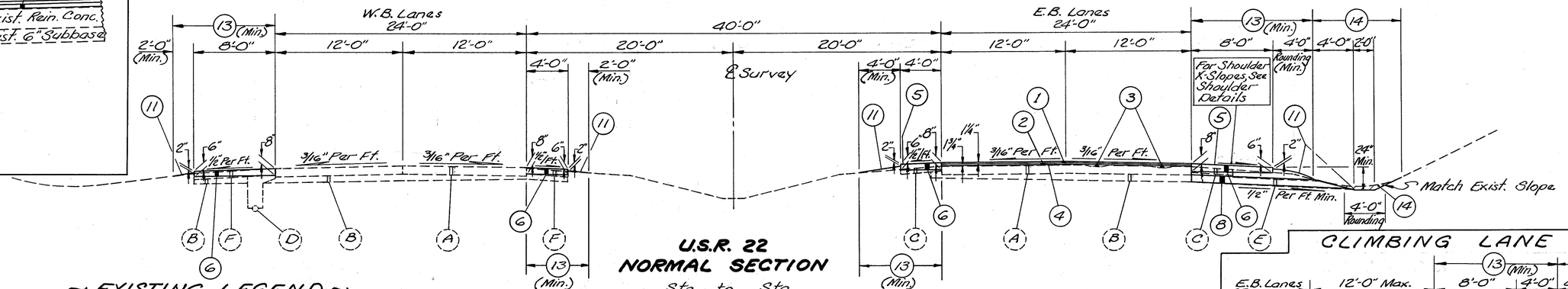
ITEM 605~6" PIPE UNDERDRAINS

The following estimated quantities have been provided in the General Summary to be used as directed by the Engineer in accordance with the detail below:

Item 605~6" deep pipe Underdrains 2,000 Lin. Ft.
Item 603~6" conduit, Type F 50 Lin. Ft.



SCALE: 0' 5' 10'



U.S.R. 22 NORMAL SECTION

Sta.	to	Sta.	
1280+75		1287+00	= 625.00 L.F.
* 1298+75		1310+50	= 1,173.17 L.F.
1330+00		1332+98.75	= 298.75 L.F.
		Total	= 2,096.92 L.F.

~ EXISTING LEGEND ~

- (A) Existing 9" Reinforced Concrete
- (B) Existing Subbase
- (C) Existing Stabilized Aggr. Shoulder
- (D) Existing 6" Pipe Underdrains
- (E) Existing Stone Underdrains
- (F) Existing Aggregate Base
- (G) Existing Guard Rail, Type 5
- (H) Existing Aggregate Drains

EQUATIONS:

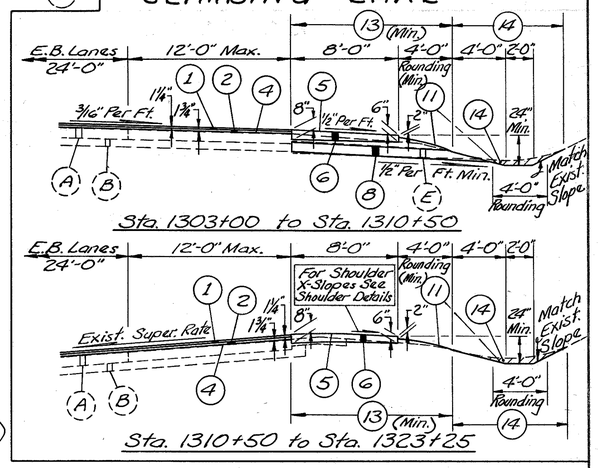
* Sta. 1298+78.92 Bk. = Sta. 1298+80.75 Ah. (Deduct 1.83')

** Sta. 1329+83.81 Bk. = Sta. 1329+98.24 Ah. (Deduct 14.43')

~ LEGEND ~

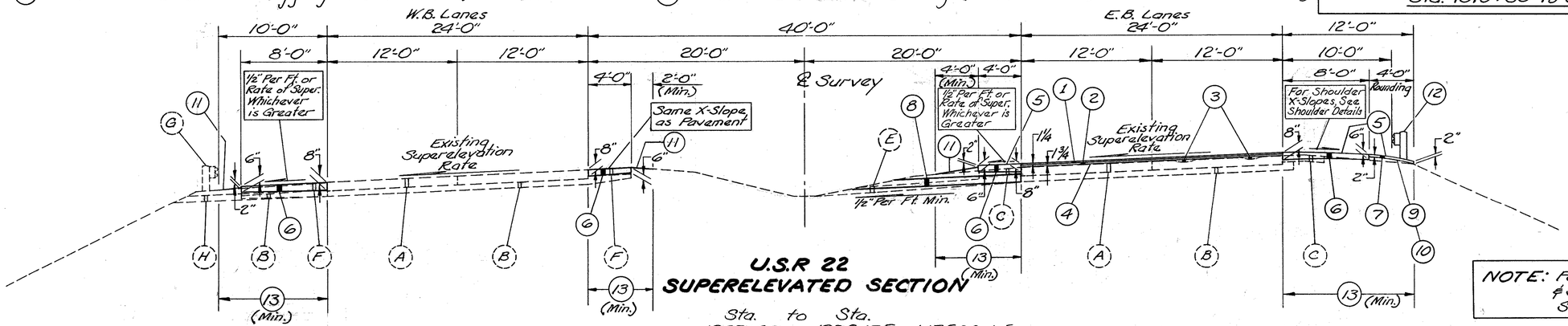
1. Item 848 ~ 1½" Asphalt Concrete, Surface Course, Type 1, AC-20
2. Item 848 ~ 1¾" Asphalt Concrete, Intermediate Course, Type 2, AC-20
3. Item 848 ~ 0" Minimum Asphalt Concrete, Intermediate Course, Type 1, AC-20
4. Item 407 ~ Tack Coat: RC-250, MS-2, RS-1, SS-1 or SS-1h applied at the rate of 0.1 Gal. Per Sq. Yd. and Cover Aggregate @ 7 lbs. Per Sq. Yd.
5. Item 409 ~ Seal Coat: Bituminous Material; MC 800, MC 3000, CBAE-800, RS-1 RS-2, CRS-1, CRS-2, RT-9 or RT-10 applied at the rate of 0.3 Gal. Per Sq. Yd. and No. 8 Cover Aggregate @ 0.008 Cu. Yd. Per Sq. Yd.
6. Item 301 ~ Bituminous Aggregate Base: AC-20, RT-11 or RT-12
7. Item 848 ~ 2" Asphalt Concrete Surface Course, Type 1, AC-20 (See General Note, Sheet No. 14)
8. Item 605 ~ Aggregate Drains (See General Note, Sheet No. 14)
9. Item 408 ~ Bituminous Prime Coat: MC-30, MC-70, Primer 2.0, RT-2 or RT-3, As Per Plan
10. Soil Sterilizer (See Note ⊛)
11. Item 659 ~ Seeding & Mulching (See General Note, Sheet No. 15)
12. Item 606 ~ Guard Rail, Type 5, As Per Plan
13. Item 203 ~ Linear Grading (See General Note, Sheet No. 14)
14. Item 203 Linear Grading (Ditch Cleanout) See General Note Sh. No. 15)

CLIMBING LANE



Sta. 1303+00 to Sta. 1310+50

Sta. 1310+50 to Sta. 1323+25



U.S.R 22 SUPERELEVATED SECTION

Sta.	to	Sta.	
1287+00		1298+75	= 1,175.00 L.F.
** 1310+50		1330+00	= 1,935.75 L.F.
		Total	= 3,110.57 L.F.

NOTE: For Shoulder Details & Superelevation Rates, See Sheet Nos. 7 & 8.

NOTE ⊛: See General Note Pertaining to Shoulder Treatment & 408 Prime Coat, As Per Plan For Prime Coat And Soil Sterilizer Specifications And Application Rate.

TYPICAL SECTIONS

FHWA REGION	STATE	PROJECT	
5	OHIO		

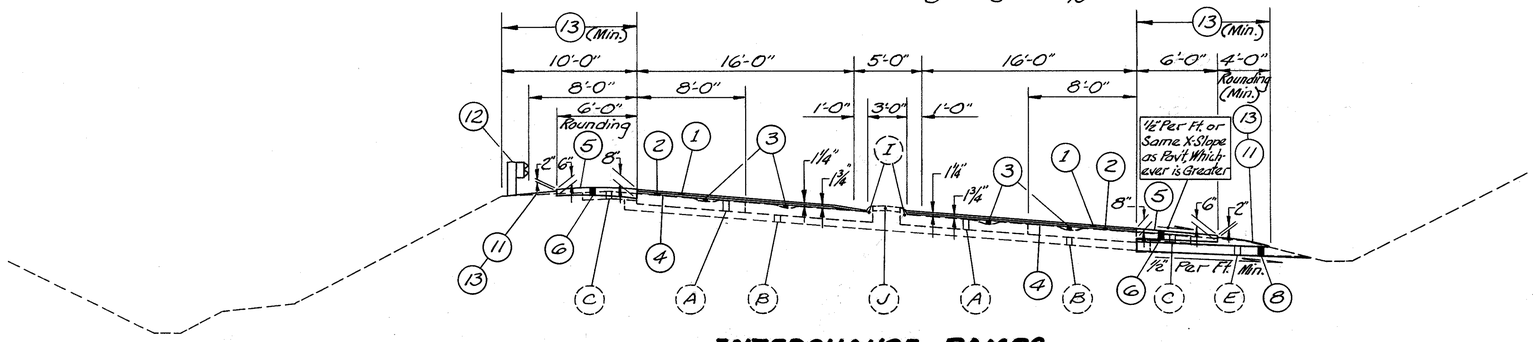
6/80

HAS-22-20.07

TYPICAL SECTIONS

TYPE 848

SCALE: 0' 5' 10'



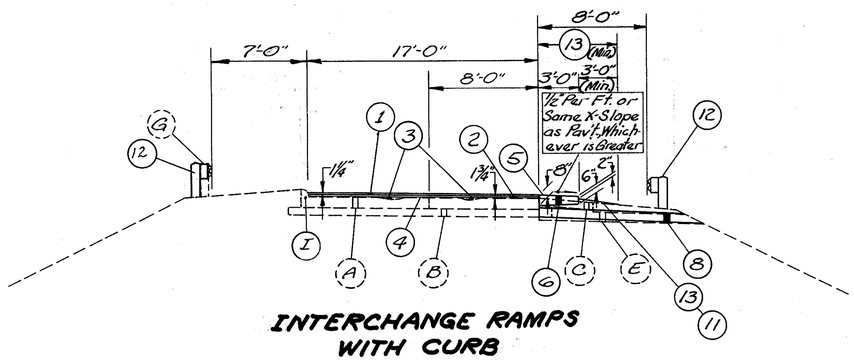
INTERCHANGE RAMPS TWO-WAY

~ EXISTING LEGEND ~

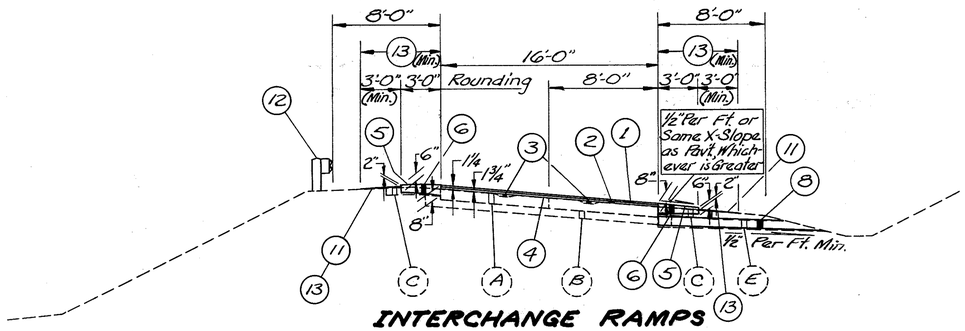
- (A) (B) Existing 9" Reinforced Concrete / Existing Subbase
- (C) (E) Existing Stabilized Aggr. Shoulders / Existing Stone Underdrains
- (G) (I) Existing Guard Rail / Existing Concrete Curb, Type 2-A
- (J) Existing 4" Concrete Median

~ LEGEND ~

- (1) Item 848 ~ 1¼" Asphalt Concrete, Surface Course, Type 1, AC-20
- (2) Item 848 ~ 1¾" Asphalt Concrete, Intermediate Course, Type 2, AC-20
- (3) Item 848 ~ 0" Minimum Asphalt Concrete, Intermediate Course, Type 1, AC-20
- (4) Item 407 ~ Tack Coat: RC-250, MS-2, RS-1, SS-1 or SS-1h applied at the rate of .01 Gal. Per Sq. Yd. and Cover Aggregate @ 7 lbs. Per Sq. Yd.
- (5) Item 409 Seal Coat: Bituminous Material; MC-800, MC-3000, CBAE 800, RS-1, RS-2 CRS-1, CRS-2, RT-9 or RT-10 applied at the rate of 0.3 Gal. Per Sq. Yd and No. 8 Cover Aggregate @ 0.008 Cu. Yd. Per Sq. Yd.
- (6) Item 301 ~ Bituminous Aggregate Base: AC-20, RT-11 or RT-12
- (8) Item 605 ~ Aggregate Drains (See General Note, Sheet No. 14)
- (11) Item 659 ~ Seeding & Mulching (See General Note, Sheet No. 15)
- (12) Item 606 ~ Guard Rail, Type 5, As Per Plan
- (13) Item 203 ~ Linear Grading (See General Note, Sheet No. 14)



INTERCHANGE RAMPS WITH CURB



INTERCHANGE RAMPS WITHOUT CURB

RAMP TYPICAL SECTIONS

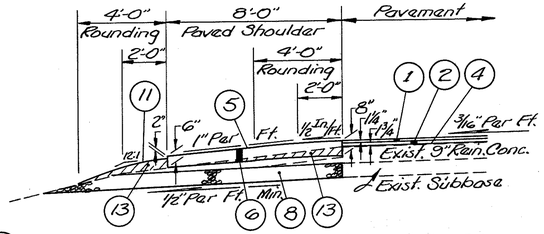
FHWA REGION	STATE	PROJECT	
5	OHIO		

7/80

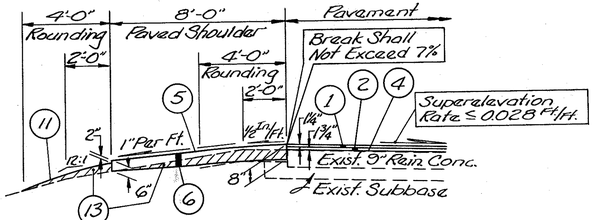
HAS-22-20.07

OUTSIDE SHOULDER DETAILS W/O GUARDRAIL

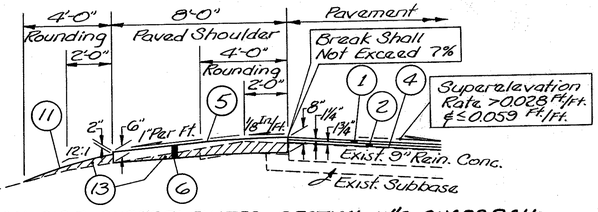
(NO SCALE)



Ⅰ ~ NORMAL SECTION W/O GUARDRAIL

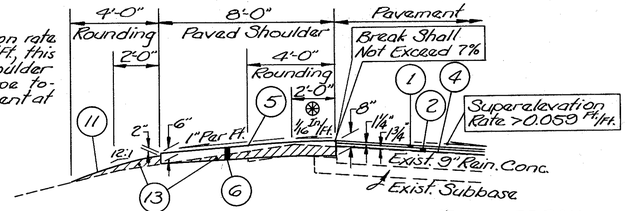


Ⅱ ~ HIGH SIDE-SUPERELEVATED SECTION W/O GUARDRAIL
SUPERELEVATION RATE ≤ 0.028 FT/FT.

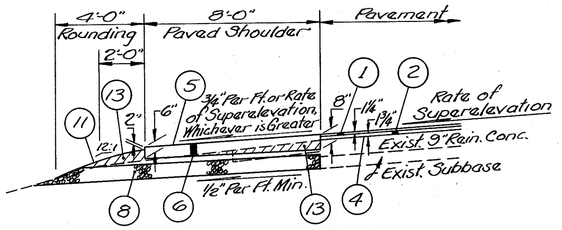


Ⅲ ~ HIGH SIDE-SUPERELEVATED SECTION W/O GUARDRAIL
SUPERELEVATION RATE >0.028 FT/FT, ≤ 0.059 FT/FT.

✱NOTE:
When superelevation rate exceeds 0.064 Ft/Ft, this portion of the shoulder rounding shall slope toward the pavement at 1/8" per ft.



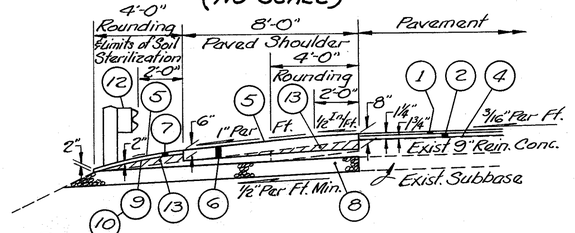
Ⅳ ~ HIGH SIDE-SUPERELEVATED SECTION W/O GUARDRAIL
SUPERELEVATION RATE >0.059 FT/FT.



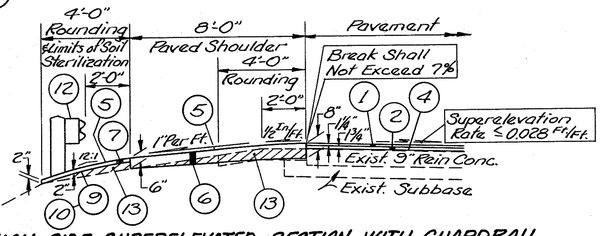
Ⅴ ~ LOW SIDE-SUPERELEVATED SECTION W/O GUARDRAIL

OUTSIDE SHOULDER DETAILS WITH GUARDRAIL

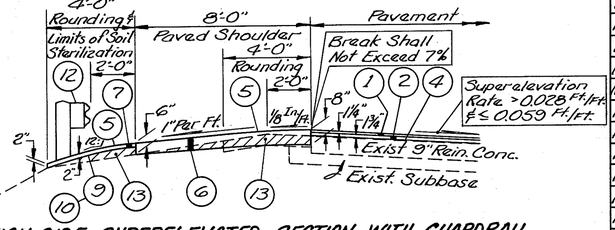
(NO SCALE)



Ⅰ ~ NORMAL SECTION WITH GUARDRAIL

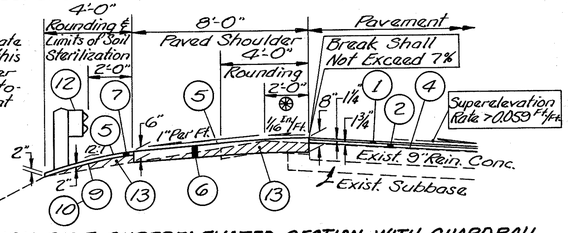


Ⅱ ~ HIGH SIDE-SUPERELEVATED SECTION WITH GUARDRAIL
SUPERELEVATION RATE ≤ 0.028 FT/FT.

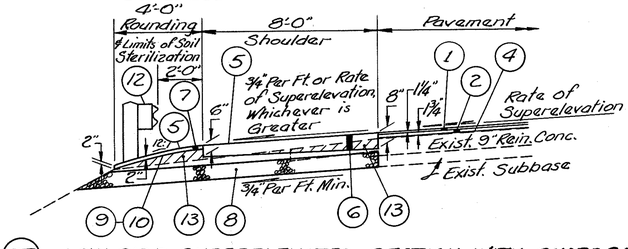


Ⅲ ~ HIGH SIDE-SUPERELEVATED SECTION WITH GUARDRAIL
SUPERELEVATION RATE >0.028 FT/FT, ≤ 0.059 FT/FT.

✱NOTE:
When superelevation rate exceeds 0.064 Ft/Ft, this portion of the shoulder rounding shall slope toward the pavement at 1/8" per ft.



Ⅳ ~ HIGH SIDE-SUPERELEVATED SECTION WITH GUARDRAIL
SUPERELEVATION RATE >0.059 FT/FT.



Ⅴ ~ LOW SIDE-SUPERELEVATED SECTION WITH GUARDRAIL

OUTSIDE SHOULDER DETAIL KEY

WESTBOUND Location From	WESTBOUND Location To	Shoulder Detail No.	Existing Rate of Superelevation in Transitions (Rate Varies From to) Rate in Ft./Ft.	EASTBOUND Location From	EASTBOUND Location To	Shoulder Detail No.	Existing Rate of Superelevation in Transitions (Rate Varies From to) Rate in Ft./Ft.
1061+05	1119+00	I	Normal Section	1061+05	1119+00	I	Normal Section
1119+00	1122+00	V	Norm.Sect. to 0.063	1119+00	1120+00	II	Norm. Sect. to 0.028
1122+00	1123+00	V	0.063 to 0.081	1120+00	1121+75	III	0.028 to 0.059
1123+00	1126+00	V	0.081	1121+75	1123+00	IV	0.059 to 0.081
1126+00	1127+00	V	0.081 to 0.063	1123+00	1126+00	IV	0.081
1127+00	1130+25	V	0.063 to Norm.Sect.	1126+00	1127+25	IV	0.081 to 0.059
1130+25	1139+50	I	Normal Section	1127+25	1129+00	III	0.059 to 0.028
1139+50	1140+45	II	Norm.Sect. to 0.028	1129+00	1130+25	II	0.028 to Norm.Sect.
1140+45	1140+75	III	0.028 to 0.032	1130+25	1150+50	I	Normal Section
1140+75	1145+00	III	0.032	1150+50	1153+50	V	Norm.Sect. to 0.063
1145+00	1145+50	III	0.032 to 0.028	1153+50	1154+75	V	0.063 to 0.081
1145+50	1146+50	II	0.028 to Norm.Sect.	1154+75	1164+50	V	0.081
1146+50	1150+50	I	Normal Section	1164+50	1165+75	V	0.081 to 0.063
1150+50	1151+75	II	Norm.Sect. to 0.028	1165+75	1168+68.19 Bk. 1168+75.64 Ah.	V	0.063 to Norm.Sect.
1151+75	1153+25	III	0.028 to 0.059	1168+75.64	1262+03.90	I	Normal Section
1153+25	1154+75	IV	0.059 to 0.081	1262+03.90	1266+25	V	Norm.Sect. to 0.064
1154+75	1164+50	IV	0.081	1266+25	1277+50	V	0.064
1164+50	1166+00	IV	0.081 to 0.059	1277+50	1280+75	V	0.064 to Norm.Sect.
1166+00	1167+50	III	0.059 to 0.028	1280+75	1287+00	I	Normal Section
1167+50	1168+68.19 Bk. 1168+75.64 Ah.	II	0.028 to Norm.Sect.	1287+00	1288+00	II	Norm. Sect. to 0.028
1168+75.64	1262+03.90	I	Normal Section	1288+00	1289+50	III	0.028 to 0.059
1262+03.90	1264+10	⊙	Norm.Sect. to 0.028	1289+50	1290+00	IV	0.059 to 0.064
1264+10	1265+75	⊙	0.028 to 0.059	1290+00	1295+75	IV	0.064
1265+75	1266+25	⊙	0.059 to 0.064	1295+75	1296+25	III	0.064 to 0.059
1266+25	1277+50	⊙	0.064	1296+25	1297+75	III	0.059 to 0.028
1277+50	1278+00	⊙	0.064 to 0.059	1297+75	1298+75	II	0.028 to Norm.Sect.
1278+00	1279+50	⊙	0.059 to 0.028	1298+75	1310+50	I	Normal Section
1279+50	1280+75	⊙	0.028 to Norm.Sect.	1310+50	1311+50	II	Norm Sect. to 0.028
1280+75	1287+00	T.S.✱	Normal Section	1311+50	1313+00	III	0.028 to 0.059
1287+00	1290+00	T.S.✱	Norm.Sect. to 0.064	1313+00	1313+50	IV	0.059 to 0.064
1290+00	1295+75	T.S.✱	0.064	1313+50	1326+75	III	0.064
1295+75	1298+75	T.S.✱	0.064 to Norm.Sect.	1326+75	1327+25	II	0.064 to 0.059
1298+75	1310+50	T.S.✱	Normal Section	1327+25	1328+50	III	0.059 to 0.028
1310+50	1313+50	T.S.✱	Norm.Sect. to 0.064	1328+50	1330+00	II	0.028 to Norm.Sect.
1313+50	1326+75	T.S.✱	0.064	1330+00	1334+03.75	I	Normal Section
1326+75	1330+00	T.S.✱	0.064 to Norm.Sect.				
1330+00	1334+03.75	T.S.✱	Normal Section				

⊙ ~ From Sta. 1262+03.90 to Sta. 1280+75 W.Bound Outside Shoulder Treatment shall be as shown in Westbound Outside Shoulder Details on Sheet No. 4.

T.S.✱ ~ From Sta. 1280+75 Sta. 1334+03.75, W.Bound Outside Shoulder Treatment shall be as shown on the Typical Sections on Sheet No. 5.

LEGEND: ▨ ~ Item 203 ~ Linear Grading (See General Note)
For Pavement Items Legend See Sheet Nos. 3, 4, 5 & 6

Linear grading as shown indicates generally anticipated conditions. However, in some areas the portion beyond the paved shoulder may require excavation instead of the fill shown on these details. In such areas, the cross-slope shall be similar to that of the adjacent paved shoulder unless otherwise directed by the Engineer.

OUTSIDE SHOULDER DETAILS

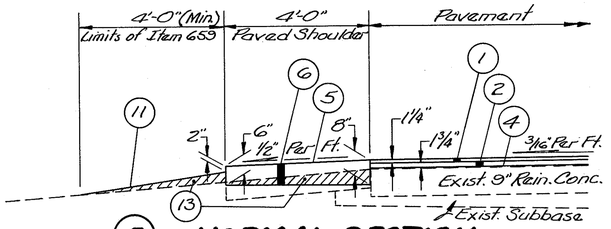
MEDIAN SHOULDER DETAILS

(NO SCALE)

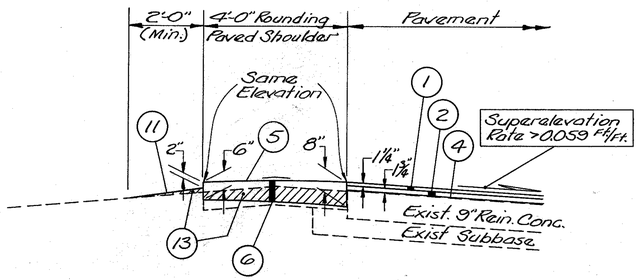
FHWA REGION	STATE	PROJECT	
5	OHIO		

8/80

HAS-22-20.07

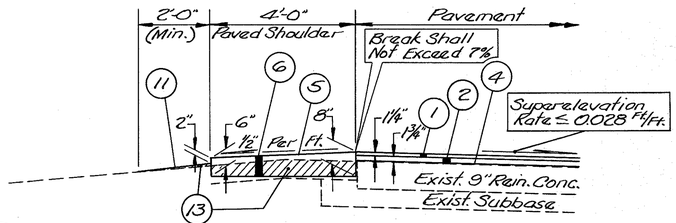


(I) NORMAL SECTION



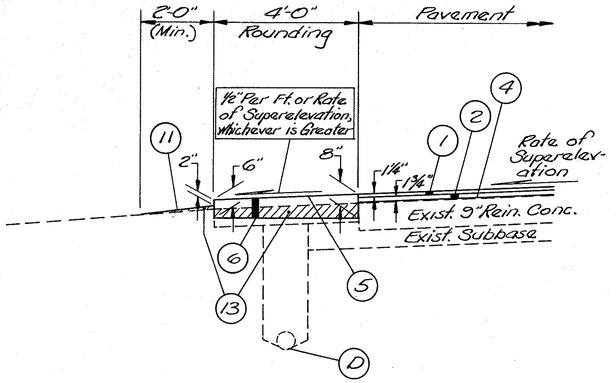
(IV) HIGH SIDE-SUPERELEVATED SECTION

SUPERELEVATION RATE >0.059 Ft/Ft.

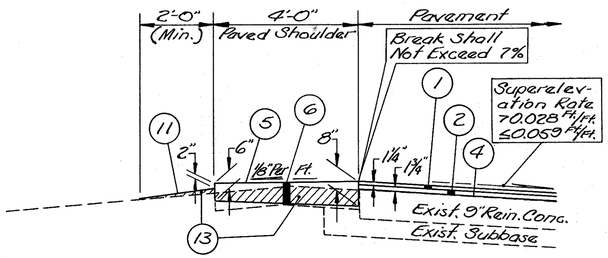


(II) HIGH SIDE-SUPERELEVATED SECTION

SUPERELEVATION RATE ≤ 0.028 Ft/Ft.



(V) LOW SIDE-SUPERELEVATED SECTION



(III) HIGH SIDE-SUPERELEVATED SECTION

SUPERELEVATION RATE >0.028 Ft/Ft., <0.059 Ft/Ft.

MEDIAN SHOULDER DETAIL KEY

WESTBOUND				EASTBOUND			
Location		Shoulder Detail No.	Existing Rate of Superelevation in Transitions (Rate Varies from to)	Location		Shoulder Detail No.	Existing Rate of Superelevation in Transitions (Rate Varies from to)
From	To		Rate in Ft./Ft.	From	To		Rate in Ft./Ft.
				1138+50	1139+25	FILL IN AREA BETWEEN W.B. & E.B. PAVT. WITH 8"-30'	
1145+34.5	1150+50	I	Normal Section	1139+25	1150+50	I	Normal Section
1150+50	1152+50	V	Norm. Sect. To 0.042	1150+50	1151+75	II	Norm. Sect. To 0.028
1152+50	1154+75	V	0.042 To 0.081	1151+75	1153+25	III	0.028 To 0.059
1154+75	1164+50	V	0.081	1153+25	1154+75	IV	0.059 To 0.081
1164+50	1166+75	V	0.081 To 0.042	1154+75	1164+50	IV	0.081
1166+75	1168+68.19 Bk. 1168+75.64 Ah.	V	0.042 To Norm. Sect.	1164+50	1166+00	IV	0.081 To 0.059
1168+75.64	1262+03.90	I	Normal Section	1166+00	1167+50	III	0.059 To 0.028
1262+03.90	1264+85	T.S.⊛	Norm. Sect. To 0.042	1167+50	1168+68.19 Bk. 1168+75.64 Ah.	II	0.028 To Norm. Sect.
1264+85	1266+25	T.S.⊛	0.042 To 0.064	1168+75.64	1262+03.90	I	Normal Section
1266+25	1277+50	T.S.⊛	0.064	1262+03.90	1264+10	II	Norm. Sect To 0.028
1277+50	1278+75	T.S.⊛	0.064 To 0.042	1264+10	1265+75	III	0.028 To 0.059
1278+75	1280+75	T.S.⊛	0.042 To Norm. Sect.	1265+75	1266+25	IV	0.059 To 0.064
1280+75	1287+00	T.S.*	Normal Section	1266+25	1277+50	IV	0.064
1287+00	1288+00	T.S.*	Norm. Sect. To 0.028	1277+50	1278+00	IV	0.064 To 0.059
1288+00	1289+50	T.S.*	0.028 To 0.059	1278+00	1279+50	III	0.059 To 0.028
1289+50	1290+00	T.S.*	0.059 To 0.064	1279+50	1280+75	II	0.028 To Norm. Sect.
1290+00	1295+75	T.S.*	0.064	1280+75	1287+00	I	Normal Section
1295+75	1296+25	T.S.*	0.064 To 0.059	1287+00	1288+75	V	Norm. Sect. To 0.042
1296+25	1297+75	T.S.*	0.059 To 0.028	1288+75	1290+00	V	0.042 To 0.064
1297+75	1298+75	T.S.*	0.028 To Norm. Sect.	1290+00	1295+75	V	0.064
1298+75	1310+50	T.S.*	Normal Section	1295+75	1297+00	V	0.064 To 0.042
1310+50	1311+50	T.S.*	Norm. Sect. To 0.028	1297+00	1298+75	V	0.042 To Norm. Sect.
1311+50	1313+00	T.S.*	0.028 To 0.059	1298+75	1310+50	I	Normal Section
1313+00	1313+50	T.S.*	0.059 To 0.064	1310+50	1312+25	V	Norm. Sect. To 0.042
1313+50	1326+75	T.S.*	0.064	1312+25	1313+50	V	0.042 To 0.064
1326+75	1327+25	T.S.*	0.064 To 0.059	1313+50	1326+75	V	0.064
1327+25	1328+50	T.S.*	0.059 To 0.028	1326+75	1327+90	V	0.064 To 0.042
1328+50	1330+00	T.S.*	0.028 To Norm. Sect.	1327+90	1330+00	V	0.042 To Norm. Sect.
1330+00	1334+03.75	T.S.*	Normal Section	1330+00	1334+03.75	I	Normal Section

T.S.⊛ - From Sta. 1262+03.90 to Sta. 1280+75, W. Bound Median Shoulder Treatment shall be as shown on the Typical Section on Sheet No. 4 except that since the W. Bound Pavement in this area is not being resurfaced, the paved shoulder surface shall be lowered accordingly.

T.S.* - From Sta. 1280+75 to Sta. 1334+03.75, W. Bound Median Shoulder Treatment shall be as shown on the Typical Sections on Sheet No. 5.

LEGEND: ▨ - Item 203 - Linear Grading (See General Note)

For Pavement Items Legend See Sheet Nos. 3, 4, 5 & 6

Linear grading as shown indicates generally anticipated conditions. However, in some areas the portion beyond the paved shoulder may require excavation instead of the fill shown on these details. In such areas, the minimum cross-slope beyond the 2" drop shall be 1" per Ft. unless otherwise directed by the Engineer.

* Area deducted from profile correction.
Sta. 1100+98 to Sta. 1103+40

NOTE: Planimetered Areas are from Sheet Nos 48 & 49.

QUANTITIES	
Calculated By J.C.N. 7/2/79	Checked By REM 8-13-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

CALCULATION OF PAVEMENT RESURFACING QUANTITIES

STATION FROM	STATION TO	LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	LANE	ITEM 407 TACK COAT @ 0.10 GAL/S.Y. GALS.	ITEM 407 COVER AGGREGATE @ 7 LBS./S.Y. TONS	ITEM 848 AVG. THICKNESS INCHES	ITEM 848 0" MIN. ASPH. CONC. INTERMEDIATE COURSE TYPE 1 CU. YDS.	ITEM 848 THICKNESS INCHES	ITEM 848 ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 CU. YDS.	ITEM 848 THICKNESS INCHES	ITEM 848 ASPHALT CONCRETE SURFACE COURSE TYPE 1 CU. YDS.
MAINLINE PAVEMENT													
1060+00	1060+78.75	78.75	24	210	TWO LANE SECTION	21.0	0.7	0.75	4.4	—	—	(0+2.25)/2=1.125	6.6
1060+78.75	1061+05	26.25	24	70		7.0	0.2	0.75	1.5	(1+1.75)/2=1.375	2.7	1.25	2.4
1061+05	1122+89.89	6184.89-242=5942.89*	24	15848		1584.8	55.5	0.75	330.2	1.75	770.4	1.25	550.3
1122+89.89	1123+24.89	35	24	93		9.3	0.3	0.75	1.9	(1.75+1)/2=1.375	3.6	1.25	3.2
1123+24.07	1123+59.89	35	24	93		9.3	0.3	0.75	1.9	—	—	(2.25+1.5)/2=1.875	4.9
1123+59.89	1125+04.74	BR. Nº HAS-22-2126				U.S.R. 22 OVER N&W R.R. (For Quantities See Sheet Nº 65)							
1125+04.74	1125+39.74	35	24	93		9.3	0.3	0.75	1.9	—	—	(1.5+2.25)/2=1.875	4.9
1125+39.74	1125+74.74	35	24	93		9.3	0.3	0.75	1.9	(1+1.75)/2=1.375	3.6	1.25	3.2
1125+74.74	1135+00	925.26	24	2467		246.7	8.6	0.75	51.4	1.75	119.9	1.25	85.7
1135+00	1138+50	350	(24+38.51)/2=31.255	1215		121.5	4.3	0.75	25.3	1.75	59.1	1.25	42.2
TWO LANE SECTION TOTALS						2018.2	70.5		420.4		959.3		703.4
1138+50	1168+68.19 Bk.= 1168+75.64 Ah.	3018.19	24	8049	EASTBOUND LANE	804.9	28.2	0.75	167.7	1.75	391.2	1.25	279.5
1168+75.64	1206+28.20	3752.56	24	10007		1000.7	35.0	0.75	208.5	1.75	486.4	1.25	347.5
1206+28.20	1206+54.45	26.25	24	70		7.0	0.2	0.75	1.5	(1.75+1)/2=1.375	2.7	1.25	2.4
1206+54.45	1207+07.02	52.57	24	140		14.0	0.5	0.75	2.9	—	—	(2.25+1.25)/2=1.75	6.8
1207+07.02	1207+33.20	26.18	Appr. Slab Area=90S.Y.			9.0	0.3	0.75	1.9	—	—	(1.25+0.75)/2=1.0	2.5
1207+33.20	1209+62.67	BR. Nº HAS-22-2283 R				U.S.R. 22 OVER PITTSBURGH & WEST VA. R.R. (For Quant., See Sheet Nº 65)							
1209+62.67	1209+89.12	26.45	Appr. Slab Area=90S.Y.			9.0	0.3	0.75	1.9	—	—	(0.75+1.254)/2=1.002	2.5
1209+89.12	1210+41.42	52.30	24	139		13.9	0.5	0.75	2.9	—	—	(1.254+2.25)/2=1.752	6.8
1210+41.42	1210+67.67	26.25	24	70		7.0	0.2	0.75	1.5	(1+1.75)/2=1.375	2.7	1.25	2.4
1210+67.67	1247+83.16	3715.49	24	9908		990.8	34.7	0.75	206.4	1.75	481.6	1.25	344.0
1247+83.16	1248+18.16	35	24	93		9.3	0.3	0.75	1.9	(1.75+1)/2=1.375	3.6	1.25	3.2
1248+18.16	1248+53.16	35	24	93		9.3	0.3	0.75	1.9	—	—	(2.25+1.5)/2=1.875	4.8
1248+53.16	1249+82.11	BR. Nº HAS-22-2362 R				U.S.R. 22 OVER S.R. 151 (For Quantities, See Sheet Nº 65)							
1249+82.11	1250+17.11	35	24	93		9.3	0.3	0.75	1.9	—	—	(1.5+2.25)/2=1.8 5	4.9
1250+17.11	1250+52.11	35	24	93		9.3	0.3	0.75	1.9	(1+1.75)/2=1.375	3.6	1.25	3.2
1250+52.11	1280+62.94 Bk.= 1280+72.73 Ah.	3010.83	24	8029		802.9	28.1	0.75	167.3	1.75	390.3	1.25	278.8
1280+72.73	1298+78.92 Bk.= 1298+80.75 Ah.	1806.19	24	4817		481.7	16.9	0.75	100.3	1.75	234.1	1.25	167.2
1298+80.75	1300+23.78	143.03	24	381		38.1	1.3	0.75	7.9	1.75	18.5	1.25	13.2
1300+23.78	1302+08.39	BR Nº HAS-22-2460 R				U.S.R. 22 OVER PENN CENTRAL R.R., (For Quantities, See Sheet Nº 79							
1302+08.39	1303+00	91.61	24	244		24.4	0.9	0.75	5.1	1.75	11.9	1.25	8.5
1303+00	1304+00	100	(24+41.33)/2=32.665	363		36.3	1.3	0.75	7.6	1.75	17.6	1.25	12.6
1304+00	1305+25	125	(41.33+48)/2=44.665	620		62.0	2.2	0.75	12.9	1.75	30.2	1.25	21.5
1305+25	1308+25	300	48	1600		160.0	5.6	0.75	33.3	1.75	77.8	1.25	55.6
1308+25	1310+50	225	(48+36)/2=42	1050		105.0	3.7	0.75	21.9	1.75	51.0	1.25	36.5
1310+50	1321+00	1050	36	4200		420.0	14.7	0.75	87.5	1.75	204.2	1.25	145.8
1321+00	1323+25	225	(36+24)/2=30	750		75.0	2.6	0.75	15.6	1.75	36.5	1.25	26.0
1323+25	1329+83.81 Bk.= 1329+98.24 Ah.	658.81	24	1757		175.7	6.1	0.75	36.6	1.75	85.4	1.25	61.0
1329+98.24	1332+98.75	300.51	24	801		80.1	2.8	0.75	16.7	1.75	38.9	1.25	27.8
1332+98.75	1333+25	26.25	24	70		7.0	0.2	0.75	1.5	(1.75+1)/2=1.375	2.7	1.25	2.4
1333+25	1334+03.75	78.75	24	210		21.0	0.7	0.75	4.4	—	—	(2.25+0)/2=1.125	6.6
EASTBOUND LANE TOTAL						5382.7	188.2		1121.4		2570.8		1874.0
1138+50	1146+25	775	(14+24)/2=19	1636	WESTBOUND LANE	163.6	5.7	0.75	34.1	1.75	79.5	1.25	58.8
1146+25	1168+68.19 Bk.= 1168+75.64 Ah.	2243.19	24	5982		598.2	20.9	0.75	124.6	1.75	290.8	1.25	207.7
1168+75.64	1205+50.06	3674.42	24	9798		979.8	34.3	0.75	204.1	1.75	476.3	1.25	340.2
1205+50.06	1205+76.31	26.25	24	70		7.0	0.2	0.75	1.5	(1.75+1)/2=1.375	2.7	1.25	2.4
1205+76.31	1206+28.88	52.57	24	140		14.0	0.5	0.75	2.9	—	—	(2.25+1.25)/2=1.75	6.8
1206+28.88	1206+55.06	26.18	Appr. Slab Area=90S.Y.			9.0	0.3	0.75	1.9	—	—	(1.25+0.75)/2=1.0	2.5
1206+55.06	1208+84.53	BR. Nº HAS-22-2283 L				U.S.R. 22 OVER PITTSBURGH & WEST VA. R.R. (For Quantities, See Sheet Nº 65)							
1208+84.53	1209+10.98	26.45	Appr. Slab Area=90S.Y.			9.0	0.3	0.75	1.9	—	—	(0.75+1.254)/2=1.002	2.5
1209+10.98	1209+63.28	52.30	24	139		13.9	0.5	0.75	2.9	—	—	(1.254+2.25)/2=1.752	6.8
1209+63.28	1209+89.53	26.25	24	70		7.0	0.2	0.75	1.5	(1+1.75)/2=1.375	2.7	1.25	2.4
1209+89.53	1247+73.30	3783.77	24	10090		1009.0	35.3	0.75	210.2	1.75	490.5	1.25	350.3
1247+73.30	1248+08.30	35	24	93		9.3	0.3	0.75	1.9	(1.75+1)/2=1.375	3.6	1.25	3.2
1248+08.30	1248+43.30	35	24	93		9.3	0.3	0.75	1.9	—	—	(2.25+1.5)/2=1.875	4.9
1248+43.30	1249+72.25	BR. Nº HAS-22-2362 L				U.S.R. 22 OVER S.R. 151 (For Quantities, See Sheet Nº 65)							

CALCULATION OF PAVEMENT RESURFACING QUANTITIES

STATION FROM	STATION TO	LENGTH LIN.FT.	WIDTH FT.	AREA SQ.YDS.	LANE	ITEM 407 TACK COAT @ 0.10 GAL/S.Y. GALS	ITEM 407 COVER AGGREGATE @ 7 LBS./S.Y. TONS	ITEM 848 AVG. THICKNESS INCHES	ITEM 848 0" MIN. ASPH. CONC. INTERMEDIATE COURSE TYPE 1 CU. YDS.	ITEM 848 THICKNESS INCHES	ITEM 848 ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 CU. YDS.	ITEM 848 THICKNESS INCHES	ITEM 848 ASPHALT CONCRETE SURFACE COURSE TYPE 1 CU. YDS.
WESTBOUND LANE Cont.													
1249+72.25	1250+07.25	35	24	93	WESTBOUND LANE	9.3	0.3	0.75	1.9	—	—	(1.5+2.25)/2=1.875	4.9
1250+07.25	1250+42.25	35	24	93		9.3	0.3	0.75	1.9	(1+1.75)/2=1.375	3.6	1.25	3.2
1250+42.25	1262+03.90	1161.65	24	3098		309.8	10.8	0.75	64.5	1.75	150.6	1.25	107.6
1262+03.90	1262+30.15	26.25	24	70		7.0	0.2	0.75	1.5	(1.75+1)/2=1.375	2.7	1.25	2.4
1262+30.15	1263+08.90	78.75	24	210		21.0	0.7	0.75	4.4	—	—	(2.25+0)/2=1.125	6.6
WESTBOUND LANE TOTAL						3185.5	111.1		663.6		1503.0		1113.7
Co. Rd. 13 1085+95	Feathering Lt.	Planimetered Area=148 S.Y.			MAINLINE INTERSECTIONS	14.8	0.5	—	—	—	—	(3+0)/2=1.5 Avg.	6.2
	Rt.	Planimetered Area=150 S.Y.				15.0	0.5	—	—	—	—	(3+0)/2=1.5 Avg.	6.3
Twp. Rd. 60 1117+70	Feathering Lt.	Planimetered Area=154 S.Y.				15.4	0.5	—	—	—	—	(3+0)/2=1.5 Avg.	6.4
Twp. Rd. 177 1133+25	Feathering Lt.	Planimetered Area=149 S.Y.				14.9	0.5	—	—	—	—	(3+0)/2=1.5 Avg.	6.2
	Rt.	Planimetered Area=154 S.Y.				15.4	0.5	—	—	—	—	(3+0)/2=1.5 Avg.	6.4
Twp. Rd 180 & Co. Rd 5 1306+42	Feathering ℄	Planimetered Area=418 S.Y.				41.8	1.5	—	—	—	—	(3+0)/2=1.5 Avg.	17.4
	Rt.	Planimetered Area=218 S.Y.				21.8	0.8	—	—	—	—	(3+0)/2=1.5 Avg.	9.1
Twp. Rd. 65 1333+38.45	Feathering ℄	Planimetered Area=164 S.Y.				16.4	0.6	—	—	—	—	(3+0)/2=1.5 Avg.	6.8
	Rt.	Planimetered Area=188 S.Y.				18.8	0.7	—	—	—	—	(3+0)/2=1.5 Avg.	7.8
MAINLINE INTERSECTION TOTALS						174.3	6.1		0		0		72.6
MAINLINE PAVEMENT RESURFACING TOTALS						10760.7	375.9		2205.4		5033.1		3763.7
S.R. 151 INTERCHANGE PAVEMENT (Jewett)													
0+00	5+37.24	537.24	16	955	RAMP "J"	95.5	3.3	0.75	19.9	1.75	46.4	1.25	33.2
5+37.24	5+47.24	10	(16+17.5)/2=16.75	19		1.9	0.1	0.75	0.4	1.75	0.9	1.25	0.6
5+47.24	6+21	73.76	(17.5+19.72)/2=18.61	153		15.3	0.5	0.75	3.2	1.75	7.4	1.25	5.3
6+21	10+68.36~Ramp"J"= 1167+92.55 USR 22	447.36	(39.72+12)/2=25.86	1285	S.C. LANE & EXIT TERM	128.5	4.5	0.75	26.8	1.75	62.5	1.25	44.6
1167+92.55	1169+00	107.45	(12+0)/2=6.0	72		7.2	0.3	0.75	1.5	1.75	3.5	1.25	2.5
1162+50.48	1163+50.48	100	(0+8.33)/2=4.165	46		4.6	0.2	0.75	1.0	1.75	2.2	1.25	1.6
RAMP "J" TOTALS (W. Bound Exit)						253.0	8.9		52.8		122.9		87.8
1153+75	1156+00-U.S. 22= 0+00~Ramp"K"	225	(0+12)/2=6.0	150	S.C. Lane & Entrance Term.	15.0	0.5	0.75	3.1	1.75	7.3	1.25	5.2
0+00	1+75	175	(12+18.5)/2=15.25	297		29.7	1.0	0.75	6.2	1.75	14.4	1.25	10.3
1+75	2+74.29	99.29×236.93/229.18 =102.65	(14+17)/2=15.5	177	RAMP "K"	17.7	0.6	0.75	3.7	1.75	8.6	1.25	6.1
2+74.29	2+84.29	10×237.43/229.18 =10.36	(17+16)/2=16.5	19		1.9	0.1	0.75	0.4	1.75	0.9	1.25	0.7
2+84.29	6+00	315.71×237.18/229.18 =326.73	16	581		58.1	2.0	0.75	12.1	1.75	28.1	1.25	20.2
6+00	6+82.18	82.18×237.68/229.18 =85.23	17	161		16.1	0.6	0.75	3.4	1.75	7.8	1.25	5.6
6+82.18	10+62.57	380.39×247.68/229.18 =411.10	34	1553		155.3	5.4	0.75	32.4	1.75	75.5	1.25	53.9
10+62.57	12+60.71	198.14	34	749		74.9	2.6	0.75	15.6	1.75	36.4	1.25	26.0
12+60.71	12+73.21	Planimetered Area= 49 S.Y.				4.9	0.2	0.75	1.0	(1.75+1)/2=1.375	1.9	1.25	1.7
12+73.21	13+10.71	Planimetered Area= 250 S.Y.				25.0	0.9	0.75	5.2	—	—	(2.25+0)/2=1.125	7.8
RAMP "K" TOTALS (W. Bound Entrance)						398.6	13.9		83.1		180.9		137.5
1158+04.62	1159+04.62-US 22 0+00 Ramp "L"	100	(0+12)/2=6.0	67	S.C. LANE & EXIT TERM	6.7	0.2	0.75	1.4	1.75	3.2	1.25	2.3
0+00	2+15	215	12	287		28.7	1.0	0.75	6.0	1.75	13.9	1.25	10.0
2+15	3+31	116	(12+40.09)/2=26.045	336		33.6	1.2	0.75	7.0	1.75	16.3	1.25	11.7
1162+42.24	1163+62.24	120	(10+0)/2=5	67		6.7	0.2	0.75	1.4	1.75	3.2	1.25	2.3
3+31	4+17.35	86.35×238.58/229.18 =89.89	(20.09+17.5)/2=18.795	188	RAMP "L"	18.8	0.7	0.75	3.9	1.75	9.1	1.25	6.5
4+17.35	4+27.35	10×237.56/229.18 =10.37	(17.5+16)/2=16.75	19		1.9	0.1	0.75	0.4	1.75	0.9	1.25	0.7
4+27.35	6+65	237.65×237.18/229.18 =245.95	16	437		43.7	1.5	0.75	9.1	1.75	21.3	1.25	15.2
6+65	6+75	10×237.56/229.18 =10.37	(16+17.5)/2=16.75	19		1.9	0.1	0.75	0.4	1.75	0.9	1.25	0.7
6+75	7+14.93	39.93×237.93/229.18 =41.45	17.5	81		8.1	0.3	0.75	1.7	1.75	3.9	1.25	2.8
7+14.93	7+16.12	1.19	17.5	2		0.2	0.1	0.75	0.1	1.75	0.1	1.25	0.1
7+16.12	7+26.12	Planimetered Area= 18 S.Y.				1.8	0.1	0.75	0.4	(1.75+1)/2=1.375	0.7	1.25	0.6
7+26.12	7+56.12	Planimetered Area= 98 S.Y.				9.8	0.3	0.75	2.0	—	—	(2.25+0)/2=1.125	3.1
RAMP "L" TOTALS (E. Bound Exit)						161.9	5.8		33.8		73.5		56.0
0+12.5	0+64.55	Planimetered Area= 227 S.Y.			RAMP "M"	22.7	0.8	0.75	4.7	—	—	(0+2.25)/2=1.125	7.1
0+64.55	0+82.05	Planimetered Area= 36 S.Y.				3.6	0.1	0.75	0.8	(1+1.75)/2=1.375	1.4	1.25	1.3
0+82.05	0+92.05	10	(17.5+16)/2=16.75	19		1.9	0.1	0.75	0.4	1.75	0.9	1.25	0.6
0+92.05	4+63.68	371.63	16	661		66.1	2.3	0.75	13.8	1.75	32.1	1.25	22.9
4+63.68	4+73.68	10	(16+17.5)/2=16.75	19		1.9	0.1	0.75	0.4	1.75	0.9	1.25	0.6
4+73.68	6+15.02	141.34×236.93/229.18 =146.12	(17+14)/2=15.5	252		25.2	0.9	0.75	5.2	1.75	12.2	1.25	8.7

RAMP "M" Cont. on Sheet Nº 10

PAVEMENT RESURFACING CALCULATIONS

NOTE: Planimetered Areas are from Sheet Nos 48 & 49.

QUANTITIES	
Calculated By J.C.N. 7-2-79	Checked By REM 8-15-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

10/80

HAS-22-20.07

CALCULATION OF PAVEMENT RESURFACING QUANTITIES

STATION FROM	STATION TO	LENGTH LIN. FT.	WIDTH FT.	AREA SQ. YDS.	LANE	ITEM 407 TACK COAT @ 0.10 GAL/S.Y. GALS.	ITEM 407 COVER AGGREGATE @ 7 LBS/S.Y. TONS	ITEM 848 AVG. THICKNESS INCHES	ITEM 848 0" MIN. ASPH. CONC. INTERMEDIATE COURSE TYPE I CU. YDS.	ITEM 848 THICKNESS INCHES	ITEM 848 ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 CU. YDS.	ITEM 848 THICKNESS INCHES	ITEM 848 ASPHALT CONCRETE SURFACE COURSE TYPE I CU. YDS
RAMP "M" (Cont.)													
6+15.02	Gr 65.07-Ramp "M" 1169+13.24-US.22	50.05	18.5+17.5 / 2 = 18.25	85	SC. LANE & ENTR. TERM.	8.5	0.3	0.75	1.8	1.75	4.1	1.25	2.9
1169+13.24	1172+00	286.76	12	382		38.2	1.3	0.75	8.0	1.75	18.6	1.25	13.3
1172+00	1174+25	225	12+0 / 2 = 6	150		15.0	0.5	0.75	3.1	1.75	7.3	1.25	5.2
RAMP "M" (E. Bound Entrance)						183.1	6.4	38.2		77.5		62.6	
S.R. 151 INTERCHANGE (Jewett) PAV'T. RESURFACING TOTALS						996.6	35.0	207.9		454.8		343.9	
S.R. 151 INTERCHANGE PAVEMENT (HOPEDALE)													
1228+00	1231+50-U.S.22 "N" 0+00-Ramp "N"	350	0+12 / 2 = 6.0	233	SC. LANE & ENTR. TERM. RAMP "N"	23.3	0.8	0.75	4.9	1.75	11.3	1.25	8.1
0+00	4+07.53	407.53	12.0	543		54.3	1.9	0.75	11.3	1.75	26.4	1.25	18.9
4+07.53	5+18.17	110.64	12+18.5 / 2 = 15.25	187		18.7	0.7	0.75	3.9	1.75	9.1	1.25	6.5
5+18.17	6+18.17	100	18.5+13.5 / 2 = 16	178		17.8	0.6	0.75	3.7	1.75	8.6	1.25	6.2
6+18.17	6+28.17	10	17+16 / 2 = 16.5	18		1.8	0.1	0.75	0.4	1.75	0.9	1.25	0.6
6+28.17	16+98.3	1070.13	16	1902		190.2	6.7	0.75	39.6	1.75	92.5	1.25	66.1
16+98.3	17+10.3	Planimetered Area= 22 S.Y.				2.2	0.1	0.75	0.5	1.75+1.1 / 2 = 1.375	0.8	1.25	0.8
17+10.3	17+46.3	Planimetered Area= 138 S.Y.				13.8	0.5	0.75	2.9	——	——	2.25+0 / 2 = 1.125	4.3
RAMP "N" TOTALS (W. Bound Entrance)						322.1	11.4	67.2		149.6		111.5	
0+00	3+85	385	0+339.72 / 2 = 19.86	850	SC. LANE & EXIT TERM. RAMP "Q"	85.0	3.0	0.75	17.7	1.75	41.3	1.25	29.5
1235+84.29	1236+86.85	102.56	8.5G+9.0 / 2 = 4.28	49		4.9	0.2	0.75	1.0	1.75	2.4	1.25	1.7
3+85	4+58.89	73.89	19.71+17.75 / 2 = 18.61	153		15.3	0.5	0.75	3.2	1.75	7.4	1.25	5.3
4+58.89	4+68.89	10	17.5+16 / 2 = 16.75	18		1.8	0.1	0.75	0.4	1.75	0.9	1.25	0.6
4+68.89	17+00.2	1231.31	16	2189		218.9	7.7	0.75	45.6	1.75	106.4	1.25	76.0
17+00.2	17+12.7	Planimetered Area= 23 S.Y.				2.3	0.1	0.75	0.5	1.75+1.1 / 2 = 1.375	0.9	1.25	0.8
17+12.7	17+50.2	Planimetered Area= 119 S.Y.				11.9	0.4	0.75	2.5	——	——	2.25+0 / 2 = 1.125	3.7
RAMP "Q" TOTALS (E. Bound Exit)						340.1	12.0	70.9		159.3		117.6	
0+12	0+42	Planimetered Area= 11.4 S.Y.			RAMP "S"	11.4	0.4	0.75	2.4	——	——	0+2.25 / 2 = 1.125	3.6
0+42	0+52.0	Planimetered Area= 20 S.Y.				2.0	0.1	0.75	0.4	1+1.75 / 2 = 1.375	0.8	1.25	0.7
0+52	6+34.38	582.38	16	1035		103.5	3.6	0.75	21.6	1.75	50.3	1.25	35.9
6+34.38	6+44.38	10	16+17.5 / 2 = 16.75	18		1.8	0.1	0.75	0.4	1.75	0.9	1.25	0.6
6+44.38	7+20.5	76.12	1.25+1.97.78 / 2 = 1.864	158		15.8	0.6	0.75	3.3	1.75	7.7	1.25	5.5
7+20.5	11+03.27	382.77	39.78+0 / 2 = 1.989	846	SC. LANE & EXIT TERM.	84.6	3.0	0.75	17.6	1.75	41.1	1.25	29.4
1255+13.15	1256+15.71	102.56	0+8.56 / 2 = 4.28	49		4.9	0.2	0.75	1.0	1.75	2.4	1.25	1.7
RAMP "S" TOTALS (W. Bound Exit)						224.0	8.0	46.7		103.2		77.4	
0+13.9	0+66.4	Planimetered Area= 236 S.Y.			RAMP "T"	23.6	0.8	0.75	4.9	——	——	0+2.25 / 2 = 1.125	7.4
0+66.4	0+83.9	Planimetered Area= 33 S.Y.				3.3	0.1	0.75	0.7	1+1.75 / 2 = 1.375	1.3	1.25	1.2
0+83.9	7+70.23	686.33	16	1220		122.0	4.3	0.75	25.4	1.75	59.3	1.25	42.4
7+70.23	7+80.23	10	16+17 / 2 = 16.5	18		1.8	0.1	0.75	0.4	1.75	0.9	1.25	0.6
7+80.23	8+80.23	100	17.5+18.5 / 2 = 18	178		17.8	0.6	0.75	3.7	1.75	8.6	1.25	6.2
8+80.23	9+90.88	110.65	18.5+12 / 2 = 15.25	187	SC. LANE & ENTR. TERM.	18.7	0.7	0.75	3.9	1.75	9.1	1.25	6.5
9+90.88	13+78.71-Ramp T 1263+25-US.22	387.83	12	517		51.7	1.8	0.75	10.8	1.75	25.1	1.25	18.0
1263+25	1266+75	350	12+0 / 2 = 6.0	233		23.3	0.8	0.75	4.9	1.75	11.3	1.25	8.1
RAMP "T" TOTALS (E. Bound Entrance)						262.2	9.2	54.7		115.6		90.4	
S.R. 151 INTERCHANGE (Hopedale) PAV'T. RESURFACING TOTALS						1148.4	40.6	239.5		527.7		396.9	

SUMMARY OF PAVEMENT RESURFACING QUANTITIES

MAINLINE PAVEMENT RESURFACING TOTALS	10760.7	375.9	2205.4	5033.1	3768.7
S.R. 151 INTERCHANGE (Jewett) PAV'T. RESURFACING TOTALS	996.6	35.0	207.9	454.8	343.9
S.R. 151 INTERCHANGE (Hopedale) PAV'T. RESURFACING TOTALS	1148.4	40.6	239.5	527.7	396.9
PAVEMENT RESURFACING TOTALS	**12905.7**	**451.5**	**2652.8**	**6015.6**	**4509.5**

QUANTITIES CARRIED TO GENERAL SUMMARY

CALCULATION OF MAINLINE OUTSIDE SHOULDER QUANTITIES

STATION FROM	STATION TO	LANE	ITEM 409 SEAL COAT LENGTH LIN. FT.	WIDTH FT.	AREA SQ. YDS.	BITUMINOUS MATERIAL @ 0.30 GAL/S.Y. GAL.	COVER AGGREGATE @ 0.008 C.Y./S.Y. CU. YDS.	ITEM 301 BITUMINOUS AGGREGATE BASE LENGTH LIN. FT.	WIDTH FT.	AREA SQ. YDS.	AVG. THICKNESS IN.	BITUMINOUS AGGREGATE BASE CU. YDS.
MAINLINE OUTSIDE SHOULDERS												
1060+00	1085+65.5	WESTBOUND LANE	2565.5	8	2280	684	18.2	Same As Item 409		2280	7	443.4
1085+65.5	1086+33		C.R. 13 Pavement									
1086+33	1117+39		3106	8	2761	828	22.1	Same As Item 409		2761	7	536.8
1117+39	1118+10		Twp. Rd. 60 Pavement									
1118+10	1123+64.50		554.5	8	493	148	3.9	Same As Item 409		493	7	95.8
1123+64.50	1125+12.05		BR. No. HAS-22-2126, US 22 OVER N.E.W. R.R. (See Sheet No. 65)									
1125+12.05	1132+94.5		782.45	8	696	209	5.6	Same As Item 409		696	7	135.2
1132+94.5	1133+63		Twp. Rd. 177 Pavement									
1133+63	1153+75		2012	8	1788	537	14.3	Same As Item 409		1788	7	347.8
1153+75	1157+70.07		RAMP "K" SPEED CHANGE LANE, INCLUDED IN S.R. 151 INTERCHANGE QUANTITIES									
1157+70.07	1158+38.07		68	4+18 / 2 = 11	83	25	0.7	Same As Item 409		83	7	16.2
1158+38.07	1162+50.48		412.41	8	367	110	2.9	Same As Item 409		367	7	71.3
1162+50.48	1163+50.48		100	8+10 / 2 = 9.0	100	30	0.8	100	8+16.7 / 2 = 12.35	54	7	10.4
1163+50.48	1169+00		RAMP "J" SPEED CHANGE LANE, INCLUDED IN S.R. 151 INTERCHANGE QUANTITIES									
1169+00	1206+16.67		3716.67	8	3304	991	26.4	Same As Item 409		3304	7	642.4
1206+16.67	1208+98.77		BR. No. HAS-22-2283L, US. 22 OVER R.R. (See Sheet No. 65)									
1208+98.77	1228+00		1901.23	8	1690	507	13.5	Same As Item 409		1690	7	328.6
1228+00	1236+69.60		RAMP "N" SPEED CHANGE LANE, INCLUDED IN S.R. 151 INTERCHANGE QUANTITIES									
1236+69.60	1237+72.60		103	4+18 / 2 = 11.0	126	38	1.0	Same As Item 409		126	7	24.5
1237+72.60	1248+39.57		1066.97	8	948	285	7.6	Same As Item 409		948	7	184.4
1248+39.57	1249+71.15		BR. No. HAS-22-2362L, U.S. 22 OVER S.R. 151 (See Sheet No. 65)									
1249+71.15	1255+13.15		542	8	482	145	3.9	Same As Item 409		482	7	93.7
1255+13.15	1256+15.71		102.56	8+10 / 2 = 9.0	103	31	0.8	102.56	8+11.25 / 2 = 9.625	54	7	10.5
1256+15.71	1260+00		RAMP "S" SPEED CHANGE LANE, INCLUDED IN S.R. 151 (See Sheet No. 11)									
1260+00	1263+08.90		308.90	8	275	82	2.2	Same As Item 409		275	7	53.4
1263+08.90	1280+72.73 Ab. / 1280+72.73 Ah.		——	——	——	——	——	1754.04	8	1559	7	303.2
1280+72.73	1298+80.75 Ab. / 1298+80.75 Ah.		——	——	——	——	——	1806.19	8	1606	7	312.2
1298+80.75	1300+31.83		——	——	——	——	——	151.08	8	134	7	26.1
1300+31.83	1301+64.89		BR. No. HAS-22-2460 L, US. 22 OVER R.R. (See Sheet No. 65)									
1301+64.89	1306+32		——	——	——	——	——	467.11	8	415	7	80.7
1306+32	1307+22		Twp. Rd. 180 Pavement									
1307+22	1329+98.24		——	——	——	——	——	2261.81	8	2010	7	390.9
1329+98.24	1334+03.75		——	——	——	——	——	405.51	8	360	7	70.1
1060+00	1085+56	EASTBOUND LANE	2556	8	2272	682	18.2	Same As Item 409		2272	7	441.8
1085+56	1086+25		C.R. 13 Pavement									
1086+25	1123+52.96		3727.96	8	3314	994	26.5	Same As Item 409		3314	7	644.3
1123+52.96	1124+98.28		BR. No. HAS-22-2126 U.S. 22 OVER R.R. See Sheet No. 65)									
1124+98.28	1132+86.5		788.22	8	701	210	5.6	Same As Item 409		701	7	136.2
1132+86.5	1133+55		Twp. Rd. 177 Pavement									
1133+55	1158+04.62		2449.62	8	2177	653	17.4	Same As Item 409		2177	7	423.4
1158+04.62	1162+42.24		RAMP "L" SPEED CHANGE LANE, INCLUDED IN S.R. 151 INTERCHANGE QUANTITIES									
1162+42.24	1163+62.24		120	10+8 / 2 = 9.0	120	36	1.0	120	0+8 / 2 = 4.0	53	7	10.4
1163+62.24	1168+01.38		439.14	8	390	117	3.1	Same As Item 409		390	7	75.9
1168+01.38	1168+49.88		48.5	18+4 / 2 = 11	59	18	0.5	Same As Item 409		59	7	11.5
1168+49.88	1174+25		RAMP "M" SPEED CHANGE LANE, INCLUDED IN S.R. 151 INTERCHANGE QUANTITIES									
1174+25	1207+19.93		329.93	8	2929	879	23.4	Same As Item 409		2929	7	569.5
1207+19.93	1210+01.33		BR. No. HAS-22-2283 R, US. 22 OVER R.R. (See Sheet No. 65)									
1210+01.33	1232+00		2198.67	8	1954	586	15.6	Same As Item 409		1954	7	380.0
1232+00	1235+84.29		RAMP "Q" SPEED CHANGE LANE, INCLUDED IN S.R. 151 INTERCHANGE QUANTITIES									
1235+84.29	1236+86.85		102.56	10+8 / 2 = 9.00	103	31	0.8	102.56	0+8 / 2 = 4.0	46	7	8.9
1236+86.85	1248+54.35		1167.5	8	1038	311	8.3	Same As Item 409		1038	7	201.8
1248+54.35	1249+85.93		BR. No. HAS-22-2362 R, US. 22 OVER S.R. 151 (See Sheet No. 65)									
1249+85.93	1257+26		740.07	8	658	197	5.3	Same As Item 409		658	7	127.9
1257+26	1258+25		99	18+4 / 2 = 11	121	36	1.0	Same As Item 409		121	7	23.5
1258+25	1266+75		RAMP "T" SPEED CHANGE LANE, INCLUDED IN S.R. 151 INTERCHANGE QUANTITIES									

QUANTITIES CONT. ON SHEET No. 11.

