HAS-22-15.03	OHIO	1 / 115
F-31(18)	FHWA REGION 5 / FEDERAL PROJECT	

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HAS-22-15.03
F-31(18)

VILLAGE OF HOPEDALE
CADIZ, ARCHER AND GREEN TOWNSHIPS
HARRISON COUNTY
(WAYNE TOWNSHIP, JEFFERSON COUNTY)

DESIGN DESIGNATION

CURRENT ADT (1990)	= 5,180
DESIGN YEAR ADT (2000)	= 10,392
D. H. V. (2000)	= 1,039
D	= 50 %
T	= 13.4 %
DESIGN SPEED	= 55 M.P.H.
LEGAL SPEED	= 55 M.P.H.
FUNCTIONAL CLASSIFICATION	= PRINCIPAL ARTERIAL (RURAL)

DESIGN EXCEPTIONS	APPROVAL DATE
SHOULDER WIDTH	3-23-90
BRIDGE PARAPET/CURB CONFIGURATION	3-23-90

CONVENTIONAL SIGNS

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

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

INDEX OF SHEETS

SHEET NO. 103 IS OMITTED

LINE DATA

BEGIN PROJECT = STA. 796+50.00
SUSPEND PROJECT = STA. 908+99.56
RESUME PROJECT = STA. 911+12.44
SUSPEND PROJECT = STA. 1206+92.95
RESUME PROJECT = STA. 1209+25.05
END PROJECT = STA. 1334+03.75 BK. = STA. 0+00.00 AH.
LENGTH OF PROJECT = STA. 53,308.77 LIN.FT.

ADDITIONS AND DEDUCTIONS:

STA. 1013+25.70 BK. = STA. 1011+67.06 AH.	+158.64	LIN.FT.
STA. 1168+68.19 BK. = STA. 1168+75.64 AH.	− 7.45	LIN.FT.
STA. 1280+62.94 BK. = STA. 1280+72.73 AH.	− 9.79	LIN.FT.
STA. 1298+78.92 BK. = STA. 1298+80.75 AH.	− 1.83	LIN.FT.
STA. 1329+83.81 BK. = STA. 1329+98.24 AH.	− 14.43	LIN.FT.
TOTAL =	+125.14	LIN.FT.

NET LENGTH OF PROJECT = 53,433.91 LIN.FT. OR 10.120 MILE

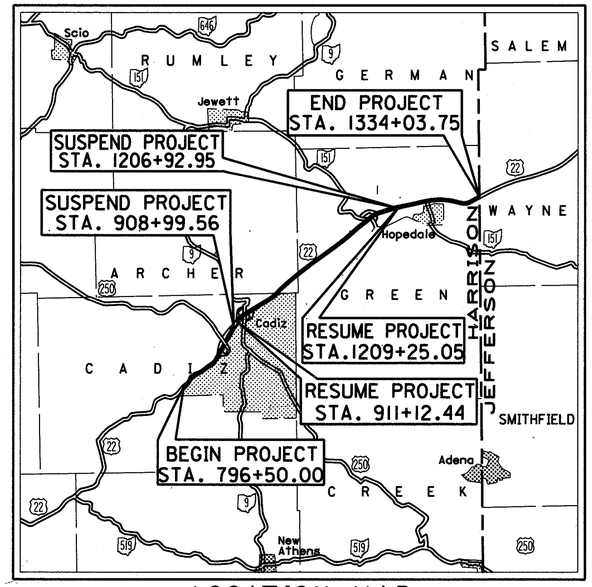
ADD FOR WORK:

STA. 794+52.00 TO STA. 796+50.00	=	198.00'
STA. 0+00.00 AH. TO STA. 3+67.29	=	367.29'
TOTAL	=	565.29'

NET LENGTH OF WORK = 53,999.20 LIN.FT. OR 10.227 MILE

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 11
NEW PHILADELPHIA

PROJECT: HAS-22-15.03
DATE OF LETTING _____ 19__ , CONTRACT NO. _____



LOCATION MAP

SCALE IN MILES
0 1 2 4 6 8

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS

SCALE
PLAN 0' 100' 200'

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

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.

1989 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.

SUPPLEMENTAL		SPECIFICATIONS	
812	8-8-88		
825	10-2-89		
801	1-22-90	905	5-2-89
802	4-13-90	931	6-18-85
803	10-2-89	952	12-14-88
841	5-16-84	940	6-10-87
845	5-31-88	953	8-21-80
847	10-17-83	947	10-17-83
843	7-29-88	944	6-24-89
862	12-16-88	962	1-23-90

APPROVED William P. McKeeman
DATE 7/18/90 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

RC1 APPROVED B. D. Vanlandingham
DATE 10-1-90 ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN

APPROVED Theodore J. Stitt
DATE 10/22/90 DEPUTY DIRECTOR, PLANNING AND DESIGN

Under authority of Section 4511.21, Division (I) of The Revised Code of Ohio, The Revised Prima Facie Speed Limits as indicated herein are determined to be reasonable and safe, and are hereby established for the duration of this project. The Prima Facie Speed Limit or Limits hereby established shall become effective when appropriate signs giving notice thereof are erected.

APPROVED Bernard B. Hurst
DATE 10/22/90 DIRECTOR, DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-2	1-11-85	F-2	5-1-76	GR-6A	2-5-82	TC-41.20	3-26-79	MT-98.12	8-25-89
BP-3	12-6-76	F-3	5-1-76	GR-4A	1-30-84	TC-42.20	3-26-79	MT-98.13	8-25-89
BP-4	10-1-87	F-5	5-1-76	I-2	12-18-84	TC-61.10	4-5-82	MT-98.14	8-25-89
BP-5	10-1-87	F-6	5-1-76			TC-72.20	2-26-82	MT-98.15	8-25-89
BP-7	10-1-87			MC-4	7-26-76	TC-65.10	2-26-82	MT-99.10	11-14-86
BP-11	1-30-84	GR-1	1-11-85	MC-6	1-30-84	TC-65.11	4-5-82	MT-99.20	4-29-88
BP-13	1-23-90	GR-2B	2-5-82	MC-9A	1-11-85	TC-65.13	5-21-81	MT-96.10	9-9-88
		GR-3	10-25-90	MC-10	5-1-76			MT-96.20	9-9-88
CB-8	11-10-83	GR-3A	2-5-82	MC-11	8-1-78	MT-95.30	10-10-88	MT-96.25	9-9-88
		GR-4	2-5-82			MT-97.10	4-29-88	AS-1-81	11-27-81
		GR-6	2-5-82	TC-35.10	8-29-84	MT-97.11	10-4-89		

REVISED 1-3-91

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

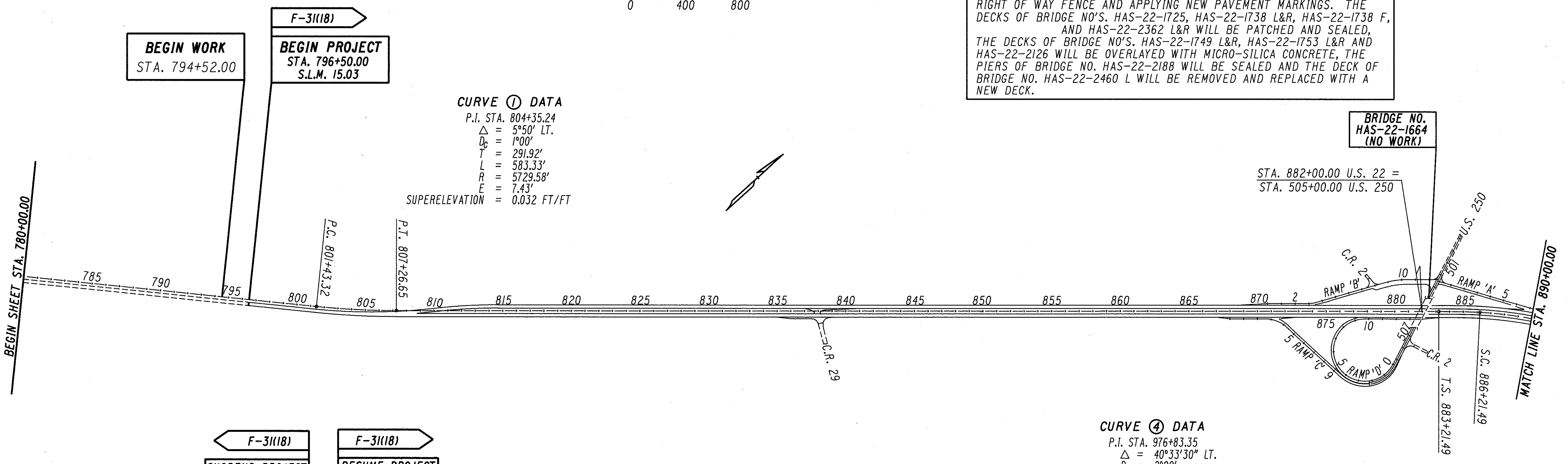
DIVISION ADMINISTRATOR _____ DATE _____

SCHEMATIC

SCALE IN FEET
0 400 800

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT OF THE FAILED PAVEMENT JOINTS, CRACKS AND BROKEN SLABS, INSTALLING SHALLOW UNDERDRAINS, PLANING 1¼" OF THE EXISTING ASPHALT CONCRETE SURFACE COURSE OFF OF THE MAINLINE PAVEMENT AND RAMPS, PLACING 1¼" OF ASPHALT CONCRETE SURFACE COURSE ON THE MAINLINE PAVEMENT AND RAMPS, RECONSTRUCTING THE RIGHT OF WAY FENCE AND APPLYING NEW PAVEMENT MARKINGS. THE DECKS OF BRIDGE NO'S. HAS-22-1725, HAS-22-1738 L&R, HAS-22-1738 F, AND HAS-22-2362 L&R WILL BE PATCHED AND SEALED, THE DECKS OF BRIDGE NO'S. HAS-22-1749 L&R, HAS-22-1753 L&R AND HAS-22-2126 WILL BE OVERLAYED WITH MICRO-SILICA CONCRETE, THE PIERS OF BRIDGE NO. HAS-22-2188 WILL BE SEALED AND THE DECK OF BRIDGE NO. HAS-22-2460 L WILL BE REMOVED AND REPLACED WITH A NEW DECK.

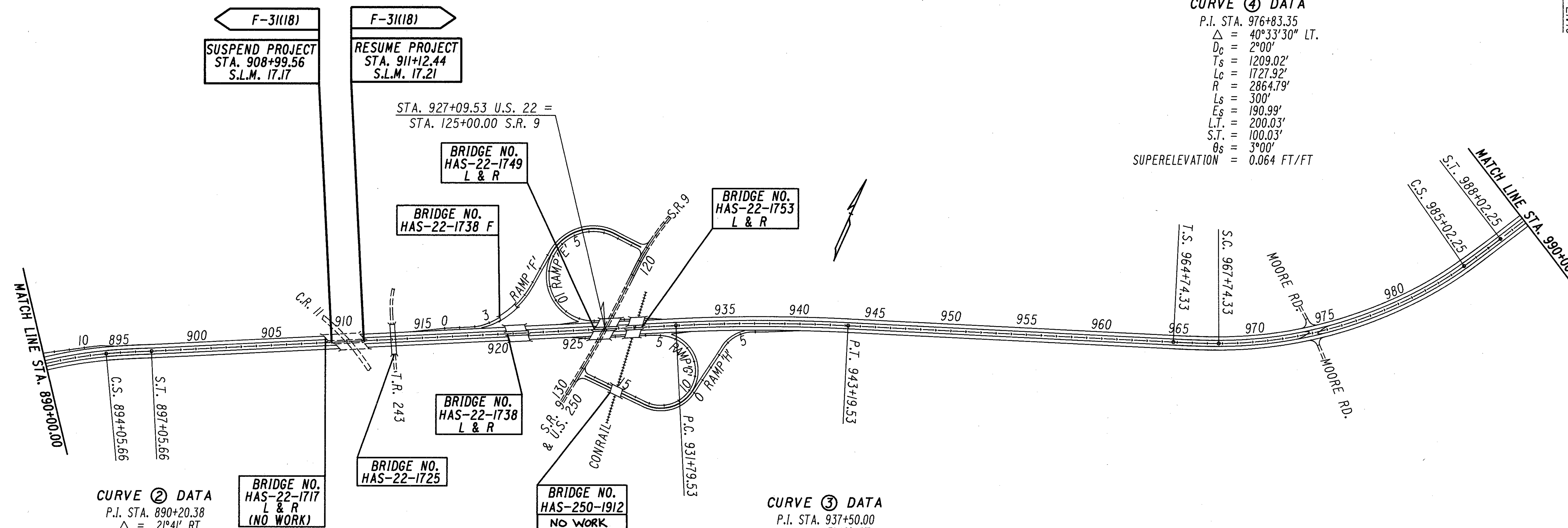


CURVE ① DATA

P.I. STA. 804+35.24
Δ = 5°50' LT.
D_c = 1°00'
T = 291.92'
L = 583.33'
R = 5729.58'
E = 7.43'
SUPERELEVATION = 0.032 FT/FT

CURVE ④ DATA

P.I. STA. 976+83.35
Δ = 40°33'30" LT.
D_c = 2°00'
T_s = 1209.02'
L_c = 1727.92'
R = 2864.79'
L_s = 300'
E_s = 190.99'
L.T. = 200.03'
S.T. = 100.03'
θ_s = 3°00'
SUPERELEVATION = 0.064 FT/FT



CURVE ② DATA

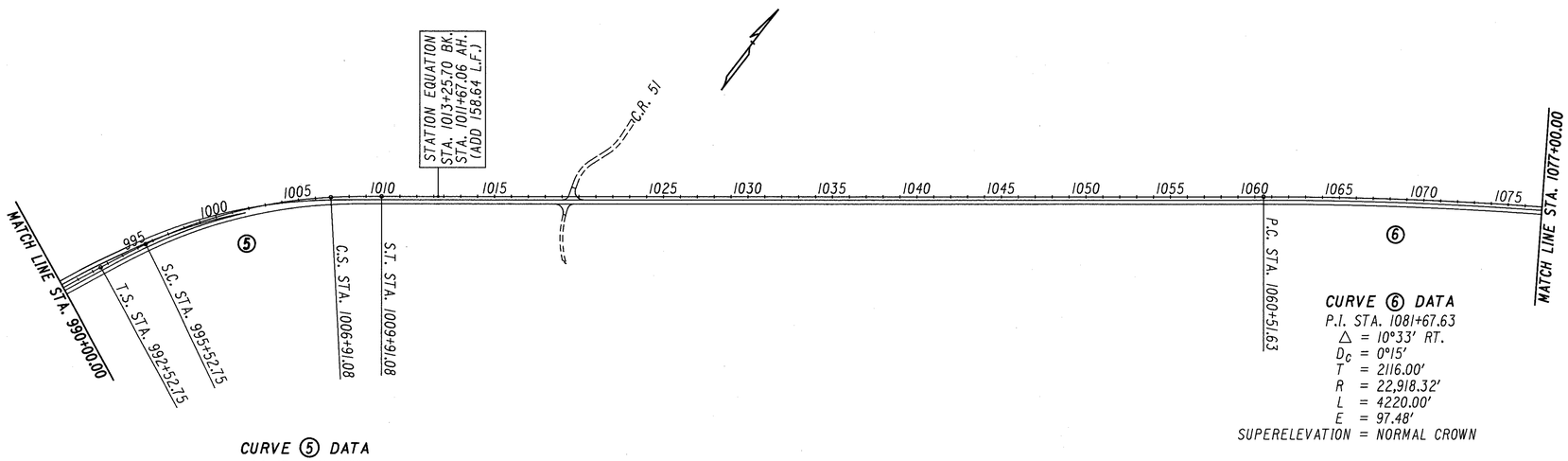
P.I. STA. 890+20.38
Δ = 21°41' RT.
D_c = 2°00'
T_s = 698.89'
L_s = 583.33'
R = 5729.58'
L_c = 784.17'
E_s = 53.39'
L.T. = 200.03'
S.T. = 100.03'
θ_s = 3°00'
SUPERELEVATION = 0.064 FT/FT

CURVE ③ DATA

P.I. STA. 937+50.00
Δ = 5°42' RT.
D = 0°30'
T = 570.47'
L = 1140.00'
R = 11,459.16'
SUPERELEVATION = 0.016 FT/FT

SCHEMATIC

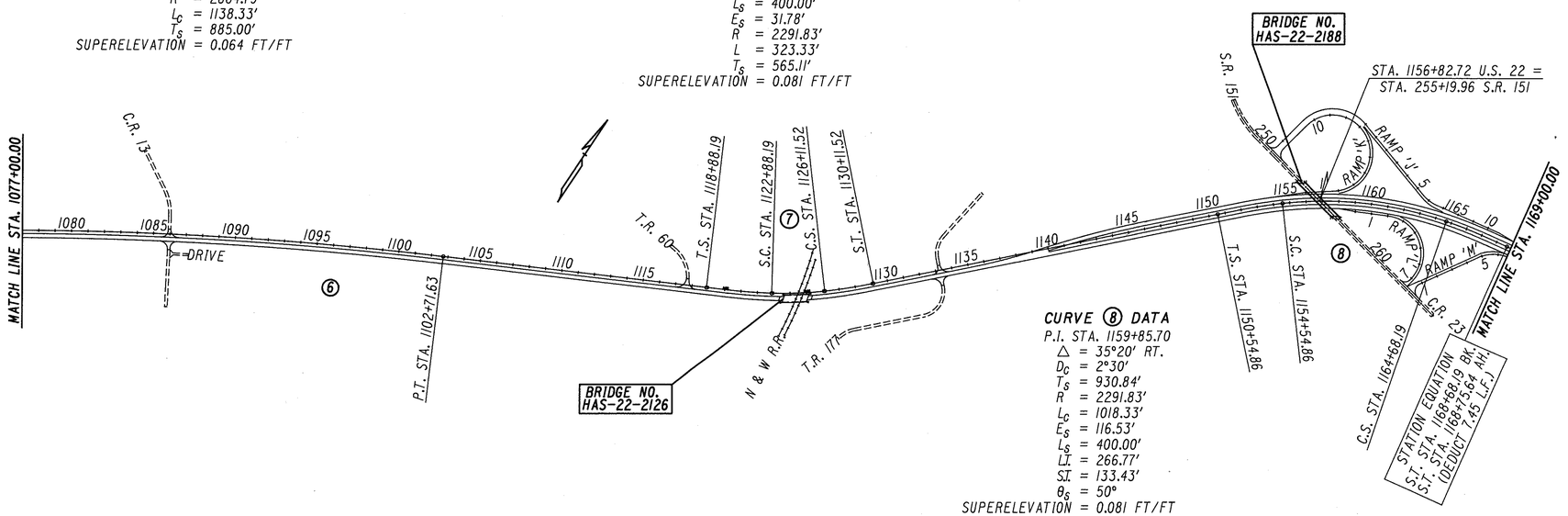
SCALE IN FEET
0 400 800



CURVE ⑤ DATA
P.I. STA. 1001+37.75
△ = 28°46' RT.
D_C = 2°00'
L_S = 300.00'
E_S = 94.06'
R = 2864.79'
L_C = 1138.33'
T_S = 885.00'
SUPERELEVATION = 0.064 FT/FT

CURVE ⑥ DATA
P.I. STA. 1081+67.63
△ = 10°33' RT.
D_C = 0°15'
T = 2116.00'
R = 22,918.32'
L = 4220.00'
E = 97.48'
SUPERELEVATION = NORMAL CROWN

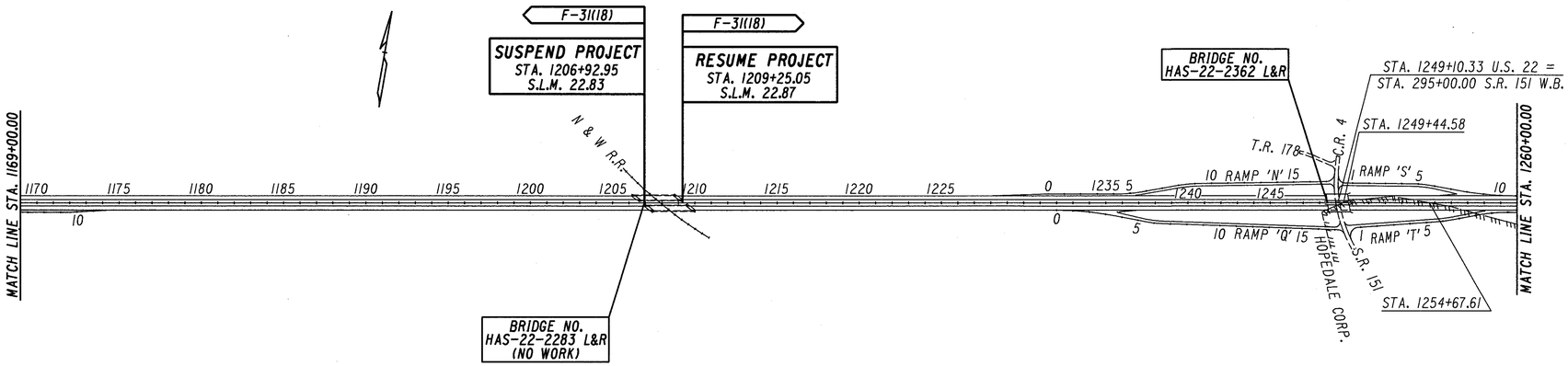
CURVE ⑦ DATA
P.I. STA. 1124+53.30
△ = 18°05' LT.
D_C = 2°30'
L_S = 400.00'
E_S = 31.78'
R = 2291.83'
L = 323.33'
T_S = 565.11'
SUPERELEVATION = 0.081 FT/FT



CURVE ⑧ DATA
P.I. STA. 1159+85.70
△ = 35°20' RT.
D_C = 2°30'
T_S = 930.84'
R = 2291.83'
L_C = 1018.33'
E_S = 116.53'
L_S = 400.00'
LT = 266.77'
ST = 133.43'
θ_S = 50°
SUPERELEVATION = 0.081 FT/FT

SCHEMATIC

SCALE IN FEET
0 400 800

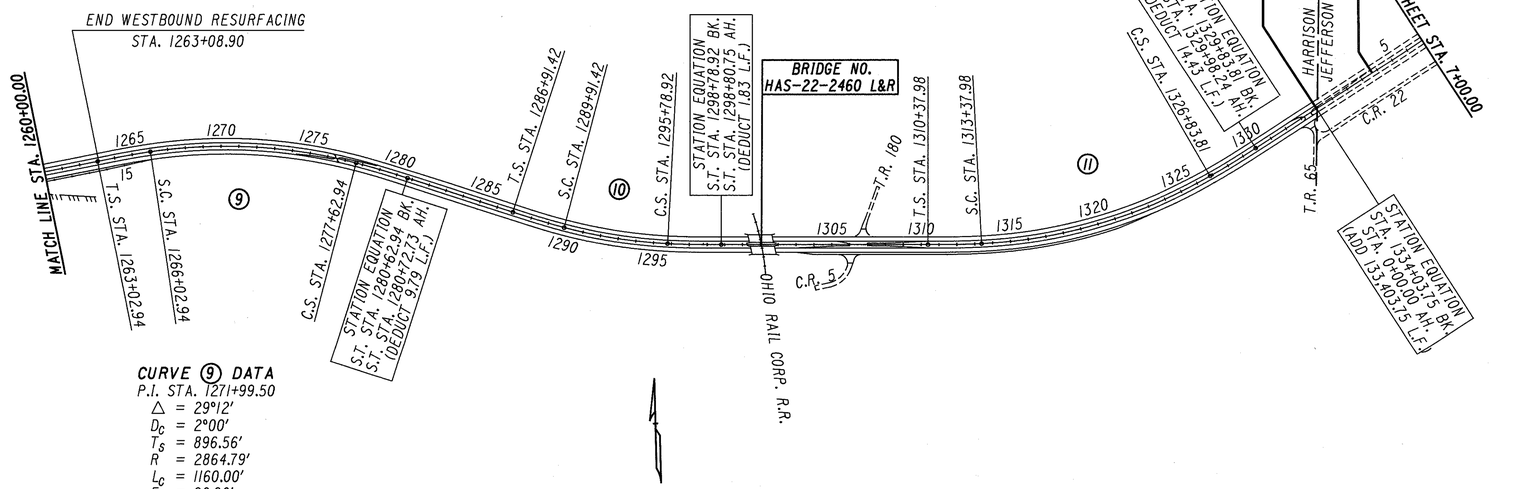


CURVE (10) DATA
P.I. STA. 1292+88.95
Δ = 17°45' LT.
D_C = 2°00'
T_S = 597.53'
R = 2864.79'
L_C = 587.50'
E_S = 36.03'
L_S = 300.00'
LI = 200.03'
SI = 100.03'
θ_S = 3°00'
SUPERELEVATION = 0.064 FT/FT

CURVE (11) DATA
P.I. STA. 1320+34.68
Δ = 32°55' LT.
D_C = 2°00'
T_S = 996.70'
R = 2864.79'
L_C = 1345.83'
E_S = 123.77'
L_S = 300.00'
LI = 200.03'
SI = 100.03'
θ_S = 3°00'
SUPERELEVATION = 0.064 FT/FT

F-31(18)
END PROJECT
STA. 1334+03.75
S.L.M. 25.23

END WORK
STA. 3+67.29



CURVE (9) DATA
P.I. STA. 1271+99.50
Δ = 29°12'
D_C = 2°00'
T_S = 896.56'
R = 2864.79'
L_C = 1160.00'
E_S = 96.96'
L_S = 300.00'
LI = 200.03'
SI = 100.03'
θ_S = 3°00'
SUPERELEVATION = 0.064 FT/FT

FHWA REGION	STATE	PROJECT	
5	OHIO		

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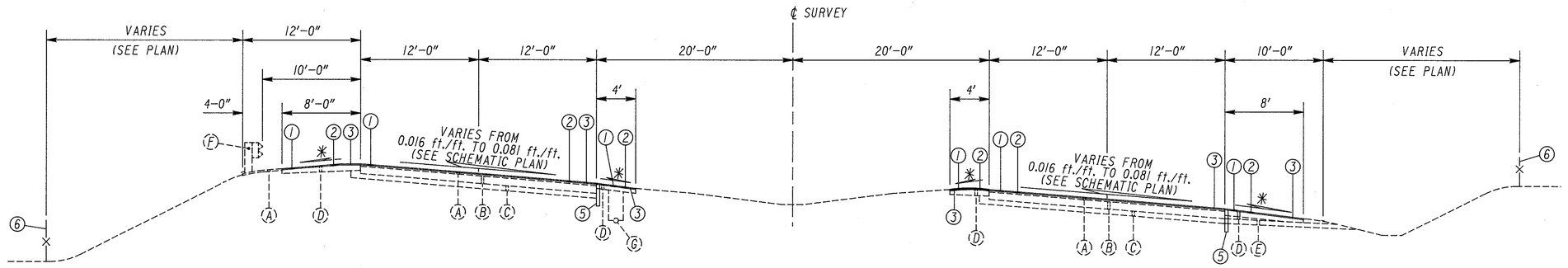
HAS-22-15.03

TYPICAL SECTIONS

TYPE 446

SCALE IN FEET

0 3 6 12



PROPOSED LEGEND

1. ITEM 446 – 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
2. ITEM 254 – PAVEMENT PLANING, BITUMINOUS (1¼" NOMINAL THICKNESS)
3. ITEM 407 – TACK COAT
4. ITEM SPECIAL – SEALED JOINT BETWEEN RIGID PAVEMENT AND PAVED SHOULDER (SEE NOTE IN PROPOSAL)
5. ITEM 605 – SHALLOW UNDERDRAINS, AS PER PLAN (SEE SHEET NO. 28)
6. ITEM 607 – FENCE, TYPE 47
7. ITEM 606 – GUARDRAIL, TYPE 5, AS PER PLAN (SEE SHEET NO. 25)
8. ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20
9. ITEM 304 – AGGREGATE BASE, AS PER PLAN (SEE SHEET NO. 25)
10. ITEM 310 – SUBBASE, TYPE II, AS PER PLAN (SEE SHEET NO. 25)
11. ITEM 408 – BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y.
12. ITEM 404 – 2" ASPHALT CONCRETE (UNDER GUARDRAIL)
13. ITEM SPECIAL – HERBICIDE APPLICATION UNDER ASPHALT (SEE NOTE ON SHEET NO. 27)
14. ITEM 659 – SEEDING AND MULCHING & WATER
15. ITEM 448 – ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
17. ITEM 203 – SUBGRADE COMPACTION
18. ITEM 203 – LINEAR GRADING (SEE SHEET NO. 25)
22. ITEM SPECIAL – GRINDING CONCRETE PAVEMENT (SEE NOTE IN PROPOSAL)

SUPERELEVATED SECTION

STA. 801+43.32 TO STA. 807+75.00	=	631.68 L.F.
STA. 883+25.00 TO STA. 897+00.00	=	1,375.00 L.F.
STA. 931+50.00 TO STA. 943+50.00	=	1,200.00 L.F.
STA. 965+00.00 TO STA. 987+75.00	=	2,275.00 L.F.
STA. 992+75.00 TO STA. 1009+91.08	=	1,716.08 L.F.
STA. 1150+50.00 TO STA. 1168+68.19 BK.	=	1,818.19 L.F.
TOTAL	=	9,015.95 L.F.

STATION EQUATIONS

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')

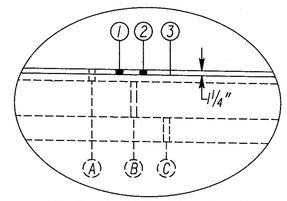
FOR DITCH CLEANOUT DETAILS, SEE SHEET NO. 63

*FOR SHOULDER SLOPE DETAILS, SEE SHEET NO. 8

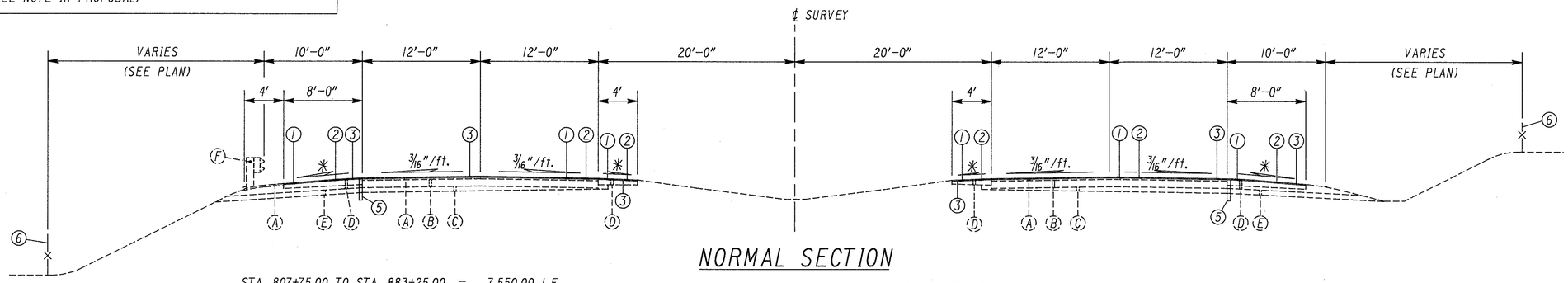
NOTE: ALL PAVEMENT SLOPES SHOWN ARE THE SAME AS EXISTING.

EXISTING LEGEND

- A --- EXISTING ASPHALT CONCRETE
- B --- EXISTING 9" REINFORCED CONCRETE
- C --- EXISTING SUBBASE
- D --- EXISTING BITUMINOUS AGGREGATE BASE
- E --- EXISTING AGGREGATE DRAINS
- F --- EXISTING GUARDRAIL
- G --- EXISTING 6" PIPE UNDERDRAIN (TO REMAIN AND FUNCTION)
- H --- EXISTING CURB
- I --- EXISTING CONCRETE MEDIAN



RESURFACING DETAIL



NORMAL SECTION

STA. 807+75.00 TO STA. 883+25.00	=	7,550.00 L.F.
STA. 897+00.00 TO STA. 908+74.56	=	1,174.56 L.F.
STA. 908+74.56 TO STA. 911+37.44	=	BR. NO. HAS-22-1717 L&R AND APPROACH SLABS
STA. 911+37.44 TO STA. 920+37.22	=	899.78 L.F.
STA. 920+37.22 TO STA. 922+18.78	=	BR. NO. HAS-22-1738 L&R AND APPROACH SLABS
STA. 922+18.78 TO STA. 926+15.89	=	397.11 L.F.
STA. 926+15.89 TO STA. 928+03.17	=	BR. NO. HAS-22-1749 L&R AND APPROACH SLABS
STA. 928+03.17 TO STA. 928+34.61	=	31.44 L.F.
STA. 928+34.61 TO STA. 929+79.39	=	BR. NO. HAS-22-1753 L&R AND APPROACH SLABS
STA. 929+79.39 TO STA. 931+50.00	=	170.61 L.F.
STA. 943+50.00 TO STA. 965+00.00	=	2,150.00 L.F.
STA. 987+75.00 TO STA. 992+75.00	=	500.00 L.F.
STA. 1135+00.00 TO STA. 1150+50.00	=	1,550.00 L.F.
STA. 1168+75.64 AH. TO STA. 1206+67.95	=	3,792.31 L.F.
STA. 1206+67.95 TO STA. 1209+50.05	=	BR. NO. HAS-22-2283 L&R AND APPROACH SLABS
STA. 1209+50.05 TO STA. 1248+22.47	=	3,872.42 L.F.
STA. 1248+22.47 TO STA. 1250+03.03	=	BR. NO. HAS-22-2362 L&R AND APPROACH SLABS
STA. 1250+03.03 TO STA. 1262+03.90	=	1,200.87 L.F.
TOTAL	=	23,289.10 L.F.

FHWA REGION	STATE	PROJECT	
5	OHIO		

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115

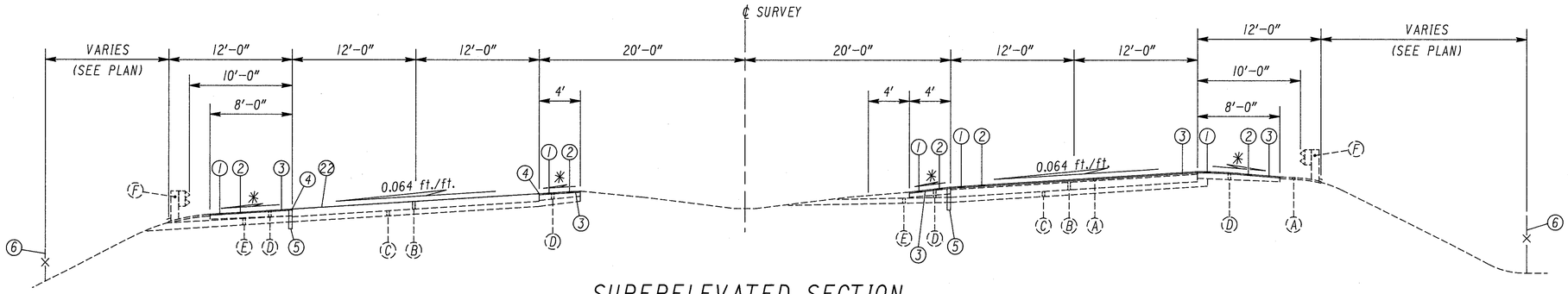
HA-22-15.03

TYPICAL SECTIONS

TYPE 446

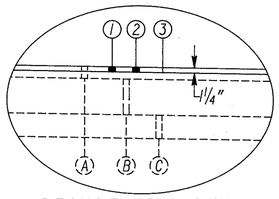
SCALE IN FEET

0 3 6 12



SUPERELEVATED SECTION

STA. 1262+03.90 TO STA. 1280+62.94 BK.	=	1,859.04 L.F.
STA. 1280+72.73 AH. TO STA. 1280+75.00	=	2.27 L.F.
STA. 1287+00.00 TO STA. 1298+75.00	=	1,175.00 L.F.
STA. 1310+50.00 TO STA. 1329+83.81 BK.	=	1,933.81 L.F.
STA. 1329+98.24 AH. TO STA. 1330+00.00	=	1.76 L.F.
TOTAL	=	4,971.88 L.F.



RESURFACING DETAIL

STATION EQUATIONS

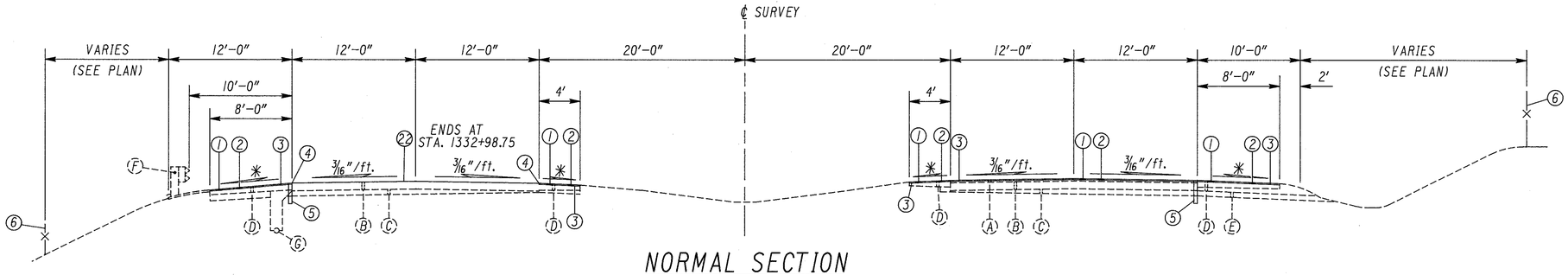
STA. 1280+62.94 BK. = STA. 1280+72.73 AH. (DEDUCT 9.79')
STA. 1298+78.92 BK. = STA. 1298+80.75 AH. (DEDUCT 1.83')
STA. 1329+83.81 BK. = STA. 1329+98.24 AH. (DEDUCT 14.43')

FOR LEGEND, SEE SHEET NO. 5

FOR DITCH CLEANOUT DETAILS, SEE SHEET NO. 63

*FOR SHOULDER SLOPE DETAILS, SEE SHEET NO. 8

NOTE: ALL PAVEMENT SLOPES SHOWN ARE THE SAME AS EXISTING.



NORMAL SECTION

STA. 1280+75.00 TO STA. 1287+00.00	=	625.00 L.F.
STA. 1298+75.00 TO STA. 1298+78.92 BK.	=	3.92 L.F.
STA. 1298+80.75 AH. TO STA. 1300+16.70	=	135.95 L.F.
STA. 1300+16.70 TO STA. 1302+01.30	=	BR. NO. HAS-22-2460 L&R L.F. AND APPROACH SLABS
STA. 1302+01.30 TO STA. 1310+50.00	=	848.70 L.F.
STA. 1330+00.00 TO STA. 1334+03.75	=	403.75 L.F.
TOTAL	=	2,017.32 L.F.

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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TYPICAL SECTIONS

TYPE 446

SCALE IN FEET

0 3 6 12

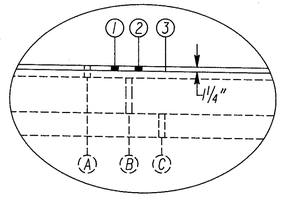
FOR LEGEND, SEE SHEET NO. 5

LEFT AND RIGHT SIDE CONFIGURATION ON RAMPS IS REFERENCED TO THE DIRECTION OF TRAVEL.

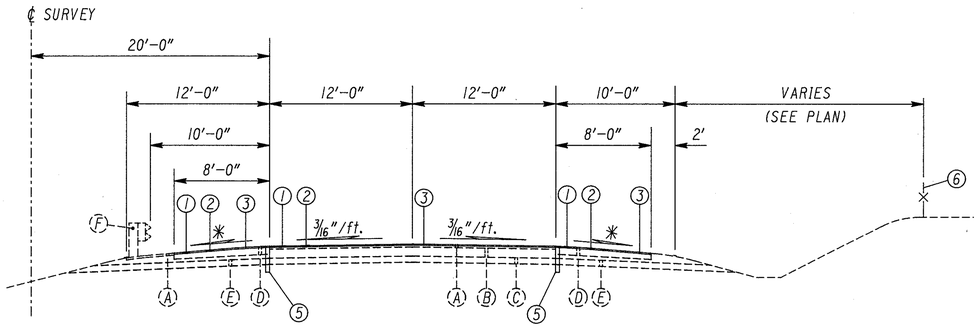
FOR RAMP SHOULDER WIDENING AND ASPHALT PAVING UNDER GUARDRAIL DETAILS, SEE SHEET NO. 8

*FOR SHOULDER SLOPE DETAILS, SEE SHEET NO. 8

NOTE: ALL PAVEMENT SLOPES SHOWN ARE THE SAME AS EXISTING.

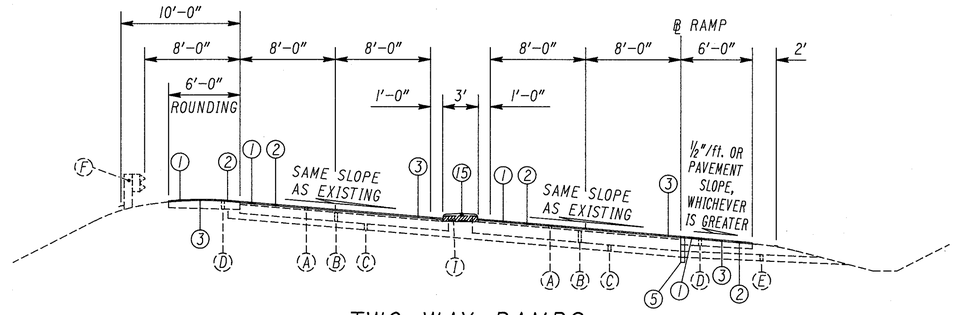


RESURFACING DETAIL



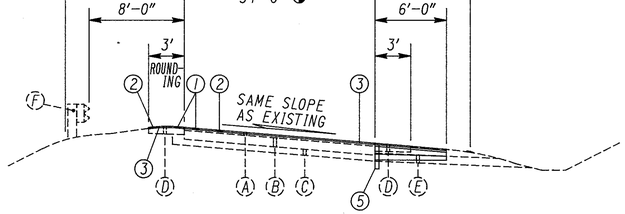
NORMAL SECTION

STA. 796+50.00 TO STA. 801+00.00	=	450.00 L.F.
STA. 1010+00.00 TO STA. 1119+00.00	=	10,900.00 L.F.
STA. 1130+25.00 TO STA. 1135+00.00	=	475.00 L.F.
TOTAL	=	11,825.00 L.F.



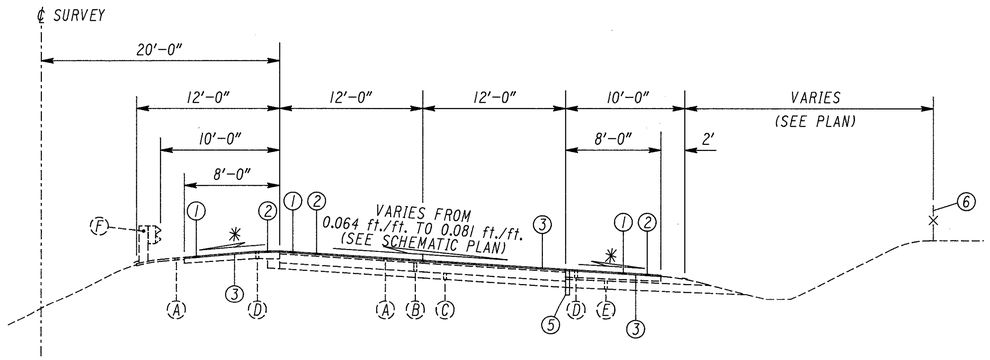
TWO-WAY RAMPS

U.S. 250 INTERCHANGE		
RAMP D STA. 0+00.00 TO STA. 4+24.00	=	424.00 L.F.
S.R. 9 INTERCHANGE		
RAMP E STA. 0+12.00 TO STA. 6+82.09	=	670.09 L.F.
RAMP G STA. 9+95.00 TO STA. 14+72.72	=	477.72 L.F.
RAMP G STA. 14+72.72 TO STA. 15+97.28	=	BR. NO HAS-250-1912 AND APPROACH SLABS
RAMP G STA. 15+97.28 TO STA. 17+88.82	=	191.54 L.F.
TOTAL	=	1,339.35 L.F.
S.R. 151 WEST INTERCHANGE		
RAMP K STA. 6+82.18 TO STA. 13+10.71	=	628.53 L.F.