PAVEMENT RESURFACING & SHOULDER CALCULATIONS

CALCULATION OF MAINLINE OUTSIDE SHOULDER QUANTITIES

STATION FROM	STATION TO	LANE	ITEM 409 SEAL COAT: LENGTH (LIN. FT.)	WIDTH (FT.)	AREA (SQ. YDS.)	BITUMINOUS MATERIAL @0.30 GAL./S.Y. (GAL.)	COVER AGGREGATE @0.008 C.Y./S.Y. (CU. YDS.)	ITEM 301-BITUMINOUS AGGREGATE BASE: LENGTH (LIN. FT.)	WIDTH (FT.)	AREA (SQ. YDS.)	AVG. THICKNESS (IN)	BITUMINOUS AGGREGATE BASE (CU. YDS.)
1266+75	1280+62.94 Bk. 1280+72.73 Ah.	EASTBOUND LANE	1382.94	8	1234	370	9.9	Same As Item 409		1234	7	239.9
1280+72.73	1298+78.92 Bk. 1298+80.75 Ah.	EASTBOUND LANE	1806.19	8	1606	482	12.8	Same As Item 409		1606	7	312.2
1298+80.75	1300+51.83	EASTBOUND LANE	171.08	8	152	46	1.2	Same As Item 409		152	7	29.6
1300+51.83	1301+87.45	EASTBOUND LANE	BR. Nº HAS-22-2460R, U.S. 22 OVER R.R. (See Sheet Nº 79)									
1301+87.45	1305+56	EASTBOUND LANE	368.55	8	328	98	2.6	Same As Item 409		328	7	63.7
1305+56	1306+46	EASTBOUND LANE	C.R. 5 Pavement									
1306+46	1329+83.81 Bk. 1329+98.24 Ah.	EASTBOUND LANE	2337.81	8	2078	623	16.6	Same As Item 409		2078	7	404.1
1329+98.24	1332+84	EASTBOUND LANE	285.76	8	254	76	2.0	Same As Item 409		254	7	49.4
1332+84	1333+66	EASTBOUND LANE	Twp. Rd. 65 Pavement									
1333+66	1334+03.75	EASTBOUND LANE	37.75	8	34	10	0.3	Same As Item 409		34	7	6.5
MAINLINE OUTSIDE SHOULDER TOTALS						11105	296.0					8338.1
QUANTITIES CARRIED TO SUMMARY THIS SHEET												

CALCULATION OF MEDIAN SHOULDER & CROSS-OVER QUANTITIES

STATION FROM	STATION TO	LANE	LENGTH (LIN. FT.)	WIDTH (FT.)	AREA (SQ. YDS.)	ITEM 409 SEAL COAT: BITUMINOUS MATERIAL @0.30 GAL./S.Y. (GALS.)	COVER AGGREGATE @0.008 C.Y./S.Y. (CU. YDS.)	ITEM 301: AVERAGE THICKNESS (INCHES)	BITUMINOUS AGGREGATE BASE (CU. YDS.)
1138+50	1139+25	WESTBOUND LANE	75	(2+8)/2 = 5.0	42	13	0.3	8	9.3
1145+34.5	1168+68.19 Bk. 1168+75.64 Ah.	WESTBOUND LANE	2333.69	4	1037	311	8.3	7	201.7
1168+75.64	1206+41.09	WESTBOUND LANE	3765.35	4	1674	502	13.4	7	325.4
1206+41.09	1209+23.19	WESTBOUND LANE	BR. Nº HAS-22-2283L, U.S. 22 OVER R.R. (See Sheet Nº 65)						
1209+23.19	1248+44.19	WESTBOUND LANE	3921	4	1743	523	13.9	7	338.9
1248+44.19	1249+75.77	WESTBOUND LANE	BR. Nº HAS-22-2362 L, U.S. 22 OVER S.R. 151 (See Sheet Nº 65)						
1249+75.77	1263+08.90	WESTBOUND LANE	1333.13	4	593	178	4.7	7	115.2
1263+08.90	1280+62.94 Bk. 1280+72.73 Ah.	WESTBOUND LANE	1754.04	4	780	—	—	7	151.6
1280+72.73	1298+78.92 Bk. 1298+80.75 Ah.	WESTBOUND LANE	1806.19	4	803	—	—	7	156.1
1298+80.75	1300+38.48	WESTBOUND LANE	157.73	4	70	—	—	7	13.6
1300+38.48	1301+71.54	WESTBOUND LANE	BR. Nº HAS-22-2460L, U.S. 22 OVER R.R. (See Sheet Nº 65)						
1301+71.54	1305+35	WESTBOUND LANE	363.46	4	162	—	—	7	31.4
1305+35	1307+00	WESTBOUND LANE	Twp. Rd. 180 Pavement						
1307+00	1329+83.81 Bk. 1329+98.24 Ah.	WESTBOUND LANE	2283.81	4	1015	—	—	7	197.4
1329+98.24	1332+52	WESTBOUND LANE	253.76	4	113	—	—	7	21.9
1139+25	1168+68.19 Bk. 1168+75.64 Ah.	EASTBOUND LANE	2943.19	4	1309	392	10.5	7	254.3
1168+75.64	1206+94.81	EASTBOUND LANE	3819.17	4	1697	509	13.6	7	330.1
1206+94.81	1209+76.91	EASTBOUND LANE	BR. Nº HAS-22-2283R, U.S. 22 OVER R.R. (See Sheet Nº 65)						
1209+76.91	1248+49.73	EASTBOUND LANE	3872.82	4	1721	516	13.8	7	334.7
1248+49.73	1249+81.31	EASTBOUND LANE	BR. Nº HAS-22-2362 R, U.S. 22 OVER S.R. 151 (See Sheet Nº 65)						
1249+81.31	1280+62.94 Bk. 1280+72.73 Ah.	EASTBOUND LANE	3081.63	4	1370	411	11.0	7	266.3
1280+72.73	1298+78.92 Bk. 1298+80.75 Ah.	EASTBOUND LANE	1806.19	4	803	241	6.4	7	156.1
1298+80.75	1300+45.18	EASTBOUND LANE	164.43	4	73	22	0.6	7	14.2
1300+45.18	1301+80.81	EASTBOUND LANE	BR. Nº HAS-22-2460R, U.S. 22 OVER R.R. (See Sheet Nº 79)						
1301+80.81	1305+92	EASTBOUND LANE	411.19	4	183	55	1.5	7	35.5
1305+92	1307+03	EASTBOUND LANE	Co. Rd. 5 Pavement						
1307+03	1329+83.81 Bk. 1329+98.24 Ah.	EASTBOUND LANE	2280.81	4	1014	304	8.1	7	197.1
1329+98.24	1333+15	EASTBOUND LANE	316.76	4	141	42	1.1	7	27.4
1333+15	1333+67.5	EASTBOUND LANE	Twp. Rd. 65 Pavement						
1333+67.5	1334+03.75	EASTBOUND LANE	36.25	4	16	5	0.1	7	3.1
1148+75		MEDIAN CROSS-OVERS	Planimetered Area of Median Cross-Over 283 Sq. Yds.		283	85	2.3	8	63.0
1182+25		MEDIAN CROSS-OVERS			283	85	2.3	8	63.0
1216+75		MEDIAN CROSS-OVERS			283	85	2.3	8	63.0
1276+50		MEDIAN CROSS-OVERS			283	85	2.3	8	63.0
MEDIAN SHOULDER & MEDIAN CROSS-OVER TOTALS						4364	116.5		3433.3
QUANTITIES CARRIED TO SUMMARY THIS SHEET									

CALCULATION OF RAMP SHOULDER QUANTITIES

STATION FROM	STATION TO	RAMP	SIDE	LENGTH (LIN. FT.)	WIDTH (FT.)	AREA (SQ. YDS.)	ITEM 409 SEAL COAT: BITUMINOUS MATERIAL @0.30 GAL./S.Y. (GALS.)	COVER AGGREGATE @0.008 C.Y./S.Y. (CU. YDS.)	ITEM 301: AVG. THICKNESS (INCHES)	BITUMINOUS AGGREGATE BASE (CU. YDS.)
S.R. 151 INTERCHANGE (Jewett) RAMP SHOULDERS										
0+00	5+47.24	RAMP "J" & S.C. LANE	Lt.	547.24	3	182	55	1.5	7	35.5
5+47.24	6+46.81	RAMP "J" & S.C. LANE	Lt.	99.57	(3+6)/2 = 4.5	50	15	0.4	7	9.7
6+46.81	10+68.36 - "J" 1167+92.55 - U.S. 22	RAMP "J" & S.C. LANE	Lt.	421.55	6	281	84	2.2	7	54.6
1167+92.55	1169+00	RAMP "J" & S.C. LANE	Lt.	107.45	(6+8)/2 = 7	84	25	0.7	7	16.3
0+62	5+37.24	RAMP "J" & S.C. LANE	Rt.	475.24	3	158	48	1.3	7	30.8
5+37.24	5+47.24	RAMP "J" & S.C. LANE	Rt.	10	(3+1.5)/2 = 2.25	3	1	0.1	7	0.5
RAMP "J" (WESTBOUND EXIT) TOTALS							228	6.2		147.4
1153+75	1156+00 - U.S. 22 0+00 - "L"	RAMP "K" & S.C. LANE	Lt.	225	(8+6)/2 = 7	175	53	1.4	7	34.0
0+00	1+75	RAMP "K" & S.C. LANE	Lt.	175	6	117	35	0.9	7	22.7
1+75	2+74.29	RAMP "K" & S.C. LANE	Lt.	99.29	(6+3)/2 = 4.5	50	15	0.4	7	9.7
2+74.29	5+82.18	RAMP "K" & S.C. LANE	Lt.	307.89	3	103	31	0.8	7	20.0
5+82.18	6+82.18	RAMP "K" & S.C. LANE	Lt.	100	(3+6)/2 = 4.5	50	15	0.4	7	9.7
6+82.18	12+60.71	RAMP "K" & S.C. LANE	Lt.	578.53	6	386	116	3.1	7	75.0
Ramp "K" 12+60.71	S.R. 151 257+89.01	RAMP "K" & S.C. LANE	Lt.	78.54	6	52	16	0.4	7	10.2
2+74.29	2+83.59	RAMP "K" & S.C. LANE	Rt.	9.3 x 246.31/229.18 = 10.0	(1.5+3)/2 = 2.25	3	1	0.1	7	0.5
2+83.59	6+00	RAMP "K" & S.C. LANE	Rt.	316.91 x 246.68/229.18 = 340.57	3	114	34	0.9	7	22.1
6+82.18	10+62.57	RAMP "K" & S.C. LANE	Rt.	380.39 x 262.18/229.18 = 446.78	6	298	89	2.4	7	57.9
10+62.57	12+70.7	RAMP "K" & S.C. LANE	Rt.	208.13	6	139	42	1.1	7	27.0
Ramp "K" 12+70.70	S.R. 151 250+62	RAMP "K" & S.C. LANE	Rt./Lt.	62.6	6	42	13	0.3	7	8.1
RAMP "K" (WESTBOUND ENTRANCE) TOTALS							460	12.2		296.9
1158+04.62	1159+04.62 U.S. 22 = 0+00 Ramp "L"	RAMP "L" & S.C. LANE	Rt.	100	(8+6)/2 = 7	78	23	0.6	7	15.1
0+00	3+17.35	RAMP "L" & S.C. LANE	Rt.	317.35	6	212	64	1.7	7	41.1
3+17.35	4+17.35	RAMP "L" & S.C. LANE	Rt.	100	(6+3)/2 = 4.5	50	15	0.4	7	9.7
4+17.35	7+16.12	RAMP "L" & S.C. LANE	Rt.	298.77	3	100	30	0.8	7	19.4
Ramp "L" 7+16.12	S.R. 151 262+08.38	RAMP "L" & S.C. LANE	Rt./Lt.	62.83	3	21	6	0.2	7	4.1
4+17.35	4+26.65	RAMP "L" & S.C. LANE	Lt.	9.3 x 246.31/229.18 = 10	(1.5+3)/2 = 2.25	3	1	0.1	7	0.5
4+26.65	6+75	RAMP "L" & S.C. LANE	Lt.	248.35 x 246.68/229.18 = 267.31	3	89	27	0.7	7	17.3
RAMP "L" (EASTBOUND EXIT) TOTALS							166	4.5		107.2
S.R. 151 263+55.18	Ramp "M" 0+82.05	RAMP "M" & S.C. LANE	Lt./Rt.	95.99	3	32	10	0.3	7	6.2
0+82.05	4+73.68	RAMP "M" & S.C. LANE	Rt.	391.63	3	131	39	1.0	7	25.4
4+73.68	6+15.02	RAMP "M" & S.C. LANE	Rt.	141.34	(3+6)/2 = 4.5	71	21	0.6	7	13.7
6+15.02	9+54.83 Ramp "M" = 1172+00	RAMP "M" & S.C. LANE	Rt.	339.81	6	227	68	1.8	7	44.0
1172+00	1174+25	RAMP "M" & S.C. LANE	Rt.	225	(6+8)/2 = 7	175	53	1.4	7	34.0
0+82.05	4+63.68	RAMP "M" & S.C. LANE	Lt.	381.63	3	127	38	1.0	7	24.7
4+63.68	4+73.68	RAMP "M" & S.C. LANE	Lt.	10	(3+1.5)/2 = 2.25	3	1	0.1	7	0.5
RAMP "M" (EASTBOUND ENTRANCE) TOTALS							230	6.2		148.5
S.R. 151 INTERCHANGE (Jewett) RAMP SHOULDER TOTALS							1084	29.1		700.0
S.R. 151 INTERCHANGE (Hopedale) RAMP SHOULDERS										
1228+00	1231+50 - U.S. 22 = 0+00 Ramp N	RAMP "N" & S.C. LANE	Lt.	350	(8+6)/2 = 7	272	82	2.2	7	52.9
0+00	5+18.17	RAMP "N" & S.C. LANE	Lt.	518.17	6	345	104	2.8	7	67.2
5+18.17	6+18.17	RAMP "N" & S.C. LANE	Lt.	100	(6+3)/2 = 4.5	50	15	0.4	7	9.7
6+18.17	16+98.3	RAMP "N" & S.C. LANE	Lt.	1080.13	3	360	108	2.9	7	70.0
Ramp "N" 16+98.3	S.R. 151 293+18.9	RAMP "N" & S.C. LANE	Lt./Rt.	75	3	25	8	0.2	7	4.9
6+18.17	6+28.17	RAMP "N" & S.C. LANE	Rt.	10	(1.5+3)/2 = 2.25	3	1	0.1	7	0.5
6+28.17	17+15.1	RAMP "N" & S.C. LANE	Rt.	1086.93	3	362	109	2.9	7	70.4
Ramp "N" 17+15.1	S.R. 151 294+06	RAMP "N" & S.C. LANE	Rt.	46.7	3	16	5	0.1	7	3.0
RAMP "N" (WESTBOUND ENTRANCE) TOTALS							432	11.6		278.6

CALCULATION OF RAMP SHOULDER QUANTITIES

STATION FROM	STATION TO	RAMP	SIDE	LENGTH (LIN. FT.)	WIDTH (FT.)	AREA (SQ. YDS.)	ITEM 409 SEAL COAT: BITUMINOUS MATERIAL @0.30 GAL./S.Y. (GALS.)	COVER AGGREGATE @0.008 C.Y./S.Y. (CU. YDS.)	ITEM 301: AVG. THICKNESS (INCHES)	BITUMINOUS AGGREGATE BASE (CU. YDS.)
S.R. 151 INTERCHANGE (Hopedale) RAMP SHOULDERS CONTINUED										
0+00	1+00	RAMP "Q" & S.C. LANE	Rt.	100	(8+6)/2 = 7	78	23	0.6	7	15.1
1+00	3+58.89	RAMP "Q" & S.C. LANE	Rt.	258.89	6	173	52	1.4	7	33.6
3+58.89	4+58.89	RAMP "Q" & S.C. LANE	Rt.	100	(6+3)/2 = 4.5	50	15	0.4	7	9.7
4+58.89	17+24	RAMP "Q" & S.C. LANE	Rt.	1265.11	3	422	127	3.4	7	82.0
Ramp Q 17+24	S.R. 151 296+97.5	RAMP "Q" & S.C. LANE	Rt.	45.8	3	15	5	0.1	7	3.0
4+58.89	4+68.89	RAMP "Q" & S.C. LANE	Lt.	10	(1.5+3)/2 = 2.25	3	1	0.1	7	0.5
4+68.89	17+00.2	RAMP "Q" & S.C. LANE	Lt.	1231.31	3	410	123	3.3	7	79.9
Ramp "Q" 17+00.2	S.R. 151 296+07.1	RAMP "Q" & S.C. LANE	Lt./Rt.	56.8	3	19	6	0.2	7	3.7
RAMP "Q" (EASTBOUND EXIT) TOTALS							352	9.5		227.5
S.R. 151 293+34	Ramp "S" 0+52	RAMP "S" & S.C. LANE	Lt.	65	3	22	7	0.2	7	4.2
0+52	6+44.38	RAMP "S" & S.C. LANE	Lt.	592.38	3	197	59	1.6	7	38.4
6+44.38	7+44.38	RAMP "S" & S.C. LANE	Lt.	100	(3+6)/2 = 4.5	50	15	0.4	7	9.7
7+44.38	10+03.27	RAMP "S" & S.C. LANE	Lt.	258.89	6	173	52	1.4	7	33.6
10+03.27	11+03.27	RAMP "S" & S.C. LANE	Lt.	100	(6+8)/2 = 7	78	23	0.6	7	15.1
S.R. 151 294+22.6	Ramp "S" 0+43.2	RAMP "S" & S.C. LANE	Lt./Rt.	48.2	3	16	5	0.1	7	3.1
0+43.2	6+34.38	RAMP "S" & S.C. LANE	Rt.	591.18	3	197	59	1.6	7	38.3
6+34.38	6+44.38	RAMP "S" & S.C. LANE	Rt.	10	(3+1.5)/2 = 2.25	3	1	0.1	7	0.5
RAMP "S" (WESTBOUND EXIT) TOTALS							227	6.0		142.9
S.R. 151 297+36.3	Ramp "T" 0+83.9	RAMP "T" & S.C. LANE	Lt./Rt.	96.2	3	32	10	0.3	7	6.2
0+83.9	7+80.23	RAMP "T" & S.C. LANE	Rt.	696.33	3	232	70	1.9	7	45.1
7+80.23	8+80.23	RAMP "T" & S.C. LANE	Rt.	100	(3+6)/2 = 4.5	50	15	0.4	7	9.7
8+80.23	13+78.71 - Ramp "T" = 1263+25 U.S. 22	RAMP "T" & S.C. LANE	Rt.	498.48	6	332	100	2.7	7	64.6
1263+25	1266+75	RAMP "T" & S.C. LANE	Rt.	350	(6+8)/2 = 7	272	82	2.2	7	52.9
S.R. 151 296+22.4	Ramp "T" 0+30.4	RAMP "T" & S.C. LANE	Lt.	39.3	3	13	4	0.1	7	2.5
0+30.4	7+70.23	RAMP "T" & S.C. LANE	Lt.	739.83	3	247	74	2.0	7	48.0
7+70.23	7+80.23	RAMP "T" & S.C. LANE	Lt.	10	(3+1.5)/2 = 2.25	3	1	0.1	7	0.5
RAMP "T" (EASTBOUND ENTRANCE) TOTALS							356	9.7		229.5
S.R. 151 INTERCHANGE (HOPEDALE) RAMP SHOULDER TOTALS							1367	36.8		878.5
RAMP SHOULDER TOTALS (Carried To Summary This Sheet)							2451	65.9		1578.5

SUMMARY OF SHOULDER QUANTITIES

LOCATION	ITEM 409 SEAL COAT: BITUMINOUS MATERIAL (GALS.)	COVER AGGREGATE Nº 8 (CU. YDS.)	ITEM 301: BITUMINOUS AGGREGATE BASE (CU. YDS.)
MAINLINE OUTSIDE SHOULDERS	11,105	296.0	8338.1
MEDIAN SHOULDERS & MEDIAN CROSS-OVERS	4364	116.5	3433.3
RAMP SHOULDERS	2451	65.9	1578.5
TOTALS	17,920	478.4	13,349.9
QUANTITIES CARRIED TO GENERAL SUMMARY			

LINEAR GRADING, METHOD 2 & ASPHALT CONCRETE SHOULDER TREATMENT

GUARD RAIL REF. No.	LOCATION FROM	LOCATION TO	SIDE	LENGTH	ITEM 203 LINEAR GRADING METHOD 2	ITEM 848 WIDTH	ITEM 848 AREA	ITEM 848 THICKNESS	ITEM 848 ASPHALT CONCRETE SURFACE COURSE TYPE 1	ITEM 408 PRIME COAT @0.50 GAL/S.Y.	ITEM 409 SEAL COAT BITUMINOUS MATERIAL @0.30 GAL./S.Y.	ITEM 409 SEAL COAT COVER AGGREGATE @0.008 C.Y./S.Y.
	FROM	TO		LIN. FT.	STATION	FT.	SQ.YDS.	IN.	CU.YDS.	GALS.	GALS.	CU.YDS.
1	1060+98	1072+35.5	Lt.	1137.5	11.38	4	506	2	28.1	253	152	4.0
2	1061+47.5	1072+72.5	Rt.	1125	11.25	4	500	2	27.8	250	150	4.0
3	1081+59.5	1085+47	Lt.	387.5	3.88	4	172	2	9.6	86	52	1.4
4	1081+97	1085+37	Rt.	340	3.40	4	151	2	8.4	76	45	1.2
5	1086+43	1087+19	Rt.	76	0.76	4	34	2	1.9	17	10	0.3
6	1086+52	1087+82	Lt.	130	1.30	4	58	2	3.2	29	17	0.5
7	1099+84	1105+21.5	Rt.	537.5	5.38	4	239	2	13.3	119	72	1.9
8	1100+13.5	1106+13.5	Lt.	600	6.00	4	267	2	14.8	133	80	2.1
9	1118+28	1123+54	Lt.	526	5.26	4	234	2	13.0	117	70	1.9
10	1117+55	1123+37	Rt.	587.5	5.88	4	261	2	14.5	131	78	2.1
11	1125+09.3	1126+34.3	Rt.	125	1.25	4	56	2	3.1	28	17	0.4
12	1125+29.4	1126+54.4	Lt.	125	1.25	4	56	2	3.1	28	17	0.4
13	1137+44	1138+81.5	Lt.	137.5	1.38	4	61	2	3.4	31	18	0.5
14	1137+14	1138+89	Rt.	175	1.75	4	78	2	4.3	39	23	0.6
15	1145+09.5	1149+34.5	Rt.	425	4.25	4	189	2	10.5	94	57	1.5
16	1154+08.6	1162+36.24	Rt.	827.64	8.28	4	368	2	20.4	184	110	2.9
17	1154+37.5	1157+45.51	Lt.	312.5	3.13	4	139	2	7.7	70	42	1.1
25	Ramp "J" 6+26.81	Ramp "J" 8+57	Lt.	230.19	2.30	4	102	2	5.7	51	31	0.8
26	Ramp "M" 8+09.83	U.S. 22 1172+25	Rt.	175	1.75	4	78	2	4.3	39	23	0.6
27	1171+47	1172+84.5	Lt.	137.5	1.38	4	61	2	3.4	31	18	0.5
28	1177+85	1188+35	Rt.	1050	10.50	4	467	2	25.9	233	140	3.7
29	1181+44.5	1184+94.5	Lt.	350	3.50	4	156	2	8.6	78	47	1.2
30	1196+18.2	1207+43.2	Rt.	1125	11.25	4	500	2	27.8	250	150	4.0
31	1197+05	1206+17.5	Lt.	912.5	9.13	4	406	2	22.5	203	122	3.2
33	1208+73.8	1213+86.3	Lt.	512.5	5.13	4	228	2	12.7	114	68	1.8
35	1210+07.6	1213+57.6	Rt.	350	3.50	4	156	2	8.6	78	47	1.2
36	1225+62.5	1230+62.5	Lt.	500	5.00	4	222	2	12.3	111	67	1.8
37	1226+45.5	1231+58	Rt.	512.5	5.13	4	228	2	12.7	114	68	1.8
38	1238+81.6	1248+44.1	Rt.	962.5	9.63	4	428	2	23.8	214	128	3.4
39	1242+52	1248+27	Lt.	575	5.75	4	256	2	14.2	128	77	2.0
44	1249+98.5	1256+23.5	Rt.	625	6.25	4	278	2	15.4	139	83	2.2
47	1249+81.5	1254+94	Lt.	512.5	5.13	4	228	2	12.7	114	68	1.8
48	1259+15	1265+52.5	Rt.	637.5	6.38	4	283	2	15.7	142	85	2.3
49	1260+00	1263+50	Lt.	350	3.50	4	156	2	8.6	78	47	1.2
50	1280+21	1282+08.5	Rt.	187.5	1.88	4	83	2	4.6	42	25	0.7
52	1291+02.5	1300+40.2	Rt.	937.5	9.38	4	417	2	23.1	208	125	3.3
57	1302+01.7	1303+39.5	Rt.	137.5	1.38	4	61	2	3.4	31	18	0.5
58	1322+78	1323+76	Rt.	100	1.0	4	44	2	2.5	22	13	0.4
TOTAL QUANTITIES					184.6				455.6	4105	2460	65.2
					Carried To Summary This Sheet				Above Quantities Carried To General Summary			

CALCULATION OF ITEM 203~LINEAR GRADING, METHOD 5

STATION FROM	STATION TO	ROAD	SIDE	LENGTH LIN. FT.	LINEAR GRADING, METHOD 5 LIN. FT.	STATIONS
191+96	195+10	Co. Rd. 13	Rt.	325	325	
191+96	195+10		Lt.	330	330	
195+54	199+09		Rt.	375	375	
195+54	195+84		Lt.	35	35	
Co. Rd. 13 TOTAL					1065	10.65
212+73	215+10	Twp. Rd. 60	Lt.	260	260	
Twp. Rd. 60 TOTAL					260	2.60
250+60	253+35	S.R. 151 (Jewett)	Rt.	275	275	
251+99	253+74		Lt.	175	175	
258+50	260+45		Rt.	195	195	
258+50	260+70.5		Lt.	220.5	221	
S.R. 151 (Jewett) TOTAL					866	8.66

CALCULATION OF ITEM 203~LINEAR GRADING, METHOD 5

STATION FROM	STATION TO	ROAD	SIDE	LENGTH LIN. FT.	LINEAR GRADING, METHOD 5 LIN. FT.	STATIONS
Twp. Rd. 178 8+46.6	S.R. 151 293+109	S.R. 151 (Hopedale)	Rt.	160	160	
294+30	295+85		Rt.	162.5	163	
294+40	296+00		Lt.	162.5	163	
296+97.5	297+12		Rt.	14.5	15	
S.R. 151 (Hopedale) TOTAL					501	5.01
ITEM 203-LINEAR GRADING METHOD 5 TOTAL					2692	26.92

QUANTITIES

Calculated By	Checked By
J.C.N. 7-20-79	REM 9-4-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

12/80

CALCULATION OF ITEM 203~LINEAR GRADING, METHOD 1

DESCRIPTION OF CALCULATION		LOCATION FROM	LOCATION TO	CORRECTIONS LIN. FT.	Linear Grading Method 1 LIN. FT.	STATIONS
Gross Length (One Direction)		1060+00	1334+03.75		27403.75	
Deduct For Equations	1168+68.19 Bk=1168+75.64 Ah: -7.45'			7.45		
	1280+62.94 Bk=1280+72.73 Ah: -9.79'			9.79		
	1298+78.92 Bk=1298+80.75 Ah: -1.83			1.83		
	1329+83.81 Bk=1329+98.24 Ah: -14.43			14.43		
Total Deduction For Equations				33.50 =	-33.50	
				Subtotal	27,370.25	
Double For Both Directions (E.Bound & W.Bound)				2×27,370.25=	54,740.50	
Deduct For Bridge No's	HAS-22-2126 W.B.	1123+64.50	1125+12.05	147.55		
	HAS-22-2126 E.B.	1123+52.96	1124+98.28	145.32		
	HAS-22-2283 L	1206+16.67	1208+98.77	282.10		
	HAS-22-2283 R	1207+19.93	1210+01.33	281.40		
	HAS-22-2362 L	1248+39.57	1249+71.15	131.58		
	HAS-22-2362 R	1248+54.39	1249+85.73	131.58		
	HAS-22-2460 L	1300+13.83	1301+69.89	133.06		
	HAS-22-2460 R	1300+15.83	1301+87.43	135.62		
Total Deduction For Bridges				1388.21 =	-1388.21	
Deduct For Intersections	Co. Rd. 13 E.B.	1085+63.5	1086+18.5	55		
	Co. Rd. 13 W.B.	1085+72	1086+25	53		
	Twp. Rd. 60 W.B.	1117+45	1118+02	57		
	Twp. Rd. 177 E.B.	1132+87	1133+49	62		
	Twp. Rd. 177 W.B.	1133+02	1133+56	54		
	Co. Rd. 5 E.B.	1305+56	1306+39	83		
	Twp. Rd. 180 W.B.	1306+39	1307+14	75		
	Twp. Rd. 65 E.B.	1332+92	1333+59	67		
Total Deduction For Intersections				506 =	-506.0	
				Subtotals	52,846.29	
Convert Units From Lin. Ft. To Stations				Station 100 x 52,846.29		528.46
Deduct Item 203 Linear Grading, Method 2 Quantities						-184.63
Item 203-Linear Grading, Method 1				Total Quantity		343.83

CALCULATION OF ITEM 203~LINEAR GRADING, METHOD 3

DESCRIPTION OF CALCULATION		LOCATION FROM	LOCATION TO	CORRECTIONS LIN. FT.	Linear Grading Method 3 LIN. FT.	STATIONS
Gross Length	West Bound Lane	1138+50	1332+52		19,402.00	
	East Bound Lane	1139+25	1334+03.75		19,478.75	
				Sub Total	38,880.75	
Deduct For Equation	1168+68.19 Bk=1168+75.64 Ah: -7.45			7.45×2 = 14.90		
	1280+62.94 Bk=1280+72.73 Ah: -9.79			9.79×2 = 19.58		
	1298+78.92 Bk=1298+80.75 Ah: -1.83			1.83×2 = 3.66		
	1329+83.81 Bk=1329+98.24 Ah: -14.43			14.43×2 = 28.86		
Total Deduction For Equations				67.00 =	-67.00	
Deduct For Bridge No's.	HAS-22-2283 L	1206+41.09	1209+23.19	282.10		
	HAS-22-2283 R	1206+94.81	1209+76.91	282.10		
	HAS-22-2362 L	1248+44.19	1249+75.77	131.58		
	HAS-22-2362 R	1248+49.73	1249+81.31	131.58		
	HAS-22-2460 L	1300+38.48	1301+71.54	133.06		
	HAS-22-2460 R	1300+45.18	1301+80.81	135.63		
Total Deduction For Bridges				1096.05 =	-1096.05	
Deduct For Inter-sections	Twp. Rd. 180 W.B.	1305+47	1306+98	151		
	Co. Rd. 5 E.B.	1305+96	1306+98	102		
	Twp. Rd. 65 E.B.	1333+18	1333+66	48		
Total Deduction For Intersections				301	-301	
				Subtotal	37416.70	
Convert Units From Lin. Ft. To Stations				Station 100 x 37416.70		374.17
Item 203-Linear Grading, Method 3				Total Quantity		374.17

CALCULATION OF ITEM 203~LINEAR GRADING, METHOD 4

STATION FROM	STATION TO	RAMP OR ROAD	SIDE	LENGTH LIN. FT.	Linear Grading Method 4 LIN. FT.	STATIONS
S.R. 151 Interchange (Jewett)						
0+00	6+21	Ramp "J"	Lt.	621	621	
0+62	5+47.24		Rt.	485.24	485	
Ramp "J" (W. Bound Exit) Total					1106	11.06
1+75	12+60.71	Ramp "K"	Lt.	1085.71	1086	
12+60.71	S.R. 151 251+89.01		Lt.	78.54	79	
2+74.29	6+00		Rt.	325.71×.248 18 +362.71×.22918	353	
6+82.18	10+62.57		Rt.	380.39×.278 18 +451.74×.229 18	452	
10+62.57	12+70.7		Rt.	208.13	208	
12+70.7	S.R. 151 250+62		Rt./Lt.	62.6	63	
Ramp "K" (W. Bound Entrance) Total					2241	22.41
3+31	7+16.12	Ramp "L"	Rt.	385.12	385	
7+16.12	S.R. 151 262+08.38		Rt./Lt.	62.83	63	
4+17.35	6+75		Lt.	257.65×.248 18 +21.70×.229 18	279	
Ramp "L" (E. Bound Exit) Total					727	7.27
S.R. 151 263+55.18	Ramp "M" 0+82.05	Ramp "M"	Rt./Lt.	95.99	96	
0+82.05	6+15.02		Rt.	532.97	533	
0+82.05	4+73.68		Lt.	391.63	392	
Ramp "M" (E. Bound Entrance) Totals					1021	10.21
S.R. 151 Interchange (Jewett) Total					5095	50.95
S.R. 151 Interchange (Hopedale)						
5+18.17	16+98.3	Ramp "N"	Lt.	1180.13	1180	
16+98.3	S.R. 151 293+18.9		Lt./Rt.	75	75	
6+18.17	17+15.1		Rt.	1096.93	1097	
17+15.1	S.R. 151 294+10.6		Rt.	46.7	47	
Ramp "N" (W. Bound Entrance) Total					2399	23.99
3+85	17+24	Ramp "Q"	Rt.	1339	1339	
17+24	S.R. 151 296+07.5		Rt.	45.8	46	
4+58.89	17+00.2		Lt.	124.31	1241	
17+00.2	S.R. 151 296+07.1		Lt./Rt.	56.8	57	
Ramp "Q" (E. Bound Exit) Total					2683	26.83
S.R. 151 293+34	Ramp "S" 0+52	Ramp "S"	Lt.	65	65	
0+52	7+20.5		Lt.	668.5	669	
S.R. 151 294+22.6	Ramp "S" 0+35.2		Lt./Rt.	48.2	48	
0+43.2	6+44.38		Rt.	601.18	601	
Ramp "S" (W. Bound Exit) Total					1383	13.83
S.R. 151 296+22.4	Ramp "T" 0+30.4	Ramp "T"	Lt.	39.3	39	
0+30.4	7+80.23		Lt.	749.83	750	
S.R. 151 297+36.3	Ramp "T" 0+83.9		Lt./Rt.	96.2	96	
0+83.9	8+80.23		Rt.	796.33	796	
Ramp "T" (E. Bound Entrance) Total					1681	16.81
S.R. 151 Interchange (Hopedale) Total					8146	81.46
Item 203-Linear Grading Method 4 TOTAL					13241	132.41

SUMMARY OF ITEM 203~LINEAR GRADING

ITEM No.	DESCRIPTION	TOTAL STATIONS
203	Linear Grading Method 1	344
203	Linear Grading Method 2	185
203	Linear Grading Method 3	374
203	Linear Grading Method 4	132
203	Linear Grading Method 5	27
Quantities Above Carried To General Summary		

CALCULATIONS

QUANTITIES	
Calculated By J.C.N. 725-79	Checked By REM 9-5-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-2007

659 ~ SEEDING AND MULCHING

MAINLINE ~ OUTSIDE SHOULDERS

Total Length of Shoulders = 54,740.50 L.F.
Deduct for Length of Bridges = 1,388.21 L.F.
Deduct for Guard Rail = 18,569.05 L.F.
Deduct for Intersections = 506.00 L.F.

Total 4'± Seeding Width Area = 34,277.24 L.F. × 4.0' ÷ 9 = 15,234.3 Sq. Yds.
Add for Ditch Cleanout Areas = 21,700.00 L.F. × 8.0' ÷ 9 = 19,288.9 Sq. Yds.

MAINLINE ~ MEDIAN

Total Length of 2 Ft. Seeding Width = 12,639.49 L.F.
Deduct for Length of Bridges = 133.06 L.F.
Deduct for Intersections = 151.00 L.F.

12,355.43 L.F. × 2.0' ÷ 9 = 2745.7 Sq. Yds.

Total Length of 4 Ft. Seeding Width, 27,069.01 L.F.
Deduct for Length of Bridges = 962.99 L.F.
Deduct for Intersections = 150.00 L.F.

25,956.02 L.F. × 4.0' ÷ 9 = 11,536.0 Sq. Yds.

RAMP "J"	1132.05 L.F. × 3.0' ÷ 9 =	377.4 Sq. Yds.
RAMP "K"	757.75 L.F. × 3.0' ÷ 9 =	252.6 Sq. Yds.
	1474.58 L.F. × 4.0' ÷ 9 =	655.4 Sq. Yds.
RAMP "L"	738.91 L.F. × 3.0' ÷ 9 =	246.3 Sq. Yds.
RAMP "M"	1020.59 L.F. × 3.0' ÷ 9 =	340.2 Sq. Yds.
RAMP "N"	2398.76 L.F. × 3.0' ÷ 9 =	799.6 Sq. Yds.
RAMP "Q"	2709.02 L.F. × 3.0' ÷ 9 =	903.0 Sq. Yds.
RAMP "S"	1406.76 L.F. × 3.0' ÷ 9 =	468.9 Sq. Yds.
RAMP "T"	1681.66 L.F. × 3.0' ÷ 9 =	560.6 Sq. Yds.
Add For Removal of Exist. Med X-Overs (From Sht. N°. 51)		870.0 Sq. Yds.

MEDIAN CROSS-SECTIONS
(From Sht. N°. 40) Sta. 1155+00 to Sta. 1158+50 = 1080.0 Sq. Yds.

CROSS-SECTIONS FOR PROFILE CORRECTIONS
U.S. 22 (From Sht. N°. 43) Sta. 1099+75 to Sta. 1105+00 = 367.0 Sq. Yds.
S.R. 151 (From Sht. N°. 45) Sta. 256+51.09 To Sta. 258+50 = 428.0 Sq. Yds.

S.R. 151 92.83 Lin. Ft. × 14.0' ÷ 9 = 144.4 Sq. Yds.

TOTAL SEEDING 56,298.3 Sq. Yds.

PRESSURE RELIEF JOINTS

	STATION LOCATION WESTBOUND	STATION LOCATION EASTBOUND	ITEM SPECIAL: PRES. RELIEF JOINTS TYPE "C" W/RESURFACING — ROADWAY WESTBOUND LIN. FT.	ITEM SPECIAL: PRES. RELIEF JOINTS TYPE "C" W/RESURFACING — ROADWAY EASTBOUND LIN. FT.	ITEM 605: AGGREGATE DRAINS (FOR PRES. RELIEF JOINTS ONLY) — ROADWAY SHOULDER WESTBOUND OUTSIDE SHOULDER LIN. FT.	ROADWAY SHOULDER WESTBOUND MEDIAN SHOULDER LIN. FT.	ROADWAY SHOULDER EASTBOUND MEDIAN SHOULDER LIN. FT.	ROADWAY SHOULDER EASTBOUND OUTSIDE SHOULDER LIN. FT.
2-LANE	1067+25		24.1		15		15	
	1078+50		24.1		15		15	
	1089+75		24.1		15		15	
	1101+00		24.1		15		15	
	1112+00		24.1		15		15	
	1122+70		24.1		—		15	
	1125+95		24.1		—		15	
	1135+00		24.1		15		15	
4-LANE DIVIDED	1194+00	1145+25	24.1	24.1	15	—	—	16
	1153+50	1155+50	24.1	24.1	—	—	—	14
	1162+40	1165+75	24.1	24.1	—	—	—	14
	1173+40	1176+00	24.1	24.1	15	—	—	16
	1184+40	1186+25	24.1	24.1	15	—	—	16
	1195+40	1196+50	24.1	24.1	15	—	—	16
	1205+72	1206+73	No Work (Exist. Pressure Relief Joints)					
	1209+75	1210+45	No Work (Exist. Pressure Relief Joints)					
	1218+75	1219+45	24.1	24.1	15	—	—	16
	1227+90	1228+45	24.1	24.1	15	—	—	16
	1237+90	1237+45	24.1	24.1	15	—	—	16
	1247+35	1247+45	24.1	24.1	15	—	—	16
	1250+30	1250+40	24.1	24.1	15	—	—	16
	1260+30	1257+15	24.1	24.1	15	—	—	16
		1266+15	—	24.1	—	—	—	14
		1277+15	—	24.1	—	—	—	14
		1288+15	—	24.1	—	—	16	—
		1299+46	—	24.1	—	—	—	16
		1302+35	—	24.1	—	—	—	16
		1312+85	—	36.1	—	—	16	—
		1323+35	—	24.1	—	—	16	—
		1332+50	—	24.1	—	—	—	16
	Subtotals 2-Lane		192.8		90		120	
	Subtotals 4-Lane Divided		289.2	494.0	150	—	48	264
	TOTALS		976.0		672			
			Carried To General Summary		Carried To Item 605 Aggr. Drain Summary, This Sheet.			

ITEM 605 ~ AGGREGATE DRAINS

WESTBOUND LOCATION FROM	WESTBOUND LOCATION TO	WESTBOUND NUMBER OF DRAINS EACH	WESTBOUND AVERAGE LENGTH LIN. FT.	WESTBOUND ITEM 605 AGGREGATE DRAINS LIN. FT.	EASTBOUND LOCATION FROM	EASTBOUND LOCATION TO	EASTBOUND NUMBER OF DRAINS EACH	EASTBOUND AVERAGE LENGTH LIN. FT.	EASTBOUND ITEM 605 AGGREGATE DRAINS LIN. FT.
1060+00	1119+00	99	15.5	1534.5	1060+00	1119+00	99	15.5	1534.5
1119+00	1130+25	19	14.5	275.5	1130+25	1135+00	8	15.5	124.0
1130+25	1135+00	8	15.5	124.0	1135+00	1150+50	26	15.5	403.0
1135+00	1150+50	26	15.5	403.0	1150+50	1168+68.19	31	14.5	449.5
1168+75.64	1262+03.90	156	15.5	2418.0	1168+75.64	1262+03.90	156	15.5	2418.0
					1262+03.90	1280+75	32	14.5	464.0
					1280+75	1287+00	11	15.5	170.5
					1287+00	1298+75	20	16.0	320.0
					1298+75	1310+50	20	15.5	310.0
					1310+50	1330+00	33	16.0	528.0
					1330+00	1334+03.75	7	15.5	108.5
SUBTOTAL				4755.0	SUBTOTAL				6830.0

TOTAL MAINLINE = 11,585.0 LIN. FT.

RAMPS

LOCATIONS	NUMBER OF DRAINS EACH	AVERAGE LENGTH LIN. FT.	ITEM 605 AGGREGATE LIN. FT.
RAMP "J"	8	13.5	108.0
RAMP "K"	19	13.5	256.5
RAMP "L"	7	13.5	94.5
RAMP "M"	9	13.5	121.5
RAMP "N"	20	13.5	270.0
RAMP "Q"	23	13.5	310.5
RAMP "S"	12	13.5	162.0
RAMP "T"	13	13.5	175.5

ITEM 605 ~ AGGREGATE DRAIN SUMMARY

Mainline	11,585.0 Lin. Ft.
Ramp "J"	108.0 Lin. Ft.
Ramp "K"	256.5 Lin. Ft.
Ramp "L"	94.5 Lin. Ft.
Ramp "M"	121.5 Lin. Ft.
Ramp "N"	270.0 Lin. Ft.
Ramp "Q"	310.5 Lin. Ft.
Ramp "S"	162.0 Lin. Ft.
Ramp "T"	175.5 Lin. Ft.
@ Pressure Relief Joints	672.0 Lin. Ft.
TOTAL = 13,755.5 Lin. Ft. (Carried To General Summary)	

ITEM 659 ~ COMMERCIAL FERTILIZER

$\frac{56,298.3 \text{ Sq. Yds.} \times 9 \times 20}{2,000 \times 1,000}$ = 5.07 Tons

ITEM 659 ~ AGRICULTURAL LIMING

$\frac{56,298.3 \text{ Sq. Yds.} \times 9 \times 100}{2,000 \times 1,000}$ = 25.33 Tons

APPROACH SLAB QUANTITIES

SHEET N°.	REFERENCE N°.	LOCATION ROADWAY	LOCATION STATION From	LOCATION STATION To	ITEM 202 PAVEMENT REMOVED Sq. Yds.	ITEM 611 REINFORCED CONCRETE APPROACH SLABS (t = 15") Sq. Yds.
28	1AS	S.R. 151	253+42.83	253+67.83	89	92
	2AS	S.R. 151	256+51.09	256+96.09	89	92
35	3AS	U.S. 22	1300+23.79	1300+48.79	67	68
	4AS	U.S. 22	1301+83.39	1302+08.39	67	68
TOTALS					312	320

CONCRETE GUTTER REMOVAL

ITEM 202 — Portion of 6" Concrete Gutter Removed

LOCATION	WESTBOUND Outsider Shoulder Sq. Yd.	WESTBOUND Median Shoulder Sq. Yd.	EASTBOUND Median Shoulder Sq. Yd.	EASTBOUND Outside Shoulder Sq. Yd.
1191+50	16×4÷9=7.1	19×4÷9=8.4	19×4÷9=8.4	16×4÷9=7.1
1195+50	16×4÷9=7.1	19×4÷9=8.4	19×4÷9=8.4	16×4÷9=7.1
1214+00	40×4÷9=17.8	19×4÷9=8.4	19×4÷9=8.4	15×4÷9=6.7
Subtotal	32.0	25.2	25.2	20.9

TOTAL 103.3 Sq. Yds.

TRAFFIC DIVIDER REMOVALS

LOCATIONS ROUTE	FROM	TO	ITEM 202 PRECAST TRAFFIC DIVIDERS REMOVED EACH	ITEM 848 ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1 CU. YD.
U.S. 22	1137+14	1139+48	32	[2.20 S.F. × 2/12 ÷ 27] 32 = 0.4
TOTALS			32	0.4

SUBGRADE COMPACTION

LOCATIONS	ITEM 203 SUBGRADE COMPACTION Sq. Yd.
Under Paved Shoulders	68,500
TOTAL	68,500

EARTHWORK SUMMARY

ROUTE	LOCATION FROM	LOCATION TO	ITEM 203 EXCAVATION CU. YD.	ITEM 203 EMBANKMENT CU. YD.
U.S. 22	1099+75	1105+00	29	374
U.S. 22	1155+00	1158+50	36	301
S.R. 151	256+51.09	258+50	0	105
TOTAL			65	780

CALCULATIONS

GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

14/80

HAS-22-20.07

FIELD OFFICE:
The Contractor shall provide a suitable field office having a minimum of 400 Sq.Ft. of floor space.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS:
The rounded corners shown on the typical sections, apply to all cross sections even though otherwise shown on these plans.

ESTIMATED QUANTITIES:
Specific locations and usage of 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.

PREVIOUS CONSTRUCTION PLANS:
The following construction plans are available for reference by contacting the District 11 Office in New Philadelphia, Ohio.
HAS/JEF-2-2-18.97/0.00

ALIGNMENT AND PROFILE:
The work proposed by this project is for the resurfacing of the 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 course or courses specified in these plans except for the areas shown on Sheet Nº 41 & 42 & 44 where extra material has been provided for profile correction.

TRENCH FOR PAVED SHOULDER:
Trench excavation for paved shoulder construction shall be performed only on one side of the pavement at a time. The open trench shall be adequately maintained and protected with drums or barricades at all times. Placement of proposed 301 Bituminous aggregate base shall follow as closely as possible behind the excavation operations. The length of trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval of the Engineer.

SHOULDER TREATMENT & ITEM 408 BITUMINOUS PRIME COAT, AS PER PLAN:
A 4 Ft. width adjacent to the outside paved shoulder in guardrail areas shall be paved with a 2" compacted course of Item 848 Asphalt Concrete as shown on the Typical Sections and outside shoulder details.
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.) Pramitol 25 E by Ciba-Geigy; 3.) Krovar by Diamond Shamrock or approved equal.
Item 408 Prime Coat using MC 30, MC-70, prime-20, RT-2 or RT-3 shall be applied at the rate of 0.5 gal/sq.yd. prior to placing the 848 Asphalt Concrete.
After the 848 has been placed and compacted, the surface shall be treated with Items 409 Bituminous Material and Cover Aggregate as per the mainline shoulder treatment.
Holes for guard rail posts shall then be bored to a depth of 6" and posts installed. The disturbed area around each post shall then be backfilled with 848 and surface treated with 409 as before.
Payment for all the above described RESURFACING SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 848-ASPHALT CONCRETE SURFACE COURSE, TYPE 1 WITH THE FOLLOWING EXCEPTIONS:
SOIL STERILANT AND PRIME COAT SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 408 - BITUMINOUS PRIME COAT, AS PER PLAN and Surface Treatment shall be paid for at the unit price bid for the respective 409 Seal Coat Bituminous Material and Cover Aggregate Items.

ITEM 203-LINEAR GRADING
This work shall include all excavation and embankment required to construct paved shoulders, median cross-overs, asphalt concrete shoulder treatment in specified areas, and grading beyond paved shoulders in accordance with the typical sections, plan details, calculations and as specified herein.
Any excess turf, material build-up 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 plan represent minimum requirements and the Engineer may increase these widths as determined by his analysis of project conditions at no additional cost.
Payment for this work will be made as follows:
1.) Item 203-Linear Grading, method 1-this item shall apply to mainline and speed change lane outside shoulder areas as follows:
a) areas w/o guard rail and asphalt concrete shoulder treatment.
b) where no work is to be done on existing guardrail but new paved shoulders are being constructed.
2.) Item 203-Linear Grading, method 2-this item shall apply to mainline and speed change lane outside shoulder areas with guardrail and asphalt concrete shoulder treatment.
3.) Item 203-Linear Grading, method 3-this item shall apply to all mainline median shoulder areas and shall include all excavation and embankment required to construct median cross-overs and to remove and/or obliterate existing median cross-overs where specified on the plan sheets. (See Note on sheet Nº 51)
4.) Item 203-Linear Grading, method 4-this item shall apply to all ramps.
5.) Item 203-Linear Grading, method 5-this item shall apply to all cross-roads & intersecting roads where guardrail is being constructed. This item shall consist of grading the existing shoulder between the pavement edge and the shoulder breakpoint and removing excess turf and material in the vicinity of the guardrail to provide a positive slope away from the pavement. A slope of approximately 1" per Ft. shall be provided in these areas. The Engineer shall determine the need for this item during construction and shall non-perform this item in any areas where it is not necessary.
The method of measurement shall be considered as one station per 100 linear Ft. measured separately for Eastbound and Westbound lanes and for each ramp, cross-road, or intersecting road paved shoulder area and for each cross-road or intersecting road guardrail construction area.
Payment for all of the above described work shall be included in the unit price bid per station for the appropriate method of Item 203-Linear Grading.

ITEM 605 AGGREGATE DRAINS:
Aggregate drains shall be placed at Existing transverse Joints each side of normal crowned sections and at thirty (30) foot intervals on the low side only of superelevated sections, except where Item 605 Pipe Underdrains have been provided.

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

PUBLIC SAFETY:
No hazard shall be left unprotected except for the actual time necessary to remove, grade, install asphalt concrete shoulder protection (where specified) and reinstall guard rail in a continuous operation. The removal of all guard rail shall at all times be as directed by the Engineer. No guard rail 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 the Engineer is assured of said compliance.

GUARD RAIL REMOVED:
Guard rail designated for removal on this project shall be carefully dismantled and the salvageable rail elements stored on the project for removal by State forces.
All posts, blocks, bolts, damaged rail and other material not considered salvageable shall be disposed of as directed. All post holes shall be carefully filled and tamped and the site cleaned and restored.
Site restoration will include grading of the shoulder in the area of the guard rail removal to provide proper shoulder drainage and smooth shoulder slopes where traffic or weather may have built a ridge of earth and debris under the guard rail. The graded or disturbed area shall be reseeded except, where new guard rail is to be constructed, an area under the new guard rail 3' wide, measured from one foot in front of the rail (or centered under guard rail, barrier design) shall not be seeded.
Payment for all of the above shall be at the unit price bid for 202 Guard Rail removed for Storage or 202 Guard Rail, barrier design, removed for Storage, measured by the linear foot center to center of terminal posts of center of bridge connection splices.

GUARD RAIL OVER CULVERTS:
When sufficient post depth is not available due to a culvert, the guard rail posts directly over the culvert shall not be driven but set in holes. If the distance between the ground line and the top of the culvert is less than 3 Ft., the post shall be encased in a minimum of 4" thickness of Class C concrete for the full depth of the post. Payment for the above shall be included in the unit price bid for Item 606, Guard Rail, Type 5 or Item 606 Guard Rail, Type 5, Barrier Design.

FASTENING OF BRIDGE TERMINAL ASSEMBLIES:
Bridge terminal assemblies which are to be fastened to existing concrete parapets by steel box blockouts shall be attached by means of through bolts. Expansion anchor bolts will not be permitted.
Where self-drilled anchors are permitted and are used, the holes shall be drilled with the tubular expansion shell, rather than with a bit to insure a proper fit.
The anchors shall be installed flush with the surface of concrete.
Where anchorage by expansion bolts to a deteriorated concrete surface would result in a questionable attachment, through bolts shall be used instead, at the direction of the Engineer.

TACK COAT:
The tack coat operation shall be as determined at a pre-construction conference as per 407.05 and application rates shall not exceed 0.10 gal per sq. yd..

FEATHERING:
The new surface shall be feathered to meet the existing pavement at the beginning and end of the project in accordance with standard drawing B.P-5 and details on Sheet Nº 50.

NON-PERFORMANCE OF PRESSURE RELIEF JOINTS:
If a full width (± 24 Ft.), full depth rigid pavement removal and flexible replacement occurs within 500 feet of a proposed pressure relief joint, that pressure relief joint shall be non-performed.

ITEM SPECIAL-PRESSURE RELIEF JOINTS, TYPE C, WITH RESURFACING:
Items 405 or 921 as shown on standard drawing B.P-11 shall be placed immediately upon removal of the existing pavement.

GENERAL NOTES

QUANTITIES	
Calculated By R.E.M. 8-2-79	Checked By J.C.N. 8-14-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

15/80

MAINTAINING TRAFFIC:

U.S. 22~

Two way traffic shall be maintained at all times, except that one way traffic will be permitted in the two lane section for minimum periods of time consistent with the specifications for protection of completed asphalt concrete surface courses.

Traffic shall be maintained thru the profile correction area from Sta. 1099+75 to Sta. 1105+00 and on Bridge No. HAS 22-2126 by use of portions of existing, reconstructed, and/or resurfaced pavement, existing and overlayed portions of bridge deck, temporary roadways on existing shoulders surfaced with 404 Bituminous Concrete, For Maintaining Traffic, and completed shoulders (prior to application of 409 seal coat items).

At least one lane of traffic shall be maintained in each direction in the four lane section. Temporary cross-over roads shall be provided as shown on sheet Nos. 18 & 19 during reconstruction of the deck on Br. No. HAS 22-2460R. The length of restricted traffic zones in the remainder of the four lane section shall be kept to a minimum, consistent with the specification requirements for the protection of the work items which necessitate the restriction.

Particular care shall be exercised during construction of the concrete deck overlays on Bridge No's. HAS-22-2126, HAS 22-22-83 L&R and HAS 22-2362 L&R, so as to minimize impacts of traffic on the bridge decks by means of signs, flagmen, law enforcement officer with patrol car and other means as directed by the Engineer.

Ramps ~

Ramp traffic shall be maintained at all times by use of portions of existing and completed pavement and shoulders, and temporary pavement as shown on Sheet No. 17.

Bridge No. HAS-151-2310 Reconstruction ~ S.R. 151 (Jewett) Interchange

Reconstruction of Br. No. HAS 151-2310 (aka HAS-22-2188) shall be accomplished as follows:

1. Construct temporary pavement and erect traffic control devices as shown on sheet No. 17.
2. Close Bridge No. HAS 151-2310 to traffic and maintain traffic by means of the temporary pavement and traffic control devices placed in step 1.
3. Reconstruct Bridge No. HAS 151-2310 as shown on Sheet Nos. 68 thru 75. Construct new approach slabs and correct the approach pavement profile as shown on sheet Nos. 44 thru. 45.

General ~

The following estimated quantities have been included in the General Summary for the purpose of maintaining traffic as specified above:

Item 404 Bituminous Concrete For maintaining Traffic ..... 100 Cu. Yds.

FOR DUST CONTROL {
Item 616 Calcium Chloride ..... 3 Tons
Item 616 Water ..... 50 M.Gals.
}

Item 615 Temporary Pavement, Class B: (From sheet No. 19): 685 Sq. Yds.

Item 615 Temporary Roads ..... Lump Sum

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.

In addition to the requirements of Item 614 and sheet Nos. 16 thru. 22, a uniformed special duty Law Enforcement Officer (L.E.O.) and an offical 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 TC-35.10 shall replace the L.E.O. with Patrol Car between the set-up and tear-down periods. A down-stream extension of such an arrangement shall not require the presence of a L.E.O. with Patrol Car.
2) When the beginning point of a lane closure is shifted substantially or a new lane closure is initiated in another part of the project.

The following Estimated Quantity has been included in the General Summary for the above purposes:

Item Special ~ Trooper with Patrol Car ..... 100 Hrs.

L.E.O. with Patrol Car may be used for other purposes in the project area. However, such usage is at the option of the Contractor and payment for L.E.O. services involved in such usage shall be included in the lump sum bid for Item 614 - Maintaining Traffic.

To direct traffic through this construction project, temporary pavement marking shall be used in accordance with the general note on sheet No. 16

ITEM 622~TEMPORARY CONCRETE BARRIER, AS PER PLAN:

This item shall consist of furnishing and erecting temporary concrete barrier in accordance with details shown on sheet Nos. 18 thru 20. Upon completion of the project the temporary concrete barrier shall become the property of the contractor and shall be removed from the right-of-way.

The following estimated quantity has been included in the General Summary for the work noted above:

Item 622-Temporary Concrete Barrier, as per plan 930 Lin.Ft.

ITEM 606~BRIDGE TERMINAL ASSEMBLY, TYPE A, MODIFIED AS PER PLAN:

This Item shall conform to the provisions of Standard Drawing GR-3 except for the following Modifications:

In lieu of the post shown at 12'-6" from the parapet end on GR-3, the existing concrete encased post located approximately 13'-1¼" from the parapet end shall remain in place and be incorporated into the new bridge terminal assembly. Two new post shall be constructed adjacent to the parapet end in accordance with the 4'-0" and 2'-3" spacing shown on the Standard Drawing. The space between the salvaged existing post and the adjacent new post shall be 6'-10¼" instead of 6'-3" as shown on GR-3 and a rail element shall be cut accommodate this space in accordance with 606.05.

ITEM 202~BRIDGE TERMINAL ASSEMBLY REMOVED:

Payment for this item shall include the additional cost in excess of normal guardrail removal cost for removing the following components of existing bridge terminal assemblies at specified locations: concrete encased post, connection brackets, brace rods and plates, and the exposed portion of existing anchor bolts which shall be cut off flush with the end of the bridge parapet.

Payment for all of the above work shall be included in the unit price bid for Item 202 Bridge Terminal Assembly Removed.

GUARDRAIL USING 9' POSTS:

Type 5 guardrail, using 9' posts shall be set 6'-5" min. in the ground. Except for the length of posts, all requirements of 606 shall apply.

Payment shall be per linear Ft. 606, guard rail type 5, using 9 Ft. posts, As per Plan.

SEEDING:

Quantities for seeding are calculated for the soil areas between the work limits, as shown on the typical sections and cross-sections.

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 on the Typical Sections.

Estimated Quantities and approximate locations are shown on sheet No. 3. 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.

The method of measurement shall be considered as one station per 100 linear Ft. measured separately for eastbound and westbound lanes.

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

614 TEMPORARY PAVEMENT MARKINGS

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

THE TEMPORARY MARKINGS SHALL BE COMPLETE ON ALL PAVEMENT COURSES EXPOSED TO TRAFFIC AT THE END OF EACH DAY'S OPERATION. WHERE PERMANENT MARKINGS ARE CALLED FOR IN THESE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS, FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST.

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH *THE TABLE ON THIS SHEET* AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS:

CENTER LINES AND LANE LINES SHALL CONSIST OF 12"x4" SEGMENTS SPACED AT A MAXIMUM 40' CENTER TO CENTER: CHANNELIZING LINES SHALL BE 12"x4" SEGMENTS SPACED AT MAXIMUM 20' CENTER TO CENTER. FREEWAY AND EXPRESSWAY GORE MARKINGS SHALL BE TWO CONTINUOUS LINES, 50' LONG, 4" WIDE.

THE MATERIAL FURNISHED SHALL BE FLEXIBLE RETROREFLECTIVE PERFORMED PRESSURE SENSITIVE TAPE FOR PAVEMENT LINES. IT SHALL BE FREE OF CRACKS WITH STRAIGHT EDGES AND CONSIST OF PIGMENT AND FILLERS, BUT HAVE SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING AN APPROPRIATE REFRACTIVE INDEX TO MEET MINIMUM REFLECTIVE INTENSITY STANDARDS OUTLINED IN THE MANUFACTURERS INFORMATION. MATERIAL SHALL BE FLEXOLITE "WET REFLECTIVE", 3M "SCOTCHLANE," OR APPROVED EQUAL.

GLASS BEADS SHALL BE MIXED UNIFORMLY THROUGHOUT THE MARKING MATERIAL WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

THE MATERIAL SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

WHITE MARKING MATERIAL SHALL BE FREE OF TINT. YELLOW MATERIAL SHALL CONFORM TO COLOR NO. 33538 OF FEDERAL STANDARD 595.

IN ADDITION, ALL APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS, IN FORCE AT THE TIME OF PLACEMENT, SHALL BE ADHERED TO. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, OR CHANNELIZING LINE WHERE NORMAL PERMANENT MARKING WOULD LIE, UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE TEMPORARY TAPE SHALL BE PLACED BY ROLLING THE MATERIAL INTO THE SURFACE.

AS AN ALTERNATE MATERIAL TO PAVEMENT MARKING TAPE, THE CONTRACTOR MAY FURNISH AND APPLY PAINTED RETROREFLECTIVE PAVEMENT MARKINGS CONFORMING TO 621. THE WIDTH AND LENGTH OF PAINTED SEGMENT SHALL BE THE SAME AS REQUIRED FOR TEMPORARY TAPE MATERIAL. THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR A SOLID LINE NOR LESS THAN 0.4 GALLONS PER MILE FOR THE 12"x4" DASHED LINE.

THE CONTRACTOR SHALL PROVIDE COMPLETE PAVEMENT MARKINGS FOR ALL TEMPORARY ROADS CONSTRUCTED FOR THIS PROJECT, IN ACCORDANCE WITH MATERIAL AND PERFORMANCE REQUIREMENTS DESCRIBED HEREIN AND IN THE OHIO MANUAL AS DEFINED IN 614.03.

IN ADDITION TO THE REQUIREMENT OF 614.03, THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS THAT ARE VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, ANY CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC SHALL BE REMOVED BY THE CONTRACTOR BEFORE THE FLOW OF TRAFFIC IS DIVERTED TO THE NEXT PHASES. REMOVAL OF EXISTING OR TEMPORARY MARKINGS SHALL BE PERFORMED IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS UNLESS SPECIFICALLY PAID FOR AS A SEPARATE ITEM.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE IN CONFORMANCE WITH 621.15 AND 621.16 RESPECTIVELY FOR:

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES
614	MILES	TEMPORARY CENTER LINES
614	MILES	TEMPORARY CENTER LINES, AS PER PLAN (SEE NOTE BELOW)
614	MILES	TEMPORARY EDGE LINE, AS PER PLAN (SEE NOTE BELOW)
614	LIN. FT.	REMOVAL OF TEMPORARY MARKING

Center Lines, As Per Plan consist of solid double yellow lines.

Edge Lines, As Per Plan consist of solid white lines.

QUANTITIES	
Calc. By: J.C.N.	Ch'kd. By: REM.
Date: 12-19-79	Date: 1-18-80

ITEM 614 ~ TEMPORARY PAVEMENT MARKING									621 *		
STATION		LANE	SIDE	Temporary Center Line	Temporary Center Line As Per Plan	Temporary Lane Lines	Temporary Edge Line As Per Plan	Removal of Temporary Marking	Removal of Pavement Marking	4" Lane Line ‡	4" Edge Line ‡ (Yellow)
FROM	TO			LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
1060+00	1085+60	Two Way Section	CTR.	5120							
1086+40	1132+85	Two Way Section	CTR.	9290							
1133+65	1138+50	Two Way Section	CTR.	970							
1118+50	1132+50	Two Way Section	CTR.		2800			2800	1400		
		Two Way Section	Lt. & Rt.				5600	5600			
1146+50	1168+68.19 Bk. =1168+75.64 Ah.	Westbound Lane	CTR.			4436					
1168+75.64	1263+08.9	Westbound Lane	CTR.			18866					
1138+50	1168+68.19 Bk. =1168+75.64 Ah.	Eastbound Lane	CTR.			6036					
1168+75.64	1280+62.94 Bk. =1280+72.73 Ah.	Eastbound Lane	CTR.			22374					
1280+72.73	1298+78.92 Bk. =1298+80.75 Ah.	Eastbound Lane	CTR.			3612					
1298+80.75	1329+83.81 Bk. =1329+98.24 Ah.	Eastbound Lane	CTR.			6206					
1329+98.24	1334+03.75	Eastbound Lane	CTR.			812					
1288+50	1306+00	Temporary Cross Over	E.B. Lane				3320	3320			
1288+50	1297+00	Temporary Cross Over	E.B. Lane						850		
1297+62	1306+00	Temporary Cross Over	W.B. Lane				1676	1676	1338		
1307+00	1320+00	Temporary Cross Over	W.B. Lane				2600	1300	1300		
1297+62	1306+00	Temporary Cross Over	W.B. Lane							838	500
1307+00	1320+00	Temporary Cross Over	W.B. Lane							1300	
Temporary Pav't.		Ramp "F"	LT.				300				
Temporary Pav't.		Ramp "M"	LT.				480				
TOTALS (Carried To Sheet # 54)			Lin. Ft.	15380	2800	62342	13976	14696	4888	2138	500
			Miles	2.91	0.53	11.81	2.65			0.40	0.09
									Carried To Sheet Nº 54		

* For General Notes and Requirements See Sheet Nº 53.

‡ POLYESTER., AS PER PLAN

FHWA REGION	STATE	PROJECT			
5	OHIO				17 80

HAS-22-20.07

Note: All conflicting signs are to be removed or covered as directed by the engineer.

S.R. 151 DETOUR & TEMPORARY INTERCHANGE CROSS-OVER DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

18
80

HAS-22-20.07

N.

N.

N.

For Cross-over Details See Sheet No 19 .

MATCH LINE STA. 1287+00

MATCH LINE STA. 1315+00

MATCH LINE STA. 1287+00

MATCH LINE STA. 1315+00

DETOUR AHEAD
OW-127-48

RIGHT LANE CLOSED AHEAD
OW-122-48

OW-145-24
45 M.P.H.

OW-609-48

5 Drums @ 10'/c

15 Drums @ 50'/c

6 Drums @ 25'/c

Sta. 1298+72.92 Back = Sta. 1298+80.75 Ahead

14 Steady Burning Type C Lights on Temporary Conc. Barrier @ 50'/c From Sta. 1298+00 to Sta. 1304+50

11 Drums @ 25'/c

5 Drums @ 10'/c

TWP. Rd 180

5 Drums @ 50'/c

150' ± Gap

20 Drums @ 50'/c

Type A Flashing Arrow Panel

OW-6-48

45 M.P.H.
OW-143-24

4 Steady Burning Type C Lights on Temporary Conc. Barrier @ 50'/c From Sta. 1296+00 to Sta. 1297+50

Type A Flashing Arrow Panel

690' of Temporary Conc. Barrier

70' of Temporary Conc. Barrier

170' of Temporary Conc. Barrier

11 Drums @ 20'/c

CaRd 75

Type A Flashing Arrow Panel

OW-600-48

45 M.P.H.
OW-143-24

Sta. 1334+03.75 Back = Sta. 0+00 Ahead

HARRISON COUNTY
JEFFERSON COUNTY

LEFT LANE CLOSED AHEAD
OW-123-48

45 M.P.H.
OW-143-24

ROAD WORK AHEAD
OW-134-48

TWP. Rd 65

1280 1285 1290 1295 1300 1305 1310 1315 1320 1325

1245 1250 1265 1270 1275

14' 12'

1 5 20

TEMPORARY CROSS-OVER DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

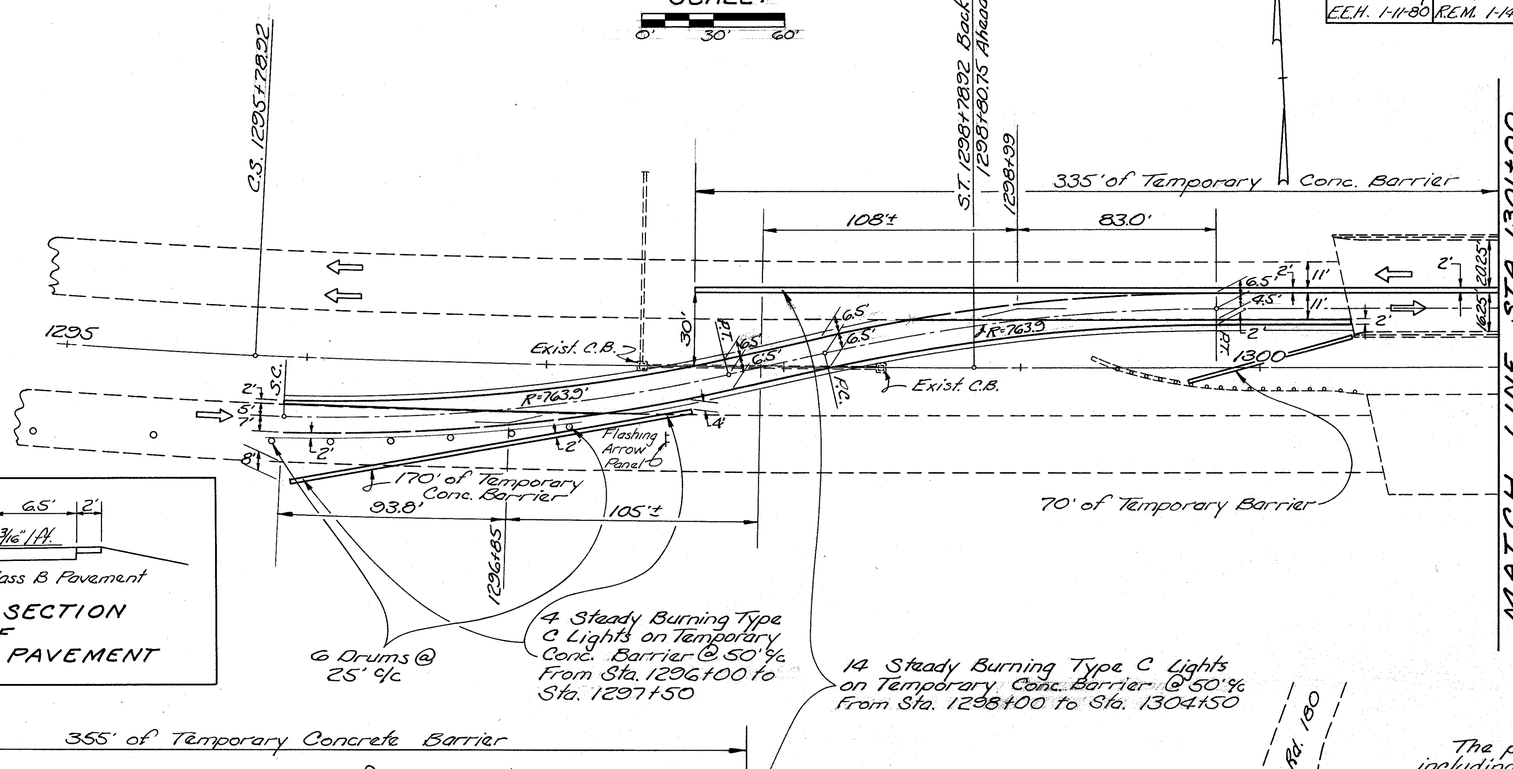
19
80

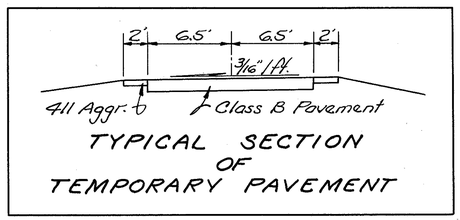
HAS-22-20.07

QUANTITIES	
Calculated By E.E.H. 1-11-80	Checked By R.E.M. 1-14-80

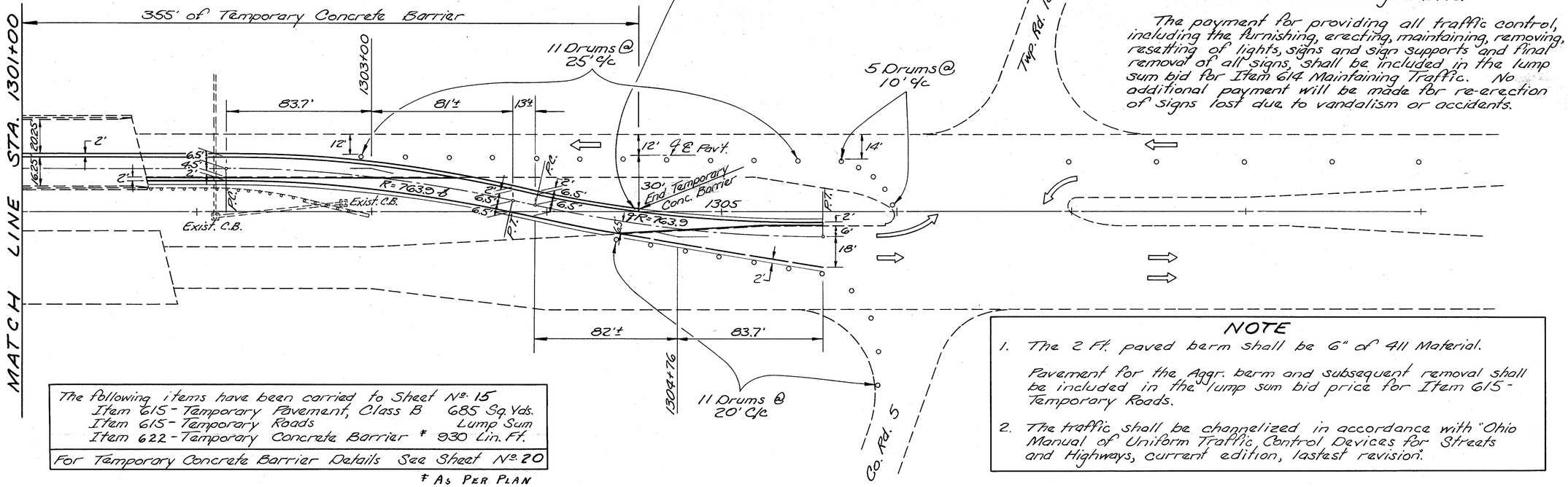
SCALE:
0' 30' 60'

N.





TYPICAL SECTION OF TEMPORARY PAVEMENT



The following items have been carried to Sheet No. 15

Item 615 - Temporary Pavement, Class B	685	Sq. Yds.
Item 615 - Temporary Roads	Lump	Sum
Item 622 - Temporary Concrete Barrier *	930	Lin. Ft.

For Temporary Concrete Barrier Details See Sheet No. 20

* As Per Plan

TRAFFIC MAINTENANCE NOTE

In addition to the requirements of the Ohio Manual of Uniform Traffic Control Devices, the contractor shall erect signs in accordance with the requirements shown on sheet No. 18 for directing traffic across median. Signs shall be erected either, 6 feet from the edge of the pavement, one (1) foot from the edge of the shoulder, or one (1) foot behind rail (whichever is farther from the pavement), at a minimum height of five (5) feet above the edge of pavement. Supports shall be driven a minimum of 3½ feet.

All signs and supports shown on sheet No. 18 will be furnished and erected by the contractor. Any replacements needed will also be furnished and erected by the contractor.

All signs with supports not listed on the plan shall be supported by methods as approved by the Engineer. When traffic is changed from one pair of lanes to the other the cross-over signs and supports shall be removed and re-set at locations shown on the plan.

Traffic control shown on these sheets are considered as minimum treatment and additional treatment may be required by the Engineer. If the traffic experience indicates the need for additional warning signals, lights and signs, they shall be provided consistant with the requirements of 614 Maintaining Traffic.

The payment for providing all traffic control, including the furnishing, erecting, maintaining, removing, resetting of lights, signs and sign supports and final removal of all signs, shall be included in the lump sum bid for Item 614 Maintaining Traffic. No additional payment will be made for re-erection of signs lost due to vandalism or accidents.

NOTE

1. The 2 Ft. paved berm shall be 6" of 411 Material.

   Pavement for the Aggr. berm and subsequent removal shall be included in the lump sum bid price for Item 615 - Temporary Roads.

2. The traffic shall be channelized in accordance with "Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, current edition, lastest revision".

2 WAY TRAFFIC ON W.B. LANES

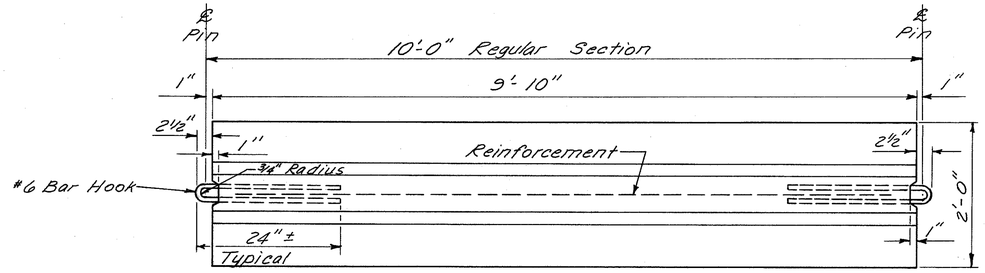
TEMPORARY CROSS-OVER PAVEMENT DETAILS

CONCRETE BARRIER DETAILS

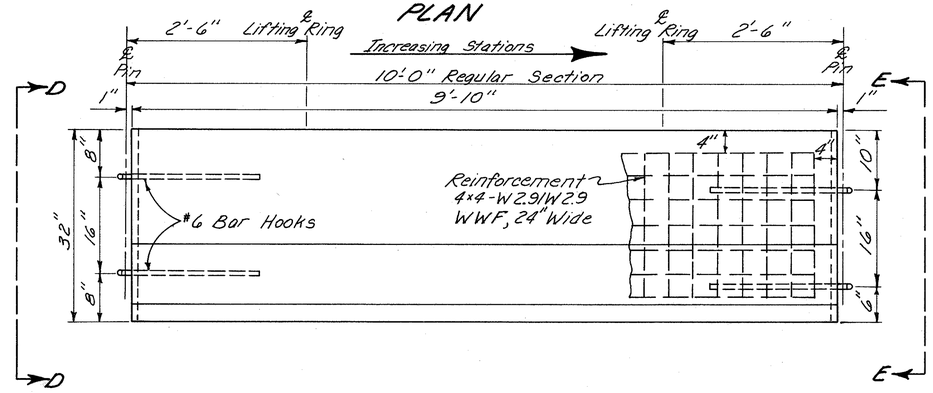
FHWA REGION	STATE	PROJECT	
5	OHIO		

20/80

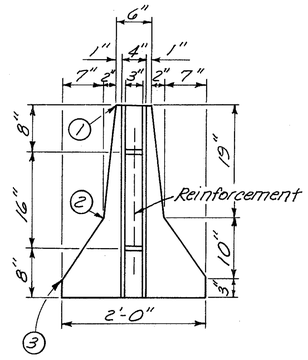
HAS-22-20.07



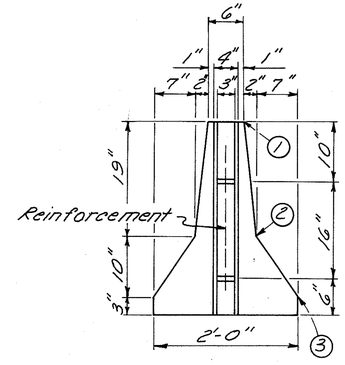
PLAN



ELEVATION



END VIEW D-D

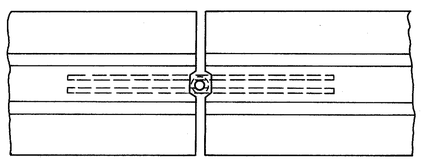


END VIEW E-E

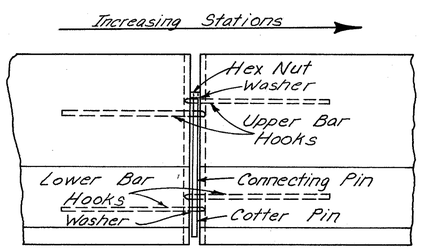
LEGEND

1. 1" Radius or ¾" Chamber
2. Permissible 10" Radius
3. Permissible 1" Radius

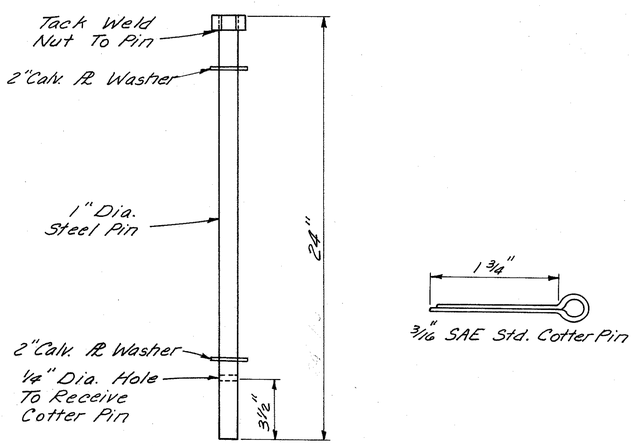
PIN & HOOK CONNECTION DETAIL



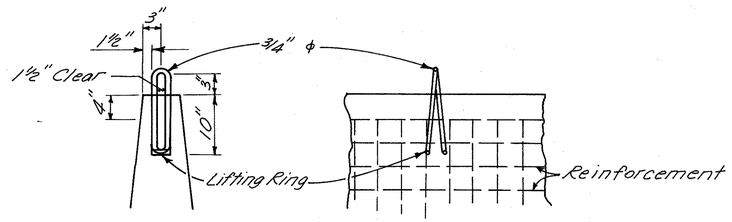
PLAN



ELEVATION



CONNECTING PIN ASSEMBLY



LIFTING RING DETAIL

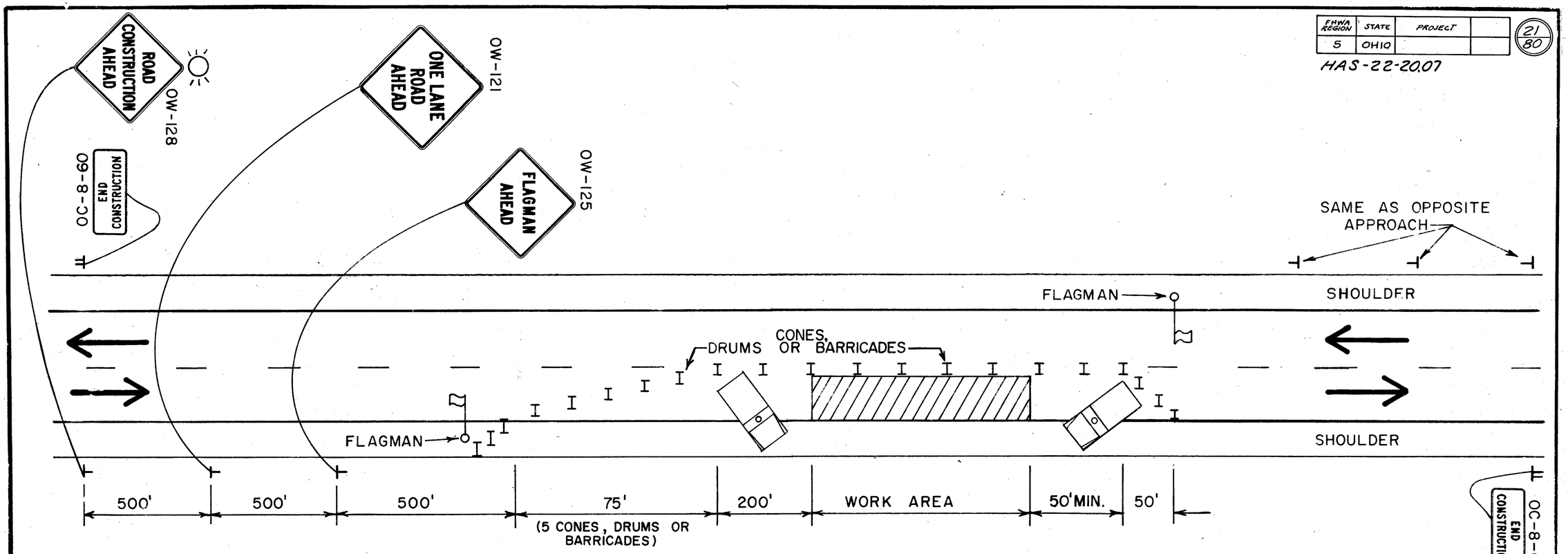
CONCRETE BARRIER SHOP DRAWINGS shall be submitted to the Director for approval. The lifting rings may be as shown, cold bent from plain bars to radii specified by C.R.S.I. Standards and shewed when placed in the forms or replaced by an insert and eyebolt cabable of withstanding a tension force of 5000 lb. each.

TEMPORARY CONCRETE BARRIER DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

21/80

HAS-22-20.07



GENERAL NOTES

1. FLAGMEN SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS ONE LANE OPERATION IS IN EFFECT. FLAGMAN SHALL COMMUNICATE WITH EACH OTHER AT ALL TIMES AS DESCRIBED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES IN THE SECTION "FLAGMAN CONTROL". FLAGMEN STATIONS SHALL BE ADEQUATELY ILLUMINATED FOR NIGHT-TIME OPERATIONS BY USE OF A 175 WATT MINIMUM LUMINAIRE.

2. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS FOR THE FIRST 1000 FEET OF THE WORK AREA AND AT A MAXIMUM OF 100 FEET FOR THE BALANCE OF THE WORK AREA. CONES MAY BE SUBSTITUTED FOR BARRICADES OR STEEL DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

3. SEVERAL SMALL WORK SITES CLOSE TOGETHER SHALL BE COMBINED INTO ONE WORK AREA TO MAKE A CLOSURE NOT MORE THAN 2000 FEET LONG INCLUDING TAPERS. CLOSURES MORE THAN 2000 FEET MAY BE APPROVED BY THE ENGINEER. THE MINIMUM LENGTH BETWEEN CLOSURES SHALL BE 2000 FEET. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED IN ANY ONE WORK AREA.

4. THE WORK TRUCKS SHOWN AT EACH END OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THESE TRUCKS 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 TRUCKS SHOWN WHEN APPROVED BY THE ENGINEER.

5. THE TYPE B HIGH INTENSITY BARRICADE WARNING LIGHT SHOWN ON THE ROAD CONSTRUCTION AHEAD SIGN, IS REQUIRED WHENEVER NIGHT LANE CLOSURE IS NECESSARY.

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 200' CENTER TO CENTER WITHIN THE WORK AREA.

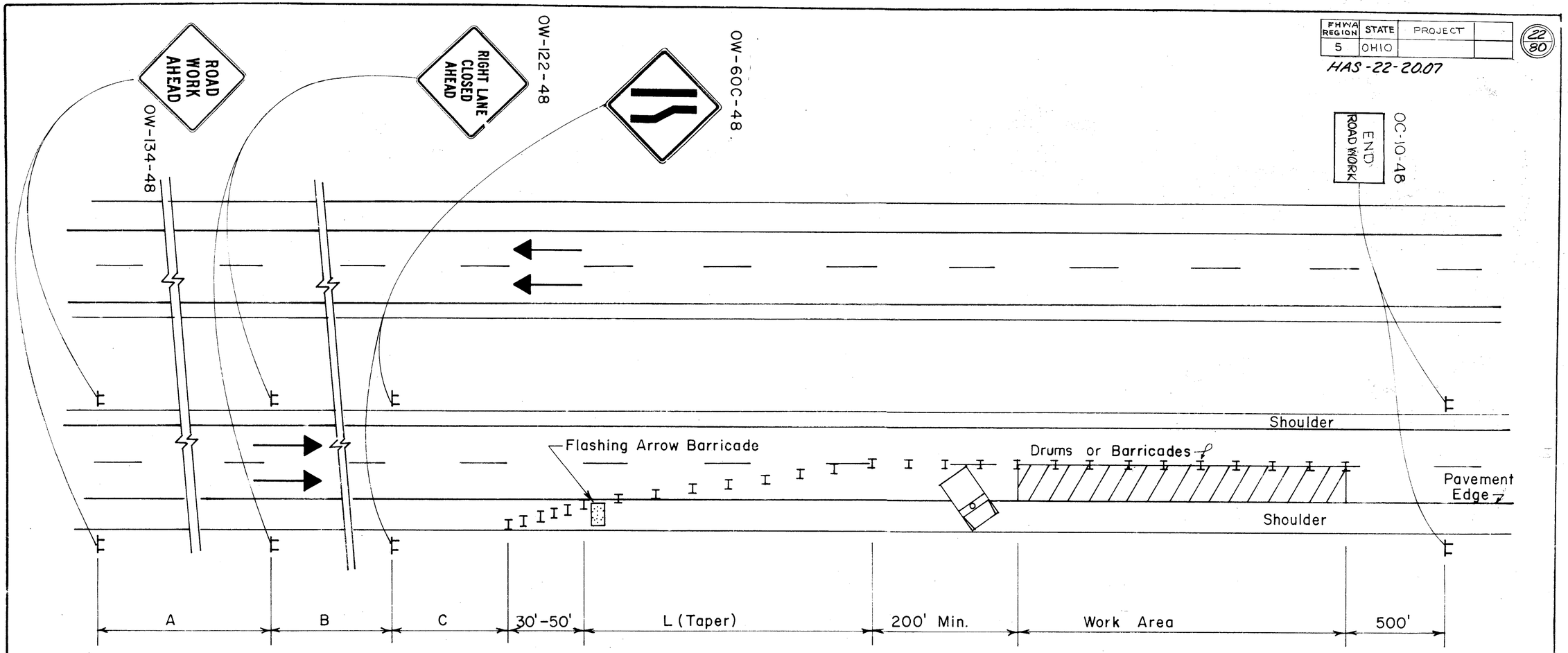
OHIO DEPARTMENT OF TRANSPORTATION

FLAGMEN CLOSING I LANE OF A 2 LANE HIGHWAY	DATE 4/77
DR. GBD	CK. RLB

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

22/80



GENERAL NOTES

1. 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. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS FOR THE FIRST 1000 FEET OF THE WORK AREA AND AT A MAXIMUM OF 100 FEET FOR THE BALANCE OF THE WORK AREA. CONES MAY BE SUBSTITUTED FOR THE BARRICADES OR STEEL DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, "OW-123-48" SIGNS SHALL BE SUBSTITUTED FOR "OW-122-48" SIGNS AND THE OW-60D SIGNS SHALL BE SUBSTITUTED FOR THE OW-60C SIGNS.

3. 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.

5. 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 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

DISTANCE	A	B	C	L
URBAN	200	200	200	425
MAJOR STANDARD	500	500	500	600
FREEWAY AND EXPRESSWAY	2600	1600	1000	720

OHIO DEPARTMENT OF TRANSPORTATION

CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY

DATE 4/77

DR. GBD CK. RLB.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HAS-22-20.07

GENERAL SUMMARY

QUANTITIES	
Calculated By W.S.R. 8-1-79	Checked By R.E.M. 8-1-79
Revised By J.C.N. 1-22-80	Checked By R.E.M. 1-23-80

ITEM	SHEET NUMBER						ITEM	TOTAL QUANT.	UNIT	DESCRIPTION TYPE CODE 6706 UNLESS OTHERWISE SHOWN
	3	12	13	15	38	47				
										ROADWAY
202					15	1195	202	1,210	Lin.Ft.	Curb Removed
202			312				202	312	Sq.Yds.	Pavement Removed
202					5	20	202	25	Sq.Yds.	Concrete Median Pavement Removed
202			103				202	103	Sq.Yds.	Portions Of 6" Concrete Gutter Removed
202			32				202	32	Each	Precast Traffic Dividers Removed
202						1	202	1	Each	Catch Basin Abandoned
202					24477		202	24,477	Lin.Ft.	Guardrail Removed for Storage
202					175		202	175	Lin.Ft.	Guardrail Barrier Design Removed for Storage
202					1		202	1	Each	Catch Basin Removed
202					5		202	5	Each	Bridge Terminal Assembly Removed
203			65				203	65	Cu.Yds.	Excavation Not Including Embankment Construction
203			780				203	780	Cu.Yds.	Embankment
203			68,500				203	68,500	Sq.Yds.	Subgrade Compaction
203		344					203	344	Sta.	Linear Grading, Method 1
203		185					203	185	Sta.	Linear Grading, Method 2
203		374					203	374	Sta.	Linear Grading, Method 3
203		132					203	132	Sta.	Linear Grading, Method 4
203		27					203	27	Sta.	Linear Grading, Method 5
203	217						203	217	Sta.	Linear Grading (Ditch Cleanout)
606					22,933		606	22933	Lin.Ft.	Guardrail, Type 5, As Per Plan
606					1,137.5		606	1,137.5	Lin.Ft.	Guardrail, Type 5, Using 9' Posts, As Per Plan
606					500		606	500	Lin.Ft.	Guardrail, Type 5, Barrier Design
606					53		606	53	Each	Anchor Assembly, Type A
606					6		606	6	Each	Anchor Assembly, Type A, Barrier Design
606					23		606	23	Each	Anchor Assembly, Type T
606					6		606	6	Each	Bridge Terminal Assembly, Type A
606					3		606	3	Each	Bridge Terminal Assembly, Type A, Modified As Per Plan
606					4		606	4	Each	Bridge Terminal Assembly, Type D
606					4		606	4	Each	Bridge Terminal Assembly, Type E
606					4		606	4	Each	Bridge Terminal Assembly, Type J
606					4		606	4	Each	Bridge Terminal Assembly, Type A, Without Wheelguard
615				685			615	685	Sq.Yds.	Temporary Pavement, Class B
615				Lump			615	Lump		Temporary Roads
616				50			616	50	M.Gal.	Water
616				3			616	3	Tons	Calcium Chloride
404				100			404	100	Cu.Yds.	BITUMINOUS CONCRETE For Maintaining Traffic
622				930			622	930	Lin.Ft.	Temporary Concrete Barrier, As Per Plan
										EROSION CONTROL (TYPE CODE Y-005)
659			56,298				659	56,298	Sq.Yds.	Seeding And Mulching
659			5.07				659	5.07	Tons	Commercial Fertilizer
659			25.33				659	25.33	Tons	Agricultural Liming

GENERAL SUMMARY

QUANTITIES	
Calculated By W.S.R. 8-1-79	Checked By R.E.M. 8-1-79
Revised By J.C.N. 1-22-80 J.C.N. 6-12-80	Checked By R.E.M. 1-23-80 WSR 6-12-80

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HAS-22-20.07

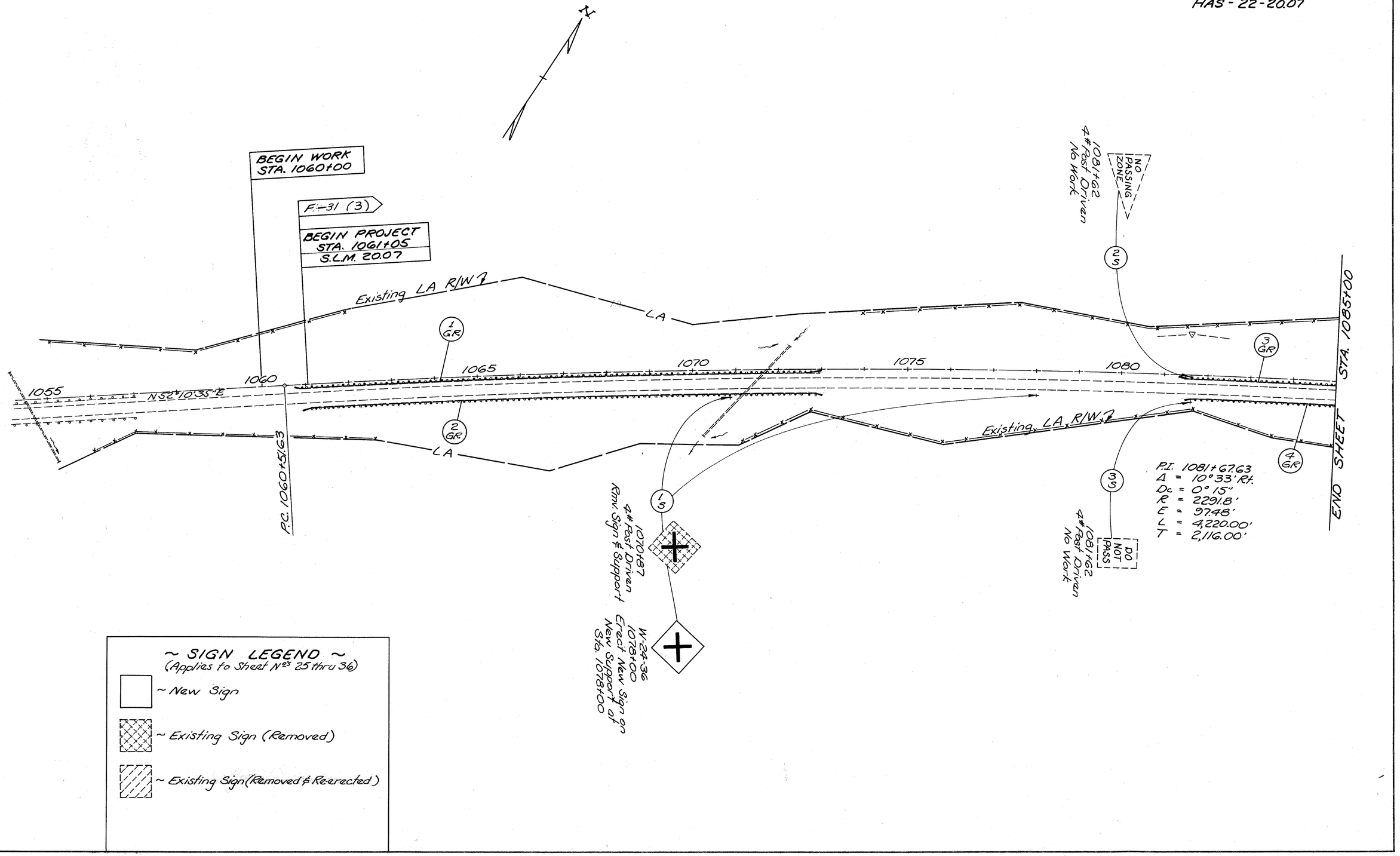
ITEM	SHEET NUMBER 5	10	11	12	13	14	15	38	41	42	44	46	46A	ITEM	TOTAL QUANT.	UNIT	DESCRIPTION TYPE CODE 6706 UNLESS OTHERWISE SHOWN
																	PAVEMENT
301			13,350							240	67			301	13,657	Cu.Yds.	Bituminous Aggregate Base: AC-20, RT-11 or RT-12
304										171				304	171	Cu.Yds.	Aggregate Base
310												160	200	310	360	Cu.Yds.	Subbase, Type 1, Grading A
407		12,906									267			407	13,173	Gal.	Tack Coat: RC-250, MS-2, RS-1, SS-1 or SS-1h
407		452									2			407	454	Tons	Cover Aggregate
408				4,105										408	4,105	Gal.	Bituminous Prime Coat: MC-30, MC-70, Primer 20, RT-2 or RT-3, As Per Plan
409			17,920	2,460							67			409	20,447	Gal.	Seal Coat Bituminous Material: MC-800, MC-3000, CBAE-800, RS-1, RS-2, CRS-1, CRS-2, RT-9 or RT-10
409			478	65							2			409	545	Cu.Yds.	Seal Coat Cover Aggregate № 8
848		4,505		456							30			848	4,991	Cu.Yds.	Asphalt Concrete, Surface Course, Type 1, AC-20
848		2,653			1									848	2,654	Cu.Yds	Asphalt Concrete, Intermediate Course, Type 1, AC-20
848		6,016							101		26			848	6,143	Cu.Yds.	Asphalt Concrete, Intermediate Course, Type 2, AC-20
													1200	Special	1200	Sq.Yds.	Removal and Replacement of Full Depth Portland Cement Concrete Pavement
													300	Special	300	Lin.Ft.	New Transverse Joint Dowel Assembly
611					320									611	320	Sq.Yds.	Reinforced Concrete Approach Slabs, T=15"
Spec.									450					Special	450	Sq.Yds.	Partial Depth Pavement Joint Repair
Spec.												960		Special	960	Sq.Yds.	Full Depth Rigid Pavement Removal And Flexible Replacement
Spec.					976									Special	976	Lin.Ft.	Pressure Relief Joints, Type C
612								6						612	6	Sq.Yd.	Concrete Median, Modified As Per Plan
																	DRAINAGE
605					13,756									605	13,756	Lin.Ft	Aggregate Drains
605												2,500		605	2,500	Lin.Ft	Aggregate Drains, As Per Plan
605										55				605	55	Lin.Ft	6" Unclassified Pipe Underdrain, 707.01
605	2,000													605	2,000	Lin.Ft.	6" Deep Pipe Underdrain
603	50													603	50	Lin.Ft.	6" Conduit, Type F
604								1						604	1	Each	Catch Basin, Standard No. 3A, As Per Plan
																	TRAFFIC CONTROL
																	For Quantities See Sheet № 54
																	STRUCTURES OVER 20 FT. SPAN
																	Bridge № HAS-22-2126, See Sheet № 67
																	Bridge № HAS-22-2188 aka HAS-151-2310, See Sheet № 69
																	Bridge №s HAS-22-2283 L&R, See Sheet № 67
																	Bridge №s HAS-22-2362 L&R, See Sheet № 67
																	Bridge № HAS-22-2460 L, See Sheet № 67
																	Bridge № HAS-22-2460 R, See Sheet № 79
Spec.							100							Special	100	Hrs.	Trooper with Patrol Car
614							Lump							614	Lump		Maintaining Traffic
619						Lump								619	Lump		Field Office
623														623	Lump		Construction Layout Stakes
														624	Lump		Mobilization

Rev. 6-13-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

25
80

HAS - 22-20.07



~ SIGN LEGEND ~
(Applies to Sheet Nos 25 thru 36)

~ New Sign

~ Existing Sign (Removed)

~ Existing Sign (Removed & Re-erected)

STA. 1055+00 TO STA. 1085+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

26
80

HAS-22-20.07

BEGIN SHEET • STA. 1085+00

END SHEET • STA. 1115+00

Existing LA R/W ℄

Co. Rd. 13

N 62° 43' 35" E

1090 1095 1100 1105 1110

P.I. = 1081+67.63
Δ = 10° 33' Rt.
D_c = 0° 15'
R = 2291.8'
E = 97.48
L = 4,220.00'
T = 2116.00'

P.T. 1102+71.63

For Details of Profile Correction From Sta. 1099+75 to Sta. 1105+00, See Sheet Nos 42 and 43

* Type 5 Guard Rail Using 9' Posts (See General Note, Sheet No. 15

N

W-24-36
1094+00
Erect New Sign on New Support

HAS 13
LOAD LIMIT REDUCED 50%
1086+10.5
3# Post Driven
No Work

STOP
R-1-36
1085+70
Erect New Sign on New Support

STOP
4# Post Driven Rmv. Sign & Support
1085+70

THRU TRUCKS PROHIBITED
1086+10.5
3# Post Driven
No Work

HARRISON RECLAMATION AREA CAMPING AREA
1086+27
5" Wood Post
No Work

STOP
1086+10
4# Post Driven
Rmv. Sign & Support

STOP
R-1-36
1086+10
Erect New Sign on New Support

DEER CROSSING
1087+38
4# Post Driven
Rmv. Sign & Support

HARRISON COUNTY 13
LOAD LIMIT REDUCED 50%
1085+72
3# Post Driven
No Work

HAS 21
1094+02
4# Post Driven
No Work

1111+48
4# Post Driven
Rmv. Sign & Support

W-26-36
1111+00
Erect New Sign on New Support at Sta. 1111+00

STA. 1086+00 TO STA. 1115+00

N
BEGIN SHEET STA. 1115+00
END SHEET STA. 1145+00
N62°43'35"E
N44°38'35"E
Existing LA R/W
Existing LA R/W
Twp. Rd. 60
Twp. Rd. #177
W & W R.R.
T.S. 1118+88.19
S.C. 1122+88.19
C.S. 1126+11.52
S.T. 1130+11.52
P.C. 1135+00
P.T. 1139+05.56 W.B. Lanes
P.C. 1140+02.06 W.B. Lanes
1120
1125
1135
1140
P.I. 1124+53.30
Δ = 18°05' Lt.
Dc = 2°30'
Ls = 400'
R = 2291.83'
Es = 31.78
L = 323.33'
Ts = 565.11'
R-1-30 1117+45 Erect New Sign on New Support
1117+45 4# Post Driven Rmv. Sign & Support
1118+80 4# Post Driven Rmv. Sign & Support
D-6-60 1122+00 Erect New Sign on New Supports
Cadiz 5
Cambridge 47
W-26-36 1125+55 Erect New Sign on New Support
1125+55 4# Post Driven Rmv. Sign & Support
M-40-30 M-1-30 1132+00 Erect New Signs on New Support
WEST 22
R-1-30 1132+95 Erect New Sign on New Support
1132+95 4# Post Driven Rmv. Sign & Support
W-71-36 1136+00 Erect New Sign on New Support
W-24-36 1139+10 Erect New Sign on New Support
1139+10 4# Post Driven Rmv. Sign & Support
STOP
1122+39 3# Post Driven Rmv. Sign & Support
DO NOT PASS
1125+20 3# Post Driven Rmv. Sign & Support
W-24-36 1125+35 Erect New Sign on New Support at Sta. 1125+35
1130+20 2-3# Post Driven Rmv. Sign & Supports
W-8S-36 1129+00 Erect New Sign on New Support at Sta. 1129+00
1133+53 4# Post Driven Rmv. Sign & Support
R-1-30 1133+53 Erect New Sign on New Support
1139+32 2-8" I Beams in Conc. Rmv. Sign & Supports
12'×8'
GB 1138+20 Erect New Sign on New Supports at Sta. 1138+20
151 WEST Jewett Scio EXIT ½ MILE
13'×10'
R-38R-36 1140+00 Erect New Sign on New Support
9 GR
9 GR
10 GR
11 GR
12 GR
13 GR
14 GR
15 GR
14 S
15 S
16 S
17 S
18 S
19 S
20 S
21 S
21 S
22 S
24 S
25 S
26 S
27 S

FHWA REGION	STATE	PROJECT	
5	OHIO		

28/80

HAS-22-20.07

Ramp "K" Curve Data
R= 229.18'
Dc= 25°00'
L= 887.57'
Δ= 221°53'37"

Ramp "J" Curve Data
R= 229.18'
Dc= 25°00'
L= 106.00'
Δ= 26°30'00"

BEGIN SHEET STA. 1145+00

P.T. 1146+10.39

Sta. 1146+87.19 W.B. Lanes
Sta. 1146+84.74 U.S.R. 22

N 44°38'35" E

Existing LA R/W

Existing LA R/W

S.R. 151

Ramp "K"

Ramp "J"

Ramp "L"

Ramp "M"

Co. Rd. #23

Pond

Existing LA R/W

N 75°58'35" E

STA. 1175+00

END SHEET

W-60-48 1148+00 Erect New Signs on New Supports

W-52-48 1151+00 Erect New Signs on New Supports

LEFT LANE ENDS

W-86-48 1154+00 Erect New Signs on New Supports

115+76 Driven 3#Post Sign & Rmv. Support

153+76 Driven 3#Post Sign & Rmv. Support

DO NOT PASS 1155+65 Driven 4#Post Sign & Rmv. Support

DO NOT PASS 1156+00 Driven 4#Post Sign & Rmv. Support

W-49E-48 1160+00 Erect New Sign on New Supports

1160+00 Driven 4#Post Sign & Rmv. Sign & Support

HAS-22 22 1163+23 3#Post Driven No Work

G+S EXIT GF-72 Erect New Sign on New Supports at Sta. 1163+10

EXIT 1163+44 2-8#Post in Conc. Rmv. Sign & Supports

9'x10' 151 WEST Jewett Scio GE 1169+00 Erect New Sign on New Supports

End Ramp "J" 10+68.36 Begin Taper 1167+92.55

End Taper 1169+00

Pond

151 EAST Hopedale Smithfield EXIT 1½ MILES GB 14'x10' 1155+07 Erect New Sign on New Overhead Sign Support

151 WEST Jewett Scio GF-1 12'x8'

151 WEST Jewett Scio NEXT RIGHT 10'x10' GE 1149+50 Erect New Sign on New Supports

3'x10' 151 EAST Hopedale Smithfield 1153+03 Post in Conc. Rmv. Sign & Supports

3-8#Post in Conc. 1149+43 Rmv. Sign & Supports

3-8#Post in Conc. 1155+07 Rmv. Sign & Supports

3-8#Post in Conc. 1162+68 Rmv. Sign & Supports

3-8#Post in Conc. 1173+03 Rmv. Sign & Supports

GF 1162+90 Erect New Sign on New Supports

EXIT G+S

3#Post Driven 1163+21 No Work

HAS-22 22

W-49E-48 1165+06 Erect New Signs & Supports

W-49E-48 1165+06 Erect New Sign on New Supports

Ramp "L" 6+68.19

Ramp "M" 6+60.07

S.T. 1168+64.89 Bk. 1168+75.64 Ah

R-2-48 1168+60 Erect New Sign on New Supports

YIELD

End Ramp "M" 9+59.83 Begin Taper 1172+00

End Taper 1174+25

R-2-48 1157+58 Erect New Sign on New Supports

YIELD

Begin Taper 1153+75

End Taper 1156+00

Begin Taper 1158+04.62

End Taper 1156+00 Ramp "K" 0+00 Ramp "J" 0+00

P.I. 0+02.5

P.C. 5+47.24

P.T. 6+53.24

P.C.C. 2+15.00

S.C. 1154+54.86

S.C. 1159+50.11

C.S. 1164+68.19

0+00 Ramp "L" 262+80.13 S.R. 151

0+00 Ramp "M" 262+78.03 S.R. 151

End Taper 1156+00 Begin Ramp "K" 0+00

Ramp "K" 6+02.18 Ramp "J" 6+00

For Approach Slab Quantities See Sheet No. 13

For Profile Correction Quantities and Details, See Sheets No's. 44 & 45.

For Ramp "L" & Ramp "M" Concrete Median and New Catch Basin Replacement Details and Quantities, See Sheet No 38.

P.I. 1159+85.70
Δ = 35° 20' Rt.
Dc = 2° 30'
Lc = 1013.33'
R = 2291.83'
Es = 116.53'
Ls = 400.00'
Ts = 930.84'

STA. 1145+00 TO STA. 1175+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

29/80

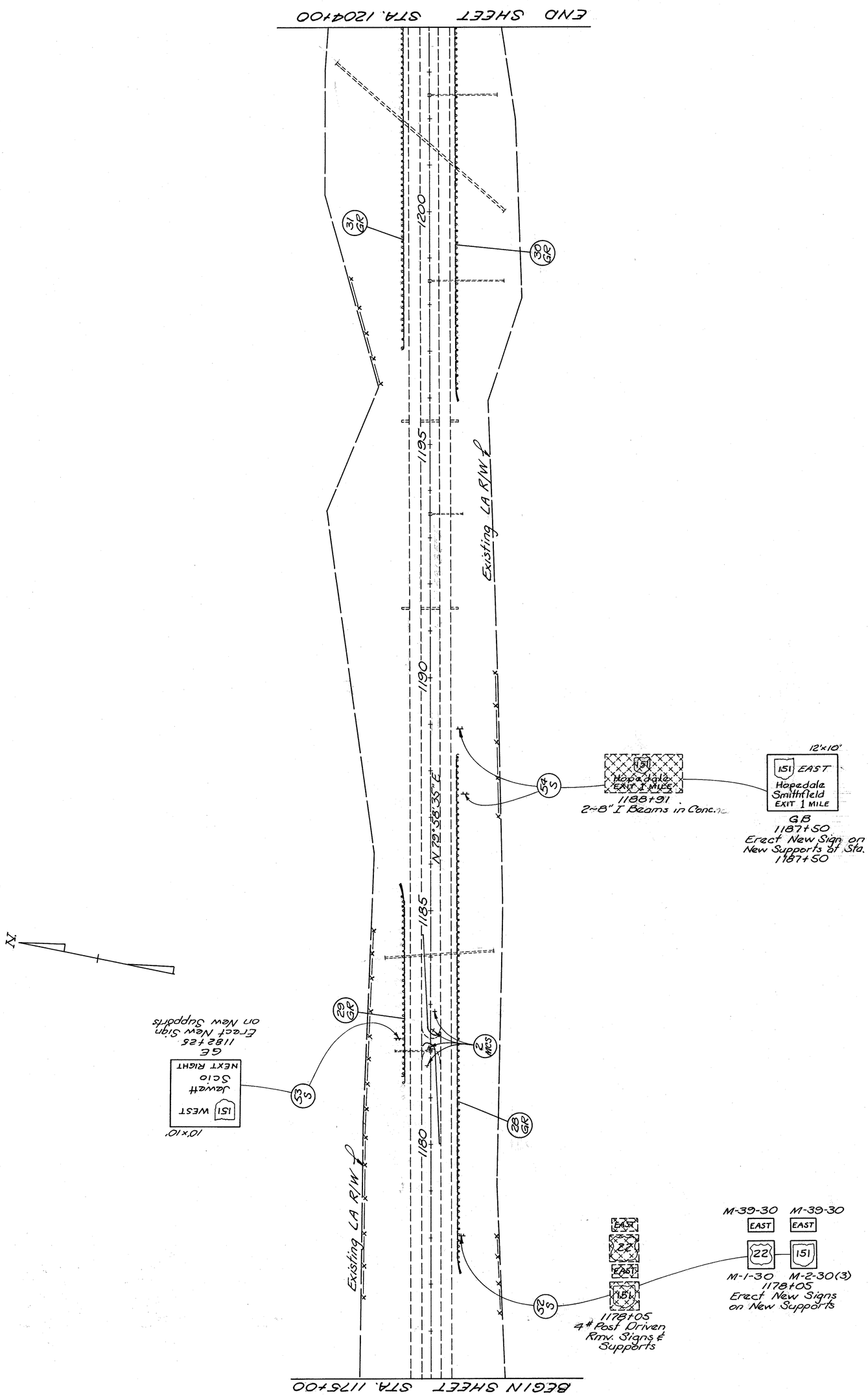
HAS-22-20.07

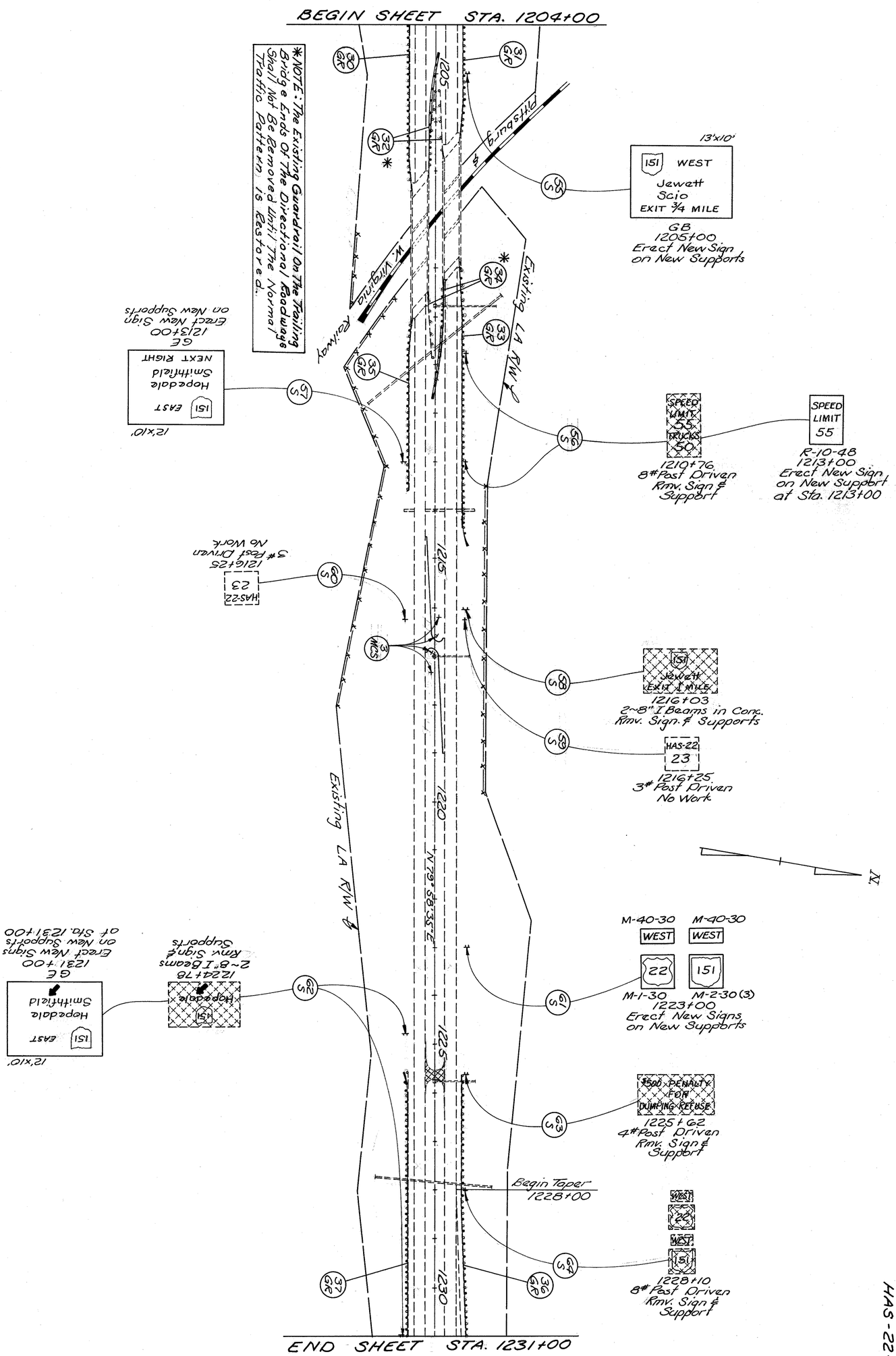
SR 151 INTERCHANGE (JEWETT) SIGNS

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

STA. 1175+00 TO STA. 1204+00





STA. 1204+00 TO STA. 1231+00

DIST. REGION	STATE	PROJECT
5	OHIO	

HAS-22-2007

31/80

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07


BEGIN SHEET STA. 1231+00
END SHEET STA. 1260+00
End Taper 1231+50= Ramp "N" 0+00
Sta. 1232+00= Ramp "Q" 0+00
End Ramp "S" P.T. 1+03.27
Exist. LA R/W
Exist. LA/R/W
Ramp "N"
S.R. 151 West Bound
S.R. 151 East Bound
Ramp "Q"
Ramp "S"
Ramp "T"
N 79°58'35" E
1235
1240
1245
1255
Co. Rd. #4
Twp. Rd. #173
S.R. 151
Corp. Line
VILLAGE OF HOPEDALE
R-2-48
1236+10
Erect New Sign on New Supports
1236+10
4-#Post Driven
Rmv. Sign & Support
W-49R-48
1240+00
Erect New Sign on New Supports at Sta. 1240+00
1242+94
4-#Post Driven
Rmv. Sign & Support
1255+79
3-#Post in Conc.
Rmv. Sign & Supports
13'x8'
EAST
Hopedale
Smithfield
GF-1
13'x10'
WEST
Jewett
Scio
EXIT 2 MILES
GB
1257+25
Erect New Signs on New Overhead Sign Support.
1236+05
2-6#Post in Conc.
Rmv. Sign & Supports
6'x5'
EXIT
GF
1236+25
Erect New Sign on New Supports at Sta. 1236+25
1253+98
4-#Post Driven
W-49R-48
1255+00
Erect New Sign on New Supports at Sta. 1255+00
YIELD
36 GR
37 GR
38 GR
39 GR
40 GR
41 GR
42 GR
43 GR
44 GR
45 GR
46 GR
47 GR
48 GR
48A GR
48B GR
65 S
66 S
67 S
68 S
69 S
70 S
P.C.
P.T.
R/W

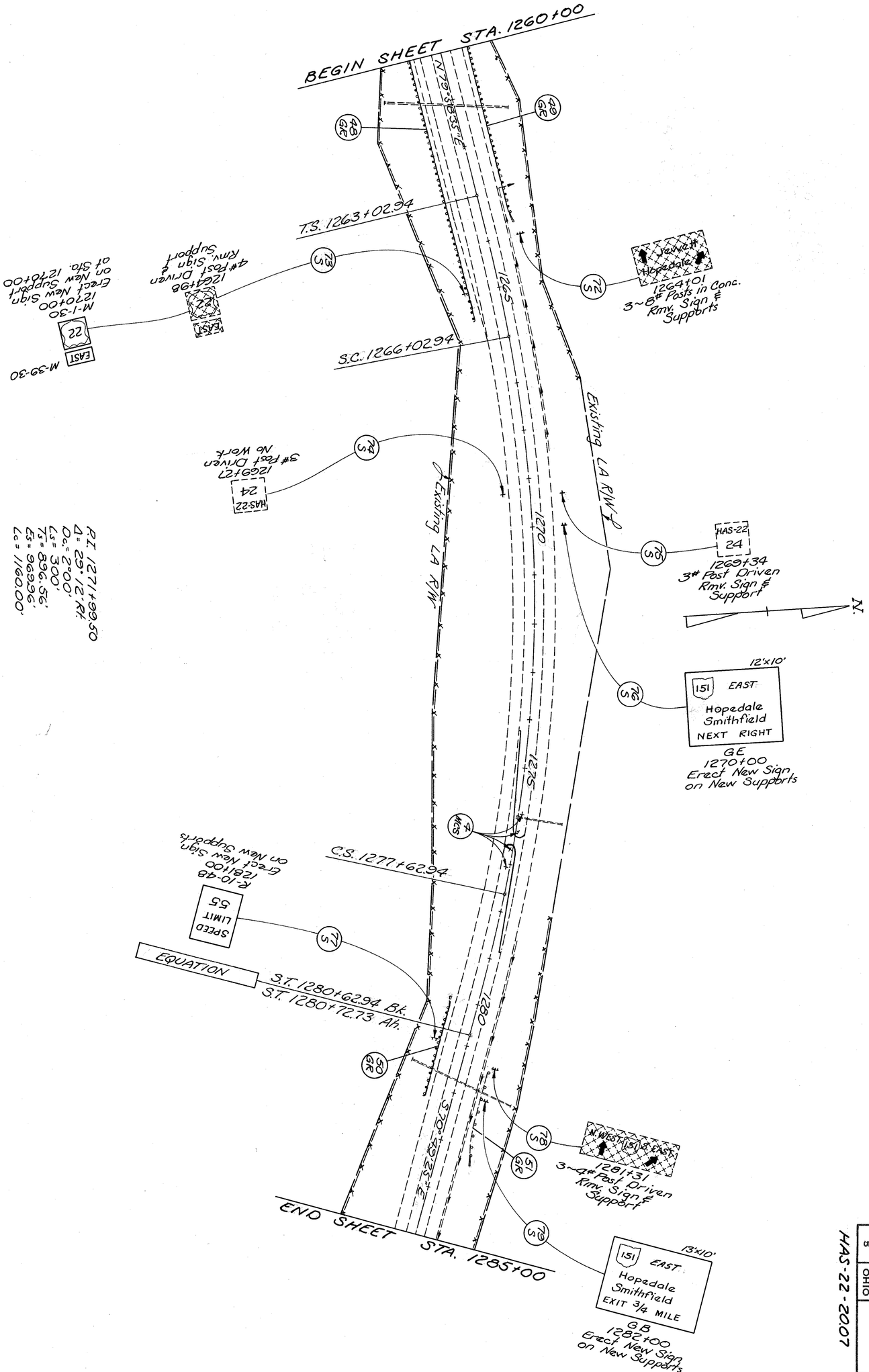
*NOTE: The Existing Guard Rail on The Trailing Bridge Ends Of The Directional Roadways Shall Not Be Removed Until The Normal Traffic Pattern is Restored.

FAP NO.	STATE	PROJECT	
	OHIO		

33
80

HAS-22-20.07

S.R 151 INTERCHANGE (HOPEDALE) SIGNS



STA. 1260+00 TO STA. 1285+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-2007

34
80

FHWA REGION	STATE	PROJECT	
5	OHIO		

35
80

HAS-22-20.07

P.I. 1292+88.95
Δ = 17°45' Lt.
D_c = 2°00'
T_s = 597.53'
E_s = 36.03'
R = 2864.79'
L_s = 300'
L_T = 200.03'
S_T = 100.03'
X_c = 299.92'

BEGIN SHEET STA 1285+00

Exist. LA R/W ℄

7.S. 1286+91.42

S.C. 1289+91.42

C.S. 1295+78.92

S.T. 1298+80.75 Ahd.

S.T. 1298+78.92 Bk=

EQUATION

1290

1295

1300

1305

S 88°34'25" E

1310

Exist. LA R/W

Exist. LA R/W

R.R.

Ex. 6" Water Line

Ex. 4" Gas Line

Co. Rd. #5

TWP. Rd. #180

R/W

R/W

5.C. 1313+37.98

7.S. 1310+37.98

Exist. LA R/W

5T.A. 1315+00

END SHEET

N.

M-40-30

WEST

22

M-1-30
1305+00 Signs
Erect New Signs
on New Support

KEEP RIGHT

R-37R-36
1305+75
Erect New Sign
on New Support

1305+75
4# Post Driven
Rmv. Sign ℄
Support

EXP-51-24
1306+44
Erect New Signs
on New Support

STOP

DIVIDED HIGHWAY

R-1-30

1306+44
4# Post Driven
Rmv. Sign ℄
Support

W-24-36
1314+50
Erect New Sign
on New Support
at Sta. 1314+50

1312+50
2-3# Post Driven
Rmv. Signs ℄
Supports

W-24-36
1314+50
Erect New Sign
on New Support

53 GR

52 GR

54 GR

55 GR

56 GR

57 GR

59 GR

3 AS

4 AS

80 S

81 S

82 S

83 S

84 S

85 S

86 S

87 S

88 S

89 S

90 S

91 S

Wintersville 14
Steubenville 18
11'x3'

GJ
1292+50
Erect New Signs
on New Supports

W-24-36
1298+27
Erect New Sign
on New Support

1298+27
4# Post Driven
Rmv. Sign ℄
Support

W-24-36
1298+27
Erect New Sign
on New Support

For Approach Slab Quantities, See Sheet No. 13.

1305+85
3# Post Driven
No Work

HAS
COUNTY
LOAD LIMIT
REDUCED
50%

1306+44
4# Post Driven
Rmv. Sign ℄
Support

STOP

R-1-36

DIVIDED HIGHWAY

EXP-51-24
1306+44
Erect New Signs
on New Support

1307+28
4# Post Driven
Rmv. Sign ℄
Support

KEEP RIGHT

R-37R-36
1307+28
Erect New Sign
on New Support

M-1-30
1307+50
Erect New Sign
on New Support

EAST

22

M-39-30

STA. 1285+00 TO STA. 1315+00

N.
P.I. 1320+34.68
Δ = 32° 55' Lt.
Dc = 2° 00'
Ls = 300'
Lc = 1345.83'
Es = 123.77
Ts = 996.70
R = 2864.79'
BEGIN SHEET STA. 1315+00
Exist. LA R/W
Exist. LA R/W
C.S. 1326+83.81
S.T. 1329+83.81 Bk. = S.T. 1329+98.24 Ah.
EQUATION
END PROJECT STA. 1332+98.75 S.L.M. 25.21
F. 31(3)
END WORK STA. 1334+10.75 = 0+07
Sta. 1334+03.75 Bk. = Sta. 0+00 Ah.
HARRISON COUNTY
JEFFERSON COUNTY
N 58°30'35" E
1320
1325
5
Twp. Rd. #65
92 S
93 S
94 S
95 S
96 S
97 S
98 S
99 S
100 S
101 S
58 GR
W-6OC-48 1315+65 Erect New Sign on New Supports
2~6# Post Driven 1315+65 Rmv. Sign & Supports
HAS-22 25 1321+36 4# Post Driven No Work
HAS-22 25 1321+39 3# Post Driven No Work
WEST 22 M-40-30 M-1-30 1332+00 Erect New Signs on New Support
KEEP RIGHT R-37R-36 1332+93 Erect New Sign on New Support
KEEP RIGHT 1332+93 4# Post Driven Rmv. Sign & Support
HAS-22 0 0+06 2~4# Post Driven Re-erect Rmv. Signs & Supports Mile Marker Sign 6'x4'
ENTERING Harrison COUNTY HAS-22 0 GP 0+06 Erect New Signs on New Supports
Green Twp. Township Rd. 65 1332+69 2~3# Post Driven No Work
KEEP RIGHT 1333+83 4# Post Driven Rmv. Sign & Support
KEEP RIGHT R-37R-36 1333+83 Erect New Sign on New Support
STOP 1333+65 4# Post Driven Rmv. Sign & Support
STOP R-1-30
DIVIDED HIGHWAY EXP-51-24 1333+65 Erect New Signs on New support
JEF-22 0 0+07 2~4# Post Driven Rmv. Signs & Supports Re-erect Mile Marker Sign
ENTERING Jefferson COUNTY JEF-22 0 GP 0+07 Erect New Sign on New Supports 7'x4'

* AS PER PLAN

*NOTE: The Existing Guardrail On The Trailing Bridge Ends Of The Directional Roadways Shall Not Be Removed Until The Normal Traffic Pattern is Restored.