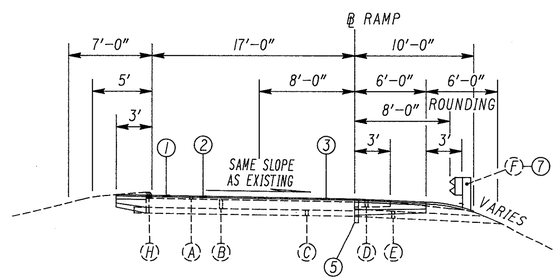
STANDARD RAMPS

U.S. 250 INTERCHANGE		
RAMP A STA. 0+12.21 TO STA. 6+59.49	=	647.28 L.F.
RAMP B STA. 3+43.07 TO STA. 8+00.00	=	456.93 L.F.
RAMP B STA. 8+00.00 TO STA. 12+54.21	=	454.21 L.F.
RAMP C STA. 3+54.30 TO STA. 9+60.88	=	606.58 L.F.
TOTAL	=	2,165.00 L.F.
S.R. 9 INTERCHANGE		
RAMP F STA. 2+43.72 TO STA. 3+50.76	=	107.04 L.F.
RAMP F STA. 3+50.76 TO STA. 5+32.58	=	BR. NO. HAS-22-1738 F AND APPROACH SLABS
RAMP F STA. 5+32.58 TO STA. 9+30.28	=	397.70 L.F.
RAMP H STA. 0+00.00 TO STA. 5+30.05	=	530.05 L.F.
TOTAL	=	1,034.79 L.F.
S.R. 151 WEST INTERCHANGE		
RAMP J STA. 0+00.00 TO STA. 6+46.81	=	646.81 L.F.
RAMP K STA. 1+75.00 TO STA. 6+82.18	=	507.18 L.F.
RAMP L STA. 3+17.35 TO STA. 7+56.12	=	438.77 L.F.
RAMP M STA. 0+12.77 TO STA. 6+15.02	=	602.25 L.F.
TOTAL	=	2,195.01 L.F.
S.R. 151 EAST INTERCHANGE		
RAMP N STA. 5+18.17 TO STA. 17+45.68	=	1,227.51 L.F.
RAMP Q STA. 3+58.59 TO STA. 17+49.39	=	1,390.80 L.F.
RAMP S STA. 0+12.03 TO STA. 7+44.38	=	732.35 L.F.
RAMP T STA. 0+13.01 TO STA. 8+80.23	=	867.22 L.F.
TOTAL	=	4,217.88 L.F.



SUPERELEVATED SECTION

STA. 801+00.00 TO STA. 801+43.32	=	43.32 L.F.
STA. 1009+91.08 TO STA. 1010+00.00	=	8.92 L.F.
STA. 1119+00.00 TO STA. 1123+46.57	=	446.57 L.F.
STA. 1123+46.57 TO STA. 1125+45.50	=	BR. NO. HAS-22-2126 AND APPROACH SLABS
STA. 1125+45.50 TO STA. 1130+25.00	=	479.50 L.F.
TOTAL	=	978.31 L.F.



RAMPS WITH CURB

U.S. 250 INTERCHANGE		
RAMP D STA. 4+24.00 TO STA. 9+18.89	=	494.89 L.F.
S.R. 9 INTERCHANGE		
RAMP E STA. 6+82.09 TO STA. 11+98.69	=	516.60 L.F.
RAMP G STA. 5+69.09 TO STA. 9+95.00	=	425.91 L.F.
TOTAL	=	942.51 L.F.

TYPICAL SECTIONS

TYPE 446

SCALE IN FEET

0 3 6 12

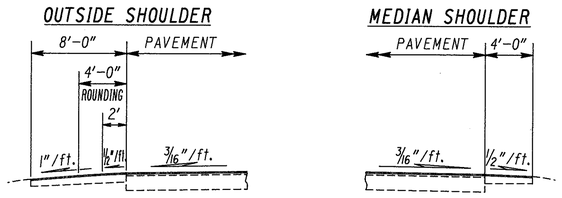
FHWA REGION	STATE	PROJECT	
5	OHIO		

8/115

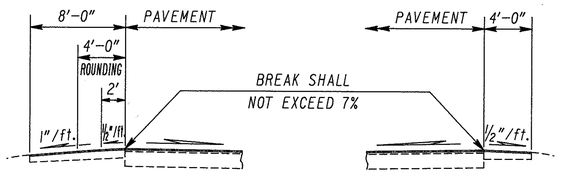
HAS-22-15.03

SHOULDER SLOPE DETAILS

NOTE: ALL SHOULDER SLOPES SHOWN ARE THE SAME AS EXISTING.

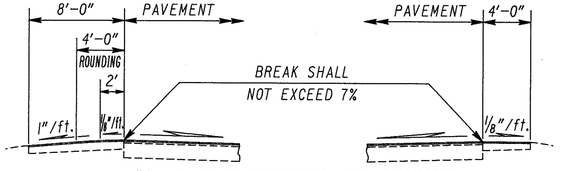


NORMAL SECTION



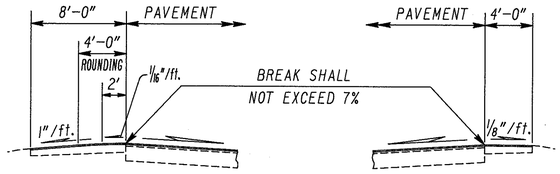
HIGH SIDE-SUPERELEVATED SECTION

SUPERELEVATION RATE ≤ 0.028 ft./ft.



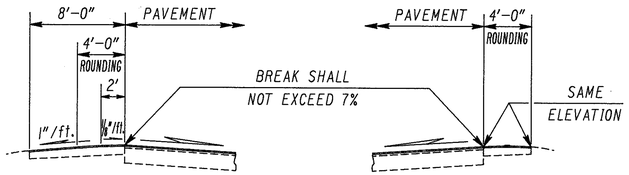
HIGH SIDE-SUPERELEVATED SECTION

SUPERELEVATION RATE > 0.028 ft./ft., ≤ 0.059 ft./ft.



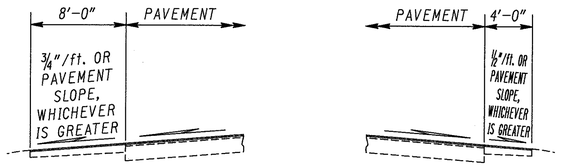
HIGH SIDE-SUPERELEVATED SECTION

SUPERELEVATION RATE > 0.059 ft./ft., ≤ 0.064 ft./ft.

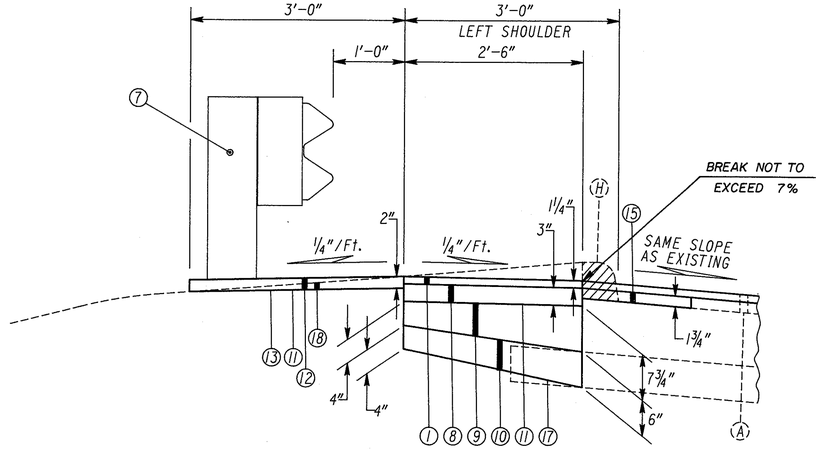


HIGH SIDE-SUPERELEVATED SECTION

SUPERELEVATION RATE > 0.064 ft./ft., ≤ 0.081 ft./ft.

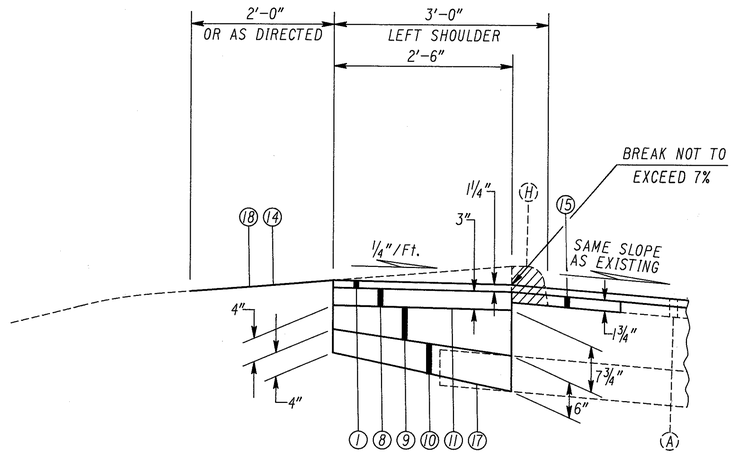


LOW SIDE-SUPERELEVATED SECTION



U.S. 250 INTERCHANGE

RAMP D STA. 4+86.20 TO 8+18.89 = 332.69 L.F.



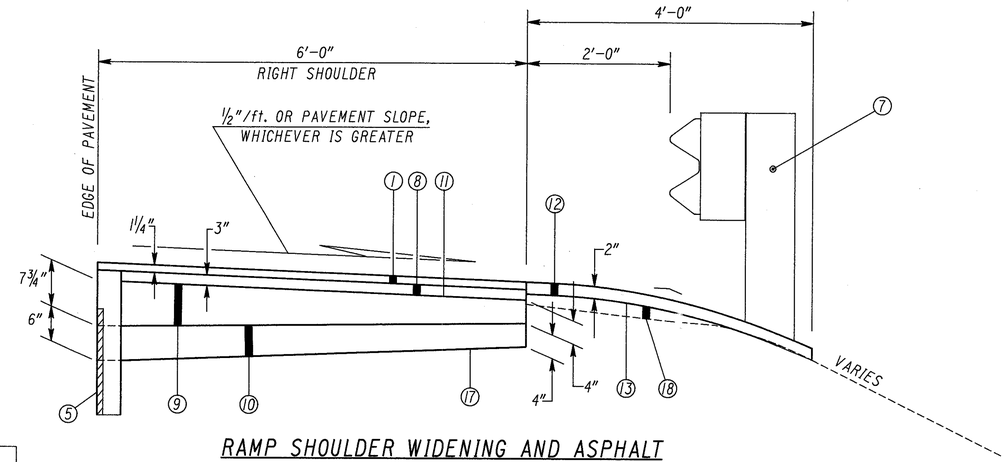
S.R 9 INTERCHANGE

RAMP E STA. 7+33.40 TO 10+98.69 = 365.29 L.F.
RAMP G STA. 6+69.09 TO 9+21.11 = 252.02 L.F.
TOTAL = 617.31 L.F.

RAMP SHOULDER CONSTRUCTION AT RAMPS WITH CURB

SEE SHEET NO. 20 FOR QUANTITIES

1"=1'



RAMP SHOULDER WIDENING AND ASPHALT PAVING UNDER GUARDRAIL DETAIL

1"=1'

NOTE: THE RAMP SHOULDER WIDENING SHALL BE COMPLETED PRIOR TO INSTALLING THE SHALLOW UNDERDRAINS.

SEE SHEET NO. 20 FOR QUANTITITES

FOR LEGEND, SEE SHEET NO. 5

NOTE: ALL PAVEMENT SLOPES SHOWN ARE THE SAME AS EXISTING.

HA221503 V4

U.S. 22 EASTBOUND PAVEMENT RESURFACING QUANTITIES

QUANTITIES		FHWA REGION	STATE	PROJECT	
Calc. SHG	Chkd. RDA	5	OHIO		
Date: 9-7-89	Date: 1-12-90				

HAS-22-15.03

9
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LOCATION	STATION FROM	STATION TO	LENGTH	WIDTH	AREA	254 PAVEMENT PLANING, BITUMINOUS	407 TACK COAT @ 0.075 GAL./S.Y.	446		446 THICKNESS	446 ASPHALT CONCRETE SURFACE COURSE TYPE I			REMARKS
			LIN.FT.	LIN.FT.	SQ.YD.	SQ. YD.	GAL.			INCH	CU. YD.			
	796+50.00	801+43.32	493.32	24	1315.5	1315.5	98.7			1.25	45.7			
	801+43.32	807+89.02	645.70	32.5 avg.	2331.7	2331.7	174.9			1.25	81.0			
	807+89.02	835+00.00	2710.98	24	7229.3	7229.3	542.2			1.25	251.0			
	835+00.00	836+00.00	100.00	30 avg.	333.3	333.3	25.0			1.25	11.6			
	836+00.00	837+52.15	152.15	36	608.6	608.6	45.6			1.25	21.1			
	837+52.15	867+00.00	2947.85	24	7860.9	7860.9	589.6			1.25	272.9			
	867+00.00	868+00.00	100.00	30 avg.	333.3	333.3	25.0			1.25	11.6			
	868+00.00	870+57.66	257.66	36	1030.6	1030.6	77.3			1.25	35.8			
	870+57.66	871+60.46	102.80	45.5 avg.	519.7	519.7	39.0			1.25	18.0			
	871+60.46	872+86.46	126.00	29.25avg.	409.5	409.5	30.7			1.25	14.2			
	872+86.46	877+28.16	441.70	24	1177.9	1177.9	88.3			1.25	40.9			
	877+28.16	877+84.01	55.85	39.25avg.	243.6	243.6	18.3			1.25	8.5			
	877+84.01	882+00.00	415.99	36	1664.0	1664.0	124.8			1.25	57.8			
	882+00.00	884+25.00	225.00	30 avg.	750.0	750.0	56.3			1.25	26.0			
	884+25.00	909+39.91	2514.91	24	6706.4	6706.4	503.0			1.25	232.9			
BRIDGE NO. HAS-22-1717														
	911+25.79	920+54.52	928.83	24	2476.9	2476.9	185.8			1.25	86.0			
BRIDGE NO. HAS-22-1738														
	921+86.08	925+75.00	388.92	30 avg.	1296.4	1296.4	97.2			1.25	45.0			
	925+75.00	926+47.26	72.26	36	289.0	289.0	21.7			1.25	10.0			
BRIDGE NO. HAS-22-1749														
	927+67.14	928+53.23	86.09	36	344.4	344.4	25.8			1.25	12.0			
BRIDGE NO. HAS-22-1753														
	929+48.02	931+50.00	201.98	45.5 avg.	1021.1	1021.1	76.6			1.25	35.5			
	931+50.00	932+50.00	100.00	30 avg.	333.3	333.3	25.0			1.25	11.6			
	932+50.00	936+33.00	383.00	24	1021.3	1021.3	76.6			1.25	35.5			
	936+33.00	936+88.00	55.00	45.5 avg.	278.1	278.1	20.9			1.25	9.7			
	936+88.00	937+75.00	87.00	36	348.0	348.0	26.1			1.25	12.1			
	937+75.00	999+49.00	6174.00	24	16464.0	16464.0	1234.8			1.25	571.7			
	999+49.00	1001+98.57	249.57	23	637.8	637.8	47.8			1.25	22.1			
	1001+98.57	1008+69.38	670.81	24.5 avg.	1826.1	1826.1	137.0			1.25	63.4			
	1008+69.38	1123+71.57	11502.19	24	30672.5	30672.5	2300.4			1.25	1065.0			
BRIDGE NO. HAS-22-2126														
	1125+20.50	1136+24.00	1103.50	24	2942.7	2942.7	220.7			1.25	102.2			
	1136+24.00	1138+50.00	226.00	32 avg.	803.6	803.6	60.3			1.25	27.9			
	1138+50.00	1158+04.62	1954.62	24	5212.3	5212.3	390.9			1.25	181.0			
	1158+04.62	1159+04.62	100.00	30 avg.	333.3	333.3	25.0			1.25	11.6			
	1159+04.62	1161+25.00	220.38	36	881.5	881.5	66.1			1.25	30.6			
	1161+25.00	1162+36.24	111.24	47.25	584.0	584.0	43.8			1.25	20.3			
	1162+36.24	1163+62.24	126.00	31 avg.	434.0	434.0	32.6			1.25	15.1			
	1163+62.24	1168+49.88	487.64	24	1300.4	1300.4	97.5			1.25	45.2			
	1168+49.88	1169+13.24	63.36	39.25avg.	276.3	276.3	20.7			1.25	9.6			
	1169+13.24	1172+00.00	286.76	36	1147.0	1147.0	86.0			1.25	39.8			
	1172+00.00	1174+25.00	225.00	30 avg.	750.0	750.0	56.3			1.25	26.0			
	1174+25.00	1207+19.81	3294.81	24	8786.2	8786.2	659.0			1.25	305.1			
BRIDGE NO. HAS-22-2283														
	1209+44.81	1232+00.00	2255.19	24	6013.8	6013.8	451.0			1.25	208.8			
	1232+00.00	1234+25.00	225.00	30 avg.	750.0	750.0	56.3			1.25	26.0			
	1234+25.00	1235+60.85	135.85	45.5 avg.	686.8	686.8	51.5			1.25	23.8			
	1235+60.85	1236+86.85	126.00	29.25avg.	409.5	409.5	30.7			1.25	14.2			
	1236+86.85	1248+51.47	1164.62	24	3105.7	3105.7	232.9			1.25	107.8			
BRIDGE NO. HAS-22-2362														
	1249+82.03	1258+25.00	842.97	24	2247.9	2247.9	168.6			1.25	78.1			
	1258+25.00	1259+35.65	110.65	39.25avg.	482.6	482.6	36.2			1.25	16.8			
	1259+35.65	1263+25.00	389.35	36	1557.4	1557.4	116.8			1.25	54.1			
	1263+25.00	1266+75.00	350.00	30 avg.	1166.7	1166.7	87.5			1.25	40.5			
	1266+75.00	1300+48.74	3373.74	24	8996.6	8996.6	674.7			1.25	312.4			
BRIDGE NO. HAS-22-2460														
	1301+80.78	1303+00.00	119.22	24	317.9	317.9	23.8			1.25	11.0			
	1303+00.00	1304+00.00	100.00	32.7 avg.	363.3	363.3	27.2			1.25	12.6			
	1304+00.00	1305+25.00	125.00	44.7 avg.	620.8	620.8	46.6			1.25	21.6			
	1305+25.00	1334+03.75	2878.75	24	7676.7	7676.7	575.8			1.25	266.6			
TOTALS – CARRIED TO SHEET NO. 16.						147,370.2	11,052.9				5117.3			

RESURFACING CALCULATIONS

U.S. 22 EASTBOUND SHOULDER RESURFACING QUANTITIES

QUANTITIES		FHWA REGION	STATE	PROJECT	
Calc. SHG	Chkd. RDA	5	OHIO		
Date: 9-7-89	Date: 1-11-90				

HAS-22-15.03

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LOCATION	STATION FROM	STATION TO	LENGTH LIN.FT.	WIDTH LIN.FT.	AREA SQ.YD.		254 PAVEMENT PLANING, BITUMINOUS SQ. YD.	407 TACK COAT @ 0.075 GAL./S.Y. GAL.	446		446 THICKNESS INCH	446 ASPHALT CONCRETE SURFACE COURSE TYPE I CU. YD.			REMARKS
	796+50.00	807+89.02	1139.02	8	1012.5	RT	1012.5	75.9			1.25	35.2			
	796+50.00	807+89.02	1139.02	8	1012.5	LT	1012.5	75.9			1.25	35.2			
	807+89.02	835+00.00	2710.98	8	2409.8	RT	2409.8	180.7			1.25	83.7			
	835+00.00	836+00.00	100.00	7 avg.	77.8	RT	77.8	5.8			1.25	2.7			
	836+00.00	837+87.00	187.00	6	124.7	RT	124.7	9.4			1.25	4.3			
	838+65.00	867+00.00	2835.00	8	2520.0	RT	2520.0	189.0			1.25	87.5			
	867+00.00	868+00.00	100.00	7 avg.	77.8	RT	77.8	5.8			1.25	2.7			
	868+00.00	871+60.46	360.46	6	240.3	RT	240.3	18.0			1.25	8.3			
	872+32.46	877+00.00	467.54	8	415.6	RT	415.6	31.2			1.25	14.4			
	877+00.00	877+28.16	28.16	6 avg.	18.8	RT	18.8	1.4			1.25	0.7			
	877+28.16	882+00.00	471.84	6	314.6	RT	314.6	23.6			1.25	10.9			
	882+00.00	884+25.00	225.00	7 avg.	175.0	RT	175.0	13.1			1.25	6.1			
	884+25.00	909+39.91	2514.91	8	2235.5	RT	2235.5	167.7			1.25	77.6			
BRIDGE NO. HAS-22-1717															
	911+25.79	920+76.73	950.94	8	845.3	RT	845.3	63.4			1.25	29.4			
BRIDGE NO. HAS-22-1738															
	922+08.29	926+10.86	402.57	8	357.8	RT	357.8	26.8			1.25	12.4			
BRIDGE NO. HAS-22-1749															
	927+48.09	928+42.27	94.18	8	83.7	RT	83.7	6.3			1.25	2.9			
BRIDGE NO. HAS-22-1753															
	929+37.05	931+50.00	212.05	8	188.5	RT	188.5	14.1			1.25	6.5			
	932+21.45	935+76.00	354.55	8	315.2	RT	315.2	23.6			1.25	10.9			
	935+76.00	936+31.77	55.77	14 avg.	86.8	RT	86.8	6.5			1.25	3.0			
	936+31.77	973+85.00	3753.23	8	3336.2	RT	3336.2	250.2			1.25	115.8			
	974+50.00	1018+79.00	4429.00	8	3936.9	RT	3936.9	295.3			1.25	136.7			
	1019+46.00	1085+63.00	6617.00	8	5881.8	RT	5881.8	441.1			1.25	204.2			
	1086+20.00	1123+71.57	3751.57	8	3334.7	RT	3334.7	250.1			1.25	115.8			
BRIDGE NO. HAS-22-2126															
	1125+20.50	1132+90.00	769.50	8	684.0	RT	684.0	51.3			1.25	23.8			
	1133+50.00	1162+36.24	2886.24	8	2565.5	RT	2565.5	192.4			1.25	89.1			
	1163+23.00	1168+00.00	477.00	8	424.0	RT	424.0	31.8			1.25	14.7			
	1168+00.00	1168+49.88	49.88	14 avg.	77.6	RT	77.6	5.8			1.25	2.7			
	1168+49.88	1207+52.78	3902.90	8	3469.2	RT	3469.2	260.2			1.25	120.5			
BRIDGE NO. HAS-22-2283															
	1209+85.74	1235+60.85	2575.11	8	2289.0	RT	2289.0	171.7			1.25	79.5			
	1236+38.85	1248+55.01	1216.16	8	1081.0	RT	1081.0	81.1			1.25	37.5			
BRIDGE NO. HAS-22-2362															
	1249+85.57	1257+00.00	714.43	8	635.0	RT	635.0	47.6			1.25	22.0			
	1257+00.00	1258+25.00	125.00	14 avg.	194.4	RT	194.4	14.6			1.25	6.8			
	1258+25.00	1300+41.70	4216.70	8	3748.2	RT	3748.2	281.1			1.25	130.1			
BRIDGE NO. HAS-22-2460															
	1301+76.30	1305+55.00	378.70	8	336.6	RT	336.6	25.2			1.25	11.7			
	1306+45.00	1332+80.00	2635.00	8	2342.2	RT	2342.2	175.7			1.25	81.3			
	1333+60.00	1334+03.75	43.75	8	38.9	RT	38.9	2.9			1.25	1.4			
	809+90.00	837+69.00	2779.00	4	1235.1	LT	1235.1	92.6			1.25	42.9			
	838+20.00	909+39.91	7119.91	4	3164.4	LT	3164.4	237.3			1.25	109.9			
BRIDGE NO. HAS-22-1717															
	911+25.79	920+67.55	941.76	4	418.6	LT	418.6	31.4			1.25	14.5			
BRIDGE NO. HAS-22-1738															
	921+99.11	926+51.92	452.81	4	201.2	LT	201.2	15.1			1.25	7.0			
BRIDGE NO. HAS-22-1749															
	927+67.09	928+53.24	86.15	4	38.3	LT	38.3	2.9			1.25	1.3			
BRIDGE NO. HAS-22-1753															
	929+48.02	973+17.50	4369.48	4	1942.0	LT	1942.0	145.7			1.25	67.4			
	974+53.00	998+00.00	2347.00	4	1043.1	LT	1043.1	78.2			1.25	36.2			
	1138+50.00	1139+25.00	75	6 avg.	50.0	LT	50.0	3.8			1.25	1.7			
	1139+25.00	1207+14.93	6789.93	4	3017.7	LT	3017.7	226.3			1.25	104.8			
BRIDGE NO. HAS-22-2283															
	1209+47.89	1248+50.24	3902.35	4	1734.4	LT	1734.4	130.1			1.25	60.2			
BRIDGE NO. HAS-22-2362															
	1249+80.80	1300+38.99	5058.19	4	2248.1	LT	2248.1	168.6			1.25	78.1			
BRIDGE NO. HAS-22-2460															
	1301+71.03	1305+93.62	422.59	4	187.8	LT	187.8	14.1			1.25	6.5			
	1307+18.00	1333+10.65	2592.65	4	1152.3	LT	1152.3	86.4			1.25	40.0			
	1333+72.94	1334+03.75	30.81	4	13.7	LT	13.7	1.0			1.25	0.5			
TOTALS — CARRIED TO SHEET NO. 16.							63,334.1	4,749.8				2199.0			

RESURFACING CALCULATIONS

U.S. 22 WESTBOUND PAVEMENT RESURFACING QUANTITIES

QUANTITIES	
Calc. TDH	Chkd. RDA
Date: 10-23-89	Date: 1-11-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

11/115

LOCATION	STATION FROM	STATION TO	LENGTH	WIDTH	AREA	254 PAVEMENT PLANING, BITUMINOUS	407 TACK COAT @ 0.075 GAL./S.Y.	446		446 THICKNESS	446 ASPHALT CONCRETE SURFACE COURSE TYPE I	202 WEARING COURSE REMOVED	SPECIAL GRINDING PORTLAND CEMENT	REMARKS
	FROM	TO	LIN.FT.	LIN.FT.	SQ.YD.	SQ. YD.	GAL.			INCH	CU. YD.	SQ. YD.	SQ. YD.	
	807+89.02	814+64.19	675.17	19 avg.	1425.4	1425.4	106.9			1.25	49.5			
	814+64.19	868+50.00	5385.81	24	14362.2	14362.2	1077.2			1.25	498.7			
	868+50.00	870+25.00	175.00	30 avg.	583.3	583.3	43.7			1.25	20.3			
	870+25.00	873+85.00	360.00	36	1440.0	1440.0	108.0			1.25	50.0			
	873+85.00	874+20.81	35.81	39.25avg.	156.2	156.2	11.7			1.25	5.4			
	874+20.81	888+07.42	1386.61	24	3697.6	3697.6	277.3			1.25	128.4			
	888+07.42	889+33.42	126.00	29.25avg.	409.5	409.5	30.7			1.25	14.2			
	889+33.42	893+75.00	441.58	47 avg.	2306.0	2306.0	173.0			1.25	80.1			
	893+75.00	894+75.00	100.00	30 avg.	333.3	333.3	25.0			1.25	11.6			
	894+75.00	908+59.21	1384.21	24	3691.2	3691.2	276.8			1.25	128.2			
BRIDGE NO. HAS-22-1717														
	910+99.09	914+25.00	325.91	24	869.1	869.1	65.2			1.25	30.2			
	914+25.00	916+50.00	225.00	30 avg.	750.0	750.0	56.3			1.25	26.0			
	916+50.00	918+25.00	175.00	36	700.0	700.0	52.5			1.25	24.3			
	918+25.00	918+96.08	71.08	39.25avg.	310.0	310.0	23.3			1.25	10.8			
	918+96.08	920+54.52	158.44	24	422.5	422.5	31.7			1.25	14.7			
BRIDGE NO. HAS-22-1738														
	921+86.08	924+07.19	221.11	24	589.6	589.6	44.2			1.25	20.5			
	924+07.19	925+33.19	126.00	29.25avg.	409.5	409.5	30.7			1.25	14.2			
	925+33.19	926+50.09	116.90	47 avg.	610.5	610.5	45.8			1.25	21.2			
BRIDGE NO. HAS-22-1749														
	927+87.37	928+68.81	81.44	36	325.8	325.8	24.4			1.25	11.3			
BRIDGE NO. HAS-22-1753														
	929+63.59	930+00.00	36.41	36	145.6	145.6	10.9			1.25	5.1			
	930+00.00	931+00.00	100.00	30 avg.	333.3	333.3	25.0			1.25	11.6			
	931+00.00	1001+50.00	7050.00	24	18800.0	18800.0	1410.0			1.25	652.8			
	1001+50.00	1001+98.57	48.57	23	124.1	124.1	9.3			1.25	4.3			
	1138+50.00	1146+10.39	760.39	19 avg.	1605.3	1605.3	120.4			1.25	55.7			
	1146+10.39	1153+75.00	764.61	24	2039.0	2039.0	152.9			1.25	70.8			
	1153+75.00	1156+00.00	225.00	30 avg.	750.0	750.0	56.3			1.25	26.0			
	1156+00.00	1157+70.51	170.51	39.25avg.	743.6	743.6	55.8			1.25	25.8			
	1157+70.51	1162+50.48	479.97	24	1279.9	1279.9	96.0			1.25	44.4			
	1162+50.48	1163+76.48	126.00	29.25avg.	409.5	409.5	30.7			1.25	14.2			
	1163+76.48	1167+92.55	416.07	47 avg.	2172.8	2172.8	163.0			1.25	75.4			
	1167+92.55	1169+00.00	107.45	30 avg.	358.2	358.2	26.9			1.25	12.4			
	1169+00.00	1206+61.20	3761.20	24	10029.9	10029.9	752.2			1.25	348.3			
BRIDGE NO. HAS-22-2283														
	1208+93.30	1228+00.00	1906.70	24	5084.5	5084.5	381.3			1.25	176.6			
	1228+00.00	1231+50.00	350.00	30 avg.	1166.7	1166.7	87.5			1.25	40.5			
	1231+50.00	1235+57.53	407.53	36	1630.1	1630.1	122.3			1.25	56.6			
	1235+57.53	1236+69.60	112.07	39.25avg.	488.7	488.7	36.7			1.25	17.0			
	1236+69.60	1248+43.47	1173.87	24	3130.3	3130.3	234.8			1.25	108.7			
BRIDGE NO. HAS-22-2362														
	1249+74.03	1255+13.15	539.12	24	1437.7	1437.7	107.8			1.25	49.9			
	1255+13.15	1256+39.15	126.00	29.25avg.	409.5	409.5	30.7			1.25	14.2			
	1256+39.15	1260+00.00	360.85	41 avg.	1643.9	1643.9	123.3			1.25	57.1			
	1260+00.00	1262+03.90	203.90	24	543.7	543.7	40.8			1.25	18.9			
	1262+03.90	1262+65.15	61.25	24	163.3	163.3	12.2			1.25	5.7			
FEATHER	1262+65.15	1263+08.90	43.75	24	116.7	----	8.8			0.63avg	2.0	116.7		
	1263+08.90	1300+35.89	3726.99	24	9938.6								9938.6	
BRIDGE NO. HAS-22-2460														
	1301+67.93	1307+02.23	534.30	24	1424.8								1424.8	
	1307+02.23	1308+02.23	100.00	36	400.0								400.0	
	1308+02.23	1310+50.23	248.00	30 avg.	826.7								826.7	
	1310+50.23	1332+37.93	2187.70	24	5833.9								5833.9	
	1332+37.93	1332+98.75	60.82	30 avg.	202.7								202.7	
TOTALS - CARRIED TO SHEET NO. 16.						87,881.3	6,599.9				3,053.6	116.7	18,626.7	

RESURFACING CALCULATIONS

U.S. 22 WESTBOUND SHOULDER RESURFACING QUANTITIES

QUANTITIES			
Calc. SHG	Chkd. RDA		
Date: 9-7-89	Date: 1-12-90		

FHWA REGION	STATE	PROJECT	
5	OHIO		

12/115

HAS-22-15.03

* LENGTH x 73 LBS. ÷ 100 L.F.

LOCATION	STATION FROM	STATION TO	LENGTH	WIDTH	AREA		254 PAVEMENT PLANING, BITUMINOUS	407 TACK COAT @ 0.075 GAL./S.Y.	446		446 THICKNESS	446 ASPHALT CONCRETE SURFACE COURSE TYPE I		SPECIAL JOINT SEALING BETWEEN RIGID PAVEMENT AND FLEXIBLE SHOULDER *	REMARKS
	FROM	TO	LIN.FT.	LIN.FT.	SQ.YD.		SQ. YD.	GAL.			INCH	CU. YD.		LBS.	
	807+89.02	874+20.81	6631.79	8	5894.9	LT	5894.9	442.1			1.25	204.7			
	874+20.81	875+00.00	79.19	14 avg.	123.2	LT	123.2	9.2			1.25	4.3			
	875+00.00	888+70.23	1370.23	8	1218.0	LT	1218.0	91.4			1.25	42.3			
	889+33.42	908+59.21	1925.79	8	1711.8	LT	1711.8	128.4			1.25	59.4			
BRIDGE NO. HAS-22-1717															
	911+99.09	918+96.00	696.91	8	619.5	LT	619.5	46.5			1.25	21.5			
	918+96.00	919+50.00	54.00	14 avg.	84.0	LT	84.0	6.3			1.25	2.9			
	919+50.00	920+47.70	97.70	8	86.8	LT	86.8	6.5			1.25	3.0			
BRIDGE NO. HAS-22-1738															
	921+79.27	925+33.19	353.92	8	314.6	LT	314.6	23.6			1.25	10.9			
	925+33.19	925+88.42	55.23	14 avg.	85.9	LT	85.9	6.4			1.25	3.0			
	925+88.42	926+70.92	82.50	8	73.3	LT	73.3	5.5			1.25	2.5			
BRIDGE NO. HAS-22-1749															
	928+08.15	928+76.95	68.80	8	61.2	LT	61.2	4.6			1.25	2.1			
BRIDGE NO. HAS-22-1753															
	929+71.73	973+60.00	4388.27	8	3900.7	LT	3900.7	292.6			1.25	135.4			
	974+50.00	1019+48.00	4498.00	8	3998.2	LT	3998.2	299.9			1.25	138.8			
	1020+00.00	1085+70.00	6570.00	8	5840.0	LT	5840.0	438.0			1.25	202.8			
	1086+23.00	1117+48.00	3125.00	8	2777.8	LT	2777.8	208.3			1.25	96.5			
	1118+15.00	1123+78.52	563.52	8	500.9	LT	500.9	37.6			1.25	17.4			
BRIDGE NO. HAS-22-2126															
	1125+27.45	1133+02.00	774.55	8	688.5	LT	688.5	51.6			1.25	23.9			
	1133+50.00	1157+70.51	2420.51	8	2151.6	LT	2151.6	161.4			1.25	74.7			
	1157+70.51	1158+50.00	79.49	14 avg.	123.7	LT	123.7	9.3			1.25	4.3			
	1158+50.00	1163+14.23	464.23	8	412.6	LT	412.6	30.9			1.25	14.3			
	1163+76.48	1206+33.12	4256.64	8	3783.7	LT	3783.7	283.8			1.25	131.4			
BRIDGE NO. HAS-22-2283															
	1208+66.08	1236+69.60	2803.52	8	2492.0	LT	2492.0	186.9			1.25	86.5			
	1236+69.60	1237+50.00	80.40	14 avg.	125.1	LT	125.1	9.4			1.25	4.3			
	1237+50.00	1248+39.93	1089.93	8	968.8	LT	968.8	72.7			1.25	33.6			
BRIDGE NO. HAS-22-2362															
	1249+70.49	1255+61.15	590.66	8	525.0	LT	525.0	39.4			1.25	18.2			
	1256+39.15	1262+03.90	564.75	8	502.0	LT	502.0	37.7			1.25	17.4			
BRIDGE NO. HAS-22-2460															
	814+64.19	837+19.00	2254.81	4	1002.1	RT	1002.1	75.2			1.25	34.8			
	838+40.00	908+70.96	7030.96	4	3124.9	RT	3124.9	234.4			1.25	108.5			
BRIDGE NO. HAS-22-1717															
	911+10.84	920+56.90	946.06	4	420.5	RT	420.5	31.5			1.25	14.6			
BRIDGE NO. HAS-22-1738															
	921+88.45	926+51.92	463.47	4	206.0	RT	206.0	15.5			1.25	7.2			
BRIDGE NO. HAS-22-1749															
	927+89.15	928+65.98	76.83	4	34.2	RT	34.2	2.6			1.25	1.2			
BRIDGE NO. HAS-22-1753															
	929+60.76	973+70.00	4409.24	4	1959.7	RT	1959.7	147.0			1.25	68.0			
	974+99.00	998+00.00	2301.00	4	1022.7	RT	1022.7	76.7			1.25	35.5			
	1145+15.00	1206+70.97	6155.97	4	2736.0	RT	2736.0	205.2			1.25	95.0			
BRIDGE NO. HAS-22-2283															
	1209+03.93	1248+44.70	3940.77	4	1751.5	RT	1751.5	131.4			1.25	60.8			
BRIDGE NO. HAS-22-2362															
	1249+75.76	1263+08.90	1333.14	4	592.5	RT	592.5	44.4			1.25	20.6			
BRIDGE NO. HAS-22-2460															
	1263+08.90	1300+32.12	3723.22	8	3309.5	LT	3309.5	248.2			1.25	114.9		2718.0	
	1301+64.16	1306+36.36	472.20	8	419.7	LT	419.7	31.5			1.25	14.6		344.7	
	1307+14.05	1332+98.75	2584.70	8	2297.5	LT	2297.5	172.3			1.25	79.8		1886.8	
	1263+08.90	1300+38.99	3730.09	4	1657.8	RT	1657.8	124.3			1.25	57.6		2723.0	
	1301+71.03	1305+20.43	349.40	4	155.3	RT	155.3	11.6			1.25	5.4		255.1	
	1307+20.00	1332+98.75	2578.75	4	1146.1	RT	1146.1	86.0			1.25	39.8		1882.5	
TOTALS - CARRIED TO SHEET NO. 16.							60,899.8	4567.8				2114.4		9,810.1	

RESURFACING CALCULATIONS

U.S. 22 RAMP RESURFACING QUANTITIES

QUANTITIES	
Calc. TDM	Chkd. RDA
Date: 10-25-89	Date: 1-12-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

13/115

HAS-22-15.03

LOCATION	STATION FROM	STATION TO	LENGTH	WIDTH	AREA		254 PAVEMENT PLANING, BITUMINOUS	407 TACK COAT @ 0.075 GAL./S.Y.	446		446 THICKNESS	446 ASPHALT CONCRETE SURFACE COURSE TYPE I	202 WEARING COURSE REMOVED		REMARKS
	FROM	TO	LIN.FT.	LIN.FT.	SQ.YD.		SQ. YD.	GAL.			INCH	CU. YD.	SQ. YD.		
	U.S. 250 INTERCHANGE														
RAMP 'C'	3+54.30	4+29.66	75.36	19 avg.	159.1		159.1	11.9			1.25	5.5			
	4+29.66	4+39.66	10.00	16.75avg.	18.6		18.6	1.4			1.25	0.6			
	4+39.66	8+94.88	455.22	16	809.3		809.3	60.7			1.25	28.1			
	8+94.88	9+60.88	66.00	17	124.7		124.7	9.4			1.25	4.3			
RAMP 'D'	506+32.53 US 250	509+42.96 US 250	310.43	27 avg.	931.3		931.3	69.8			1.25	32.3			
	0+00.00	2+21.73	221.73	33.5 avg.	825.3		825.3	61.9			1.25	28.7			
	2+21.73	4+24.00	205.91	34	777.9		777.9	58.3			1.25	27.0			ADJUSTED ARC LENGTH
	4+24.00	8+18.89	402.00	17	759.4		759.4	57.0			1.25	26.4			ADJUSTED ARC LENGTH
	8+18.89	9+18.89	100.82	16 avg.	179.2		179.2	13.4			1.25	6.2			ADJUSTED ARC LENGTH
RAMP 'B'	3+43.07	4+43.07	100.00	16 avg.	177.8		177.8	13.3			1.25	6.2			
	4+43.07	4+53.07	10.00	16.75avg.	18.6		18.6	1.4			1.25	0.6			
	4+53.07	7+75.00	321.93	16	572.3		572.3	42.9			1.25	19.9			
	7+75.00	8+00.00	25.00	25 avg.	69.4		69.4	5.2			1.25	2.4			
	8+00.00	11+71.61	371.61	34	1403.9		1403.9	105.3			1.25	48.7			
INTERSECTION RAMP 'B' W/U.S. 250	AREAS FROM SHEET NO. 56.				146		146	11.0			1.25	5.1			
					355		---	26.6			0.63 avg.	6.2	355		
INTERSECTION RAMP 'A' W/U.S. 250	AREAS FROM SHEET NO. 56.				165		---	12.4			0.63 avg.	2.9	165		
					62		62	4.7			1.25	2.2			
RAMP 'A'	0+60.50	5+49.49	488.99	16	869.3		869.3	65.2			1.25	30.2			
	5+49.49	5+59.49	10.00	16.75avg.	18.6		18.6	1.4			1.25	0.6			
	5+59.49	6+59.49	100.00	19 avg.	211.1		211.1	15.8			1.25	7.3			
RAMP 'F'	S.R. 9 INTERCHANGE														
	2+43.72	3+50.76	107.04	16.9 avg.	201.0		201.0	15.1			1.25	7.0			
	3+50.76	3+75.76	25.00	19.33	53.7		53.7	4.0			1.25	1.9			
	BRIDGE RAMP 'F'														
	5+07.58	8+20.28	312.70	16	555.9		555.9	41.7			1.25	19.3			
	8+20.28	8+30.28	10.00	16.5 avg.	18.4		18.4	1.4			1.25	0.6			
	8+30.28	9+30.28	100.00	17	188.9		188.9	14.2			1.25	6.6			
INTERSECTION RAMP 'E' W/S.R. 9	AREAS FROM SHEET NO.				239		---	17.9			0.63 avg.	4.2	239		
					100		100	7.5			1.25	3.5			
RAMP 'E'	0+56.10	2+32.43	176.33	34	666.1		666.1	50.0			1.25	23.1			
	2+32.43	6+82.09	476.43	34	1799.8		1799.8	135.0			1.25	62.5			ADJUSTED ARC LENGTH
	6+82.09	10+98.69	429.00	17	810.3		810.3	60.8			1.25	28.1			ADJUSTED ARC LENGTH
	10+98.69	11+98.69	103.23	19 avg.	217.9		217.9	16.3			1.25	7.6			ADJUSTED ARC LENGTH
RAMP 'G'	5+69.09	6+69.09	104.15	19 avg.	219.9		219.9	16.5			1.25	7.6			ADJUSTED ARC LENGTH
	6+69.09	9+95.00	338.35	17	639.1		639.1	47.9			1.25	22.2			ADJUSTED ARC LENGTH
	9+95.00	13+23.80	353.91	34	1337.0		1337.0	100.3			1.25	46.4			ADJUSTED ARC LENGTH
	13+23.80	14+97.72	173.92	34	657.0		657.0	49.3			1.25	22.8			
	BRIDGE RAMP 'G'														
	15+72.28	16+79.20	106.92	34	403.9		403.9	30.3			1.25	14.0			
INTERSECTION RAMP 'G' W/S.R. 9	AREAS FROM SHEET NO. 61.				355		---	26.6			0.63 avg.	6.2	355		
					459		459	34.4			1.25	15.9			
RAMP 'H'	0+00.00	0+78.00	78.00	17	147.3		147.3	11.1			1.25	5.1			
	0+78.00	3+48.49	270.50	16	480.9		480.9	36.1			1.25	16.7			
	3+48.49	3+58.49	10.00	16.5 avg.	18.4		18.6	1.4			1.25	0.6			
	3+58.49	5+30.05	177.55	16 avg.	315.6		315.6	23.7			1.25	11.0			ADJUSTED ARC LENGTH
TOTALS — CARRIED TO SHEET NO. 16.							17,423.9	1,390.5				624.3	1,114		