QUANTITIES

Calc. Date	Chkd Date
W.S.R 6-20-79	J.C.N. 8-9-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

GR REF. Nº	SHEET Nº PLAN	SHEET Nº DETAIL NOTE	LOCATION FROM	LOCATION TO	SIDE	ITEM 202 Guard Rail Removed for Storage Lin. Ft.	ITEM 202 Guard Rail Barrier Removed for Storage Lin. Ft.	ITEM 202 Bridge Terminal Assembly Removed Ea.	ITEM 606 Guard Rail Type 5 * Using 9' Posts Lin. Ft.	ITEM 606 Guard Rail Type 5 ‡ Lin. Ft.	ITEM 606 Guard Rail Type 5 Barrier Design Lin. Ft.	ITEM 606 Anchor Assy Type A Ea.	Anchor Assy Type A Barr. Design Ea.	Anchor Assy Type T Ea.	Approach Flare Total Flare Length Ft.	Approach Flare Total Flare No. of Posts	Flare Off Set to Last Post Ft.	Flare No. of Posts in One Sect.	Bridge Terminal Assy Type A Ea.	Bridge Terminal Assy Type A Mod. As Per Plan Ea.	Bridge Terminal Assy Type D Ea.	Bridge Terminal Assy Type E Ea.	Bridge Terminal Assy Type J Ea.	Bridge Terminal Assy Type A W/O Wheel Guard Ea.
Main Line - Outside Shoulders																								
1	25		1060+73	1060+98	Lt.							1												
	25		1060+98	1072+35.5	Lt.	1137.5				1137.5														
	25		1072+35.5	1072+98	Lt.	62.5				37.5		1			62.5	10	4.74	10						
2	25		1060+91.25	1061+47.5	Rt.	37.5				31.25		1			56.25	9	3.08	5						
	25		1061+47.5	1072+72.5	Rt.	1125.0				1125.0														
	25		1072+72.5	1072+91.5	Rt.	12.5						1												
3	25		1081+34.5	1081+59.5	Lt.	12.5						1												
	25		1081+59.5	1085+00	Lt.	340.5				340.5														
	26		1085+00	1085+47	Lt.	47.0				47.5														
	26		1085+47	191+71, C213	4 Rt.	350.0				325.0		1												
4	25		1081+47	1081+97	Rt.					25.0		1												
	25		1081+97	1085+00	Rt.	303.0				303.0														
	26		1085+00	1085+34.5	Rt.	34.5				34.5														
	26		1085+34.5	199+34, C213	4 Rt.	400.0				375.0		1												
5	26		196+08, C213	1086+44	4 Rt.	75.0				50.0		1												
	26		1086+44	1087+44	Rt.	100.0				75.0		1												
6	26		191+71, C213	1086+69.5	4 Rt.	387.5				362.5		1												
	26		1086+69.5	1088+07	Lt.	137.5				112.5		1												
	26		1099+59	1099+84	Rt.							1												
7	26	15	1099+84	1105+21.5	Rt.	537.5			537.5															
	26		1105+21.5	1105+46.5	Rt.							1												
	26		1099+88.5	1100+13.5	Lt.							1												
8	26	15	1100+13.5	1106+13.5	Lt.	600.0			600.0															
	26		1106+13.5	1106+38.5	Lt.							1												
9	27		212+48T60	1118+54	Lt.	325.0				300.0		1												
	27	14	1118+54	1123+54	Lt.	500.0				500.0														1
10	27		1117+30	1117+55	Rt.							1												
	27	14	1117+55	1123+37	Rt.	587.5				587.5														1
11	27	14	1125+09.3	112.5+34.3	Rt.	25.0				25.0														1
	27		1125+34.3	1126+59.3	Rt.					100.0		1												
12	27	14	1125+29.4	1125+66.9	Lt.	37.5				37.5														1
	27		1125+66.9	1126+79.4	Lt.					87.5		1												
13	27		1137+19	1137+44	Lt.							1												
	27		1137+44	1138+81.5	Lt.	137.5				137.5														
	27		1138+81.5	1139+19	Lt.	37.5				37.5														
	27		1139+19	1139+44	Lt.							1			62.5	10	4.74	10						
14	27		1136+89	1137+14	Rt.							1												
	27		1137+14	1139+14	Rt.	200				175.0		1												
15	27		1144+84.5	1145+00	Rt.	3.0						1												
	28		1145+00	1145+09.5	Rt.	9.5																		
	28		1145+09.5	1149+22	Rt.	412.5				412.5														
	28		1149+22	1149+34.5	Rt.	12.5								1										
16	28		1152+81	1154+08.6	Rt.	88.3				100.0		1			125	20	8.3	5						
	28		1154+08.6	1158+04.62	Rt.	386.6				386.7														
	28		1158+04.62	1159+04.62	Rt.	100.0				100.0														
	28		1139+02.62 = 0+00 Ramp "L"	3+79 Ramp "L"	Rt.	375.0				362.5				1										
17	28		1154+25	1154+37.5	Lt.	12.5																		
	28		1154+37.5	1154+50	Lt.	12.5								1										
	28		1154+50	1155+25	Lt.	75.0				75.0														
	28		1155+25	1136+00 = 0+00 Ramp "E"	Lt.					75.0														
	28		1136+00 = 0+00 Ramp "K"	1+50	Lt.	100.0				150.0														
	28		1+50	1+75	Lt.							1												
26	28		779.8 Ramp "K"	8+04.83	Rt.	12.5						1												
	28		8+04.83	9+54.83 Ramp "E" = 1172+00	Rt.	150.0				150.0														
	28		1172+00	1172+25	Rt.	25.0				12.5				1										
27	28		1171+47	1172+34.5	Lt.	87.5				75.0				1										
	28		1172+34.5	1173+09.5	Lt.	62.5				50.0		1			75	12	6.63	10						
			(Continued To Next Column)																					

GR REF. Nº	SHEET Nº PLAN	SHEET Nº DETAIL NOTE	LOCATION FROM	LOCATION TO	SIDE	ITEM 202 Guard Rail Removed for Storage Lin. Ft.	ITEM 202 Guard Rail Barrier Removed for Storage Lin. Ft.	ITEM 202 Bridge Terminal Assembly Removed Ea.	ITEM 606 Guard Rail Type 5 Using 9' Post ‡ Lin. Ft.	ITEM 606 Guard Rail Type 5 ‡ Lin. Ft.	ITEM 606 Guard Rail Type 5 Barrier Design Lin. Ft.	ITEM 606 Anchor Assy Type A Ea.	Anchor Assy Type A Barr. Design Ea.	Anchor Assy Type T Ea.	Approach Flare Total Flare Length Ft.	Approach Flare Total Flare No. of Posts	Flare Off Set to Last Post Ft.	Flare No. of Posts in One Sect.	Bridge Terminal Assy Type A Ea.	Bridge Terminal Assy Type A Modif. As Per Plan Ea.	Bridge Terminal Assy Type D Ea.	Bridge Terminal Assy Type E Ea.	Bridge Terminal Assy Type J Ea.	Bridge Terminal Assy Type A W/O Wheel Guard Ea.
Main Line - Outside Shoulders																								
28	30		1177+22.6	1177+85	Rt.	25.0				37.5		1			62.5	10	4.74	10						
	30		1177+85	1188+22.5	Rt.	1037.5				1037.5														
	30		1188+22.5	1188+35	Rt.									1										
	30		1181+32	1181+44.5	Lt.	12.5																		
29	30		1181+44.5	1184+94.5	Lt.	350.0				337.5				1										
	30		1184+94.5	1185+69.5	Lt.	25.0				50.0		1			75	12	6.63	10						
	30		1195+93.2	1196+30.7	Rt.					12.5		1												
30	30		1196+30.7	1204+00	Rt.	769.3				769.3														
	31		1204+00	1207+43.2	Rt.	343.2				343.2													1	
31	30		1197+05	1204+00	Lt.	695.0				682.5				1										
	31		1204+00	1206+17.5	Lt.	217.5				217.5													1	
33	31		1208+73.8	1213+86.3	Lt.	512.50				512.5													1	
	31		1213+86.3	1214+73.8	Lt.	50.00				62.5		1			87.5	14	8.53	10						
35	31		1210+07.6	1213+45.1	Rt.	337.5				337.5													1	
	31		1213+45.1	1213+57.6	Rt.	12.5								1										
	31		1225+62.5	1230+62.5	Lt.	500.0				487.5				1										
36	31		1230+62.5	1231+00	Lt.	37.5				37.5														
	32		1231+00	1231+25	Lt.																			
	31		1225+58	1226+45.5	Rt.	87.5				62.5		1			87.5	14	8.53	10						
37	31		1226+45.5	1231+00	Rt.	454.5				454.5														
	32		1231+00	1231+58	Rt.	45.5				45.5				1										
38	32		1238+56.6	1238+81.6	Rt.	12.5																		
	32		1238+81.6	1248+44.1	Rt.	962.5				962.5													1	
39	32		1242+52	1248+27.0	Lt.	575.0				562.5				1									1	
44	32		1249+38.5	1256+11	Rt.	612.5				612.5													1	
	32		1256+11	1256+23.5	Rt.									1										
47	32		1249+81.5	1254+94	Lt.	512.5				512.5													1	
	32		1254+94	1255+19	Lt.								1											
48	32		1258+90	1259+15	Rt.								1											
	32/34		1259+15	1265+52.5	Rt.	612.5				625.0				1										
48A	32		1256+87.5	1258+50	Lt.					125.0			1	1										
49	34		1260+00	1263+50	Lt.	350.0				337.5				1										
	34		1263+50	1263+75	Lt.	Existing Buried Approach End Assembly (No Work Required)																		
50	34		1279+96	1280+21	Rt.	Existing Buried Approach End Assembly (No Work Required)																		
	34		1280+21	1282+08.5	Rt.	187.5				175.0				1										
51	34		1281+40	1283+40	Lt.	No Work Required																		
52	35		1290+87.5	1291+02.5	Rt.	Existing Buried Approach End Assembly (No Work Required)																		
	35		1291+02.5	1300+40.2	Rt.	937.5		1		937.5									1					
53	35		1291+63.5	1300+30.3	Lt.	No Work Required																		
55	35	15	1301+63.4	1301+76.5	Lt.	12.5		1		13.1													1	
	35		1301+76.5	1303+84	Lt.	No Work Required																		
57	35		1302+01.7	1303+39.5	Rt.	137.5		1		125.0				1					1					
	35		1303+39.5	1303+52	Rt.	12.5																		
58	36		1322+53	1322+78	Rt.	Existing Buried Approach End Assembly (No Work Required)																		
	36		1322+78	1323+76	Rt.	100.0				87.5				1										
TOTAL M/L OUTSIDE SHOULDERS						20012.5		3	1,137.5	18881.55		39		19					2	1	2	2	4	4
MAINLINE MEDIAN																								
18	28	39	1155+31.3	1158+31.3	Med.	112.5	62.5			500.0			2		See									
32	31	39	1204+57.8	1206+95.3	Med.	*287.5				87.5	125.0		1		Details								1	
34	31	39	1209+29.5	1211+67.0	Med.	*275.0	37.5			87.5	125.0		1		On								1	
40	32	39	1246+00	1248+37.5	Med.	*312.5	37.5			87.5	125.0		1		Sheet							1		
45	32	39	1249+88	1252+25.5	Med.	*312.5	37.5			87.5	125.0		1		Nº 39							1		
54	35	15	1300+17.3	1300+30.4	Med.	13.1		1		13.1													1	
56	35	15	1301+72.7	1301+85.8	Med.	13.1		1		13.1													1	
48B	32		1256+87.5	1258+50	Med.					125.0			1	1										
TOTAL - MAINLINE MEDIAN						1326.2	175.0	2		1001.2	500.0	1	6	1							2	2	2	
TOTAL MAINLINE (US 22) (Carried To Sheet Nº 38)						21,338.7	175.0	5	1,137.5	19,882.75	500.0	40	6	20					2	3	4	4	4	4

GUARDRAIL SUMMARY

FHWA REGION	STATE	PROJECT	
5	OHIO		

38
80

HAS-22-20.07

QUANTITIES

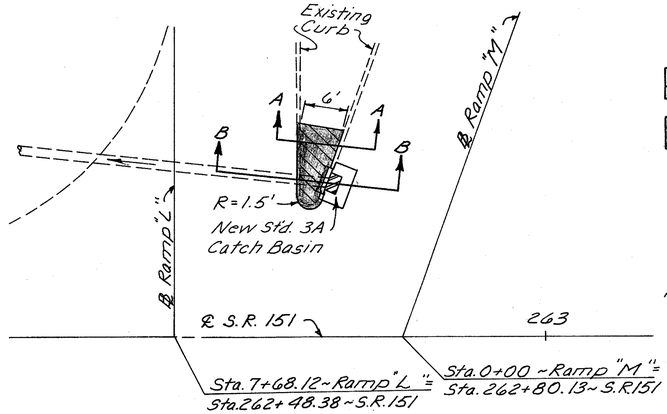
Calc.	Date	Chk'd.	Date
W.S.E.	6-25-79	J.C.N.	8-9-79

† AS PER PLAN

REF. Nº	SHEET Nº PLAN	SHEET Nº DETAIL	LOCATION FROM	LOCATION TO	SIDE	ITEM 202 Guard Rail Removed for Storage Lin. Ft.	ITEM 202 Guard Rail Barrier Design Removed for Storage Lin. Ft.	ITEM 202 Bridge Terminal Assembly Removed Ea.	ITEM 606 Guard Rail Type 5 Using 9' Posts† Lin. Ft.	ITEM 606 Guard Rail Type 5 † Lin. Ft.	ITEM 606 Guard Rail Type 5 Barrier Design Lin. Ft.	ITEM 606 Anchor Assy Type A Ea.	ITEM 606 Anchor Assy Type A Barr. Design Ea.	ITEM 606 Anchor Assy Type T Ea.	ITEM 606 Approach Flare Total Flare Lengths† Ft.	ITEM 606 Approach Flare No. of Posts† Ea.	ITEM 606 Off Set to Last Post Ft.	ITEM 606 Nº of Posts in Circ. Sect.	ITEM 606 Bridge Terminal Assy Type A Ea.	ITEM 606 Bridge Terminal Assy Type A Mod. As Plan Ea.	ITEM 606 Bridge Terminal Assy Type D Ea.	ITEM 606 Bridge Terminal Assy Type E Ea.	ITEM 606 Bridge Terminal Assy Type J Ea.	ITEM 606 Bridge Terminal Assy Type A W/O Wheel Guard Ea.
	S.R.151 Interchange (Jewett)																								
	S.R.151 Crossroad																								
19	28		250+35	250+60	Rt.	25.0						1													
	28		250+60	253+35	Rt.	275.0				275.0									1						
20	28		251+56	251+74	Lt.	25.0																			
	28		251+74	251+99	Lt.	25.0						1													
	28		251+99	253+74	Lt.	175.0				175.0									1						
21	28		256+45	260+45	Rt.	400.0				400.0									1						
	28		260+45	260+70	Rt.	25.0						1													
22	28		256+83	260+705	Lt.	387.5				387.5									1						
	28		260+705	260+953	Lt.	12.5						1													
	RAMP "L"																								
23	28		5+28	6+32	Rt.	100.0																			
	RAMP "M"																								
24	28		1+20.5	1+45.5	Rt.	12.5						1													
	28		1+45.5	2+33	Rt.	87.5				75.0				1											
	RAMP "J"																								
25	28		0+98	8+77	Lt.	775.0				762.5				1											
	28		8+77	9+02	Lt.	25.0						1													
	Total S.R.151 Interch. (Jewett)					2,350.0				2075.0		6		2					4						
	S.R.151 Interchange (Hopedale)																								
	Ramp "N" & Twp Rd. 178																								
41	32		13+37 Ramp "N"	14+24.5	Lt.	87.5																			
	32		14+24.5	14+37	Lt.	12.5								1											
	32		14+37 Ramp "N"	8+46.6 Twp Rd 178	Lt./Rt.	475.0				475.0															
	32		8+46.6	8+21.6	Rt.	25.0						1													
	RAMP "Q" & S.R. 151																								
43	32		15+83.5 Ramp "Q"	16+13.5	Rt.	12.5						1													
	32		16+13.5 Ramp "Q"	297+12 S.R. 151	Rt.	175.0				175.0															
	32		297+12	297+37	Rt.							1													
	S.R.151 Crossroad																								
42	32		294+05	296+10	Rt.					162.5		2													
40	32		294+15	296+25	Lt.					162.5		2													
	Total S.R.151 Interch. (Hopedale)					787.5				975.0		7		1											

GUARDRAIL SUMMARY

Totals From Sh. Nº	LOCATIONS	ITEM 202 Guardrail Removed For Storage Lin. Ft.	ITEM 202 Guardrail Barr. Design Removed for Storage Lin. Ft.	ITEM 202 Bridge Terminal Assy Removed Each	ITEM 606 Guardrail Type 5, Using 9' Posts† Lin. Ft.	ITEM 606 Guardrail Type 5† Lin. Ft.	ITEM 606 Guardrail Type 5 Barrier Design Lin. Ft.	ITEM 606 Anchor Assy Type A Ea.	ITEM 606 Anchor Assy Type A Barr. Design Ea.	ITEM 606 Anchor Assy Type T Ea.	ITEM 606 Bridge Terminal Assy Type A Ea.	ITEM 606 Bridge Terminal Assy Type A Mod Ea.	ITEM 606 Bridge Terminal Assy Type D Ea.	ITEM 606 Bridge Terminal Assy Type E Ea.	ITEM 606 Bridge Terminal Assy Type J Ea.	ITEM 606 Bridge Terminal Assy Type A W/Out Wheel Guard Ea.
37	Mainline (U.S. 22)	21,338.7	175.0	5	1,137.5	19883.0	500.0	40	6	20	2	3	4	4	4	4
38	S.R.151 Interch. (Jewett)	2350.0				2075.0		6		2	4					
38	S.R.151 Interch. (Hopedale)	787.5				975.0		7		1						
	Totals (Carried to General Summary)	24476.2	175.0	5	1,137.5	22,933.0	500.0	53	6	23	6	3	4	4	4	4

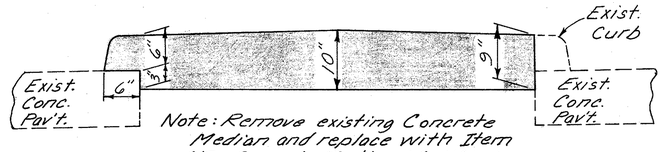


LEGEND

Existing Concrete Median To Be Removed

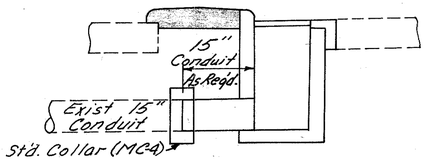
Item 612 ~ Concrete Median, Modified As Per Plan

Note: For Other Details See Standard Drawings MC-4, MC-6, & CB-3A



Note: Remove existing Concrete Median and replace with Item 612 ~ Concrete Median, Modified As Per Plan.

SECTION A-A



Note: Remove exist. catch basin and construct a St'd. Nº 3A Catch Basin at the same location and depth (4.5'). Connect the exist. pipe to the new catch basin with 15" Type B Conduit as required. The cost of the pipe shall be included in the unit price bid For Item 604 ~ Std. Nº 3A Catch Basin, As Per Plan.

SECTION B-B

QUANTITIES

Item 202 ~ Catch Basin Removed	1	Each
Item 202 ~ Curb Removed	15	Lin. Ft.
Item 202 ~ Concrete Median Pavement Removed	5	Sq. Yd.
Item 604 ~ Std. Nº 3A Catch Basin, As Per Plan	1	Each
Item 612 ~ Concrete Median, Modified As Per Plan	6	Sq. Yd.

Above Quantities Carried to General Summary

GUARDRAIL SUMMARY

FHWA REGION	STATE	PROJECT	
5	OHIO		

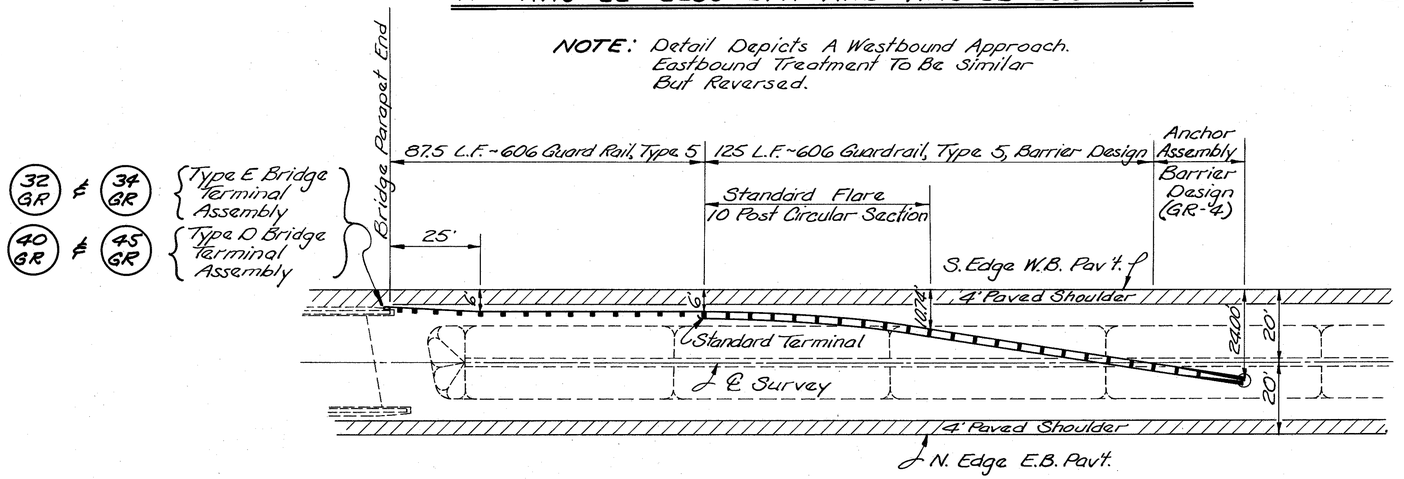
HAS-22-20.07

TYPICAL MEDIAN GUARDRAIL DETAIL AT BRIDGE

Nos HAS 22-2283 L&R AND HAS 22-2362 L&R

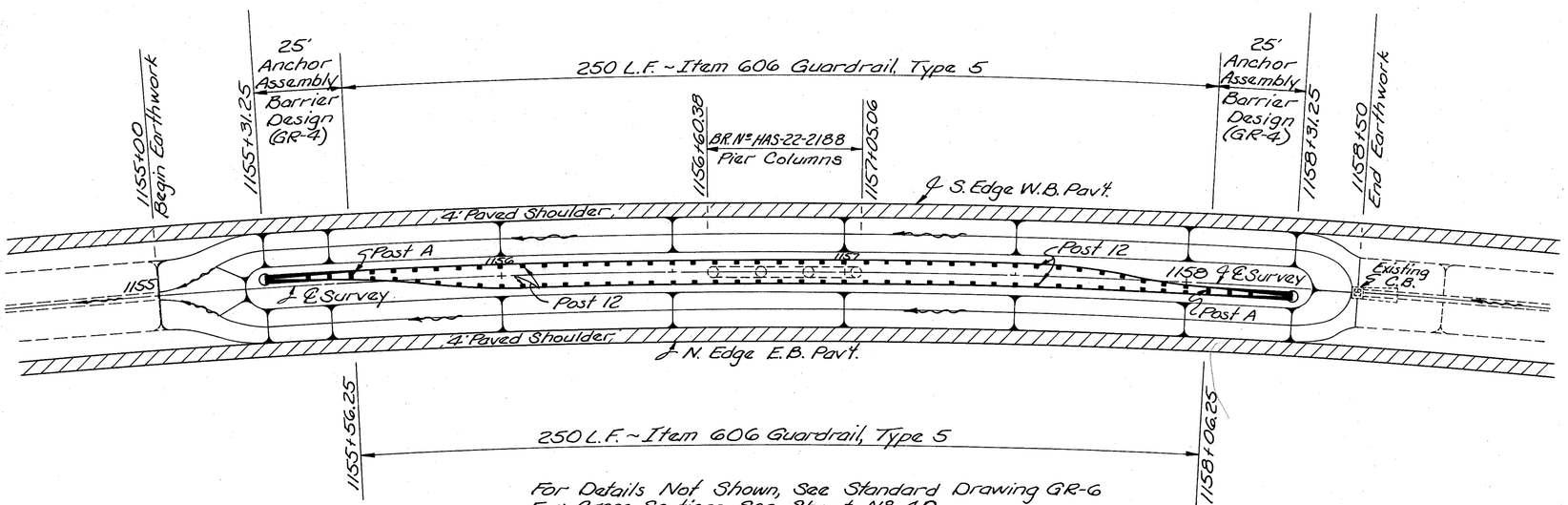
(32 GR) (34 GR) (40 GR) (45 GR)

NOTE: Detail Depicts A Westbound Approach. Eastbound Treatment To Be Similar But Reversed.

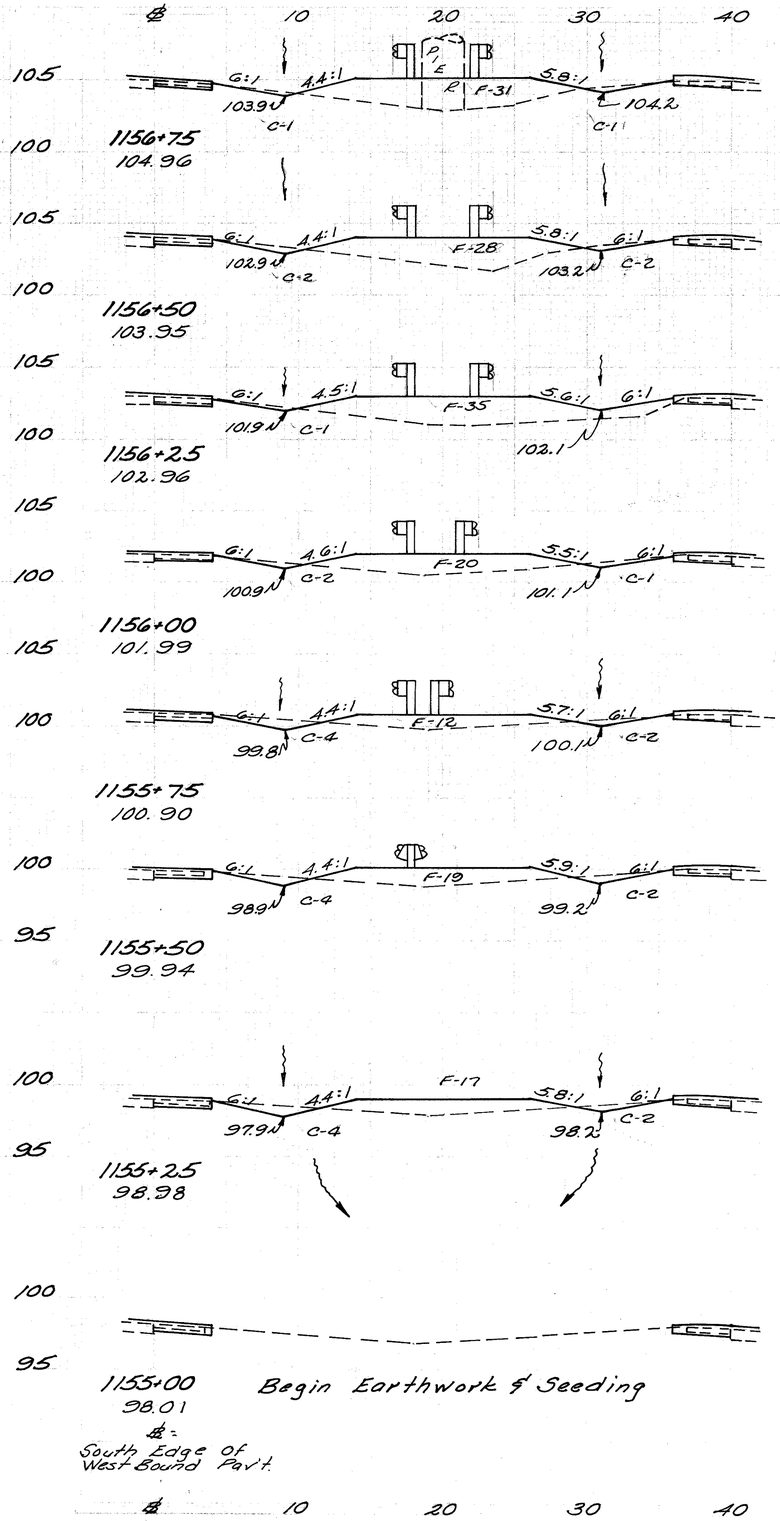


NOTE: The Existing Guardrail on The Trailing Bridge Ends of The Directional Roadways Shall Not Be Removed Until The Normal Traffic Pattern is Restored.

MEDIAN GUARDRAIL DETAIL AT BRIDGE No. HAS-22-2188 (18 GR)



For Details Not Shown, See Standard Drawing GR-6
For Cross Sections, See Sheet No. 40



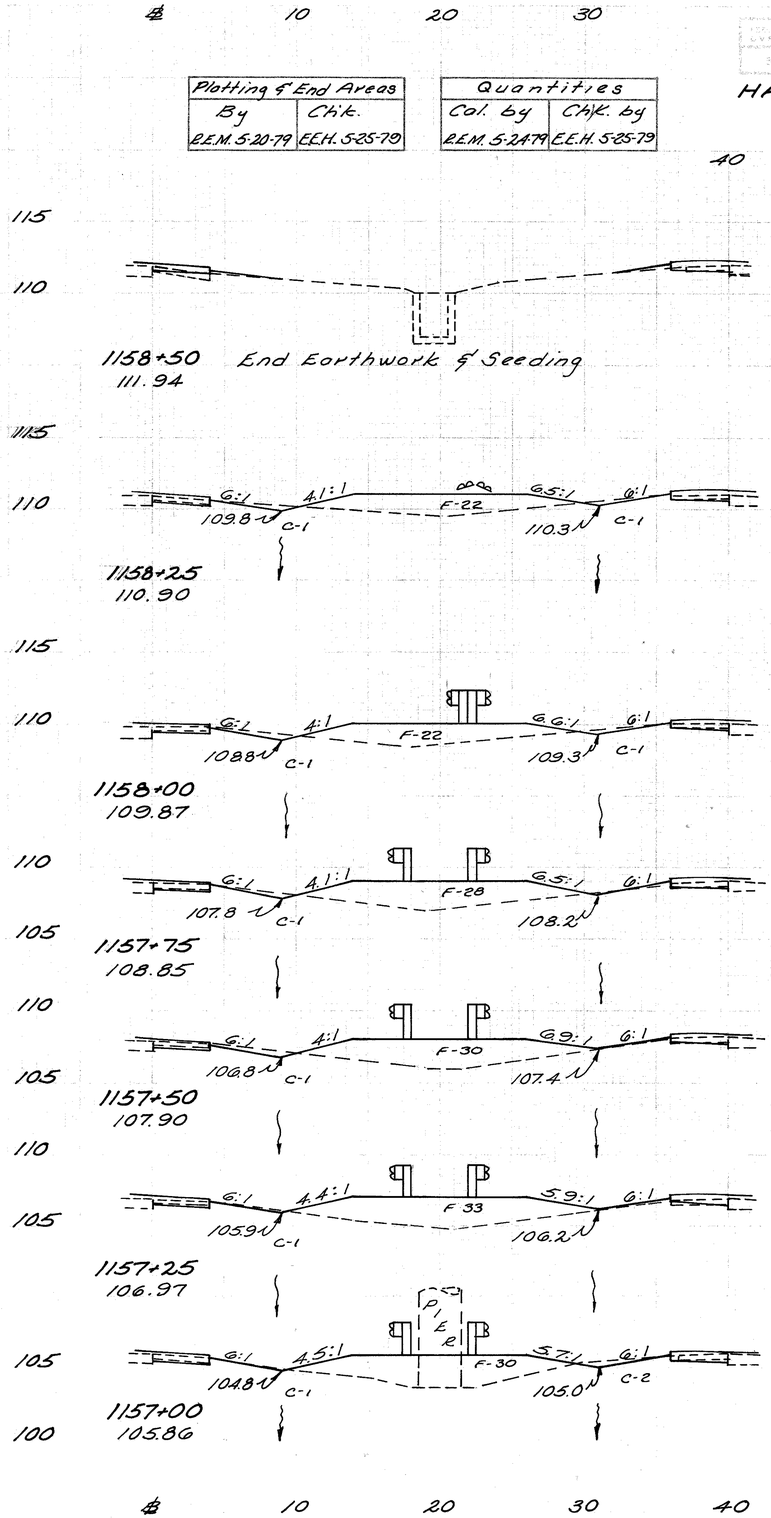
Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exv.	Cu. Yds. Emb.
	83			2	28
30		2	31		
	83			3	27
30		4	28		
	83			2	29
30		1	35		
	83			2	25
30		3	20		
	83			4	15
30		6	12		
	83			6	14
30		6	19		
	83			6	17
30		6	17		
	42			3	8
0		0	0		

Plotting & End Areas	
By	Ch'k.
E.E.M. 5-20-79	E.E.H. 5-25-79

Quantities	
Col. by	Ch'k. by
E.E.M. 5-24-79	E.E.H. 5-25-79

40
80

HAS-22-20.07



Quantities Carried To Sheet # 13

	Sq. Yds.	Cu. Yds.
Seeding	1080	
Excavation	36	Cu. Yds.
Embankment	301	Cu. Yds.

Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exv.	Cu. Yds. Emb.
		0	0		
	42			1	10
30		2	22		
	83			2	20
30		2	22		
	83			1	23
30		1	28		
	83			1	27
30		1	30		
	83			1	29
30		1	33		
	83			2	29
30		3	30		

MEDIAN CROSS SECTION STA 1155+00 to 1158+50

QUANTITIES	
Calc. Date R.E.M. 4/16/79	Chkd Date J.C.N. 8-14-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

41/80

HAS-22-20.07

PROFILE CORRECTION

STATION	LANE	AVG. DEPTH MEDIAN EDGE	AVG. DEPTH ℄	AVG. DEPTH OUTSIDE EDGE	AVG. THICKNESS	848 ASPH. CONC. INT. COURSE TYPE 2, CU. YDS.
1137+50	East Bound	.0	.0	.0		
+75		.01	.02	.09		
1138+00		.10	.08	.18		
+25		.18	.18	.22		
+50		.01	.01	.02		
+75		.01	.01	.01		
1139+00		.0	.0	.0		
					.0538	7.17
1177+75		.0	.0	.0		
1178+00		.01	.01	.04		
+25		.02	.06	.18		
+50		.10	.10	.03		
+75		.09	.06	.03		
1179+00		.03	.01	.01		
+25		.16	.10	.10		
+50		.0	.0	.0		
					.0475	7.39
1223+50		.0	.0	.0		
+75		.05	.07	.07		
1224+00		.01	.02	.03		
+25		.01	.0	.11		
+50		.07	.14	.10		
+75		.05	.10	.06		
1225+00		.01	.02	.01		
+25		.29	.27	.08		
+50		.11	.01	.10		
+75		.02	.04	.01		
1226+00		.03	.04	.01		
+25		.0	.01	.01		
+50			.17	.16		
+75			.04	.09		
1227+00			.0	.0		
					.0573	15.89
1230+50	West Bound	.0	.0	.0		
+75		.04	.06	.10		
1231+00		.11	.22	.16		
+25		.09	.24	.13		
+50		.01	.01	.00		
+75		.18	.01	.02		
1232+00		.04	.01	.07		
+25		.01	.01	.08		
+50		.0	.0	.0		
					.0592	10.53
1249+75		.0	.0	.0		
1250+00		.20	.18	.23		
+25		.09	.10	.10		
+50		.12	.14	.11		
+75		.0	.0	.0		
					.0847	7.53

(Continued To Next Column)

PROFILE CORRECTION

STATION	LANE	AVG. DEPTH MEDIAN EDGE	AVG. DEPTH ℄	AVG. DEPTH OUTSIDE EDGE	AVG. THICKNESS	848 ASPH. CONC. INT. COURSE TYPE 2, CU. YDS.
1280+50	East Bound	.0	.0	.0		
+75		.01	.01	.04		
1281+00		.01	.01	.04		
+25		.01	.01	.24		
+75		.04	.08	.22		
1282+00		.14	.02	.06		
+25		.0	.0	.0		
					.0448	6.96
1301+50	East Bound	.0	.0	.0		
+75		.01	.01	.10		
1302+00		.14	.16	.09		
+25		.10	.12	.12		
+50		.0	.0	.0		
					.0567	5.03
Total East Bound						60.5
1137+50	West Bound	.0		.0		
+75		.01		.08		
1138+00		.02		.25		
+25		.02		.30		
+50		.06		.01		
+75		.01		.01		
1139+00		.0		.0		
					.0550	3.06
1171+00	West Bound	.0	.0	.0		
+25		.02	.15	.14		
+50		.08	.11	.11		
+75		.04	.05	.04		
1172+00		.04	.01	.01		
+25		.07	.07	.04		
+50		.0	.0	.0		
					.0467	6.22
1177+00	West Bound	.0	.0	.0		
+25		.08	.01	.01		
+50		.01	.03	.01		
+75		.02	.02	.01		
1178+00		.02	.01	.01		
+25		.16	.20	.08		
+50		.19	.15	.12		
+75		.14	.12	.08		
1179+00		.0	.0	.0		
					.0548	9.74

(Continued To Next Column)

PROFILE CORRECTION

STATION	LANE	AVG. DEPTH MEDIAN EDGE	AVG. DEPTH ℄	AVG. DEPTH OUTSIDE EDGE	AVG. THICKNESS	848 ASPH. CONC. INT. COURSE TYPE 2, CU. YDS.
1224+00	West Bound	.0	.0	.0		
+25		.04	.06	.06		
+50		.08	.11	.03		
+75		.11	.10	.01		
1225+00		.01	.01	.01		
+25		.26	.11	.00		
+50		.15	.08	.12		
+75		.04	.07	.08		
1226+00		.0	.0	.0		
					.0588	10.46
1230+75	East Bound	.0	.0	.0		
1231+00		.01	.01	.19		
+25		.25	.16	.27		
+50		.24	.12	.23		
+75		.0	.0	.0		
					.0987	8.77
Total West Bound						38.25
Total East & West Bound, U.S.R. 22						98.75

PROFILE CORRECTION

STATION	RAMP	AVG. DEPTH Lt. Edge	AVG. DEPTH ℄	AVG. DEPTH Rt. Edge	AVG. THICKNESS	848 ASPH. CONC. INT. COURSE TYPE 2, CU. YDS.
S.R. 151 RAMP "M"						
1+25	On Ramp	.0	.0	.0		
+50		.20	.22	.19		
+75		.0	.0	.0		
						2.00
Total S.R. 151 Ramp "M"						2.00

PROFILE CORRECTION QUANTITIES

NOTE: The Profile Correction table indicates stations and average depth of 848 Asphalt Concrete material to be added for profile correction.

When 848 Asphalt Concrete correction is completed it shall conform to the original profile grade line of the project.

An estimated amount of 101 Cu. Yds. has been carried to the General Summary for this work.

For profile correction details and quantities from Sta. 1099+75 to Sta 1105+00, See Sheet No. 42

ITEM SPECIAL-PARTIAL DEPTH PAV'T. J.T. REPAIR

STATION From	STATION To	Approx. Length of 12' Wide Lane: WESTBOUND Travel Lane	WESTBOUND Passing Lane	EASTBOUND Passing Lane	EASTBOUND Travel Lane	EASTBOUND Truck Lane
		Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
1060+00	1138+50	7850			7850	
1138+50	1146+25	775		775	775	
1146+25	1163+08.9	11683.9	11683.9	11683.9	11683.9	
1163+08.9	1334+03.75			7094.85	7094.85	1700
Deduct For Equations	1168+68.19 Bk = 1168+75.64 Ah.	(-) 7.45	(-) 7.45	(-) 7.45	(-) 7.45	
	1280+62.94 Bk = 1280+72.73 Ah.			(-) 9.79	(-) 9.79	
	1298+78.92 Bk = 1299+90.75 Ah.			(-) 1.83	(-) 1.83	
	1324+83.81 Bk = 1329+98.24 Ah.			(-) 14.43	(-) 14.43	
Deduct For Bridges	HAS-22-2.12.6	(-) 144.76			(-) 144.76	
	HAS-22-2.28.3	(-) 229.47	(-) 229.47	(-) 229.47	(-) 229.47	
	HAS-22-2.36.2	(-) 128.95	(-) 128.95	(-) 128.95	(-) 128.95	
	HAS-22-2.46.0			(-) 184.61	(-) 184.61	
Net Total		19,798.27	11318.03	18977.22	26682.46	1700
Total Length of 12' Lane		78475.98 Lin. Ft.				

Approximate No. of Transverse Joints (12' Wide) in mainline pavement = 78476 L.F. x 1 joint/60 L.F. = 1307.9 joints Use 1308 Joints

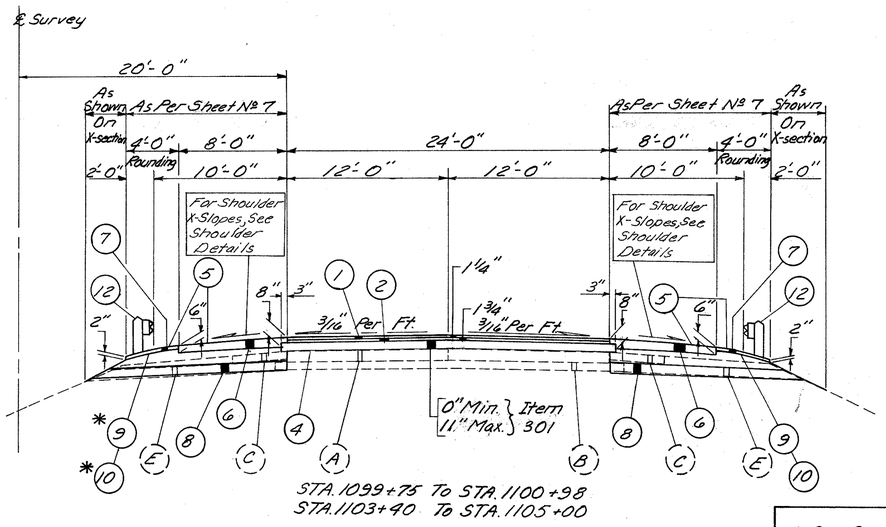
Estimate 20% of Transverse Joints in need of repair and average size of transverse joint repair to be 6' x 2'. ∴ Estim. partial depth repair Quantity for transverse joints = 0.20 x 1308 joints x 6' x 2' x 1 S.Y./9 S.F. = 348.8 S.Y. ∴ Use 350 Sq. Yds.

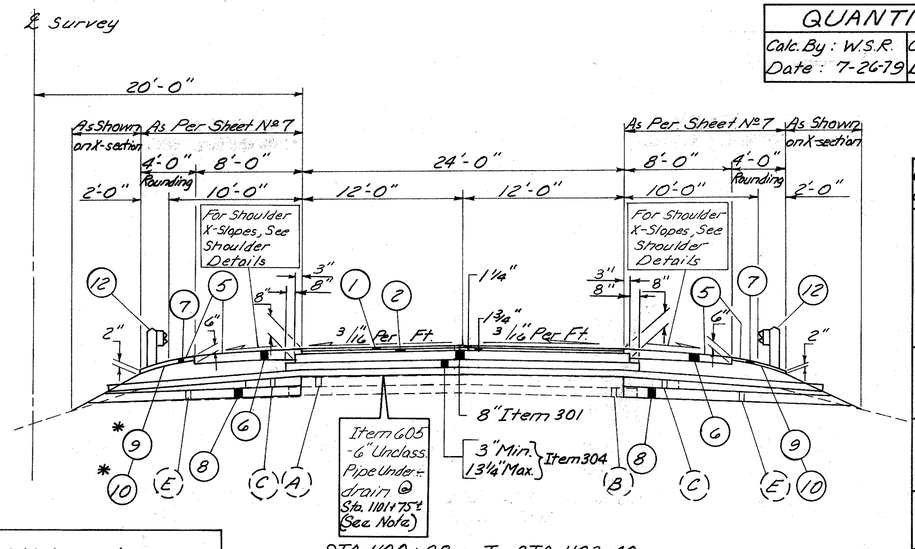
Approximate Length of Longitudinal Joints in mainline pavement = 7850' + 2(775') + 2(11683.9') + 7094.85' + 1700' - 1046.21' (Bridges) - 40.95' (Equations) = 40475.49 Lin. Ft.

Estimate 2% of above in need of repair average size 1' wide, ∴ Estim. partial depth repair Quantity for longitudinal joints = 0.02 x 40,475.49' x 1' x 1 S.Y./9 S.F. = 89.9 S.Y. Use 100 Sq. Yds.

∴ Estimated total quantity of Item Special - Partial depth Pavt joint repair = 350 + 100 = 450 Sq. Yds. Carried to General Summary See proposal note for description of this Item.

PROFILE CORRECTION & PARTIAL DEPTH PAVT. REPAIR CALCULATIONS





QUANTITIES	
Calc. By: W.S.R.	Ch'kd. By: J.C.N.
Date: 7-26-79	Date: 8-14-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

42/80

HAS-22-20.07

CALCULATION OF QUANTITIES REQUIRED FOR PROFILE CORRECTION FROM STA. 1099+75 TO STA. 1105+00

ITEM 301 - BITUMINOUS AGGREGATE BASE

Vol.(C.Y.) = Avg. Depth(Ft.) x Length(Ft.) x Width(Ft.) x 1/C.Y./27 Ft.³

Sta 1099+75 to Sta. 1100+98: V = 0.34 x 123 x 24.5' x 1/27 = 37.9 Cu. Yds.

Sta 1100+98 to Sta. 1103+40: V = 0.67 x 242 x 24.5' x 1/27 = 147.1 Cu. Yds.

Sta 1103+40 to Sta 1105+00: V = 0.38 x 160 x 24.5' x 1/27 = 55.2 Cu. Yds.

TOTAL = 240.2 Cu. Yds.

ITEM 304 - AGGREGATE BASE:

Vol.(C.Y.) = Avg. Depth(Ft.) x Length(Ft.) x Width(Ft.) x 1/C.Y./27 Ft.³

Sta 1100+98 to Sta. 1103+40: V = 0.74 x 242 x 25.8' x 1/27 = 171.3 Cu. Yds.

ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.01:

Sta. 1101+75 ± : Length = 55 Lin. Ft. (See Note this Sheet)

The above Quantities are carried to the General Summary.

For Cross-sections and Earthwork Quantities, See Sheet No 43

* See General Note pertaining to Shoulder Treatment & 408 Prime Coat as per plan for Prime Coat and Soil Sterilizer Specifications and Application Rates.

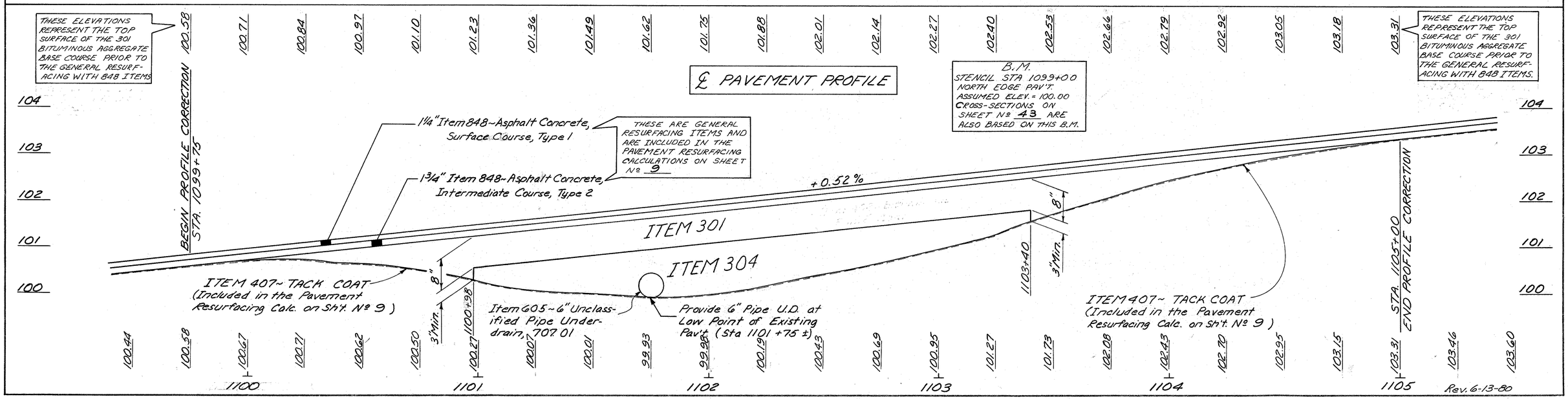
~ EXISTING LEGEND ~

- (A) — Existing 9" Reinforced Concrete
- (B) — Existing Subbase
- (C) — Existing Stabilized Aggr. Shoulder
- (E) — Existing Stone Underdrains

~ LEGEND ~

- (1) (2) (4) — Item 848 ~ 1¼" Asphalt Concrete, Surface Course, Type 1, AC-20 / Item 848 ~ 1¾" Asphalt Concrete, Intermediate Course, Type 2, AC-20 / Item 407 ~ Tack Coat: RC-250, MS-2, RS-1, SS-1 or SS-1h applied at the rate of .01 Gal. Per Sq. Yd. and Cover Aggregate @ 7 lbs. Per Sq. Yd.
- (5) — Item 409 ~ Seal Coat Bituminous Material: MC 800, MC 3000, CBAE 800, RS-1 RS-2, CRS-1, CRS-2, RT-9 or RT-10 applied at the rate of 0.3 Gal. Per Sq. Yd. and N°8 Cover Aggregate @ 0.008 Cu. Yd. Per Sq. Yd
- (6) — Item 301 ~ Bituminous Aggregate Base: AC-20, RT-11 or RT-12
- (7) — Item 848 ~ 2" Asphalt Concrete Surface Course, Type 1, AC-20 *
- (8) — Item 605 ~ Aggregate Drains
- (9) — Item 408 ~ Prime Coat *
- (10) — Soil Sterilizer *
- (11) — Item 659 ~ Seeding & Mulching
- (12) — Item 606 ~ Guard Rail, Type 5, Using 9 Ft. Posts, As Per Plan

NOTE: Item 605 ~ 6" Unclassified Pipe Underdrain, 707.01 shall be installed transversely on the existing shoulder and pavement at the existing profile low point (approx. sta. 1101+75) and outletted thru the slope beyond the new type 5 guardrail. (Erosion control pad and 10' length of outlet pipe are not required).



PROFILE CORRECTION ~ STA. 1099+75 TO STA. 1105+00

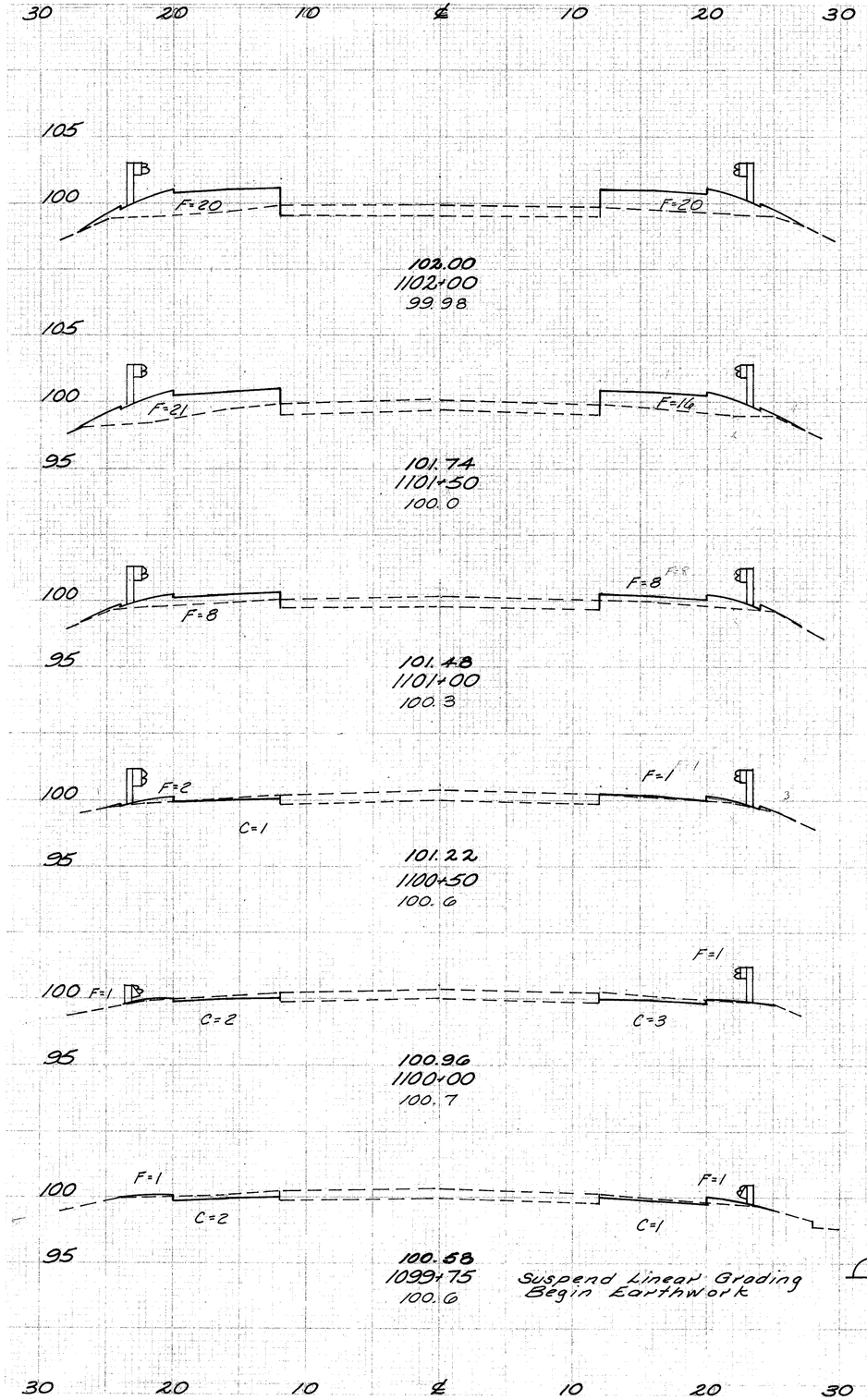
FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

43
80

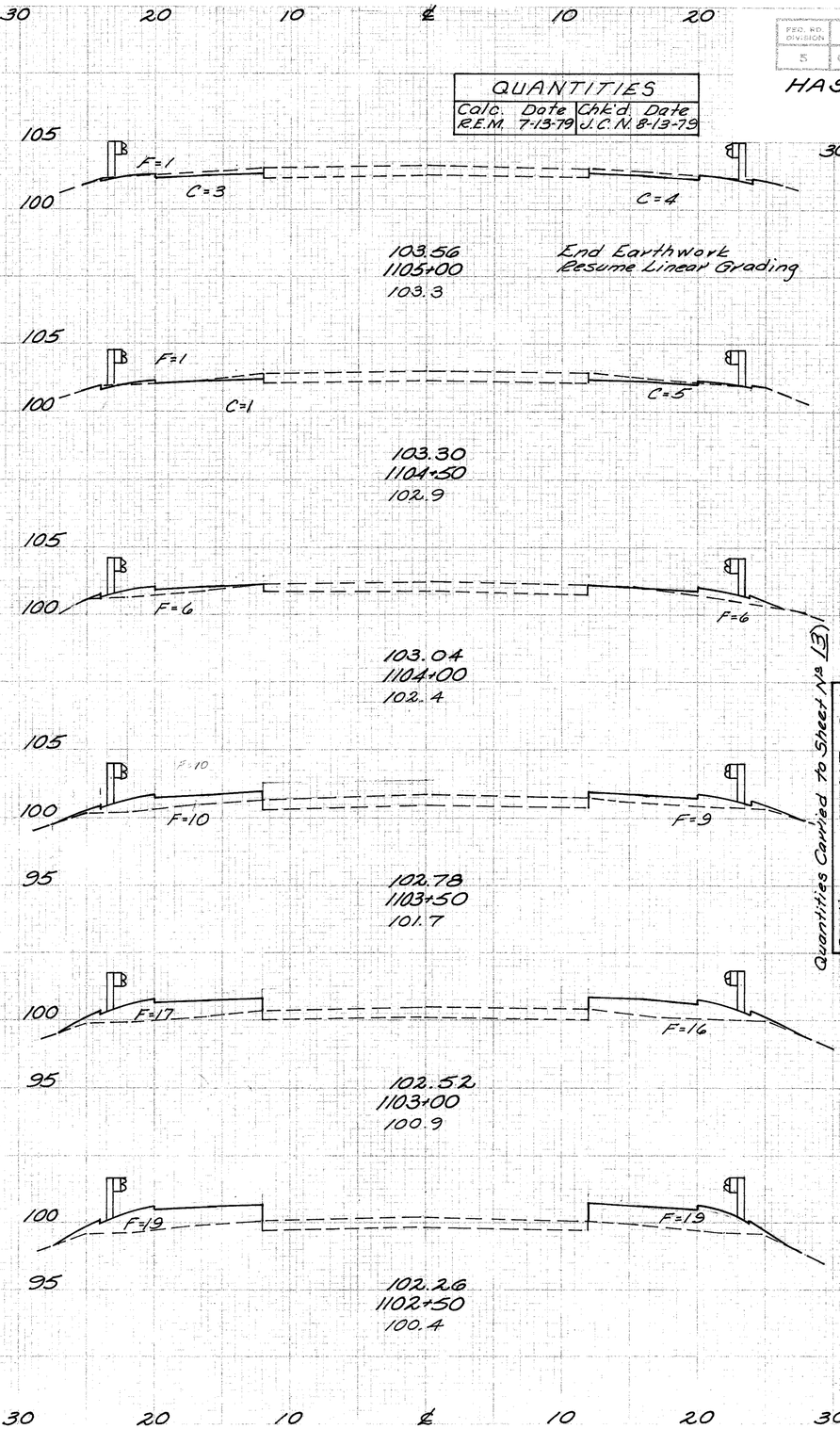
HAS-22-20.07

QUANTITIES

Calc.	Date	Chk'd.	Date
R.E.M.	7-13-79	J.C.N.	8-13-79



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	44			0	72
8		0	40		
	44			0	71
8		0	37		
	42			0	49
7		0	16		
	31			1	18
4		1	3		
	17			6	5
2		5	2		
	6			4	2
2		3	2		



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	4		7	1	
	25			12	2
	5		6	1	
	31			6	12
	6		0	12	
	39			0	29
8		0	19		
	44			0	48
8		0	33		
	44			0	66
8		0	38		

Quantities Carried to Sheet No 13

Seeding	367 S.Y.
Excavation	29 Cu. Yds.
Embankment	374 Cu. Yds.

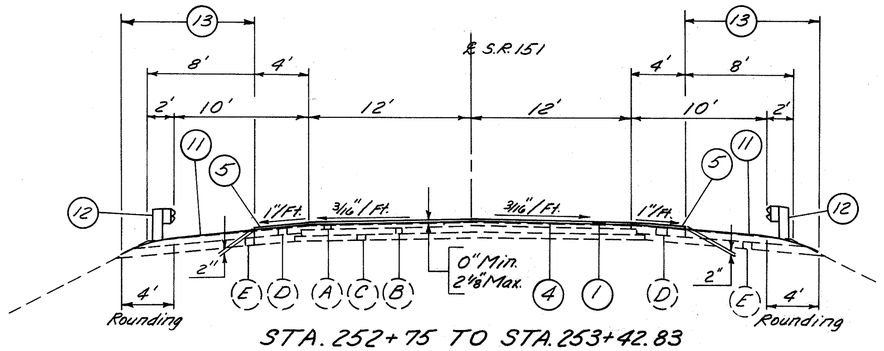
CROSS SECTION STA. 1099+75 to STA. 1105+00

QUANTITIES	
Calc. By: JCN	Chkd. By: R.E.M.
Date: 1-7-80	Date: 1-15-80

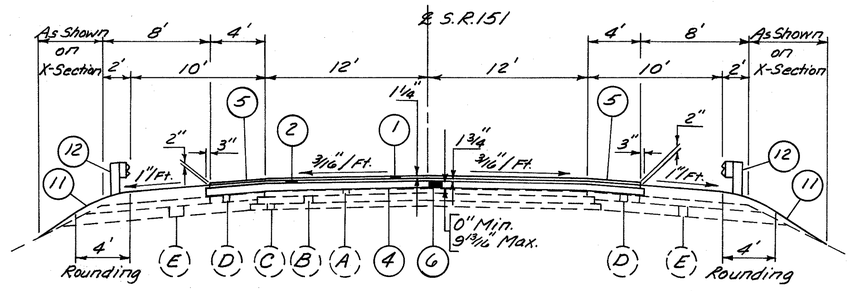
FHWA REGION	STATE	PROJECT	
5	OHIO		

44
80

HAS-22-20.07



STA. 252+75 TO STA. 253+42.83



STA. 256+76.09 TO STA. 258+50

~EXISTING LEGEND~

- (A) Existing Asphalt
- (B) Existing Aggr. Base
- (C) Existing Subbase
- (D) Existing Stabilized Aggr. Shoulder
- (E) Existing Stone Underdrain

~LEGEND~

- (1) (2) Item 848 ~ 1 1/4" Asphalt Concrete, Surface Course, Type 1, AC-20; Item 848 ~ 1 3/4" Asphalt Concrete, Intermediate Course, Type 2, AC-20
- (4) Item 407 ~ Tack Coat: RC-250, MS-2, RS-1, SS-1 or SS-1h applied at the Rate of 0.1 Gal. Per Sq. Yd. and Cover Aggregate @ 7 lbs. Per Sq. Yds.
- (5) Item 409 ~ Seal Coat: Bituminous Material; MC-800, MC-3000, CBAE 800, RS-1, RS-2, CRS-1, CRS-2, RT-9 or RT-10 applied at the rate of 0.3 Gal. Per Sq. Yd. and Nº 8 Cover Aggregate @ 0.008 Cu. Yd. Per Sq. Yd.
- (6) Item 301 ~ Bituminous Aggregate Base: AC-20, RT-11 or RT-12
- (11) Item 659 ~ Seeding & Mulching
- (12) Item 606 ~ Guard Rail, Type 5, As Per Plan
- (13) Item 203 ~ Linear Grading (See General Note Sheet Nº 14)

CALCULATION OF QUANTITIES REQUIRED FOR PROFILE CORRECTION FROM STA. 252+75 TO STA. 258+50

ITEM 301 ~ BITUMINOUS AGGREGATE BASE

Vol.(C.Y.) = Avg. Depth(Ft.) × Length(Ft.) × Width(Ft.) × 1 C.Y./27 Ft.³

Sta. 256+76.09 to Sta. 258+12: V = 0.41' × 135.91' × 32.5' ÷ 27 = 67.1 C.Y.

ITEM 407 ~ TACK COAT

Vol.(Gal) = Length(Ft.) × Width(Ft.) × 1 Yd.²/9 Ft.² × 0.40 Gal./S.Y.

Sta. 252+75 to Sta. 253+42.83: 67.83' × 24' ÷ 9 × 0.40 = 72 Gal.

Sta. 256+67.09 to Sta. 258+50: 182.91' × 24' ÷ 9 × 0.40 = 195 Gal.

TOTAL = 267 Gal.

COVER AGGREGATE

Vol.(Tons) = Length(Ft.) × Width(Ft.) × 1 Yd.²/9 Ft.² × 7 lbs./S.Y. ÷ 2000

Sta. 252+75 to Sta. 253+42.83: 67.83' × 24' ÷ 9 × 7 ÷ 2000 = 0.6 Tons

Sta. 256+67.09 to Sta. 258+50: 182.91' × 24' ÷ 9 × 7 ÷ 2000 = 1.7 Tons

TOTAL = 2.3 Tons

ITEM 409 ~ BITUMINOUS MATERIAL

Vol.(Gal.) = Length(Ft.) × Width(Ft.) × 1 Yd.²/9 Ft.² × 0.3 Gal./S.Y.

Sta. 252+75 to Sta. 253+42.83: 67.83' × 8' ÷ 9 × 0.3 = 18.1 Gal.

Sta. 256+67.09 to Sta. 258+50: 182.91' × 8' ÷ 9 × 0.3 = 48.8 Gal.

TOTAL = 66.9 Gal.

COVER AGGREGATE

Vol.(C.Y.) = Length(Ft.) × Width(Ft.) ÷ 1 Yd.²/9 Ft.² × 0.008 C.Y./S.Y.

Sta. 252+75 to Sta. 253+42.83: 67.83 × 8 ÷ 9 × 0.008 = 0.5 C.Y.

Sta. 256+67.09 to Sta. 258+50: 182.91 × 8 ÷ 9 × 0.008 = 1.3 C.Y.

TOTAL = 1.8 C.Y.

ITEM 848 ~ ASPHALT CONCRETE SURFACE COURSE TYPE 1

Vol.(C.Y.) = Avg. Depth(Ft.) × Length(Ft.) × Width(Ft.) × 1 C.Y./27 Ft.³

Sta. 252+75 to Sta. 253+42.83: 0.09 × 67.83' × 32' ÷ 27 = 7.2 C.Y.

Sta. 256+67.09 to Sta. 258+12: 0.10 × 144.91' × 32' ÷ 27 = 17.2 C.Y.

Sta. 258+12 to Sta. 258+50: 0.125 × 38' × 32' ÷ 27 = 5.6 C.Y.

TOTAL = 30.0 C.Y.

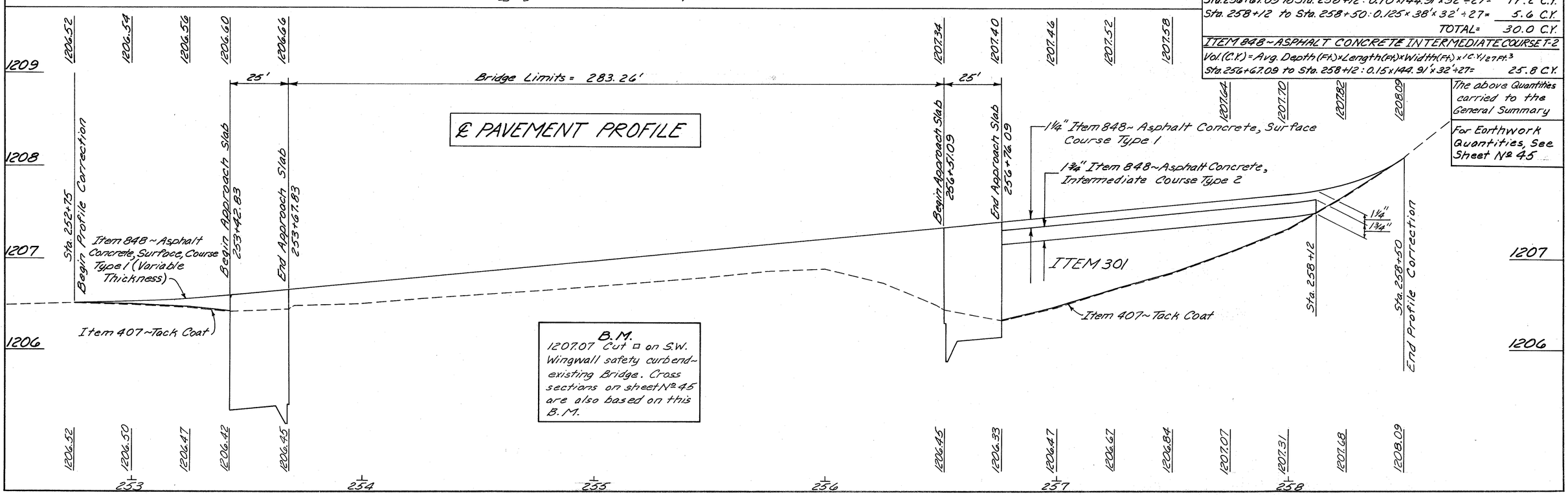
ITEM 848 ~ ASPHALT CONCRETE INTERMEDIATE COURSE T-2

Vol.(C.Y.) = Avg. Depth(Ft.) × Length(Ft.) × Width(Ft.) × 1 C.Y./27 Ft.³

Sta. 256+67.09 to Sta. 258+12: 0.15 × 144.91' × 32' ÷ 27 = 25.8 C.Y.

The above Quantities carried to the General Summary

For Earthwork Quantities, See Sheet Nº 45



SR 151 PROFILE CORRECTION ~ STA. 252+75 TO STA. 258+50

QUANTITIES	
Calc. By: J.C.N.	Ch'k'd. By: R.E.M.
Date: 12-28-79	Date: 1-14-80

Quantities Carried to Sheet No. 13

Seeding	428	Sq. Yds.
Excavation	0	Cu. Yds.
Embankment	105	Cu. Yds.

SR 151 Cross Sections Sta. 256+51.09 to Sta. 258+50

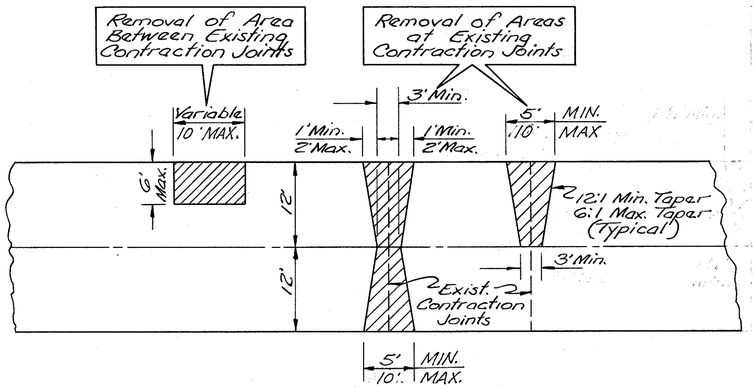
FULL DEPTH RIGID PAVEMENT REMOVAL & FLEXIBLE REPLACEMENT
(LENGTH LESS THAN 10 FEET)

FHWA REGION	STATE	PROJECT	
5	OHIO		

46/80

HAS-22-20.07

QUANTITIES	
Calc. Date W.S.R. 12/26/79	Chkd. Date J.C.N. 12/27/79



PAVEMENT REMOVAL DETAIL

ITEM SPECIAL:
~ FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT

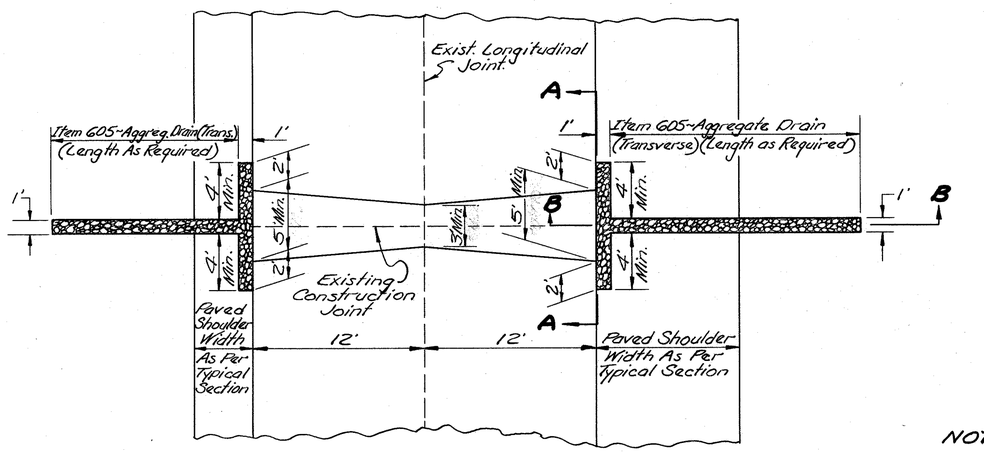
This Item shall consist of the full depth removal of deteriorated existing rigid pavement and its replacement with Item 301, in areas designated by the Engineer, in accordance with the note in the proposal. Use of this item shall be restricted to repair areas 10 feet or less in length.

Full depth repair areas shall be located and marked with paint by the Engineer prior to the start of the work. The limits of areas to be repaired may be adjusted at the direction of the Engineer. Rectangular patches may be used where they best fit the deteriorated areas.

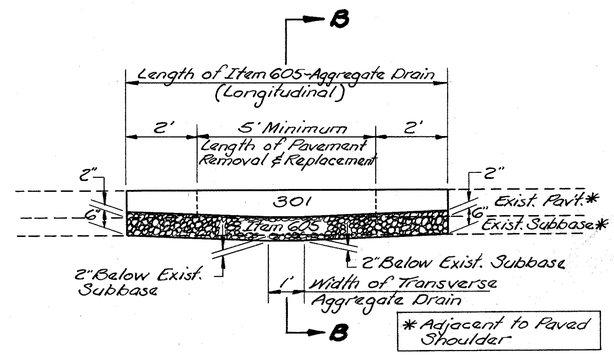
If unsuitable subbase is encountered in areas of full depth pavement removal, the Engineer may require its removal and replacement with Item 310~Subbase, Payment for which shall include any necessary excavation.

The following Estimated Quantities have been included in the General Summary for the above purposes:

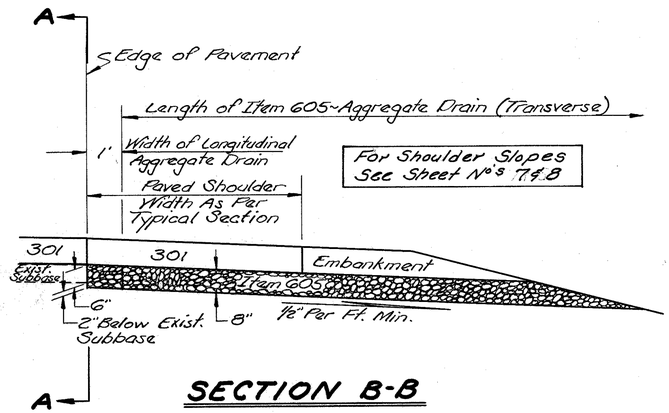
ESTIMATED QUANTITIES TO BE USED AS DIRECTED BY THE ENGINEER					
ITEM Nº	DESCRIPTION	W. BOUND	E. BOUND	TOTAL	Quantities Carried To General Summary
Special	Full Depth Rigid Pavement Removal and Flexible Replacement	384 Sq. Yds.	576 Sq. Yds.	960 Sq. Yds.	
310	Subbase, TYPE I, AS PER PLAN	64 Cu. Yds.	96 Cu. Yds.	160 Cu. Yds.	



PLAN



SECTION A-A



SECTION B-B

NOTES: Longitudinal aggregate drains shall extend two (2) feet beyond the ends of each full depth rigid pavement removal and flexible replacement.

Transvervse aggregate drains shall be constructed at each full depth rigid pavement removal and flexible replacement, and shall be adjusted to avoid any guard rail posts.

The cost of 301 material and embankment over the longitudinal and transverse aggregate drains shall be included in the unit price bid for Item 605~Aggregate Drains, AS PER PLAN.

ESTIMATED QUANTITIES - ITEM 605 AGGREGATE DRAINS, AS PER PLAN (For Flexible Replacement Areas Only)		
Type of Drain	W. Bound	E. Bound
Longitudinal	700 L.F.	650 L.F.
Transverse	500 L.F.	650 L.F.
Subtotals	1200 L.F.	1300 L.F.
TOTAL	2500 L.F.	
Carried To General Summary		

FLEXIBLE REPLACEMENT & DRAINAGE DETAILS

Rev. 6-13-80

(LENGTH LESS THAN 10 FEET) **FULL DEPTH PAVEMENT REPAIR DETAILS**

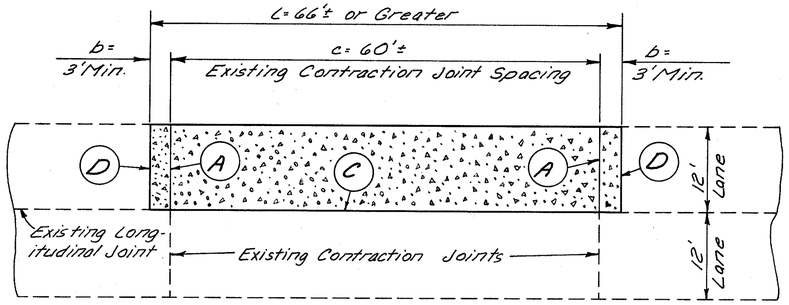
PORTLAND CEMENT CONCRETE FULL DEPTH PAVEMENT REMOVAL & REPLACEMENT (Length ≥10 Feet)

(NO SCALE)

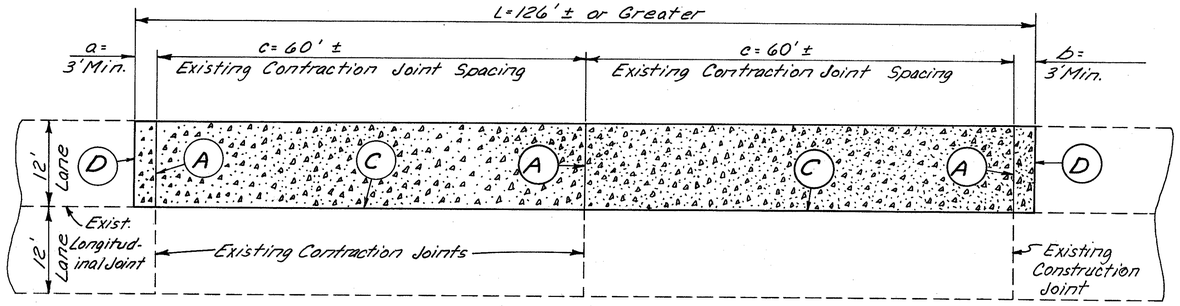
FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

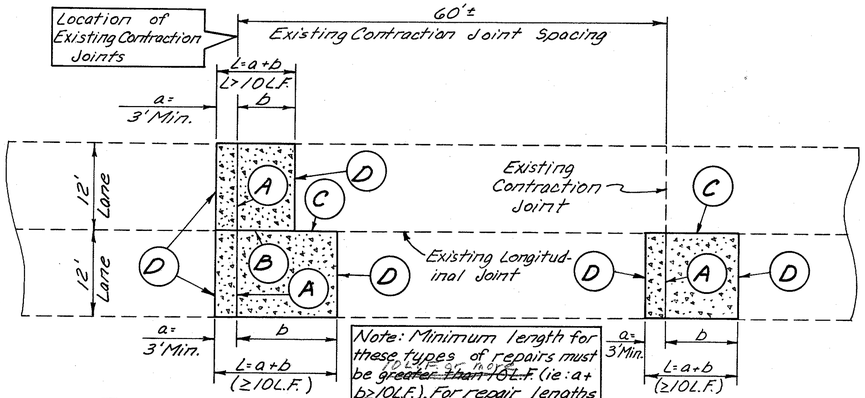
46A 80



Replacement of Entire Slab Between Contraction Joints



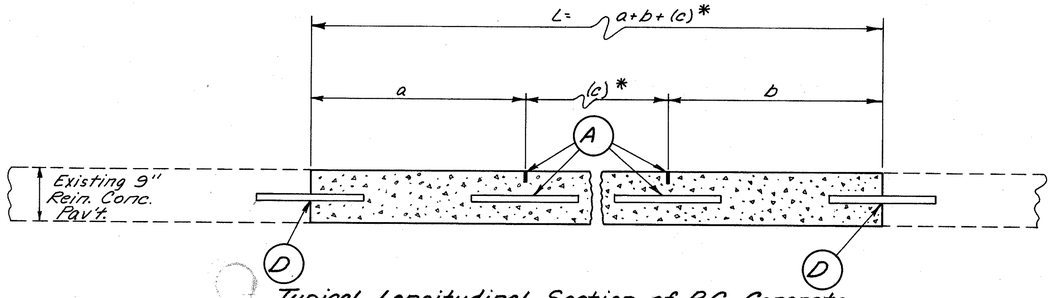
Replacement of Two (or more) Slabs Between Contraction Joints



Typical Full Width Replacement

Note: Minimum length for these types of repairs must be ~~greater than 10L.F.~~ (ie: a+b≥10L.F.) For repair lengths ~~of 10L.F. and under~~, use full depth removal & flexible replacement as per sheet No 46

Typical Part Width Replacement



Typical Longitudinal Section of P.C. Concrete Full Depth Pavement Replacement

*Pertains only to repairs involving removal & replacement of entire slab(s) between contraction joints.

LEGEND

- ~ Item Special - Removal & Replacement of Full Depth Portland Cement Concrete Pavement (See Proposal Note for this Item)
- (A) ~ Item Special - New Transverse Joint Dowel Assembly (See above Proposal Note)
- (B) ~ Standard Longitudinal Joint as per BP-3
- (C) ~ Longitudinal Joint as per above Proposal Note
- (D) ~ Transverse Construction Joint as per above Proposal Note

QUANTITIES	
Calc By: WSR	Ch'kd By: JCN
Date: 6-12-80	Date: 6-12-80

Items Special: ~Removal and Replacement of Full Depth Portland Cement Concrete Pavement (See Proposal Note)
~New Transverse Joint Dowel Assembly (See above Proposal Note)

These items shall consist of the full depth removal of deteriorated pavement areas 10 feet or more in length and replacement with Portland Cement Concrete and New Transverse Joint Dowel Assemblies in accordance with the proposal note and details on this sheet.

Full depth repair areas shall be located and marked with paint by the Engineer prior to the start of the work. The limits of areas to be repaired may be adjusted at the direction of the Engineer.

If unsuitable subbase is encountered in areas of full depth pavement removal, the Engineer may require its removal and replacement with Item 310 ~ Subbase, Type 1, Grading A, payment for which shall include any necessary excavation.

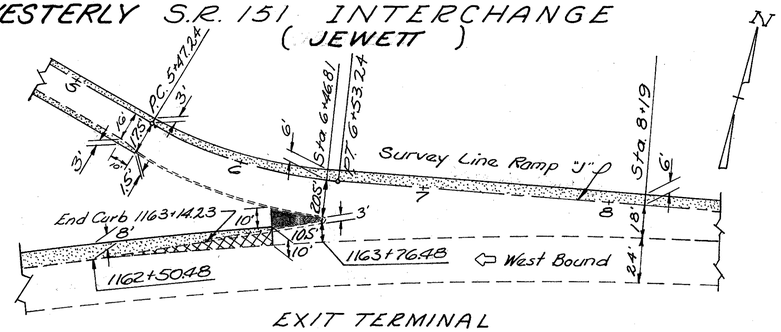
The following estimated quantities have been included in the General Summary for the above purposes:

Removal & Replacement of Full Depth Portland Cement Concrete Pavement				
Item No.	Description	W. Bound	E. Bound	Totals
Special	Removal and Replacement of Full Depth Portland Cement Concrete Pavement	780 S.Y.	420 S.Y.	1200 S.Y.
Special	New Transverse Joint Dowel Assembly	180 L.F.	120 L.F.	300 L.F.
310	Subbase, Type 1, Grading A	130 C.Y.	70 C.Y.	200 C.Y.

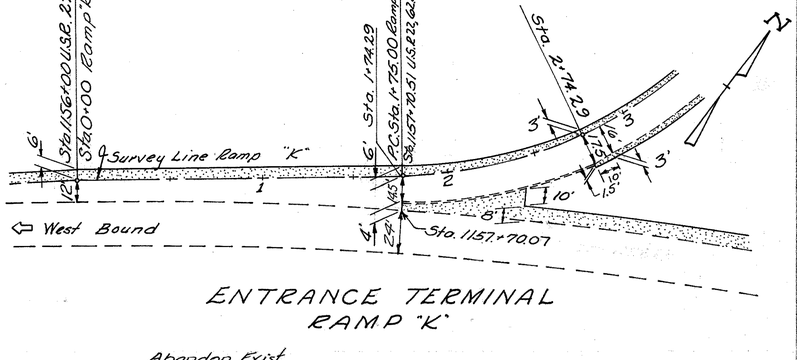
Rev. 6-13-80

FULL DEPTH PAVEMENT REPAIR DETAILS (LENGTH >10 FT.)

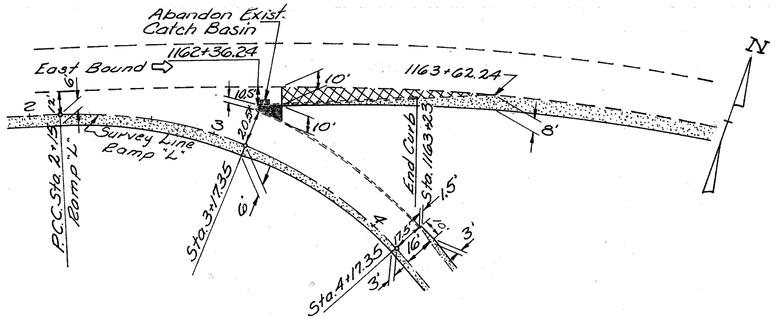
WESTERLY S.R. 151 INTERCHANGE (JEWETT)



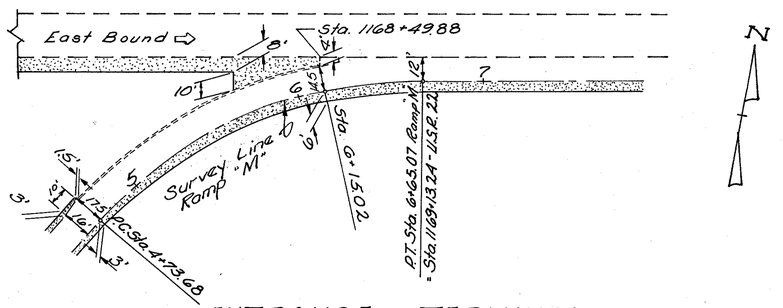
EXIT TERMINAL
RAMP "J"



ENTRANCE TERMINAL
RAMP "K"

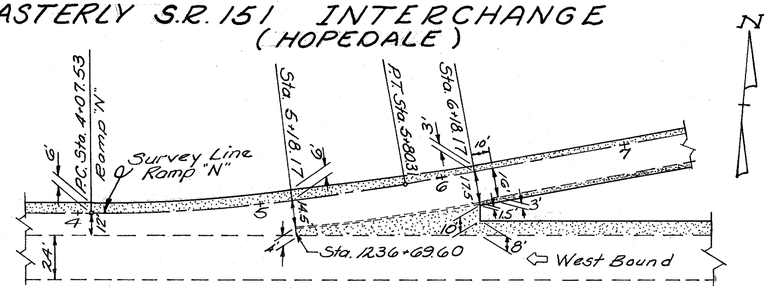


EXIT TERMINAL
RAMP "L"

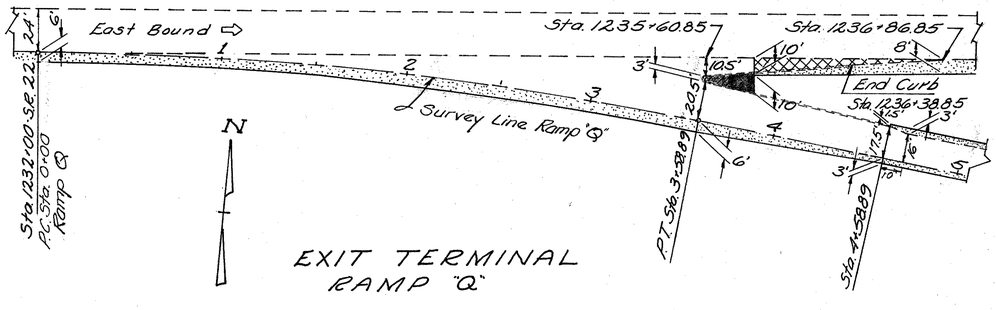


ENTRANCE TERMINAL
RAMP "M"

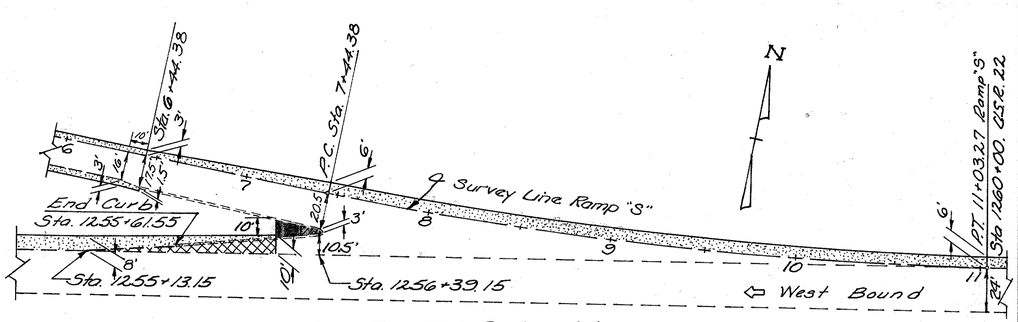
EASTERLY S.R. 151 INTERCHANGE (HOPEDALE)



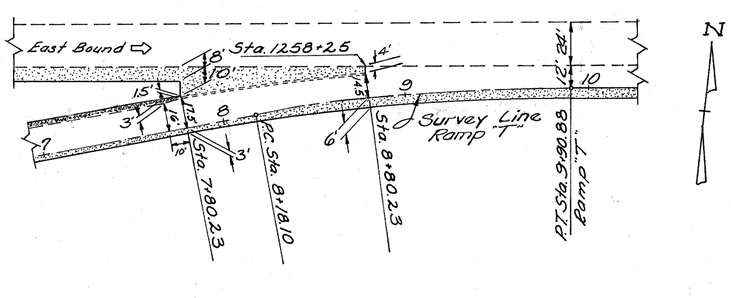
ENTRANCE TERMINAL
RAMP "N"



EXIT TERMINAL
RAMP "Q"



EXIT TERMINAL
RAMP "S"



ENTRANCE TERMINAL
RAMP "T"

QUANTITIES

Calc. Date	Chkd. Date
E.E.M. 4-4-79	J.C.N. 6-21-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

47/80

HAS-22-20.07

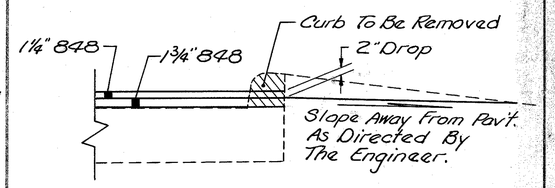
RAMP TERMINAL SAFETY TREATMENT QUANTITIES

Interchange	Ramp	Location From	Location To	ITEM 202 Curb Removed Lin. Ft.	Conc. Median Pav't. Removed Sq. Yds.	Catch Basin Abandoned Each
Westerly S.R. 151 (Jewett)	J	1163+14.28	1163+78.48	65	5	
		5+97.24	6+48.81	103		
	K	1+74.29	2+74.29	107		
	L	1162+34.24	1163+23	90	3	1
		3+15.35	4+17.35	111		
	M	4+73.68	6+15.02	151		
Easterly S.R. 151 (Hopedale)	N	5+18.17	6+18.17	100		
	Q	1235+58.85	1236+38.85	81	6	
		3+56.89	4+58.89	103		
	S	1255+61.55	1256+41.15	81	6	
		6+44.38	7+46.38	103		
	T	7+80.23	8+80.23	100		
SAFETY TREATMENT TOTALS				1195	20	1

Quantities Carried to General Summary

NOTE:

All Dimensions Are To The Back of Curb Where Curb Is Indicated. Existing Curb Is Std. Type 2-A And Shall Be Removed So As To Provide A Flush Surface With The Adjacent Pavement Prior To Resurfacing As Shown In The Detail Below. Areas Of Curb And Concrete Median Pavement Removal Shall Be Graded To Drain, Seeded And Left In A Neat Condition As Directed By The Engineer. Cost Of Grading Shall Be Included In The Unit Price Bid For Items 202-Curb Removed Or Concrete Median Pavement Removed. Seeding And Mulching Shall Be Measured And Paid For As Item 659- Seeding And Mulching.



RAMP TERMINAL TREATMENT LEGEND

- Item 409~ Seal Coat, Cover Aggregate And Bituminous Material On Item 301~ Bituminous Aggregate Base As Per Typical Sections (Mainline And Ramp Shoulder Quantities)
- Item 301~8" Bituminous Aggregate Base (Mainline Shoulder Quantity) And Item 848~ Surface & Intermed. Courses (Resurf. Quantity)
- Item 409~Seal Coat, Cover Aggregate And Bituminous Material on Items 848 (Items 848 are Mainline Pavement Quantities And Items 409 Are Mainline Shoulder Quantities.)
- Item 202~ Concrete Median Pavement Removed (Ramp Terminal Safety Treatment Quantity)

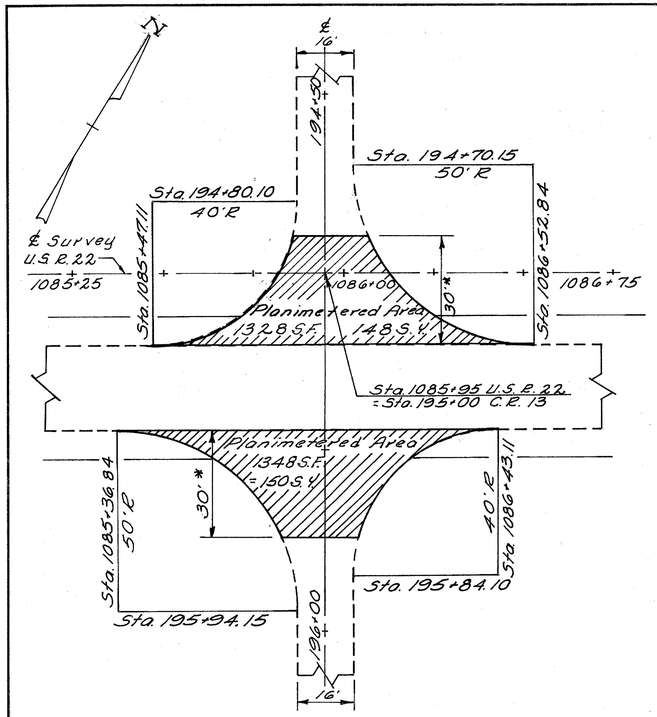
RAMP TERMINAL DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

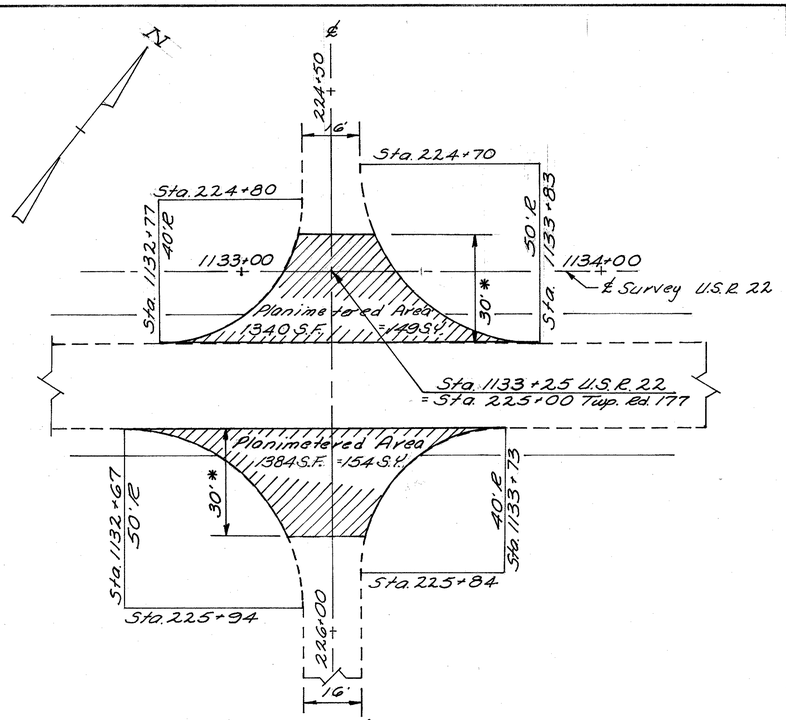
48/80

HAS-22-20.07

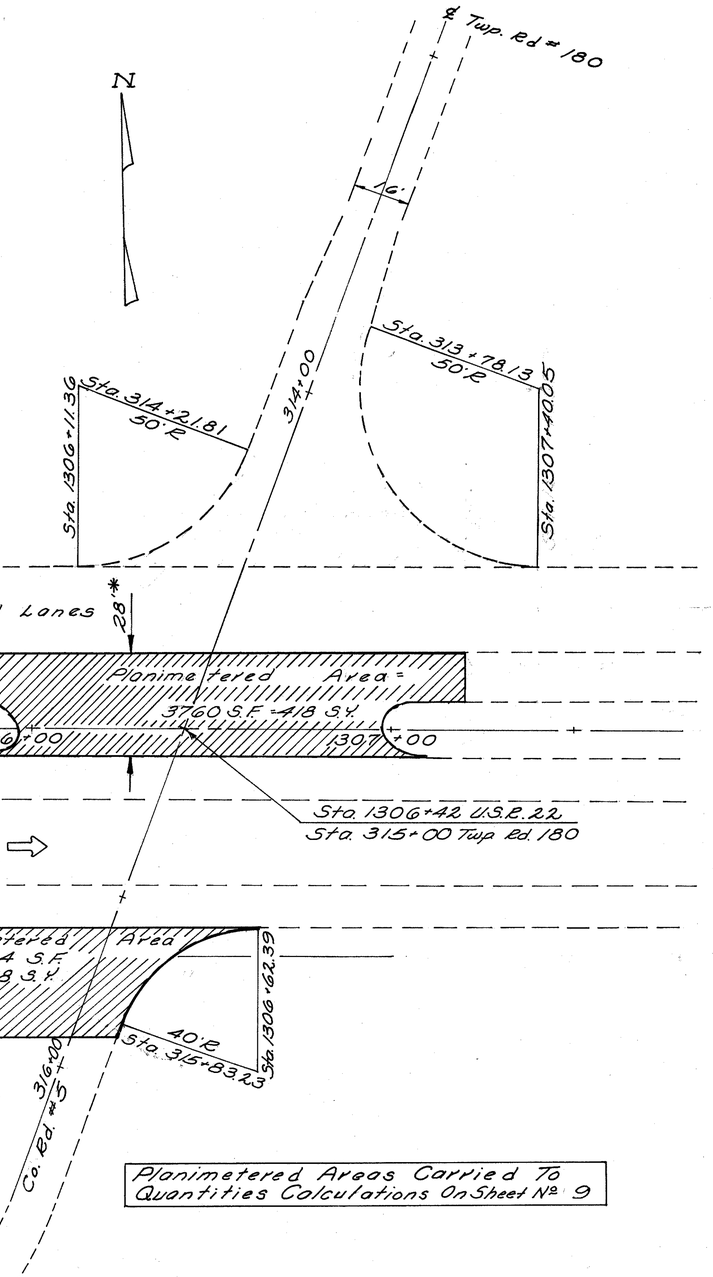
QUANTITIES	
Calc. Date	Chk'd. Date
R.E.M. 4/2/79	J.C.N. 6/22/79



U.S.R. 22 & C.R. 13



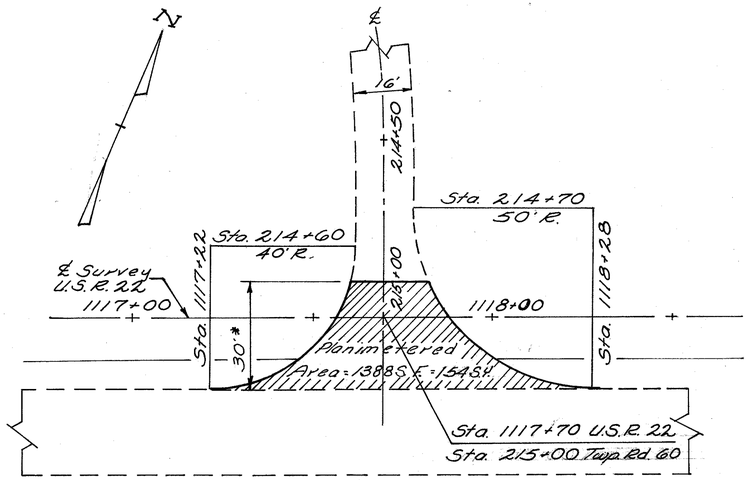
U.S.R. 22 & TWP. RD. 177



Planimetered Areas Carried To Quantities Calculations On Sheet No. 9

U.S.R. 22, TWP. RD 180 & C.R 5

*See Intersection Feather Detail on Sheet No. 50



Scale: 0 20 40

U.S.R. 22 & TWP. RD 60

PAVEMENT DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

42/80

HAS-22-20.07

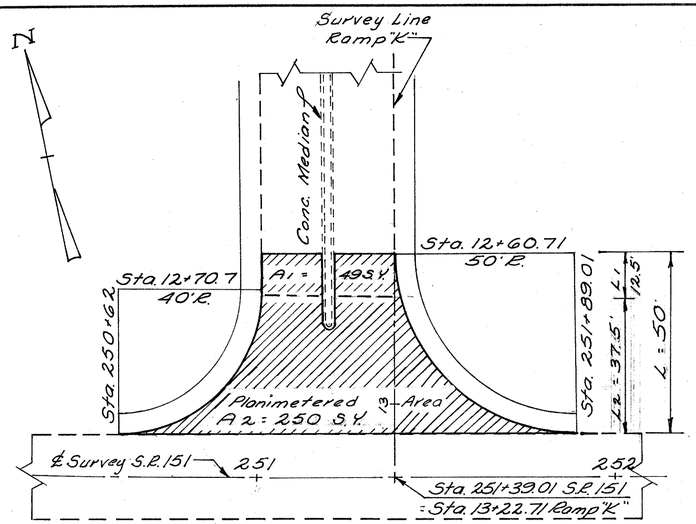
QUANTITIES	
Calc. Date	Chk'd. Date
R.E.M. 4/6/79	J.C.N. 6-21-79

RAMP INTERSECTION FEATHER DATA

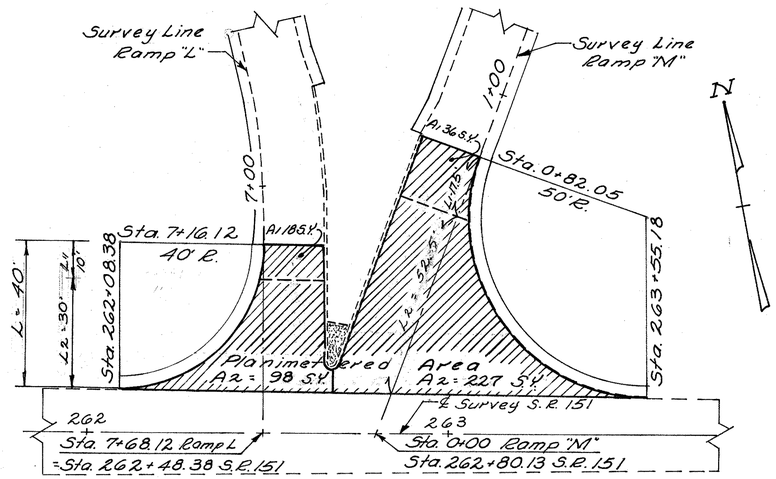
S.R.151 INTERCHANGE	RAMP	Total Feather		Areas Used in Calculations on Sheet Nos 9 & 10			
		Length "L"	Area "A"	L1 =0.25L	A1	L2 =0.75L	A2
		Lin. Ft.	Sq. Yds.	Lin. Ft.	Sq. Yds.	Lin. Ft.	Sq. Yds.
Westerly (Jewett)	K	50	299	12.5	49	37.5	250
	L	40	116	10	18	30	98
	M	70	263	17.5	36	52.5	227
Easterly (Hopedale)	N	48	160	12	22	36	138
	S	40	134	10	20	30	114
	T	70	269	17.5	33	52.5	236
	Q	50	142	12.5	23	37.5	119

See Ramp Intersection Feather Detail On Sheet No. 50

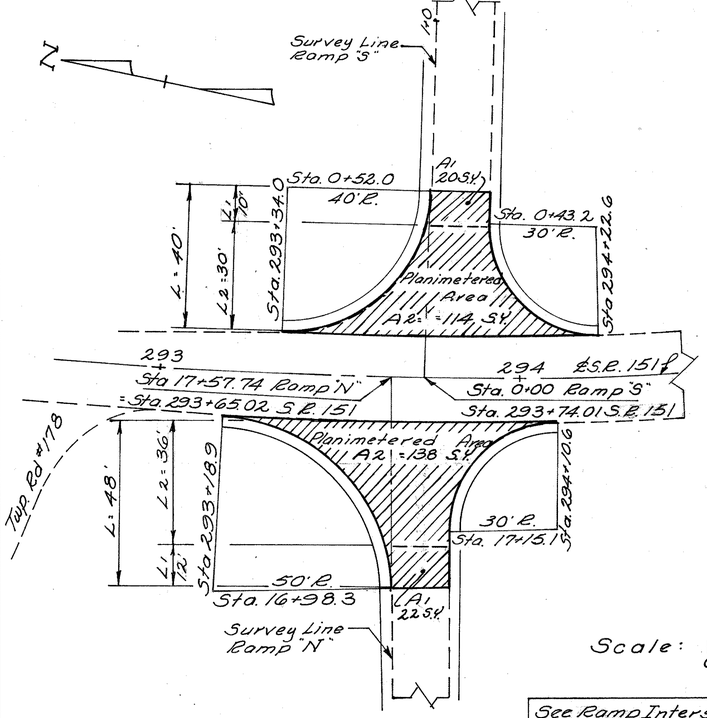
Above Areas Are Based On Measurement By Planimeter



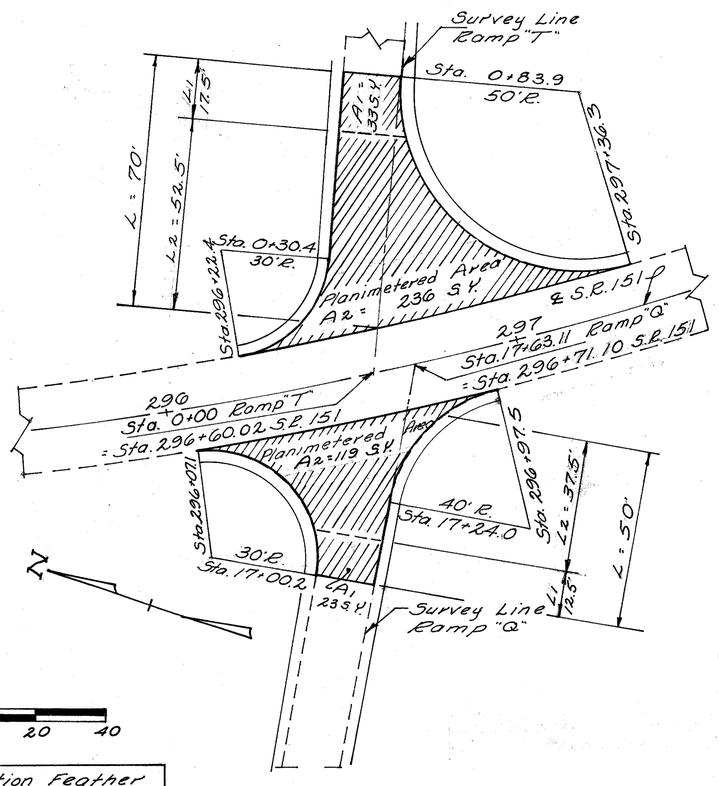
RAMP "K" @ S.R. 151



RAMPS "L" & "M" @ S.R. 151



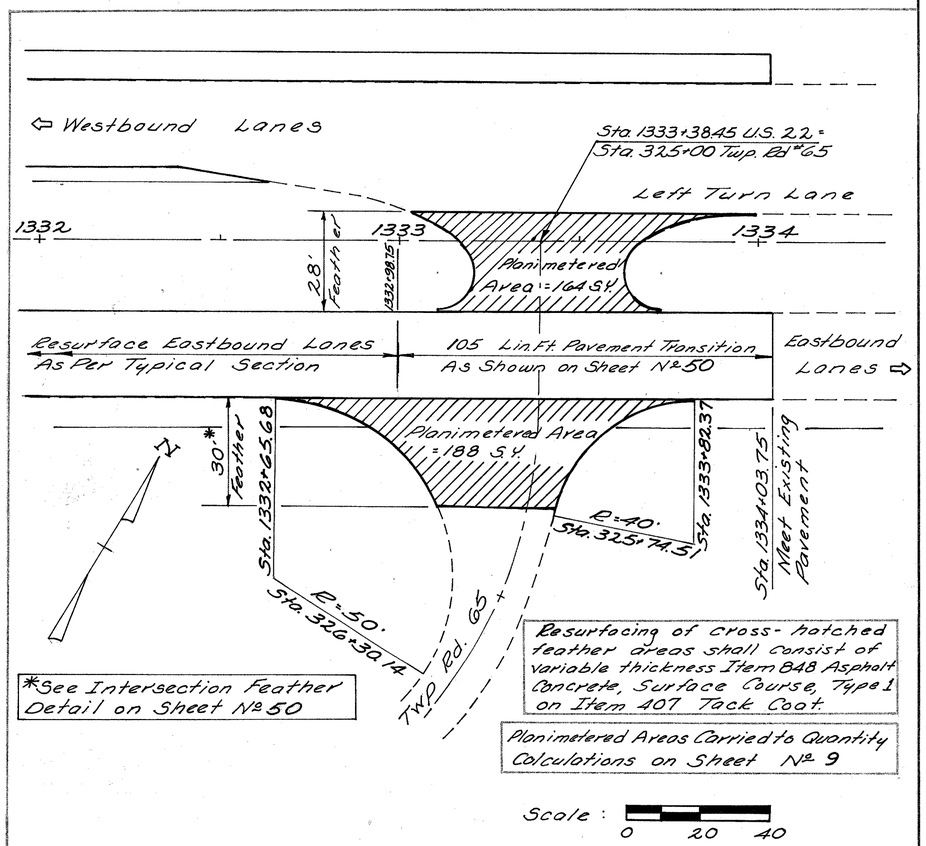
RAMPS "N" & "S" @ S.R. 151



RAMPS "T" & "Q" @ S.R. 151

Scale: 0 20 40

See Ramp Intersection Feather Detail on Sheet No. 50



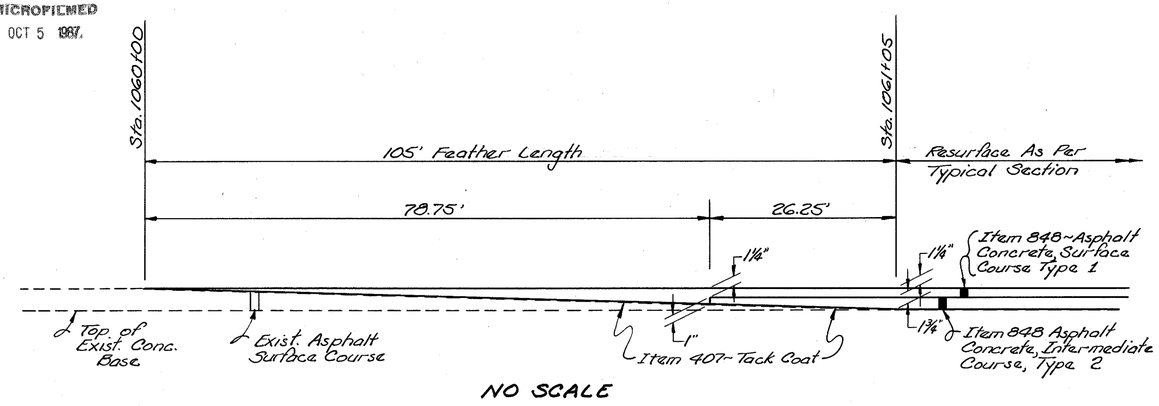
Resurfacing of cross-hatched feather areas shall consist of variable thickness Item 848 Asphalt Concrete, Surface Course, Type 1 on Item 407 Tack Coat.

Planimetered Areas Carried to Quantity Calculations on Sheet No. 9

Scale: 0 20 40

FEATHER DETAILS AT EASTERLY END OF EASTBOUND LANE RESURFACING

PAVEMENT DETAILS



NO SCALE

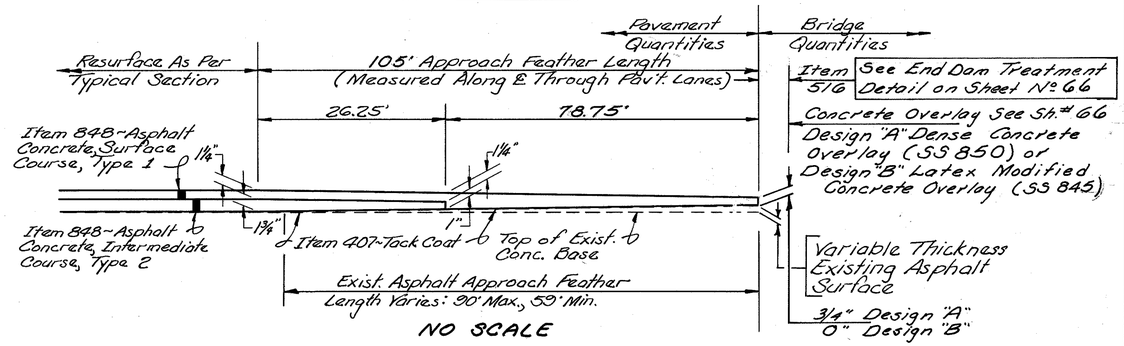
PAVEMENT TRANSITION DETAIL AT WEST END OF PROJECT

* NOTE: Quantity Calculations For Resurfacing Items Within The Limits of The 105' Approach Feather Length Are Based Upon Design "A"

FHWA REGION	STATE	PROJECT	
5	OHIO		

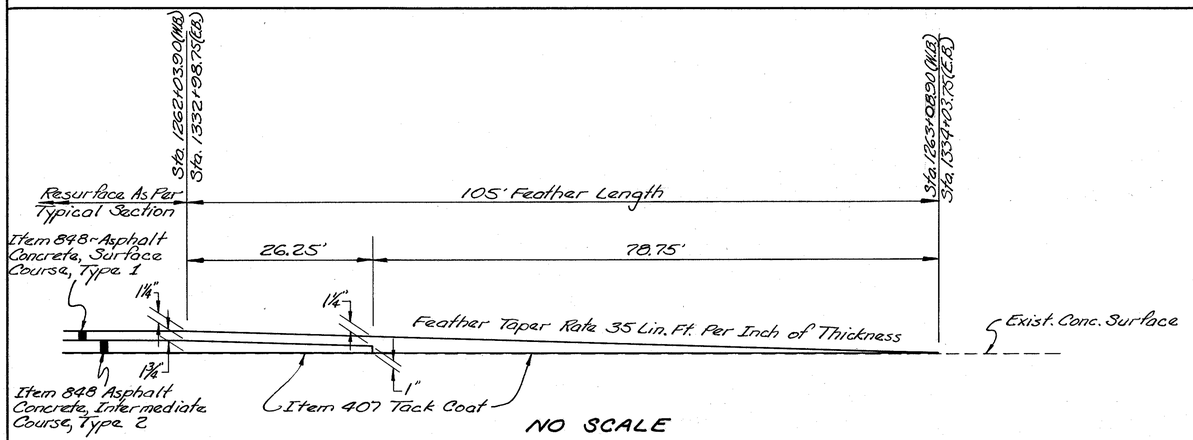
50
80

HAS-22-20.07



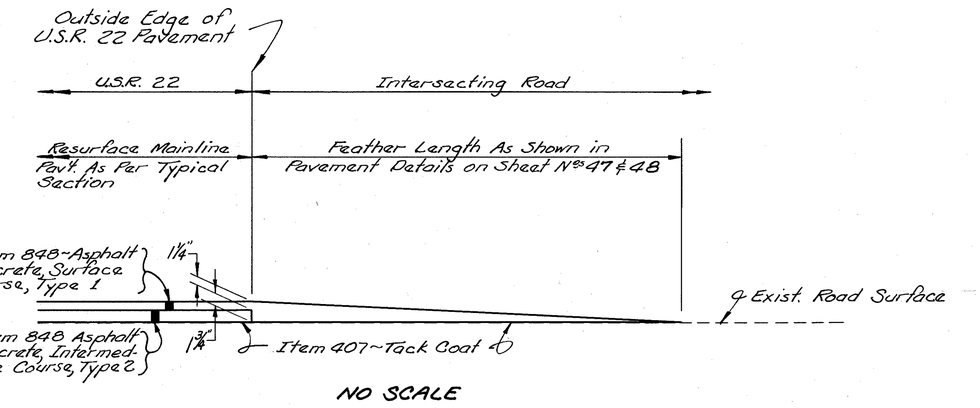
NO SCALE

APPROACH FEATHER DETAIL AT BRIDGE Nos HAS-22-2283 L&R



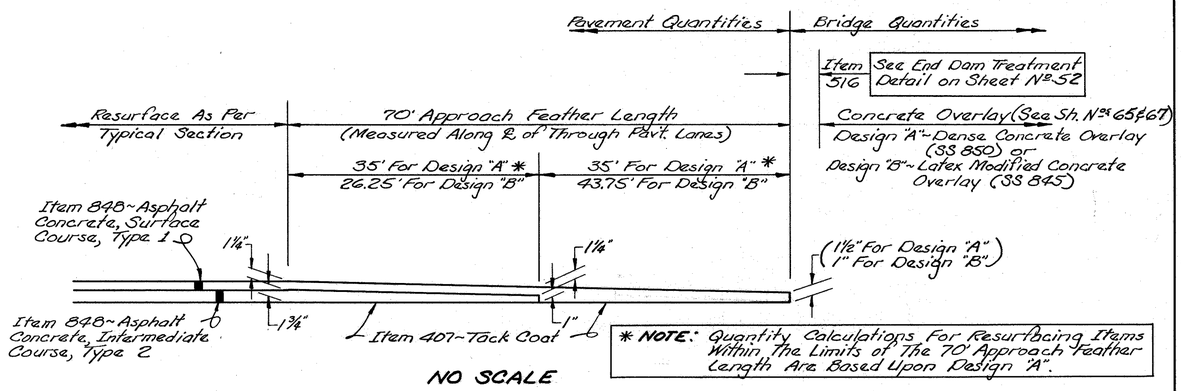
NO SCALE

PAVEMENT TRANSITION AT EAST END OF U.S. 22 RESURFACING



NO SCALE

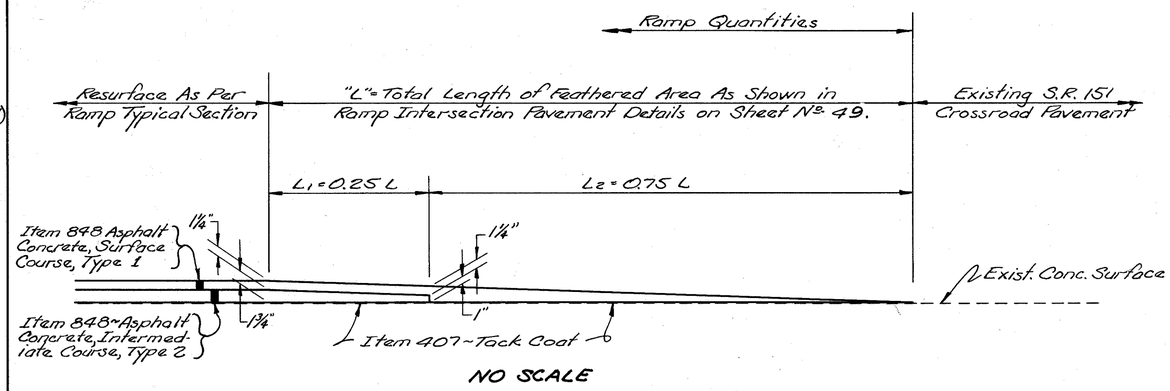
INTERSECTION FEATHER DETAIL



* NOTE: Quantity Calculations For Resurfacing Items Within The Limits of The 70' Approach Feather Length Are Based Upon Design "A".

NO SCALE

APPROACH FEATHER DETAIL AT BRIDGE Nos HAS-22-2126 AND HAS-22-2362 L&R



NO SCALE

RAMP INTERSECTION FEATHER DETAIL

PAVEMENT TRANSITION & FEATHER DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

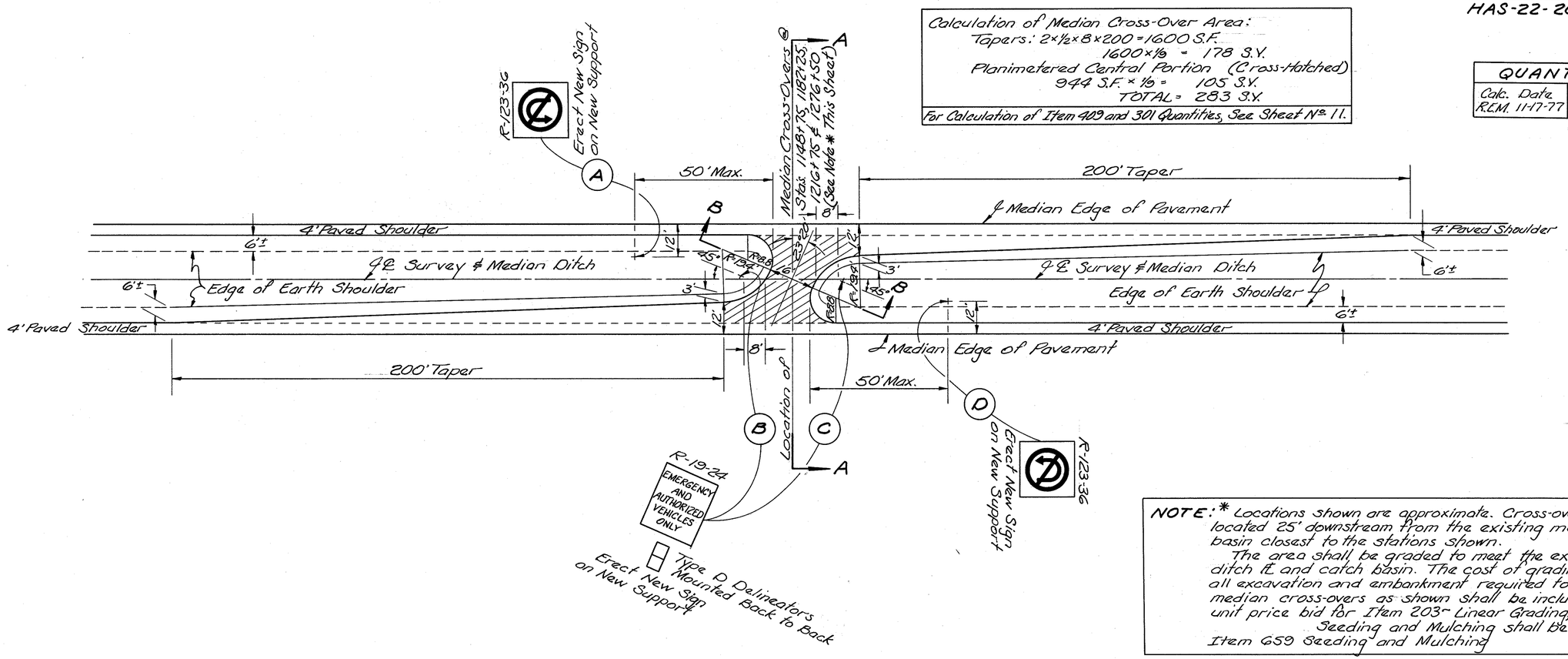
51/80

HAS-22-20.07

QUANTITIES	
Calc. Date R.E.M. 11-17-77	Chk'd. Date J.C.N. 8-13-79

Calculation of Median Cross-Over Area:
Tapers: 2×½×8×200 = 1600 S.F.
1600×⅑ = 178 S.Y.
Planimetered Central Portion (Cross-Hatched)
944 S.F. × ⅑ = 105 S.Y.
TOTAL = 283 S.Y.

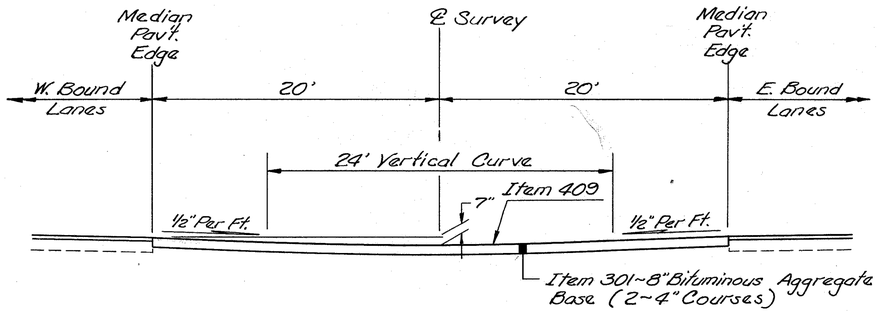
For Calculation of Item 409 and 301 Quantities, See Sheet No. 11.



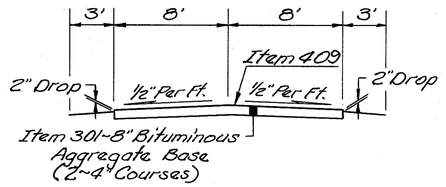
NOTE: * Locations shown are approximate. Cross-overs shall be located 25' downstream from the existing median catch basin closest to the stations shown.

The area shall be graded to meet the existing median ditch ℄ and catch basin. The cost of grading, including all excavation and embankment required to construct median cross-overs as shown shall be included in the unit price bid for Item 203~ Linear Grading, Method 3.

Seeding and Mulching shall be paid for as Item 659 Seeding and Mulching



SECTION A-A



SECTION B-B

REMOVAL AND/OR OBLITERATION OF EXISTING MEDIAN CROSS-OVERS:

Existing median cross-overs shown thus ▨ on plan Sh. No's 28.31+32 shall be removed and/or obliterated as directed by the Engineer, in accordance with the General Note pertaining to linear grading on Sheet No. 14. These areas shall be graded to drain and seeded. Payment for all of the above, except seeding, shall be included in the unit price bid for Item 203~ Linear Grading, Method 3.

Seeding shall be measured and paid for as Item 659~ Seeding and Mulching. The following estimated seeding quantity has been carried to the seeding calculations on Sheet No. 13.

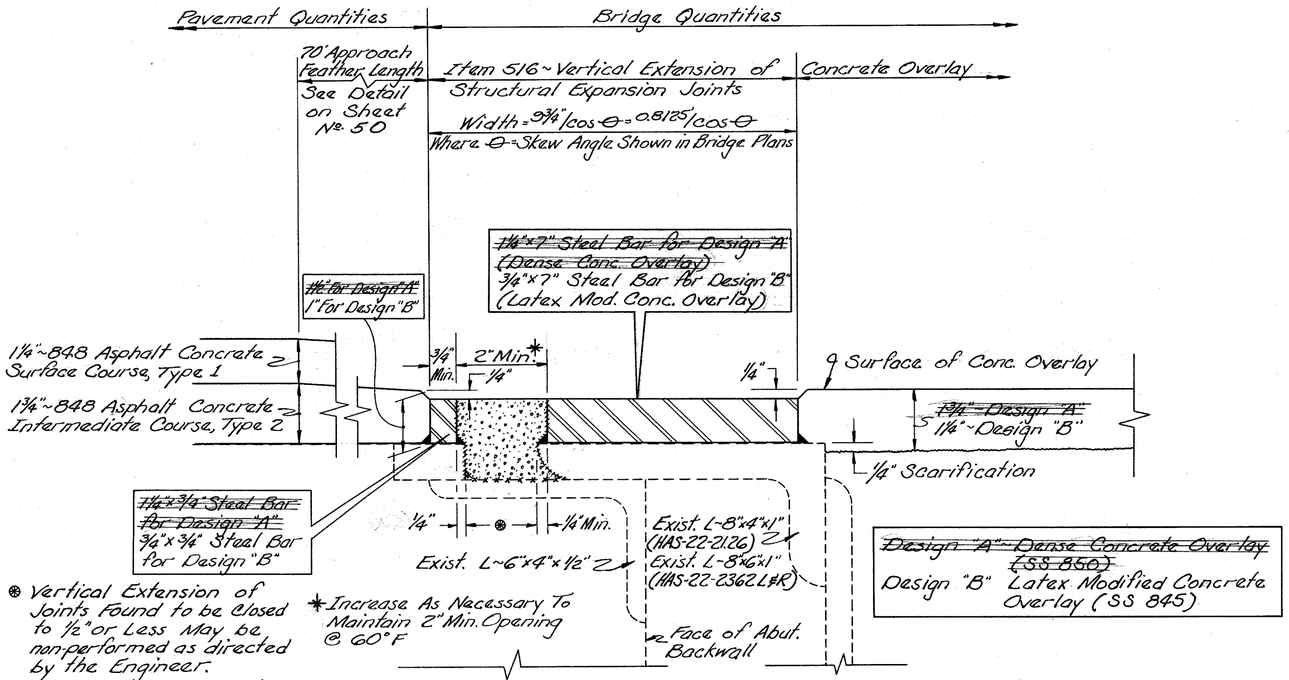
Item 659~Seeding & Mulching 870 S.Y.

MEDIAN CROSS-OVER AND TRAFFIC CONTROL DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

52/80

HAS-22-20.07



Vertical Extension Bars Shall Be Placed Only In The Lane(s) Closed To Traffic Immediately Preceeding The Overlay Operation.

END DAM TREATMENT DETAILS AT BR. Nos HAS-22-2126 AND HAS-22-2362 L & R

~ Continuous ¼" Fillet Weld

~ Item 516 ~ Joint Sealer, Hot Applied. Bridge Deck Waterproofing Membrane Materials Meeting The Requirements of 705.01 May Be Used.

~ Surface Thus Indicated Shall Be Sandblasted And Wiped Clean. Joints Shall Be Filled Before Rust Forms. If Any Rust Forms Before The Joint Can Be Filled, Surfaces Shall Be Resandblasted.

~ Bond To Surface Thus Indicated Shall Be Prevented By Use Of Foil Or Other Suitable Bond-Breaker Barrier Satisfactory To The Engineer. Care Shall Be Taken Not to Displace Barrier When Placing Joint Sealer.

For Details Not Shown, See Standard Drawing BP-5.

Revised 5-28-80

TRAFFIC CONTROL NOTES

ITEM 621~PAVEMENT~MARKING, POLYESTER, AS PER PLAN

POLYESTER PAVEMENT MARKINGS SHALL CONFORM TO 621 EXCEPT AS FOLLOWS:

ALL REFERENCES TO PAINT SHALL BE CONSIDERED TO READ POLYESTER MATERIAL.

ITEM 621.02 MATERIALS IS HEREBY DELETED EXCEPT FOR GLASS BEAD REQUIREMENTS. IN ADDITION, PAVEMENT MARKING MATERIAL SHALL BE A RETROREFLECTORIZED POLYESTER COMPOUND AS MANUFACTURED BY THE GLIDDEN-DURKEE COMPANY OR AN APPROVED EQUAL.