RESURFACING CALCULATIONS

U.S. 22 RAMP RESURFACING QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH LIN.FT.	WIDTH LIN.FT.	AREA SQ.YD.	254 PAVEMENT PLANING, BITUMINOUS SQ. YD.	407 TACK COAT @ 0.075 GAL./S.Y. GAL.	446 THICKNESS INCH	446 ASPHALT CONCRETE SURFACE COURSE TYPE 1 CU. YD.	202 WEARING COURSE REMOVED SQ. YD.	REMARKS
	S.R. 151 WEST	INTERCHANGE									
RAMP 'K'	1+75.00	2+74.29	102.76	16 avg.	182.7	182.7	13.7	1.25	6.3		ADJUSTED ARC LENGTH
	2+74.29	2+84.29	10.37	16.75avg.	19.3	19.3	1.4	1.25	0.7		ADJUSTED ARC LENGTH
	2+84.29	5+90.00	316.38	16	562.5	562.5	42.2	1.25	19.5		ADJUSTED ARC LENGTH
	5+90.00	6+00.00	10.37	16.5 avg.	19.0	19.0	1.4	1.25	0.7		ADJUSTED ARC LENGTH
	6+00.00	6+82.18	85.23	17	161.0	161.0	12.1	1.25	5.6		ADJUSTED ARC LENGTH
	6+82.18	10+62.57	411.10	34	1553.0	1553.0	116.5	1.25	53.9		ADJUSTED ARC LENGTH
	10+62.57	12+60.71	198.14	34	770.5	770.5	57.8	1.25	26.8		
INTERSECTION RAMP 'K' W/S.R. 151	AREAS	FROM SHEET	NO.		274	—	20.6	0.63 avg.	4.8	274	
					100	100	7.5	1.25	3.5		
RAMP 'J'	0+00.00	0+62.00	62.00	17	117.1	117.1	8.8	1.25	4.1		
	0+62.00	5+37.24	475.24	16	844.9	844.9	63.4	1.25	29.3		
	5+37.24	5+47.24	10.00	16.75avg.	18.6	18.6	1.4	1.25	0.6		
	5+47.24	6+46.81	103.37	17.5	201.0	201.0	15.1	1.25	7.0		ADJUSTED ARC LENGTH
RAMP 'L'	3+17.35	4+17.35	104.15	19 avg.	219.9	219.9	16.5	1.25	7.6		ADJUSTED ARC LENGTH
	4+17.35	4+27.35	10.37	16.75avg.	19.3	19.3	1.4	1.25	0.7		ADJUSTED ARC LENGTH
	4+27.35	6+65.00	245.95	16	437.2	437.2	32.8	1.25	15.2		ADJUSTED ARC LENGTH
	6+65.00	6+75.00	10.37	16.75avg.	19.3	19.3	1.4	1.25	0.7		ADJUSTED ARC LENGTH
	6+75.00	7+16.12	42.69	17.5	83.0	83.0	6.2	1.25	2.9		ADJUSTED ARC LENGTH
INTERSECTION RAMP 'L' W/S.R. 151	AREAS	FROM SHEET	NO.		110		8.3	0.63 avg.	1.9	110	
					34	34	2.6	1.25	1.2		
INTERSECTION RAMP 'M' W/S.R. 151	AREAS	FROM SHEET	NO.		212	—	15.9	0.63 avg.	3.7	212	
					74	74	5.6	1.25	2.6		
RAMP 'M'	0+82.05	0+92.05	10.00	16.75avg.	18.6	18.6	1.4	1.25	0.6		
	0+92.05	4+63.68	371.63	16	660.7	660.7	49.6	1.25	22.9		
	4+63.68	4+73.68	10.00	16.75avg.	18.6	18.6	1.4	1.25	0.6		
	4+73.68	6+15.02	146.27	16 avg.	260.0	260.0	19.5	1.25	9.0		ADJUSTED ARC LENGTH
	S.R. 151 EAST	INTERCHANGE									
RAMP 'N'	5+18.17	6+18.17	100.00	16 avg.	177.8	177.8	13.3	1.25	6.2		
	6+18.17	6+28.17	10.00	16.75avg.	18.6	18.6	1.4	1.25	0.6		
	6+28.17	16+98.30	1070.13	16	1902.5	1902.5	142.7	1.25	66.1		
RAMP 'N' INTERSECTION S.R. 151	AREAS	FROM SHEET	NO. 59		181	—	13.6	0.63 avg.	3.2	181	
					59	59	4.4	1.25	2.0		
RAMP 'Q'	3+58.89	4+58.89	100.00	19 avg.	211.1	211.1	15.8	1.25	7.3		
	4+58.89	4+68.89	10.00	16.75avg.	18.6	18.6	1.4	1.25	0.6		
	4+68.89	17+00.20	1231.3	16	2189.0	2189.0	164.2	1.25	76.0		
RAMP 'Q' INTERSECTION S.R. 151	AREAS	FROM SHEET	NO. 59		161	—	12.1	0.63 avg.	2.8	161	
					55	55	4.1	1.25	1.9		
RAMP 'S' INTERSECTION S.R. 151	AREAS	FROM SHEET	NO. 59		141		10.6	0.63 avg.	2.5	141	
					27	27	2.0	1.25	0.9		
RAMP 'S'	0+52.00	6+34.38	582.40	16	1035.4	1035.4	77.7	1.25	36.0		
	6+34.38	6+44.38	10.00	16.75avg.	18.6	18.6	1.4	1.25	0.6		
	6+44.38	7+44.38	100.00	19 avg.	211.1	211.1	15.8	1.25	7.3		
RAMP 'T' INTERSECTION S.R. 151	AREAS	FROM SHEET	NO. 59		296	—	22.2	0.63 avg.	5.2	296	
					52	52	3.9	1.25	1.8		
RAMP 'T'	0+83.90	7+70.23	686.33	16	1220.1	1220.1	91.5	1.25	42.4		
	7+70.23	7+80.23	10.00	16.75avg.	18.6	18.6	1.4	1.25	0.6		
	7+80.23	8+80.23	100.00	16 avg.	177.8	177.8	13.3	1.25	6.2		
TOTALS — CARRIED TO SHEET NO. 16.						13,786.4	1,137.3		502.6	1,375	

U.S. 22 RAMP SHOULDER RESURFACING QUANTITIES

QUANTITIES	
Calc. TDM	Chkd. RDA
Date: 10-27-89	Date: 1-16-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

15/115

HAS-22-15.03

LOCATION	STATION FROM	STATION TO	LENGTH	WIDTH	AREA		254 PAVEMENT PLANING, BITUMINOUS	407 TACK COAT @ 0.075 GAL./S.Y.	446		THICKNESS	ASPHALT CONCRETE SURFACE COURSE TYPE I			REMARKS
	FROM	TO	LIN.FT.	LIN.FT.	SQ.YD.		SQ. YD.	GAL.			INCH	CU. YD.			
RAMP 'A' SHOULDERS	0+6.50	5+59.49	552.99	3	184.3	RT	184.3	13.8			1.25	6.4			
	0+6.50	5+59.49	552.99	6	368.7	LT					1.25	12.8			
	5+59.49	6+59.49	100.00	7 avg.	77.8	LT					1.25	2.7			
RAMP 'B' SHOULDERS	4+43.07	11+71.61	728.54	3	242.8	RT	242.8	18.2			1.25	8.4			
	3+43.07	3+83.07	40.00	7 avg.	31.1	LT	31.1	2.3			1.25	1.1			
	3+83.07	7+25.00	341.93	6	228.0	LT					1.25	7.9			
	8+15.00	11+71.61	356.61	6	237.7	LT					1.25	8.3			
RAMP 'C' SHOULDERS	3+54.30	4+54.30	100.00	7 avg.	77.8	RT					1.25	2.7			
	4+54.30	9+60.88	506.58	6	337.7	RT					1.25	11.7			
	4+29.66	8+56.40	426.74	3	142.2	LT	142.2	10.7			1.25	4.9			
RAMP 'D' SHOULDERS	506+32.53	509+42.96	310.43	6	207.0	RT	207.0	15.5			1.25	7.2			
	0+00.00	2+21.73	221.73	6	147.8	RT	147.8	11.1			1.25	5.1			
	2+21.73	4+24.00	202.27	6	134.8	RT	134.8	10.1			1.25	4.7			
	4+24.00	8+78.89	454.89	6	303.3	RT					1.25	10.5			
	8+78.89	9+18.89	40.00	7 avg.	31.1	RT	31.1	2.3			1.25	1.1			
	506+32.53	507+23.00	90.47	6	60.3	LT	60.3	4.5			1.25	2.1			
	507+93.00	509+42.96	149.96	6	100.0	LT	100.00	7.5			1.25	3.5			
	0+00.00	2+21.73	221.73	6	147.8	LT	147.8	11.1			1.25	5.1			
	2+21.73	4+24.00	202.89	6	135.3	LT	135.3	10.1			1.25	4.7			ADJUSTED ARC LENGTH
	4+86.20	8+18.89	359.55	3	119.9	LT					1.25	4.2			ADJUSTED ARC LENGTH
RAMP 'E' SHOULDERS	0+56.10	10+98.69	1029.94	6	686.6	RT					1.25	23.8			ADJUSTED ARC LENGTH
	10+98.69	11+98.69	100.00	7 avg.	77.8	RT					1.25	2.7			
	7+33.40	10+98.69	388.29	3	129.4	LT					1.25	4.5			ADJUSTED ARC LENGTH
	0+56.10	6+82.09	704.47	6	469.6	RT					1.25	16.3			ADJUSTED ARC LENGTH
RAMP 'F' SHOULDERS	5+07.58	9+30.28	422.70	3	140.9	RT	140.9	10.6			1.25	4.9			
	2+43.72	2+83.72	40.00	7 avg.	31.1	LT	31.1	2.3			1.25	1.1			
	2+83.72	3+75.76	92.04	6	61.4	LT					1.25	2.1			
	5+07.58	9+30.28	422.70	6	281.8	LT					1.25	9.8			
RAMP 'H' SHOULDERS	0+78.00	3+58.49	280.49	6	187.0	LT					1.25	6.5			
	0+00.00	4+90.05	490.05	6	326.7	RT					1.25	11.3			
	4+90.05	5+30.05	40.00	7 avg.	31.1	RT	31.1	2.3			1.25	1.1			ADJUSTED ARC LENGTH
RAMP 'G' SHOULDERS	6+69.09	9+21.11	272.36	3	90.8	LT					1.25	3.2			ADJUSTED ARC LENGTH
	9+95.00	14+97.72	560.11	6	373.4	RT					1.25	13.0			
	15+72.28	17+44.44	172.16	6	114.8	RT					1.25	4.0			
	5+69.09	6+69.09	100.00	7 avg.	77.8	RT					1.25	2.7			
	6+69.09	14+97.72	818.75	6	545.8	RT					1.25	19.0			ADJUSTED ARC LENGTH
	15+72.28	17+44.44	172.16	6	114.8	RT					1.25	4.0			
RAMP 'J' SHOULDERS	0+62.00	5+47.24	485.24	3	161.7	RT	161.7	12.1			1.25	5.6			
	0+00.00	5+46.81	546.81	6	364.5	LT					1.25	12.7			
	5+46.81	6+46.81	100.00	7 avg.	77.8	LT					1.25	2.7			
RAMP 'K' SHOULDERS	2+74.29	6+00.00	353.03	3	117.7	RT	117.7	8.8			1.25	4.1			ADJUSTED ARC LENGTH
	1+75.00	2+15.00	40.00	7 avg.	31.1	LT	31.1	2.3			1.25	1.1			
	2+15.00	12+60.71	1034.79	6	689.9	LT					1.25	24.0			ADJUSTED ARC LENGTH
	6+82.18	12+60.71	644.92	6	429.9	RT					1.25	14.9			ADJUSTED ARC LENGTH
RAMP 'L' SHOULDERS	4+17.35	6+75.00	277.32	3	92.4	RT	92.4	6.9			1.25	3.2			ADJUSTED ARC LENGTH
	3+17.35	4+17.35	100.00	7 avg.	77.8	LT					1.25	2.7			
	4+17.35	7+16.12	293.55	6	195.7	LT					1.25	6.8			ADJUSTED ARC LENGTH
RAMP 'M' SHOULDERS	0+82.05	4+73.68	391.63	3	130.5	LT	130.5	9.8			1.25	4.5			
	0+82.05	5+75.02	491.12	6	327.4	RT					1.25	11.4			ADJUSTED ARC LENGTH
	5+75.02	6+15.02	40.00	7 avg.	31.1	RT	31.1	2.3			1.25	1.1			
RAMP 'N' SHOULDERS	6+18.17	16+98.30	1080.13	3	360.0	RT	360.0	27.0			1.25	12.5			
	5+18.17	5+58.17	40.00	7 avg.	31.1	LT	31.1	2.3			1.25	1.1			
	5+58.17	16+98.30	1140.13	6	760.0	LT					1.25	26.4			
RAMP 'Q' SHOULDERS	3+58.89	4+58.89	100.00	7 avg.	77.8	RT					1.25	2.7			
	4+58.89	17+00.20	1241.31	6	827.5	RT					1.25	28.7			
	4+58.89	17+00.20	1241.31	3	413.8	LT	413.8	31.0			1.25	14.4			
RAMP 'S' SHOULDERS	0+52.00	6+44.38	592.38	6	394.9	LT					1.25	13.7			
	6+44.38	7+44.38	100.00	7 avg.	77.8	LT					1.25	2.7			
	0+52.00	6+44.38	592.38	3	197.5	RT	197.5	14.8			1.25	6.9			
RAMP 'T' SHOULDERS	0+83.90	7+80.23	696.33	3	232.1	LT	232.1	17.4			1.25	8.1			
	0+83.90	8+40.23	756.33	6	504.2	RT					1.25	17.5			
	8+40.23	8+80.23	40.00	7 avg.	31.1	RT	31.1	2.3			1.25	1.1			
TOTALS — CARRIED TO SHEET NO. 16.							3597.7	269.4				475.7			

RESURFACING CALCULATIONS

QUANTITIES	
Calc. TDM	Chkd. RDA
Date: 10-26-89	Date: 1-16-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

16/115

HAS-22-15.03

U.S. 22 INTERSECTION AND CROSSOVER RESURFACING QUANTITIES & RESURFACING SUMMARY

LOCATION (INTERSECTIONS & CROSSOVERS)	FOR PLANIMETERED AREAS SEE SHEET NO.				AREA		254	407	446			202	SPECIAL	825	REMARKS
							PAVEMENT PLANING, BITUMINOUS	TACK COAT @ 0.075 GAL./S.Y.			THICKNESS	ASPHALT CONCRETE SURFACE COURSE TYPE I	WEARING COURSE REMOVED	GRINDING PORTLAND CEMENT CONCRETE PAVEMENT	JOINT SEALING BETWEEN RIGID PAV'T & FLEXIBLE SHOULDER TYPE 1	
					SQ.YD.		SQ. YD.	GAL.			INCH	CU. YD.	SQ. YD.	SQ. YD.	POUND	
C.R. 29 CROSSOVER	57				352		352	26.4			1.25	12.2				
C.R. 29	57				290		290	21.8			1.25	10.1				
					58			4.4			0.63 avg.	1.0	58			
RAMP 'B' & C.R. 2 (NORTH)	56				97		97	7.3			1.25	3.4				
					37			2.8			0.63 avg.	0.6	37			
U.S. 250 & C.R. 2 (SOUTH)	56				92		92	6.9			1.25	3.2				
					37			2.8			0.63 avg.	0.6	37			
MOORE RD. (NORTH)	57				114		114	8.6			1.25	4.0				
					37			2.8			0.63 avg.	0.6	37			
MOORE RD. (CROSSOVER)	57				499		499	37.4			1.25	17.3				
MOORE RD. (SOUTH)	57				113		113	8.5			1.25	3.9				
					39			2.9			0.63 avg.	0.7	39			
C.R. 51 (NORTH)	58				157		157	11.8			1.25	5.5				
					62			4.7			0.63 avg.	1.1	62			
C.R. 51 (SOUTH)	58				129		129	9.7			1.25	4.5				
					45			3.4			0.63 avg.	0.8	45			
C.R. 13 (NORTH)	58				107		107	8.0			1.25	3.7				
					35			2.6			0.63 avg.	0.6	35			
C.R. 13 (SOUTH)	58				113		113	8.5			1.25	3.9				
					37			2.8			0.63 avg.	0.6	37			
TWP. RD. 60	58				110		110	8.3			1.25	3.8				
					39			2.9			0.63 avg.	0.7	39			
TWP. RD. 177 (NORTH)	58				115		115	8.6			1.25	4.0				
					36			2.7			0.63 avg.	0.6	36			
TWP. RD. 177 (SOUTH)	58				116		116	8.7			1.25	4.0				
					36			2.7			0.63 avg.	0.6	36			
CROSSOVER STA. 1276+50	60				279		279	20.9			1.25	9.7				
CO. RD. 5	60				147		147	11.0			1.25	5.1				
					59			4.4			0.63 avg.	1.0	59			
CO. RD. 5 CROSSOVER	60				210		210	15.8			1.25	7.3				
					194			14.6			0.63 avg.	3.4	194			
TWP. RD. 65 CROSSOVER	61				86		86	6.5			1.25	3.0				
					74			5.6			0.63 avg.	1.3	74			
TWP. RD. 65	61				122		122	9.2			1.25	4.2				
					42			3.2			0.63 avg.	0.7	42			
TOTALS							3248	309.2				127.7	867			

RESURFACING SUMMARY

	FROM SHEET NO.															
							147,370.2	11,052.9				5,117.3				
EASTBOUND PAVEMENT	9						63,334.1	4,749.8				2,199.0				
EASTBOUND SHOULDER	10						87,881.3	6,599.9				3,053.6	116.7	18,626.7		
WESTBOUND PAVEMENT	11						60,899.8	4,567.8				2,114.4			9,810.1	
WESTBOUND SHOULDER	12						17,423.9	1,390.5				624.3	1,114.0			
RAMP	13						13,786.4	1,137.3				502.6	1,375.0			
RAMP	14						3,597.7	269.4				475.7				
RAMP SHOULDER	15						3,248.0	309.2				127.7	867.0			
INTERSECTION & CROSSOVER	16															
TOTALS – CARRIED TO GENERAL SUMMARY							397,541.4	30,076.8	XXXX		XXXX	14,214.6	3472.7	18,626.7	9,810.1	

RESURFACING CALCULATIONS

* Mainline is Referenced to the Direction of Centerline Stationing.

Ramps are Referenced to the Direction of Travel.

UNDERDRAIN QUANTITIES

(SEE DETAILS AND NOTES ON SHEET NO. 28 .)

QUANTITIES	
Calc. SHG	Chkd. RSK
Date: 6-11-90	Date: 6-13-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

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115

HAS-22-15.03

Station From	Station To	Lane or Ramp	Side *	605 Shallow Underdrain, As Per Plan Lin.Ft.	Special Precast Reinforced Concrete Outlet Each	603 6" Conduit Type F, 707.17 Non-Perforated, ASTM 3034 SDR 35, or SS 931 Lin.Ft.	Outlet Fittings Tee Each	Outlet Fittings Standard Each	Outlet Fittings End Cap Each	Outlet Station		Bends & Branches 90° Bend Each	Bends & Branches 45° Wye Each	Comments
798+00	815+00		Rt.	1700	1	14		1		798+00		1		
815+00	820+00		Rt.	500	1	12	1			815+00				
820+00	825+00		Rt.	500	1	12	1			820+00				
825+00	830+00		Rt.	500	1	12	1			825+00				
830+00	835+00		Rt.	500	1	12	1		1	830+00				
839+00	852+75		Rt.	1375	1	15		1	1	839+00		1		
853+00	858+00		Rt.	500	1	12	1		1	858+00				
858+00	863+00		Rt.	500	1	12	1			863+00				
863+00	867+00		Rt.	400	1	13		1		867+00		1		
873+00	876+00		Rt.	300	1	14		1	1	876+00		1		
877+84	890+00		Rt.	1216	1	12	1			877+84		1		Run Continued At Ramp D Sta. 9+72
890+00	905+00		Rt.	1500	1	12	1			890+00				
905+00	909+00		Rt.	400	1	12			1	905+00				
911+60	916+00		Rt.	440	1	12		1	1	911+60		1		
916+50	920+40		Rt.	390	1	13		1	1	920+40		1		
922+25	924+75		Rt.	250	1	13		1	1			1		
932+50	935+00		Rt.	250	1	14		1	1	935+00		1		
937+75	945+00		Rt.	725	1	12		1		945+00		1		Run Continued From Ramp H Sta. 6+70
945+50	951+55		Rt.	605	1	12		1		945+50		1		
951+55	960+00		Rt.	845	1	14	1			951+55				
960+00	965+00		Rt.	500	1	12	1		1	960+00				
988+00	992+00	EASTBOUND	Rt.	400	1	12	1		1	992+00				
962+18	972+75		Lt.	1057		20		1	1	962+18		1		
978+25	987+50		Lt.	925		20		1	1	987+50		1	1	
992+00	1003+00		Rt.	1100	1	18	1			1003+00				
1003+00	1008+00		Rt.	500	1	15	1			1008+00				
1008+00	1013+26BK		Rt.	526	1	15	1			1012+72BK		1		Sag Outlet
1011+67AH	1018+50		Rt.	683					1					
1024+00	1029+00		Rt.	500	1	15		1		1024+00		1		
1029+00	1032+00		Rt.	300	1	15	1			1029+00				
1032+00	1039+00		Rt.	700	1	15	1		1	1032+00				
1039+75	1045+00		Rt.	525	1	15	1		1	1045+00				
1045+00	1051+00		Rt.	600	1	15	1			1051+00				
1051+00	1056+00		Rt.	500	1	15	1			1056+00				
1056+00	1061+50		Rt.	550	1	15	1			1061+50				
1061+50	1066+50		Rt.	500	1	15	1			1066+50				
1066+50	1071+50		Rt.	500	1	15	1			1071+50				
1071+50	1082+50		Rt.	1100	1	15	1			1082+50				
1082+50	1085+00		Rt.	250	1			1		1085+00		1		
1087+00	1099+75		Rt.	1275	1	15		1	1	1087+00		1		
1105+00	1119+00		Rt.	1400	1	15		1		1105+00		1		
1133+75	1138+50		Rt.	475	1	15		1	1	1138+50		1		

Station From	Station To	Lane or Ramp	Side *	605 Shallow Underdrain, As Per Plan Lin.Ft.	Special Precast Reinforced Concrete Outlet Each	603 6" Conduit Type F, 707.17 Non-Perforated, ASTM 3034 SDR 35, or SS 931 Lin.Ft.	Outlet Fittings Tee Each	Outlet Fittings Standard Each	Outlet Fittings End Cap Each	Outlet Station		Bends & Branches 90° Bend Each	Bends & Branches 45° Wye Each	Comments
1145+50	1154+00		Rt.	850	1	15		1		1145+50		1		
1154+00	1159+05		Rt.	505	1	14	1			1154+00				Run Continued From Ramp L Sta. 0+00
1163+50	1168+00		Rt.	450	1	16		1	1	1163+50		1		
1172+50	1178+00		Rt.	550	1	15	1		1	1178+00				
1178+00	1183+00		Rt.	500	1	15	1			1183+00				
1183+00	1188+00		Rt.	500	1	15	1			1188+00				
1188+00	1193+50		Rt.	550	1	15	1			1193+50				
1193+50	1198+25		Rt.	475	1	15		1		1198+25		1		
1198+75	1204+00		Rt.	525	1	15		1		1198+75		1		
1204+00	1207+00		Rt.	300	1	15	1		1	1204+00				
1210+10	1213+50		Rt.	340	1	15		1		1210+10		1		
1213+50	1225+35		Rt.	1185	1	18	1			1213+50				
1225+35	1230+00		Rt.	465	1	15	1		1	1225+35				
1230+00	1234+00		Rt.	400	1	15	1		1	1230+00				
1236+00	1241+00		Rt.	500	1	15	1		1	1241+00				
1241+00	1248+25		Rt.	725	1	14		1		1248+25		1		
1251+50	1258+00	EASTBOUND	Rt.	650	1	14		1	1	1251+50		1		
1263+25	1268+50		Rt.	525	1	12	1		1	1263+25				Run Continued at Ramp T Sta. 13+79
1269+00	1281+00		Rt.	1200	1	14	1		1	1281+00				
1281+00	1287+00		Rt.	600	1	13		1		1287+00		1		
1302+10	1305+30		Rt.	320	1	15		1	1	1302+10		1		
1306+75	1310+50		Rt.	375	1	15		1	1	1306+75		1		
1287+00	1297+40		Lt.	1040		20		1	1	1297+40		1		
1309+38	1319+25		Lt.	987		16		1	1	1309+38		1		
1319+50	1330+00		Lt.	1050		20		1	1	1330+00		1		
EASTBOUND TOTALS				43,829	61	942	35	30	32			32	1	

QUANTITIES CARRIED TO SHEET No. 19

* Mainline is Referenced to the Direction of Centerline Stationing.

Ramps are Referenced to the Direction of Travel.

UNDERDRAIN QUANTITIES

(SEE DETAILS AND NOTES ON SHEET NO. 28.)

QUANTITIES	
Calc. SHG	Chkd. RSK
Date: 6-11-90	Date: 6-13-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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Station From	Station To	Lane or Ramp	Side *	605 Shallow Underdrain, As Per Plan Lin.Ft.	Special Precast Reinforced Concrete Outlet Each	603 6" Conduit Type F, 707.17 Non-Perforated, ASTM 3034 SDR 35, or SS 931 Lin.Ft.	Outlet Fittings Tee Each	Outlet Fittings Standard Each	Outlet Fittings End Cap Each	Outlet Station		Bends & Branches 90° Bend Each	Bends & Branches 45° Wye Each	Comments
797+00	811+00		Lt.	1400	1	14		1		797+00		1		
811+00	814+00		Lt.	390	1	14	1			811+00				
814+90	827+00		Lt.	1210	1	13	1			815+00				
827+00	832+00		Lt.	500	1	13	1			827+00				
832+00	837+00		Lt.	500	1	14	1			832+00				
837+00	852+75		Lt.	1575	1	12	1		1	837+00				
853+00	858+00		Lt.	500	1	12	1		1	858+00				
858+00	863+00		Lt.	500	1	12	1			863+00				
863+00	870+75		Lt.	775	1	14								Run Continued at Ramp B Sta. 0+00
874+50	876+50		Lt.	200	1	13		1	1	876+50		1		
876+75	881+50		Lt.	475	1	13		1		876+75		1		
881+50	883+50		Lt.	200	1	14	1		1	881+50				
899+10	904+00		Lt.	490	1	13		1		899+10		1		
904+00	908+25		Lt.	425		13	1		1	904+00				
911+10	916+00		Lt.	490		18		1	1	911+10		1		
930+00	935+00		Lt.	500	1	12	1		1	935+00				
935+00	940+00		Lt.	500	1	12	1			940+00				
940+00	945+00		Lt.	500	1	12		1		945+00		1		
945+25	951+40		Lt.	615	1	12		1		945+25		1		
951+40	960+00		Lt.	860		13	1			951+40				
960+00	965+00		Lt.	500	1	13	1			960+00				
965+00	970+00		Lt.	500	1	13	1			965+00				
970+00	973+25		Lt.	325	1	13	1		1	970+00				
978+50	983+00		Lt.	450	1	13	1		1	983+00				
983+00	988+00		Lt.	500	1	13	1			988+00				
988+00	993+00		Lt.	500	1	13		1		993+00		1		
809+93	815+25		Rt.	532		9		1	1	809+93		1		
883+15	890+00		Rt.	685		20		1		883+15		1		
890+00	897+00		Rt.	700		20	1		1	890+00				
931+50	939+95		Rt.	845		20	1		1	939+95				
939+95	945+05		Rt.	510		20		1		945+05		1		
991+25	997+88		Rt.	663		10		1	1	997+88		1		
1008+75	1013+26BK		Lt.	451	1	15	1		1	1012+72BK				Sag Outlet
1011+67AH	1019+00		Lt.	733					1					
1024+00	1029+00		Lt.	500	1	15		1		1024+00		1		
1029+00	1033+00		Lt.	400	1	15	1			1029+00				
1033+00	1039+00		Lt.	600	1	15	1		1	1033+00				
1039+75	1045+00		Lt.	525	1	15	1		1	1045+00				
1045+00	1051+00		Lt.	600	1	15	1			1051+00				
1051+00	1056+00		Lt.	500	1	15	1			1056+00				
1056+00	1061+50		Lt.	550	1	15	1			1061+50				
1061+50	1066+50		Lt.	500	1	15	1			1066+50				
1066+50	1071+50		Lt.	500	1	15	1			1071+50				
1071+50	1082+50		Lt.	1100	1	15	1			1082+50				
1082+50	1085+00		Lt.	250	1	15		1		1085+00		1		
1087+00	1099+75		Lt.	1275	1	15		1	1	1087+00		1		
1105+00	1117+20		Lt.	1220	1	15		1	1	1105+00		1		

WESTBOUND

Station From	Station To	Lane or Ramp	Side *	605 Shallow Underdrain, As Per Plan Lin.Ft.	Special Precast Reinforced Concrete Outlet Each	603 6" Conduit Type F, 707.17 Non-Perforated, ASTM 3034 SDR 35, or SS 931 Lin.Ft.	Outlet Fittings Tee Each	Outlet Fittings Standard Each	Outlet Fittings End Cap Each	Outlet Station		Bends & Branches 90° Bend Each	Bends & Branches 45° Wye Each	Comments
1118+30	1123+40		Lt.	510	1	15		1	1	1183+30		1		
1125+50	1132+50		Lt.	700		20		1	1	1125+50		1		Outlet Into Catch Basin
1134+00	1139+00		Lt.	500	1	15		1	1	1139+00		1		
1146+50	1154+50		Lt.	800	1	15		1		1146+50		1		
1154+50	1156+00		Lt.	150	1	15	1			1154+50				Run Continued From Ramp K Sta. 0+00
1167+93	1172+00		Lt.	407					1					Run Continued At Ramp J Sta. 10+68
1172+50	1179+00		Lt.	650	1	13	1		1	1179+00				
1179+00	1184+00		Lt.	500	1	15	1			1184+00				
1184+00	1187+50		Lt.	350	1	12	1			1187+50				
1187+50	1198+25		Lt.	1075	1	15		1		1198+25		1		
1198+75	1206+00		Lt.	725	1	15		1	1	1198+75		1		
1209+00	1214+00		Lt.	500	1	15		1		1209+00		1		
1214+00	1225+93		Lt.	1193	1	15	1			1214+00				
1225+93	1231+50		Lt.	557	1	15	1			1225+93				Run Continued From Ramp N Sta. 0+00
1237+00	1242+00		Lt.	500	1	15	1		1	1242+00				
1242+00	1248+00		Lt.	600	1	14		1		1248+00		1		
1250+00	1256+00		Lt.	600	1	15	1		2	1251+00				Sag Outlet
1280+50	1288+50		Lt.	800	1	13	1		1	1288+50				
1288+50	1293+00		Lt.	450	1	12	1			1293+00				
1293+00	1300+00		Lt.	700	1	12	1		1	1297+75				Sag Outlet
1302+15	1306+10		Lt.	395	1	12		1	1	1302+15		1		
1306+90	1319+25		Lt.	1258		23		1	1	1306+90		1		Outlet Into Catch Basin
1319+75	1334+03		Lt.	1428	1	18	1		2	1330+75				Sag Outlet
1140+30	1158+50		Rt.	1820		20	1		1	1145+33			1	Sag Outlet
1158+50	1169+00		Rt.	1050		20	1		1	1158+50				
1259+50	1268+50		Rt.	900		20		1	1	1259+50		1		
1269+00	1276+00		Rt.	700		20	1		1	1276+00				
1276+00	1286+00		Rt.	1000		20		1		1286+00		1		
WESTBOUND TOTALS				49,837	57	1,079	44	28	38			28	1	

WESTBOUND

QUANTITIES CARRIED TO SHEET No. 19

* Mainline is Referenced to the Direction of Centerline Stationing.

Ramps are Referenced to the Direction of Travel.

UNDERDRAIN QUANTITIES

(SEE DETAILS AND NOTES ON SHEET NO. 28 .)

QUANTITIES	
Calc. SHG	Chkd. RSK
Date: 6-11-90	Date: 6-13-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

19/115

Station From	Station To	Lane or Ramp	* Side	605 Shallow Underdrain, As Per Plan Lin.Ft.	Special Precast Reinforced Concrete Outlet Each	603 6" Conduit Type F, 707.17 Non-Perforated, ASTM 3034 SDR 35, or SS 931 Lin.Ft.	Outlet Fittings Tee Each	Outlet Fittings Standard Each	Outlet Fittings End Cap Each	Outlet Station		Bends & Branches 90° Bend Each	Bends & Branches 45° Wye Each	Comments
U.S. 250 Interchange		B												
0+00	7+25		Rt.	725	1	12	1		1	4+58				Sag Outlet; Run Continued From
														W.B. U.S. 22 Sta. 870+75
0+00	5+00		Rt.	500	1	12	1		1	5+00				
5+00	9+72	D	Rt.	472			1			8+60				Sag Outlet; Run Continued From
														E.B. U.S. 22 Sta. 877+84
S.R. 9 Interchange														
10+50	5+50	E	Rt.	500	1	12	1		1	5+50				
5+50	1+00		Rt.	450	1	12		1		1+00		1		
0+00	3+50	F	Rt.	350	1	12		1	1	3+50		1		
5+35	8+00		Rt.	265	1	12		1	1	8+00		1		
4+00	7+50	G	Rt.	350	1	12		1	1	7+50		1		
2+25	6+70	H	Rt.	445	1	15	1		1	6+70				Run Continued At E.B. U.S. 22 Sta. 937+75
S.R. 151 West Interchange														
12+50	5+00	K	Rt.	750	1	12	1		1	5+00				
5+00	0+00		Rt.	500										Run Continued At W.B. U.S. 22 Sta. 1156+00
10+68	9+00		Rt.	168	1	13	1			9+00				Run Continued From W.B. U.S. 22 Sta. 1167+93
9+00	4+25		Rt.	475	1	13		1		4+25		1		
4+25	0+65	J	Lt.	360	1	13	1		2	2+02				Sag Outlet
0+00	7+15	L	Rt.	715	1	13	1		1	0+00				Run Continued At E.B. U.S. 22 Sta. 1159+05
S.R. 151 East Interchange														
16+00	6+50	N	Lt.	950	1	13		1	1	16+00		1		
3+50	0+00		Rt.	350	1	12	1		1	0+00				Run Continued At W.B. U.S. 22 Sta. 1231+50
4+25	16+00	Q	Lt.	1175	1	12		1	1	16+00		1		
7+00	0+57	S	Lt.	643		14		1	1	0+57		1		Outlet Into Catch Basin
1+04	7+75	T	Lt.	671		14		1	1	1+04		1		Outlet Into Catch Basin
10+05	13+79		Rt.	374	1	13		1		10+05		1		Run Continued From E.B. U.S. 22 Sta. 1263+25
RAMP TOTALS				11,188	17	241	10	10	16			10	0	

QUANTITIES CARRIED ON THIS SHEET

Totals	From Sheet No.	605 Shallow Underdrain, As Per Plan Lin.Ft.	Special Precast Reinforced Concrete Outlet Each	603 6" Conduit Type F, 707.17 Non-Perforated, ASTM 3034 SDR 35, or SS 931 Lin.Ft.	Outlet Fittings Tee Each	Outlet Fittings Standard Each	Outlet Fittings End Cap Each	Bends & Branches 90° Bend Each	Bends & Branches 45° Wye Each
Eastbound	17	43,829	61	942	35	30	32	32	1
Westbound	18	49,837	57	1079	44	28	38	28	1
Ramps	19	11,188	17	241	10	10	16	10	0
SUB-TOTALS		104,854	135	2,262	89	68	86	70	2
TOTALS		104,854	135	2,262					

CARRIED TO GENERAL SUMMARY

FOR RAMP SHOULDER CONSTRUCTION AND WIDENING DETAILS,
SEE SHEET No. 8

* REFERENCED TO DIRECTION OF TRAVEL

QUANTITIES	
Calc. SHG	Chkd. RSK
Date: 3-22-89	Date: 6-13-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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RAMP SHOULDER CONSTRUCTION AND WIDENING QUANTITIES

LOCATION	RAMP	STATION FROM	STATION TO	SIDE *	LENGTH	WIDTH	AREA	203 DEPTH	203 EXCAVATION	203 SUBGRADE COMPACTION	301 3" BITUMINOUS AGGREGATE BASE AC-20	304 5.875" AVG. AGGREGATE BASE, AS PER PLAN	310 5" AVG. SUBBASE, TYPE II, AS PER PLAN	408 BITUMINOUS PRIME COAT AT 0.40 GAL./S. Y.
					LIN. FT.	FEET	SQ. YD.	INCH	CU. YD.	SQ. YD.	CU. YD.	CU. YD.	CU. YD.	GAL.
U.S. 250 INTERCHANGE	A	6+59.49	5+59.49	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		5+59.49	0+60.50	RT.	488.99	6	326.0	13.75	124.5	326.0	27.2	53.2	45.3	130.4
		0+60.50	501+99.44 U.S. 250	RT.	65.05	6	43.4	13.75	16.6	43.4	3.6	7.1	6.0	17.4
	B	3+83.07	7+35.00	RT.	351.93	6	234.6	13.75	89.6	234.6	19.6	38.3	32.6	93.8
		8+25.00	12+23.57	RT.	398.57	6	265.7	13.75	101.5	265.7	22.1	43.4	36.9	106.3
		12+23.57	502+13.47 U.S. 250	RT.	51.68	6	34.5	13.75	13.2	34.5	2.9	5.6	4.8	13.8
		8+00.00	11+71.61	LT.	371.61	6	247.7	13.75	94.6	247.7	20.6	40.4	34.4	99.1
		11+71.61	503+47.55 U.S. 250	LT.	75.55	6	50.4	13.75	19.3	50.4	4.2	8.2	7.0	20.2
	C	3+54.30	4+54.30	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		4+54.30	9+60.88	RT.	506.58	6	337.7	13.75	129.0	337.7	28.1	55.1	46.9	135.1
		8+56.40	8+94.88	LT.	38.48	3	12.8	15.25	5.4	– –	1.1	2.1	1.8	5.1
	D	8+78.89	4+24.00	RT.	454.89	6	303.3	13.75	115.8	303.3	25.3	49.5	42.1	121.3
		4+86.20	8+18.89	LT.	359.55	2.5	99.9	16.75	46.5	– –	8.3	16.3	13.9	40.0
S.R. 9 INTERCHANGE	E	11+98.69	10+98.69	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		10+98.69	0+53.50	RT.	1045.19	6	696.8	13.75	266.1	696.8	58.1	113.7	96.8	278.7
		0+53.50	119+74.50 S.R. 9	RT.	59.20	6	39.5	13.75	15.1	39.5	3.3	6.4	5.5	15.8
		6+82.09	0+56.10	RT.	625.99	6	417.3	13.75	159.4	417.3	34.8	68.1	58.0	166.9
		0+56.10	118+51.50 S.R. 9	RT.	69.56	6	46.4	13.75	17.7	46.4	3.9	7.6	6.4	18.6
		7+33.40	10+98.69	LT.	388.29	2.5	107.9	16.75	50.2	– –	9.0	17.6	15.0	43.2
	F	2+83.72	3+75.76	RT.	92.04	6	61.4	13.75	23.5	61.4	5.1	10.0	8.5	24.6
		5+07.58	9+30.28	RT.	422.70	6	281.8	13.75	107.6	281.8	23.5	46.0	39.1	112.7
	G	5+69.09	6+69.09	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		6+69.09	14+97.72	RT.	828.63	6	552.4	13.75	211.0	552.4	46.0	90.1	76.7	221.0
		15+72.28	17+44.44	RT.	172.16	6	114.8	13.75	43.8	114.8	9.6	18.7	15.9	45.9
		17+44.44	127+72.82 S.R. 9	RT.	61.86	6	41.2	13.75	15.7	41.2	3.4	6.7	5.7	16.5
		9+95.00	14+97.72	RT.	502.72	6	335.1	13.75	128.0	335.1	27.9	54.7	46.5	134.0
		15+72.28	17+47.69	RT.	175.41	6	116.9	13.75	44.6	116.9	9.7	19.1	16.2	46.8
		17+47.69	128+99.27 S.R. 9	RT.	68.90	6	45.9	13.75	17.5	45.9	3.8	7.5	6.4	18.4
		6+69.09	9+21.11	LT.	272.36	2.5	75.7	16.75	35.2	– –	6.3	12.4	10.5	30.3
	H	0+00.00	4+90.05	RT.	490.05	6	326.7	13.75	124.8	326.7	27.2	53.3	45.4	130.7
		0+78.00	1+10.00	LT.	32.00	3	10.7	15.25	4.5	– –	0.9	1.7	1.5	4.3
S.R. 151 (WEST) INTERCHANGE	J	6+46.81	5+46.81	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		5+46.81	0+00.00	RT.	546.81	6	364.5	13.75	139.2	364.5	30.4	59.5	50.6	145.8
		0+94.00	0+62.00	LT.	32.00	3	10.7	15.25	4.5	– –	0.9	1.7	1.5	4.3
	K	2+15.00	12+60.71	RT.	1045.71	6	697.1	13.75	266.3	697.1	58.1	113.8	96.8	278.8
		12+60.71	251+89.01 S.R. 151	RT.	73.55	6	49.0	13.75	18.7	49.0	4.1	8.0	6.8	19.6
		6+82.18	12+70.70	RT.	588.52	6	392.3	13.75	149.8	392.3	32.7	64.0	54.5	156.9
		12+70.70	250+62.00 S.R. 151	RT.	57.91	6	38.6	13.75	14.7	38.6	3.2	6.3	5.4	15.4
	L	3+17.35	4+17.35	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		4+17.35	7+16.12	RT.	298.77	6	199.2	13.75	76.1	199.2	16.6	32.5	27.7	79.7
		7+7+16.12	262+08.38 S.R. 151	RT.	58.12	6	38.7	13.75	14.8	38.7	3.2	6.3	5.4	15.5
	M	5+75.02	0+82.05	RT.	492.97	6	328.6	13.75	125.5	328.6	27.4	53.6	45.6	131.4
		0+82.05	263+55.18	RT.	90.23	6	60.2	13.75	23.0	60.2	5.0	9.8	8.4	24.1
S.R. 151 (EAST) INTERCHANGE	N	5+58.17	16+98.30	RT.	1140.13	6	760.1	13.75	290.3	760.1	63.3	124.0	105.6	304.0
		16+98.30	293+18.40 C.R. 4	RT.	70.50	6	47.0	13.75	18.0	47.0	3.9	7.7	6.5	18.8
	Q	3+58.89	4+58.89	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		4+58.89	17+24.00	RT.	1265.11	6	843.4	13.75	322.1	843.4	70.3	137.6	117.1	337.4
		17+24.00	296+91.50 S.R. 151	RT.	42.37	6	28.2	13.75	10.8	28.2	2.4	4.6	3.9	11.3
	S	7+44.38	6+44.38	RT.	100.00	7 AVG.	77.8	13.75	29.7	77.8	6.5	12.7	10.8	31.1
		6+44.38	0+52.00	RT.	592.38	6	394.9	13.75	150.8	394.9	32.9	64.4	54.8	158.0
		0+52.00	293+34.00 C.R. 4	RT.	60.13	6	40.1	13.75	15.3	40.1	3.3	6.5	5.6	16.0
	T	8+40.23	0+83.90	RT.	756.33	6	504.2	13.75	192.6	504.2	42.0	82.3	70.0	201.7
		0+83.90	297+36.30 S.R. 151	RT.	90.43	6	60.3	13.75	23.0	60.3	5.0	9.8	8.4	24.1
TOTALS– CARRIED TO GENERAL SUMMARY									4113.8	10388.3	891.8	1746.8	1486.8	4282.5

HA022I527JS

RAMP SHOULDER WIDENING QUANTITIES

FENCE SUMMARY

QUANTITIES	
Calc. JAS	Chkd. RDA
Date: 4 -8 -88	Date: 5 -8 -88

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

21
115

REF. NO.	PLAN SHEET NO.	202 FENCE REMOVED	601 ROCK CHANNEL PROT. TYPE B	607 FENCE TYPE 47			POST ASSEMBLY			LINE POST	FENCE TERMINAL				ABUTMENT CONNCT'N.	CROSSING						625 GROUND ROD
							(I)	(C)	(E)	(L)	(TA)	(TB)			(TE)	(A)	(C1)	(C2)	(C3)	(C4)			
		LIN. FT.	CU. YD.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH			EACH	EACH	EACH	EACH	EACH	EACH			EACH
1-F	42	1732	5	1732			4	1	1								1						
2-F	42	522	5	522				2	1			1					1						
3-F	42	1375	5	1403			3	3				1					1						
1-F	43	704	5	1025			2		1								1						
3-F	43	1689	5	2589			4		1								1						1
4-F	43	2618	10	4609			10		1								1	1					2
5-F	43	2094	5	3214			5	2	1								1						1
4-F	44	667		667			1		1														
5-F	44	1434	5	1434			2	2	1									1					
6-F	44	334		387			1		2														
7-F	44	1913	5	2000			3	1	1	1								1		1			
8-F	44	1282		1694			3		1	1													
7-F	45	922	5	1020			2	2								1		1					
8-F	45	565		726				1								1							
9-F	45			55												2							
10-F	45	329		339				3								2							1
11-F	45			26												2							
12-F	45	112		170				1								2							
13-F	45	838		937				4								2							
14-F	45	793		736			1	2								2							
15-F	45			41												2							
16-F	45			27												2							
17-F	45	1246		1340			4	2	1							1							
18-F	45			118												2							
19-F	45			27												2							
20-F	45	346		551				3								2							
21-F	45			30												2							
22-F	45	593		739				3	1							1							
23-F	45	199		219				2	1							1							
24-F	45	372		435				4								2							
25-F	45			30												2							
26-F	45	160		130				2								2							
27-F	45			27												2							
28-F	45	786		810				3								1							
29-F	45	436		487			1	4								2							
30-F	45			27												2							
31-F	45	415		457			1	1								1							
28-F	46	2624	5	4108			8	1	1	2								2					
31-F	46	2776	5	3919			7		1	3							1						
32-F	46	775		1534			3	2	1														
33-F	46	1458	5	1642			2	1	1									1					
32-F	47	2420	10	2464			6	1		1		1						2					
33-F	47	2509	5	2509			5	6				1						1					
TOTALS		37,038	85	46,956			78	59	19	8		4				43	8	10		1			5

QUANTITIES CARRIED TO SHEET NO. 22.