ITEM 621.05 APPLICATION IS HEREBY MODIFIED AS FOLLOWS:
PARAGRAPH 4 IS CHANGED TO READ: WHEN POLYESTER MATERIAL IS APPLIED TO NEW BITUMINOUS PAVEMENT SURFACES, THE SPECIFIED APPLICATION RATE SHALL BE INCREASED 25 PERCENT ABOVE THE MINIMUM RATES SPECIFIED.

THE APPLICATION RATE TABLE IS HEREBY DELETED AND THE FOLLOWING ADDED:

THE MATERIAL SHALL BE APPLIED TO PROVIDE A UNIFORM THICKNESS NOT LESS THAN 15 MILS NOR MORE THAN 30 MILS. THE APPLICATION RATE FOR A SOLID LINE OF 4 INCHES IN WIDTH SHALL BE NOT LESS THAN 16 GALLONS PER MILE NOR MORE THAN 33 GALLONS PER MILE CORRESPONDING TO THE ALLOWED VARIATION IN LINE THICKNESS. APPLICATION RATES FOR DASHED OR DOTTED LINES AND FOR LINES WIDER THAN 4 INCHES SHALL BE PROPORTIONAL TO THE SOLID LINE RATES.

PARAGRAPH 5 IS HEREBY MODIFIED AS FOLLOWS:
THE RATE OF APPLICATION SHALL BE NOT LESS THAN 15 POUNDS OF GLASS BEADS PER GALLON OF POLYESTER MATERIAL APPLIED.

PARAGRAPH 6 IS HEREBY DELETED.

IN ADDITION TO 621 THE FOLLOWING SHALL BE REQUIRED:

EQUIPMENT

THE CONTRACTOR'S STRIPER SHALL BE EQUIPPED WITH AN ODOMETER GRADUATED TO 1/1000 OF A MILE. THE ENGINEER SHALL DETERMINE THE DEGREE OF ACCURACY OF THE CONTRACTOR'S ODOMETER AND ESTABLISH AN ADJUSTMENT FACTOR AS MAY BE REQUIRED TO ACCURATELY DETERMINE THE PAY ITEM QUANTITIES. THE ENGINEER SHALL PERIODICALLY CHECK THE ODOMETER OPERATION TO ASSURE MAINTENANCE OF ACCURATE MEASUREMENTS.

FAILURE OF THE ODOMETER TO FUNCTION PROPERLY SHALL BE CAUSE TO STOP THE WORK UNTIL THE ODOMETER IS MADE TO FUNCTION PROPERLY. IF MEASUREMENT OF THE WORK HAS TO BE PERFORMED BY THE DEPARTMENT, THE COST OF THE DEPARTMENT LABOR AND EQUIPMENT PLUS 10 PERCENT SHALL BE DEDUCTED FROM PAYMENT DUE THE CONTRACTOR FOR THE WORK. WHEN MEASURING LANE AND CENTERLINE MARKING, THE ODOMETER SHALL BE STARTED AT THE FIRST MARKED LINE AND REMAIN IN OPERATION, EXCEPT AT INTERSECTIONS AND OTHER LOCATIONS NOT MARKED, UNTIL THE END OF THE SECTION BEING MARKED, WHERE IT SHALL BE SHUT OFF AND THE READING OF THE ODOMETER RECORDED.

THE PAVEMENT MARKING EQUIPMENT SHALL BE EQUIPPED WITH A PRESSURE REGULATED AIR JET WHICH SHALL REMOVE ALL DEBRIS FROM THE PAVEMENT IN ADVANCE OF THE APPLICATOR GUN. THE AIR JET SHALL OPERATE WHEN MARKING MATERIAL IS BEING APPLIED AND SHALL BE SYNCHRONIZED WITH MARKING MATERIAL APPLICATION OR REMAIN "ON" AT ALL TIMES.

THE CONTRACTOR SHALL USE AN ACCURATE DASHING MECHANISM, CAPABLE OF BEING EASILY ADJUSTED, TO RETRACE EXISTING LANE OR CENTERLINE MARKINGS AS SPECIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL FURNISH AND MAINTAIN THE RADIO EQUIPMENT NECESSARY FOR 2-WAY VOICE COMMUNICATION BETWEEN THE CONTRACTOR AND THE ENGINEER AT ALL TIMES DURING THE PAVEMENT MARKING OPERATION. THIS EQUIPMENT SHALL BE PROVIDED FOR THE TERM OF THE CONTRACT ONLY.

PROVISIONS FOR THE DESCRIBED SPECIAL EQUIPMENT BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE APPLICATION.

ITEMS 621.12, 621.131 AND 621.132 RATE OF APPLICATIONS ARE HEREBY MODIFIED AS FOLLOWS:
POLYESTER MATERIAL SHALL BE APPLIED AT A RATE OF NOT LESS THAN 1 NOR MORE THAN 2 GALLONS PER 100 SQUARE FEET OF MARKING SURFACE.

ITEM 621.14 DEDUCTION FOR DEFICIENCY SHALL BE MODIFIED BY THE FOLLOWING ADDITIONAL REQUIREMENTS:

THE QUANTITY OF POLYESTER MARKING MATERIAL OR GLASS BEADS APPLIED PER UNIT OF MEASUREMENT WILL BE COMPUTED BY THE ENGINEER AT THE END OF EACH DAY'S WORK. A DAY'S APPLIED QUANTITY OF LESS THAN 5 GALLONS MAY BE INCLUDED IN THE NEXT DAY'S APPLIED MARKINGS FOR THE PURPOSE OF COMPUTING MARKING MATERIAL AND BEAD APPLICATION RATES.

THE CONTRACTOR SHALL PROVIDE A CALIBRATED MEASURING DEVICE TO MEASURE THE POLYESTER COMPONENTS IN THE TANKS.

THE QUANTITY OF POLYESTER MARKING MATERIAL USED SHALL BE DETERMINED BY MEASURING THE MARKING MATERIAL IN THE TANKS BEFORE AND AFTER MARKING MATERIAL IS APPLIED. THE CONTRACTOR SHALL PERMIT THE ENGINEER TO TAKE MEASUREMENTS WHENEVER REQUESTED. THE MARKING MATERIAL APPLICATION RATE SHALL BE DETERMINED BY DIVIDING THE TOTAL GALLONS USED BY THE APPROPRIATE MARKING LENGTH. ANY DETERMINATION OF PAY DEDUCTION RESULTING FROM SHORTAGES IN MARKING MATERIALS SHALL BE BASED ON THE MEASUREMENTS OBTAINED BY THIS METHOD. THE AMOUNT OF GLASS BEADS APPLIED SHALL BE ASCERTAINED BY THE ENGINEER BY OBSERVATION AND FROM INFORMATION SUPPLIED BY THE CONTRACTOR AS TO QUANTITY USED.

ITEM 621.16 BASIS OF PAYMENT SHALL BE MODIFIED BY ADDING THE WORDS "POLYESTER, AS PER PLAN" TO EACH ITEM DESCRIPTION.

844 REMOVAL OF GROUND MOUNTED SIGNS:

Ground Mounted signs shall be carefully removed where indicated on the plans. The signs shall be re-erected elsewhere on the project or stored on the project for salvage by State Forces.

To assure maintenance of adequate traffic control at all times, no signs shall be removed without the approval of the Engineer.

Re-erection may require field drilling and any necessary hardware shall be furnished.

Payment will be at the contract unit price for each sign removed and stored or re-erected, categorized as major signs. (40 Square Feet or larger) or other signs.

844	Each	Removal of Ground Mounted Major Sign and (Storage or Re-erection)
844	Each	Removal of Ground Mounted Sign and (Storage or Re-erection)

844 REMOVAL OF GROUND MOUNTED SIGN SUPPORTS:

Ground mounted sign supports shall be carefully removed where indicated on the plans and stored on the project for salvage by State Forces. Supports shall be removed with care to avoid damaging. Foundations for supports shall be removed to at least one foot below ground line with backfilling, restoration of surfaces and disposal of surplus material in accordance with 603.09.

Payment will be at the contract unit price for each support removed and stored, categorized as beam or post (№8 and smaller).

844	Each	Removal of Ground Mounted Beam Support
844	Each	Removal of Ground Mounted Post Support

844 SIGNS, BY TYPE:

Reflective sheeting for sign faces shall be Type F in accordance with 844.03.

844 SIGN SUPPORT ALTERNATE DESIGNS:

Alternate designs for sign supports such as differing engineering designs or different structural materials may be submitted by a bidding contractor to the department for acceptance. Alternate designs shall be submitted to the department at least 21 days in advance of the bid opening date and submission shall be to the following address:

Ohio Department of Transportation
Bureau of Design Services
25 South Front St.
Columbus, Ohio 43215

Notification of the acceptance or rejection of the alternate design will be given by the Department to the bidding contractor at least 7 days in advance of the bid opening date.

844 GROUND MOUNTED SUPPORT, NO. 4 POST, AS PER PLAN:

Special posts incorporating a square tubular top extension for mounting signs at right angles to other signs on the post shall be furnished, assembled and erected in accordance with TC-41.50 and the plans.

Payment will be at the contract unit price per linear foot of support overall length, furnished and in place.

844	Linear Foot	Ground Mounted Support, №4 Post, As Per Plan

GENERAL SUMMARY

QUANTITIES	
Calc. By J.C.N.	Chkd By REM
Date 1-22-80	Date 1-22-80

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

54
80

HAS-22-20.07

ITEM	SHEET NUMBER	ITEM	TOTAL QUANT.	UNIT	DESCRIPTION
	16 / 57 / 59 / 60 / 61				
					TRAFFIC CONTROL, (TYPE CODE 6706)
844	11	844	11	Each	Removal of Ground Mounted Major Sign and Storage
844	56 / 44 / 35	844	135	Each	Removal of Ground Mounted Sign and Storage
844	2	844	2	Each	Removal of Ground Mounted Sign and Re-erection
844	6	844	6	Each	Removal of Ground Mounted Beam Support
844	71 / 29 / 24	844	124	Each	Removal of Ground Mounted Post Support
844	671 / 312 / 254	844	1237	Sq.Ft.	Signs, Flat Sheet
844	1818 / 279 / 182	844	2279	Sq.Ft.	Signs, Extrusheet
844	358 / 151 / 92	844	601	Lin.Ft.	Ground Mounted Supports, № 3 Post
844	971 / 88 / 74	844	1133	Lin.Ft.	Ground Mounted Supports, № 4 Post
844	63 / 66	844	129	Lin.Ft.	Ground Mounted Supports, № 4 Post, As Per Plan
844	210 / 172 / 28	844	410	Lin.Ft.	Ground Mounted Supports, S4 x 7.7
844	89 / 101 / 31	844	216	Lin.Ft.	Ground Mounted Supports, W6 x 8.5
844	70 / 113	844	183	Lin.Ft.	Ground Mounted Supports, W10 x 11.5
844	47	844	47	Lin.Ft.	Ground Mounted Supports, W8 x 17
844	336	844	336	Lin.Ft.	Ground Mounted Supports, W10 x 21
844	186	844	186	Lin.Ft.	Ground Mounted Supports, W12 x 31
844	14 / 14 / 10	844	38	Each	Breakaway Beam Connection
844	30.52 / 9.08 / 7.80	844	47.4	Cu.Yd.	Concrete For Embedded Foundations
844	1	844	1	Each	Overhead Sign Support Type 7.65 Design 6 59' Span
844	1	844	1	Each	Overhead Sign Support Type 7.65 Design 6 72' Span
844	19.76	844	19.76	Cu.Yd.	Concrete For Anchor Base Foundations
620	16	620	16	Each	Delineators, Type D
621	0.09 / 18.10	621	18.19	Miles	4" Edge Lines, Polyester, As Per Plan
621	0.40 / 6.34	621	6.74	Miles	4" Lane Lines, Polyester, As Per Plan
621	2368	621	2368	Lin.Ft.	8" Channelizing Lines, Polyester, As Per Plan
621	700	621	700	Lin.Ft.	24" Broad Transverse Lines, Polyester, As Per Plan
621	1.57	621	1.57	Miles	4" Center Lines, Polyester, As Per Plan
621	135	621	135	Lin.Ft.	24" Stop Line, Polyester, As Per Plan
621	4	621	4	Each	Lane Arrows, Polyester, As Per Plan
621	4	621	4	Each	Word on Pavement (ONLY), Polyester, As Per Plan
621	4888	621	4888	Lin.Ft.	Removal of Pavement Marking
619	11.81	619	11.81	Miles	TEMPORARY LANE LINES
619	2.91	619	2.91	Miles	TEMPORARY CENTER LINES
619	0.53	619	0.53	Miles	TEMPORARY CENTER LINES, AS PER PLAN
619	2.65	619	2.65	Miles	TEMPORARY EDGE LINES, AS PER PLAN
619	19,696	619	19,696	Lin.Ft.	REMOVAL OF TEMPORARY MARKING

TRAFFIC CONTROL QUANTITIES

QUANTITIES	
Calc. Date	Chk'd Date
J.C.N. 6-14-79	R.E.M 1-17-80

SHEET No	REF. No	STATION	SIDE ℄	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			844 Removal of G.M. Major Sign & Storage	Removal of G.M. Sign & Storage	Removal of G.M. Sign & Re-erection	Removal of G.M. Beam Support	Removal of G.M. Post Support	Signs, Flat Sheet	Signs, Extrusheet	G.M. Supports, No 3 Post	G.M. Supports, No 4 Post	G.M. Supports No 4 As Per Plan	G.M. Supports, S4x7.7	G.M. Supports, W6x8.5	G.M. Supports, W10x11.5	G.M. Supports, W8x17	G.M. Supports, W10x21	G.M. Supports, W12x31	Breakaway Beam Connection	Concrete For Embedded Foundations	Overhead Sign Support Type 165 Design 6 59' Span	Overhead Sign Support Type 165 Design 6 72' Span	Concrete For Anchor Base Foundations
						INCHES	FEET	LT.	CNTR.	RT.	EACH	EACH	EACH	EACH	EACH	SQ.FT.	SQ.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	CU.YDS.	Each	Each	Cu.Yds.
MAINLINE																															
25	1-S	1070+87	RT.	REMOVE SIGN & SUPPORT.								1			1																
25	"	1078+00	RT.	ERECT NEW SIGN ON NEW SUPPORT.	W-24-36	36"x36"	12.0		15.1							9.0			15.1												
25	2-S	1081+62	RT.	NO WORK																											
25	3-S	1081+62	RT.	NO WORK																											
26	4-S	1085+70	LT.	REMOVE SIGN & SUPPORT								1			1																
26	4-S	1085+70	LT.	ERECT. NEW SIGN ON NEW SUPPORT	R-1-36	36"x36"	25.5		13.9							9.0			13.9												
26	5-S	1085+72	RT.	NO WORK																											
26	6-S	1086+10	RT.	REMOVE SIGN & SUPPORT								1			1																
26	6-S	1086+10	RT.	ERECT NEW SIGN ON NEW SUPPORT	R-1-36	36"x36"	34.5		13.3							9.0			13.3												
26	7-S	1086+10.5	LT.	NO WORK																											
26	8-S	1086+10.5	LT.	NO WORK																											
26	9-S	1086+27	LT.	NO WORK																											
26	10-S	1086+37	RT.	REMOVE SIGN & SUPPORT								1			1																
26	11-S	1094+00	RT.	ERECT NEW SIGN ON NEW SUPPORT	W-24-36	36"x36"	14.0		15.5							9.0			15.5												
26	12-S	1109+02	RT.	NO WORK																											
26	13-S	1112+48	RT.	REMOVE SIGN & SUPPORT								1			1																
26	13-S	1111+00	RT.	ERECT NEW SIGN ON NEW SUPPORT	W-26-36	36"x36"	12.0		15.3							9.0			15.3												
27	14-S	1117+45	RT.	REMOVE SIGN & SUPPORT								1			1																
27	14-S	1117+45	RT.	ERECT NEW SIGN ON NEW SUPPORT	R-1-30	30"x30"	17.0		13.5							6.25		13.5													
27	15-S	1118+80	RT.	REMOVE SIGN & SUPPORT								1			1																
27	16-S	1122+00	RT.	ERECT NEW SIGN ON NEW SUPPORT	D-6-60	60"x30"	14.0	14.2		15.7							12.5		29.9												
27	17-S	1122+39	RT.	REMOVE SIGN & SUPPORT								1			1																
27	18-S	1125+20	RT.	REMOVE SIGN & SUPPORT								1			1																
27	18-S	1125+35	RT.	ERECT NEW SIGN ON NEW SUPPORT.	W-24-36	36"x36"	14.0		15.0							9.0			15.0												
27	19-S	1125+55	RT.	REMOVE SIGN & SUPPORT								1			1																
27	19-S	1125+55	RT.	ERECT NEW SIGN ON NEW SUPPORT	W-26-36	36"x36"	14.0		15.5							9.0			15.5												
27	20-S	1130+20	RT.	REMOVE SIGN & SUPPORTS								1			2																
27	20-S	1129+00	RT.	ERECT NEW SIGN ON NEW SUPPORT	W-85-36	36"x36"	13.0		15.1							9.0			15.1												
27	21-S	1132+00	RT.	ERECT NEW SIGNS ON NEW SUPPORT	M-1-30	30"x30"	12.0		15.0							6.25			15.0												
27	21-S	1132+00	RT.	ERECT NEW SIGNS ON NEW SUPPORT	M-40-30	30"x15"										3.13															
27	22-S	1132+95	RT	REMOVE SIGN & SUPPORT								1			1																
27	22-S	1132+95	RT.	ERECT NEW SIGN ON NEW SUPPORT	R-1-30	30"x30"	15.0		13.8							6.25		13.8													
27	23-S	1133+53	RT.	REMOVE SIGN & SUPPORT								1			1																
27	23-S	1133+53	RT.	ERECT NEW SIGN ON NEW SUPPORT	R-1-30	30"x30"	16.5		13.5							6.25		13.5													
27	24-S	1136+00	RT.	ERECT NEW SIGN ON NEW SUPPORT	W-71-36	36"x36"	14.0		15.8							9.0			15.8												
27	25-S	1139+32	RT.	REMOVE SIGN & SUPPORTS							1																				
27	25-S	1138+20	RT.	ERECT NEW SIGN ON NEW SUPPORTS	G.B	156"x120"	14.0	28.6		33.0							130.0									61.6		3.0			
27	26-S	1139+10	LT.	REMOVE SIGN & SUPPORT								1			1																
27	26-S	1139+10	LT.	ERECT NEW SIGN ON NEW SUPPORTS	W-24-36	36"x36"	14.0		16.5							9.0			16.5												
27	27-S	1140+00	RT.	ERECT NEW SIGN ON NEW SUPPORTS	R-38R-36	36"x48"	14.0	16.0		16.3						12.0			32.3												
28	28-S	1148+00	LT.	ERECT NEW SIGN ON NEW SUPPORTS	W-60-48	48"x48"	14.0	18.2		19.5						16.0			37.7												
28	29-S	1148+00	LT.	ERECT NEW SIGN ON NEW SUPPORTS	W-60-48	48"x48"	14.0	17.4		17.0						16.0			34.4												
28	30-S	1148+50	RT.	ERECT NEW SIGN ON NEW SUPPORTS	GE.	120"x120"	14.0	26.8		28.6							100.0								55.4			2.46			
28	31-S	1149+43	RT.	REMOVE SIGN & SUPPORTS							1				3																
28	32-S	1151+00	LT.	ERECT NEW SIGN ON NEW SUPPORTS	W-52-48	48"x48"	14.0	17.4		18.0						16.0			35.4												
28	33-S	1151+00	LT.	ERECT NEW SIGN ON NEW SUPPORTS.	W-52-48	48"x48"	12.0	17.4		17.0						16.0			34.4												
28	34-S	1153+76	LT.	REMOVE SIGNS & SUPPORTS								2			2																
28	35-S	1154+00	LT.	ERECT NEW SIGN ON NEW Supports	W-86-48	48"x48"	12.0	17.2		17.9						16.0			35.1												
28	36-S	1154+00	LT.	ERECT NEW SIGN ON NEW SUPPORTS	W-86-48	48"x48"	14.0	17.7		17.2						16.0			34.9												
28	37-S	1154+95	LT.	REMOVE SIGN & SUPPORT								1			1																
28	38-S	1156+00	LT.	REMOVE SIGN & SUPPORT								1			1																
28	40-S	1156+50	℄&Rt.	Erect New Signs on New Support	GB	168"x120"											140.0												1		9.62
28	"	"	"	" " " " " "	GF-1	144"x96"											96.0														
28	41-S	1157+58	LT.	REMOVE SIGN & SUPPORTS								1			1																
28	41-S	1157+58	LT.	ERECT NEW SIGN ON NEW SUPPORTS	R-2-48	48"x48"x48"	14.0	16.2		16.7						6.93		32.9													
28	42-S	1160+00	LT.	REMOVE SIGNS & SUPPORTS								2			1																
28	42-S	1160+00	LT.	ERECT NEW SIGN ON NEW SUPPORTS	W-49R-48	48"x48"	14.0	17.4		17.7						16.0			35.1												
28	43-S	1162+62	RT.	REMOVE SIGN & SUPPORTS							1				3																
28	44-S	1162+90	RT.	ERECT NEW SIGN ON NEW SUPPORTS	G F	72"x60"	14.0	17.3		17.8							30.0				35.1						2	0.54			
28	45-S	1163+21	RT.	NO WORK																											
28	46-S	1163+23	Lt.	NO WORK																											
28	47-S	1163+44	LT.	REMOVE SIGN & SUPPORTS								1			2																
28	47-S	1163+10	LT.	ERECT NEW SIGN ON NEW SUPPORTS	G.F	72"x60"	14.0	16.3		16.5							30.0				32.8						2	0.54			
28	48-S	1166+06	RT.	REMOVE SIGNS & SUPPORT								2			1																
28	48-S	1166+06	RT.	ERECT NEW SIGNS ON NEW SUPPORTS	W-49-R-48	48"x48"	14.0	18.0		18.7						16.0			36.7												
28	39-S	1156+07	Rt.	Rmv. Signs & Supports							1	1			3																

TRAFFIC CONTROL QUANTITIES

QUANTITIES			
Calc. Date		Chk'd Date	
J.C.N. 6-15-79		R.E.M. 1-17-80	

FHWA REGION	STATE	PROJECT	
5	OHIO		

56/80

HAS-22-20.07

844

SHEET Nº	REF. Nº	STATION	SIDE &	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			Removal of G.M. Major Sign & Storage	Removal of G.M. Sign & Storage	Removal of G.M. Sign & Re-erection	Removal of G.M. Beam Support	Removal of G.M. Post Support	Signs Flat Sheet	Signs Extrusheet	G.M. Supports, Nº3 Post	G.M. Supports, Nº4 Post	G.M. Supports, Nº4 As Per Plan	G.M. Supports, 3 4 x 7.7	G.M. Supports, W6 x 8.5	G.M. Supports, W10 x 11.5	G.M. Supports, W8 x 17	G.M. Supports, W10 x 21	G.M. Supports, W12 x 31	Breakaway Beam Connection	Concrete for Embedded Foundations	Overhead Sign Sup. Type 1&5 Design & 39 Span	Overhead Sign Sup. Type 1&5 Design & 42 Span	Concrete for Anchor Base Foundations						
						INCHES	FEET	LT.	CNTR.	RT.	EACH	EACH	EACH	EACH	EACH	SQ.FT.	SQ.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	CU.YDS.	Each	Each	CU.YDS.								
MAINLINE (CONTINUED)																																							
28	49-S	1168+60	Rt.	Erect New Sign on New Supports	R-2-48	48"x48"x48"	14.0	14.5		15.8						6.93		30.3																					
28	50-S	1169+00	Lt.	Erect New Sign on New Supports	G.E	108"x120"	30.0	24.5		22.0							90.0							46.5			2	2.20										
28	51-S	1173+03	Lt.	Remove Signs & Supports							1	1			3																							
30	52-S	1178+05	Rt.	Remove Signs & Supports								4			1																							
30	52-S	1178+05	Rt.	Erect New Signs on New Supports	M-1-30	30"x 30"	14.0		16.1							6.25			16.1																			
30	52-S	1178+05	Rt.	Erect New Signs on New Supports	M-39-30	30"x 15"										3.13																						
30	52-S	1178+05	Rt.	Erect New Signs on New Supports	M-2-30-3	37½"x30"	16.59		17.8							7.81			17.8																			
30	52-S	1178+05	Rt.	Erect New Signs on New Supports	M-39-30	30"x15										3.13																						
30	53-S	1182+25	Lt.	Erect New Signs on New Supports	G.E.	120"x120"	14.0	27.3		30.1							100.0											57.4										
30	54-S	1188+91	Rt.	Remove Sign & Supports							1			2																							
30	54-S	1187+50	Rt.	Erect New Sign on New Supports	G.B.	144"x120"	14.0	27.0		31.3							120.0											58.3										
31	55-S	1205+00	Lt.	Erect New Sign on New Supports	G.B.	156"x120"	14.0	28.8		33.1							130.0												61.9		3.00							
31	56-S	1210+76	Lt.	Remove Sign & Support								1			1																							
31	56-S	1213+06	Lt.	Erect New Sign on New Supports	R-10-48	48"x60"	14.0	17.8		19.2						20.0					32.0										0.54							
31	57-S	1213+00	Rt.	Erect New Sign on New Supports	GE	144"x120"	14.0	27.0		29.8							120.0											56.8			2.46							
31	58-S	1216+03	Lt.	Remove Sign & Supports							1			2																							
31	59-S	1216+25	Lt.	No Work																																	
31	60-S	1216+25	Rt.	No Work																																	
31	61-S	1223+00	Lt.	Erect New Signs on New Supports	M-1-30	30"x30"	17.0		16.3							.6.25			16.3																		
31	61-S	1223+00	Lt.	" " " " " " "	M-40-30	30"x15"										3.13																					
31	61-S	1223+00	Lt.	" " " " " " "	M-2-30-3	37½"x30"	21.15		13.8							7.81			13.8																		
31	61-S	1223+00	Lt.	" " " " " " "	M-40-30	30"x15"										3.13																					
31	62-S	1224+78	Rt.	Remove Sign & Supports							1			2																							
31	62-S	1231+00	Rt.	Erect New Sign on New Supports	G.E	144"x120"	14.0	27.1		31.2							120.0											58.6			2.46							
31	63-S	1225+62	Lt.	Remove Sign & Support								1			1																							
31	64-S	1228+10	Lt.	Remove Sign & Support								1			1																							
32	65-S	1236+05	Rt.	Remove Sign & Supports								1			2																							
32	65-S	1236+25	Rt.	Erect New Sign on New Supports	G.F	72"x60"	14.0	16.3		16.6							30.0				32.9								2	0.54							
32	66-S	1236+10	Lt.	Remove Sign & Support								1			1																							
32	66-S	1236+10	Lt.	Erect New Sign on New Supports	R-2-48	48"x48"x48"	16.0	15.0		13.0						6.93		28.0																			
32	67-S	1242+94	Lt.	Remove Signs & Support								2			1																							
32	67-S	1240+00	Lt.	Erect New Sign on New Supports	W-49R-48	48"x48"	14.0	17.7		18.0						16.0			35.7																			
32	68-S	1253+98	Rt.	Remove Signs & Support								2			1																							
32	68-S	1255+00	Rt.	Erect New Sign on New Supports	W-49R-48	48"x48"	14.0	18.2		19.4						16.0			37.6																			
32	69-S	1255+79	Lt.	Rmv. Sign & Supports							1				3																							
32	70-S	1257+25	Lt.	Erect New Signs on New Support	GB	156"x120"											130.0																		1	10.14		
32	"	"	"	" " " " " " "	GF-1	156"x96"											104.0																					
34	72-S	1264+01	Lt.	Remove Sign & Supports							1				3																							
34	73-S	1264+98	Rt.	Remove Signs & Support								2			1																							
34	73-S	1270+00	Rt.	Erect New Signs on New Supports	M-1-30	30"x30"	14.0		16.1							6.25			16.1																			
34	73-S	1270+00	Rt.	Erect New Signs on New Supports	M-29-30	30"x15"										3.13																						
34	74-S	1269+27	Lt.	No Work																																	
34	75-S	1269+34	Rt.	No Work																																	
34	76-S	1270+00	Lt.	Erect New Sign on New Supports	G.E.	144"x120"	30.0	26.8		22.6							120.0											49.4		2.	2.46							
34	77-S	1281+00	Rt.	Erect New Sign on New Supports	R-10-48	48"x60"	14.0	18.8		20.0						20.0					38.8										0.54							
34	78-S	1281+31	Lt.	Remove Sign & Supports							1				3																							
34	79-S	1282+00	Lt.	Erect New Sign on New Supports	GB	156"x120"	14.0	28.8		33.2							130.0												62.0		3.00							
35	80-S	1292+50	Rt.	Erect New Sign on New Supports	GJ	132"x36"	14.0	18.5		21.5							33.0					40.0									0.66							
35	81-S	1298+27	Rt.	Erect New Sign on New Support	W-24-36	36"x36"	12.0		16.1							9.0			16.1																			
35	82-S	1298+27	Rt.	Remove Sign &								1			1																							
35	82-S	1298+27	Rt.	Erect New Sign on New Support	W-24-36	36"x36"	14.0		17.3							9.0			17.3																			
35	83-S	1305+00	Lt.	Erect New Sign on New Support	M-1-30	30"x30"	14.0		15.1							6.25			15.1																			
35	83-S	1305+00	Lt.	Erect New Sign on New Support	M-40-30	30"x15"										3.13																						
35	84-S	1305+75	Lt.	Remove Sign & Support								1			1																							
35	84-S	1305+75	Lt.	Erect New Sign on New Support	R-37R-36	36"x47"	12.0	15.4		14.9						11.75		30.3																			
35	85-S	1305+85	Rt.	No Work																																	
35	86-S	1306+44	Lt.	Rmv. Sign & Support								1			1																							
35	"	"	"	Erect New Signs on New Support	R-1-30	30"x30	21.0		15.2							6.25			15.2																			
35	"	"	"	" " " " " " "	EXP-51-24	24"x18"										3.0																						
87-S Carried on Sheet Nº 57																																					
35	88-S	1307+28	Lt.	Remove Sign & Support								1			1																							
35	88-S	1307+28	Lt.	Erect New Sign on New Supports	R-37R-36	36"x47"	6.5	14.7		14.7						11.75		29.4																			
35	89-S	1307+50	Rt.	Erect New Signs on New Support	M-1-30	30"x30"	14.0		15.6							6.25			15.6																			
35	89-S	1307+50	Rt.	Erect New Signs on New Support	M-39-30	30"x15"										3.13																						
35	90-S	1312+50	Lt.	Remove Sign & Supports								1			2																							
35	90-S	1314+50	Lt.	Erect New Sign on New Support	W-24-36	36"x36"	14.0		15.8							9.0			15.8																			
35	91-S	1314+50	Lt.	Erect New Sign on New Support	W-24-36	36"x36"	12.0		16.1							9.0			16.1																			

TRAFFIC CONTROL QUANTITIES

QUANTITIES	
Calc. Date	Ck'd Date
U.C.N. 6-15-79	R.E.M. 1-17-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

57/80

SHEET Nº	REF. Nº	STATION	SIDE ℄	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			844																										620
											Removal of G.M. Major Sign & Storage	Removal of G.M. Sign & Storage	Removal of G.M. Sign & Re-erection	Removal of G.M. Beam Support	Removal of G.M. Post	Signs, Flat Sheet	Signs, Extrusheet	G.M. Supports Nº 3 Post	G.M. Supports Nº 4 Post	G.M. Supports Nº 4 As-Per-Plan	G.M. Supports, 5#x7.7	G.M. Supports, W6x8.5	G.M. Supports, W10x11.5	G.M. Supports, W8x17	G.M. Supports, W10x21	G.M. Supports, W12x31	Breakaway Beam Connection	Concrete for Embedded Foundations	Overhead Sign Sup. Type 12.5 Design & 33 Span	Overhead Sign Sup. Type 12.5 Design & 42 Span	Concrete for Anchor Base Foundations							Delineators, Type D
						INCHES	FEET	LT.	CNTR.	RT.	EACH	EACH	EACH	EACH	EACH	Sq. FT.	Sq. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	Cu. Yds.	Each	Each	Cu. Yds.							Each
MAINLINE (CONTINUED)																																					
36	92-S	1315+65	Rt.	Remove Sign & Supports								1			2																						
36	92-S	1315+65	Rt.	Erect New Sign on New Supports	W-60C-48	48"x48"	14.0	17.7		18.5						16.0			36.2																		
36	93-S	1321+36	Lt.	No Work																																	
36	94-S	1321+39	Rt.	No Work																																	
36	95-S	1332+00	Lt.	Erect New Signs on New Support	M-1-30	30"x30"	14.0		15.1							6.25			15.1																		
36	95-S	1332+00	Lt.	Erect New Signs on New Support	M-40-30	30"x15"										3.13																					
36	96-S	1332+69	Rt.	No Work																																	
36	97-S	1332+93	Rt.	Remove Sign & Support								1			1																						
36	97-S	1332+93	Rt.	Erect New Sign on New Supports	R-37R-36	36"x47"	12.0	15.4		15.7						11.75		31.1																			
36	99-S	1333+83	Rt.	Remove Sign & Supports								1			1																						
36	99-S	1333+83	Rt.	Erect New Sign on New Supports	R-37R-36	36"x47"	12.0	15.7		15.3						11.75		31.0																			
36	100-S	0+06	Lt.	Remove Sign & Supports	N-2-40							1			2																						
36	100-S	0+06	Lt.	Remove & Re-erect Sign	N-45-12	12"x14"							1																								
36	100-S	0+06	Lt.	Erect New Sign on New Supports	G P	72"x48"	30.0	19.2		19.0							24.0				38.2								2	0.54						
36	101-S	0+07	Rt.	Remove Sign & Supports	N-2-40							1			2																						
36	101-S	0+07	Rt.	Remove & Re-erect Sign	N-45-12	12"x14"							1																								
36	101-S	0+07	Rt.	Erect New Sign on New Supports	G R	84"x48"	27.0	21.5		22.3							28.0						43.8						2	0.66						
35	87-S	1306+44	Rt.	Rmv. Sign & Support								1			1																						
35	"	"	"	Erect New Signs on New Support	R-1-36	36"x36"	34.0		16.0							9.0			16.0																		
35	"	"	"	" " " " " "	EXP-51-24	24"x18"										3.0																					
36	98-S	1333+65	Rt.	Rmv. Sign & Support								1			1																						
36	"	"	"	Erect New Signs on New Support	R-1-30	30"x30"	14.0		15.0							6.25			15.0																		
36	"	"	"	" " " " " "	EXP-51-24	24"x18"										3.0																					
MAINLINE TOTAL											11	56	2	6	71	338.58	181.5	253.8	858.8		209.8	83.8		46.5	335.9	185.5	14	30.52	1	1	19.76						
MEDIAN CROSS-OVER SIGNS (See Sheet Nº 5.1 For Median Cross-Over Sign Placement Details)																																					
28	1-MCS-A	1148+75	Lt.	Erect New Sign on New Support	R-123-36	36"x36"				14.0						9.0			14.0																		
28	1-MCS-B	"	Lt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
28	1-MCS-C	"	Rt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
28	1-MCS-D	"	Rt.	" " " " " "	R-123-36	36"x36"				14.0						9.0			14.0																		
30	2-MCS-A	1182+25	Lt.	Erect New Sign on New Support	R-123-36	36"x36"				14.0						9.0			14.0																		
30	2-MCS-B	"	Lt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
30	2-MCS-C	"	Rt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
30	2-MCS-D	"	Rt.	" " " " " "	R-123-36	36"x36"				14.0						9.0			14.0																		
31	3-MCS-A	1216+75	Lt.	Erect New Sign on New Support	R-123-36	36"x36"				14.0						9.0			14.0																		
31	3-MCS-B	"	Lt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
31	3-MCS-C	"	Rt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
31	3-MCS-D	"	Rt.	" " " " " "	R-123-36	36"x36"				14.0						9.0			14.0																		
34	4-MCS-A	1276+50	Lt.	Erect New Sign on New Support	R-123-36	36"x36"				14.0						9.0			14.0																		
34	4-MCS-B	"	Lt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
34	4-MCS-C	"	Rt.	" " " " " "	R-19-24	24"x30"				13.0						5.0		13.0																		2
34	4-MCS-D	"	Rt.	" " " " " "	R-123-36	36"x36"				14.0						9.0			14.0																		
MEDIAN CROSS-OVER SIGN TOTAL																112.0		104.0	112.0																16
MAINLINE & MEDIAN CROSS-OVER SIGN TOTALS (Carried To General Summary)											11	56	2	6	71	670.58	181.5	357.8	970.8		209.8	83.8		46.5	335.9	185.5	14	30.52	1	1	19.76						16

TRAFFIC CONTROL QUANTITIES

QUANTITIES			
CALC	DATE	CHK'D	DATE
J.C.N	6-18-79	R.E.M.	1-15-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS.-22-20.07

58/80

844

SHEET Nº	REF. Nº	STATION	SIDE ℄	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			Removal of S.M. Major Sign & Storage	Removal of S.M. Sign & Storage	Removal of S.M. Sign & Re-erection	Removal of S.M. Beam Support	Removal of S.M. Post Support	Signs, Flat Sheet	S.B.M.S. Extrusheet	S.M. Supports, W3 Post	S.M. Supports, W6 Post	S.M. Supports, W2 4 Post	S.M. Supports, W2 4 Post As Per Plan	S.M. Supports, S4x7.7	S.M. Supports, W6x8.5	S.M. Supports, W10x11.5	S.M. Supports, W8x11	S.M. Supports, W10x21	S.M. Supports, W12x31	Breakaway Beam Connection	Concrete for Embedded Foundations
						INCHES	FEET	LT.	CNTR.	RT.	EACH	EACH	EACH	EACH	EACH	SQ.FT.	SQ.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	CU.YD.
	S.R. 151 INTERCHANGE (WEST)																												
	S.R. 151 CROSS ROAD																												
29	J-151W-S	242+00	RT.	ERECT NEW SIGNS ON NEW SUPPORT	M-1-24	24"X24	12.0		14.1							4.0		19.1											
29	"	"	"	" " " " " "	M-17-21	21"X15"										2.19													
29	E-151W-S	249+30	LT	RMV. SIGNS & SUPPORT								2			1														
29	"	"	"	ERECT NEW SIGNS & NEW SUPPORT	M-2-24-3	30"x24"	12.0		13.3							5.0		13.3											
29	"	"	"	" " " " " "	M-40-24	24"x12"										2.0													
29	B-151W-S	250+62	LT	RMV. SIGNS & SUPPORT								3			2														
29	"	"	"	ERECT NEW SIGNS ON NEW SUPPORT	D-4A	132"x24"	12.0	14.3		15.4							22.0					29.7						2	0.54
29	"	"	"	" " " " " "	M-1-24	24"x24"										4.0													
29	"	"	"	" " " " " "	M-2-24-3	30"x24"										5.0													
29	"	"	"	" " " " " "	M-24-21	21"x15"										2.19													
29	"	"	"	" " " " " "	M-26-21	21"x15"										2.19													
29	"	"		" " " " " "	M-40-24	24"x12"										2.0													
29	C-151W-S	251+07	Rt.	Rmv. Signs & Supports								3			3														
29	"	"	"	Erect New Sign on New Supports	M-52A	108"x30"	14.0	17.5		20.2							22.5					37.7							0.54
29																													
29	D-151W-S	251+17.5	RT.	RMV. SIGNS & SUPPORTS								4			3														
29	A-151W-S	253+63	LT	RMV. SIGN & SUPPORT								1			1														
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	W-1-36	36"x36"	12.0		15.3							9.0			15.3										
29	F-151W-S	257+30	RT	Erect New Signs on New Support	M-90-24	24"x12"	12.0		13.8							2.0		13.8											
29	"	"	"	" " " " " "	M-1-24	24"x24"										4.0													
29	"	"	"	" " " " " "	M-19-21	21"x15"										2.19													
29	G-151W-S	260+83	LT	RMV. SIGNS & SUPPORT								2			1														
29	"	"	"	ERECT NEW SIGNS ON NEW SUPPORT	M-2-24-3	30"x24"	12.0		13.5							5.0		13.5											
29	"	"	"	" " " " " "	M-40-24	24"x12"										2.0													
29	H-151W-S	262+48	RT.	RMV. SIGNS & SUPPORTS "								6			2														
29	"	"	"	ERECT NEW SIGNS ON NEW SUPPORTS	D-4B	144"x48"	21.0	17.9		16.5							48.0							33.4				2	2.20
29	"	"	"	" " " " " "	M-1-24	24"x24"										4.0													
29	"	"	"	" " " " " "	M-24-21	21"x15"										2.19													
29	"	"	"	" " " " " "	M-2-24-3	30"x24"										5.0													
29	"	"	"	" " " " " "	M-24-21	21"x15"										2.19													
29	"	"	"	" " " " " "	M-39-24	24"x12"										2.0													
29	"	"	"	" " " " " "	M-39-24	24"x12"										2.0													
29	I-151W-S	264+18	LT	RMV. SIGNS & SUPPORTS								4			3														
29	"	"	"	ERECT NEW SIGNS ON NEW SUPPORTS	D-4B	144"x48"	18.0	20.5		16.8							48.0							36.3				2	2.20
29	"	"	"	" " " " " "	M-1-24	24"x24"										4.0													
29	"	"	"	" " " " " "	M-29-21	21"x15"										2.19													
29	"	"	"	" " " " " "	M-2-24-3	20"x24"										5.0													
29	"	"	"	" " " " " "	M-29-21	21"x15"										2.19													
29	J-151W-S	270+00	LT	ERECT NEW SIGN NEW SUPPORTS	M-1-24	24"x24"	12.0		13.3							4.0		13.3											
29	"	"	"	" " " " " "	M-17-21	21"x15"										2.19													
29	"	"	"	" " " " " "	M-2-24-3	30"x24"	14.1		12.8							5.0		12.8											
29	"	"	"	" " " " " "	M-17-21	21"x15"										2.19													
29	K-151W-S	262+60	Rt.	Rmv. Signs & Supports								4			3														
29	L-151W-S	263+39	Rt.	No Work																									
14-151W-S, 15-151W-S, & 16-151W-S Carried on Sheet Nº 60																													
RAMP "J"																													
29	J-151W-S	3+52	RT.	RMV. SIGN & SUPPORT								1			1														
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-41A-36	36"x24"	12.0		14.0							6.0		14.0											
29	J-151W-S	3+54.5	LT	RMV. SIGN & SUPPORT								1			1														
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-41A-36	36"x24"	12.0		14.5							6.0		14.5											
29	J-151W-S	6+30	LT	ERECT NEW SIGN ON NEW SUPPORTS	W 97-48	48"x 60"	14.0	18.2		19.5						20.0					37.1							0.54
29	J-151W-S	0+00	Lt.	Erect New Sign on New Support	W-45-36	36"x36"	12.0		15.5							9.0			15.5									
RAMP "K"																													
29	K-151W-S	10+00	RT.	ERECT NEW SIGNS ON NEW SUPPORTS	D-4B	96x48"	20.0	17.5		15.2							32.0						32.7				2	0.66
29	"	"	"	" " " " " "	M-2-30-3	37½"x30"										7.81													
29	"	"	"	" " " " " "	M-24-24	24"X18										3.0													
29	K-151W-S	11+31	RT	RMV. SIGN & SUPPORT								1			1														
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-41A-36	36"x24"	12.0		14.0							6.0		14.0											
29	K-151W-S	12+79.5	RT	RMV. SIGNS & SUPPORT								2			1														
29	"	12+60	"	ERECT NEW SIGN ON NEW SUPPORT	R-37R-36	36"x47"	18.5		13.5							11.75			13.5									
29	K-151W-S	12+83.5	RT	RMV. SIGNS & SUPPORT								2			1														
29	"	"	"	ERECT NEW SIGNS ON NEW SUPPORTS	R-1-48	48"x48	12.0	15.5		16.3						16.0				31.8									
29	"	"	"	" " " " " "	R-41B-36	36"x36"										9.0													
29	"	"	"	" " " " " "	R-43L-48	48"x18"										6.0													
29	"	"	"	" " " " " "	R-43R-48	48"x18"										6.0													

TRAFFIC CONTROL QUANTITIES

QUANTITES			
CA.LC J.C.N	DATE 6-19-79	CHK'D R.E.M.	DATE 1-16-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

59 / 80

HAS. 22-20.07

844

SHEET Nº	REF. Nº	STATION	SIDE &	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			REMOVAL OF S.M. MAJOR SIGN & STORAGE	REMOVAL OF S.M. SIGN & STORAGE	REMOVAL OF S.M. SIGN & RECREATION	REMOVAL OF S.M. BEAM SUPPORT	REMOVAL OF S.M. POST SUPPORT	SIGNS, FLAT SHEET	SIGNS, EXTRUSHEET	S.M. SUPPORTS, Nº 3 POST	S.M. SUPPORTS, Nº 4 POST	S.M. SUPPORTS, NO. 4 POST, AS PER PLAN	S.M. SUPPORTS, S4X7.7	S.M. SUPPORTS, W6X8.5	S.M. SUPPORTS, W10X11.5	S.M. SUPPORTS, W8X17	S.M. SUPPORTS, W10X21	S.M. SUPPORTS, W12X31	BREAKAWAY BEAM CONNECTION	CONCRETE FOR EMBEDDED FOUNDATIONS
	S.R. 151 INTERCHANGE (WEST) CONT.					INCHES	FEET	LT.	CNTR.	RT.	EACH	EACH	EACH	EACH	EACH	SQ.FT.	SQ.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	CU.YD.
	RAMP "L"																											
29	151 W-L-S	3+30	RT.	ERECT NEW SIGN ON NEW SUPPORTS	W9T-48	48"x60"	14.0	17.2		18.0						20.0					35.2							0.54
29	2 151 W-L-S	5+00	RT.	ERECT NEW SIGN ON NEW SUPPORTS	D-4B	96"x48"	18.0	17.8		15.8							32.0					33.6					2	0.66
29	"	"	"	" " " " " " "	M-230-3	37½"x30"										7.81												
29	"	"	"	" " " " " " "	M-24-24	24"x18"										3.0												
29	3 151 W-L-S	5+56	LT.	RMV. SIGN & SUPPORT								1			1													
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-41A-36	36"x24"	12.0		13.7							6.0		13.7											
29	4 151 W-L-S	5+56	RT	RMV. SIGN & SUPPORT								1			1													
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-41A-36	36"x24"	12.0		13.8							6.0		13.8											
29	5 151 W-L-S	7+29.5	LT.	RMV. SIGN & SUPPORT								2			1													
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-37R-36	36"x47"	6.0		13.5							11.75			13.5									
29	151 W-L-S	7+91.5	RT.	RMV. SIGNS & SUPPORT								2			1													
29	"	"	"	ERECT NEW SIGN ON NEW SUPPORTS	R-1-48	48"x48"	10.0	15.3		16.0						16.0				31.3								
29	"	"	"	" " " " " " "	R-41B-36	26"x36"										9.0												
29	"	"	"	" " " " " " "	R-43L-48	48"x18"										6.0												
29	"	"	"	" " " " " " "	R-43R-48	48"x18"										6.0												
	S.R. 151 INTERCHANGE (WEST) SUBTOTAL (CARRIED FROM SHEET Nº 60)											2			1	17.38	74.5		30.7		31.7	34.7				4	1.20
	S.R. 151 INTERCHANGE (WEST) TOTALS			(CARRIED TO GEN. SUMMARY)								44			29	312.40	279.0	150.8	88.5	63.1	172.0	101.0	69.7			14	9.08
	S.R. 151 INTERCHANGE (EAST)																											
33	1-151E-S	293+40	LT.	Rmv. Signs & Supports								6			2													
33	"	293+42	"	Erect New Signs on New Supports	D-4B	132"x48"	12.0	18.6		19.6							44.0						38.2				2	2.20
33	"	"	"	" " " " " " "	M-40-24	24"x12"										2.0												
33	"	"	"	" " " " " " "	M-40-24	24"x12"										2.0												
33	"	"	"	" " " " " " "	M-1-24	24"x24"										4.0												
33	"	"	"	" " " " " " "	M-24-21	21"x15"										2.19												
33	"	"	"	" " " " " " "	M-2-24-3	30"x24"										5.0												
33	"	"	"	" " " " " " "	M-24-21	21"x15"										2.19												
33	2-151E-S	293+52	RT.	RMV. SIGNS & SUPPORTS								3			2													
33	3-151E-S	294+12	RT.	RMV. SIGNS & SUPPORTS								4			2													
33	"	"	"	ERECT NEW SIGNS ON NEW SUPPORTS	D-1-72	72"x12"	12.0	13.8		14.0							6.0				27.8						2	0.54
33	"	"	"	" " " " " " "	D-1-72	72"x12"											6.0											
33	"	"	"	" " " " " " "	M-1-24	24"x24"										4.0												
33	"	"	"	" " " " " " "	M-24-21	21"x15"										2.19												
33	"	"	"	" " " " " " "	M-2-24-3	30"x24"										5.0												
33	"	"	"	" " " " " " "	M-29-21	21"x15"										2.19												
33	5-151E-S	295+80	LT.	RMV. SIGNS & SUPPORT								2			1													
33	"	"	"	ERECT NEW SIGNS ON NEW SUPPORT	M-2-24-3	30"x24"	12.0		13.6							5.0		13.6											
33	"	"	"	" " " " " " "	M-21-21	21"x15"										2.19												
33	6-151E-S	296+29.5	LT.	RMV. SIGNS & SUPPORTS								4			3													
33	"	"	"	ERECT NEW SIGNS ON NEW SUPPORTS	D-4B	144"x48"	12.0	18.4		18.8							48.0						37.2				2	2.20
33	"	"	"	" " " " " " "	M-1-24	24"x24"										4.0												
33	"	"	"	" " " " " " "	M-24-21	21"x15"										2.19												
33	"	"	"	" " " " " " "	M-2-24-3	30"x24"										5.0												
33	"	"	"	" " " " " " "	M-26-21	21"x15"										2.19												
33	"	"	"	" " " " " " "	M-26-21	21"x15"										2.19												
33	"	"	"	" " " " " " "	M-1-24	24"x24"										4.0												
33	"	"	"	" " " " " " "	M-40-24	24"x12"										2.0												
33	"	"	"	" " " " " " "	M-40-24	24"x12"										2.0												
33	"	"	"	" " " " " " "	M-39-24	24"x12"										2.0												
33	9-151E-S	298+00	RT.	ERECT NEW SIGNS ON NEW SUPPORT	M-2-24-3	30"x24"	12.0		13.3							5.0		13.3										
33	"	"	"	" " " " " " "	M-38-24	24"x12"										2.0												
33	10-151E-S	302+00	LT.	ERECT NEW SIGNS ON NEW SUPPORTS	M-1-24	24"x24"	12.0		15.6							4.0			15.6								
33	"	"	"	" " " " " " "	M-17-21	21"x15"										2.19												
33	4-151E-S	295+00	Rt.	Rmv. Sign & Supports								1			2													
33	"	"	"	Erect New on New Support	N-1-40	40"x20"	12.2		12.2							5.56		12.2										
	7-151E-S, 8-151E-S, & 11-151E-S Carried on Sheet Nº 60																											
	RAMP "Q"																											
33	151E-Q-S	13+53	LT.	RMV. SIGN & SUPPORT								1			1													
33	"	12+00	"	ERECT NEW SIGN ON NEW SUPPORT	R-41A-36	36"x24"	12.0		14.0							6.0		14.0										
33	2 151E-Q-S	13+53	RT.	RMV. SIGNS & SUPPORT								2			1													
33	"	12+00	"	ERECT NEW SIGNS ON NEW SUPPORTS	D-4B	108"x48"	12.0	20.8		16.8							36.0						37.6				2	2.20
33	"	"	"	" " " " " " "	M-2-30-3	37½"x30"										7.81												
33	"	"	"	" " " " " " "	M-24-24	24"x18"										3.00												
33	"	"	"	" " " " " " "	R-41A-36	36"x24"										6.0												

TRAFFIC CONTROL QUANTITIES

SHEET Nº	REF. Nº	STATION	SIDE ℄	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			844																	
											REMOVAL OF G.M. MAJOR-SIGN & STORAGE	REMOVAL OF G.M. SIGN & STORAGE	REMOVAL OF G.M. SIGN & RE-ERECTION	REMOVAL OF G.M. BEAM SUPPORT	REMOVAL OF G.M. POST SUPPORT	SIGNS, FLAT SHEET	SIGNS, EXTRUSHEET	G.M. SUPPORTS, NO.3 POST	G.M. SUPPORTS Nº4 POST	G.M. SUPPORTS, Nº4 POST, AS PER PLAN.	G.M. SUPPORTS, S4X7.7	G.M. SUPPORTS, W6X8.5	G.M. SUPPORTS, W10X11.5	G.M. SUPPORTS, W8X17	G.M. SUPPORTS, W10X21	G.M. SUPPORTS W12X31	BREAKAWAY BEAM CONNECTION	CONCRETE FOR EMBEDDED FOUNDATIONS.
						INCHES	FEET	LT.	CNTR.	RT.	EACH	EACH	EACH	EACH	EACH	SQ.FT	SQ.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT	LIN.FT.	LIN.FT.	LIN.FT.	EACH	CU.YDS.
S.R. 151 INTERCHANGE (EAST) CONT.																												
RAMP "Q" CONT.																												
33	^{3}151E-Q-S	17+03.5	LT.	RMV. SIGNS & SUPPORT																								
33	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-1-36	36"x36"	12.0		15.0							9.0			15.0									
33	"	"	"	" " " " " "	R-41B-30	30"x30"										6.25												
33	^{4}151E-Q-S	17+29.5	RT	RMV. SIGNS & SUPPORT																								
33	"	"	"	ERECT NEW SIGN ON NEW SUPPORTS	R-1-48	48"x48"	12.0	16.3		17.3						16.0				33.6								
33	"	"	"	" " " " " "	R-41B-36	36"x36"										9.0												
33	"	"	"	" " " " " "	R-43L-48	48"x48"										6.0												
33	"	"	"	" " " " " "	R-43R-48	48"x48"										6.0												
RAMP "S"																												
33	^{1}151E-S-S	0+27	LT.	RMV. SIGNS & SUPPORT								2			1													
33	"	0+35	"	ERECT NEW SIGNS ON NEW SUPPORTS	R-1-48	48"x48"	12.0	16.3		15.7						16.0				32.0								
33	"	"	"	" " " " " "	R-41B-36	36"x36"										9.0												
33	"	"	"	" " " " " "	R-43L-48	48"x18"										6.0												
33	"	"	"	" " " " " "	R-43R-48	48"x18"										6.0												
33	^{2}151E-S-S	0+32	RT.	RMV. SIGNS & SUPPORT								2			1													
33	"	"	"	ERECT NEW SIGNS ON NEW SUPPORT	R-1-36	36"x36"	12.0		14.7							9.0			14.7									
33	"	"	"	" " " " " "	R-41B-30	30"x30"										6.25												
33	^{3}151E-S-S	3+38	LT.	RMV. SIGN & SUPPORT								1			1													
33	"	"	"	ERECT NEW SIGNS ON NEW SUPPORTS	D-4B	108"x48"	12.0	16.3		14.3							36.0					30.6					2	0.66
33	"	"	"	" " " " " "	M-2-30-3	37½"x30"										7.81												
33	"	"	"	" " " " " "	M-24-24	24"x18"										3.0												
33	"	"	"	" " " " " "	R-41A-36	36"x24"										6.0												
33	^{4}151E-S-S	3+38	RT.	RMV. SIGN & SUPPORT								1			1													
33	"	"	"	ERECT NEW SIGN ON NEW SUPPORT	R-41A-36	36"x24"	12.0		14.0							6.0		14.0										
S.R. 151 INTERCHANGE (EAST) ADDITIONS																												
33	7-151E-S	296+85	Rt.	Rmv. Signs & Supports								3			3													
33	"	"	"	Erect New Signs on New Supports	D-1-72	72"x12"	12.0	13.3		15.0							6.0		28.3									
33	"	"	"	" " " " " "	M-39-24	24"x12"										2.0												
33	"	"	"	" " " " " "	M-1-24	24"x24"										4.0												
33	"	"	"	" " " " " "	M-24-21	21"x15"										2.19												
33	8-151E-S	296+97	Lt.	Rmv. Signs & Supports								3			3													
33	11-151E-S	288+00	Rt.	Erect New Signs on New Supports	M-1-24	24"x24"	12.0		12.5							4.0		12.5										
33	"	"	"	" " " " " "	M-17-21	21"x15"										2.19												
33	"	"	"	" " " " " "	M-2-24-3	30"x24"	14.2		12.5							5.0		12.5										
33	"	"	"	" " " " " "	M-17-21	21"x15"										2.19												
S.R. 151 INTERCHANGE (EAST) TOTAL (CARRIED TO GENERAL SUMMARY)												35			24	253.96	182.0	92.1	73.6	65.6	27.8	30.6	113.0				10	7.80
S.R.151 INTERCHANGE (WEST) ADDITIONS																												
29	14-151W-S	245+00	Rt.	Erect New Sign on New Supports	M-52A	108"x30"	12.0	14.8		16.9							22.5				31.7						2	0.54
29	15-151W-S	249+00	Rt.	Erect New Sign on New Supports	D-4B	156"x48"	12.0	17.0		17.7							52.0					34.7					2	0.66
29	16-151W-S	258+79	Rt.	Rmv. Signs & Support								2			1													
29	"	"	"	Erect New Signs on New Supports	M-1-24	24"x24"	12.0		14.7							4.0			14.7									
29	"	"	"	" " " " " "	M-39-24	24"x12"										2.0												
29	"	"	"	" " " " " "	M-21-21	21"x15"										2.19												
29	"	"	"	" " " " " "	M-2-24-3	30"x24"	14.3		16.0							5.0			16.0									
29	"	"	"	" " " " " "	M-39-24	24"x12"										2.0												
29	"	"	"	" " " " " "	M-21-21	21"x15"										2.19												
S.R.151 INTERCHANGE (WEST) SUBTOTAL (CARRIED TO SHEET Nº 59)												2			1	17.38	74.5		30.7		31.7	34.7					4	1.20

QUANTITIES	
Calculated By J.C.N. 7-9-79	Checked By R.E.M. 1-22-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

61/80

HAS-22-20.07

ITEM 621 ~ PAVEMENT MARKING ~ POLYESTER, AS PER PLAN

STATION FROM	STATION TO	LANE	SIDE	4" EDGE LINES WHITE LIN. FT.	4" EDGE LINES YELLOW LIN. FT.	4" EDGE LINES TOTAL LIN. FT.	4" LANE LINES LIN. FT.	8" CHANNELIZING LINES LIN. FT.	24" BROAD TRANSV. LINES LIN. FT.	4" CENTER LINES SINGLE DASHED LIN. FT.	4" CENTER LINES LT. DASHED RT. SOLID LIN. FT.	4" CENTER LINES LT. SOLID RT. DASHED LIN. FT.	4" CENTER LINES DOUBLE SOLID LIN. FT.	24" STOP LINE LIN. FT.	LANE ARROWS EACH	WORD ON PAVEMENT (ONLY) EACH
MAINLINE																
1060+00	1081+10	TWO LANE SECTION	LT.&RT.	4220		4220										
			CTR.							2110						
1081+10	1085+60		LT.&RT.	900		900										
			CTR.								450					
1085+60	1086+40		Co. RD. 13 INTERSECTION, NO PAVEMENT MARKING REQUIRED													
1086+40	1090+90		LT.&RT.	900		900										
			CTR.									450				
1090+90	1117+30		LT.&RT.	5280		5280										
			CTR.							2640						
1117+30	1118+10		RT.	80		80										
			CTR.							80						
1118+10	1121+45		LT.&RT.	670		670										
			CTR.							335						
1121+45	1128+47		LT.&RT.	1404		1404										
			CTR.								702					
1128+47	1132+85		LT.&RT.	876		876										
			CTR.										438			
1132+85	1133+65		TWP. RD. 177 INTERSECTION, NO PAVEMENT MARKING REQUIRED													
1133+65	1137+14		LT.&RT.	698		698										
			CTR.										349			
1137+14	1138+50		LT.&RT.	272		272										
			CTR.										136*			
1138+50	1146+50		LT.&RT.	800	800	1600										
1146+50	1168+68.19 Bk. = 1168+75.64 Ah.		LT.&RT.	2218	2218	4436										
			CTR.				2218									
1168+75.64	1263+08.90		LT.&RT.	9433	9433	18866										
			CTR.				9433									
1138+50	1168+68.19 Bk. = 1168+75.64 Ah.	WESTBOUND LANE	LT.&RT.	3018	3018	6036										
			CTR.				3018									
1168+75.64	1280+62.94 Bk. = 1280+72.73 Ah.		LT.&RT.	11187	11187	22374										
			CTR.				11187									
1280+72.73	1298+78.92 Bk. = 1298+80.75 Ah.		LT.&RT.	1806	1806	3612										
			CTR.				1806									
1298+80.75	1303+00		LT.&RT.	419	419	838										
			CTR.				419									
1303+00	1304+00		LT.&RT.	100	100	200										
			CTR.				100									
1304+00	1305+25		LT.		125	125										
			CTR.				125									
			RT.	125		125	125									
1305+25	1305+85		LT.		60	60	60									
			CTR.				60									
			RT.				12									
1305+85	1306+63		CTR.				78									
1306+63	1307+10		CTR.				47									
			RT.	47		47	47									
1307+10	1308+25		LT.		115	115	115									
			CTR.				115									
			RT.	115		115	115									
1308+25	1321+00		LT.		1275	1275										
			CTR.				1275									
			RT.	1275		1275	1275									
1321+00	1329+83.81 Bk. = 1329+98.24 Ah.		LT.&RT.	884	884	1768										
			CTR.				884									
1329+98.24	1333+10		LT.		312	312										
			CTR.				312									
			RT.	267		267										
1333+10	1333+73		CTR.				63									

ITEM 621 ~ PAVEMENT MARKING ~ POLYESTER, AS PER PLAN

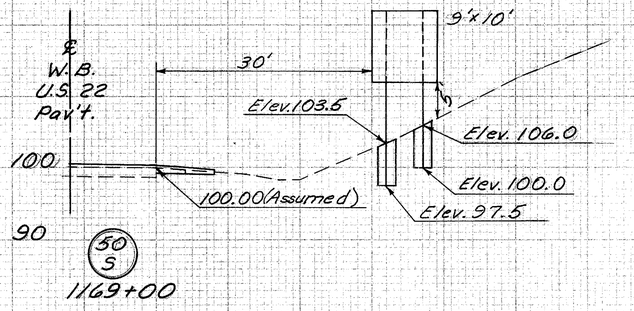
STATION FROM	STATION TO	LANE	SIDE	4" EDGE LINES WHITE LIN. FT.	4" EDGE LINES YELLOW LIN. FT.	4" EDGE LINES TOTAL LIN. FT.	4" LANE LINES LIN. FT.	8" CHANNELIZING LINES LIN. FT.	24" BROAD TRANSV. LINES LIN. FT.	4" CENTER LINES SINGLE DASHED LIN. FT.	4" CENTER LINES LT. DASHED RT. SOLID LIN. FT.	4" CENTER LINES LT. SOLID RT. DASHED LIN. FT.	4" CENTER LINES DOUBLE SOLID LIN. FT.	24" STOP LINE LIN. FT.	LANE ARROWS EACH	WORD ON PAVEMENT (ONLY) EACH
1333+73	1334+03.75	E. BOUND LANE	LT.		31	31										
			CTR.													
			RT.	21		21	31									
MAINLINE TOTALS				47015	31783	78798	32920			5165	1152	450	923			
S.R. 151 INTERCHANGE (JEWETT WEST)																
0+00	5+47.24	RAMP "J" E. & SC. LANE	LT.&RT.	548	548	1096										
5+47.24	6+52.24		RT.	105		105										
5+47.24	9+05		GORE					710	294							
9+05	9+87		RT.				82									
0+00	1+75	RAMP "K" E. SC. LANE	LT.	175		175										
			GORE					175								
1+75	6+82.18		LT.&RT.	507	543	1050										
6+82.18	13+10.71		LT.&CTR.	629	660	1289										
			CTR.&RT.	690	660	1350										
12+10			CTR. Rt. Lane													1
12+50			CTR. Rt. Lane												1	
12+80			Full Width Rt. Lane											18		
1+30	2+65	RAMP "L" E. SC. LANE	LT.				135									
2+65	4+17.5		RT.	100		100										
			GORE					315	60							
4+17.5	7+57		LT.&RT.	340	364	704										
6+78			CTR.													1
7+18			CTR.												1	
7+48			CTR.											33		
0+12	6+15.02	RAMP "M" E. SC. LANE	LT.&RT.	603	613	1216										
6+15.02	6+68.07		LT.					53								
			RT.	53		53										
6+68.07	8+13.07	RAMP "N" E. SC. LANE	LT.				145									
S.R. 151 INTERCHANGE (WEST) TOTOLS				3750	3388	7138	362	1253	354					51	2	2
S.R. 151 INTERCHANGE (HOPEDALE SOUTH)																
4+07.63	5+18.17	RAMP "N" E. SC. LANE	LT.	111		111										
			RT.					111								
5+18.17	17+45		LT.&RT.	1227	1227	2454										
2+28	4+58.89	RAMP "Q" E. SC. LANE	LT.					420	168							
			RT.	100		100										
4+58.89	17+50		LT.&RT.	1292	1292	2584										
16+70			CTR.													1
17+10			CTR.												1	
17+40			CTR.											40		
0+20			CTR.											44		
0+50			CTR.												1	
0+90			CTR.													1
0+12	6+44.38	RAMP "S" E. SC. LANE	LT.&RT.	633	633	1266										
6+44.38	8+70		LT.	140		140										
			RT.					473	178							
0+12.5	8+80.23	RAMP "T" E. SC. LANE	LT.&RT.	868	868	1736										
8+80.25	9+90.88		LT.					111								
			RT.	111		111										
9+90.88	11+84.88		LT.				194									
S.R. 151 INTERCHANGE (SOUTH) TOTALS				4482	4020	8502	194	1115	346					84	2	2
252+75	258+50	S.R. 151	LT.&RT.	1150		1150										
			CTR.										575			
TOTALS (Carried To General Summary)				56397	39191	95588	33476	2368	700	5165	1152	450	1498	135	4	4
				95588 L.F. x 1 Mile / 5280 L.F. = 18.10 Miles			6.34 Miles			8265 L.F. x 1 Mile / 5280 L.F. = 1.57 Miles						

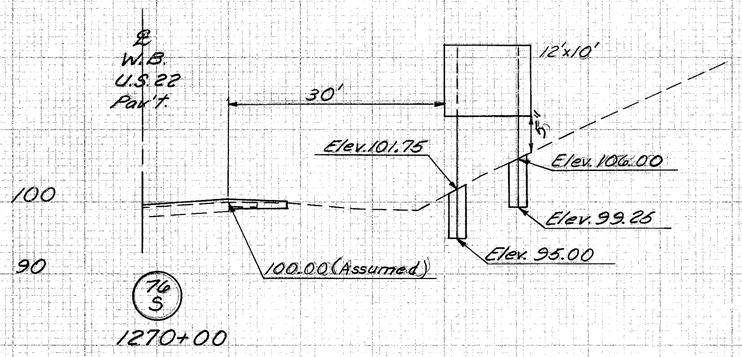
* Double yellow on same alignment as existing concrete traffic dividers which are to be removed.