FENCE LEGEND

- (I) — INTERMEDIATE ANCHOR POST ASSEMBLY
- (C) — CORNER POST ASSEMBLY
- (E) — END POST ASSEMBLY
- (L) — CONCRETE ENCASED WOOD POST OR STEEL LINE POST
- (TA) — FENCE TERMINAL,TYPE A
- (TB) — FENCE TERMINAL,TYPE B
- (TE) — FENCE TERMINAL,TYPE E
- (A) — ABUTMENT CONNECTION
- (C1) — CROSSING, TYPE 1
- (C2) — CROSSING, TYPE 2
- (C3) — CROSSING, TYPE 3
- (C4) — CROSSING, TYPE 4
- ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
- GROUND ROD

FOR FENCE DETAILS SEE STANDARD DRAWINGS
F-2, F-3, F-5, AND F-6.

FENCE SUMMARY

QUANTITIES	
Calc. JAS	Chkd. RDA
Date: 4 -8 -88	Date: 5 -8 -88

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

22
115

REF. NO.	PLAN SHEET NO.	202 FENCE REMOVED	601 ROCK CHANNEL PROT. TYPE B	607 FENCE TYPE 47			POST ASSEMBLY			LINE POST	FENCE TERMINAL				ABUTMENT CONNCT'N.	CROSSING				625 GROUND ROD
							(I)	(C)	(E)	(L)	(TA)	(TB)			(TE)	(A)	(C1)	(C2)	(C3)	(C4)	
		LIN. FT.	CU. YD.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH			EACH	EACH	EACH	EACH	EACH	EACH	EACH
34-F	47	266	5	870			2	1	1	1		1						1			1
35-F	47	298	5	682			1	1	1			1						1			
36-F	47	1,848	10	2,625			9		1									2			
37-F	47	1,706		2,755			6	1	1									2			1
36-F	48	1,500	10	2,026			4	1			1							2			1
37-F	48	1,150	5	1,992			4	2			1							2			1
38-F	48	1,407	10	1,918			5	3			2							2			1
39-F	48	1,143	5	2,080			4	2			2							1		2	1
40-F	48	1,042		1,670			5	1	1			1								1	
41-F	48	1250		1,570			2	3	1			1								1	
42-F	48	375	5	525				1				1						1			
43-F	48	65	5	590			1	1				1						1			
42-F	49	565	5	1,455			2	2			1							1			1
43-F	49	960		962			2		1												1
44-F	49	375		375				3			1					1				1	
45-F	49	866		866			1	1	1							1					
46-F	49	910		910			2	1	1	1						1					1
47-F	49	418		850			3	1	1							1					1
48-F	49	422		422			1		1												
49-F	49	100		412			1		1												
48-F	50	2,470	20	2,780			4	2	1						1			4			1
49-F	50	1,690	10	2,125			4	1	1						1			2			1
50-F	50	58		90				1	2						1						
51-F	50	1,840	10	2,130			2	3	1						1		1	1			
51-F	51	150		150			1		1												
52-F	51	1300	10	3021			8	3	1	1	1						1	2			
53-F	51	800	15	2716			7			2	1						2	1			
54-F	51	132	15	1,230			3	2			1					1	1	2			
55-F	51			446				3		1	1					1				1	
56-F	51	43		43												2					
57-F	51	43		43												2					
58-F	51	590		1,845			3	3	1							1				1	
59-F	51	390	10	2,450			4	2								1	1	1			1
60-F	51			180					1												
59-F	52	660	5	1,858			5		1								1			1	1
60-F	52	500	10	1,928			5		1									2			1
61-F	52	2550	15	3,655			8	1	1									3			
62-F	52	3006	10	3,406			9	1	1	1								2			
61-F	53	820	25	1,656			3	2								1		5			1
62-F	53	1640	10	1,751			4	2								1		2		1	1
63-F	53			21												2					
64-F	53			21												2					
65-F	53	490	5	602			1	1	1	1						1		1			1
66-F	53	350		411			1	1	1							1		1			1
67-F	53	2,977	5	2,977			9	1	1									1			
68-F	53	1370	10	2,695			5		2								1	1			1
69-F	53	408		408			2		1	1											
FROM SHEET NO. 22		40,943	250	66,193			143	54	31	9	12	6			4	20	8	47		9	21
FROM SHEET NO. 21		37,038	85	46,956			78	59	19	8		4				43	8	10		1	5
SUBTOTALS		77,981	335	113,149			221	113	50	17	12	10			4	63	16	57		10	26
TOTALS		**77,981**	**335**	**113,149**																	**26**

QUANTITIES CARRIED TO GENERAL SUMMARY

FENCE LEGEND

- (I) — INTERMEDIATE ANCHOR POST ASSEMBLY
- (C) — CORNER POST ASSEMBLY
- (E) — END POST ASSEMBLY
- (L) — CONCRETE ENCASED WOOD POST OR STEEL LINE POST
- (TA) — FENCE TERMINAL,TYPE A
- (TB) — FENCE TERMINAL,TYPE B
- (TE) — FENCE TERMINAL,TYPE E
- (A) — ABUTMENT CONNECTION
- (C1) — CROSSING, TYPE 1
- (C2) — CROSSING, TYPE 2
- (C3) — CROSSING, TYPE 3
- (C4) — CROSSING, TYPE 4
- ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
- GROUND ROD

FOR FENCE DETAILS SEE STANDARD DRAWINGS F-2, F-3, F-5, AND F-6.

⊛ INCLUDES 37.5 L.F. OF 14'R CURVED GUARDRAIL
‡ INCLUDES 50 L.F. OF 40'R CURVED GUARDRAIL AND 25 L.F. OF 5'R CURVED GUARDRAIL AS PER GR-6A
◒ INCLUDES 25 L.F. OF 40'R CURVED GUARDRAIL AND 12.5 L.F. OF 5'R CURVED GUARDRAIL AS PER GR-6A

GUARDRAIL SUMMARY

* 100% STATE

* BARRIER DESIGN

QUANTITIES	
Calc. DCH	Chkd. SHG
Date: 3-28-90	Date: 6-13-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

23
115

REF. NO.	PLAN SHEET NO.	STATION (±) FROM	STATION (±) TO	SIDE	202 GUARDRAIL REMOVED LIN.FT.	202 GUARDRAIL REMOVED, BARRIER DESIGN LIN.FT.	606 ANCHOR ASSEMBLY POST REMOVED EACH	606 GUARDRAIL, TYPE 5 LIN.FT.	606 GUARDRAIL, TYPE 5, AS PER PLAN LIN.FT.	606 GUARDRAIL, BARRIER DESIGN, TYPE 5 LIN.FT.	606 ANCHOR ASSEMBLY, TYPE A EA.	606 ANCHOR ASSEMBLY, TYPE A* EA.	606 ANCHOR ASSEMBLY, TYPE T EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE F EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE AT EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE AA EA.	COMMENTS
1	43	831+13.50	831+38.50	LT			1										
2	43	823+89.00	824+26.50	RT	37.5												
		823+51.50	824+26.50					50			1						EXTEND 37.5'
3	43	838+50.00	838+75.00	LT			1										
4	43	856+50.00	856+75.00	RT	25												
		855+75.00	856+75.00					75			1						EXTEND 75'
5	43	868+25.00	868+50.00	LT			1										
6	43	868+75.00	869+00.00	℄			1										
7	44	873+87.50	874+12.50	RT			1										
8	44	8+10 'C'	8+47 'D'	LT	377.5			50⊛	312.5				3				SEE DETAIL ON SHEET NO. 72
9	44	6+62.50 'C'	4+22.65 'D'		300				275		1						RAMP 'C'
10	44	4+24.00	8+90.30	RT	450				450								RAMP 'D'
11	44	881+04	882+37.00	RT	133												
		881+04.00	881+29.00					25								1	
12	44	880+50.00	883+00.00	℄	400	50											SEE DETAIL ON SHEET NO. 71
		881+22.00	882+78.00					325‡									
13	44	881+50.00	882+90.00	LT	140												
		882+65.00	882+90.00					25								1	
14	44	904+69.40	904+94.40	RT	25												
		903+94.40	904+94.40					75			1						EXTEND 75'
15	45	906+73.40	906+98.40	℄			1										
16	45	912+76.00	913+58.00		82												
		912+76.00	912+94.75	LT				18.75							1		
		913+33.00	913+58.00					25								1	
17	45	912+14.00	914+52.00	℄	425	25											SEE DETAIL ON SHEET NO. 71
		912+14.00	913+85.00					350◒									
18	45	912+56.40	913+64.40	RT	108												
		912+56.40	912+81.40					25								1	
19	45	93+53.50	93+91.00	RT	* 37.5												T.R. 211
		92+66.00	94+03.50					* 100			* 1			* 1			
20	45	93+53.50	93+91.00	LT	* 37.5												T.R. 211
		92+66.00	94+03.50					* 100			* 1			* 1			
21	45	96+09.00	96+46.50	LT	* 37.5												T.R. 211
		95+96.50	97+34.00					* 100			* 1			* 1			
22	45	96+09.00	96+46.50	RT	* 37.5												T.R. 211
		95+96.50	97+34.00					* 100			* 1			* 1			
23	45	918+17.30	918+42.30	℄			1										
24	45	919+17.80	919+42.80	RT	25												
		918+67.80	919+42.80					50			1						EXTEND 50'
25	45	2+80.50	3+68.00	RT	87.5				75				1				RAMP 'F'-CONNECT TO EXIST. BR. TERM. AS RAMP 'F'-CONNECT TO EXIST. BR. TERM.
26	45	5+22 'F'	6+78 'E'	RT	412.5				412.5								
27	45	923+14.60	923+39.60	LT			1										
28	45	6+77.80	12+04.64	RT	512.5				512.5								RAMP 'E'
29	45	931+89.50	932+14.50	℄			1										
30	46	938+20.00	938+45.00	RT			1										
31	45	15+86.10	17+23.60	RT	137.5												RAMP 'G'
32	46	959+35.30	959+60.30	RT			1										
33	46	967+26.00	967+51.00	LT	25												
		967+26.00	967+63.50					12.5			1						EXTEND 12.5'
34	46	977+91.00	978+16.00	RT			1										
35	46	984+85.00	985+10.00	LT			1										
36	47	993+25.00	993+50.00	LT			1										
37	47	1001+12.50	1001+37.50	LT			1										
		1017+73.00	1017+98.00				1										
38	47	1002+01.00	1002+26.00	RT			1										
		1016+68.00	1016+93.00				1										
39	47	1023+03.30	1023+28.30	RT			1										
		1033+22.00	1033+47.00				1										
40	47	1023+75.00	1024+00.00	LT			1										
		1033+50.00	1033+75.00				1										
41	47,48	1038+77.50	1039+02.50	RT			1										
		1047+77.50	1048+02.50				1										
42	47,48	1038+90.00	1039+15.00	LT			1										
		1048+02.50	1048+27.50				1										
43	48	1050+75.00	1051+00.00	LT			1										
		1056+50.00	1056+75.00				1										

* BARRIER DESIGN

REF. NO.	PLAN SHEET NO.	STATION (±) FROM	STATION (±) TO	SIDE	202 GUARDRAIL REMOVED LIN.FT.	202 GUARDRAIL REMOVED, BARRIER DESIGN LIN.FT.	606 ANCHOR ASSEMBLY POST REMOVED EACH	606 GUARDRAIL, TYPE 5 LIN.FT.	606 GUARDRAIL, TYPE 5, AS PER PLAN LIN.FT.	606 GUARDRAIL, BARRIER DESIGN, TYPE 5 LIN.FT.	606 ANCHOR ASSEMBLY, TYPE A EA.	606 ANCHOR ASSEMBLY, TYPE A* EA.	606 ANCHOR ASSEMBLY, TYPE T EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE F EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE AT EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE AA EA.	COMMENTS
44	48	1051+03.00	1051+28.00		25												
		1050+53.00	1051+28.00	RT				50				1					EXTEND 50'
		1057+03.00	1057+28.00				1										
45	48	1060+73.00	1060+98.00	LT			1										
		1072+73.00	1072+98.00				1										
46	48	1060+91.25	1061+16.25	RT			1										
		1072+72.50	1072+97.50				1										
47	48	1081+34.50	1081+59.50	LT			1										
48	48	1081+47.00	1081+72.00	RT	25												
		1080+97.00	1081+72.00					50				1					EXTEND 50'
49	48	1087+19.00	1087+44.00	RT			1										
50	48	1087+82.00	1088+07.00	LT			1										
51	48	1099+59.00	1099+84.00	RT			1										
		1105+21.50	1105+46.20				1										
52	48	1099+88.50	1100+13.50				1										
		1106+13.50	1106+38.50	LT	25												
		1106+13.50	1106+63.50					25								1	EXTEND 25'
53	49	1117+30.00	1117+55.00	RT	25												
		1117+17.50	1117+55.00					12.5								1	EXTEND 12.5'
54	49	1126+34.30	1126+59.30	RT			1										
55	49	1126+54.40	1126+79.40	LT			1										
56	49,50	1136+89.00	1137+14.00		25												
		1136+76.50	1137+14.00	RT				12.5								1	EXTEND 12.5'
		1138+89.00	1139+14.00				1										
57	49,50	1137+19.00	1137+44.00	LT			1										
		1139+19.00	1139+45.00				1										
58	50	1144+84.50	1145+09.50	RT	25												
		1144+59.50	1145+09.50					25								1	EXTEND 25'
59	50	1152+81.00	1153+06.00	RT			1										
60	50	1155+75.00	1156+77.00		102												
		1155+75.00	1154+93.75	LT				18.75								1	
		1156+52.00	1156+17.00					25									1
61	50	1155+31.00	1158+31.00	℄	500	50											SEE DETAIL ON SHEET NO. 72
		1155+92.00	1157+62.00					350‡									
62	50	1156+78.00	1157+80.00		102												
		1156+78.00	1157+03.00	RT				25								1	
		1157+61.75	1157+80.00					18.75								1	
63	50	1+50.00	1+75.00	RT			1										RAMP 'K'
64	50	0+98.00	6+48.00	RT	550				537.5				1				RAMP 'J'
65	50	3+16.50	3+79.00	RT	62.5				50				1				RAMP 'L'
66	50	1+20.50	2+33.00	RT	112.5				75				1				RAMP 'M'
67	50	8+75.00	9+00.00	RT			1										RAMP 'J'
68	51	7+79.83	8+04.83	RT			1										RAMP 'M'
69	51	1172+84.50	1173+09.50	LT			1										
70	51	1177+22.50	1177+47.50	RT			1										
71	51	1185+44.50	1185+69.50	LT			1										
72	51	1195+93.20	1196+18.20	RT			1										
74	51	1204+57.80	1204+82.80	℄			1										
76	51	1211+42.00	1211+67.00	℄			1										
77	51	1214+48.80	1214+73.80	LT			1										
79	51	1225+58.00	1225+83.00	RT			1										
80	52	1231+00.00	1231+25.00	LT			1										
81	52	1238+56.60	1238+81.60	RT			1										
82	52	1246+00.00	1246+25.00	℄			1										
83	52	14+24.50	16+99.50	RT	275				262.5				1				RAMP 'N'
84	52	15+88.50	17+26.00	RT	137.5				112.5								RAMP 'Q'
85	52	1252+00.50	1252+25.50	℄			1										
86	52	1254+94.00	1255+19.00	LT			1										
TOTALS		QUANTITIES CARRIED TO SHEET NO. 23			5,8445	125	61	2,493.75	2,700		18		8		4	3	6

HA22151/4

GUARDRAIL SUMMARY

GUARDRAIL SUMMARY

QUANTITIES	
Calc. DCH	Chkd. SHG
Date: 3-28-90	Date: 6-13-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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* BARRIER DESIGN

REF. NO.	PLAN SHEET NO.	STATION (±) FROM	STATION (±) TO	SIDE	202 GUARDRAIL REMOVED LIN.FT.	202 GUARDRAIL REMOVED, BARRIER DESIGN LIN.FT.	606 ANCHOR ASSEMBLY POST REMOVED EACH	606 GUARDRAIL, TYPE 5 LIN.FT.	606 GUARDRAIL, TYPE 5, AS PER PLAN LIN.FT.	606 GUARDRAIL, BARRIER DESIGN, TYPE 5 LIN.FT.	606 ANCHOR ASSEMBLY, TYPE A EA.	606 ANCHOR ASSEMBLY, TYPE A* EA.	606 ANCHOR ASSEMBLY, TYPE T EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE F EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE AT EA.	606 BRIDGE TERMINAL ASSEMBLY, TYPE AA EA.	COMMENTS
87	52	1258+25.00	1258+50.00	LT			1										
88	52	1258+25.00	1258+50.00	℄			1										
89	52	1258+90.00	1259+15.00	RT			1										
90	52	1263+50.00	1263+75.00	LT			1										
91	52	1279+96.00	1280+46.00	RT	50												
		1279+71.00	1280+46.00					50			1						EXTEND 25'
92	52	1283+15.00	1283+40.00	LT			1										
93	53	1290+87.50	1291+12.50	RT			1										
94	53	1300+11.55	1300+30.30	LT	18.75			18.75							1		
95	53	1299+20.00	1299+45.00	℄			1										
96	53	1300+15.20	1300+40.20	RT	25			25								1	
97	53	1301+72.70	1302+97.70	℄	87.5	37.5		87.5		12.5		1				1	SEE STD. DWG. GR-6
98	53	1301+63.40	1301+88.40	LT	25			25								1	
		1303+59.00	1303+84.00				1										
100	53	1322+53.00	1322+78.00	RT			1										
107	46	948 21.60	948 46.60				1										
108	44	833+50.00	883+75.00	LT			1										
109	45	914+18.20	914+43.20	LT			1										
110	44	6+62.50	6+87.50	LT			1										RAMP 'C'
111	45	6+36.00	6+61.00	LT			1										RAMP 'F'
112	45	16+52.50	17+27.50	RT	75												RAMP 'G'; SEE
		16+52.50	16+77.50								1						SHEET NO. 62
113	45	12+49.20	12+74.20	LT			1										RAMP 'G'
TOTALS					281.25	37.5	15	206.25		12.5	2	1			1	3	
TOTALS FROM SHEET NO. 23					5,844.5	125	61	2,493.75	2,700		18		8	4	3	6	
TOTALS CARRIED TO GENERAL SUMMARY					6125.75	162.5	76	2,700	2,700	12.5	20	1	8	4	4	9	

HA221514

GENERAL NOTES

FHWA REGION	STATE	PROJECT		25
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FIELD OFFICE

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

UNDERGROUND UTILITIES

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

UTILITY OWNERSHIP

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

GTE Telephone Operations-North Area
715 Commercial Parkway
Dover, Ohio 44622
Ph. (216) 364-0363

Western Reserve Telephone Co.
P.O. Box 5
Fairview, Ohio 43736
Ph. (614) 758-5818

Columbia Gas of Ohio
216 Highland Ave.
Cambridge, Ohio 43725
Ph. (614) 432-8226

Hopedale Village Water Works
Twp. Rd. 180
Hopedale, Ohio 43976
Ph. (614) 937-2455

CONTINGENCY QUANTITIES

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

ALIGNMENT AND PROFILE

The work proposed by this project is for the resurfacing of the existing pavement. The alignment, profile and superelevation rates of the existing pavement will not be changed except for the profile correction shown on sheet no. 55.

PREVIOUS CONSTRUCTION PLANS

The following construction plans are available for reference by contacting the District 11 office in New Philadelphia, Ohio:

HAS-22-15.09	Original Construction Plan (1959)
HAS/JEFF-22-18.97/0.00	Original Construction Plan (1960)
HAS-22-(15.03-18.91)	Safety Upgrading Plan (1978)
HAS-22-20.07	Safety Upgrading Plan (1980)

ITEM 304 - AGGREGATE BASE, AS PER PLAN
ITEM 310 - SUBBASE, TYPE II, AS PER PLAN

Materials furnished for these items shall exclude all slag except granulated slag or crushed air-cooled blast furnace slag.

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN

Work under this Item shall be within the areas 2 feet on each side of the new fence limits within the limits of the Right of Way and shall consist of the following:

1. The removal of all trees, stumps, and brush to ground level.
2. The removal of all litter.
3. Mowing of all vegetation to a height of between 3" and 5".
4. Treatment of the removal area with the following herbicides within 24 hours after vegetation is cut: 1 gallon Dow "Tordon K" combined with 2 quarts 2,4 D-amine or an approved equal in sufficient water to make 50 gallons of total spray mix per acre. An estimated area of 10.4 acres is to be treated with the herbicide.

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN (CONT'D.)

The Contractor shall be licensed by the Ohio Department of Agriculture as a commercial applicator and all persons involved in the actual herbicidal spraying shall be licensed as commercial operators in the appropriate category.

The following is an estimate of the number of trees to be removed:

Size	No. of Trees
18"	800
30"	50

The above estimate is approximate and the State of Ohio reserves the right to order the removal of additional trees or stumps outside of the limits of Construction but within the Right of Way and/or Easement lines.

Payment for the above, including the removal of additional trees or stumps, shall be included in the lump sum bid for Clearing and Grubbing, As Per Plan.

ITEM 203 - LINEAR GRADING

This work shall include all excavation and embankment required to grade beyond paved shoulders as shown in the details on sheet no's. 8 & 63. Vegetation, material buildup or excavated material on the shoulder or within the linear grading limits shall be removed and disposed of by the Contractor or wasted over fill slopes at the direction of the Engineer. Linear grading widths shown on the plans represent minimum requirements and the Engineer may increase these widths as determined by his analysis of project conditions at no additional cost to the State. The method of measurement shall be considered as one station per 100 linear feet measured separately for each directional roadway and for each side of ramps.

Payment for this work will be as follows:

1. Item 203 - Linear Grading, Method 1 - This item shall apply where an outside portion of the mainline shoulder is to be reconstructed as shown on sheet no. 63 and any other areas designated by the Engineer where a drop-off occurs at the edge of the mainline shoulders.
2. Item 203 - Linear Grading, Method 2 - This item shall apply to the ramp shoulder areas with guardrail and asphalt paving under guardrail and shall include the removal of all turf and vegetation prior to placing the embankment material.
3. Item 203 - Linear Grading, Method 3 - This item shall apply to the ramp shoulder areas where existing curb is to be removed and new shoulder is to be constructed.

Item 617 - Compacted aggregate shall be used for Method 1 and shall be placed and compacted as per Section 617.05 to the dimensions shown on the detail on sheet no. 63.

Embankment material as per Item 203 shall be used for Methods 2 & 3 and shall be compacted as directed by the Engineer and seeded only as shown on the Typical Sections and in accordance with the specifications for Item 659 - Seeding and Mulching.

Payment for the above except for Items 617 and 659 shall be included in the unit price bid per Station for the appropriate linear grading item.

ITEM 203 - LINEAR GRADING, DITCH CLEANOUT

This Item shall consist of reconstructing the ditch, rock fall bench and backslope in accordance with the dimensions shown on sheet no. 63 and shall include all excavation and embankment necessary to do so.

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 feet measured seperately for each directional roadway or ramp.

Payment for the above work, including excavation and embankment, shall be included in the unit price bid per Station for Item 203 - Linear Grading, Ditch Cleanout.

ITEM 407 - TACK COAT

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

LOCATION OF GUARDRAIL

The locations of guardrail runs, as shown in these plans, are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

GUARDRAIL REPLACEMENT

No hazard shall be left unprotected except for actual time necessary to remove existing guardrail, grade, pave (where required) and install new guardrail including anchor assemblies. The total length of guardrail operations shall not exceed 4000 linear feet for each directional roadway. A run of guardrail is not considered complete until the anchor assemblies are installed and attached. If a guardrail run cannot be removed in its entirety due to the length restriction, that run shall not be removed until advancement of guardrail operations. The removal of guardrail shall at all times be at the direction of the Engineer. No guardrail shall be removed until replacement material is on site, ready for installation. Failure to comply with this requirement shall be deemed sufficient cause to order work suspended on this project until such time that the Engineer is assured of said compliance.

CONNECTIONS BETWEEN EXISTING AND PROPOSED GUARDRAIL

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled or punched. The connection shall be made using a "beam rail splice" as shown in Standard Drawing GR-1. Payment shall be included in the unit price bid for the respective guardrail item.

GUARDRAIL, TYPE 5, AS PER PLAN

This work shall consist of constructing the Type 5 Guardrail as per Standard Drawing GR-2B and shall include boring thru the 404 Asphalt Concrete for a depth of (6) inches, backfilling with 404 and compaction at each post location.

ASPHALT PAVING UNDER GUARDRAIL

A 4'-0" width adjacent to the existing paved shoulder where new guardrail is 8'-0" from the right edge of ramp pavement shall be paved with a two (2) inch compacted course of Item 404 - Asphalt Concrete as shown on the Typical Sections.

Prior to placing this material, an approved herbicide shall be applied at the rate recommended by the manufacturer:

Item 408 Bituminous Prime [illegible] prior to placing the [illegible].

After the 404 Asphalt Concrete has been placed and compacted, holes for guardrail posts shall then be bored through the 404 and the post installed. The disturbed area around each post shall then be backfilled with 404 and compacted flush with the surrounding surface. Any excess 404 or other debris shall be removed and disposed of by the Contractor at the direction of the Engineer.

Payment for all of the above described resurfacing shall be included in Item 404 - Asphalt Concrete (Under Guardrail) with the following exceptions:

Payment for guardrail shall be paid for at the unit price bid of Lin. Ft. for Item 606 - Guardrail, Type 5, As Per Plan, payment for herbicide shall be paid for at the unit price bid of Sq. Yd. for Item Special - Herbicide Application Under Asphalt [illegible].

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GENERAL NOTES

FHWA REGION	STATE	PROJECT		26
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ANCHOR ASSEMBLY POST REMOVED

Existing anchor assemblies that are to remain in place shall have the exposed portion of the intermediate post and spacers (located 12'-6" from the concrete anchor) removed flush with the top of the existing concrete encasement so as to conform with Standard Drawing GR-4. For locations see sheet no's. 23 & 24.

The cost of the above work shall be included in the contract unit price bid of Each for Item 202 - Anchor Assembly Post Removed.

GUARDRAIL POSTS, WOOD, AS PER PLAN

This item shall consist of installing new guardrail posts midway between existing guardrail posts at overhead sign supports. The additional posts shall be placed from 25'-0" in advance of the support to 12'-6" past the support. The additional post bolt holes shall be made in the existing rail element by punching, cutting or drilling as outlined in Section 606.05.

The following locations require additional guardrail posts:

Overhead Sign Support Location	Side	No. of Additional Guardrail Posts Needed
E.B. Sta. 870+00	median	8
E.B. Sta. 870+00	outside	8
W.B. Sta. 926+40	outside	8
W.B. Sta. 1257+25	median	8
	Total =	32

Payment to perform this work, including making the additional holes in the existing rail element, spacer blocks and related hardware, will be made at the contract unit price bid of Each for Item 606 - Guardrail Posts, Wood, As Per Plan and shall include the cost of all labor, materials, equipment and incidentals necessary to complete the work.

The following quantity has been carried to the General Summary for the purpose of providing additional guardrail posts as specified above:

Item 606 - Guardrail Posts, Wood, As Per Plan - - - - - - 32 Each

RAISED PAVEMENT MARKERS REMOVED

Existing raised pavement markers (R.P.M.'s) on this project shall be removed in the following manner:

1) Concrete Section, Westbound lanes, Sta. 1262+03.90 to Sta. 1332+98.75: The existing R.P.M.'s shall be removed by heating and carefully lifting out or any other approved method which will prevent damage to the surrounding concrete pavement. The depressions left by the removal of the castings shall be left unfilled.

   Payment to perform this work will be made at the contract price bid of Each for Item 202 - Raised Pavement Markers Removed for Storage, As Per Plan.

2) Remaining Project: The existing R.P.M.'s shall be removed as per Section 202.071.

The following quantities have been carried to the General Summary for the purpose of removing existing R.P.M.'s.:

Item 202 - Raised Pavement Markers Removed for Storage - - - - - - - - - - - - - 680 Ea.

Item 202 - RAised Pavement Markers Removed for Storage, As Per Plan - - - - - - - 90 Ea.

SAME SEASON COMPLETION OF SURFACE COURSE

Any length of resurfacing work started in a construction season shall have the surface course placed that same season. In addition, any pavement which has been planed shall not be permitted to remain unsurfaced through the winter.

FENCE GROUNDING

Any Right of Way fence crossing under overhead electric power lines or transmission lines shall be grounded in accordance with Standard Drawing HL-50.11.

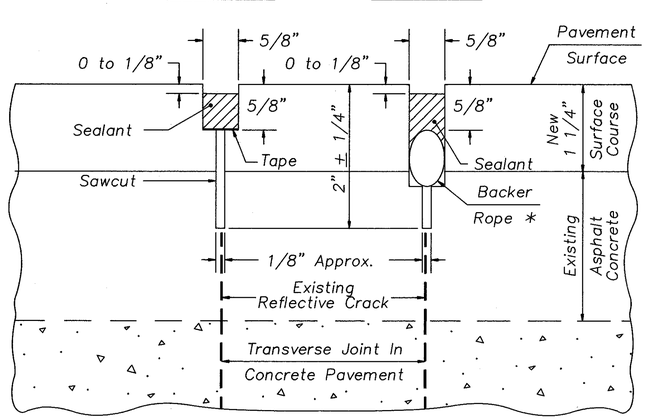
Ground rods shall be used as directed by the Engineer. For locations and quantities see sheet no's. 21 & 22.

JOINT SEALERS

All references to 705.01 or 705.02, appearing on Standard Drawings or on the plans, shall be considered to read 705.04.

ITEM SPECIAL - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, 705.04

(See Note In Proposal). This Item of work shall be performed in accordance with the Proposal Note and the detail shown herein. Estimated quantities for this Item of work have been provided in the General Summary based upon calculations on sheet no.'s 75 & 76. If Alternate 1 is used, all saw cuts shall be made with one pass of the saw. The joints shall be sawed within 48 hours after completion of each day's run of surface course.



* Minimum diameter shall be one nominal size larger than the sawed joint.

DETAIL FOR TRANSVERSE JOINT IN NEW ASPHALT CONCRETE OVERLAY

PAVEMENT REPAIR IN THE CONCRETE SECTION

The following requirements shall apply only to the concrete section, Sta. 1262+03.90 to Sta. 1332+98.75 in the westbound lanes:

All joint sealant reservoirs for full depth repairs shall be constructed and sealed as per the details and requirements of Supplemental Specification 801. The transverse and longitudinal joints shall be sawed or formed to conform to the dimensions shown for Class III and Class V, respectively, in lieu of those shown in Standard Drawing BP-13.

Joints at the full depth repairs shall be sealed and existing transverse and longitudinal joints shall be resealed after pavement grinding operations have been completed.

All costs associated with constructing and sealing transverse and longitudinal joints in full depth repairs, to be in accordance with Supplemental Specification 801, shall be included in the cost of the 803 full depth pavement repair item.

PAVEMENT REPAIR LOCATIONS

The pavement repair locations shown on sheet no's. 80-86 are referenced to the field locations of the existing county log mile markers.

EXAMINATION OF PROJECT

The existing thickness shown in the Typical Sections and Feather Details on sheet no. 54 are nominal only and may vary.

It shall be the Contractor's responsibility to examine the project site and verify the actual pavement thickness prior to submitting his bid proposal as per Section 102.05 of the Construction and Materials Specifications.

The Contractor shall provide his own traffic control in accordance with all requirements of OMUTCD and shall notify the District Operations Engineer at least five working days in advance of setting up traffic control for the purpose of examining the pavement as stated above.

SEEDING

Quantities for seeding are calculated for the soil areas from ditch cleanout, shoulder construction, median catch basin replacement and median guardrail removal.

MEDIAN CATCH BASIN REPLACEMENT

The existing median 2-2-A catch basins are a safety hazard and shall be removed and replaced with new No. 8 catch basins, without aprons, as shown on sheet no. 73.

The depths of the new basins have been obtained from the original construction plans and shall be considered tentative and approximate. The new catch basin depths shall be based on actual dimensions which have been verified by the Contractor in the field.

Upon removal of the existing paved gutter, the area shall be graded to the original flowline and blended in with the existing side slopes, leaving a neat appearance. Item 670 - Ditch Erosion Protection shall then be placed in the ditch for the length of the bare soil.

The existing earth dikes at catch basins on a continuous grade shall be reconstructed to conform to the dimensions shown in Standard Drawing CB-8.

When all grading operations are completed, the entire area shall be seeded in accordance with Item 659.

Payment for all of the above, unless separately itemized in the plan, shall be included in the price bid of Each for Item 604 - Catch Basin, No. 8, Without Apron.

GENERAL NOTES

CENTERLINE REFERENCE MONUMENTS

The District has set tacked hubs at the following stations for the purpose of providing centerline control during right of way fence reconstruction:

POT Sta. 797+43.32	CS Sta. 985+02.25	ST Sta. 1168+68.19 BK =
PC Sta. 801+43.32	ST Sta. 988+02.25	Sta. 1168+75.64 AH
POC Sta. 804+34.99	TS Sta. 992+52.75	POT Sta. 1173+75.64
PT Sta. 807+26.65	SC Sta. 995+52.75	POT Sta. 1178+75.64
POT Sta. 812+26.65	POC Sta. 1001+21.92	POT Sta. 1183+75.64
POT Sta. 817+26.65	CS Sta. 1006+91.08	POT Sta. 1188+75.64
POT Sta. 822+26.65	ST Sta. 1009+91.08	POT Sta. 1193+75.64
POT Sta. 827+26.65	POT Sta. 1014+91.08	POT Sta. 1198+75.64
POT Sta. 832+26.65	POT Sta. 1019+91.08	POT Sta. 1203+75.64
POT Sta. 837+26.65	POT Sta. 1024+91.08	POT Sta. 1208+75.64
POT Sta. 842+26.65	POT Sta. 1029+91.08	POT Sta. 1213+75.64
POT Sta. 848+21.49	POT Sta. 1034+91.08	POT Sta. 1218+02.94
POT Sta. 853+21.49	POT Sta. 1035+51.63	POT Sta. 1223+02.94
POT Sta. 858+21.49	POT Sta. 1040+51.63	POT Sta. 1228+02.94
POT Sta. 863+21.49	POT Sta. 1045+51.63	POT Sta. 1233+02.94
POT Sta. 868+21.49	POT Sta. 1050+51.63	POT Sta. 1238+02.94
POT Sta. 873+21.49	POT Sta. 1055+51.63	POT Sta. 1243+02.94
POT Sta. 878+21.49	PC Sta. 1060+51.63	POT Sta. 1248+02.94
TS Sta. 883+21.49	POC Sta. 1065+51.63	POT Sta. 1253+02.94
SC Sta. 886+21.49	POC Sta. 1070+51.63	POT Sta. 1258+02.94
POC Sta. 890+13.58	POC Sta. 1075+51.63	TS Sta. 1263+02.94
CS Sta. 894+05.86	POC Sta. 1081+61.63	SC Sta. 1266+02.94
ST Sta. 897+05.66	POC Sta. 1087+71.63	POC Sta. 1271+82.94
ST Sta. 902+05.66	POC Sta. 1092+71.63	CS Sta. 1277+62.94
ST Sta. 912+05.66	POC Sta. 1097+71.63	ST Sta. 1280+62.94 BK =
ST Sta. 916+79.53	PT Sta. 1102+71.63	Sta. 1280+72.73 AH
ST Sta. 921+79.53	POT Sta. 1107+71.63	TS Sta. 1286+91.42
ST Sta. 926+79.53	POT Sta. 1113+88.19	SC Sta. 1289+91.42
PC Sta. 931+79.53	TS Sta. 1118+88.19	CS Sta. 1295+78.92
POC Sta. 937+49.53	SC Sta. 1122+88.19	ST Sta. 1298+78.92 BK =
PT Sta. 943+19.53	CS Sta. 1126+11.52	Sta. 1298+80.75 AH
POT Sta. 948+19.53	ST Sta. 1130+11.52	POT Sta. 1304+80.75
POT Sta. 953+19.53	POT Sta. 1135+11.52	TS Sta. 1310+37.98
POT Sta. 959+74.33	POT Sta. 1138+54.86	SC Sta. 1313+37.98
TS Sta. 964+74.33	POT Sta. 1145+54.86	POC Sta. 1318+37.98
SC Sta. 967+74.33	TS Sta. 1150+54.86	POC Sta. 1321+83.81
POC Sta. 972+74.33	SC Sta. 1154+54.86	CS Sta. 1326+83.81
POC Sta. 980+02.25	POC Sta. 1159+64.03	TS Sta. 1329+83.81 BK =
	CS Sta. 1164+68.19	Sta. 1329+98.24 AH

CURB REMOVED, AS PER PLAN

Existing Type 2-A curbs shall be removed flush with the surface of the existing concrete pavement by horizontally sawing or otherwise cutting, in a manner that does not spall or damage the concrete pavement.

For locations and quantities, see sheet no's. 64-66 & 70.

Payment to perform this work will be made at the unit price bid of Lin. Ft. for Item 202 Curb Removed, As Per Plan and shall include the cost of all labor, materials, equipment and incidentals necessary to complete the work.

CONCRETE MEDIAN REMOVED, AS PER PLAN

Existing concrete median removed under this item shall include any excavation or embankment required to grade the median flush with the surface of the existing concrete pavement after the Type 2-A curbs are removed.

For locations and quantities see, sheet no's. 64-66 & 70.

Payment to perform this work, including excavation and embankment, will be made at the unit price bid of Sq. Yd. for Item 202 - Concrete Median Removed, As Per Plan and shall include the cost of all labor, materials, equipment and incidentals necessary to complete the work.

ITEM SPECIAL - ∧ (PIPE CONDUIT) CLEANOUT

Existing conduits at the locations shown on sheet no. 73 shall be cleaned out as directed by the Engineer.

This work shall consist of the removal of all foreign matter from the inside of the existing conduit in a manner acceptable to the Engineer. The removed material shall be disposed of in accordance with Section 203.05.

Payment to perform this work will be made at the unit price bid per the actual number of linear feet of existing conduit cleaned out and shall include the cost of all labor, equipment, materials and incidentals necessary to complete the work.

MEDIAN GUARDRAIL REMOVAL

The area disturbed by removing median guardrail runs, reference no's. 12-GR, 17-GR and 61-GR, shall be restored to a neat appearance and seeded in accordance with Item 659.

The following quantity has been carried to sheet no. 63 for the purpose of seeding the median where guardrail is removed:

Item 659 - Seeding & Mulching -------- 700 S.Y.

CONCRETE BARRIER, TYPE D, AS PER PLAN

This item shall consist of constructing Type D concrete barrier as per Standard Drawing MC-9 with the following exceptions:

The concrete barrier shall be steel reinforced, the base portion shall extend to the edge of the shoulder and the barrier shape shall be transitioned to accommodate the bridge terminal assemblies as per Standard Drawing GR-3.

For details and quantities, see sheet no. 74.

Payment for all of the above will be made at the unit price bid of Lin. Ft. for Item 622 - Concrete Barrier, Type D, As Per Plan and shall include the cost of all labor, equipment, materials and incidentals necessary to complete the work.

ITEM SPECIAL - HERBICIDE APPLICATION UNDER ASPHALT

The application of a herbicide such as Treflan E.C. or approved equal shall be made only when the final grade is established after additions of any base aggregate. All plant material such as rhizomes, roots or other vegetative plant material shall be removed prior to placement of base material. Paving should follow herbicide applications as soon as possible. The Contractor shall be properly licensed to apply herbicides and adhere strictly to label instructions of any herbicide approved for this use.

Payment for all labor and material required to apply this herbicide shall be included in the price per square yard bid for Item Special, Herbicide Application Under Asphalt.

ITEM 604 - INLET, NO. 2-6, 2-8, AND 2-10, AS PER PLAN

All reinforcing steel listed in the steel list on Standard Construction Drawing I-2 shall be epoxy-coated in accordance with 509.10 of the CMS.

All costs of this coating shall be included in the cost of the appropriate inlet item.

TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

References to Supplemental Specifications 857, 858, 861, 957, 958 and 961 on the Traffic Control Standard Construction Drawings in these plans shall be considered to read as respective references to Items 630, 631, 633, 730, 731 and 733.

CONNECTION TO EXISTING PIPE

Where the plans are provided for proposed conduit to be connected to, or to cross either over or under an existing sewer, it shall be the responsibility of the Contractor to locate the existing pipe both as to line and grade before he starts to lay the proposed conduit.

Payment for all operations described above shall be included in the unit price bid for the pertinent 603 Conduit Items.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

The following estimated quantities are to be used as directed by the Engineer, for temporary erosion and sediment control measures:

207 Straw And Hay Bales - - - - - - - - - - - 100 Each

APPROACH SLAB REMOVAL & CONSTRUCTION

The existing rear and forward approach slabs at bridge no. HAS-22-2460 L shall be removed in conjunction with the deck replacement. New approach slabs shall be constructed as shown in the details on sheet no. 113.

The following quantities have been carried to the General Summary for the purpose of removing the existing approach slabs and constructing new approach slabs at bridge no. HAS-22-2460 L:

Item 202 - Approach Slab Removed - - - - - - - - - - 134 S.Y.
Item 611 - Reinforced Concrete Approach Slab (T=15") - - 217 S.Y.

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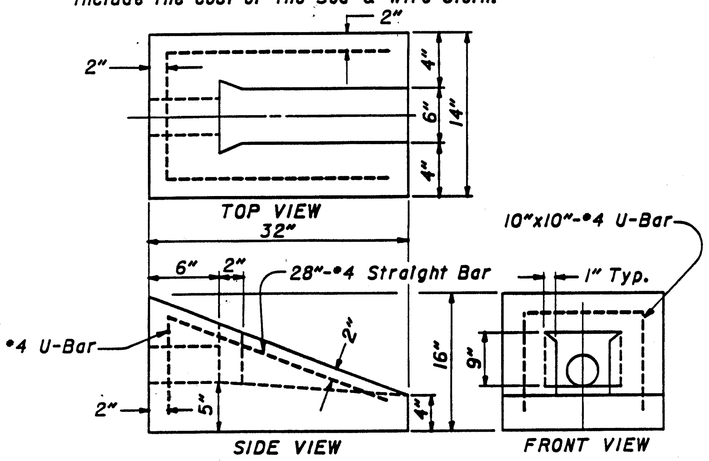
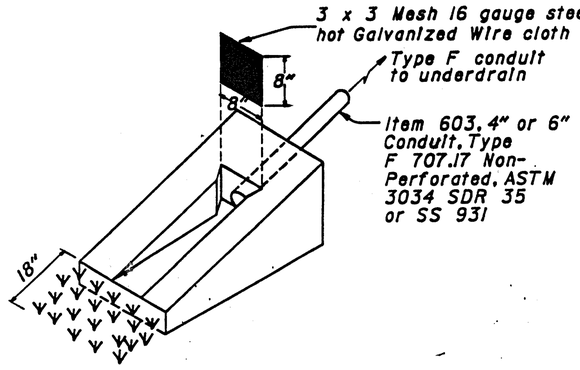
ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

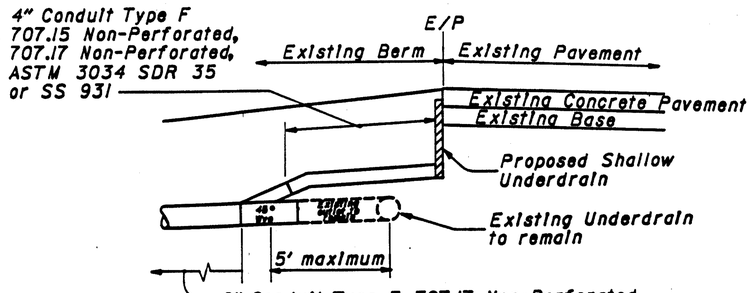
The Concrete outlet shall meet the requirements of Item 604 in the Construction & Materials Specifications. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.



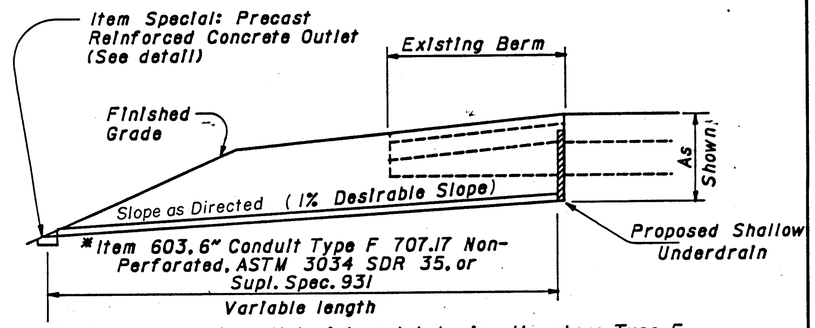


NOTE: The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

OUTLET DETAILS



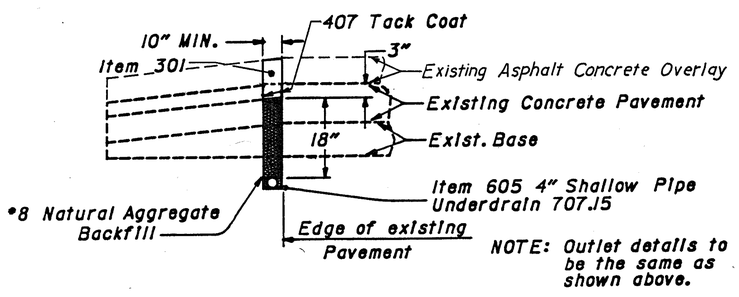
NOTE: The cost of the 4" conduit Type F and necessary pipe bends and branches needed to connect the existing and proposed underdrains shall be included with the cost of the 6" conduit Type F beyond the existing underdrain.



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

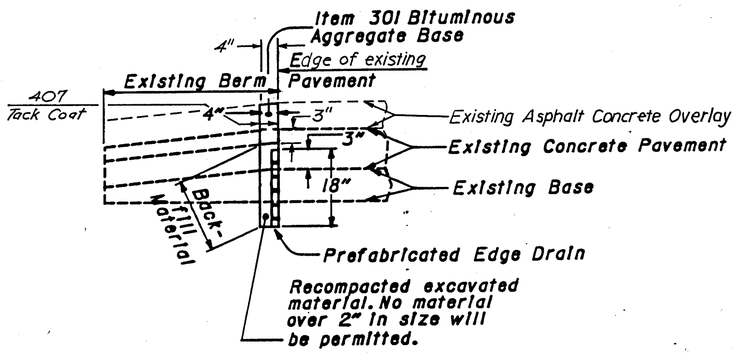
* If prefabricated edge drain is used then 4" Conduit shall be used for the outlet in lieu of 6" Conduit. The 4" Conduit shall be paid at the unit price bid for the 6" Conduit.

PIPE UNDERDRAIN SYSTEM



NOTE: Outlet details to be the same as shown above.

PREFABRICATED EDGE DRAIN SYSTEM



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

MATERIALS: The underdrain shall be a pipe underdrain system per Item 605 or a prefabricated edge drain system meeting the following requirements. The prefabricated edge drain shall consist of a polymeric core with a minimum thickness of one inch wrapped in fabric meeting 712.09 Type A. The drain shall be flexible, rectangular in shape and of hollow construction. The core material shall be resistant to petroleum based chemicals, natural occuring soil chemicals, and road de-icing agents.

The core shall provide a minimum of 100 square inches unobstructed (one side only) drainage area per foot of width. Side walls of the core shall provide at least 5% open area to permit unobstructed flow through the filter and wall to the core.

The prefabricated edge drain shall have a minimum compressive strength of 6000 pounds per square foot with a maximum 20% compression in a parallel plate compression test (ASTM-D 695). The minimum (single side) core flow capacity shall be 10 gallons per minute per foot of width for a 0.1 gradient at 10 pounds per square inch bladder load per ASTM D 4716

In lieu of the above requirements the following products are acceptable prefabricated edge drains:

Hydraway Drain by Monsanto Company
PDS 30 by Prodrain Sytems
Strip Drain 100 by Contech Construction Products, Inc.

CONSTRUCTION: The prefabricated edge drain shall be installed in a trench as shown on the plans and in accordance with the manufacturer's recommendations. The trench shall be backfilled with the excavated trench material placed in two (2) layers and each layer compacted to a density of not less than 90% of the maximum dry weight density. The first layer of the backfill material shall be placed simultaneously with the trenching operation to hold the edge drain flush against the trench wall.

The prefabricated edge drain shall be spliced as required prior to placement in the trench, using material furnished by the manufacturer and in accordance with the manufacturer's directions. All material required for the splices will be supplied by the manufacturer, but any equipment required shall be furnished by the Contractor.

The underdrain outlets shall be placed in accordance with Item 603 as directed by the Engineer, using outlet fittings. The manufacturer shall supply outlet fittings which will make the transition between the prefabricated edge drain and the outlet pipe. Fittings shall be installed as recommended by the manufacturer.

The outlets for the underdrain system shall be constructed as soon as possible after placement of the underdrain. The outlets on crack & seat projects shall be in place and functional prior to cracking and seating the existing pavement.

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

BASIS OF PAYMENT: Work completed and accepted under this item and measured will be paid for at the contract unit price bid per linear foot for Item 605 - Shallow Underdrain, as per plan. Which price shall be full compensation for excavation and backfill; for furnishing materials, including material for splices; outlet fittings and Item 301; for all labor, tools equipment, and incidentals necessary to complete the work.

ITEM 605-SHALLOW UNDERDRAIN, AS PER PLAN

DATE 4-7-89

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MAINTAINING TRAFFIC

MAINLINE (4-LANE PORTION)

At least one lane of traffic shall be maintained in each direction at all times. The length of restricted traffic lanes shall be kept to a minimum consistent with the specification requirements for the protection of work Items which necessitate the restriction. The limits and duration of lane closures shall be subject to the approval of the Engineer.

Construction work shall be permitted on only one side of the directional roadway at a time and any open pavement trench shall be adequately maintained and protected with barricades, drums or vertical panels. Under no circumstances shall the Contractor be permitted to have work zones that alternately close both the passing lane and the travel lane unless the distance between the lane restrictions exceeds two (2) miles.

Full depth rigid pavement removal and rigid replacement for crack and/or joint repairs shall be performed in only one directional roadway at a time and the total length of this operation shall not exceed 15,000 feet at any given time. (These restrictions shall not apply to full depth pavement sawing operation).

Class MS concrete as per Supplemental Specification 905 shall be used for all mainline full depth pavement repairs. Class FS concrete may be used at the direction of the Engineer if the Contractor becomes restricted by time to have all lanes open to traffic due to a major legal holiday as defined below.

MAINLINE (2-LANE PORTION)

One lane of traffic shall be maintained at all times by means of flaggers controlling one-way, alternating traffic for daytime operations. The length and duration of the lane closure shall be kept to a minimum and shall at all times be subject to the direction of the engineer. Both lanes shall be open to traffic at night.

Placement of the concrete portion of all full depth pavement repairs shall be stopped at noon. The concrete shall then be allowed to cure for five (5) hours before placement of the 301 material to complete the repair. All pavement repairs which have been lifted out shall have the concrete poured and the 301 material placed that same day. All pavement repairs which have been sawed but not lifted out shall be completed the following day. No pavement repairs shall be sawed and left unrepaired over the weekend. The Contractor may, at his option, omit the joint sealer prior to placing the 301 material.

Type FS concrete as per Supplemental Specification 905 shall be used for all full depth rigid pavement repairs in the 2-lane portion.

TEMPORARY MEDIAN CROSSOVERS

Two-lane, two-way operation (TLTWO) shall be maintained on a directional roadway by use of temporary median crossovers, during reconstruction of bridge no. HAS-22-2460 L, as follows:

1. Construct the temporary roads and pavement as shown in the details on sheet no. 38. Immediately upon completion, the crossover ramps shall be adequately barricaded, in a manner acceptable to the Engineer, to prevent use by the traveling public.

2. Erect temporary signs and warning lights, install temporary concrete barrier, temporary raised pavement markers, apply temporary edge lines and place apply temporary edge lines and place drums as shown on sheet no's. 33-36.

3. Open the crossovers to traffic. Maintain traffic using TLTWO for the duration of the construction work described in step 4.

4. Reconstruct bridge no. HAS-22-2460 L as shown on sheet no's. 109-115

5. Upon completion of the work described in step 4, the Contractor shall a). remove temporary signs, warning lights, temporary concrete barrier, temporary raised pavement markers, temporary edge lines and drums. b). barricade the crossover ramps as described in step 1 c). restore the mainline pavement markings and d). open all lanes to traffic.

TEMPORARY MEDIAN CROSSOVERS (CONTINUED)

6. Remove all temporary roads and pavement and complete all remaining project construction.

The Contractor shall not perform any work that necessitates a lane closure in the vicinity of the TLTWO unless the distance between the end of the TLTWO and the lane restriction exceeds two (2) miles.

In addition to the requirements of Item 614 and sheet no's. 29-38, a uniformed special duty Law Enforcement Officer (L.E.O.) and an official Patrol Car with emergency flashers operating shall be provided in the following situations:

1. During the initial set-up and tear down periods of lane closures and channelization of directional traffic into a reduced number of lanes.

2. When the beginning point of a lane closure is shifted substantially.

3. During the advance preparation and closure sequence where complete blockage of the traffic is required.

L.E.O.'s shall not be used where the Ohio Manual of Uniform Traffic Control Devices intends that flaggers be used. L.E.O.'s may be used for other purposes within the project; however, such usage is at the option of the Contractor and payment for such usage shall be included in the lump sum bid for Item 614 - Maintaining Traffic.

The following quantity has been included in the Maintenance of Traffic General Summary for the purpose of using a L.E.O. with Patrol Car as specified above:

Item Special - L.E.O. with Patrol Car -------- 40 Hours

INTERCHANGE RAMPS

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

Ramp traffic may be stopped by means of flaggers for intermittent periods not to exceed ten (10) minutes during ramp pavement repair operations.

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

Class FS concrete as per Supplemental Specification 905 shall be used for all ramp full depth pavement repairs.

SPEED CHANGE LANES

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

Class FS concrete as per Supplemental Specification 905 shall be used for all speed change lane full depth pavement repairs.

AT-GRADE INTERSECTIONS

Full access shall be maintained at all times to any at-grade intersection, including the corresponding median crossover.

BRIDGES

One lane of traffic shall be maintained on bridge no. HAS-22-2126 during bridge deck rehabilitation by means of signalized alternating one-way traffic as per Standard Drawings MT-96.10, MT-96.20 and MT-96.25. The initial signal cycle length shall be set at 80 seconds.

Two-lane, two-way operation shall be maintained on bridge no. HAS-22-2460 R during bridge deck replacement of bridge no. HAS-22-2460 L as detailed on sheet no's. 109 thru 115.

Traffic shall be maintained on all remaining bridges as per Standard Drawing MT-95.30.

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

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

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

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

GENERAL

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

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

Full depth sawing repairs must not remain uncompleted through the winter with traffic on the sawed joints. If the Contractor cannot complete the repair before winter, the pavement shall not be sawed.

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

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

Payment for all of the above, unless separately itemized in the plan, shall be included in the lump sum price bid for Item 614 - Maintaining Traffic.

PORTABLE CONCRETE BARRIER

Where "Portable Concrete Barrier" Appears in the plans shall be considered to read "Temporary Concrete Barrier."

622 TEMPORARY CONCRETE BARRIER (TCB)

Supplementing 622.08. The method of measurement for TCB shall include the total of each individual placement of TCB required by the plans without regard to whether the same specific section of TCB could be re-used again on the project.

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ITEM 622 – TEMPORARY CONCRETE BARRIER, TYPE A-50, AS PER PLAN

This work shall consist of the furnishing, installation, maintenance and subsequent removal of a 50 inch Temporary Concrete Barrier as detailed on this sheet at the locations shown on sheet no's. 37 & 38 .

Pin and loop type Temporary Concrete Barrier, Type A-32 with an 18 inch minimum height glare screen may be used at the option of the Contractor.

The Temporary Concrete Barrier, Type A-32 shall be constructed using one (1) of the following systems or an approved equal:

CARSONITE MODULAR GLARE SCREEN
CARSONITE INTERNATIONAL
2900 Lockheed Way
Carson City, Nevada 89701
702-883-5104 or 800-648-7974

FORWARD GLARE SCREEN
PROVEN PRODUCTS, INC.
7560 S.W. Laview Drive
Portland, Oregon 97219
503-244-9185

SYRO GLAREFOIL
SYRO STEEL COMPANY
1170 N. State Street
Girard, Ohio 44420
216-545-4373

Paddle or intermittent type glare screen shall be designed using a 20 degree cut-off angle based on tangent alignment. That spacing shall be used throughout the barrier length without regard to the barrier curvature.

The glare screen system attached to the 32 inch Temporary Concrete Barrier shall be securely fastened using the hardware and procedures specified by the manufacturer.

Payment to perform this work will be made at the unit price bid of Lin. Ft. for Item 622 – Temporary Concrete Barrier, Type A-50, As Per Plan, and shall include the cost of all labor, material and equipment necessary to complete the work.

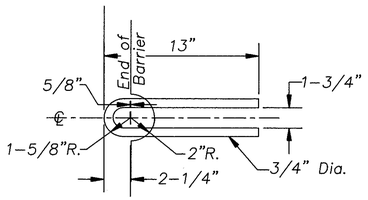
TEMPORARY CONCRETE BARRIER NOTES

CONNECTING PIN and steel rod connector shall meet the requirements of 711.01 and be galvanized after fabrication per 711.02.

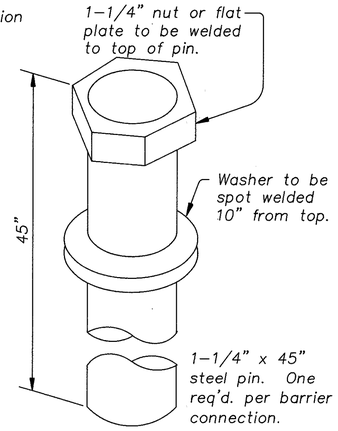
HANDLING DEVICES may be used in lieu of the lifting slot for moving the barrier. They may be of any design sufficient to handle the weight of the section being lifted.

LEGEND

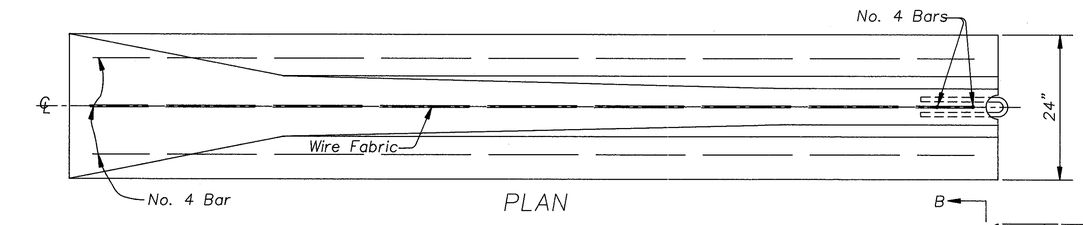
1. *1" Radius or 3/4" Chamfer, all top and end corners.*
2. *Permissible 10" Radius.*
3. *Permissible 1" Radius.*



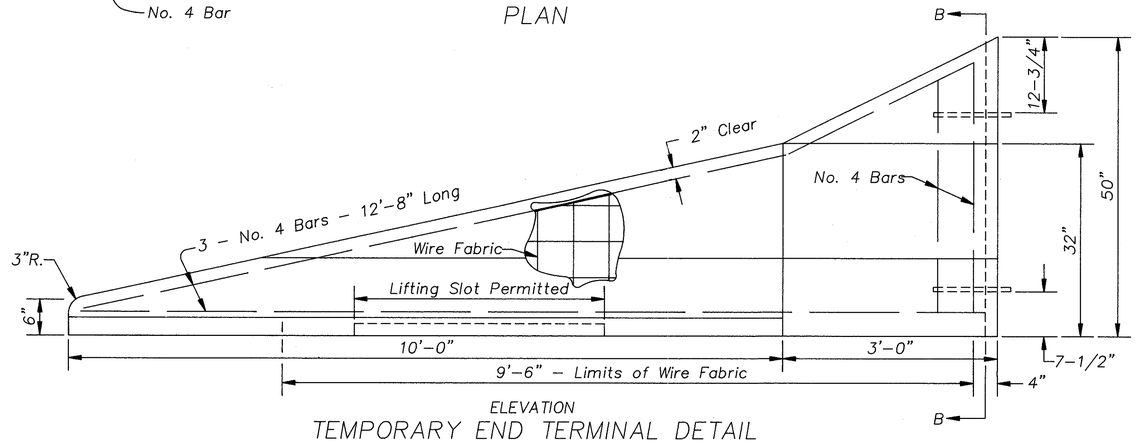
3/4" STEEL ROD CONNECTOR



CONNECTING PIN

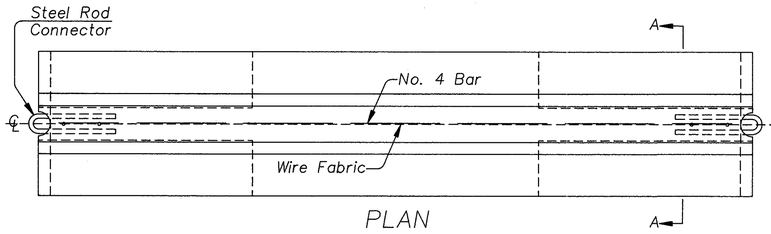


PLAN



ELEVATION

TEMPORARY END TERMINAL DETAIL



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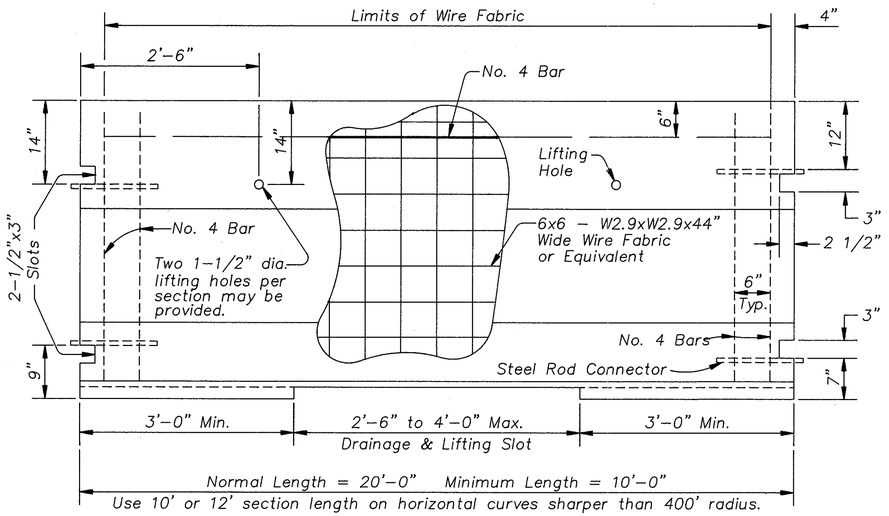
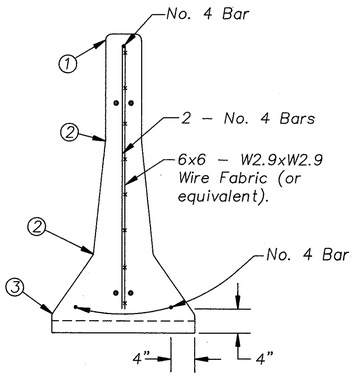
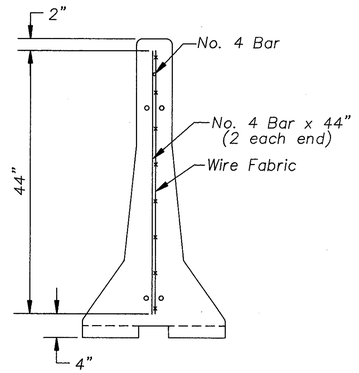


ELEVATION

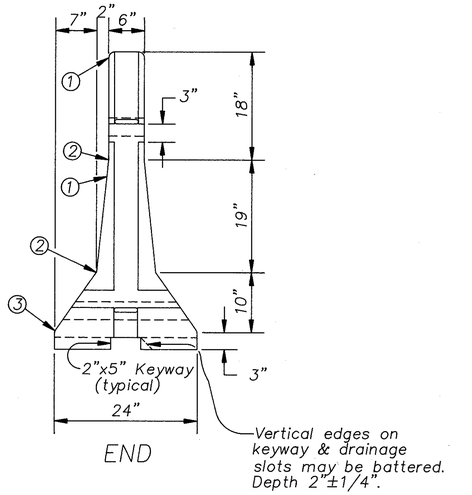
BARRIER DETAIL
Pin and Loop Design



SECTION B-B



SECTION A-A



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MAINTENANCE OF TRAFFIC GENERAL NOTES

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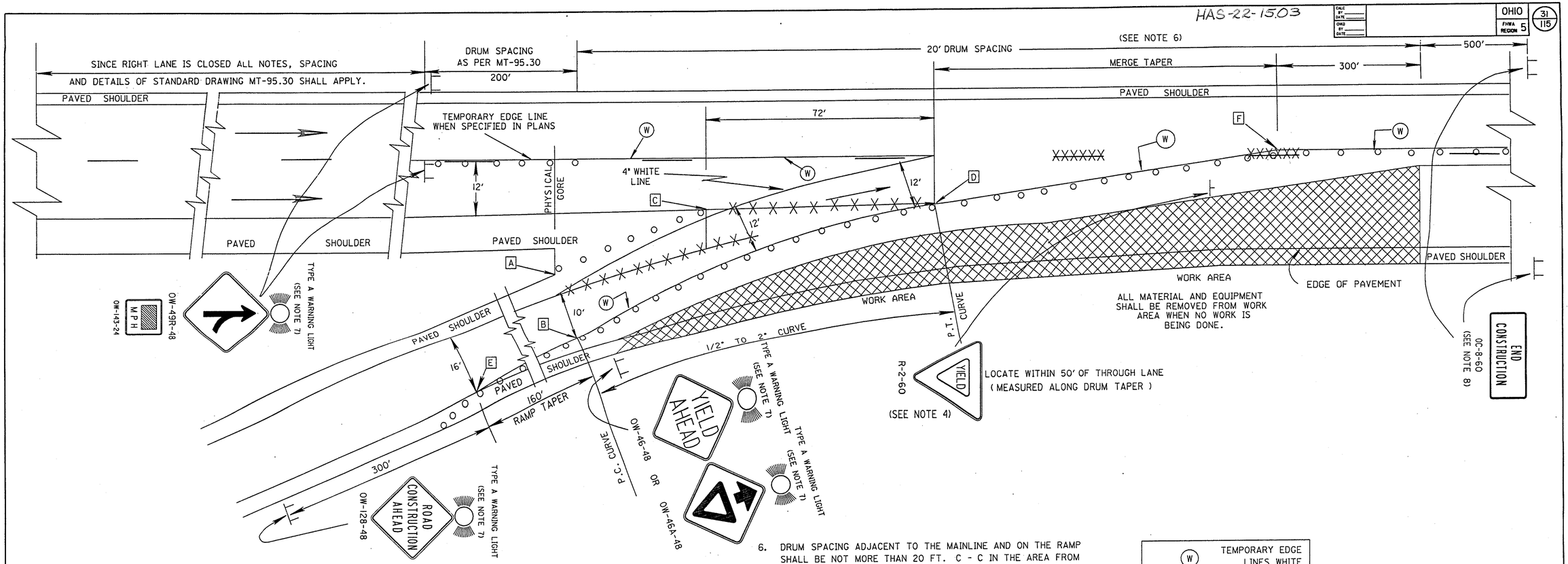


GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL BE EMPLOYED WHEN: (1) THE LATERAL CLEARANCE BETWEEN CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND THE EDGE OF PAVEMENT IS LESS THAN 10 FT. (12 FT. IF THE SHOULDER PAVEMENT IS USED) AS SHOWN ON DRAWING MT-98.15, AND (2) THE REQUIRED RAMP TAPERS AND CURVES CAN BE PROVIDED AS SHOWN. IN THE EVENT THE WORK ZONE CONDITION WOULD PERMIT THE USE OF EITHER MT-98.15 OR MT-98.16, MT-98.16 SHALL BE USED. THIS TRAFFIC CONTROL MEASURE SHALL NOT BE PLACED IN EFFECT UNTIL IMMEDIATELY BEFORE THE CONTRACTOR IS FULLY PREPARED TO PERFORM THE WORK ON THE RAMP OR LANE ADJACENT TO IT. ONCE THIS MEASURE IS PLACED INTO EFFECT THE CONTRACTOR SHALL EXPEDITIOUSLY PURSUE THE WORK (WORKING CONTINUOUSLY WITH FULL CREW IN THE RAMP AREA ON ALL NORMAL WORKING DAYS) UNTIL IT IS COMPLETED AND SHALL IMMEDIATELY OPEN THE AREA TO NORMAL TRAFFIC OR, AS A MINIMUM, REVERT TO THE METHODS SHOWN ON MT-98.15. IT IS THE INTENT THAT THE LONGEST MERGING TAPER LENGTH POSSIBLE SHALL BE CHOSEN, COMMENSURATE WITH THE REQUIREMENTS OF CONSTRUCTION.

2. THE RAMP TAPER SHALL DESIRABLY BE LOCATED TO PROVIDE A 10' MINIMUM PATH BETWEEN DRUMS AND THE PAVED SHOULDER IN THE GORE. THE RAMP TRAFFIC MAY BE PLACED ON THE PAVED GORE AS SHOWN ABOVE ONLY IF (1) THE TRAFFIC WILL USE THE PAVED SHOULDER PAVEMENT LESS THAN ONE DAY AND THE SHOULDER PAVEMENT IS IN GOOD CONDITION AND IS LEVEL AND SMOOTH OR (2) IF THE SHOULDER PAVEMENT IS ADEQUATELY STRENGTHENED, LEVELED AND SMOOTHED TO CARRY THE ANTICIPATED LOAD. A MINIMUM OF 3 DRUMS SHALL BE USED IN THE RAMP SHOULDER TAPER.

3. RAMP SIGNS SHALL BE DUAL MOUNTED ON MULTI-LANE RAMPS. WHEN THE RAMP IS NOT LONG ENOUGH TO ALLOW PLACEMENT AS SPECIFIED ABOVE, THE SIGNS MAY BE SPACED PROPORTIONATELY WITHIN THE SPACE AVAILABLE AS DETERMINED BY THE ENGINEER (A 200 FOOT MINIMUM SPACING MUST BE MAINTAINED).

4. IT WILL BE NECESSARY TO MOVE THE LOCATION OF ANY EXISTING YIELD CONDITION. IN THESE CASES, THE PERMANENT R-2 SIGN INSTALLATION SHALL BE COVERED AND THE TEMPORARY INSTALLATION SHALL BE MOUNTED APPROPRIATELY. IF THE REQUIRED DISTANCES (RAMP TAPER, CURVE AND MERGE TAPER) CANNOT BE OBTAINED, THE ENGINEER MAY APPROVE SLIGHTLY LOWER VALUES FOR A SHORT TIME, IN WHICH CASE THE YIELD SIGN SHALL BE REMOVED AND A 36" STOP SIGN PLACED APPROPRIATELY TO BE VISIBLE TO RAMP TRAFFIC BUT NOT BE OBTRUSIVE TO MAINLINE TRAFFIC.

5. IF THE CONSTRUCTION OPERATION REQUIRES THE LANE CLOSURE FOR MORE THAN ONE DAY THEN THE EXISTING CONFLICTING PAVEMENT MARKINGS AND REFLECTORS FROM THE RAISED PAVEMENT MARKERS (RPM'S) SHALL BE REMOVED AND THE APPROPRIATE COLOR TEMPORARY EDGE LINES SHALL BE APPLIED ALONG THE TAPER. TEMPORARY EDGE LINES WHICH WOULD CONFLICT WITH FINAL TRAFFIC LANES SHALL BE REMOVABLE (947.03 TYPE-C) TAPE UNLESS THE AREA WILL BE RESURFACED IN THE NEXT WORK PHASE. AFTER COMPLETION OF THE WORK, TEMPORARY MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKERS REFLECTORS SHALL BE RESTORED.

6. DRUM SPACING ADJACENT TO THE MAINLINE AND ON THE RAMP SHALL BE NOT MORE THAN 20 FT. C - C IN THE AREA FROM THE PHYSICAL GORE TO 300 FT. BEYOND THE MERGE TAPER. CONES HAVING A MINIMUM HEIGHT OF 28 INCHES MAY BE SUBSTITUTED FOR DRUMS FOR DAYTIME LANE CLOSURES. PROVISIONS SHALL BE MADE TO SAFELY STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER. IF THIS CANNOT BE ACHIEVED, DRUMS SHALL BE USED. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT LANE CLOSURE.

7. TYPE A FLASHING WARNING LIGHTS ARE REQUIRED ON THE ROAD CONSTRUCTION AHEAD (OW-128-48), MERGE (OW-49R-48), AND THE YIELD AHEAD (OW-46-48) SIGNS WHEN NIGHT LANE CLOSURE IS NECESSARY.

8. THE OC-8 SIGNS ARE ONLY REQUIRED FOR LANE CLOSURES OF MORE THAN ONE DAY AND MAY BE OMITTED IF THEY FALL WITHIN THE LIMITS OF A CONSTRUCTION PROJECT.

9. FROM THE END OF THE GORE AREA GRADED SHOULDER (POINT A), LOCATE THE PC OF THE CURVE BY MEASURING PERPINDICULAR TO THE RAMP CENTERLINE 10' OF RAMP PAVEMENT, NOT INCLUDING PAVED SHOULDER WIDTH (POINT B). FROM THE END OF THE GORE AREA PAVED SHOULDER (POINT C), LOCATE THE PT OF THE CURVE BY MEASURING 72' FROM POINT C ALONG THE EDGE OF PAVEMENT EXTENDED (POINT D).

10. PLACEMENT OF DRUMS SHALL BEGIN AT (POINT E) 160' UP THE RAMP FROM THE PREVIOUSLY LOCATED PC (POINT B) AND AT THE RIGHT EDGE OF RAMP PAVEMENT. FROM THIS POINT A DRUM TAPER SHALL BE PLACED TO THE PC (POINT B) AND THEN ALONG A CURVE AS SHOWN TO THE PT (POINT D) WHERE A 48:1 (MIN.) MERGE TAPER SHALL MEET MAINLINE TRAFFIC CONTROL (POINT F).

(W)	TEMPORARY EDGE LINES WHITE
[A]	LAYOUT POINTS
XXXXXXXXX	MARKINGS REMOVED

PRELIMINARY
PREPARED BY
TECHNICAL SUPPORT SECTION
ALF H. HANSEN P.E.
WALTER C. CHADWICK D.S.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

REVISED BY:	DATE:
209816	DATE 04/03/90
LANE CLOSURE AT ENTRANCE RAMP PLAN B	
PLAN INSERT SHEET	

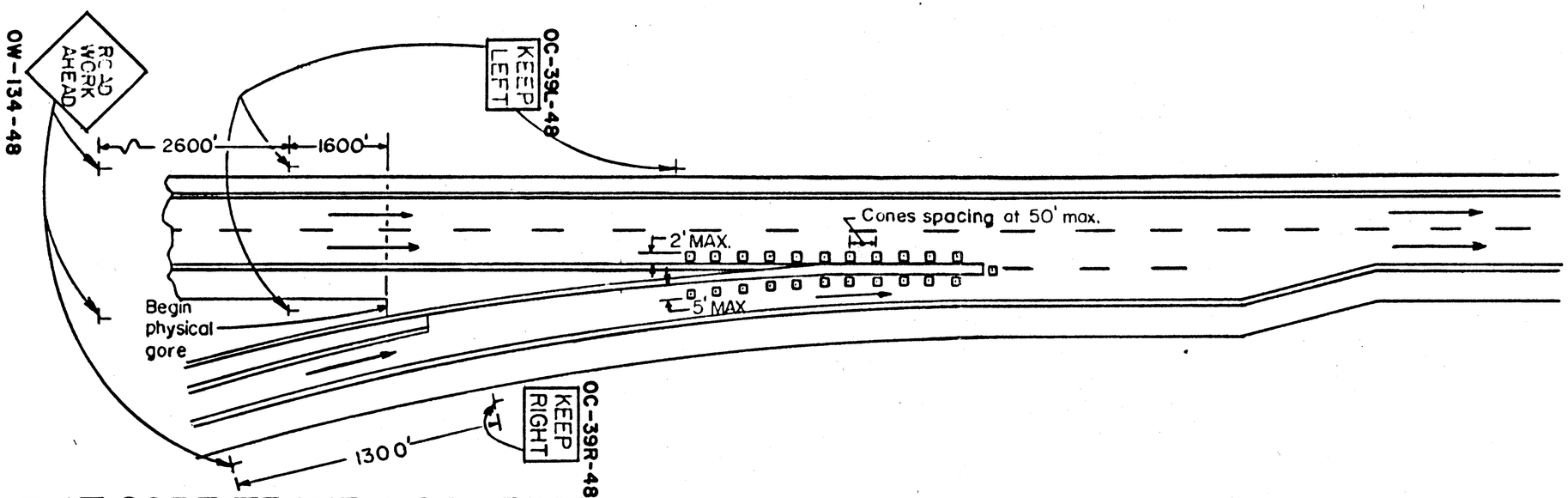
WCC

FHWA REGION	STATE	PROJECT	
5	OHIO		

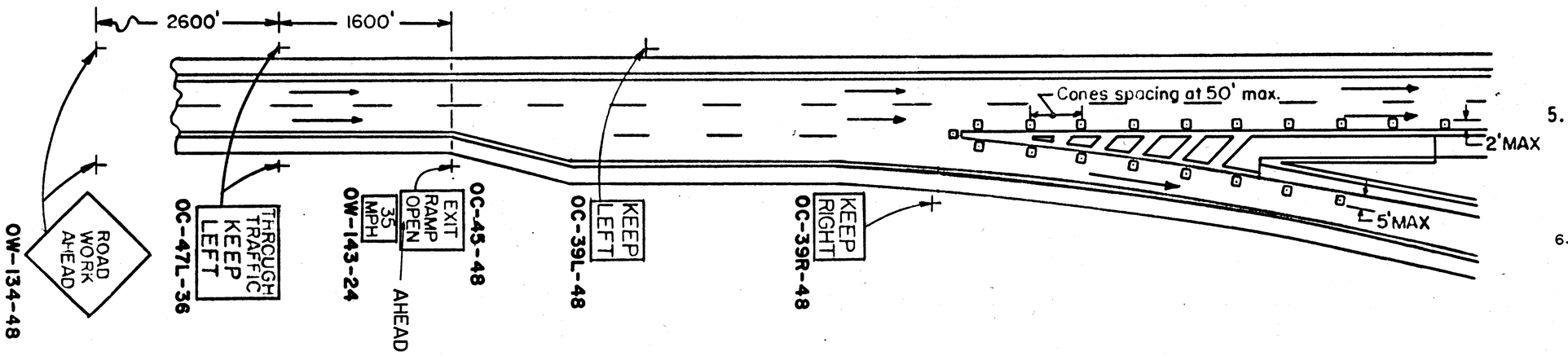
32
115

HAS-22-15.03

ENTRANCE GORE TRAFFIC CONTROL



EXIT GORE TRAFFIC CONTROL



GENERAL NOTES

1. WHERE THE ONLY WORK IN THE GORE AREA CONSISTS OF APPLICATION OF EDGELINE MARKINGS WITH FAST DRY PAVEMENT MARKING MATERIALS, THE TRAFFIC CONTROL FOR "EDGELINE PAVEMENT MARKING OPERATIONS" SHOULD BE EMPLOYED.
2. WHERE THE WORK IN THE GORE AREA REQUIRES MORE POSITIVE TRAFFIC CONTROL OR OVERNIGHT WORK AREA PROTECTION, THE TRAFFIC CONTROL FOR "LANE CLOSURE AT THE ENTRANCE RAMP" OR "LANE CLOSURE AT EXIT GORE" SHOULD BE EMPLOYED.
3. THE SPACING BETWEEN SIGNS SHOWN ON THIS DETAIL MAY BE ADJUSTED (INCREASED OR DECREASED) WITH THE APPROVAL OF THE ENGINEER TO POSITION THEM NO CLOSER THAN 200 FEET TO EXISTING **SIGNS** WHICH MUST REMAIN IN USE.
4. AT **AN** ISOLATED ENTRANCE GORE AREA, A FLASHING ARROW PANEL CONFORMING TO REQUIREMENTS IN TC-35.10 MAY BE SUBSTITUTED FOR THE ADVANCE OC-39-48 SIGNS.
5. AT AN INTERCHANGE WHERE BOTH EXITS AND ENTRANCES ARE MARKED WITH TRAFFIC CONTROL IN PLACE AT THE SAME TIME, THE OW-134-48 SIGN ON THE ENTRANCE RAMP IS NOT REQUIRED.
6. FOR NIGHT CLOSURES, EACH OF THE FIRST TWO SIGNS IN THE SEQUENCE (ROAD WORK AHEAD AND THROUGH TRAFFIC KEEP LEFT) IS REQUIRED TO BE SUPPLEMENTED BY A TYPE A FLASHING BARRICADE WARNING LIGHT.

OHIO DEPARTMENT OF TRANSPORTATION

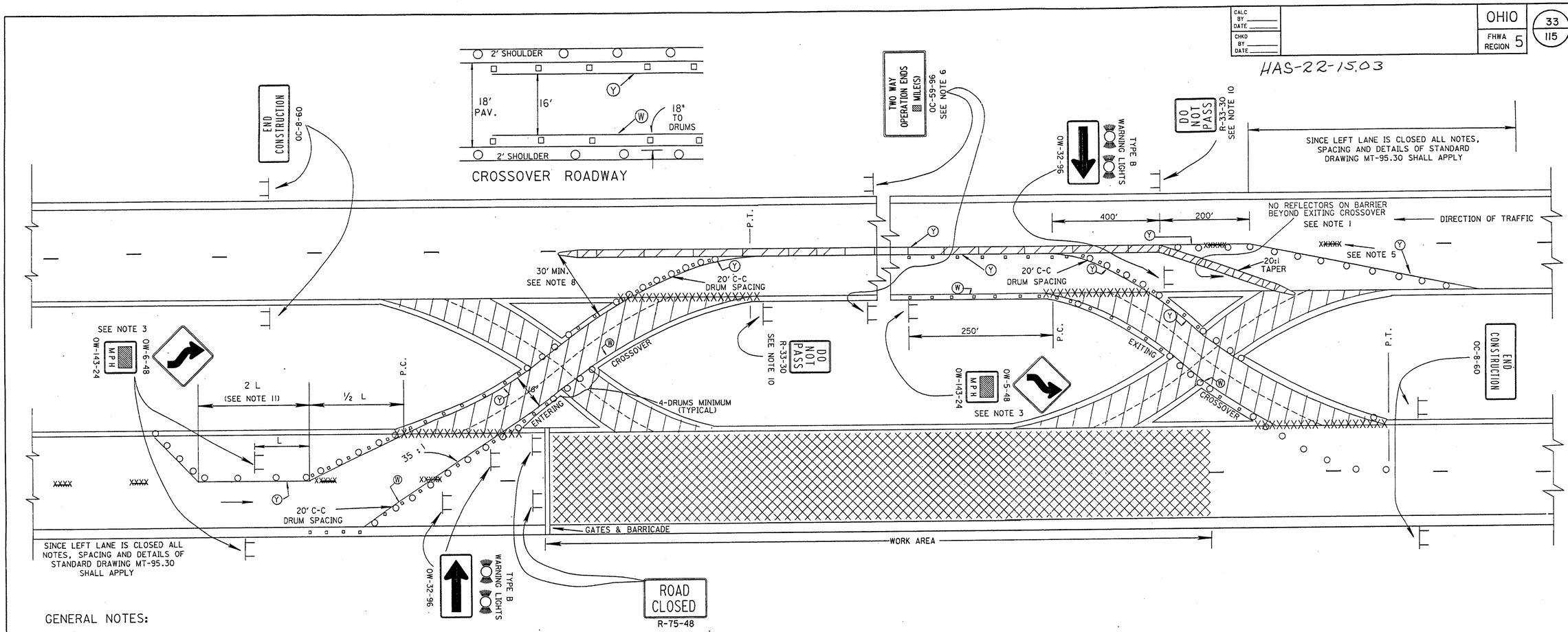
TRAFFIC CONTROL FOR WORK IN GORE AREAS

DATE 1/81

DR. | CK.

CALC BY / DATE		OHIO	33
CHKD BY / DATE		FHWA REGION 5	115

HAS-22-15.03



GENERAL NOTES:

1. TEMPORARY BARRIER REFLECTORS (YELLOW) SHALL BE MOUNTED ON THE PORTABLE CONCRETE BARRIER AT A MAXIMUM OF 50 FT. SPACING, (25' SPACING ON CURVES OF 5° OR SHARPER). NO REFLECTORS OR OTHER CHANNELIZING DEVICES SHALL BE PERMITTED ON THE FACE OF THE PCB FACING THE EXITING CROSSOVER, FROM THE PC TO END OF BARRIER.

2. THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED NOT TO CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS. IF SHOULDER IS USED AS A LANE, SET BACK ALL SIGNS TO 6' BEYOND THE SHOULDER.

3. THE ADVISORY SPEED SIGN (OW-143) SHALL BE USED WHEN SPECIFIED. THE ADVISORY SPEED SHALL BE AS CALLED FOR IN THE PLANS.

4. DRUMS SHALL BE SPACED AT 40' C-C UNLESS OTHERWISE SHOWN. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT LANE CLOSURES.

5. THE EDGE LINES ADJACENT TO THE BARRIER MAY USE PAINT ONLY IF THEY WILL BE DESTROYED OR SURFACED OVER IN THE NEXT STAGE OF WORK. THEY SHALL BE INSTALLED WITH REMOVABLE TAPE IF ON THE FINAL SURFACE. IN ORDER TO CHANGE THE COLOR OF THE EDGE LINE NEXT TO THE MEDIAN, IT MAY BE HEAVILY PAINTED OVER (WITH SUBSEQUENT OVER PAINTING IF NECESSARY DURING THE LIFE OF THE WORK STAGE TO MAINTAIN DAY AND NIGHT COLOR) EXCEPT THAT THIS PROCEDURE WILL NOT BE PERMITTED FOR A LINE ON THE FINAL SURFACE.

5. cont. THE EXISTING CONFLICTING PAVEMENT MARKINGS AND REFLECTORS FROM THE RAISED PAVEMENT MARKERS SHALL BE REMOVED AND THE APPROPRIATE COLOR TEMPORARY EDGE LINES SHALL BE APPLIED. THE RIGHT EDGE LINE IN THE TWO WAY TRAFFIC SECTION SHALL BE WHITE. ALL PAVEMENT MARKINGS WHICH WILL CROSS NORMAL TRAFFIC LANES SHALL BE INSTALLED USING REMOVABLE (947.03, TYPE C) TAPE, UNLESS THE AREA WILL BE RESURFACED PRIOR TO IMPLEMENTING THE NEXT TRAFFIC STAGE. AFTER COMPLETION OF THE WORK, TEMPORARY MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS SHALL BE RESTORED.

6. THE OC-59 SIGNS SHALL BE PLACED APPROXIMATELY 1 MILE APART ON WORK AREAS OVER 3 MILES.

7. THE PORTABLE CONCRETE BARRIER (PCB) NEAR THE EXITING CROSSOVER, SHALL EXTEND STRAIGHT ON THE PERMANENT ROADWAY TO 400 FT. BEYOND THE PC OF THE CROSSOVER AND THEN TAPER AT 20:1 ACROSS THE TRAFFIC LANE AND PAVED SHOULDER ENDING WITH A TAPERED END SECTION AT THE EDGE OF SHOULDER.

8. PCB NEAR THE ENTERING CROSSOVER SHALL EXTEND TO A POINT 30 FT. FROM THE EDGE OF THE CROSSOVER ROADWAY.

9. PCB SHALL BE 50" HIGH OR FITTED WITH GLARE SHIELDS WITHIN THE FOLLOWING LIMITS: (1) NEAR THE ENTERING CROSSOVER FROM THE BEGINNING OF BARRIER TO 300' BEYOND THE P.T. AND (2) FROM 200' IN ADVANCE OF P.C. TO THE END OF BARRIER NEAR THE EXITING CROSSOVER.