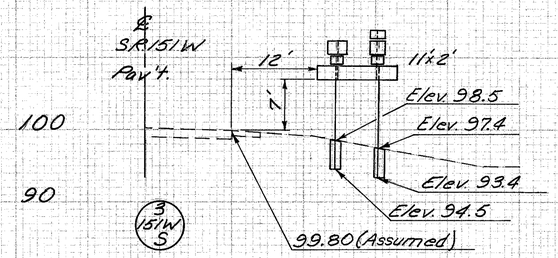
PAVEMENT MARKING

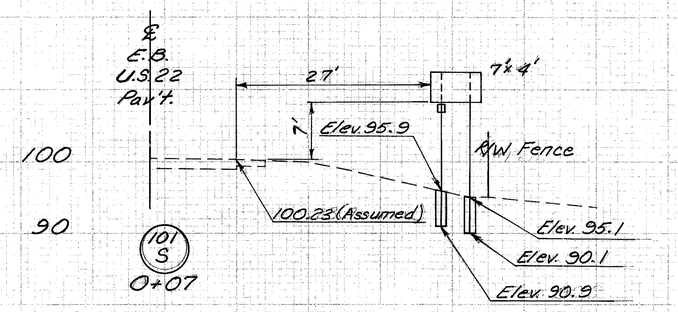
FED. RD. DIVISION	STATE	PROJECT		62 80
5	OHIO			

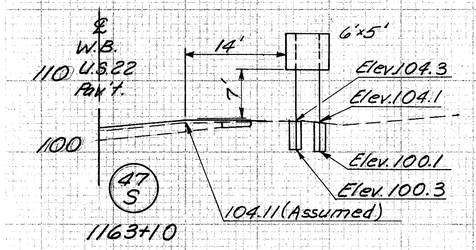
HAS-22-20.07

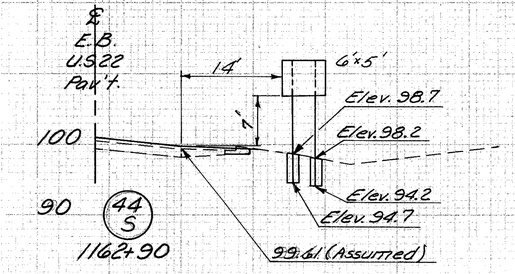


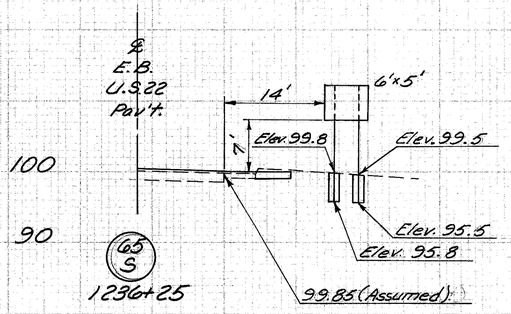


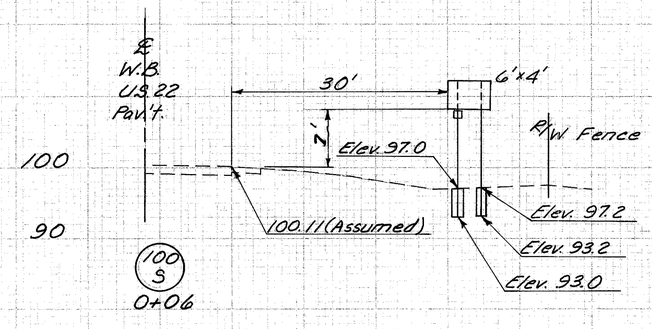










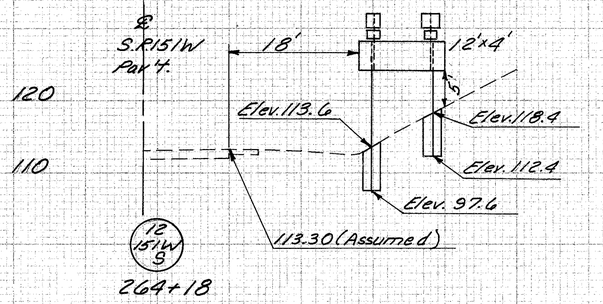


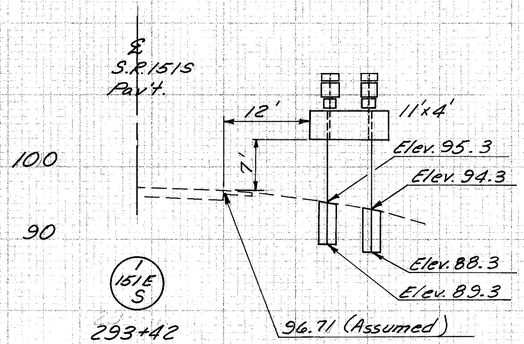
SIGN ELEVATION VIEW

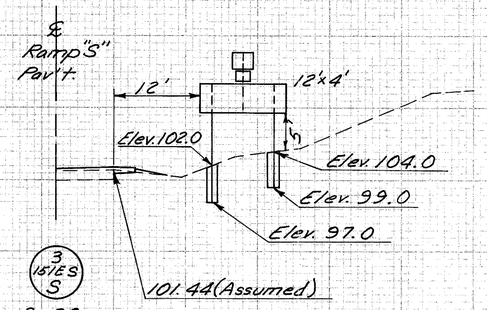
FED. ROAD DIVISION	STATE	PROJECT		
5	OHIO			

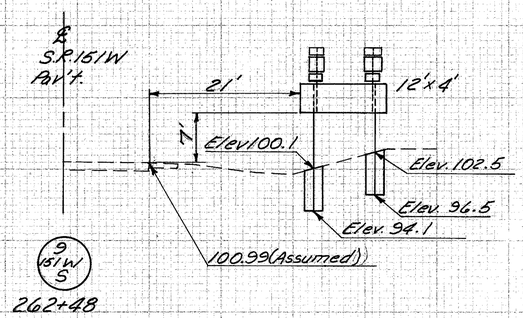
63
80

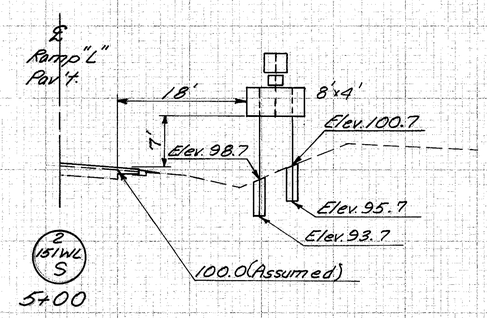
HAS-22-20.07

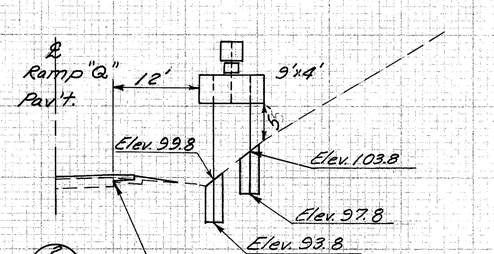


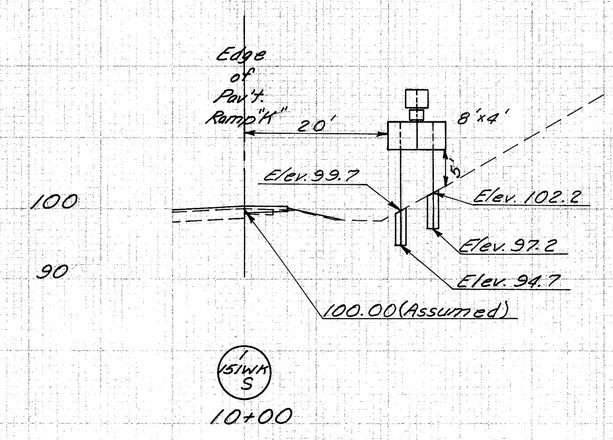


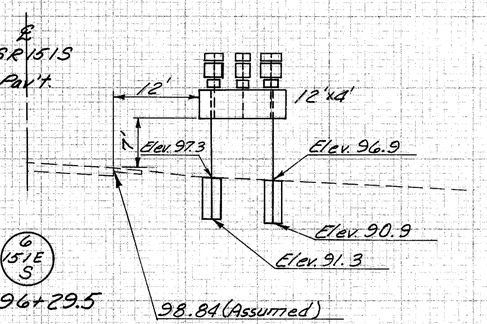








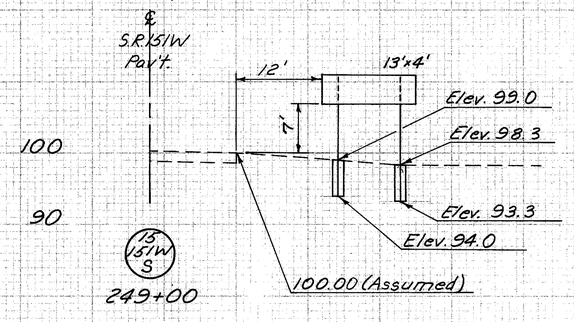


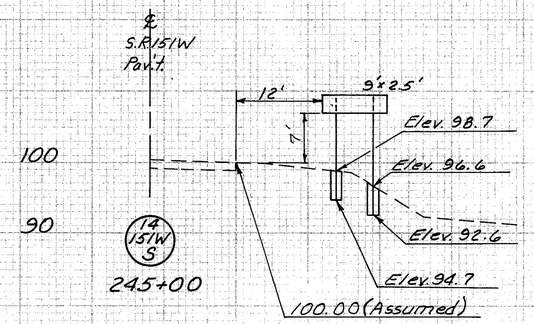


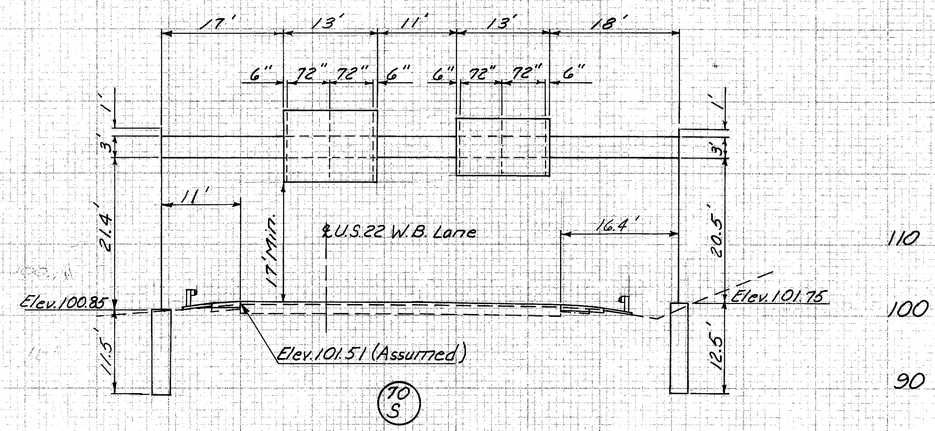
SIGN ELEVATION VIEW

FED. HWY. DIVISION	STATE	PROJECT		64 / 80
5	OHIO			

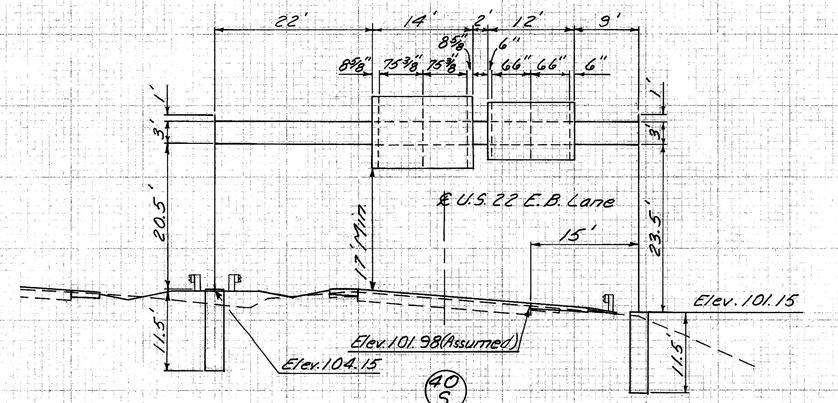
HAS-22-20.07







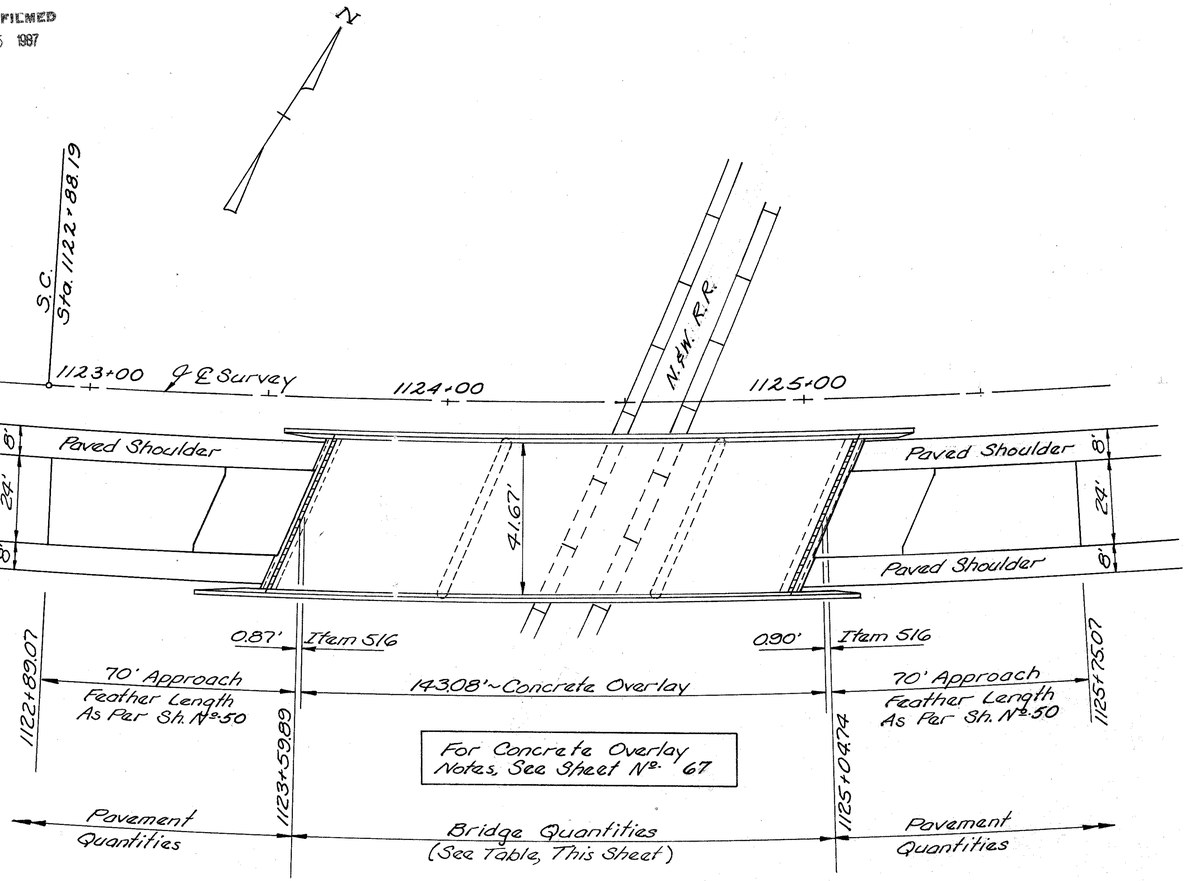
1257+25 W.B. U.S.R. 22
SUPPORT TYPE 7.65
DESIGN Nº 6 72' SPAN
25.4' LEFT END SHAFT
24.5' RIGHT END SHAFT



1156+50 E. B. U.S.R. 22
SUPPORT TYPE 7.65
DESIGN Nº 6 59' SPAN
24.5' LEFT END SHAFT
27.5' RIGHT END SHAFT

20 ℄ 20 40 60 80 100

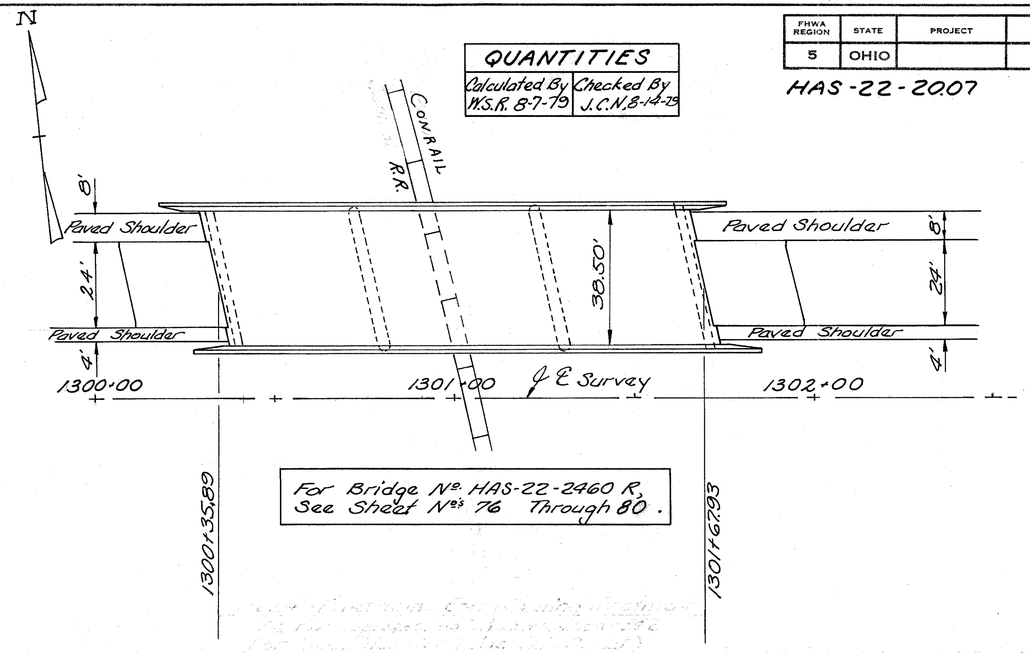
SIGN ELEVATION VIEW



For Concrete Overlay
Notes, See Sheet No. 67

PLAN
Bridge No. HAS-22-2126
(Skew 23°29' L.F. Rel. to Ref. Ch. between Br. Limits on ℄ Survey)

For End Dam Treatment Details
See Sheet No. 52



For Bridge No. HAS-22-2460 R,
See Sheet Nos 76 Through 80.

PLAN
Bridge No. HAS-22-2460 L
(Skew 12°30' R.F.)

ITEM SPECIAL- PATCHING CONCRETE BRIDGE DECK, TYPE II:
Specific locations and useage of this quantity shall be used "as directed by the Engineer" and shall be made a matter of record by incorporation into the final change order governing completion of the project. Estimated quantities of materials shall not be ordered or delivered to the project unless authorized by the Engineer.

QUANTITIES	
Calculated By W.S.R. 8-7-79	Checked By J.C.N. 8-14-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-20.07

65/80

CALCULATION OF BRIDGE DECK PROTECTION QUANTITIES

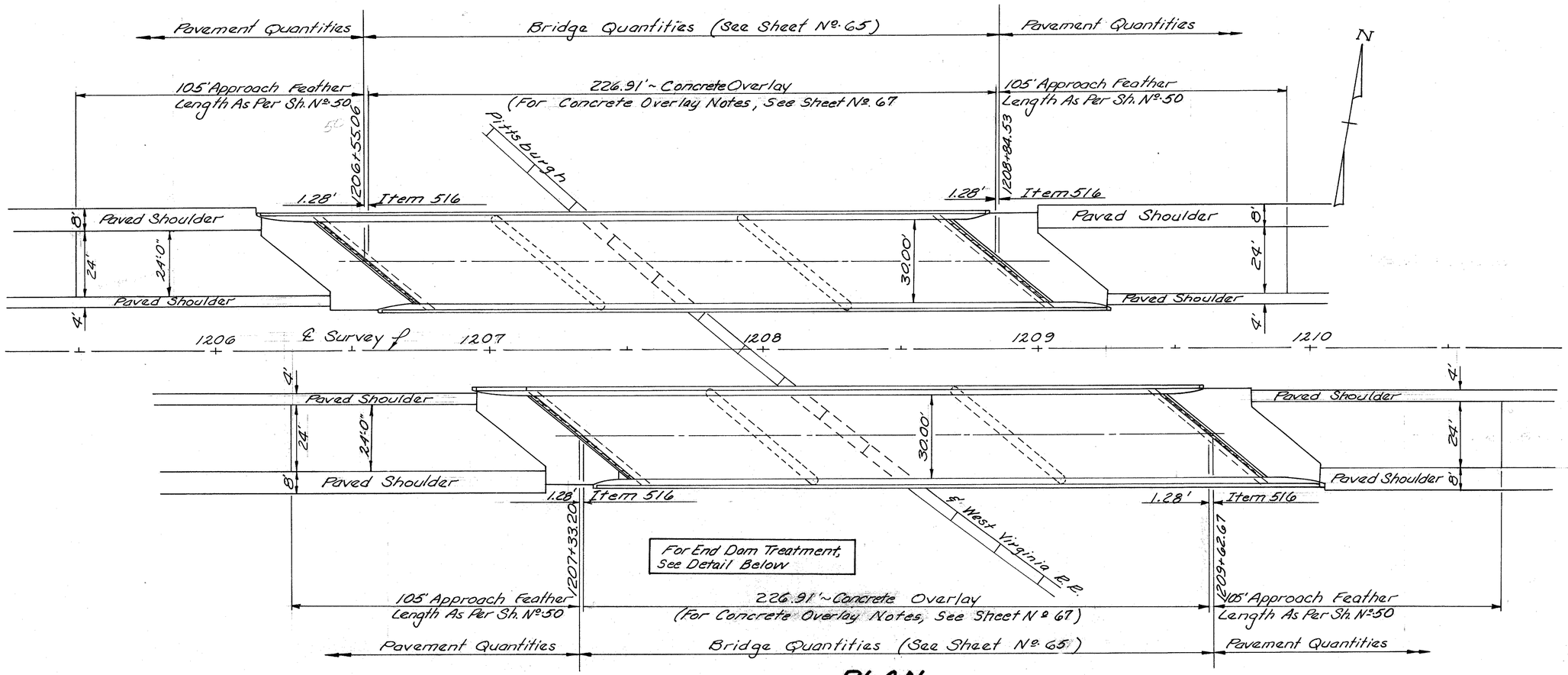
BRIDGE No.	ROADWAY	BRIDGE LIMITS (LOCATED ON CENTER OF PAVEMENT)		DECK PROTECTION DATA				DECK PROTECTION (CONCRETE OVERLAY METHOD)							DECK PROTECTION (METHODS OTHER THAN CONCRETE OVERLAY)								
								~~DESIGN "A"~~			DESIGN "B"											
								~~ITEM 850~~			ITEM 845			202	ITEM 516		SPECIAL							
		END REAR APPROACH SLAB	BEGIN FORWARD APPROACH SLAB	BRIDGE DECK DETAILS	ACTUAL DIMENSIONS OF DECK PROTECTION LENGTH	ACTUAL DIMENSIONS OF DECK PROTECTION WIDTH f/f OF SAFETY CURBS	AREA	~~FULL DEPTH REPAIR~~	~~DENSE CONCRETE OVERLAY (VARIABLE THICKNESS)~~	~~DENSE CONCRETE OVERLAY 7½" THICK~~	FULL DEPTH REPAIR	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)	LATEX MODIFIED CONCRETE OVERLAY (1¼" THICK)	WEARING COURSE REMOVED	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS		PATCHING CONCRETE BRIDGE DECK TYPE II (SEE PROP. NOTE No. 123)							
		STATION	STATION	SHEET Nos	LIN. FT.	FT.	SQ. YDS.	~~CU. YDS.~~	~~CU. YDS.~~	~~SQ. YDS.~~	CU. YDS.	CU. YDS.	SQ. YDS.	SQ. YDS.	LIN. FT.		SQ. YDS.							
HAS-22-2126	U.S. 22 E.B. & W.B.	1123+59.07	1125+05.57	65	143.08	41.67	662.5	~~0.24~~	~~15.25~~	~~662.5~~	0.24	15.25	662.5	764.9	90.69		5Q. YDS.							
HAS-151-2310 aka HAS-22-2188	S.R. 151 OVER U.S. 22	SEE SHEET Nos 68 THROUGH 75 FOR DETAILS AND QUANTITIES PERTAINING TO THIS BRIDGE																						
HAS-22-2283L	U.S. 22 W.BOUND	1206+53.88	1208+85.98	66	226.91	30.00	756.4	~~10.00~~	~~24.00~~	~~756.4~~	10.00	24.00	756.4	764.9	94.70									
HAS-22-2283R	U.S. 22 E.BOUND	1207+32.02	1209+64.12	66	226.91	30.00	756.4	~~5.00~~	~~12.00~~	~~756.4~~	5.00	12.00	756.4	764.9	94.70									
HAS-22-2362L	U.S. 22 W.BOUND	1248+42.54	1249+73.10	67	127.31	37.67	532.9	~~0.51~~	~~8.08~~	~~532.9~~	0.51	8.08	532.9		76.25									
HAS-22-2362R	U.S. 22 E.BOUND	1248+52.90	1249+82.96	67	127.31	37.67	532.9		~~10.58~~	~~532.9~~		10.58	532.9		76.25									
HAS-22-2460L	U.S. 22 W.BOUND	1300+35.89	1301+67.93	65	132.04	38.50	564.8										72							
HAS-22-2460R	U.S. 22 E.BOUND	SEE SHEET Nos 76 THROUGH 80 FOR DETAILS AND QUANTITIES PERTAINING TO THIS BRIDGE																						
BRIDGE DECK PROTECTION QUANTITY TOTALS (CARRIED TO SHEET No. 67)								~~15.75~~	~~69.91~~	~~3241.1~~	15.75	69.91	3241.1	1529.8	432.59		72							

Revised 5-7-80 DWI
Revised 5-28-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

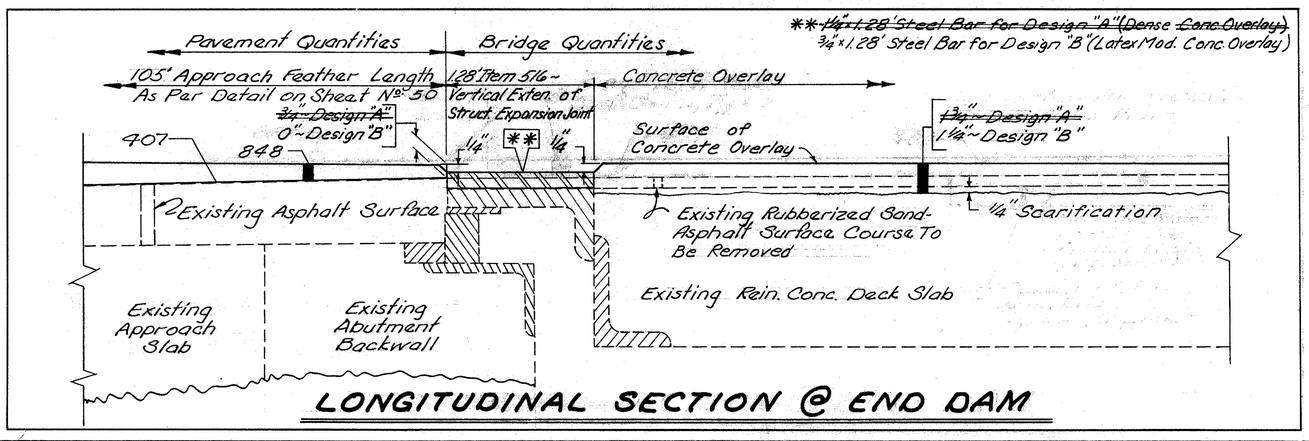
66/80

HAS-22-20.07



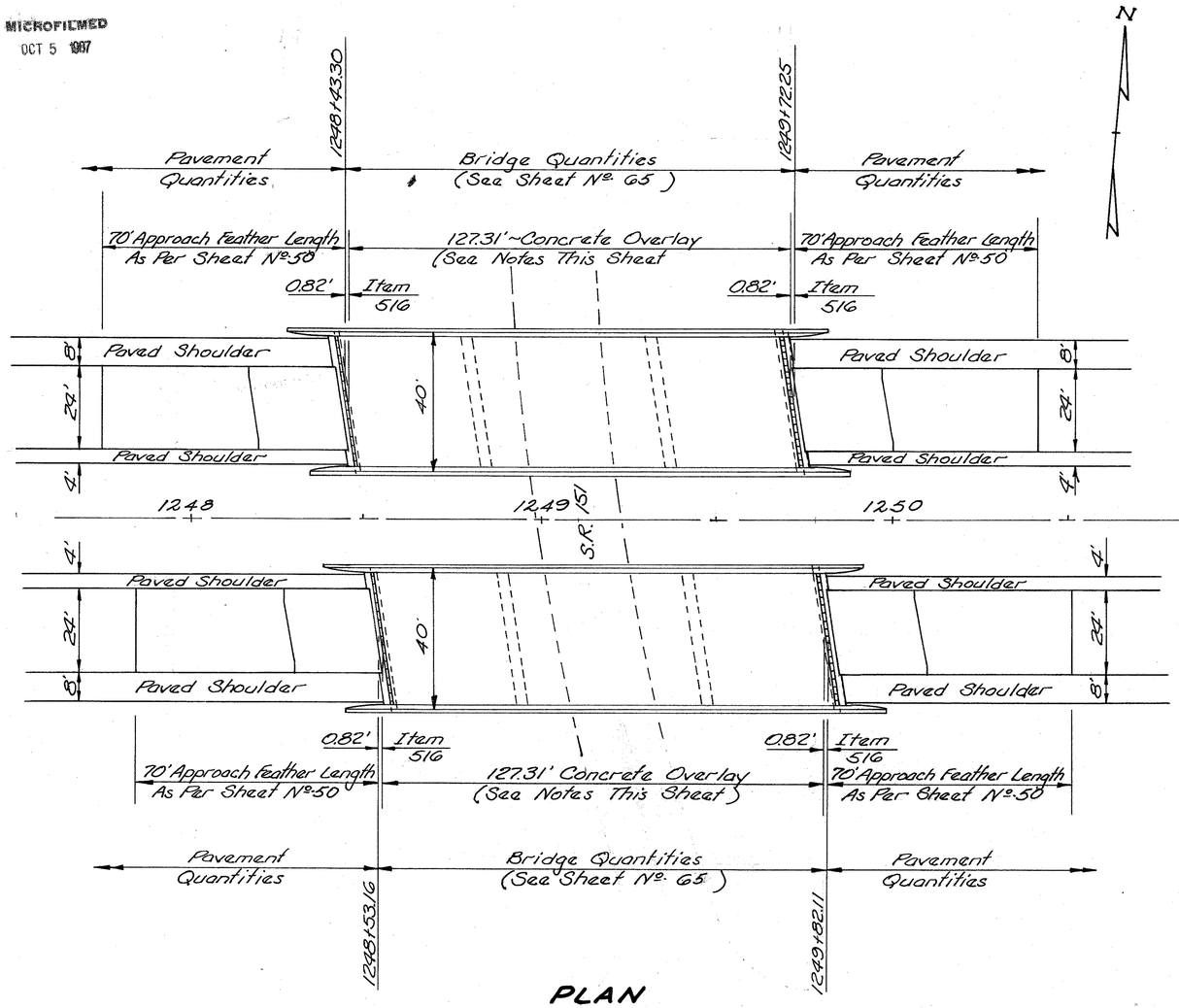
PLAN

Bridge No. HAS-22-2283 L&R



LONGITUDINAL SECTION @ END DAM

Revised 5-7-80



PLAN

Bridge No. HAS-22-2362 L&R
(SKEW 8°-45' R.F.)

For End Dam Treatment Details See Sheet No. 52

Revised 5-7-80

QUANTITIES	
Calculated By W.S.R. 8-7-79	Checked By J.C.N. 12-4-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

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HAS 22-20.07

CONCRETE OVERLAY NOTES ~ (BR. Nos. HAS-2126, HAS-22-2283 L&R, & HAS-22-2362 L&R)

1.) Preparation of Existing Decks for Concrete Overlay:
This work shall conform to the note in the supplemental specifications, except that if any reinforcing steel is damaged during surface preparation and scarification of the deck surface, the contractor shall repair said damage at no extra expense to the State.
No traffic shall be permitted on any portion of the deck which has been machine scarified.

~~2.) Selective use of Latex Modified Concrete:~~
~~If the Contractor bids the dense concrete option, he may, at his additional option, use Latex Modified Concrete (LMC) on any of the bridges overlaid on this project. On any such bridges the LMC work shall be as specified herein for the LMC option. The thickness shall be as specified for LMC. Payment for the LMC items shall be made at the unit prices bid for the respective dense concrete items: Item 850, dense concrete overlay (1¾ inches thick) and Item 850, dense concrete overlay (Variable thickness). Payment for Item 516, vertical extension of structural expansion joints, sealed as per plan, shall be made at the unit price bid without adjustment for the thinner plates. Quantities of affected roadway items shall be adjusted at the time of construction.~~

GENERAL SUMMARY FOR BRIDGE Nos. HAS 22-2126, HAS 22-2283 L&R, HAS 22-2362 L&R AND HAS 22-2460 L. (FOR BRIDGE Nos. 151-2310 AND HAS 22-2460 R, SEE SHEET No. 69&79)

SHEET NUMBER 65			FUNDS FR		ITEM	GRAND TOTAL	UNIT	DESCRIPTION
1530			1530		202	1530	Sq. Yds.	Wearing Course Removed
72			72		Special	72	Sq.Yds.	Patching Concrete Bridge Deck, Type II
433			433		516	433	Lin.Ft.	Vertical Extension of Structural Expansion Joints
								~~DESIGN "A"~~
~~16~~			~~16~~		~~850~~	~~16~~	~~Cu.Yds.~~	~~Full Depth Repair~~
~~70~~			~~70~~		~~850~~	~~70~~	~~Cu.Yds.~~	~~Dense Concrete Overlay (Variable Thickness)~~
~~3241~~			~~3241~~		~~850~~	~~3241~~	~~Sq.Yds.~~	~~Dense Concrete Overlay (1¾" Thick)~~
								DESIGN "B"
16			16		845	16	Cu.Yds.	Full Depth Repair
70			70		845	70	Cu.Yds.	Latex Modified Concrete Overlay (Variable Thickness)
3241			3241		845	3241	Sq.Yds.	Latex Modified Concrete Overlay (1¼" Thick)

Revised 5-28-80

P.O.T. 251+39.01 = 13+22.71 Ramp "K"
P.K. in 1st G.R. post
P.K. in 3rd G.R. post
13.50'
13.45'
℄ S.R. 151
Mine Spike
22.40'
P.K. in 9th G.R. Post

B.M. Cut □ on S.W. wingwall safety curbend - existing bridge. Elevation 1207.07

FHWA REGION	STATE	PROJECT	
5	OHIO		

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HAS-22-20.07

N

Ramp "K"
4:1
To Ramp "L"
Survey Line U.S. 22
Tangent at Sta. 1156+82.72
1158
1157
43°-58'
Critical clearance point "A"
43°-58' Skew
3:1
2:1
4:1
2:1
2:1
252
S 78°-37'-19" E
253
254
255
256
257 ℄ S.R. 151
258
Sta. 255+19.96 S.R. 151
Sta. 1156+82.72 U.S. 22

Median
℄ C.B.
14.43'
P.K.
24.4'
42.41'
Edge Rd.
P.K.
33.75'
17.93'
℄ S.R. 151
Mine Spike
P.O.T. 262+80.13 = 0+0 Ramp "M"

Curve Data
P.I. = Sta. 1159+85.70
Δ = 35° 20' Rt.
D_c = 2° 30'
R = 2291.83'
L_s = 400.0'
L_c = 1013.33'
T_s = 930.84'
E_s = 116.53'

FOUNDATION SOUNDINGS: Foundation design and quantities for the forward abutment are based on borings taken by ODOT on October 10, 1958 for the existing structure. This information may be inspected in the office of the Bureau of Bridge, Columbus, but the State does not guarantee the accuracy thereof.

Bridge Limits = 283.26'
Sta 253+16.83
1206.66
Sta 256+99.09
1207.34
+0.24%
Top of slope Elev. 1200.8±
Top of slope Elev. 1201.4±
Footing Elev. 1195.5
2:1 (Normal)
Est. average pay length 45'
1210
1200
1190
1180
1170
252
253
254
255
256
257

EXISTING STRUCTURE
TYPE: Cont. steel beams with reinf. conc. deck and reinf. conc. substr.
SPANS: 56'-93'-80'-48' ℅ brgs.
ROADWAY: 30'-0" t/t 2'-3" safety curbs
LOADING: CF-130 (57)
SKEW: 43°-58' L.F.
WEARING SURFACE: ¾" Mono. Conc.
ALIGNMENT: Tangent

REBUILT STRUCTURE
TYPE: Continuous steel beams with reinf. concrete deck
SPANS: 56'-93'-80'-48' ℅ brgs.
ROADWAY: 34'-4" t/t parapet rail
LOADING: HS-20-44 Case II
SKEW: 43°-58' L.F.
WEARING SURFACE: Monolithic Conc.
APPROACH SLABS: AS-1-72 (25'
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

1/8

SITE PLAN

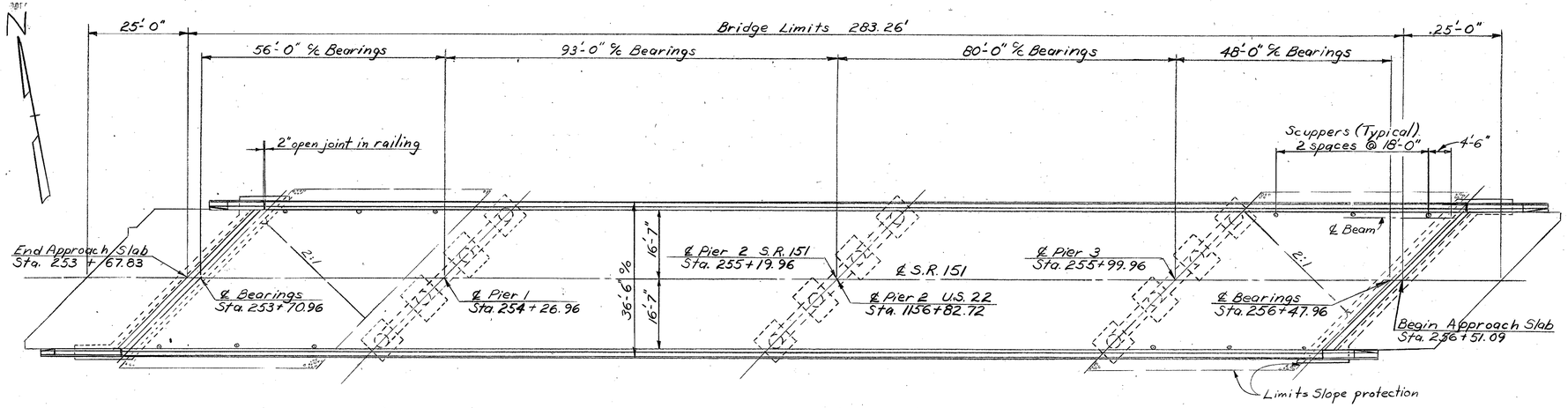
BRIDGE NO. HAS-151-2310
OVER U.S. 22

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist II JLO	Aerial Survey	Dist. II JLO	Dist. II			

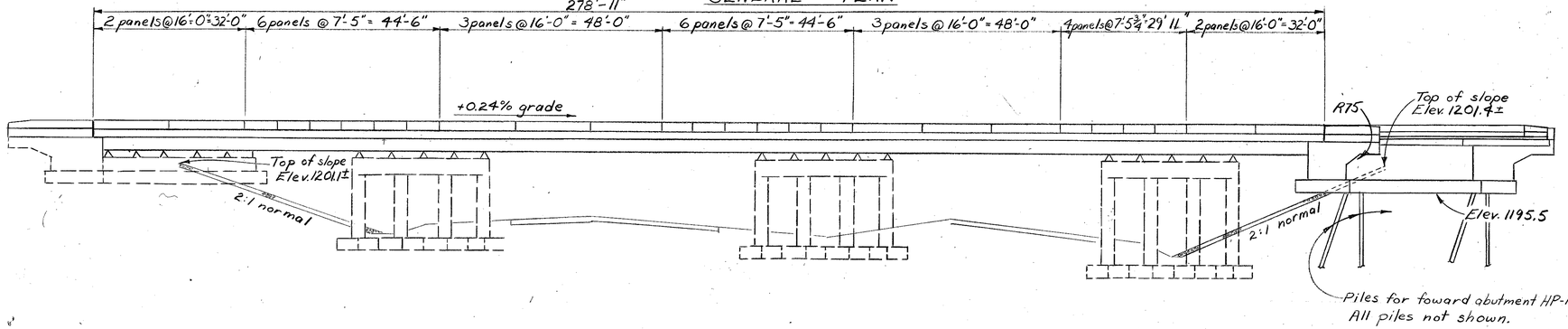
FHWA REGION	STATE	PROJECT	
5	OHIO		

69/80

HAS-22-20.07



GENERAL PLAN



Piles for foward abutment HP-10x42
All piles not shown.

ELEVATION

BRIDGE QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION
202	Lump		Portions of structure removed
503	94	Cu. yd.	Unclassified excavation
507	585	Lin. ft.	Steel piles, HP 10x42
509	45,963	Lbs.	Reinforcing steel, grade 60
510	54	Each	Dowel holes
511	122	Cu. yd.	Class C concrete, abutments
511	325	Cu. yd.	Class S concrete, superstructure
513	340762	Lbs.	Structural steel
514	340762	Lbs.	Field painting of new structural steel, system A
516	97	Lin. ft.	Expansion and contraction joints, as per plan
518	46	Cu. yd.	Porous backfill
518	37	Lin. ft.	6" perforated, helical corrugated steel pipe, including specials
518	60	Lin. ft.	6" nonperforated, helical corrugated steel pipe, including specials
518	12	Each	Scuppers, including supports
519	20	Sq. ft.	Patching concrete structures
601	20	Sq. yd.	Crushed aggregate slope protection
Special	35,857	Lbs.	Epoxy coated reinforcing steel, Grade 60 (see Proposal Note)

GENERAL NOTES

WORK REQUIRED:
1. Dismantle aluminum bridge rail and store for removal by State forces.
2. Remove concrete deck and railing, and approach slabs.
3. Remove structural steel and store for removal.
4. Remove entire forward abutment and portions of rear abutment.
5. Rebuild abutments as per plan.
6. Erect new structural steel and pour new superstructure.

REFERENCE shall be made to Standard Drawings:
RB-1-55 Revised 2-2-59
SD-1-69 Dated 6-12-69
BR-1 Dated 5-29-79 & Supplemental Spec. 852

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials 1977 and the Ohio "Supplement" to these specifications, except the piers which conforms to requirements of "Design Specifications for Highway Structures" of the State of Ohio, dated 9-1-57.

DESIGN DATA:
Design Loading - HS-20-44 Case II and Alternate Military Loading
Concrete Class C - compressive strength 4000 p.s.i.
Concrete Class S - compressive strength 4500 p.s.i.
Structural Steel - ASTM A36 - unit stress 20,000 p.s.i.
Reinforcing Steel - ASTM A615, A616 or A617 - Grade 60, minimum yield strength 60,000 p.s.i.
Deck Protective Method - Epoxy coated reinforcing steel, top mat only. Monolithic wearing surface thickness is assumed to be 1".

REMOVAL OF PORTIONS OF EXISTING STRUCTURE: When no longer needed to maintain traffic, portions of the existing structure shall be removed. Structural steel shall be carefully dismantled and stored along the right-of-way for disposal by the State. This shall be included in Item 202, Portions of structure removed for payment.

PILES for the Forward Abutment shall be driven to bedrock. The bearing capacity shall be considered obtain by refusal on hard bedrock or by penetrating soft bedrock for several inches with a minimum resistance of 20 blows per inch. The design load is 55 tons per pile.

MAINTENANCE OF TRAFFIC: Traffic lanes with a minimum horizontal width as required by the general traffic plan and a minimum vertical clearance of 13'-8" shall be maintained on U.S. 22 at all times.

FIELD CHECK: The Contractor shall verify all dimensions in the field before ordering the new structural steel.

ALUMINUM BRIDGE RAIL REMOVED FOR STORAGE shall include railing, posts and bolts carefully dismantled and stored for removal by State Forces, included with Item 202, Portions of structure removed for payment.

CRUSHED AGGREGATE SLOPE PROTECTION shall be placed as directed by the Engineer to restore slope protection disturbed by new construction.

ITEM 519, PATCHING CONCRETE STRUCTURES shall be as directed by the Engineer to repair deteriorated concrete surfaces not included with new construction.

BACKWALL CONCRETE: In addition to the provisions of 511.08, backwall concrete above the bridge seat or backwall concrete above the optional construction joint at the approach slab seat shall not be placed until after the deck concrete in the span adjacent to the abutment is placed.

ITEM 516, EXPANSION AND CONTRACTION JOINTS shall be compression seals installed as per manufacturer's specifications.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

2/8

GENERAL PLAN & ELEVATION
GENERAL NOTES & QUANTITIES
BRIDGE NO. HAS-151-2310
over U.S. 22

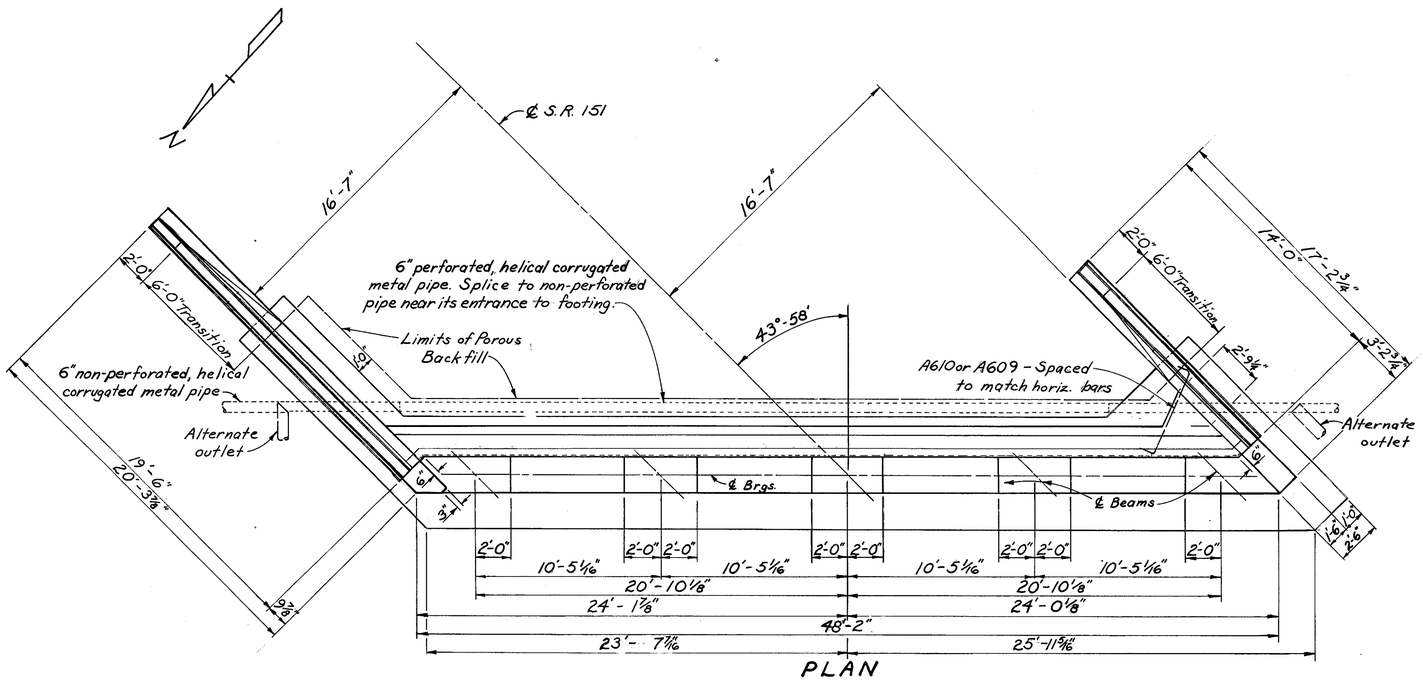
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist. 11 JLO	Dist. 11 JLO		Dist. 11 JCN 11-8-79			

Revised 5-28-80

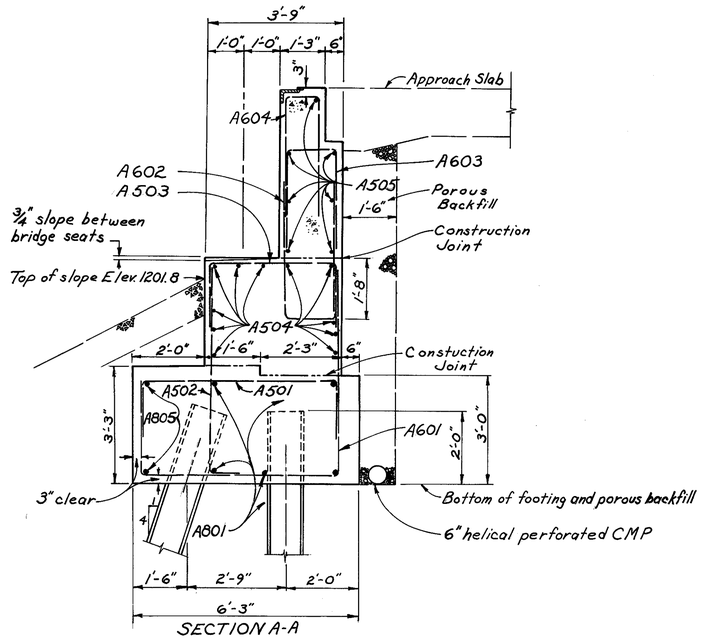
FHWA REGION	STATE	PROJECT	
5	OHIO		

70
80

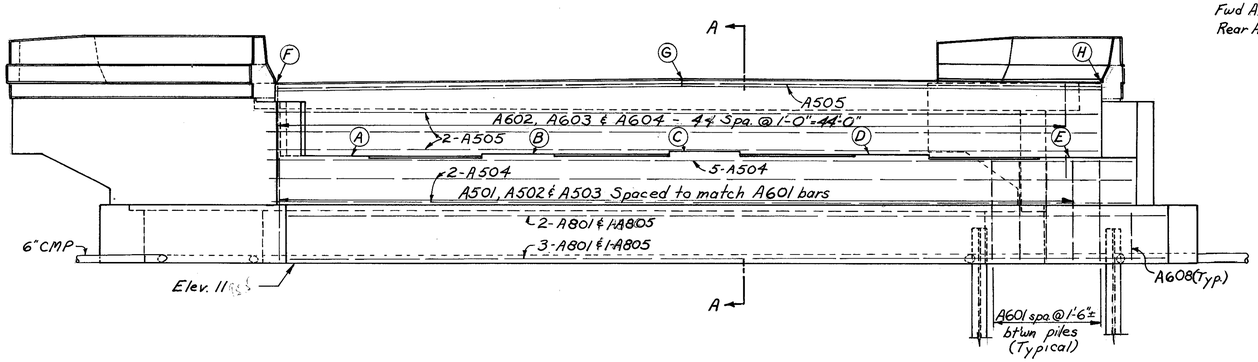
HAS-22-20.07



PLAN



SECTION A-A



ELEVATION

	ELEVATIONS*							
	A	B	C	D	E	F	G	H
Fwd Abut.	1202.62	1202.72	1202.82	1202.69	1202.55	1207.11	1207.33	1207.03
Rear Abut.	1201.81°	1201.95°	1202.08°	1201.98°	1201.88°	1206.37	1206.67	1206.45

*Elevations at face of backwall
°Existing bridge seats require ¼" steel shim plates to meet grade. Shim plates ¼" x 10" x 1'-7" are included with structural steel for payment.

WINGWALL DETAILS see 4 8
PILING LAYOUT see 4 8
FOOTING DETAILS see 4 8

Note: Drawings not to scale.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

3 8

FORWARD ABUTMENT DETAILS

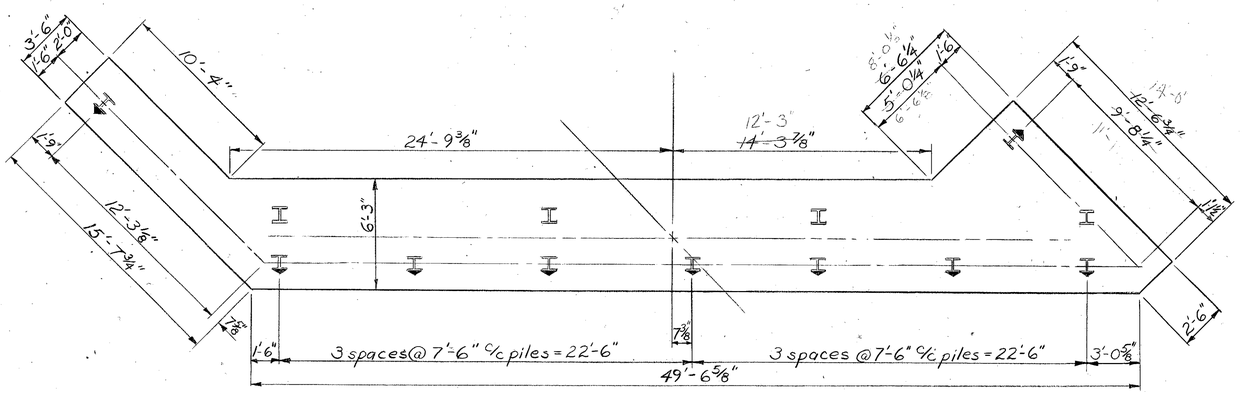
BRIDGE NO. HAS-151-2310
OVER U.S. 22

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist. 11 JLO	Dist. 11 JLO		Dist. 11 JJN			

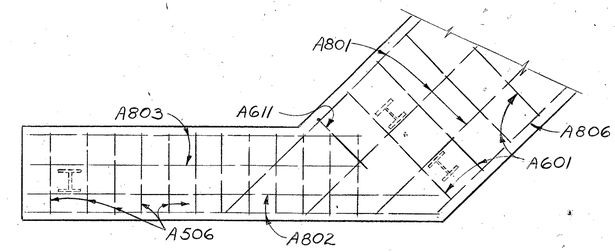
FHWA REGION	STATE	PROJECT	
5	OHIO		

71/80

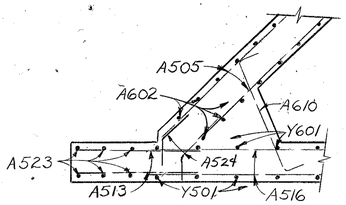
HAS-22-22.07



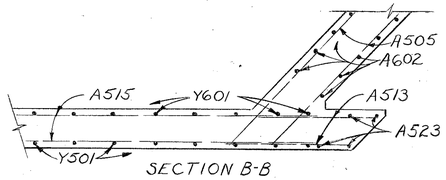
FOOTING PLAN & PILE LAYOUT



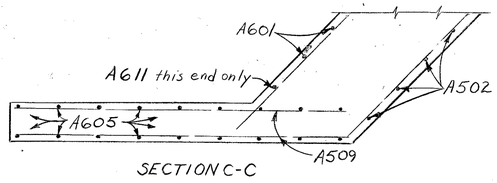
SECTION D-D



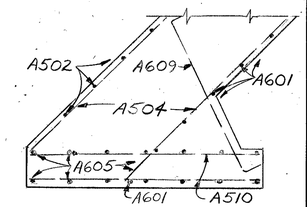
SECTION F-F



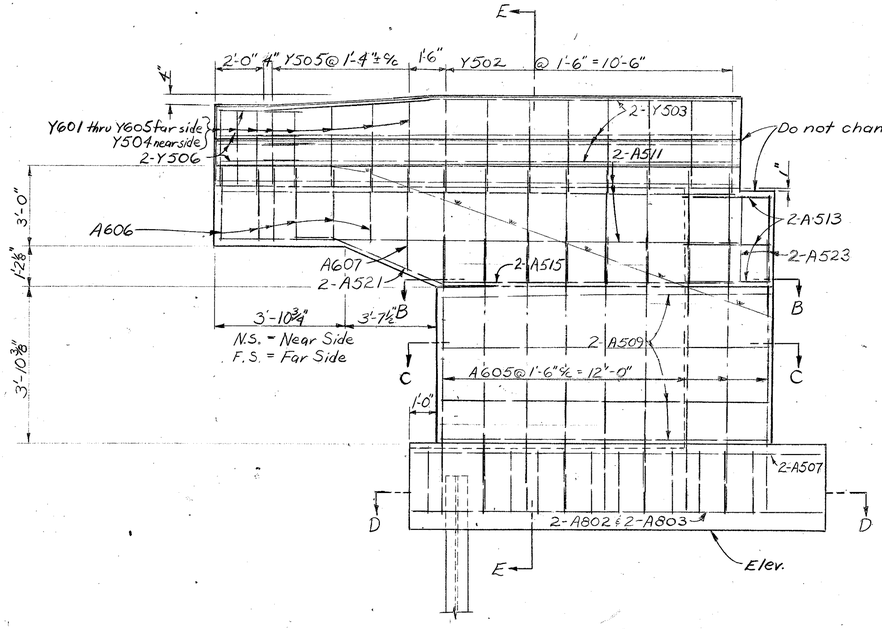
SECTION B-B



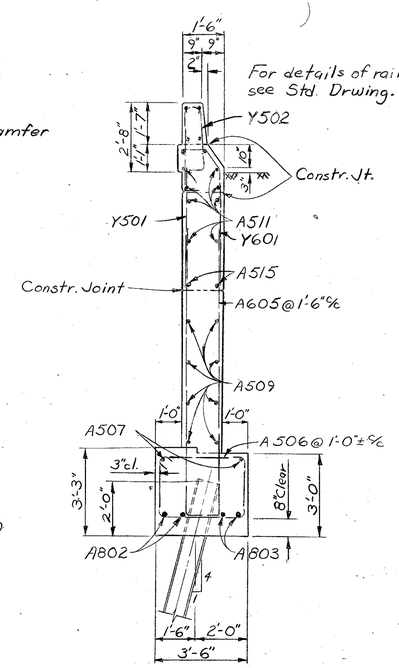
SECTION C-C



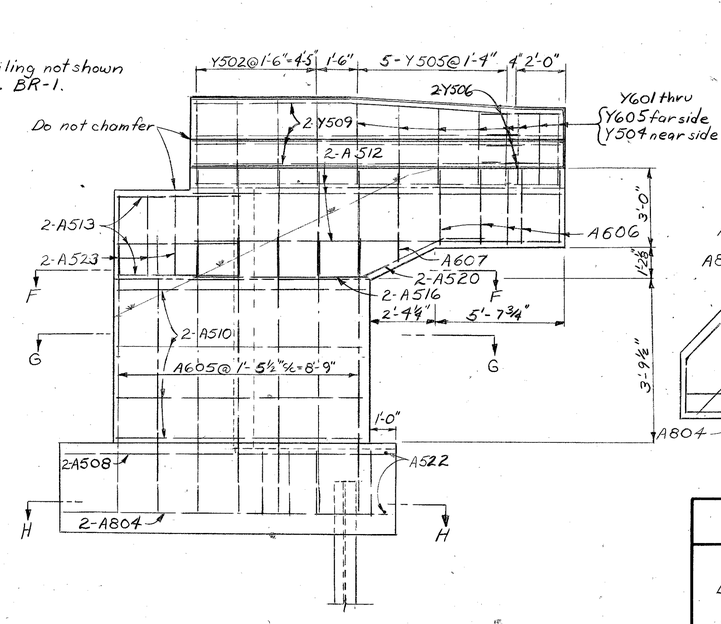
SECTION G-G



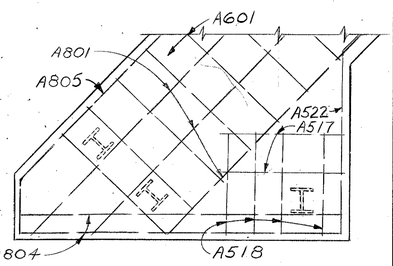
END ELEVATION
North East Wingwall



SECTION E-E



END ELEVATION
South East Wingwall



SECTION H-H

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

4/8

FORWARD ABUTMENT DETAILS & PILING LAYOUT

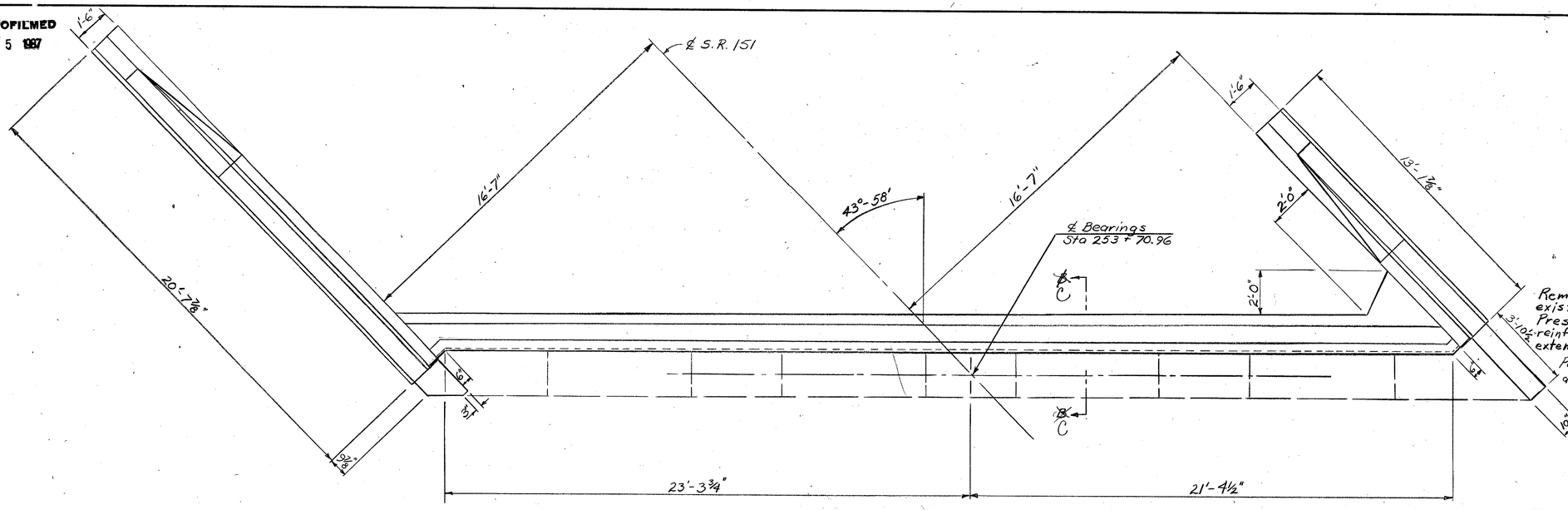
BRIDGE NO. HAS-151-2310
OVER U.S. 22

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist. 11 JLO	Dist. 11 JLO		JJN			

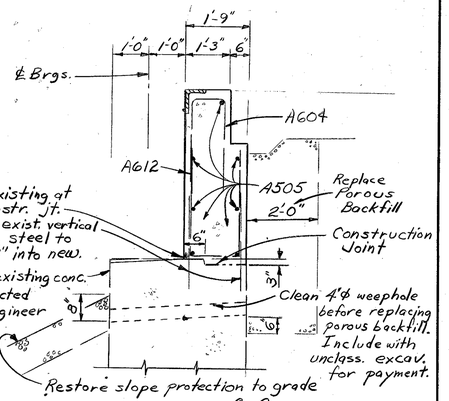
FHWA REGION	STATE	PROJECT	
5	OHIO		

72/80

HAS-22-20.07



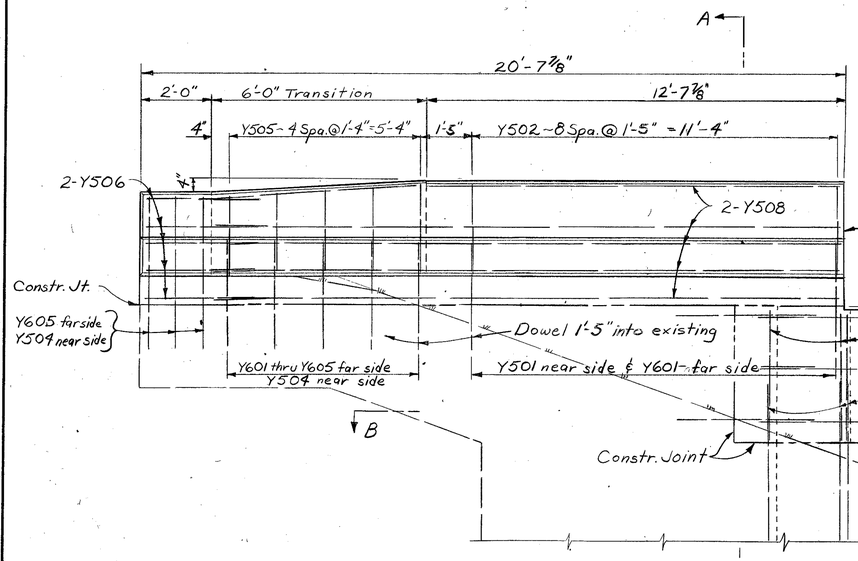
PLAN



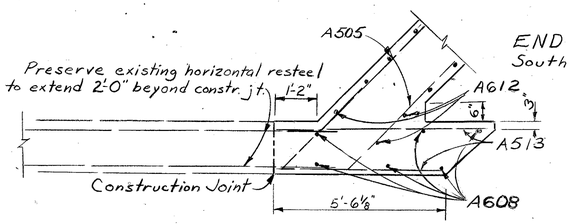
C-C

SECTION ~~B-B~~

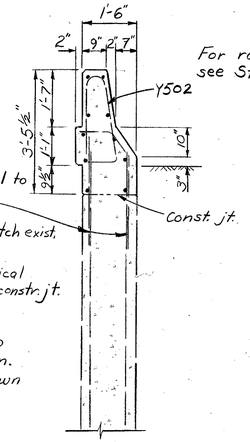
Note: For Elevations of backwall see Fwd. Abut. sheet 3/8.