10. "DO NOT PASS" (R-33) SIGNS ARE TO BE INSTALLED AT 1500 FT. INTERVALS IN BOTH DIRECTIONS BEGINNING AT THE LOCATION SHOWN FOR THE FIRST SIGN TO THE END OF PCB.

11. DISTANCE L SHALL BE BASED UPON THE SPEED LIMIT IMPOSED THROUGH THE REMAINDER OF THE WORK ZONE (SEE DRAWING MT-95.30 FOR VALUES OF L).

LEGEND

~~XXXXX~~ —— PAVEMENT MARKING REMOVED

○ —— DRUM

TEMPORARY PAVEMENT MARKINGS

(W) —— WHITE EDGE LINE

(Y) —— YELLOW EDGE LINE

□ —— TEMP. RAISED PAVT. MARKER (TRPM)

—— PCB

—— PCB (50" HIGH OR WITH GLARESHIELD)

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

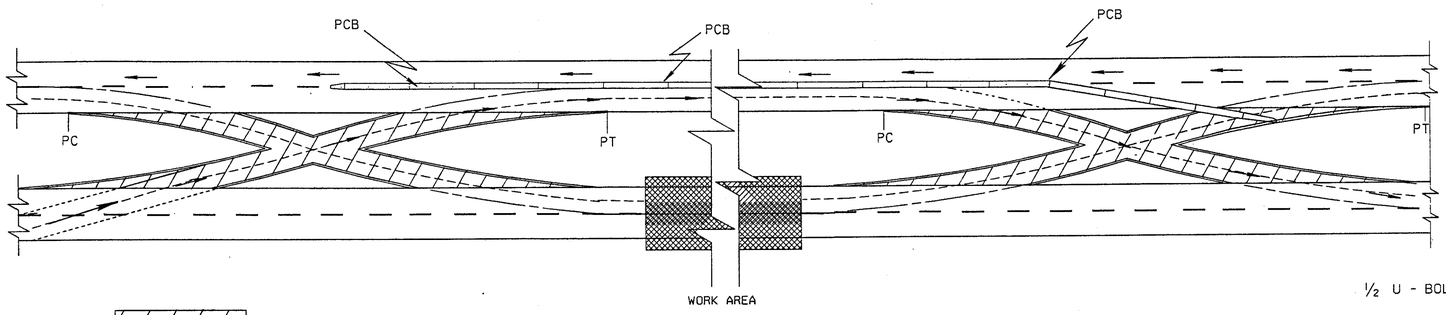
295.70	DATE 10/06/89
TWO-LANE, TWO-WAY OPERATION FOR USE ON FOUR LANE DIVIDED ROADWAYS PORTABLE CONCRETE BARRIER - PCB)	
PLAN INSERT SHEET	

WCC

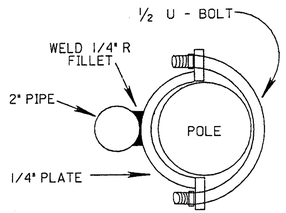
CALC BY DATE		OHIO	34
CHKD BY DATE		FHWA REGION 5	115

HAS22-15.03

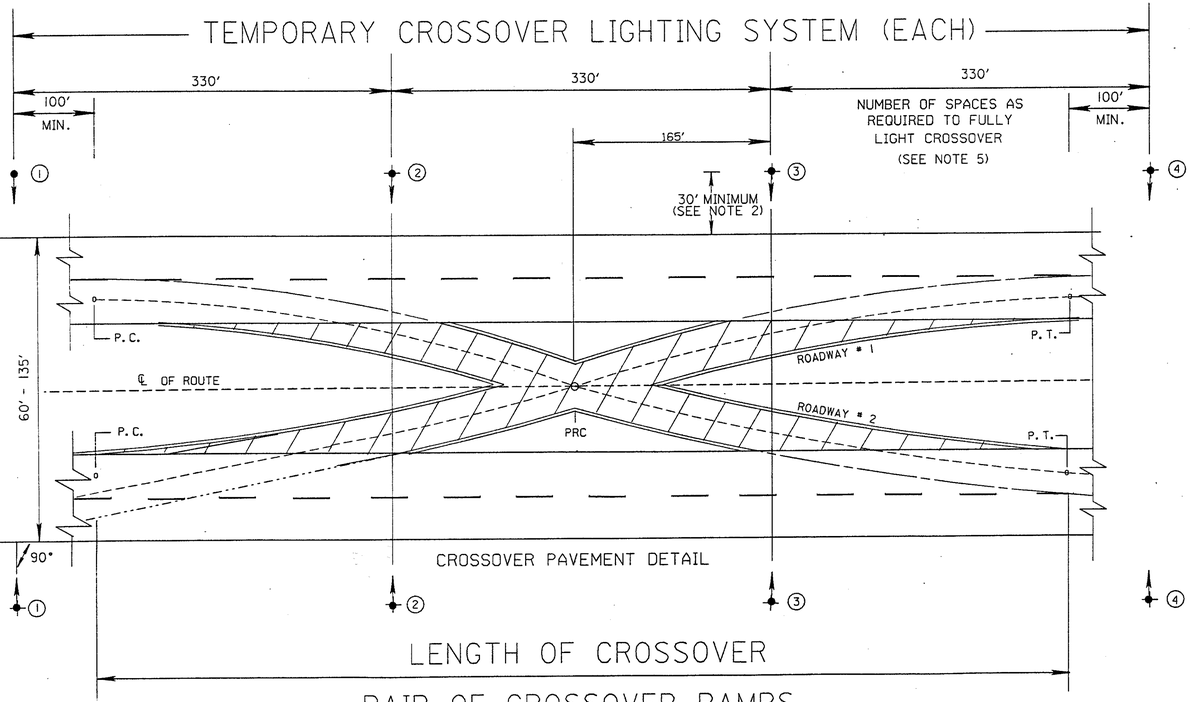
IF THE DISTANCE BETWEEN TWO ADJACENT CROSSOVER LIGHTING SYSTEMS IS LESS THAN 1500 FT. INSTALL ADDITIONAL UNITS AS REQUIRED TO achieve FULL LIGHTING BETWEEN CROSSOVERS

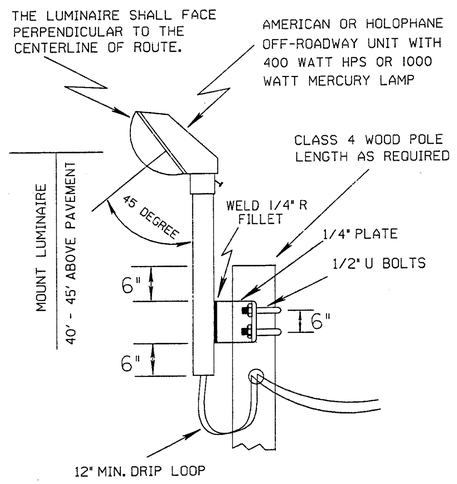


TEMPORARY PAVEMENT



TOP VIEW





SIDE VIEW
MOUNTING DETAIL

NOTES

1. ALL LIGHTING EQUIPMENT USED IN THIS INSTALLATION, SUCH AS LIGHTING CABLE, OR LUMINAIRES SHALL BE IN CONFORMANCE WITH SPECIFICATION ITEMS 625 AND 713. HOWEVER, THE PERFORMANCE TEST OF 625.22E AND THE WORKING DRAWNING REQUIREMENTS OF 625.04 ARE WAIVED. USED EQUIPMENT IS ACCEPTABLE.

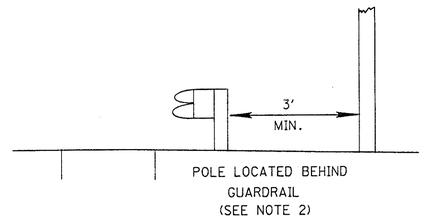
2. LIGHTING POLES NOT LOCATED BEHIND EXISTING GUARDRAIL SHALL BE SET BACK 40 FT. FROM EDGE OF THE NEAREST TRAFFIC LANE (INCLUDING ANY SHOULDER OR TEMPORARY PAVEMENT USED AS A TRAFFIC LANE). WHERE LOCAL CONDITIONS PREVENT THE 40 FT. SET BACK, IT MAY BE REDUCED TO 30 FT. WITH THE APPROVAL OF THE ENGINEER. WHEN LOCATED BEHIND EXISTING GUARDRAIL, LIGHT POLES SHALL BE A MINIMUM OF 3.0' CLEAR FROM BACK OF GUARDRAIL POST TO FACE OF POLE.

3. A PHOTOCELL SHALL TURN ON THE LIGHTING SYSTEM WHEN AMBIENT ILLUMINATION IS BELOW 3 FOOT CANDLE.

4. ALL OVERHEAD WIRING SHALL BE #4 AWG MINIMUM. DOWN GUY ANCHORS SHALL BE PROVIDED AT BOTH ENDS OF OVERHEAD SPANS. ALL WIRING CROSSING THE ROADWAY SHALL HAVE A MINIMUM CLEARANCE OF 20 FT.

5. LIGHTING UNITS WILL BE SPACED AT 330' INTERVALS. THE FIRST 330' SPACE CENTERED ON THE P.R.C. AND ADDITIONAL 330' SPACES AND PAIRS OF LIGHTS WILL BE ADDED IN EACH DIRECTION TO 100' BEYOND THE P.C. OR P.T.

6. THE WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS ELECTRICAL ENERGY AND PAYMENT OF FEES NECESSARY TO ARRANGE AND INSTALL THE ELECTRICAL SERVICE, AND TO ERECT, MAINTAIN, OPERATE AND SUBSEQUENTLY REMOVE THE LIGHTING FOR EACH 614 "TEMPORARY CROSSOVER LIGHTING SYSTEM" FOR A PAIR OF CROSSOVER RAMPS. CONTINUOUS LIGHTING, IF REQUIRED, WILL BE INCLUDED IN THE ADJACENT CROSSOVER LIGHTING SYSTEMS.



210000	DATE 10/17/89 10/20/89
TEMPORARY CROSSOVER LIGHTING SYSTEM	
PLAN INSERT SHEET	

WCC

614 TEMPORARY RAISED PAVEMENT MARKERS

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). THE TRPM'S SHALL BE YELLOW OR WHITE, AS DESCRIBED IN THE PLAN.

MATERIAL
ALL UNITS SHALL BE OF SUFFICIENT STRENGTH AND PROPERLY SHAPED SO AS NOT TO BE DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR DAMAGED BY IMPACTS FROM VEHICLES TIRES, INCLUDING THOSE OF HIGH PRESSURE TRUCK TIRES LOADED TO 4500 POUNDS.

RETROREFLECTORS SHALL BE PROVIDED IN ONE OR TWO DIRECTIONS ON EACH UNIT AS REQUIRED BY THE USAGE AND SHALL RETURN WHITE OR YELLOW LIGHT AS IS APPROPRIATED FOR THE APPLICATION.

THE REFLECTOR SHALL HAVE AN EFFECTIVE AREA OF 0.35 SQUARE INCH FOR TYPE A OR 3.0 SQUARE INCH FOR TYPE B. ITS BRIGHTNESS OR SPECIFIC INTENSITY (WHEN TESTED AT 0.2 DEGREE ANGLE OF OBSERVATION AND THE FOLLOWING ANGLES OF INCIDENCE) SHALL MEET OR EXCEED THE FOLLOWING:

SPECIFIC INTENSITY

INCIDENCE ANGLE (DEGREES)	TYPE A WHITE	TYPE A YELLOW
0	1.0	0.6
20	0.4	0.24
45	–	–

	TYPE B WHITE	TYPE B YELLOW
0	3.0	1.8
20	1.2	0.72
45	0.3	0.2

ANGLE OF INCIDENCE FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE NORMAL TO THE LEADING EDGE OF THE MARKER FACE (ALSO HORIZONTAL ENTRANCE ANGLE).

ANGLE OF OBSERVATION FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE RETURNED RAY FROM THE MARKER TO THE MEASURING RECEPTOR.

SPECIFIC INTENSITY IS THE MEAN CANDLEPOWER OF THE REFLECTED LIGHT (AT GIVEN INCIDENCE AND DIVERGENCE ANGLES) FOR EACH FOOT-CANDLE AT THE REFLECTOR (ON A PLANE PERPENDICULAR TO THE INCIDENT LIGHT).

TYPE A UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY BOTH AT NIGHT AND DURING DAYLIGHT. THEIR DAY TIME VISIBILITY SHALL BE ASSURED BY SIZE, SHAPE AND COLOR AS FOLLOWS:

1) THE UNITS SHALL BE A HIGH VISIBILITY YELLOW OR WHITE COLOR WHICH WILL NOT DEGRADE SUBSTANTIALLY DUE TO TRAFFIC WEAR AND WHICH WILL MATCH THE COLOR OF THE REFLECTOR.

2) WHEN VIEWED FROM ABOVE, THE UNITS SHALL HAVE A VISIBLE AREA OF NOT LESS THAN 14 SQUARE INCHES.

3) WHEN VIEWED FROM THE FRONT, PARALLEL TO THE PAVEMENT, AS FROM APPROACHING TRAFFIC, THE UNIT SHALL HAVE A WIDTH OF APPROXIMATELY 4 INCHES AND A VISIBLE AREA OF NOT LESS THAN 1.5 SQUARE INCHES.

TYPE B UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY AT NIGHT BY RETRO-REFLECTING AUTOMOTIVE HEADLIGHT BACK TO THE DRIVER.

INSTALLATION: THEY SHALL BE ATTACHED TO CLEAN, DRY PAVEMENT BY A BUTYL ADHESIVE PAD, A BITUMINOUS ADHESIVE OR OTHER CONSTRUCTION GRADE ADHESIVES (SUCH AS FRANKLIN PANEL AND METAL ADHESIVE) SUITABLE TO ANCHOR THE UNIT UNDER THE ABOVE CONDITIONS. WHEN IT IS NECESSARY TO ATTACH UNITS TO NEW CONCRETE WITH CURING COMPOUND REMAINING, THE CURING COMPOUND MEMBRANE SHALL BE REMOVED BY SANDBLASTING OR OTHER MECHANICAL CLEANING METHOD. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL IMMEDIATELY REPLACE, AT HIS COST, ANY UNITS WHICH FAIL (BROKEN HOUSING, HOUSING WORN TO THE EXTENT THAT DAYTIME VISIBILITY IS SIGNIFICANTLY DIMINISHED OR OF AN UNACCEPTABLE COLOR, DETACHED OR BROKEN REFLECTOR, HOUSING DETACHED FROM ADHESIVE).

TRPM'S ARE LIKELY TO BE REMOVED BY SNOW PLOWING OPERATIONS, THUS THEY ARE NOT CONSIDERED SUITABLE FOR USE DURING THE PERIOD FROM OCTOBER 15 UNTIL APRIL 30. THE CONTRACTOR IS ADVISED TO SCHEDULE HIS WORK AND/OR THE USE OF THESE DEVICES TO AVOID THIS PERIOD. SHOULD THE CONTRACTOR CHOOSE TO USE TRPM'S DURING THIS PERIOD AND THEY ARE SUBSEQUENTLY REMOVED OR DESTROYED BY SNOW AND ICE CONTROL ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY, AT HIS COST, PROVIDE A SUBSTITUTE TRAFFIC GUIDANCE SYSTEM EFFECTIVE DURING LIGHT AND DARK AND WHICH IS ACCEPTABLE TO THE ENGINEER.

THE UNITS SHALL BE PLACED ACCURATELY TO DEPICT STRAIGHT OR UNIFORMLY CURVING LINES. WHEN USED TO SUPPLEMENT TEMPORARY PAVEMENT MARKINGS, THEY MAY BE PLACED ON OR IMMEDIATELY ADJACENT TO THE PAVEMENT MARKING. LOCATIONS SHALL BE ADJUSTED UP TO ONE FOOT LONGITUDINALLY OR SIX INCHES LATERALLY TO AVOID PLACEMENT ON JOINTS, CRACKED OR DETERIORATED PAVEMENT. THEY SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS IF THIS WILL DETRACT FROM THEIR ABILITY TO REMAIN ATTACHED TO THE PAVEMENT.

APPLICATION
1) WHEN REQUIRED TO SUPPLEMENT PAVEMENT MARKING; THEY SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A OR B	20' C/C
LANE LINE	A OR B	40' C/C*
CENTER LINE (SINGLE/BROKEN)	A OR B	40' C/C *
CENTER LINE (DOUBLE/SOLID)	A OR B	2 UNITS SIDE BY SIDE 4 INCHES APART 20' C/C
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A OR B	10' C/C

* CENTERED IN GAP

2) WHEN USED TO SIMULATE (REPLACE) PAVEMENT MARKING THEY SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A	5' C/C
LANE LINE	A	4@3.33' C/C 30' GAP (40' CYCLE)
CENTER LINE (DOUBLE SOLID)	A	2 UNITS SIDE BY SIDE 5' C/C
CENTER LINE (SINGLE BROKEN)	A	4@3.33' C/C 30' GAP (40' CYCLE)
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A	5' C/C
EDGE LINE (TWO COLOR) (WHITE/YELLOW)	A	BACK TO BACK 5' C/C

YELLOW TRPM'S USED TO SEPARATE OPPOSITE FLOWS OF TRAFFIC (CENTER LINES) SHALL INCLUDE REFLECTIONS FOR BOTH DIRECTIONS. ALL OTHER YELLOW TRPM'S AND WHITE TRPM'S SHALL PROVIDE RETROREFLECTIVITY FOR ONE DIRECTION.

REMOVAL
REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT LITTLE OR NONE OF THE ADHESIVE REMAINS ON THE PAVEMENT AND PERMANENT PAVEMENT SURFACES SHALL NOT BE SCARRED, BROKEN OR ROUGHENED SIGNIFICANTLY.

PAYMENT
BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH TRPM AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND INCIDENTALS REQUIRED TO PERFORM THE WORK. IT SHALL ALSO INCLUDE REPLACEMENT AT NO ADDITIONAL COST OF ALL TRPM'S WHICH, IN THE JUDGEMENT OF THE ENGINEER, FAIL FOR ANY REASON, EXCEPT DUE TO FAILURE OF THE PAVEMENT TO WHICH THEY ARE ATTACHED.

ITEM	UNIT	DESCRIPTION
614	EACH	TEMPORARY RAISED PAVEMENT MARKERS

FOR LOCATIONS & QUANTITIES, SEE SHEET NO. 37

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

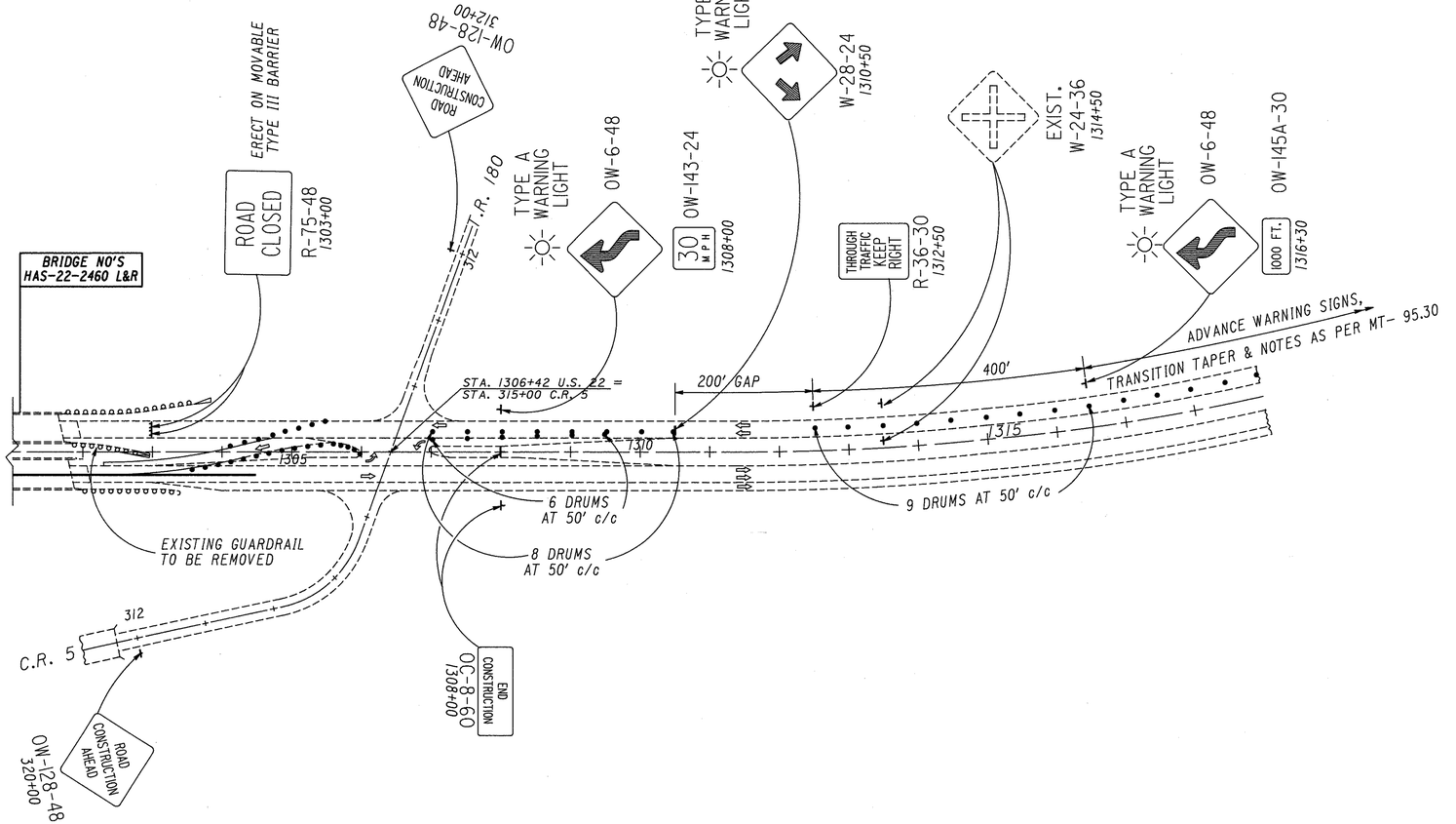
614 TEMPORARY RAISED PAVEMENT MARKERS

DESIGNED	DRAWN	CHECKED	DATE	REVISED
			5-12-87	

FHWA REGION	STATE	PROJECT	
5	OHIO		

36
115

HAS-22-15.03



FOR ADDITIONAL CROSSOVER SIGNING & NOTES, SEE SHEET NO. 33

FOR CROSSOVER DETAILS, SEE SHEET NO. 38

FOR QUANTITIES SEE SHEET NO. 37

WESTBOUND ADVANCE SIGNING

TEMPORARY CROSSOVER SIGNING PLAN

QUANTITIES	
CALC. BY: S.H.G.	CHK'D. BY: N.S.
DATE: 2-28-90	DATE: 3- 2-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

37
115

* LEFT AND RIGHT SIDE CONFIGURATION ON BR. NO. HAS-22-2126 IS REFERENCED TO THE CENTERLINE STATIONING ALONG THE CENTERLINE OF THE PAVEMENT. LEFT AND RIGHT SIDE CONFIGURATION FOR THE TWO-LANE, TWO-WAY OPERATION IS REFERENCED TO THE DIRECTION OF TRAVEL.

MAINTENANCE OF TRAFFIC QUANTITIES

DIRECTION	LOCATION	STATION FROM	STATION TO	SIDE *	411 STABILIZED CRUSHED AGGREGATE	614 TEMPORARY CENTER LINES, CLASS I (DOUBLE SOLID YELLOW)	614 TEMPORARY EDGE LINES, CLASS I WHITE	614 TEMPORARY EDGE LINES, CLASS I YELLOW	614 TEMPORARY STOP LINES, CLASS I	614 TEMPORARY BARRIER REFLECTORS TYPE A WH	614 TEMPORARY BARRIER REFLECTORS TYPE A Y	614 TEMPORARY BARRIER REFLECTORS TYPE B WHITE	614 TEMPORARY BARRIER REFLECTORS TYPE B YELLOW	614 TEMPORARY RAISED PAVEMENT MARKERS, TYPE A WHITE	614 TEMPORARY RAISED PAVEMENT MARKERS, TYPE A YELLOW	614 TEMPORARY CROSSOVER LIGHTING SYSTEM	615 TEMPORARY PAVEMENT, CLASS B	622 TEMPORARY CONCRETE BARRIER	622 TEMPORARY CONCRETE BARRIER TYPE A-50, AS PER PLAN	615 TEMPORARY ROADS
					CU. YD.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.			EACH	EACH	EACH	EACH	LUMP	SQ YD.	LIN.FT.	LIN.FT.	LUMP
Br. No. HAS-22-2126 (Bridge Deck Rehabilitation)																				
Eastbound	Right Half of Bridge Deck	1120 + 30	1121 + 80	℄		150									18					
		1121 + 80		Rt.					12											
		1122 + 30	1123 + 30	Rt.			101													
		1123 + 30	1125 + 30	℄										41	41					
		1121 + 80	1126 + 54	Lt.							4		3							
		1121 + 80	1125 + 30	Lt.											71					
Westbound		1126 + 80		Lt.					12											
		1126 + 80	1128 + 30	℄		150									18					
		1121 + 80	1126 + 80	Lt.										101						
		1126 + 54	1121 + 80	Lt.						7		3								
Eastbound	Left Half of Bridge Deck	1121 + 80	1126 + 80	Rt.										101						
		1121 + 80	1126 + 34	Rt.						7		3								
Westbound		1123 + 30	1125 + 30	℄										41	41					
		1125 + 30	1126 + 30	Lt.			101													
		1123 + 30	1126 + 34	Rt.							4		3							
		1123 + 30	1126 + 80	Rt.											71					
Br. No. HAS-22-2126 Subtotals						300	202		24	14	8	6	6	284	260					
Br. No. HAS-22-2460 L (Bridge Deck Replacement)																				
Westbound		1310 + 50	1307 + 00	Lt.				350							19					
	Turn Lane	1310 + 50	1307 + 00	Rt.			350							19						
		1306 + 30	1302 + 30	℄	15											LUMP	439			LUMP
		1300 + 00	1293 + 91	℄	27												771			
		1305 + 70	1296 + 10	Rt.			975													
		1306 + 00	1293 + 91	Lt.				1220												
		1302 + 55	1299 + 45	Rt.						2		5								
		1304 + 60	1300 + 00	Lt.									10							
		1309 + 80	1307 + 40	Rt.										13						
		1306 + 10	1304 + 10	Rt.										12						
		1302 + 50	1296 + 10	Rt.										33						
		1306 + 00	1296 + 50	Lt.											49					
		1301 + 90	1302 + 65	Rt.														80		
Eastbound		1288 + 60	1304 + 60	Lt.				1600												
		1296 + 00	1304 + 60	Lt.									18							
		1291 + 13	1303 + 40	Rt.						24		2								
		1294 + 00	1304 + 60	Lt.															1060	
Br. No. HAS-22-2460 L Subtotals					42		1325	3170		26		7	28	77	68	LUMP	1210	80	1060	
SUBTOTALS					42	300	1527	3170	24	40	8	13	34	361	328	LUMP	1210	80	1060	
TOTALS					42	0.06 Mi.	4697 / 0.89 Mi.		24	48		47		689		LUMP	1210	80	1060	LUMP

ADDITIONAL NOTES FOR MAINTENANCE OF TRAFFIC:

1. ALL TEMPORARY SIGN SUPPORTS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO ERECTION.
2. TRAFFIC CONTROL SHOWN ON SHEET NO'S. 33 THRU 36 ARE CONSIDERED AS MINIMUM TREATMENT. THE ENGINEER MAY REQUIRE ADDITIONAL TREATMENT IF WARRANTED BY TRAFFIC EXPERIENCE.
3. ALTHOUGH THE CROSSOVERS ARE TEMPORARY PAVEMENT, CARE COMPARABLE TO THAT GIVEN TO PERMANENT PAVEMENT SHALL BE EXCERCISED DURING CONSTRUCTION OF THE CROSSOVERS. THE FINISHED PROFILE SHALL BE RELATIVELY SMOOTH, FREE OF HUMPS AND UNDULATIONS.
4. TEMPORARY EDGE LINES AND TEMPORARY RAISED PAVEMENT MARKERS (T.R.P.M.'S) SHALL FORM SMOOTH CURVES AND STRAIGHT LINES. TRANSITIONS FROM OR TO EXISTING EDGE LINES SHALL BE SMOOTH AND GRADUAL.
5. JOINTS BETWEEN TEMPORARY CONCRETE BARRIER (T.C.B.) SECTIONS ON THE TRAFFIC SIDE SHALL BE GROUTED OR SNUGLY SHIMMED. WHEN THE T.C.B. IS SET ON THE BRIDGE DECK, THE BRIDGE DECK SURFACE AREA ON WHICH THE T.C.B. WILL REST SHALL BE CLEARED OF ALL LOOSE SAND, GRAVEL, DIRT AND DEBRIS. ANY IRREGULARITIES IN THE BRIDGE DECK, UNLESS JUDGED BY THE ENGINEER TO BE INCONSEQUENTIAL, SHALL BE LEVELED WITH GROUT AND/OR ASPHALT. ASPHALT ROLL ROOFING SHALL BE PLACED ON THOSE BRIDGE DECK AREAS, AS JUDGED BY THE ENGINEER, THAT HAVE INSUFFICIENT ROUGHNESS TO PROVIDE FRICTION CONTACT BETWEEN THE BARRIER SEGMENT AND THE BRIDGE DECK.

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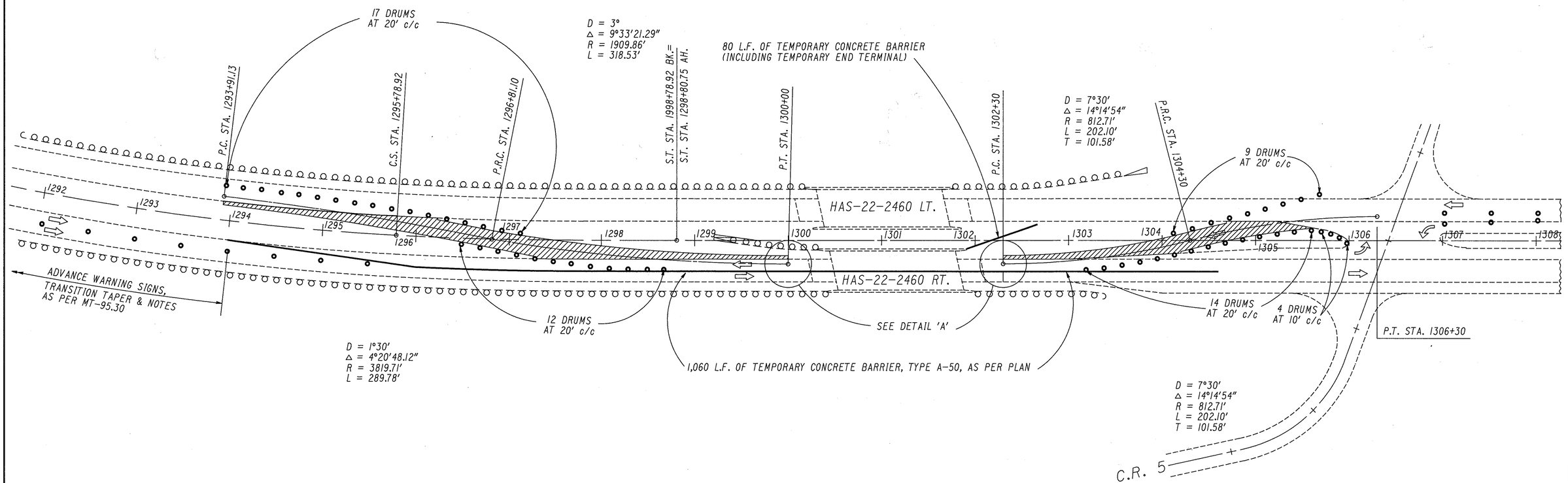
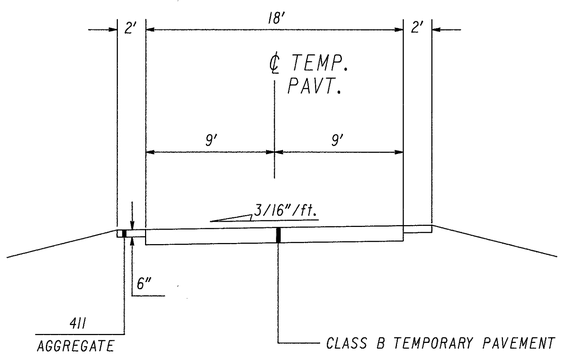
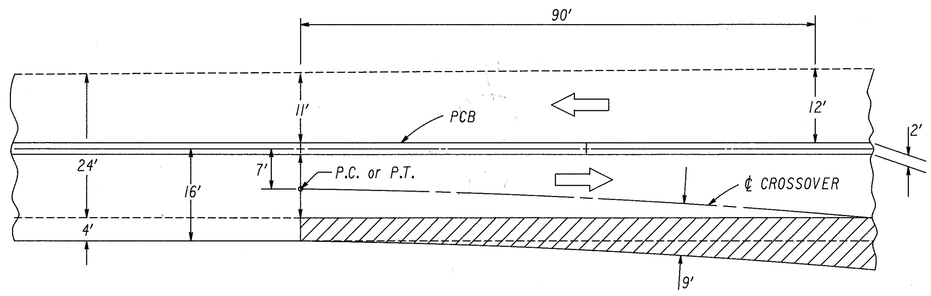




TYPICAL SECTION OF TEMPORARY PAVEMENT



DETAIL A

END OF TWO WAY OPERATION SHOWN.
BEGINNING OF TWO WAY OPERATION OPPOSITE HAND.

TEMPORARY CROSSOVER DETAILS

GENERAL SUMMARY

CALC BY: SHG DATE: 3-29-90
CHKD BY: RSK DATE: 7-13-90

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ITEM	SHEET NUMBER																				* 100% STATE	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
	16		19	20	22	*24	24	25	26	27	62	63	64	65	66		70		73		76						
																										ROADWAY
201								LUMP															201	11001	LUMP		CLEARING AND GRUBBING, AS PER PLAN (SEE NOTE ON SHEET NO. 25)
202										134													202	22900	134	SQ. YD.	APPROACH SLAB REMOVED
202															133								202	23000	133	SQ. YD.	PAVEMENT REMOVED
202	3,473																						202	23500	3,473	SQ. YD.	WEARING COURSE REMOVED
202													770	665	6,023		137						202	32001	7,595	LIN. FT.	CURB REMOVED, AS PER PLAN (SEE NOTE ON SHEET NO. 27)
202													27		671		6						202	30601	704	SQ. YD.	CONCRETE MEDIAN REMOVED, AS PER PLAN (SEE NOTE ON SHEET NO.27)
202																			400				202	32600	400	LIN. FT.	GUTTER REMOVED
202						150	5976															150	202	38000	6126	LIN. FT.	GUARDRAIL REMOVED
202							163																202	38300	163	LIN. FT.	GUARDRAIL REMOVED, BARRIER DESIGN
202							76																202	43000	76	EACH	ANCHOR ASSEMBLY POST REMOVED
202					77,981																		202	75000	77,981	LIN. FT.	FENCE REMOVED
202																	1						202	58500	1	EACH	CATCH BASIN ABANDONED
202									680														202	54100	680	EACH	RAISED PAVEMENT MARKERS REMOVED FOR STORAGE
202									90														202	54101	90	EACH	RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, AS PER PLAN (SEE NOTE ON SHEET NO. 26)
203				4,114							42	244	235	203			42				330		203	12000	5,210	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203													61										203	20000	61	CU. YD.	EMBANKMENT
203				10,389									383	157			62						203	50000	10,991	SQ. YD.	SUBGRADE COMPACTION
203												69											203	60200	69	STATION	LINEAR GRADING, METHOD 1
203												12											203	60204	12	STATION	LINEAR GRADING, METHOD 2
203												7											203	60300	7	STATION	LINEAR GRADING, METHOD 3
203												219											203	60408	219	STATION	LINEAR GRADING, (DITCH CLEANOUT)
606						400	2,300															400	606	13000	2,700	LIN. FT.	GUARDRAIL, TYPE 5
606							2,700																606	13001	2,700	LIN. FT.	GUARDRAIL, TYPE 5, AS PER PLAN (SEE NOTE ON SHEET NO. 25)
606							12.5																606	15500	12.5	LIN. FT.	GUARDRAIL, BARRIER DESIGN, TYPE 5
606									32														606	19501	32	EACH	GUARDRAIL POSTS, WOOD, AS PER PLAN (SEE NOTE ON SHEET NO. 26)
606						4	16															4	606	25000	20	EACH	ANCHOR ASSEMBLY, TYPE A
606							1																606	25500	1	EACH	ANCHOR ASSEMBLY, BARRIER DESIGN, TYPE A
606							8																606	26500	8	EACH	ANCHOR ASSEMBLY, TYPE T
606							9																606	35000	9	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE AA
606							4																606	35100	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE AT
606						4																4	606	32500	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE F
607					113,149																		607	15000	113,149	LIN. FT.	FENCE, TYPE 47
625					26																		625	32000	26	EACH	GROUND ROD
																										EROSION CONTROL
207										100									280				207	70000	380	EACH	STRAW OR HAY BALES
601					335																		601	32100	335	CU.YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
659												87											659	35000	87	M-GAL.	WATER
659												39,870											659	10000	39,870	SQ. YD.	SEEDING AND MULCHING
659												3.60											659	20000	3.60	TON	COMMERCIAL FERTILIZER
659												18.00											659	30000	18.00	TON	AGRICULTURAL LIMING
670																			332				670	40000	332	SQ. YD.	DITCH EROSION PROTECTION
																										DRAINAGE
603																			124				603	06100	124	LIN. FT.	15" CONDUIT, TYPE C
603																			16				603	07600	16	LIN. FT.	18" CONDUIT, TYPE C
603																			8				603	09100	8	LIN. FT.	21" CONDUIT, TYPE C
603																			8				603	13600	8	LIN. FT.	30" CONDUIT, TYPE C
603				2,262																			603	01500	2,262	LIN. FT.	6" CONDUIT TYPE F, 707.17 NON-PERFORATED ASTM 3034 SDR 35, OR SS 931
604													1										604	02000	1	EACH	CATCH BASIN, NO. 6
604																			35				604	02804	35	EACH	CATCH BASIN, NO. 8, WITHOUT APRON
604															3								604	10901	3	EACH	INLET, NO. 2-6, AS PER PLAN (SEE NOTE ON SHEET NO. 27)
604															1								604	11301	1	EACH	INLET, NO. 2-8, AS PER PLAN (SEE NOTE ON SHEET NO. 27)
604															2								604	11701	2	EACH	INLET, NO. 2-10, AS PER PLAN (SEE NOTE ON SHEET NO. 27)
605			104859																				605	30001	104,854	LIN. FT.	SHALLOW UNDERDRAINS, AS PER PLAN (SEE NOTE ON SHEET NO. 28)
SPEC.				135																			SPEC.	604 36600	135	EACH	PRECAST REINFORCED CONCRETE OUTLET (SEE NOTE ON SHEET NO. 28)
SPEC.																			484				SPEC.	202 70100	484	LIN. FT.	PIPE CLEANOUT (SEE NOTE ON SHEET NO. 27)

GENERAL SUMMARY

CALC BY SHG DATE 3-29-90
CHKD BY RSK DATE 7-13-90

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ITEM	SHEET NUMBER																						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
	16		20		27	55		62	63	64	65	66		70	74	75	76										PAVEMENT
254	397,542																						254	01000	397,542	SQ. YD.	PAVEMENT PLANING , BITUMINOUS
254																	1,610						254	01600	1,610	SQ. YD.	PATCHING PLANED SURFACE
301			892						244	32	29			5			1,755						301	10002	2,957	CU. YD.	BITUMINOUS AGGREGATE BASE, AC-20
304			1,747							63	65			13			330						304	20001	2,218	CU. YD.	AGGREGATE BASE, AS PER PLAN (SEE NOTE ON SHEET NO. 25)
310			1,487					17		53	53			10									310	20001	1,620	CU. YD.	SUBBASE, TYPE II, AS PER PLAN (SEE NOTE ON SHEET NO. 25)
403						65																	403	20000	65	CU. YD.	ASPHALT CONCRETE, AC-20
404									64														404	30000	64	CU. YD.	ASPHALT CONCRETE, AC-20 (UNDER GUARDRAIL)
407	30,077																						407	10000	30,077	GAL.	TACK COAT
408			4,283							153	139			25									408	10000	4600	GAL.	BITUMINOUS PRIME COAT
446	14,215									15	13			3									446	01400	14,246	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC-20
448										7	6	33		2									448	15000	48	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
452								99															452	13000	99	SQ. YD.	9" PLAIN CONCRETE PAVEMENT
611					217																		611	25000	217	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=15")
612												944											612	42000	944	SQ. YD.	CONCRETE MEDIAN
617									85														617	10200	85	CU. YD.	COMPACTED AGGREGATE, TYPE B
617									1														617	25000	1	M-GAL.	WATER
622															339								622	24001	339	LIN. FT.	CONCRETE BARRIER, TYPE D, AS PER PLAN (SEE NOTE ON SHEET NO. 27)
801																	3,870						801	00300	3,870	LIN. FT.	TRANSVERSE JOINT SEALING, CLASS III, SILICONE
801																	7,410						801	00500	7,410	LIN. FT.	LONGITUDINAL JOINT SEALING, CLASS V, SILICONE
803																	38,000						803	10000	38,000	LIN. FT.	FULL DEPTH PAVEMENT SAWING
803																	13,040						803	00300	13,040	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS
803																	2,400						803	00200	2,400	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS
812																	5						812	20000	5	TON	PORTLAND CEMENT
SPEC.																	75						SPEC.	450 40500	75	SQ.YD.	BONDED PATCHING OF RIGID PAVEMENTS, TYPE II (SEE NOTE IN PROPOSAL)
SPEC.																52,730	18,850						SPEC.	450 19000	71,580	LIN. FT.	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, 705.04 (SEE NOTE IN PROPOSAL)
SPEC.	18,627																						SPEC.	254 01400	18,627	SQ. YD.	GRINDING CONCRETE PAVEMENT PORTLAND CEMENT (SEE NOTE IN PROPOSAL)
SPEC.									1,140														SPEC.	817 60200	1,140	SQ. YD.	HERBICIDE APPLICATION UNDER ASPHALT (SEE NOTE ON SHEET NO. 27)
SPEC.	9,810																						825	450 14500	9,810	POUND	JOINT SEALING BETWEEN RIGID PAVEMENT AND FLEXIBLE SHOULDER TYPE I

GENERAL SUMMARY

QUANTITIES	
CALC. BY : SHG	CHK'D. BY : RSK
DATE 3/29/90	DATE 7/18/90

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SHEET NUMBER 25	29	37	88	89	90	91	92	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
												TRAFFIC CONTROL
						462		620	10300	462	Each	Delineator, Flexible Post Mounted, Type C
						16		620	11000	16	Each	Delineator, Bracket Mounted, Type C
						58		620	15300	58	Each	Delineator, Flexible Post Mounted, Type D
						450		620	31200	450	Each	Delineator Removed For Disposal
			42.04	6.09				621	00100	48.13	Mile	Edge Lines
			15.05	0.37				621	10008	15.42	Mile	Lane Lines
			2.78	0.17				621	20100	2.95	Mile	Center Lines
				180				621	70000	180	Sq. Ft.	Island Marking
				5,533				621	64000	5,533	Lin. Ft.	Curb Marking
				2,848				621	30100	2,848	Lin. Ft.	Channelizing Lines
				1,336				621	60100	1,336	Lin. Ft.	Transverse Lines
			344	277				621	40100	621	Lin. Ft.	Stop Lines
					4			630	85100	4	Each	Removal Of Ground Mounted Sign And Reerection
					4			630	86002	4	Each	Removal Of Ground Mounted Post Support And Disposal
					41			630	03100	41	Lin. Ft.	Ground Mounted Supports, No. 3 Post
					15			630	04100	15	Lin. Ft.	Ground Mounted Supports, No. 4 Post
						513		802	00100	513	Each	Barrier Reflector, Type A
						47		802	00200	47	Each	Barrier Reflector, Type B
							1,662	862	00100	1,662	Each	Raised Pavement Markers
												MAINTENANCE OF TRAFFIC
		42						411	10000	42	Cu. Yd.	Stabilized Crushed Aggregate
		0.89			67.57			614	22000	68.46	Mile	Temporary Edge Lines, Class I
					28.85			614	20000	28.85	Mile	Temporary Lane Lines, Class I
		0.06			5.58			614	21000	5.64	Mile	Temporary Center Lines, Class I
					3,200			614	28000	3,200	Lin. Ft.	Temporary Gore Marking, Class II
		24						614	26000	24	Lin. Ft.	Temporary Stop Lines, Class I
		689						614	12900	689	Each	Temporary Raised Pavement Markers
		LUMP						614	12750	LUMP		Temporary Crossover Lighting System
					60			614	12460	60	Each	Work Zone Marking Signs
					88			614	12470	**88**	**Each**	**Work Zone Speed Limit Sign**
		48						614	13200	48	Each	Barrier Reflector, Type A
		47						614	13300	47	Each	Barrier Reflector, Type B
		1,210						615	25000	1,210	Sq. Yd.	Temporary Pavement, Class B
		LUMP						615	10000	Lump		Temporary Roads
		80						622	40000	80	Lin. Ft.	Temporary Concrete Barrier
		1,060						622	40001	1,060	Lin. Ft.	Temporary Concrete Barrier, Type A-50, As Per Plan (See Note on Sheet No. 30)
	40							Special	614 11100	40	Hour	Law Enforcement Officer With Patrol Car (See Note On Sheet No. 29)
												STRUCTURES, 20' SPAN AND OVER
												For Structures 20' And Over General Summary, See Sheet No. 93
	Lump							614	11000	Lump		Maintaining Traffic
Lump								619	10000	Lump		Field Office
								623	10000	Lump		Construction Layout Stakes
								624	10000	Lump		Mobilization

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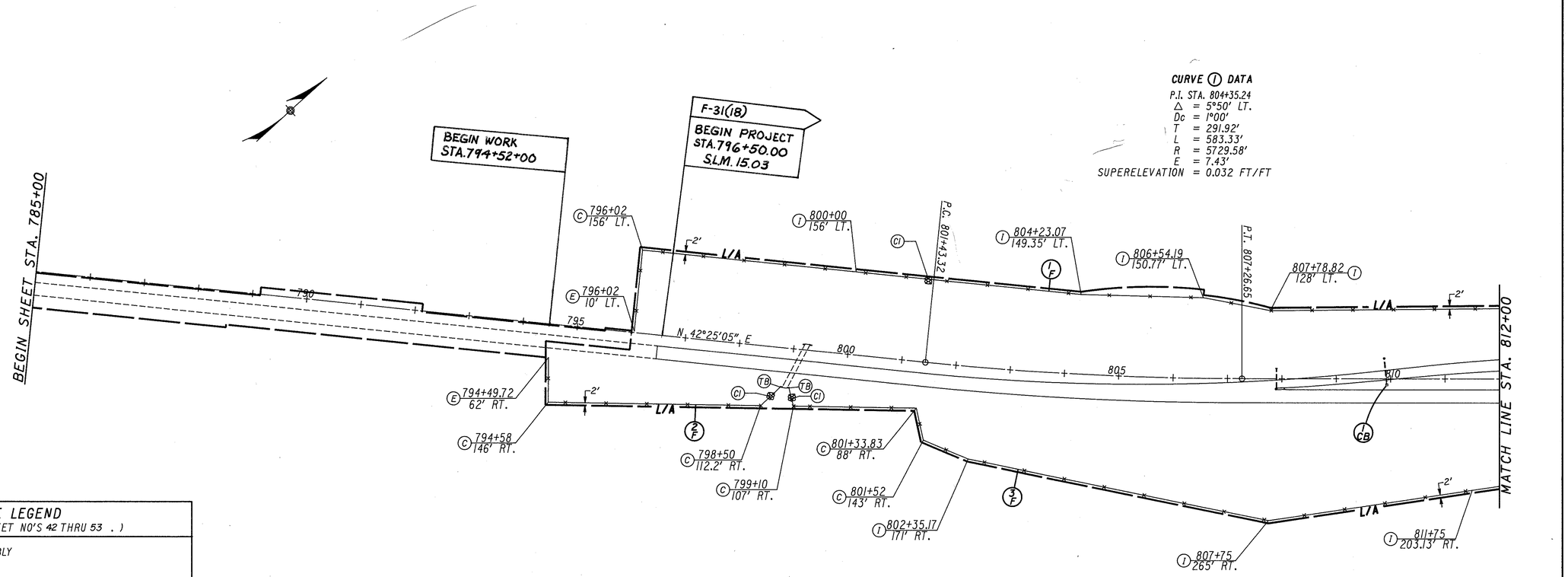

FENCE LEGEND

(APPLIES TO SHEET NO'S 42 THRU 53 .)