END ELEVATION
South West Wingwall

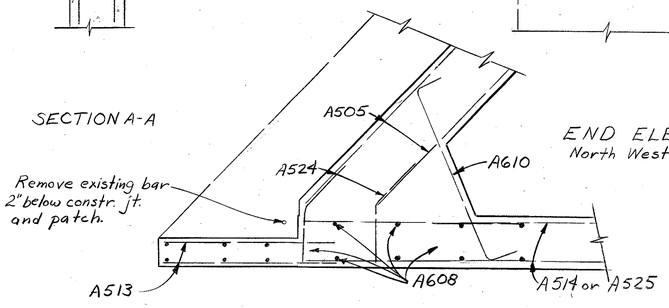


SECTION B-B

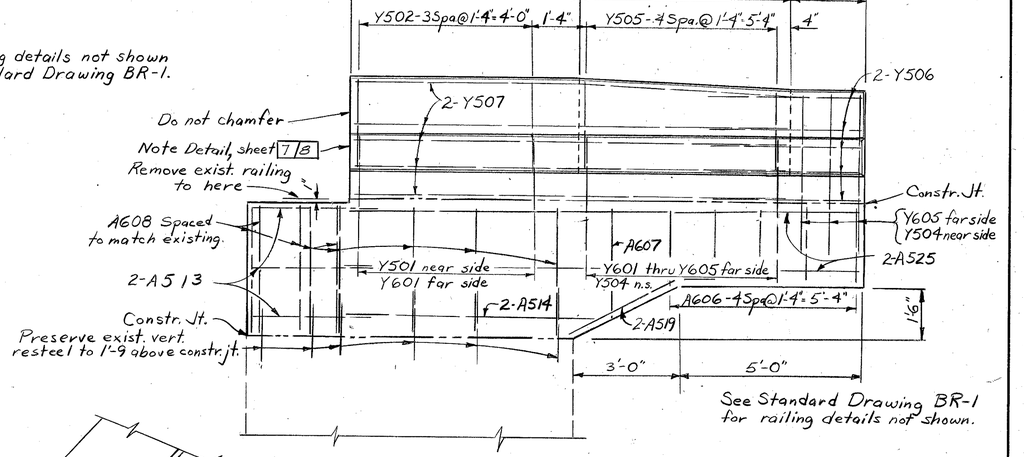


For railing details not shown see Standard Drawing BR-1.

SECTION A-A



END ELEVATION
North West Wingwall



See Standard Drawing BR-1 for railing details not shown.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

5/8

REAR ABUTMENT DETAILS

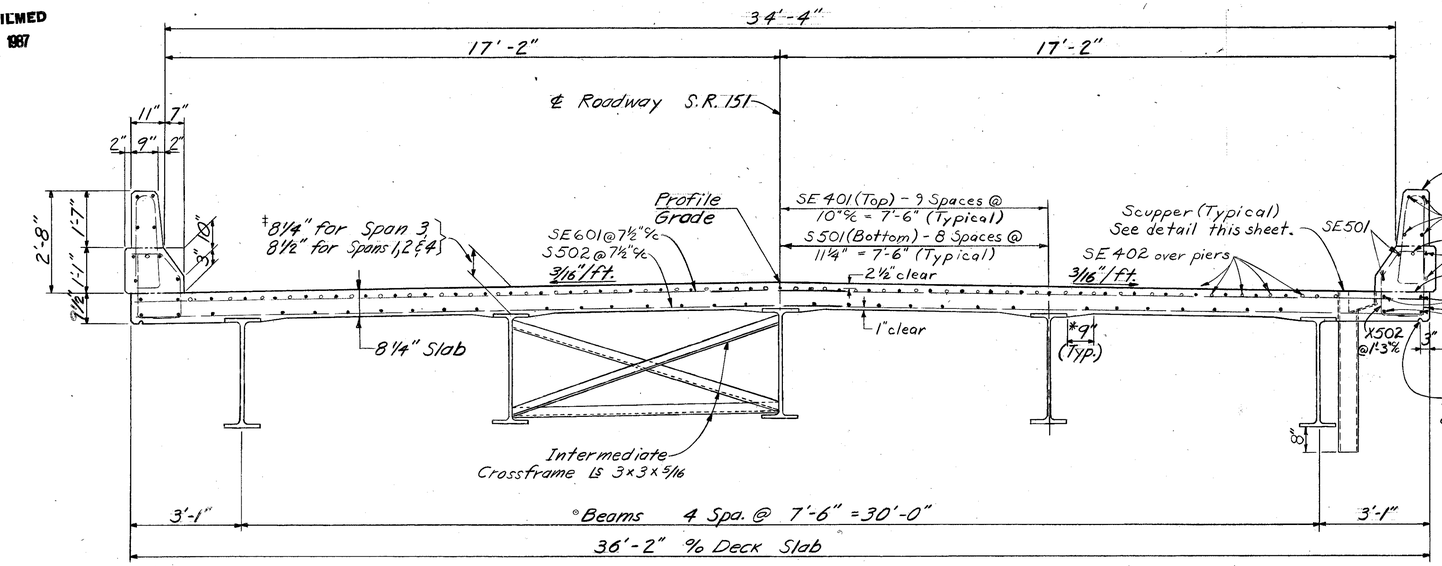
BRIDGE NO. HAS-151-2310
OVER U.S. 22

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist. 11 JLO	Dist. 11 JLO		Dist. 11 JJN			

FHWA REGION	STATE	PROJECT	
5	OHIO		

73/80

HAS-22-20.07



TYPICAL TRANSVERSE SECTION

Each long line of reinforcing shall consist of 9 bars 30'-0" long plus one bar to finish out the total length of reinforcing in the deck. No. 4 bars shall be lap spliced 1'-7" and No. 5 bars shall be lap spliced 1'-7". The odd length bars are: SE403 replaces SE401, SE502 replaces SE501, S403 replaces S401 and S503 replaces S501.

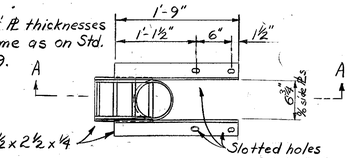
NOTES

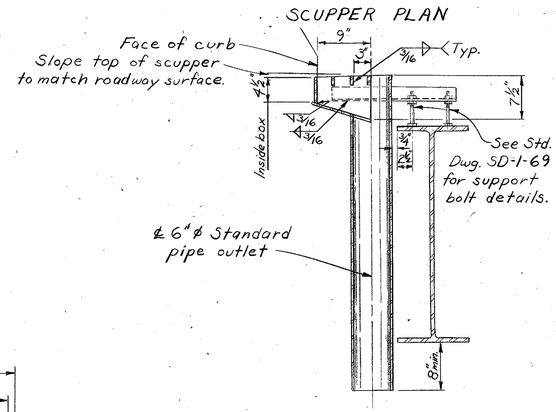
*A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

°Existing beams are 36 WF 150 in Spans 1 & 4, New W36x245 in Span 2, and W36x170 in Span 3. See framing plan, sheet 7/8.

‡The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

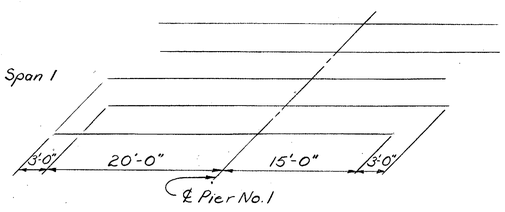
All welds & fit thicknesses are the same as on Std. Dwg. SD-1-69.

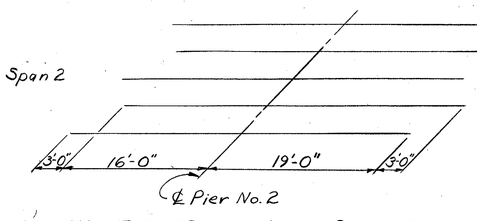


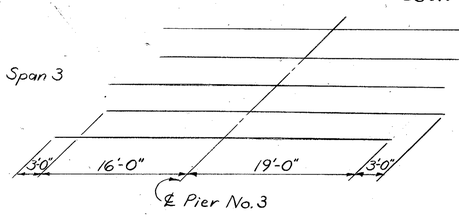


SECTION A-A

SCUPPER DETAIL





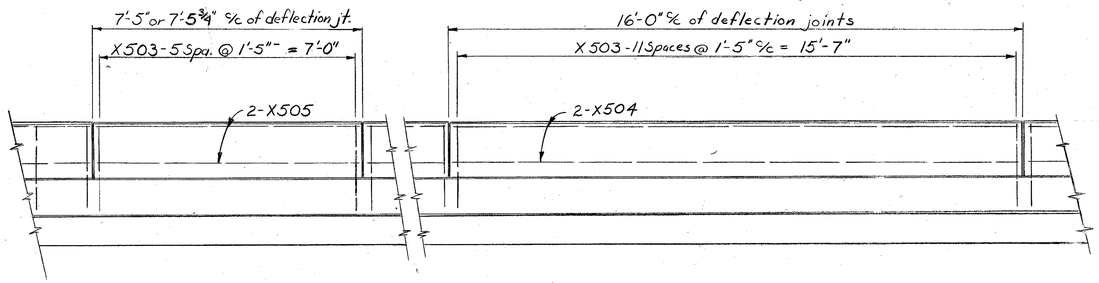


DIAGRAMS SHOWING STAGGER OF SE402 BARS OVER PIERS

CONCRETE DECK ELEVATIONS*

LOCATION	STATION	LEFT SIDE	RIGHT SIDE
℄ Brg-Rear Abutment	253+86.96	1206.79	
	253+54.96		1206.03
¼ Point	254+00.96	1206.84	
	253+68.96		1206.08
½ Point	254+14.96	1206.87	
	253+82.96		1206.11
¾ Point	254+28.96	1206.88	
	253+96.96		1206.12
℄ Bearing 1st Pier	254+42.96	1206.92	
	254+10.96		1206.16
¼ Point	254+66.21	1207.03	
	254+34.21		1206.27
½ Point	254+89.46	1207.13	
	254+57.46		1206.37
¾ Point	255+12.71	1207.14	
	254+80.71		1206.38
℄ Bearing 2nd Pier	255+35.96	1207.15	
	255+03.96		1206.39
¼ Point	255+55.96	1207.22	
	255+23.96		1206.46
½ Point	255+75.96	1207.30	
	255+43.96		1206.54
¾ Point	255+95.96	1207.32	
	255+63.96		1206.56
℄ Bearing 3rd Pier	256+15.96	1207.34	
	255+83.96		1206.58
½ Point	256+29.96	1207.41	
	256+07.96		1206.65
℄ Brg.-Fwd. Abutment	256+63.96	1207.45	
	256+31.96		1206.69

*These are the elevations required prior to placing of deck concrete. They include an allowance for deflection due to concrete weight. Elevations given are for deck surface at inside of railing curb.



BRIDGE RAILING DETAIL

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

6/8

SUPERSTRUCTURE DETAILS

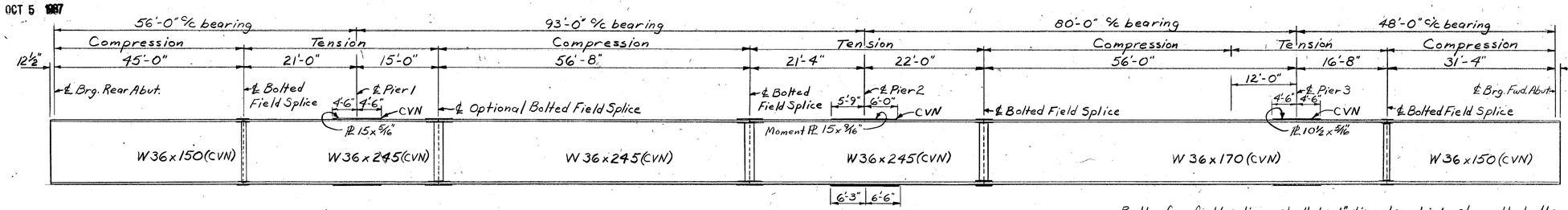
BRIDGE NO. HAS-151-2310
OVER U.S. ROUTE 22

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DIST.11 ULH	DIST.11 ULH		DIST.11 JLO			

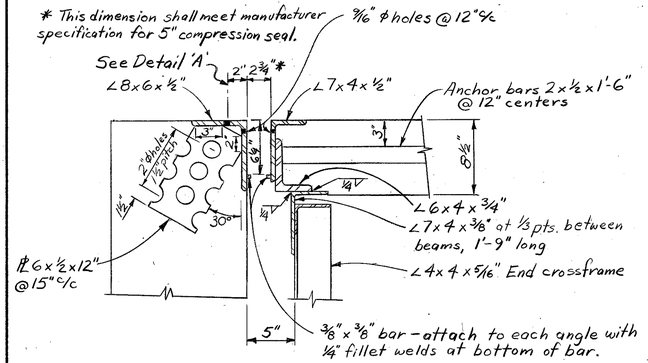
FHWA REGION	STATE	PROJECT	
5	OHIO		

74/80

HAS-22-20.07

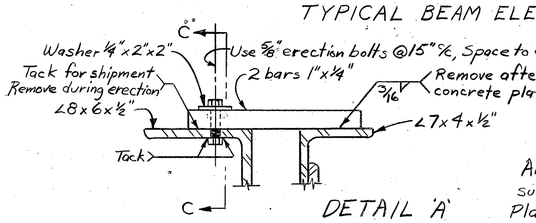


TYPICAL BEAM ELEVATION

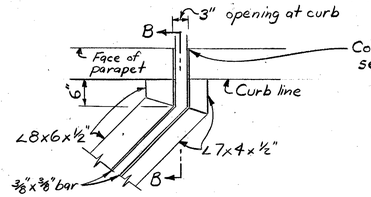


SECTION THRU END DAM

See Std. Dwg. SD-1-69 for details not shown.

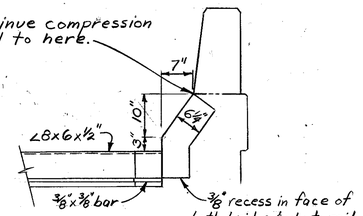


DETAIL 'A'



PART PLAN DECK

Typical - other end opposite hand



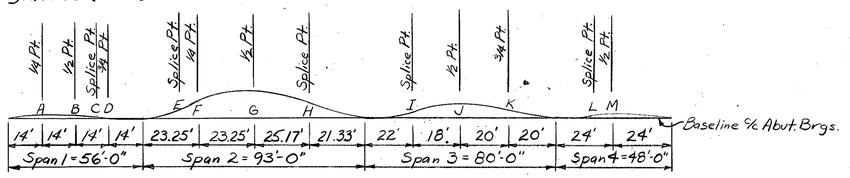
SECTION B-B

Section C-C

Alternate parts may be furnished subject to approval of the Director. Place parallel to direction of superstructure movement.

Bolts for field splices shall be 1" diameter, high-strength bolts ASTM A325 Type 3. For details of bolted field splices see Std. Dwg. SD-1-69.
Where a beam or plate is designated "CVN" the material shall meet specified minimum notch toughness requirements. All field splice material, except fills shall meet the requirements of notch toughness (CVN).

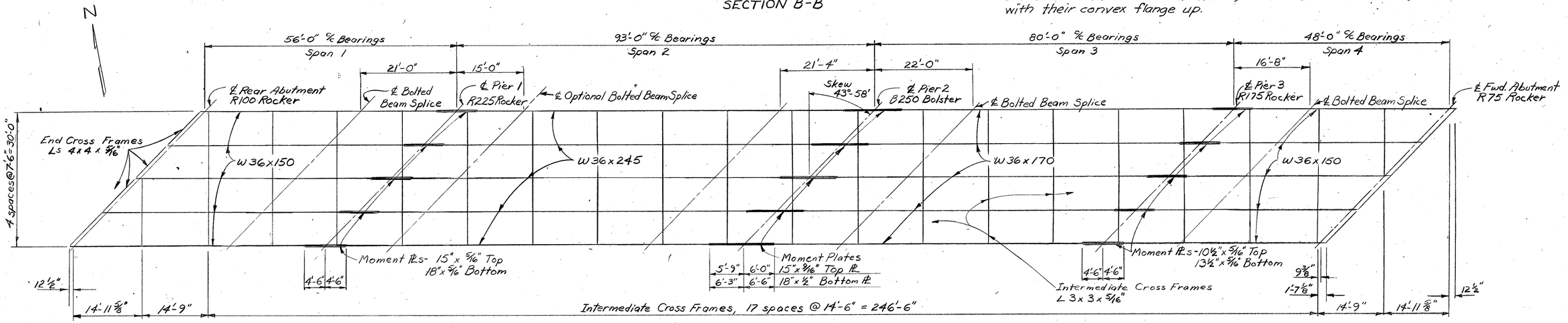
Welded attachments to the top flange of the facia beams for construction purposes are permitted provided that fillet welds less than 2" long and not closer than 1" to the edge of the flange are used.



DEFLECTION AND CAMBER*

Location	Span No. 1						Span No. 2							Span No. 3						Span No. 4		
	Rear Abut.	¼ Pt. A	½ Pt. B	Splice Point	¾ Pt. D	1st Pier	Splice Point	¼ Pt. F	½ Pt. G	Splice Point	2nd Pier	Splice Point	½ Pt. J	¾ Pt. K	3rd Pier	Splice Point	½ Pt. M	Fwd. Abut.
Deflection due to weight of steel	0	0	0	0	0	0	1/16"	3/16"	1/4"	1/8"	0	0	1/16"	0	0	0	0	0
Deflection due to remaining dead load	0	3/16"	1/8"	1/16"	0	0	3/8"	11/16"	1 3/16"	11/16"	0	1/4"	5/8"	7/16"	0	1/16"	1/8"	0
Required Shop Camber*	0	0	0	0	0	0	7/16"	7/8"	1 7/16"	13/16"	0	0	0	0	0	0	0	0

* Note: Because deflection is less than ¾" for Spans 1, 3, 4; no shop camber is required for W36x150 beams or W36x170 beams. However, these beams shall be fabricated with their convex flange up.



STEEL FRAMING PLAN

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

7/8

SUPERSTRUCTURE DETAIL

BRIDGE NO. HAS-151-2310
OVER U.S. 22

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist. 11 JLO	Dist. 11 JLO		JJN			

FHWA REGION	STATE	PROJECT	
5	OHIO		

75/80

HAS-22-20.07

REINFORCING STEEL LIST

ABUTMENTS

MARK	REAR	FWD.	TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	R
A501	-	32	32	8'-3"	275	2	5'-6"	1'-6"	1'-6"		
A502	-	32	32	7'-4"	245	1	6'-7"	10½"			
A503	-	32	32	6'-8"	223	2	3'-5"	1'-9"	1'-9"		
A504	-	22	22	25'-6"	585	St.					
A505	14	14	28	25'-0"	730	St.					
A506	-	12	12	10'-7"	132	8	3'-0"	2'-1"			
A507	-	2	2	15'-0"	31	St.					
A508	-	2	2	12'-6"	26	St.					
A509	-	8	8	12'-3"	102	St.					
A510	-	8	8	8'-8"	72	St.					
A511	-	6	6	19'-0"	119	St.					
A512	-	6	6	13'-6"	84	St.					
A513	12	12	24	4'-6"	113	St.					
A514	2	-	2	5'-3"	11	St.					
A515	-	2	2	12'-5"	26	St.					
A516	-	2	2	8'-10"	18	St.					
A517	-	2	2	6'-0"	13	St.					
A518	-	4	4	12'-7"	52	8	4'-0"	2'-1"			
A519	2	-	2	4'-10"	10	3	3'-5"	1'-5"	6		
A520	-	2	2	4'-2"	9	3	2'-10"	1'-5"	6		
A521	-	2	2	5'-4"	11	3	4'-0"	1'-5"	4		
A522	-	2	2	9'-4"	19	3	8'-0"	1'-5"	12		
A523	-	10	10	4'-0"	42	St.					
A524	7	7	14	2'-4"	34	3	1'-5"	12"	12		
A525	4	-	4	12'-10"	54	St.					
A601	-	32	32	14'-4"	689	2	5'-6"	2'-6"	6'-7"		
A602	-	45	45	8'-8"	586	2	1'-5"	3'-9"	3'-9"		
A603	-	45	45	6'-8"	451	2	1'-5"	2'-9"	2'-9"		
A604	45	45	90	6'-2"	834	2	11"	2'-9"	2'-9"		
A605	-	16	16	16'-11"	407	2	1'-2"	8'-0"	8'-0"		
A606	5	11	16	6'-11"	166	2	1'-2"	3'-0"	3'-0"		
A607	1	2	3	9'-11"	45	8	1'-2"	3'-7"			
A608	18	-	18	3'-6"	95	St.					
A609	-	4	4	7'-9"	47	2	6'-0"	1'-0"	1'-0"		
A610	3	3	6	6'-3"	56	2	4'-6"	1'-0"	1'-0"		
A611	-	1	1	8'-11"	13	1	6'-7"	2'-5½"			
A612	45	-	45	7'-2"	485	2	1'-5"	3'-0"	3'-0"		
A801	-	10	10	27'-9"	741	St.					
A802	-	2	2	15'-3"	81	St.					
A803	-	2	2	12'-4"	66	St.					
A804	-	2	2	13'-6"	72	St.					
A805	-	4	4	26'-0"	278	St.					
Y501	13	13	26	3'-0"	81	St.					
Y502	13	12	25	5'-3"	137	5	2'-2"	2'-5"	1¼	7½"	2⅛"
Y503	-	8	8	17'-2"	143	St.*					
Y504	16	16	32	4'-7"	153	St.					
Y505	10	10	20	2'-8"	56	7	2'-1"				
Y506	20	16	36	4'-4"	163	St.					
Y507	10	-	10	11'-0"	115	St.*					
Y508	10	-	10	18'-6"	193	St.*					
Y509	-	8	8	11'-8"	97	St.*					
Y601	15	14	29	3'-9"	163	4	2'-5"	8½"	9"	6"	
Y602	2	2	4	3'-8"	22	4	2'-5"	8½"	8"	5"	
Y603	2	2	4	3'-8"	22	4	2'-5"	8½"	8"	4"	
Y604	2	2	4	3'-7"	22	4	2'-5"	8½"	7"	3"	
Y605	8	8	16	3'-7"	86	4	2'-5"	8½"	7"	2"	

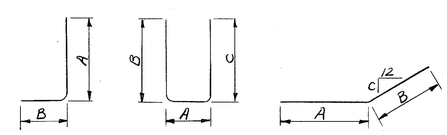
*Field bend where necessary

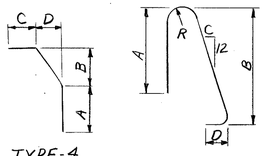
SUPERSTRUCTURE

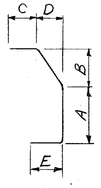
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
S401	36	30'-0"	721	St.						
S402	6	38'-0"	152	St.						
S403	4	18'-4"	49	St.						
S501	342	30'-0"	10,701	St.						
S502	397	35'-10"	14,838	St.						
S503	38	22'-10"	905	St.						
S504	2 Series of 41	From 7'-7¾" to 33'-7¾"	1,766	St.						
S505	16	7'-0"	117	St.						
X501	446	2'-4"	1,085	1	1'-7"	10½"				
X502	446	3'-1"	1,434	6	10"	8½"	9"	6"	10½"	
X503	432	5'-3"	2,366	5	2'-2"	2'-5"	1¼	7½"		2⅛"
X504	80	15'-6"	1,293	St.						
X505	128	7'-0"	935	St.						

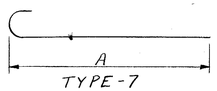
EPOXY COATED REINFORCING STEEL

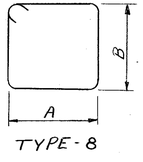
MARK	NO.	LENGTH	WEIGHT	TYPE
SE401	351	30'-0"	7,034	St.
SE402	120	38'-0"	3,046	St.
SE403	39	18'-4"	478	St.
SE501	36	30'-0"	1,126	St.
SE502	4	22'-10"	95	St.
SE601	397	35'-10"	21,367	St.
SE602	2 Series of 41	Varies from 7'-7¾" to 33'-7¾"	2,543	St.
SE603	16	7'-0"	168	St.

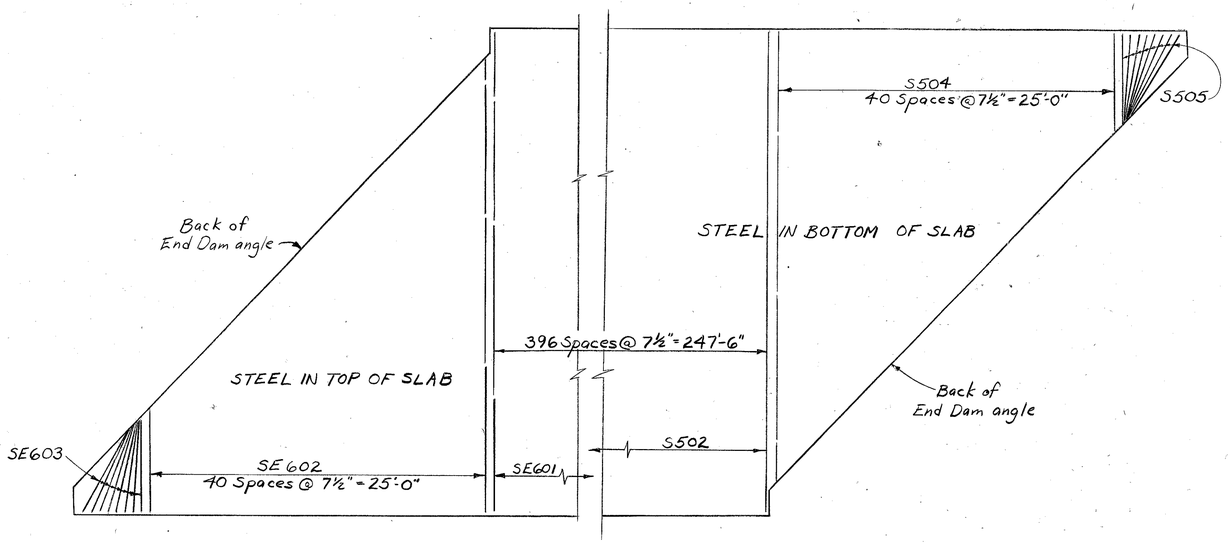












TRANVERSE DECK REINFORCING STEEL

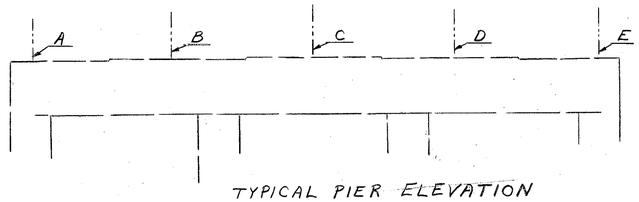
PROPOSED PIER BEARING ELEVATIONS & SHIM PLATE SIZES*

LOCATION		A	B	C	D	E
1st Pier	ELEVATION	1201.45	1201.55	1201.65	1201.52	1201.38
	SHIM PLATE*	⅞"x1'-5"x2'-1"	½"x1'-5"x2'-1"	¼"x1'-5"x2'-1"	¼"x1'-5"x2'-1"	¼"x1'-5"x2'-1"
2nd Pier	ELEVATION	1201.61	1201.68	1201.81	1201.71	1201.54
	SHIM PLATE*	½"x1'-6"x2'-2"	⅛"x1'-6"x2'-2"	⅛" P.F.B.P.	⅛" P.F.B.P.	NO SHIM
3rd Pier	ELEVATION	1202.02	1202.12	1202.22	1202.09	1201.95
	SHIM PLATE*	1¼"x1'-2"x1'-11"	1¼"x1'-2"x1'-11"	⅜"x1'-2"x1'-11"	⅝"x1'-2"x1'-11"	¾"x1'-2"x1'-11"

* Shim plates are required to raise existing bearing seats to proper elevation. The Contractor is reminded to verify required shim plate thicknesses in the field. At the Contractor's option, shims may be multi-plate with minimum single plate thickness of ¼".

P.F.B.P. = Preformed Bearing Pad

Note: New bearing anchor bolts will have to be doweled in Pier 2. The new bolts shall be ½" longer than called for by Standard Drawing RB-1-55. The existing anchor bolts shall be removed 1" below the surface and the concrete patched.



TYPICAL PIER ELEVATION

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

8/8

REINFORCING STEEL LIST
& MISCELLANEOUS DETAILS

BRIDGE NO. HAS-151-2310
OVER U.S. 22

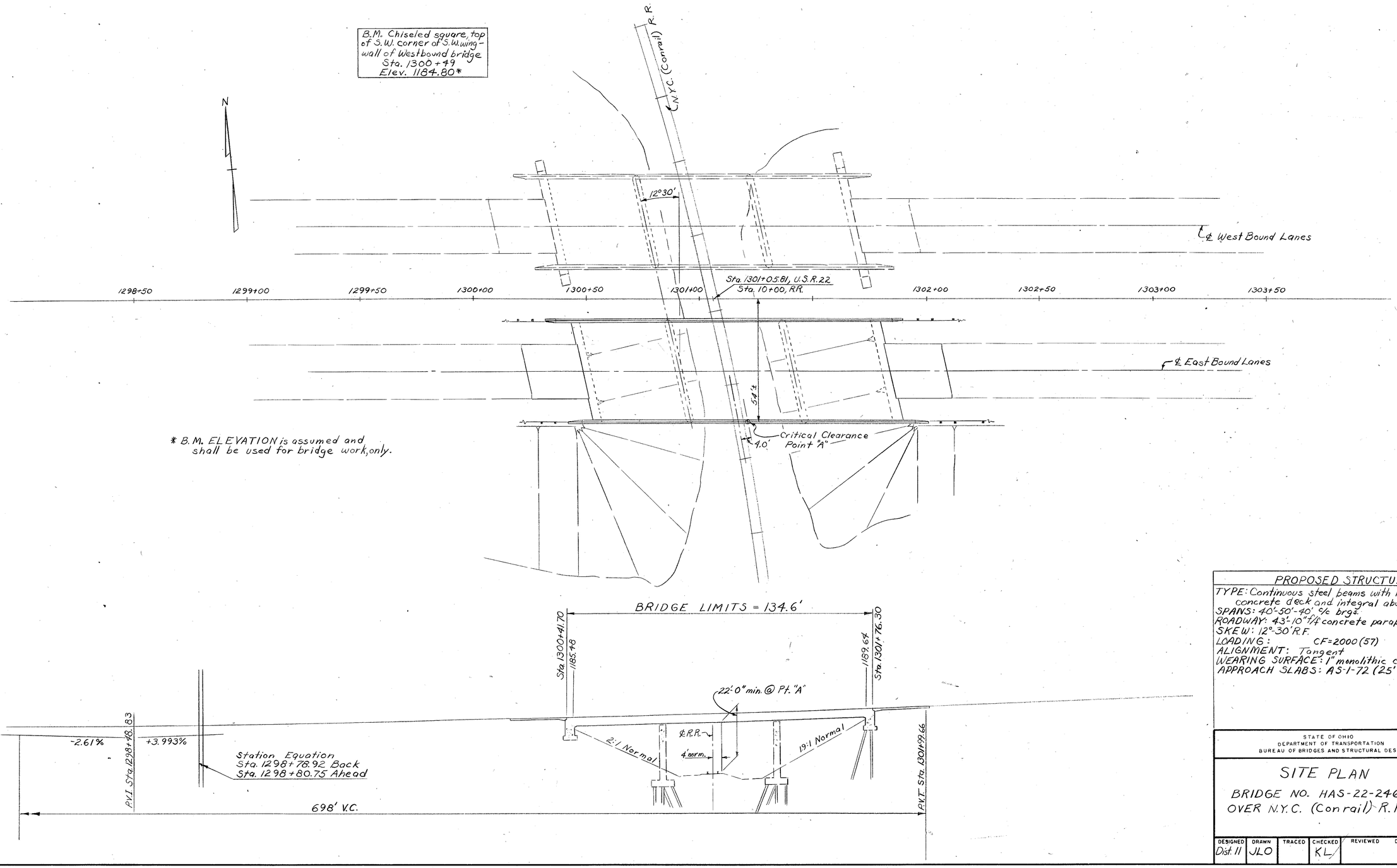
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

FHWA REGION	STATE	PROJECT	
5	OHIO		

76/80

HAS-22-20.07

B.M. Chiseled square, top of S.W. corner of S.W. wing-wall of Westbound bridge
Sta. 1300+49
Elev. 1184.80*



* B.M. ELEVATION is assumed and shall be used for bridge work, only.

PROPOSED STRUCTURE

TYPE: Continuous steel beams with reinforced concrete deck and integral abutments
SPANS: 40'-50'-40' c/c brgs.
ROADWAY: 43'-10" f/f concrete parapets
SKEW: 12°-30' R.F.
LOADING: CF=2000 (57)
ALIGNMENT: Tangent
WEARING SURFACE: 1" monolithic concrete
APPROACH SLABS: AS-1-72 (25' long)

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

1 / 5

SITE PLAN

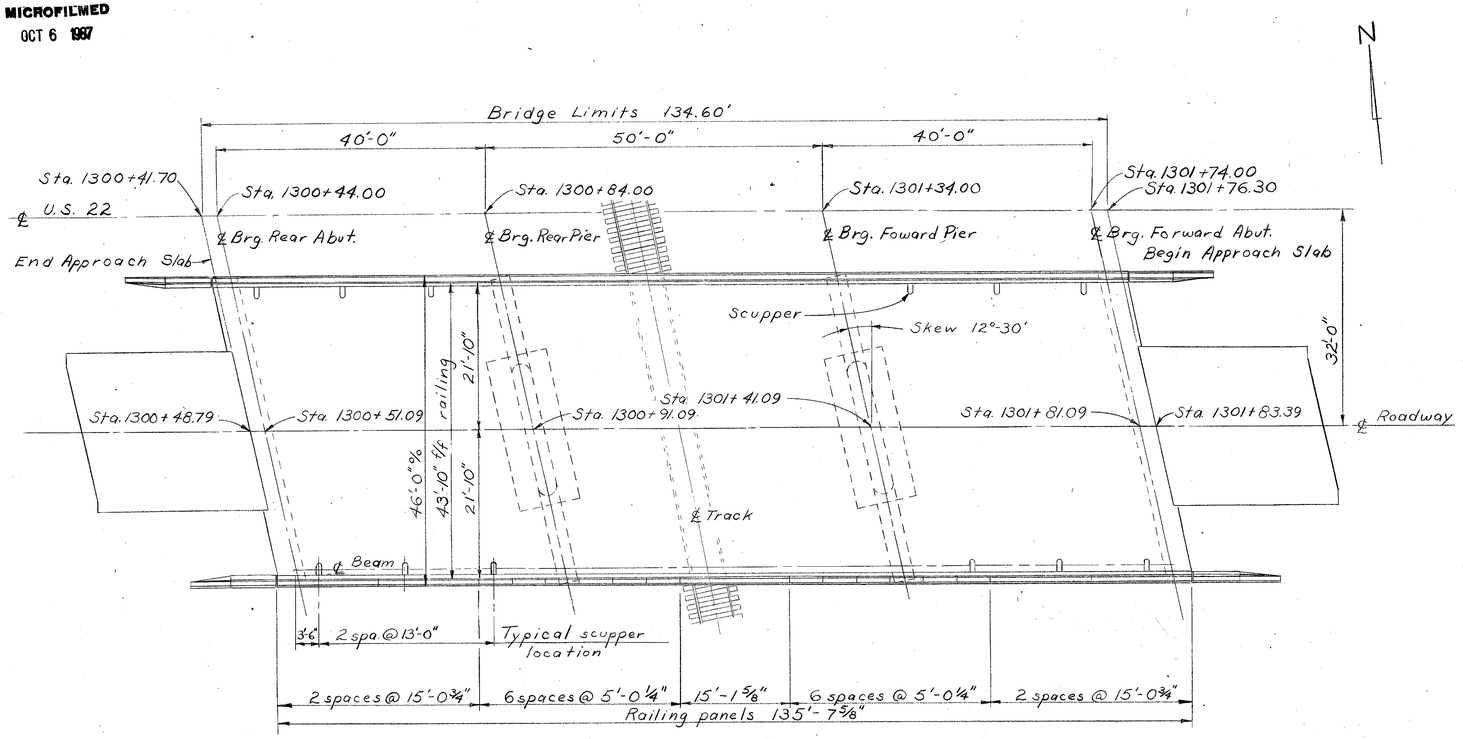
BRIDGE NO. HAS-22-2460 R
OVER N.Y.C. (Conrail) R.R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist. 11	JLO		KL			

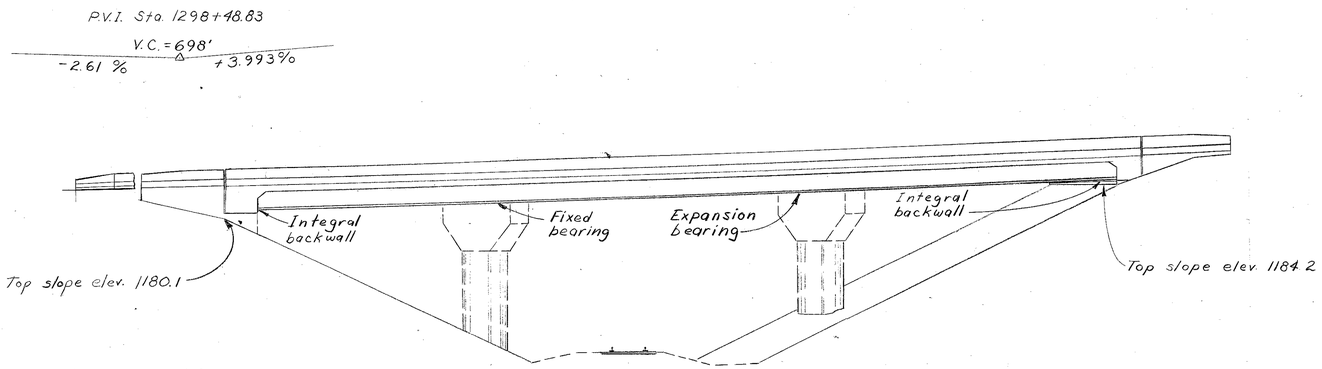
FHWA REGION	STATE	PROJECT	
5	OHIO		

77/80

HAS-22-20.07



GENERAL PLAN



ELEVATION

GENERAL NOTES

PROPOSED WORK

1. Close roadway to traffic.
2. Remove existing superstructure and portions of abutment as per plan.
3. Raise beams and rebuild abutment bearings.
4. Place new superstructure with integral abutments.
5. Build approach slabs and other approach items.

DESIGN DATA:

Concrete Class C - compressive strength at 28 days = 4000 p.s.i.
Concrete Class S - compressive strength at 28 days = 4500 p.s.i.
Reinforcing Steel - ASTM A615, A616, or A617 - Grade 60, minimum yield strength 60,000 p.s.i.
Deck Protective Method: Epoxy coated reinforcing steel, top mat only.
Monolithic wearing surface thickness is assumed to be 1".

CONSTRUCTION CLEARANCE OF 8'-0" horizontally from the center of tracks and 20'-0" vertically from a point level with the top of the higher rail, and 4 feet from the center of tracks, shall be maintained at all times.

REFERENCE shall be made to Standard Drawings:
SD-1-69 Dated 6-12-69
AS-1-72 Dated 6-30-72
BR-1-67 modified Dated 10-15-71
and to Supplemental Specifications:
852 Dated 6-8-79

ITEM 601, CRUSHED AGGREGATE SLOPE PROTECTION is an estimated quantity to be used as directed by the Engineer to restore the existing slope protection to proper grade.

EXISTING ALUMINUM RAILING, posts and bolts are to be salvaged, and removed for storage by State forces as per Item 202; and shall be included in the lump sum bid for Item 202, Portions of structure removed.

RAILROAD AERIAL LINES- THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION, IF ANY, SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

BEFORE THE START OF ANY DEMOLITION OR ERECTION OPERATIONS THE CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL OF HIS SCHEDULING, METHODS OF DEMOLITION (INCLUDING REQUIRED BRACING AND SHORING), AND PROTECTIVE DEVICES. 7 COPIES OF THE ABOVE (PLUS AS MANY APPROVED COPIES AS THE CONTRACTOR REQUIRES BE RETURNED TO HIM) SHALL BE SUBMITTED TO:

ROBERT M. SHORT (ACTING), DISTRICT DEPUTY DIRECTOR
O.D.O.T. DISTRICT 11
BOX 261
NEW PHILADELPHIA, OHIO 44663

APPROACH SLAB JACKING HOLES, AS SHOWN ON AS-1-72, SHALL BE OMITTED. THE REINFORCING IN THE TOP OF THE SLAB SHALL BE 3" CLEAR.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

2/5

GENERAL PLAN & ELEVATION
GENERAL NOTES
BRIDGE NO. HAS-22-2460R
OVER CONRAIL

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
District 11	JLO		KL			

Revised 5-28-80

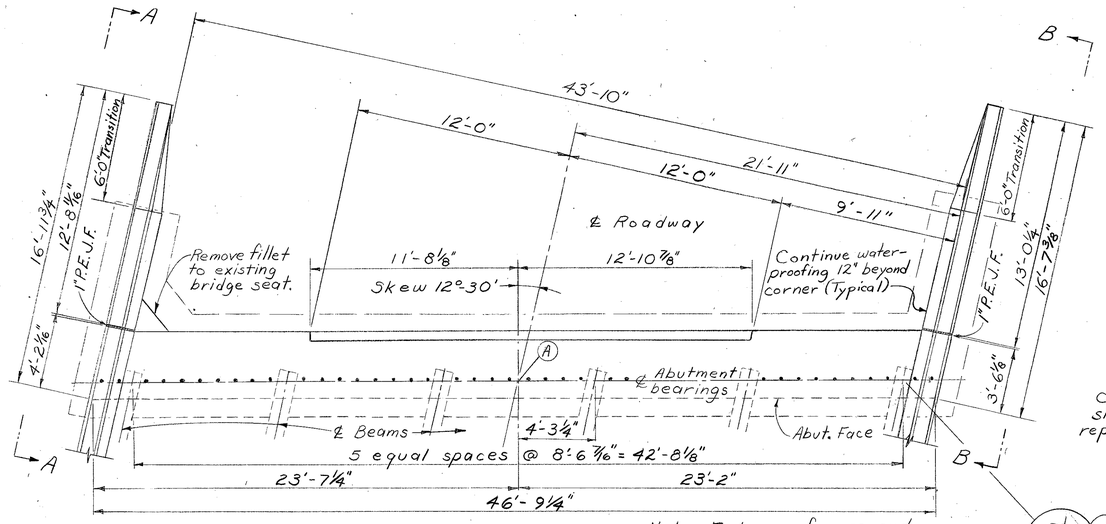
FHWA REGION	STATE	PROJECT		
5	OHIO			78/80

HAS-22-20.07

TABLE OF ELEVATIONS

	A	B	C	D	E	F	G
Rear abutment	1185.48	1181.74	1181.82	1181.90	1181.85	1181.67	1181.49
Forward abutment	1189.64	1185.60	1185.80	1186.00	1186.07	1186.01	1185.95

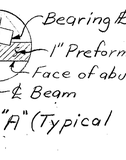
Note: Elevations given at center-line of bearing.



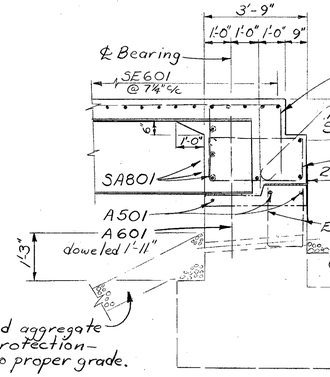
P.E.J.F. indicates Preformed Expansion Joint Filler

PLAN

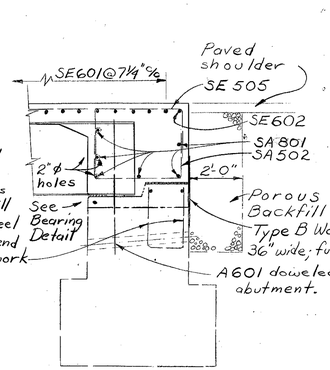
Note: End crossframes and end dams are to be removed with superstructure.



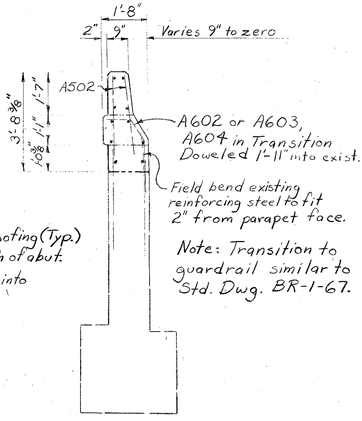
Detail "A" (Typical



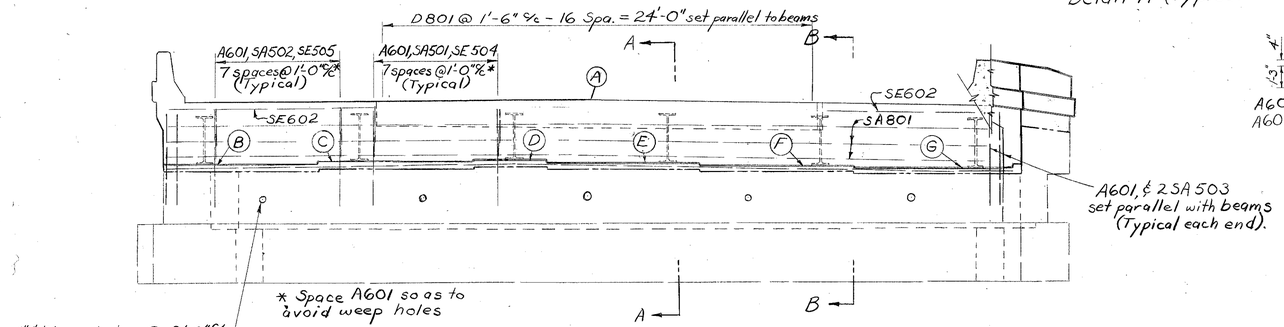
SECTION A-A



SECTION B-B

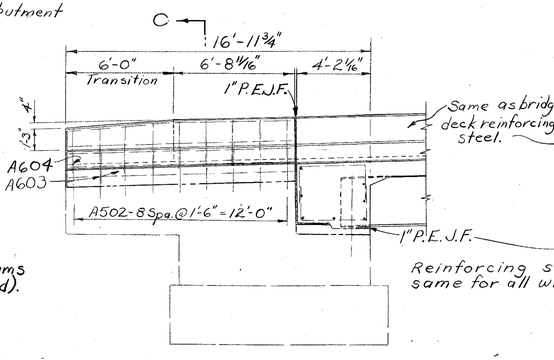


SECTION C-C



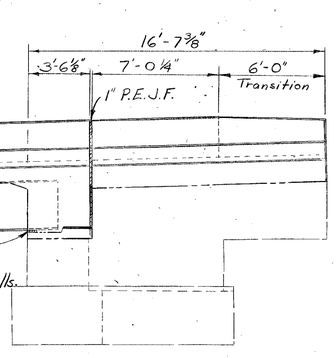
ELEVATION

Rear abutment shown
Forward abutment similar

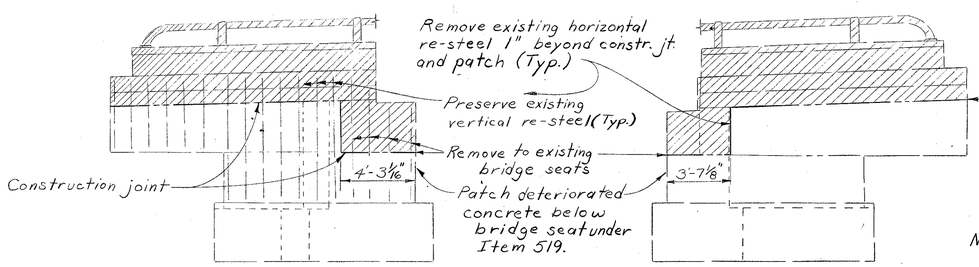


C

VIEW A-A
@ Rear Abutment
Fwd. Abut. Similar



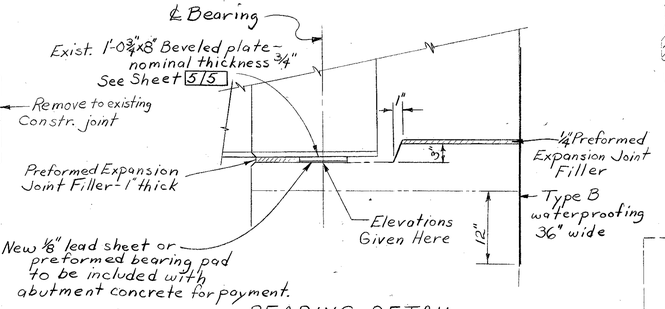
VIEW B-B
@ Fwd. Abutment
Rear Abutment Similar



C

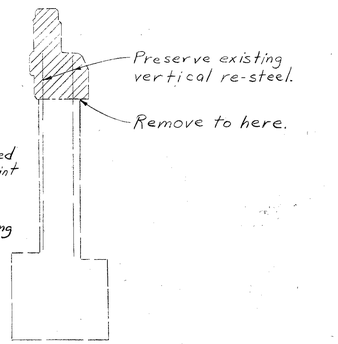
VIEW A-A
Showing Existing To Be Removed

VIEW B-B
Showing Existing To Be Removed



BEARING DETAIL

Reinforcing steel not shown.
Portions of existing bearing not shown are to be removed.



SECTION C-C
Showing existing to remove

NOTE:

POROUS BACKFILL shall extend upward to the bottom of the approach slab and the paved portion of the stabilized shoulder for the full width of the abutment.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

3/5

ABUTMENT DETAILS

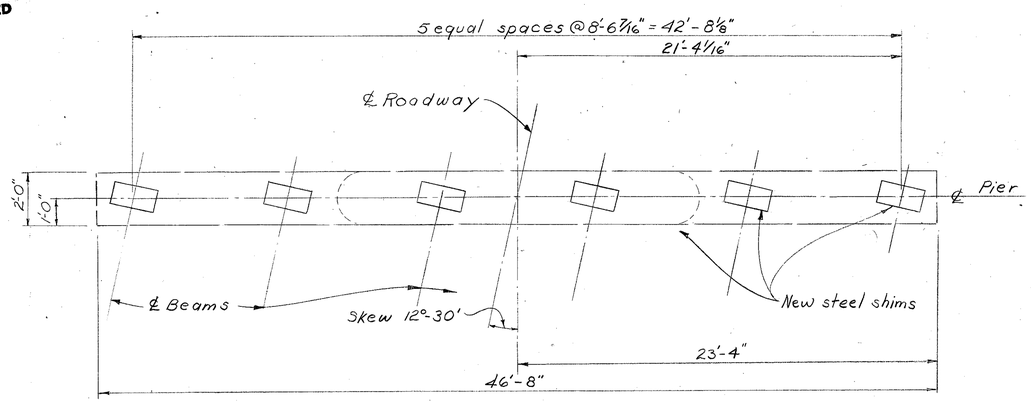
BRIDGE NO. HAS-22-2460R
OVER CONRAIL CO.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JLO	JLO		KL			

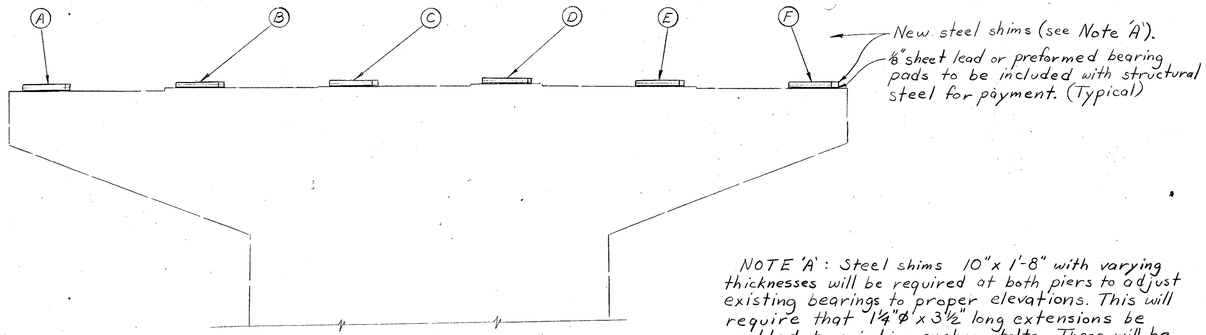
FHWA REGION	STATE	PROJECT	
5	OHIO		

79/80

HAS-22-20.07



PLAN



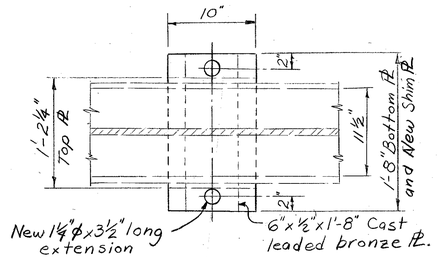
PIER PART ELEVATION

NOTE 'A': Steel shims 10"x 1'-8" with varying thicknesses will be required at both piers to adjust existing bearings to proper elevations. This will require that 1¼"ϕ x 3½" long extensions be welded to existing anchor bolts. These will be included with Item 513, Structural steel for payment. At the Contractor's option steel shims may be multi-plate with minimum single plate thickness of ½". Average total shim thickness is 3¼", but Contractor shall field check this dimension to meet proper elevations from the table below.

TABLE OF ELEVATIONS*

	A	B	C	D	E	F
Rear Pier	1182.51	1182.70	1182.88	1182.94	1182.87	1182.79
Fwd. Pier	1184.01	1184.20	1184.40	1184.46	1184.39	1184.33

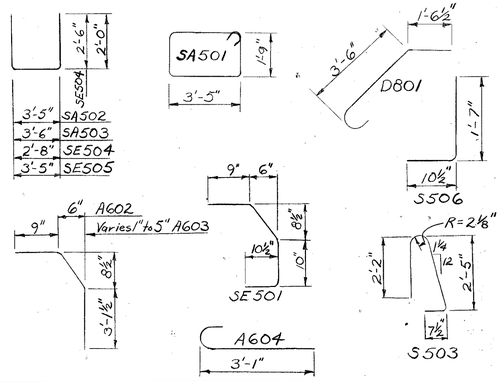
*Elevations given are for setting bottom plate of existing bearing plates.



TYPICAL BEARING
Showing existing, except as noted

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
SUPERSTRUCTURE				
SE401	204	30'-0"	4088	St.
SE402	104	20'-0"	1389	St.
SE403	51	20'-3"	690	St.
SE501	226	3'-1"	727	B
SE502	24	30'-0"	751	St.
SE503	6	21'-7"	135	St.
SE601	446	24'-2"	16189	St.
S401	8	20'-0"	107	St.
S501	426	24'-0"	10664	St.
S502	200	30'-0"	6258	St.
S503	216	5'-6"	1239	B
S504	40	14'-8"	612	St.
S505	96	4'-8"	467	St.
S506	226	2'-4"	550	B
S507	50	21'-7"	1126	St.



Mark	No.	Length	Weight	Shp.
ABUTMENTS				
A501	12	24'-0"	300	St.
A502	72	3'-2"	238	St.
A601	88	4'-9"	628	St
A602	20	4'-7"	138	B
A603	12	4'-5" to 4'-7"	81	B
A604	4	3'-9"	23	B
SA501	48	10'-10"	542	B
SA502	32	7'-2"	239	B
SA503	16	7'-3"	121	B
SA801	24	24'-3"	1554	St.
D801	34	5'-11"	537	B
SE504	48	7'-5"	371	B
SE505	32	7'-2"	239	B
SE602	4	9'-7"	58	St.

REINFORCING STEEL SAMPLES: Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

NOTE: All reinforcing steel with 'SE' prefix shall be epoxy-coated and included under Item Special Epoxy coated reinforcing steel, Grade 60 (see Proposal Note).

BRIDGE QUANTITIES

Item	Total	Unit	Description
202	Lump		Portions of structure removed
509	25,424	Lbs.	Reinforcing steel, grade 60
Special	29,637	Lbs.	Epoxy coated reinforcing steel, grade 60 (see Proposal Note)
510	124	Each	Dowel holes
511	16	Cu.yd.	Class C concrete, abutments
511	228	Cu.yd.	Class S concrete, superstructure
512	31	Sq.yd.	Type B waterproofing
513	2,318	Lbs.	Structural steel
513	Lump		Dismantle, move, alter and/or erect reused structural steel
514	2,318	Lbs.	Field painting of new structural steel, System B
514	Lump		Field painting of existing steel - complete coat finish,* as per plan
516	78	Sq.ft.	1" Preformed expansion joint filler.
516	156	Sq.ft.	½" Preformed expansion joint filler
518	31	Cu.yd.	Porous backfill
518	12	Each	Scuppers, including supports
519	60	Sq.ft.	Patching concrete structures
601	41	Sq.yd.	Crushed aggregate slope protection

* Note: Surface preparation and spot prime painting of existing steel, if any, shall be included with lump sum bid for Item 514, Field painting of existing steel - complete coat finish, as per plan.

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PIER DETAILS
REINFORCING STEEL LIST
BRIDGE QUANTITIES
BRIDGE NO. HAS-22-2460R
OVER CONRAIL

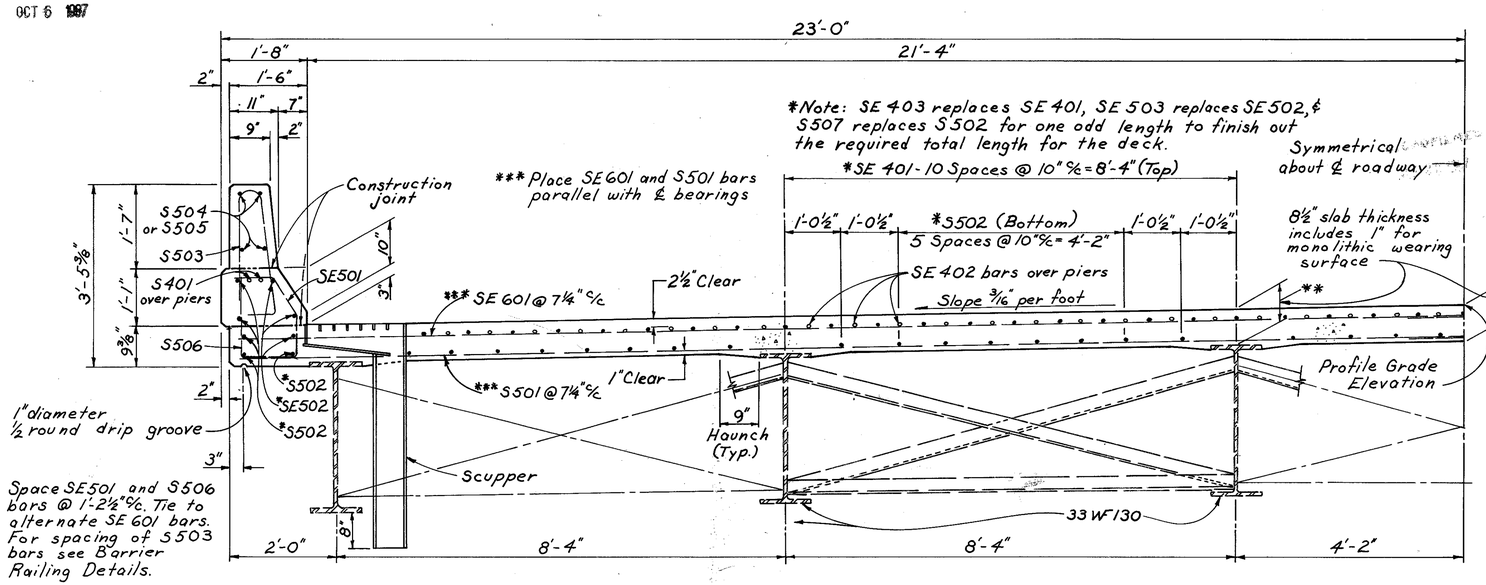
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Dist. 11 JLO	Dist. 11 JLO		Dist. 11 KL			

Revised 5-28-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

80/80

HAS-22-20.07

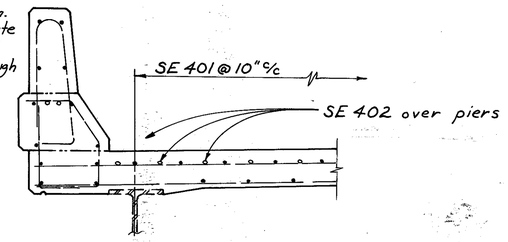


SCUPPERS shall be in accordance with Std. Dwg. SD-1-69 except that scupper pipes shall extend 8" below the bottom of the beams instead of 2".

HALF TRANSVERSE SECTION

** This is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or configuration required to place it parallel to the finished grade.

A HAUNCH WIDTH of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12".



PART TRANSVERSE SECTION
Showing reinforcing steel not at scuppers
For details not shown see Half Transverse Section

CONCRETE DECK EDGE ELEVATIONS*			
Location	℄ Station	Left Edge	Right Edge
Rear Abutment	1300+48.36	1185.08	
	1300+53.82		1185.22
Midspan	1300+68.36	1185.45	
	1300+73.82		1185.60
Rear Pier	1300+88.36	1186.17	
	1300+93.82		1186.34
Midspan	1301+13.36	1186.83	
	1301+18.82		1187.00
Forward Pier	1301+38.36	1187.76	
	1301+43.82		1187.95
Midspan	1301+58.36	1188.32	
	1301+63.82		1188.52
Forward Abutment	1301+78.36	1189.20	
	1301+83.82		1189.41

* These are the elevations required prior to placing of deck concrete. They include an allowance for deflection due to the weight of the concrete. Elevations given are for point shown in Detail 'A'.

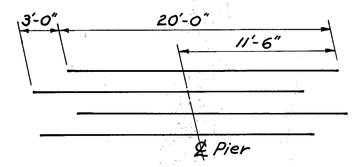
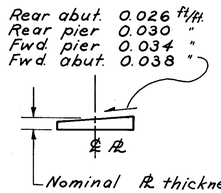
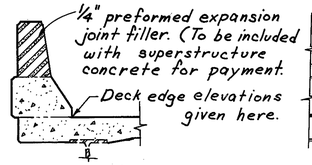


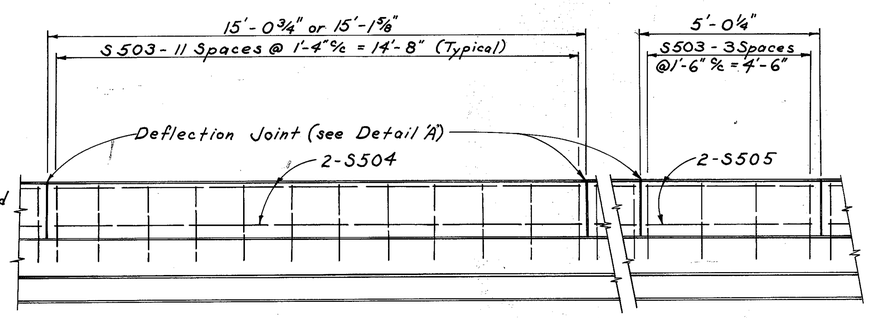
DIAGRAM SHOWING STAGGER OF SE402 BARS OVER PIERS



BEVELED SOLE ℄ @ Expansion bearings
BEARING ℄ @ Fixed bearings



DETAIL 'A'
Section thru deflection joint



BARRIER RAILING DETAIL
See General Plan 2/5 for location of sections

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DEPARTMENT OF TRANSPORTATION
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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAS-22-2460R
OVER CONRAIL

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JLO	JLO		KL			