- (C) — CORNER POST ASSEMBLY
- (E) — END POST ASSEMBLY
- (I) — INTERMEDIATE ANCHOR POST ASSEMBLY
- (L) — WOOD POST OR CONCRETE ENCASED STEEL LINE POST
- (TA) — FENCE TERMINAL (TYPE A)
- (TB) — FENCE TERMINAL (TYPE B)
- (TD) — FENCE TERMINAL (TYPE D)
- (TE) — FENCE TERMINAL (TYPE E)
- (A) — ABUTMENT CONNECTION
- (C1) — CROSSING, TYPE 1
- (C2) — CROSSING, TYPE 2
- (C3) — CROSSING, TYPE 3
- (C4) — CROSSING, TYPE 4
- (F) — MAINTENANCE OPENING
- — GROUND ROD
- — ROCK CHANNEL PROTECTION, TYPE B

NOTE: ALL OFFSETS SHOWN ARE TO THE FENCE

FOR MAINLINE MEDIAN SHOULDER CONSTRUCTION DETAILS, SEE SHEET NO. 64
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

STA. 785+00 TO STA. 812+00

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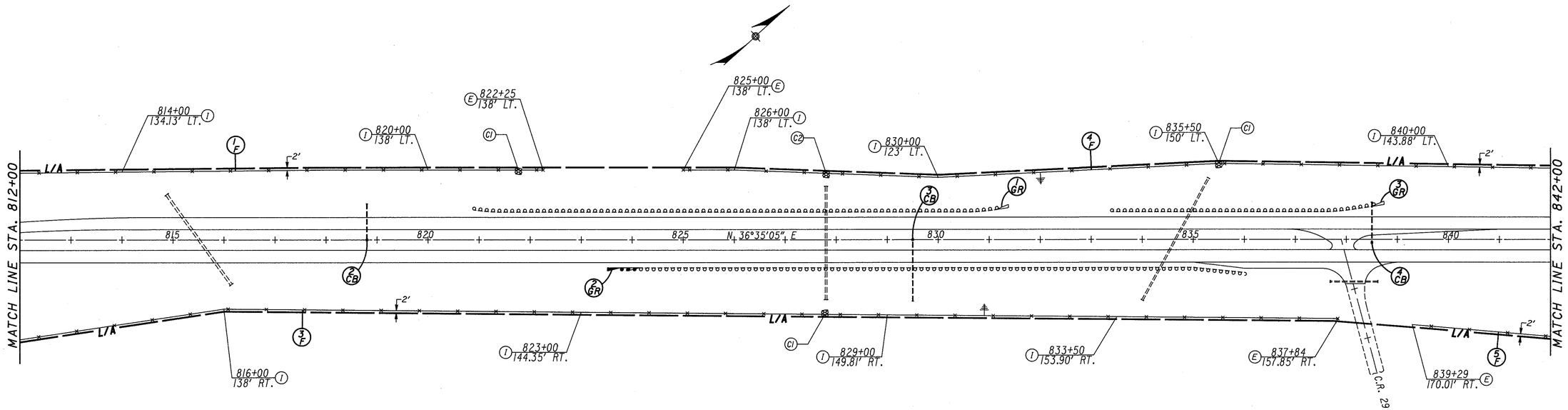

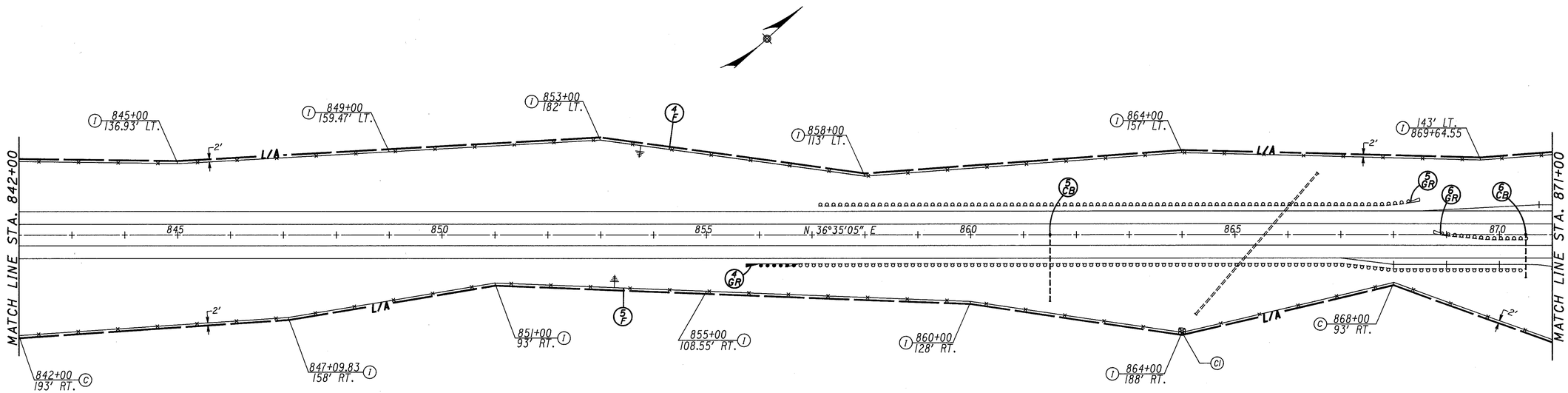

FOR MAINLINE MEDIAN SHOULDER CONSTRUCTION DETAILS, SEE SHEET NO. 64
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

STA. 812+00 TO STA. 871+00

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EXISTING L/A FENCE

EXISTING L/A FENCE

L/A

U.S. 250

50'

CONNECT TO EXISTING
882+52
304' LT.

878+72.87
244.45' LT.

879+56
272' LT.

6 F

2'

C.R. 2

874+00
176.8' LT.

4 F

877+65
205.17' LT.

10

RAMP 'A'

BRIDGE NO.
HAS-22-1664
(NO WORK)
A.K.A. HAS-250-1763

CONNECT TO EXISTING
885+84
274' LT.

890+00
173.44' LT.

8 F

894+89.34
140' LT.

896+69.76
132.95' LT.

902+00
91' LT.

MATCH LINE STA. 902+00

MATCH LINE STA. 871+00

RAMP 'B'

RAMP 'C'

RAMP 'D'

N 36°35'05" E

875

880

885

890

895

900

N 58°16'05" E

STA. 882+00.00 U.S. 22 =
STA. 505+00.00 U.S. 250

CONNECT TO EXISTING

STA. 509+42.96 U.S.R. 36 & 250
P.C. STA. 0+00 RAMP 'D'

CONNECT TO EXISTING

CONNECT TO EXISTING

882+98
122' RT.

T.S. 884+12.49

S.C. 888+12.49

888+00
122' RT.

893+07.81
98' RT.

896+21.74
108' RT.

899+50.22
131' RT.

882+20.2
232.8' RT.

881+54
325' RT.

880+16.22
580.41' RT.

872+00
238' RT.

STA. 9+60.88 RAMP 'C'
STA. 4+24.00 RAMP 'D'

876+03.09
680.09' RT.

877+84.30
686.35' RT.

2+26
REMOVE SIGN & SUPPORT
REERECT EXISTING SIGN
ON NEW SUPPORT

CURVE ② DATA

P.I. STA. 890+20.38
△ = 21°41' RT.
Dc = 2°00'
Ts = 698.89'
Lc = 784.17'
R = 5729.58'
Ls = 583.33'
Es = 53.39'
L.T. = 200.03'
S.T. = 100.03'
θs = 3°00'
SUPERELEVATION = 0.064 FT/FT

FOR RAMP MEDIAN RECONSTRUCTION DETAILS, SEE SHEET NO. 66-70.
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23.
FOR CONCRETE BARRIER QUANTITIES, SEE SHEET NO. 74.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.
FOR SIGNING QUANTITIES, SEE SHEET NO. 90.

STA. 871+00 TO STA. 902+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

45
115

HAS-22-15.03

F-31(18)

SUSPEND PROJECT
STA. 908+99.56
S.L.M. 17.17

F-31(18)

RESUME PROJECT
STA. 911+12.44
S.L.M. 17.21

MATCH LINE STA. 902+00

MATCH LINE STA. 934+00

3" WTIP GAS LINE

907+8.38 (C) 211.74' RT.

912+52.2 (C) 173.12' LT.

911+70 (C) 131' LT.

910+86 (C) 137.48' LT.

914+00 (C) 168' LT.

916+43.79 (I) 108' LT.

BRIDGE NO. HAS-22-1738F

919+47.01 (C) 154' LT.

903+00 (I) 128.52' RT.

906+57.55 (I) 126' RT.

908+32.57 (C) 204' RT.

910+55.97 (C) 170.31' RT.

911+83.64 (C) 100.93' RT.

3" WTIP GAS LINE

BRIDGE NO. HAS-22-1717 L&R (NO WORK)

STA. 913+07.26 U.S. 22
STA. 95+00 T.R. 211 =

913+37.16 (C) 139.40' RT.

916+45 (C) 140.71' RT.

916+45 (C) 190.71' RT.

BRIDGE NO. HAS-22-1725 (NO WORK)

T.R. 211

C.R. 11

921+4.82 (C) 132.39' RT.

BRIDGE NO. HAS-22-1738 L&R

119+88.95 (C) 595.09' RT.

118+75.22 (I) 399.81' RT.

118+02 (E) 50' RT.

118+02 (I) 92' RT.

S.R. 9

3" PIP GAS LINE

END RAMP 'F' STA. 9+30.28

123+65.45 (I) 123.84' RT.

CONNECT TO EXISTING

STA. 6+82.09 RAMP 'F'

121+00 (C) 250' RT.

120+98 (E) 85' RT.

KEEP RIGHT

REMOVE SIGN & SUPPORT
REERECT EXISTING SIGN
ON NEW SUPPORT

920+57.96 (C) 324' LT.

920+76.67 (I) 244' LT.

RAMP 'F'

RAMP 'E'

123+00 (C) 250' RT.

123+02 (C) 49.8' RT.

928+38.45 (C) 98.08' LT.

929+08.97 (C) 100' LT.

BRIDGE NO. HAS-22-1753 L&R

931+70.64 (I) 142' LT.

STA. 927+09.53 U.S. 22 =
STA. 125+00.00 S.R. 9

BRIDGE NO. HAS-22-1749 L&R

CONNECT TO EXISTING

929+87.11 (C) 112' LT.

923+03.18 (C) 80' RT.

922+23.71 (C) 101.05' RT.

925+10.93 (C) 217.53' RT.

928+27.36 (C) 100' RT.

929+17.06 (C) 82' RT.

927+43.50 (C) 122' RT.

930+03.17 (C) 110' RT.

926+77.87 (C) 231.18' RT.

929+53.97 (I) 189' RT.

P.C. 931+79.53

RAMP 'G'

RAMP 'H'

927+67.39 (C) 303.1' RT.

928+92.45 (C) 334.71' RT.

928+19.04 (C) 358.79' RT.

REMOVE SIGN & EXISTING SIGN
REERECT EXISTING SIGN
ON NEW SUPPORT

KEEP RIGHT

925+51.71 (E) 388.16' RT.

926+68.56 (C) 470.71' RT.

927+16.10 (C) 449.6' RT.

3" PIP GAS LINE

S.R. 9 & U.S. 250

BRIDGE NO. HAS-250-1912
NO WORK

CONRAIL

STA. 0+00 RAMP 'H' =
STA. 949.5 RAMP 'G'

932+15.35 (C) 582.33' RT.

928+61.65 (C) 609.56' RT.

927+74.75 (C) 485.29' RT.

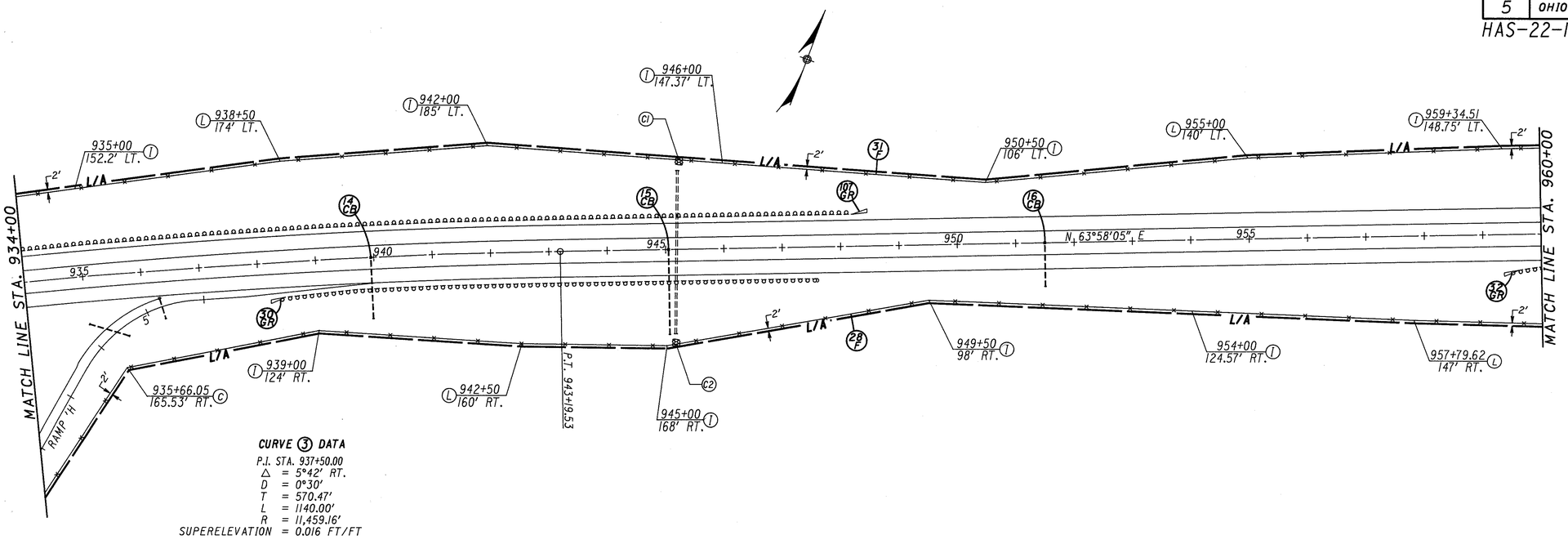
FOR RAMP MEDIAN RECONSTRUCTION DETAILS, SEE SHEET NO. 66-70.
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23 & 24.
FOR CONCRETE BARRIER QUANTITIES, SEE SHEET NO. 74.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.
FOR SIGNING QUANTITIES, SEE SHEET NO. 90.

STA. 902+00 TO STA. 934+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

46
115

HAS-22-15.03



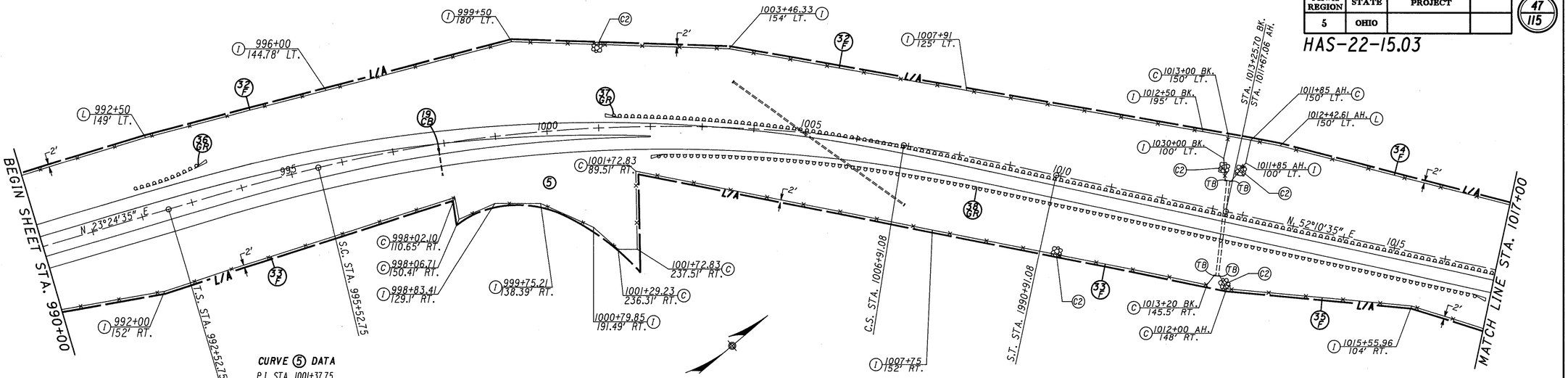
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23 & 24.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

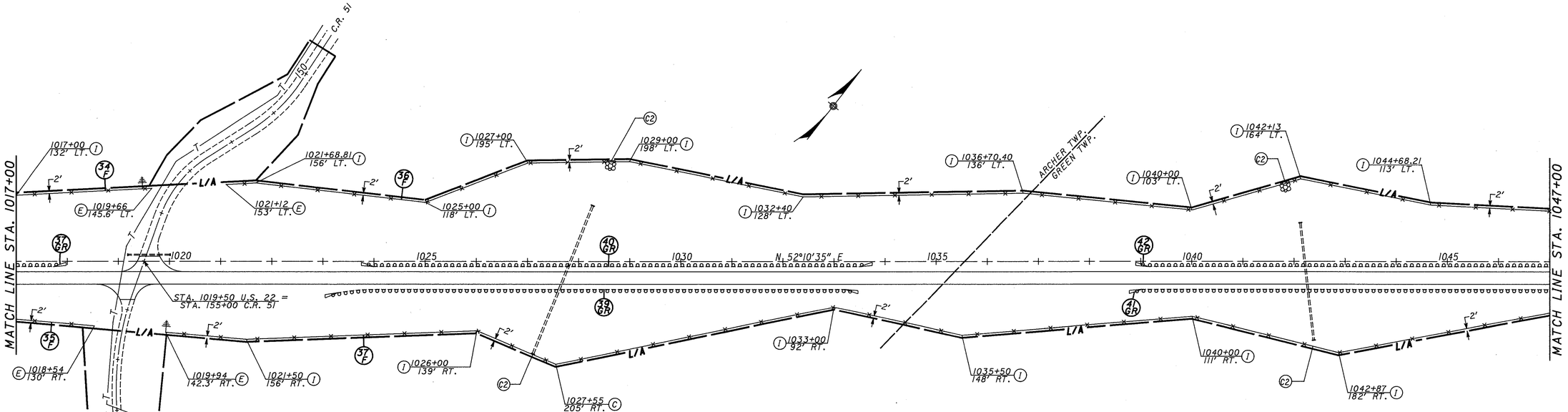
STA. 934+00 TO STA. 990+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

47
115

HAS-22-15.03





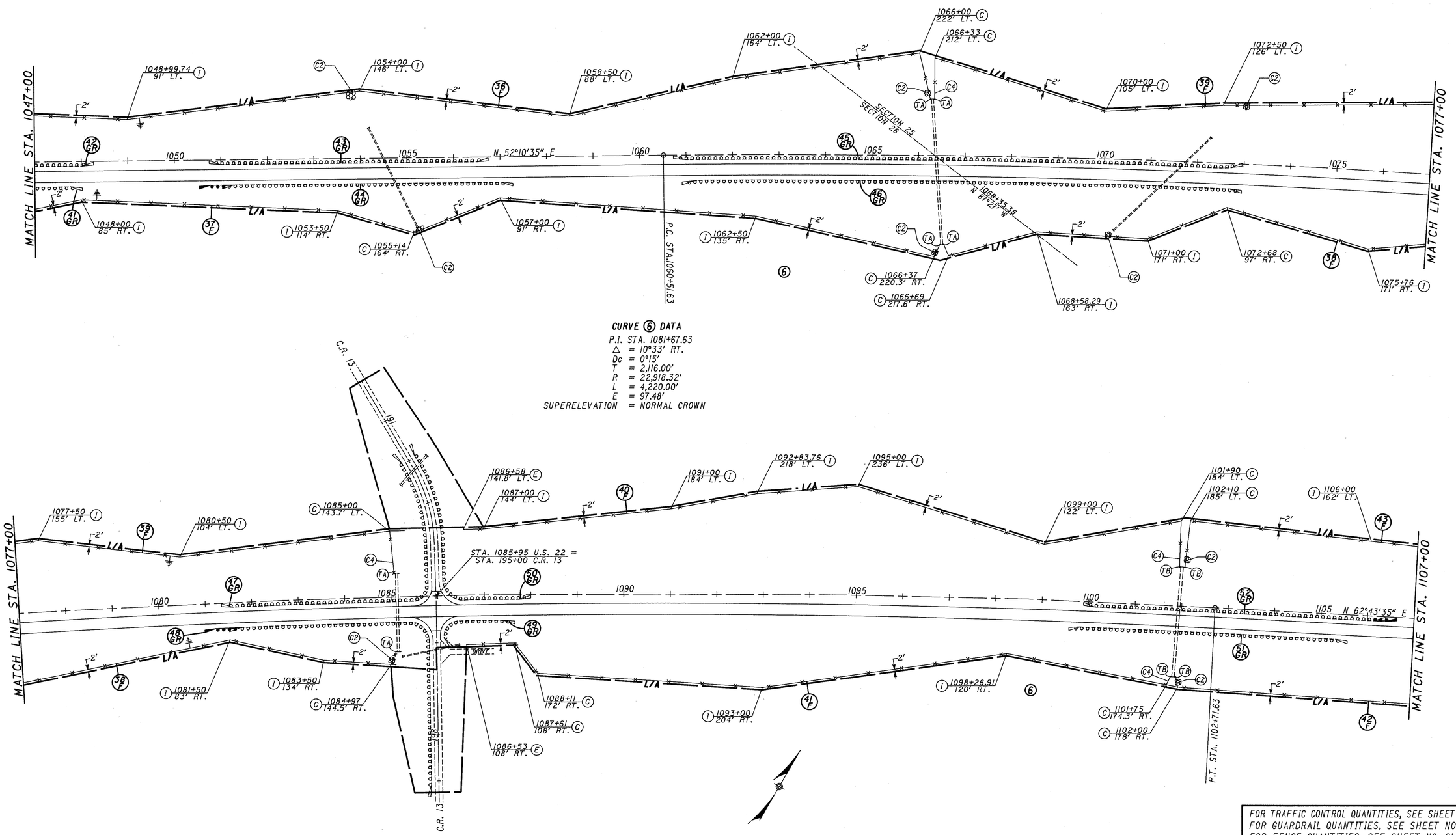
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

STA. 990+00 TO STA. 1047+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

48
115

HAS-22-15.03



CURVE (6) DATA

P.I. STA. 1081+67.63
Δ = 10°33' RT.
Dc = 0°15'
T = 2,116.00'
R = 22,918.32'
L = 4,220.00'
E = 97.48'
SUPERELEVATION = NORMAL CROWN

FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

STA. 1047+00 TO STA. 1107+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

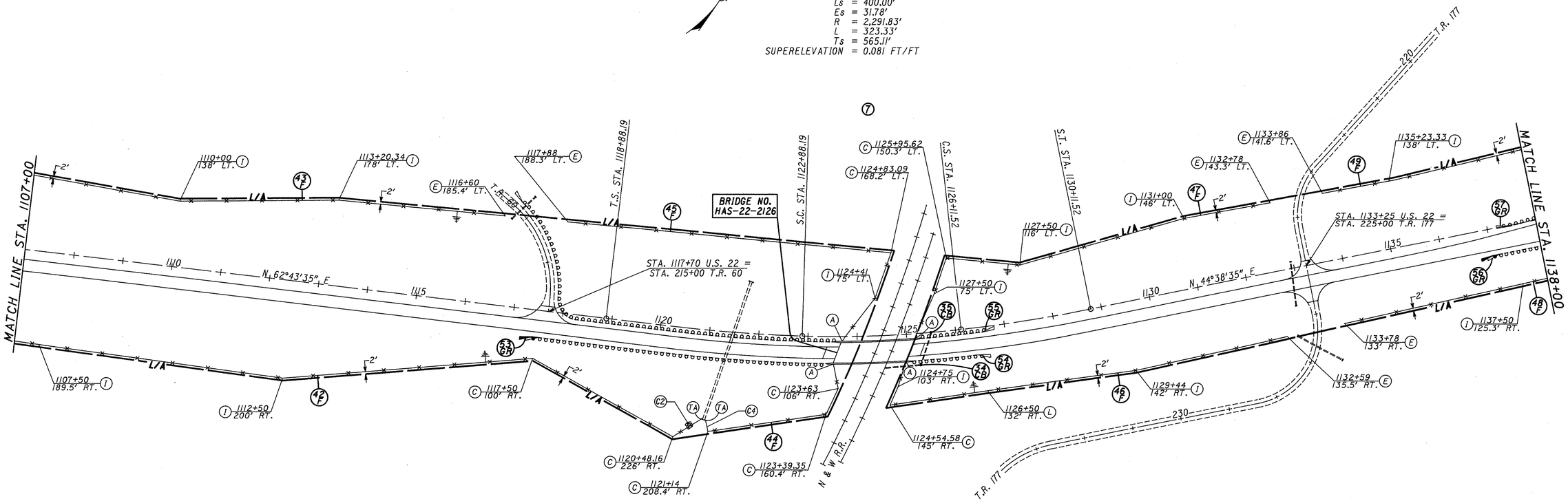
49/115

HAS-22-15.03

CURVE ⑦ DATA

P.I. STA. 1124+53.30
△ = 18°05' LT.
Dc = 2°30'
Ls = 400.00'
Es = 31.78'
R = 2,291.83'
L = 323.33'
Ts = 565.11'
SUPERELEVATION = 0.081 FT/FT

⑦



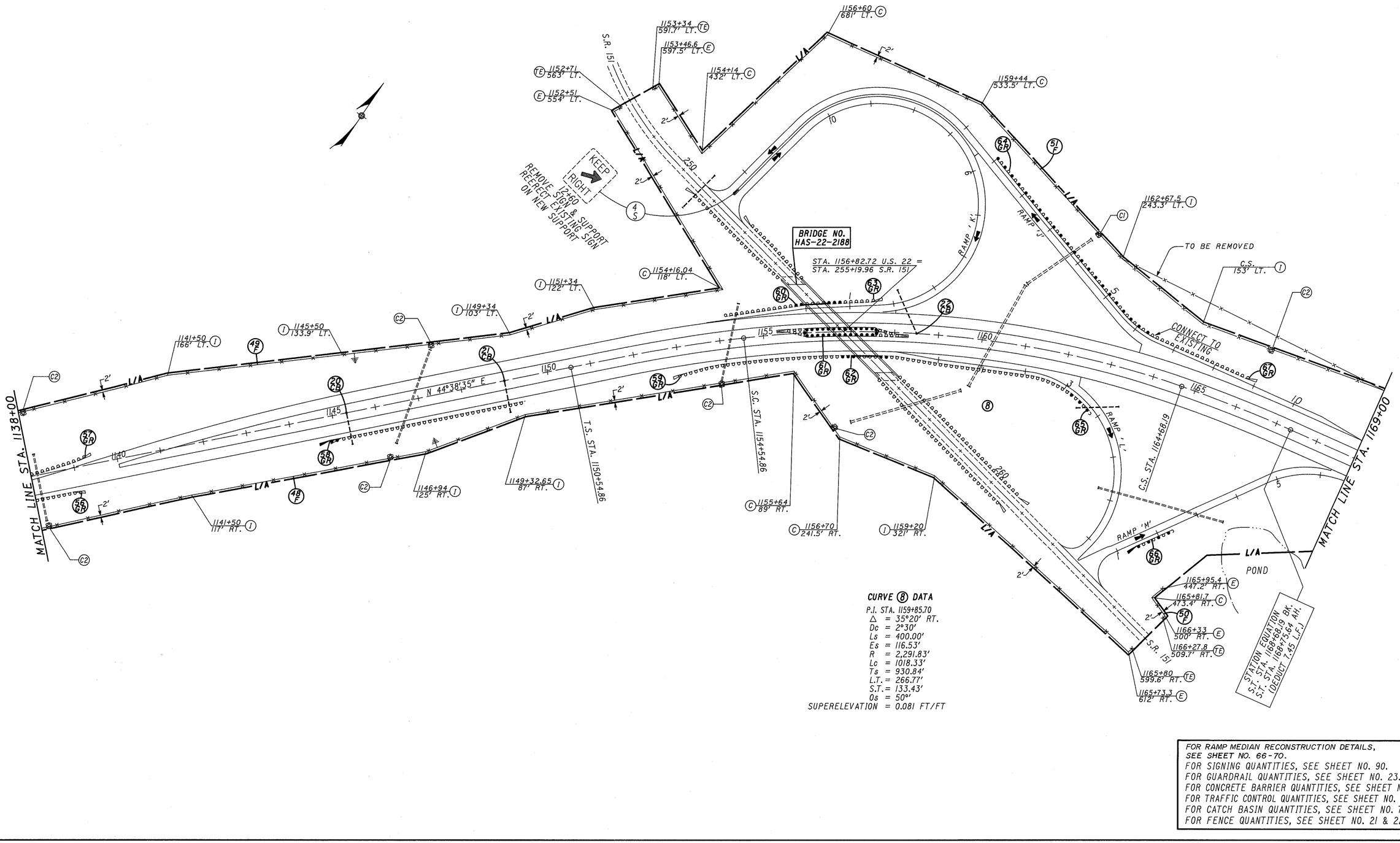
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

STA. 1107+00 TO STA. 1138+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

50
115

HAS-22-15.03



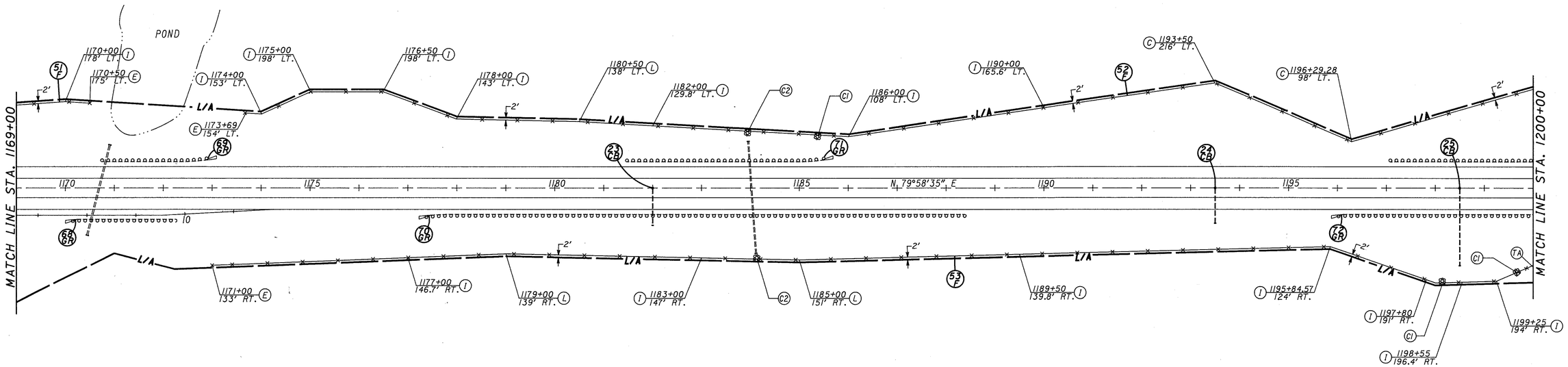
FOR RAMP MEDIAN RECONSTRUCTION DETAILS, SEE SHEET NO. 66-70.
FOR SIGNING QUANTITIES, SEE SHEET NO. 90.
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23.
FOR CONCRETE BARRIER QUANTITIES, SEE SHEET NO. 74.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

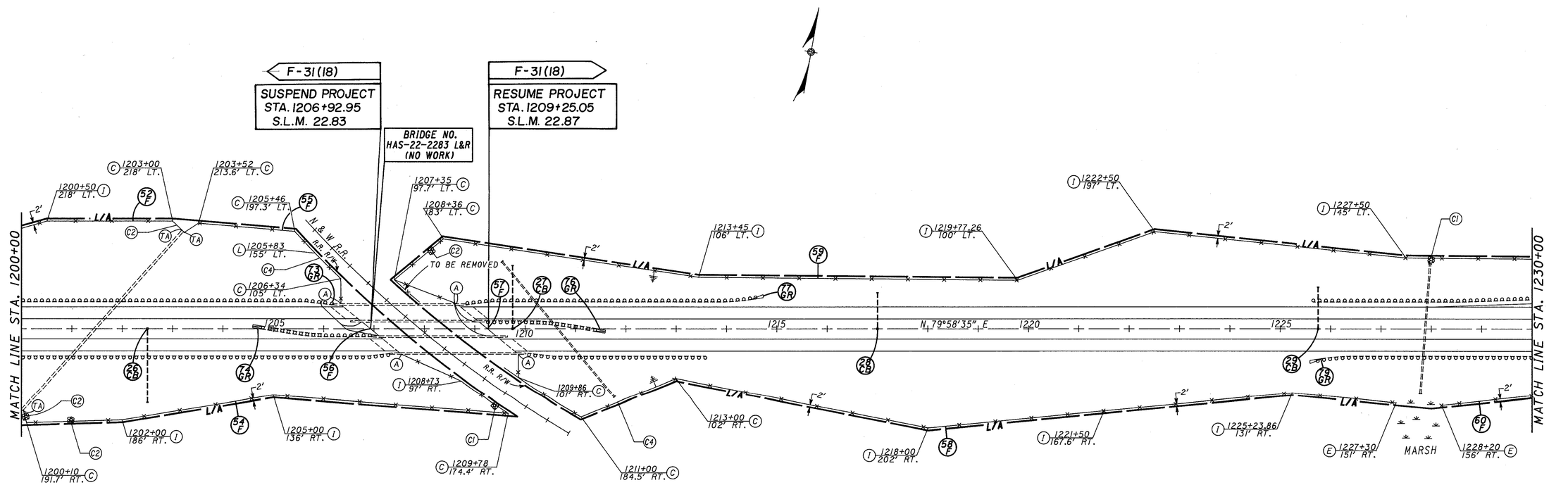
STA. 1138+00 TO STA. 1169+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

51/115

HAS-22-15.03





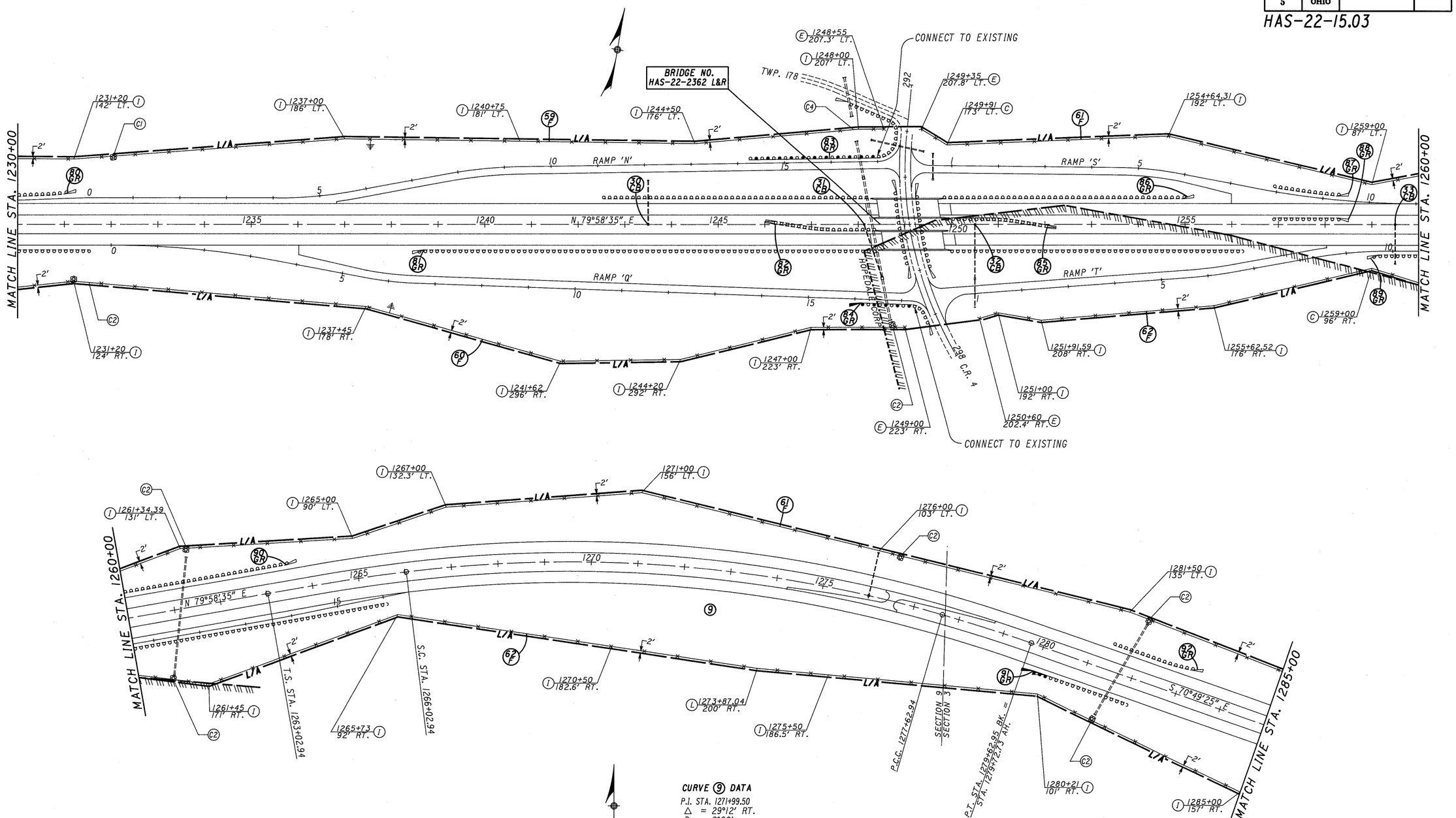
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

STA. 1169+00 TO STA. 1230+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

52
115

HAS-22-15.03



CURVE (9) DATA

P.I. STA. 1271+99.50
Δ = 29°12' RT.
Dc = 2°00'
Ls = 300.00'
Es = 96.96'
R = 2864.79'
Lc = 1160.00'
Ts = 896.56'
L.T. = 200.03'
S.T. = 100.03'
θs = 3°00'
SUPERELEVATION = 0.064 FT/FT

FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 23 & 24.
FOR CONCRETE BARRIER QUANTITIES, SEE SHEET NO. 74.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

STA. 1230+00 TO STA. 1285+00

CURVE (10) DATA

P.I. STA. 1292+88.95
△ = 17°45' LT.
Dc = 2°00'
Ls = 300.00'
Es = 36.03'
R = 2864.79'
Lc = 587.50'
Ts = 597.53'
L.T. = 200.03'
S.T. = 100.03'
θs = 3°00'
SUPERELEVATION = 0.064 FT/FT

CURVE (11) DATA

P.I. STA. 1320+34.68
△ = 32°55' LT.
Dc = 2°00'
Ls = 300.00'
Es = 123.77'
R = 2864.79'
Lc = 1345.83'
Ts = 996.70'
L.T. = 200.03'
S.T. = 100.03'
θs = 3°00'
SUPERELEVATION = 0.064 FT/FT

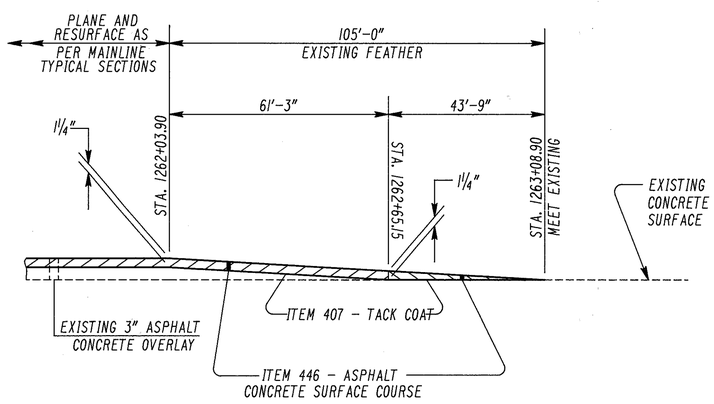
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 24.
FOR CONCRETE BARRIER QUANTITIES, SEE SHEET NO. 74.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 87-91.
FOR CATCH BASIN QUANTITIES, SEE SHEET NO. 73.
FOR FENCE QUANTITIES, SEE SHEET NO. 21 & 22.

FEATHER DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

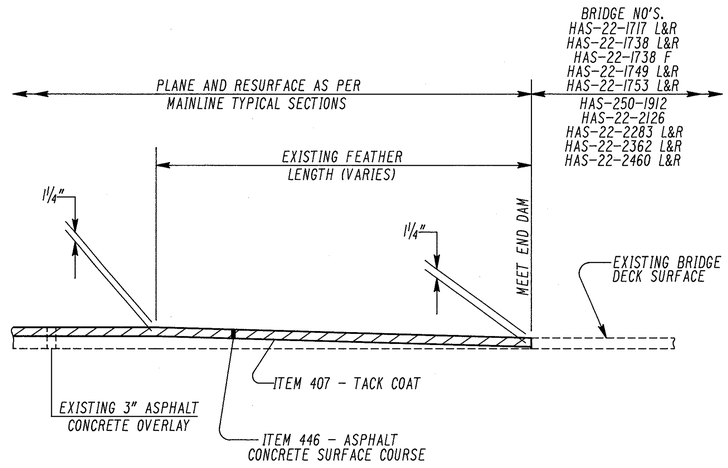
54/115

HAS-22-15.03



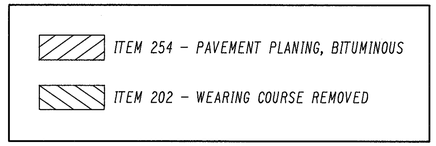
PAVEMENT TRANSITION AT EAST END OF RESURFACING (WESTBOUND LANES ONLY)

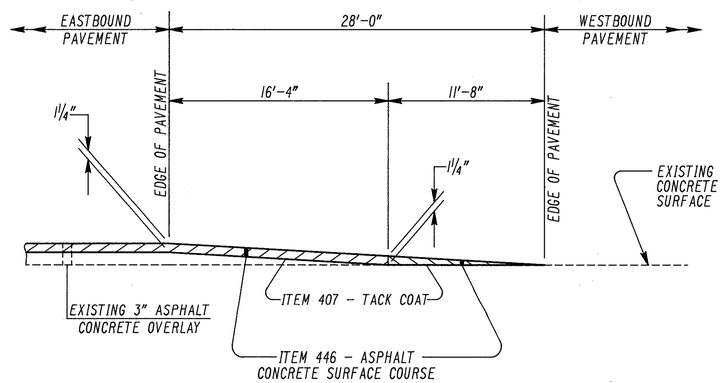
(NOT TO SCALE)



PAVEMENT TRANSITION AT STRUCTURES

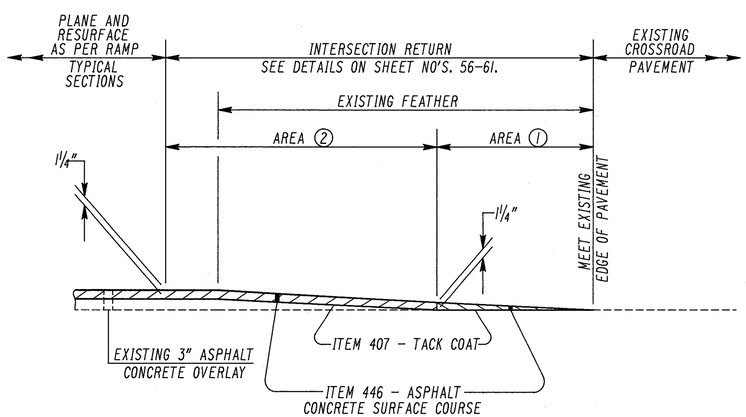
(NOT TO SCALE)





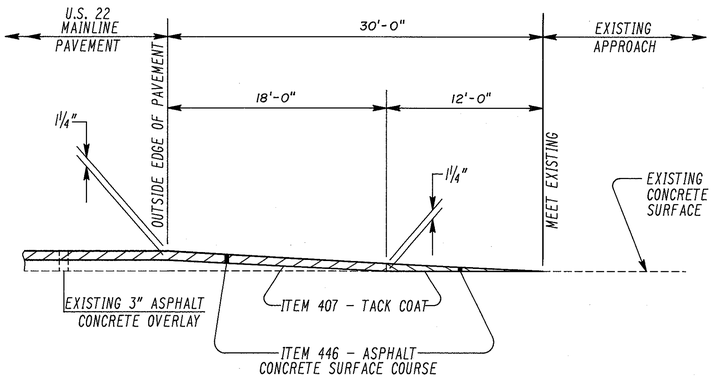
PAVEMENT TRANSITION AT APPROACH MEDIAN CROSS OVERS
STA. 1306+42.00
STA. 1333+38.45

(NOT TO SCALE)



PAVEMENT TRANSITION AT RAMP INTERSECTIONS

(NOT TO SCALE)



PAVEMENT TRANSITION AT APPROACH INTERSECTIONS

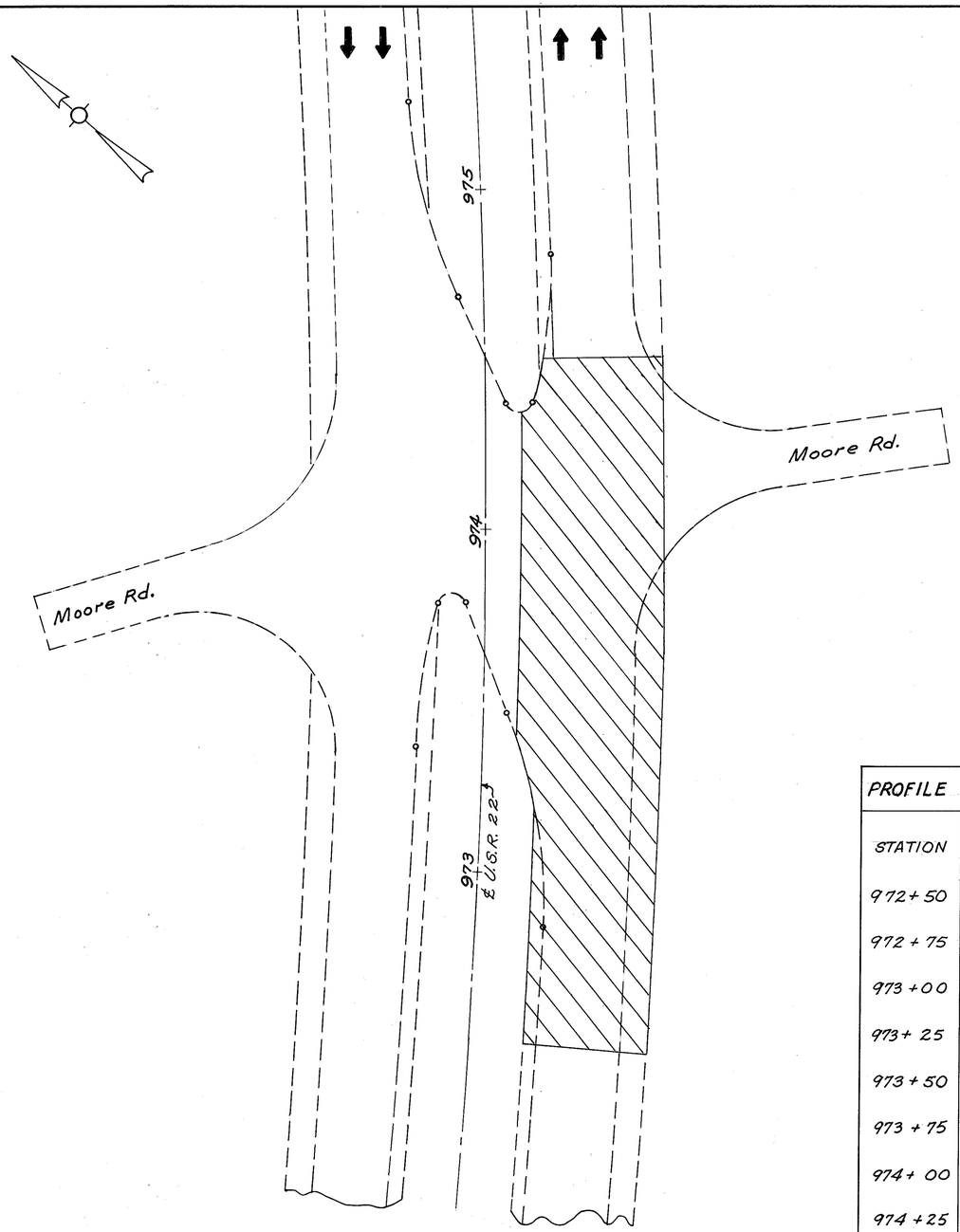
(NOT TO SCALE)

CALC. BY	CHK'D BY
S.H.G 3-28-90	S.A.L. 3-28-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

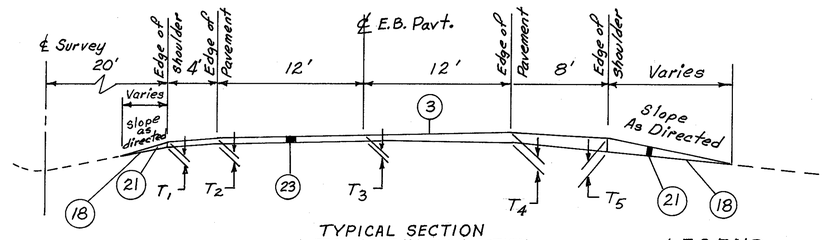
55/115

HAS-22-15.03

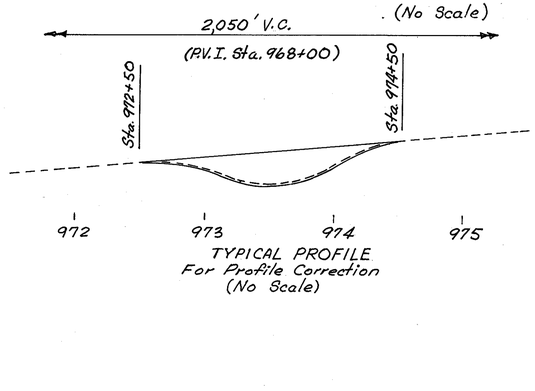


PROFILE CORRECTION TABLE

STATION	T_1	T_2	T_3	T_4	T_5
	Ft.	Ft.	Ft.	Ft.	Ft.
972+50	0	0	0	0	0
972+75	.02	.12	.05	.04	.34
973+00	.26	.45	.24	.21	.40
973+25	.77	.65	.47	.56	.94
973+50	.53	.37	.37	.51	.77
973+75	.16	.20	.20	.35	.53
974+00	.10	.08	.11	.22	.12
974+25	.01	0	.08	.08	0
974+50	0	0	0	0	0



TYPICAL SECTION
FOR PROFILE CONNECTION
STA. 972+50 to STA. 974+50
(No Scale)



TYPICAL PROFILE
For Profile Correction
(No Scale)

LEGEND

(3) * Item 407 Tack Coat

(18) ‡ Item 203 Linear Grading Method # 1

(21) ‡ Item 617 Compacted Aggregate, Type B & Water

(23) Item 403 Asphalt Concrete AC-20 (Variable Thickness)

* Included in Resurfacing Calculations on Sheet No.'s 9 & 10.

‡ Included in Shoulder Repair quantities on Sheet No. 63.

▨ Profile Correction Area

PROFILE CORRECTION

This work shall consist of correcting the existing US 22 profile as shown on this sheet by spreading and compacting the variable thickness 403 Asphalt Concrete at the locations and to the depths shown in the table, prior to pavement planing and resurfacing operations.

Any full depth pavement repairs from Sta. 972+50 to Sta. 975+50 shall be Completed prior to the profile correction.

The following quanity has been included in the General Summary for the purpose of correcting the profile as described above:

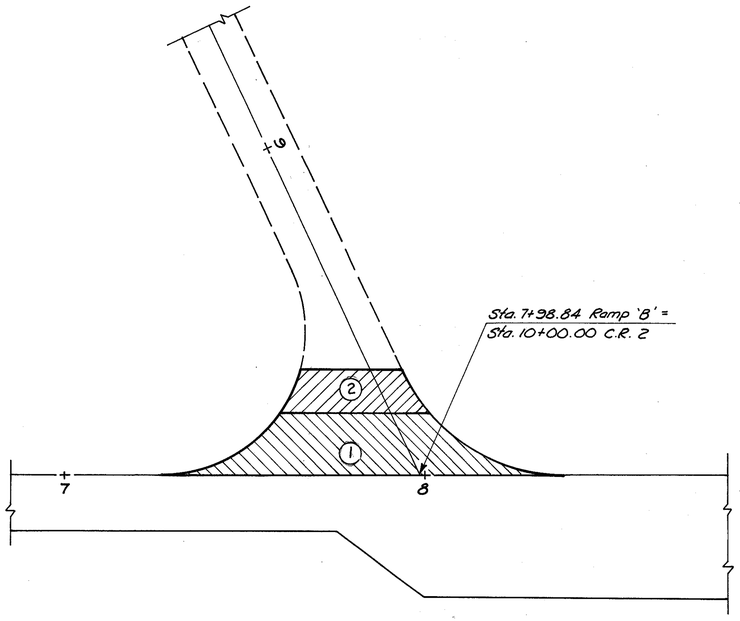
Item 403 - Asphalt Concrete, AC-20 -- 65 Cu. Yd.

BRUNING 44-231 70630

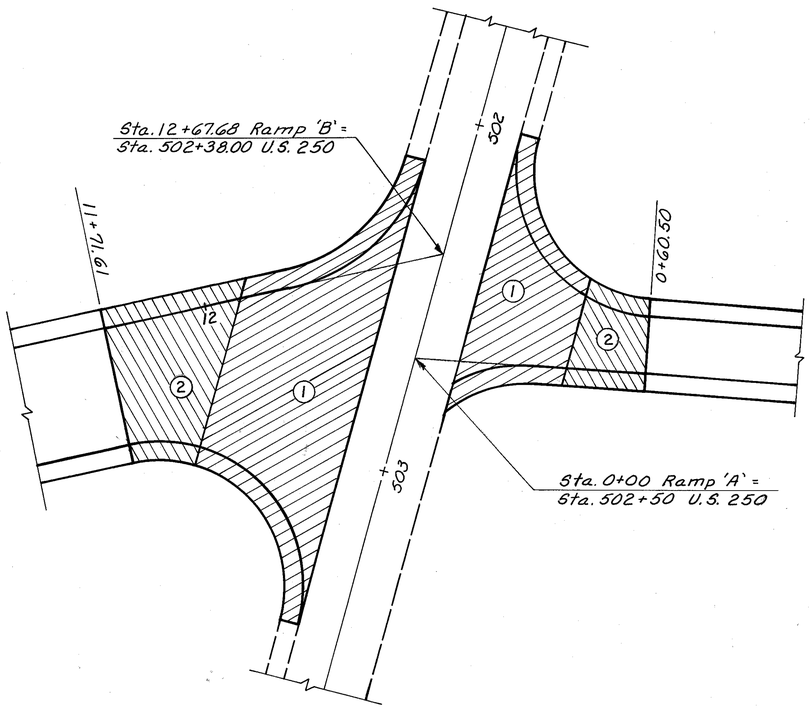
FHWA REGION	STATE	PROJECT	
5	OHIO		

56/115

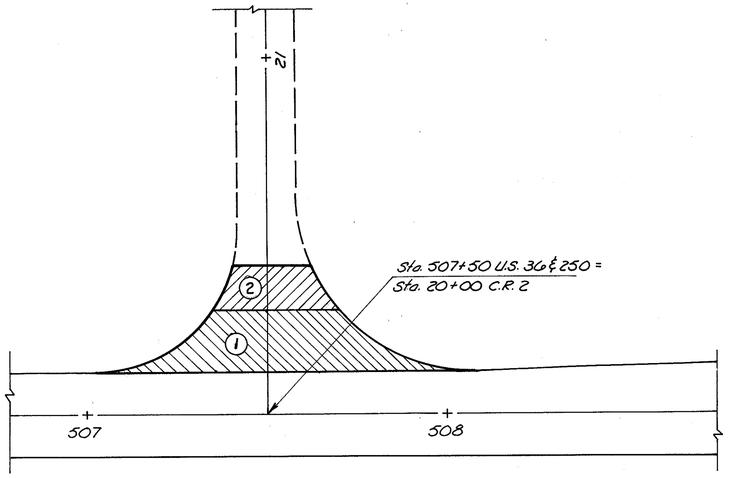
HAS-22-15.03



INTERSECTION DETAIL
RAMP 'B' & C.R. 2 (NORTH)



INTERSECTION DETAIL
U.S. 250 With RAMPS A & B



INTERSECTION DETAIL
U.S. 250 & C.R. 2 (SOUTH)

Planimetered Areas
Used in Resurfacing Calculations on sheet No. 13

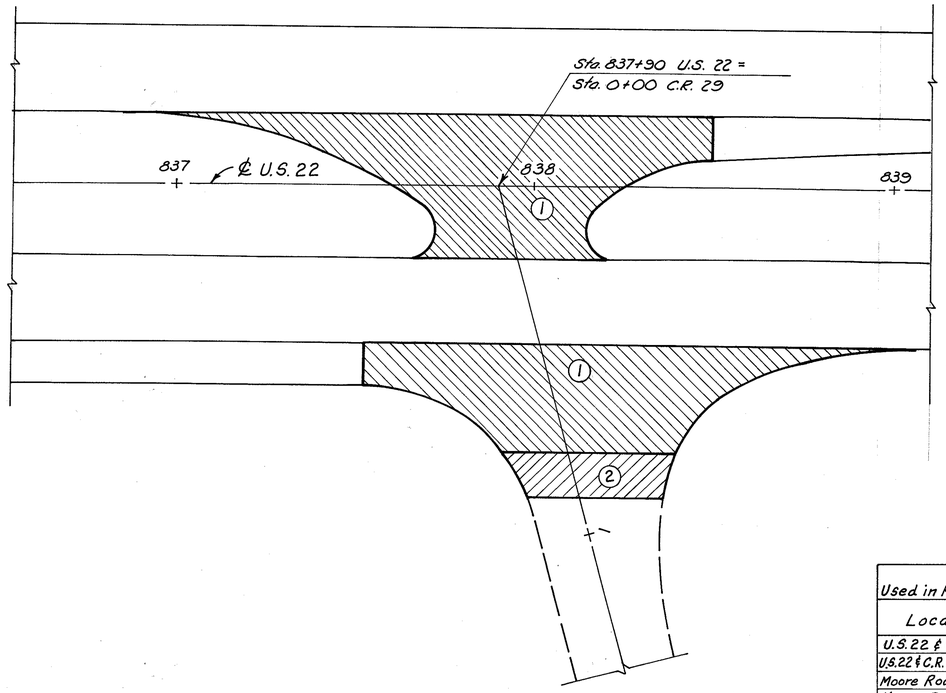
Location	Area (Sq. Yd.) ①	②
Ramp 'B' & C.R. 2 (North)	97	37
U.S. 250 & C.R. 2 (South)	92	37
U.S. 250 & Ramp 'A'	165	62
U.S. 250 & Ramp 'B'	355	146

INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

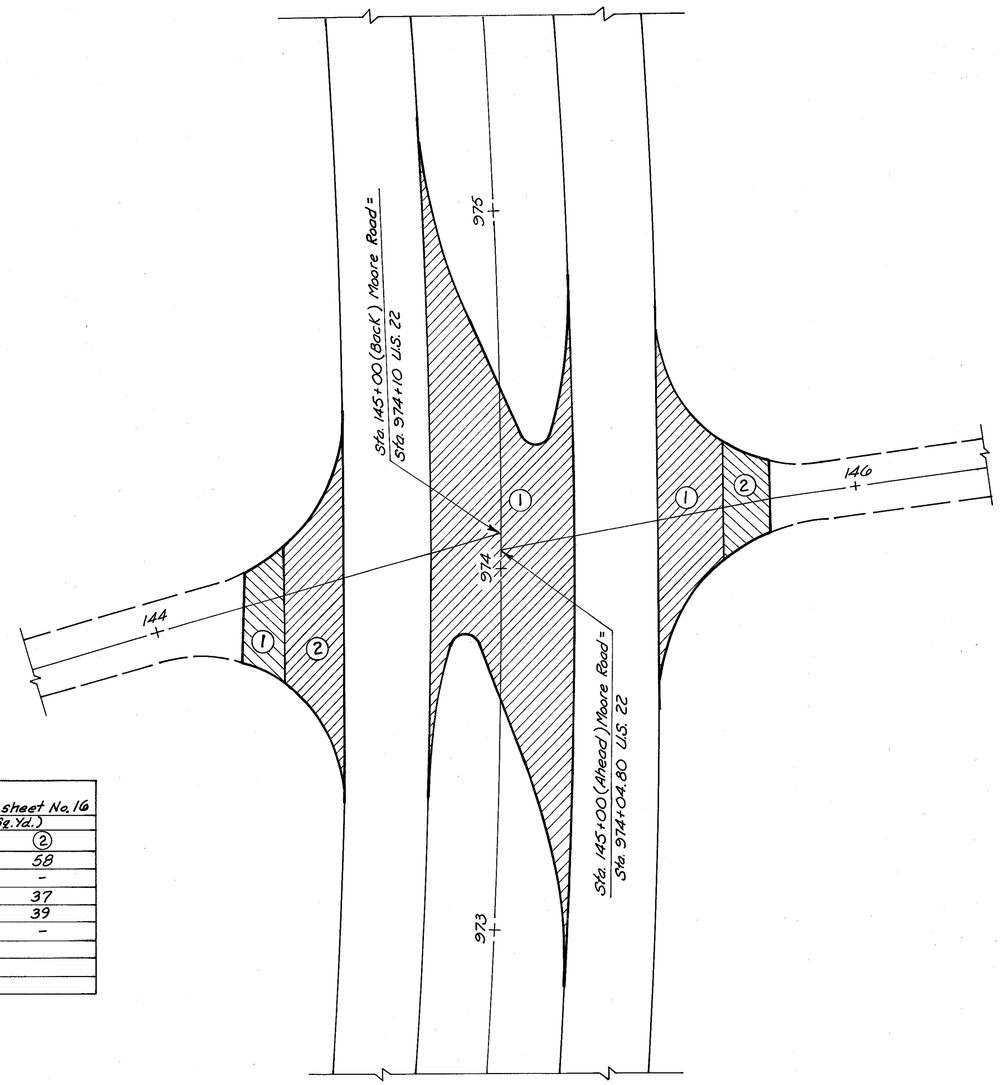
57/115

HAS-22-15.03



INTERSECTION DETAIL
U.S. 22 & C.R. 29

Planimetered Areas Used in Resurfacing Calculations on sheet No. 16		
Location	Area (Sq. Yd.)	
	①	②
U.S. 22 & C.R. 29	290	58
U.S. 22 & C.R. 29 Crossover	352	-
Moore Road (North)	114	37
Moore Road (South)	113	39
Moore Road Crossover	499	-



INTERSECTION DETAIL
U.S. 22 & MOORE ROAD

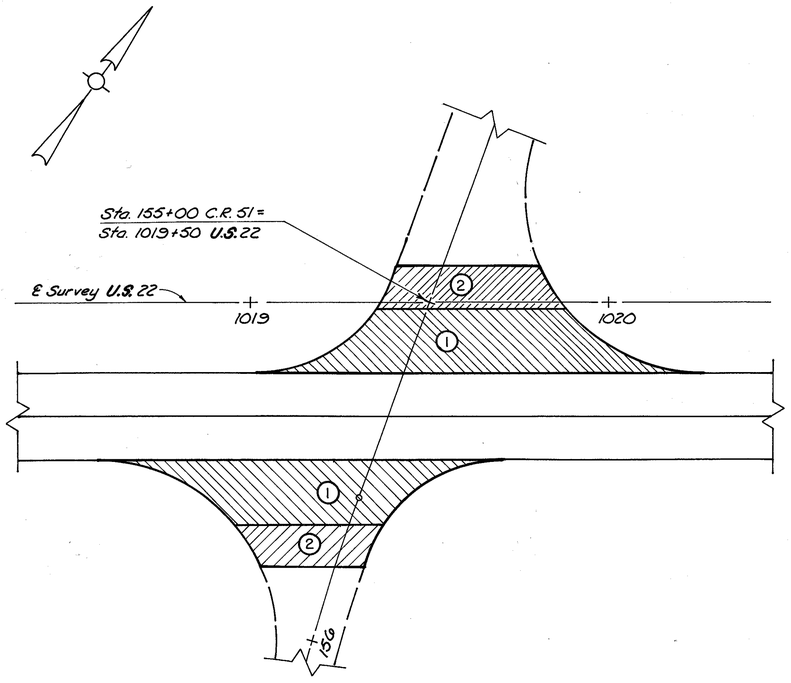
INTERSECTION DETAILS

BRUNING 44-231 70630

FHWA REGION	STATE	PROJECT	
5	OHIO		

58/115

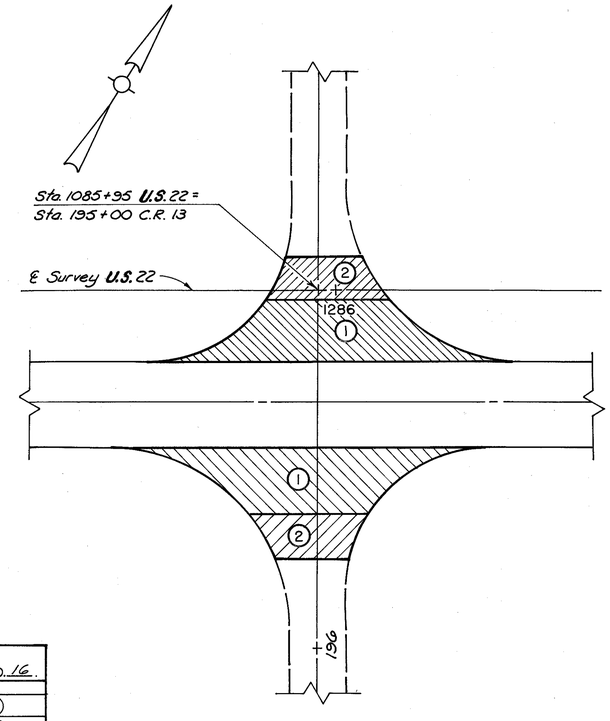
HAS-22-15.03



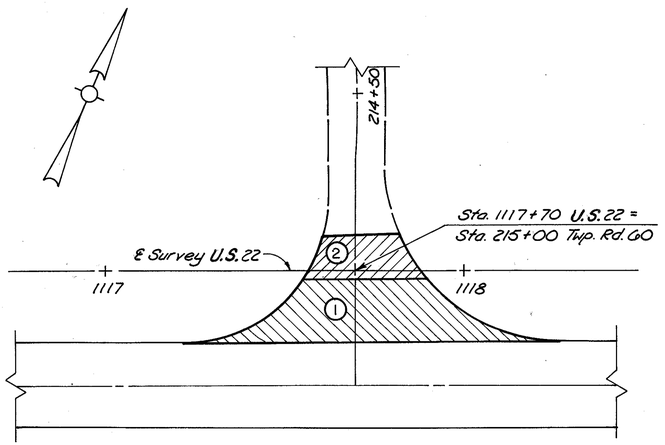
INTERSECTION DETAIL
U.S. 22 & C.R. 51

PLANIMETERED AREAS
USED IN RESURFACING CALCULATIONS ON SHEET NO. 16.

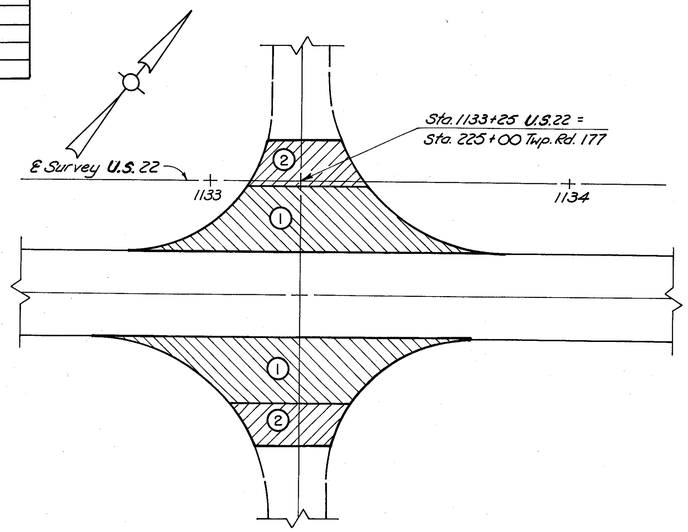
LOCATION	AREA (SQ. YD.) ①	②
C.R. 51 (NORTH)	157	62
C.R. 51 (SOUTH)	129	45
C.R. 13 (NORTH)	107	35
C.R. 13 (SOUTH)	113	37
TWP. RD. 60	110	39
TWP. RD. 177 (NORTH)	115	36
TWP. RD. 177 (SOUTH)	116	36



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



INTERSECTION DETAIL
U.S. 22 & Twp. Rd. 60



INTERSECTION DETAIL
U.S. 22 & Twp. Rd. 177

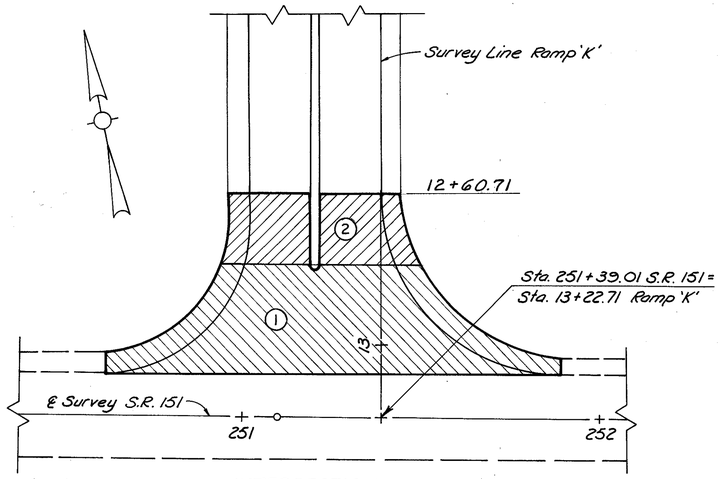
BRUNING 44 231 70630

INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

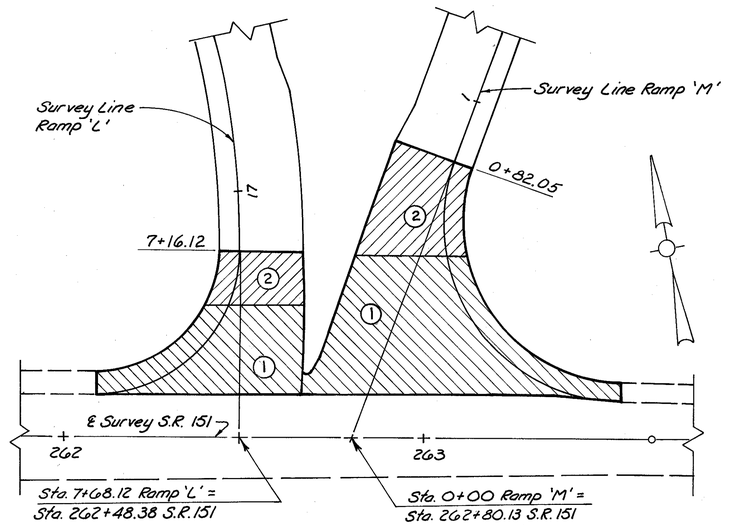
59/115

HAS-22-15.03

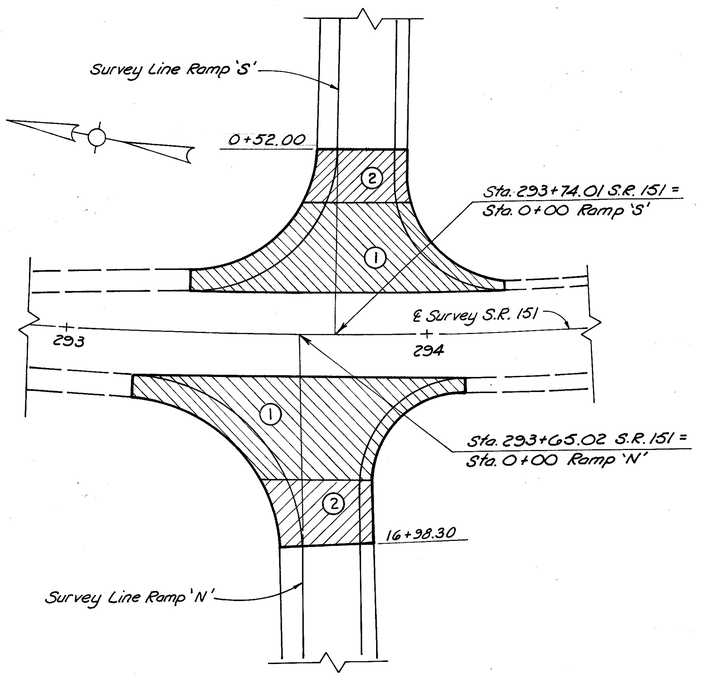


INTERSECTION DETAIL
S.R. 151 & RAMP K

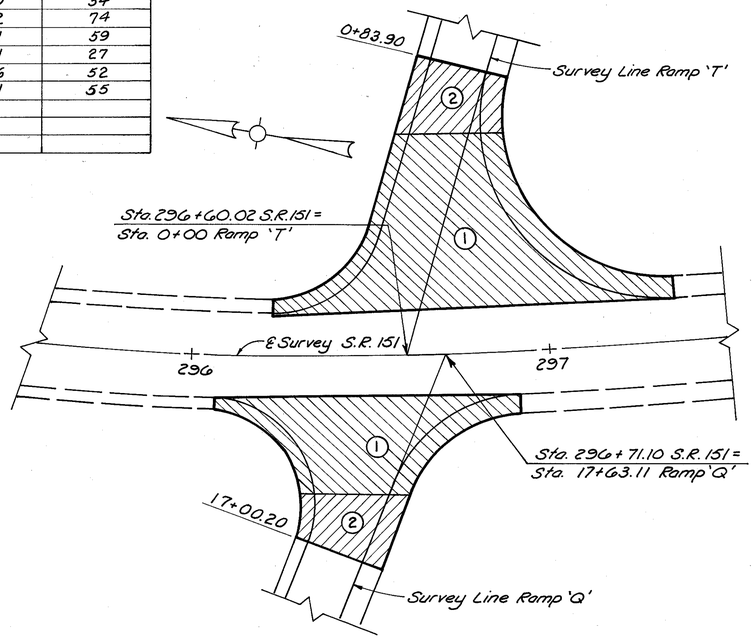
Planimetered Areas Used in Resurfacing Calculations on sheet 11/13/14		
Location	Area (Sq. Yd.) ①	②
S.R. 151 & Ramp 'K'	274	100
S.R. 151 & Ramp 'L'	110	34
S.R. 151 & Ramp 'M'	212	74
S.R. 151 & Ramp 'N'	181	59
S.R. 151 & Ramp 'S'	141	27
S.R. 151 & Ramp 'T'	296	52
S.R. 151 & Ramp 'Q'	161	55



INTERSECTION DETAIL
S.R. 151 & RAMP L & RAMP M



INTERSECTION DETAIL
S.R. 151 & RAMP S & RAMP N



INTERSECTION DETAIL
S.R. 151 & RAMP T & RAMP Q

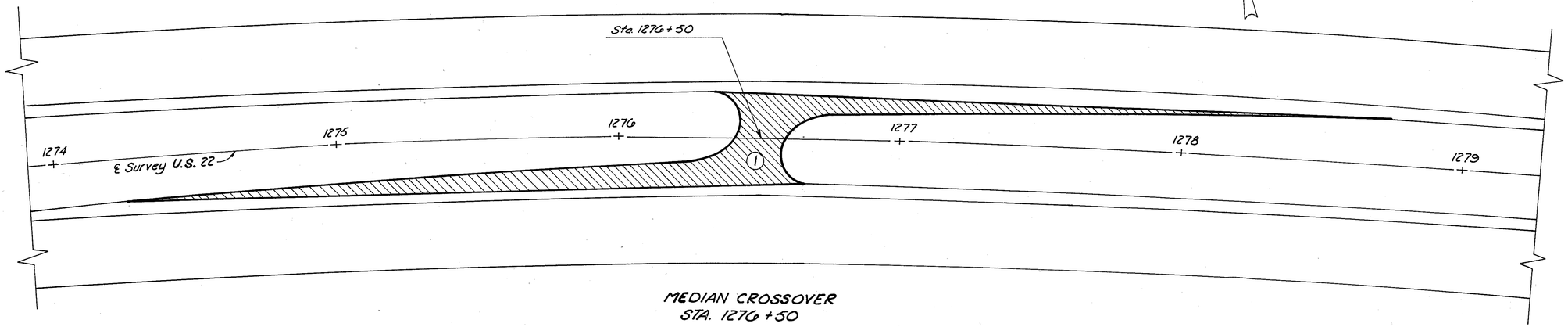
BRUNING 44-231 70630

INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

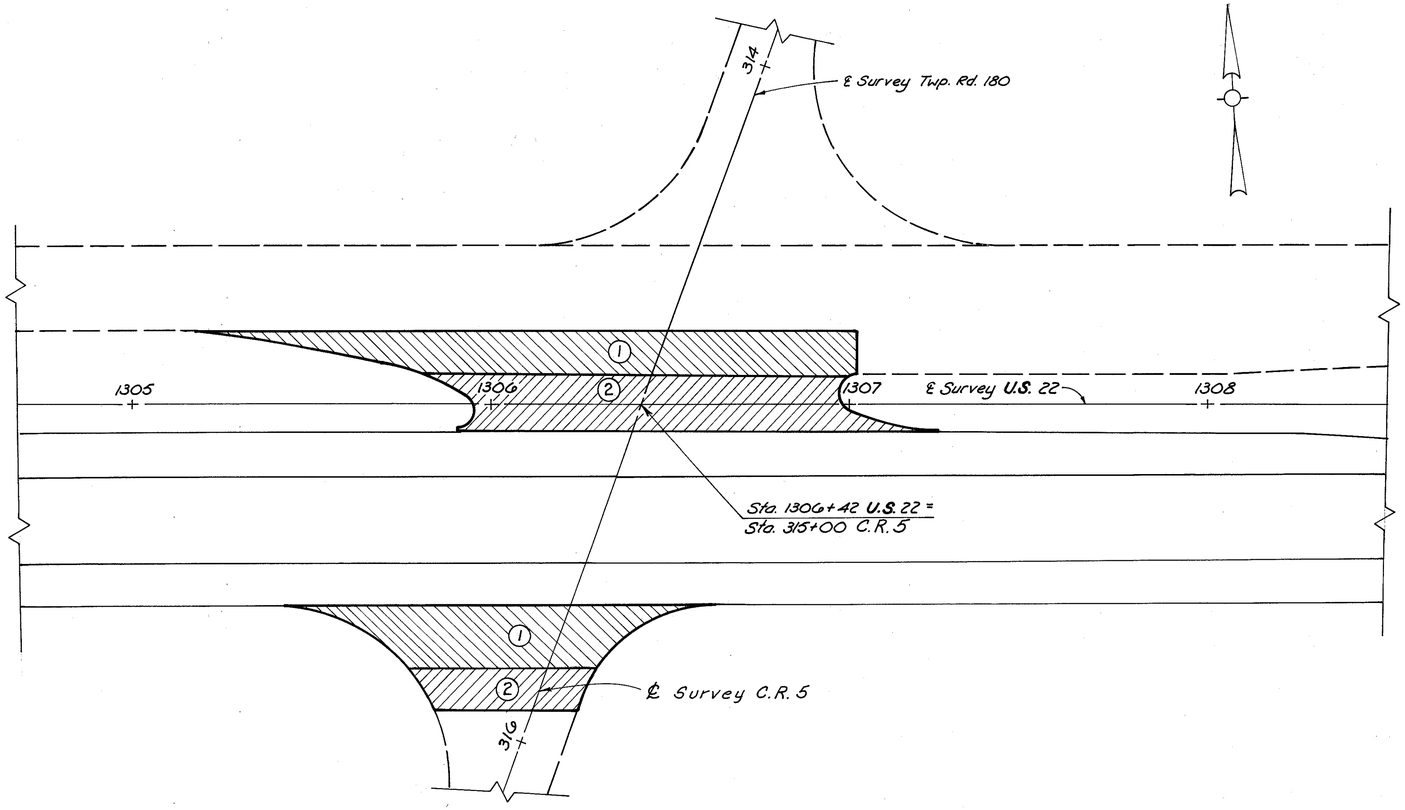
HAS-22-15.03

60
115



MEDIAN CROSSOVER
STA. 1276+50

Planimetered Areas Used in Resurfacing Calculations on Sheet No. 16		
Location	Area (Sq. Yd.)	
	①	②
Sta. 1276+50 Crossover	279	-
C.R. 5	147	59
C.R. 5 Crossover	210	194



INTERSECTION DETAIL
U.S. 22 ℄ C.R. 5

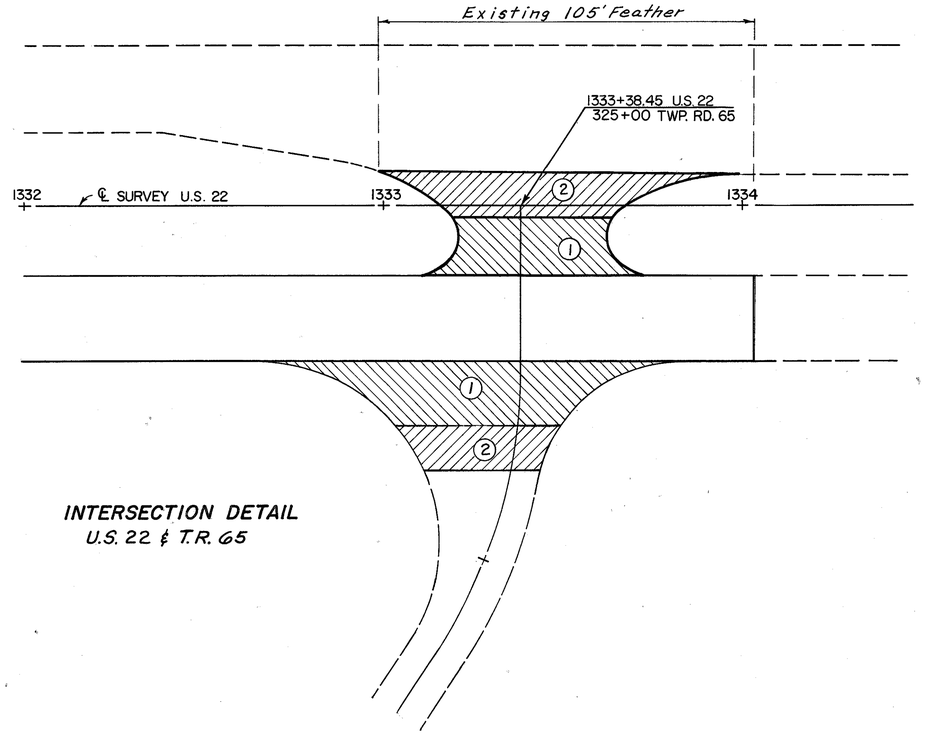
BRUNING 44-231 70630

INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

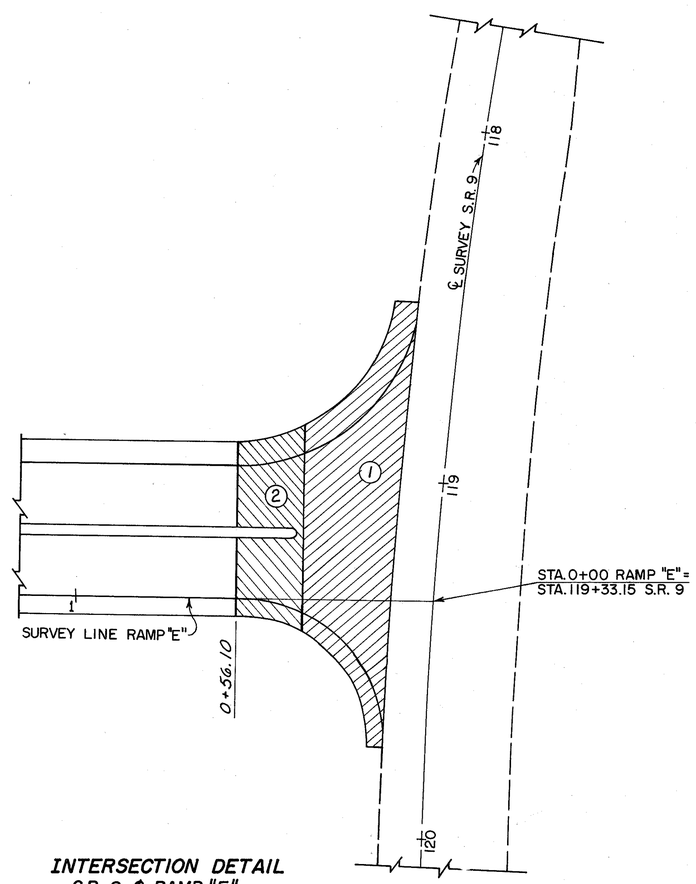
61/115

HAS-22-15.03

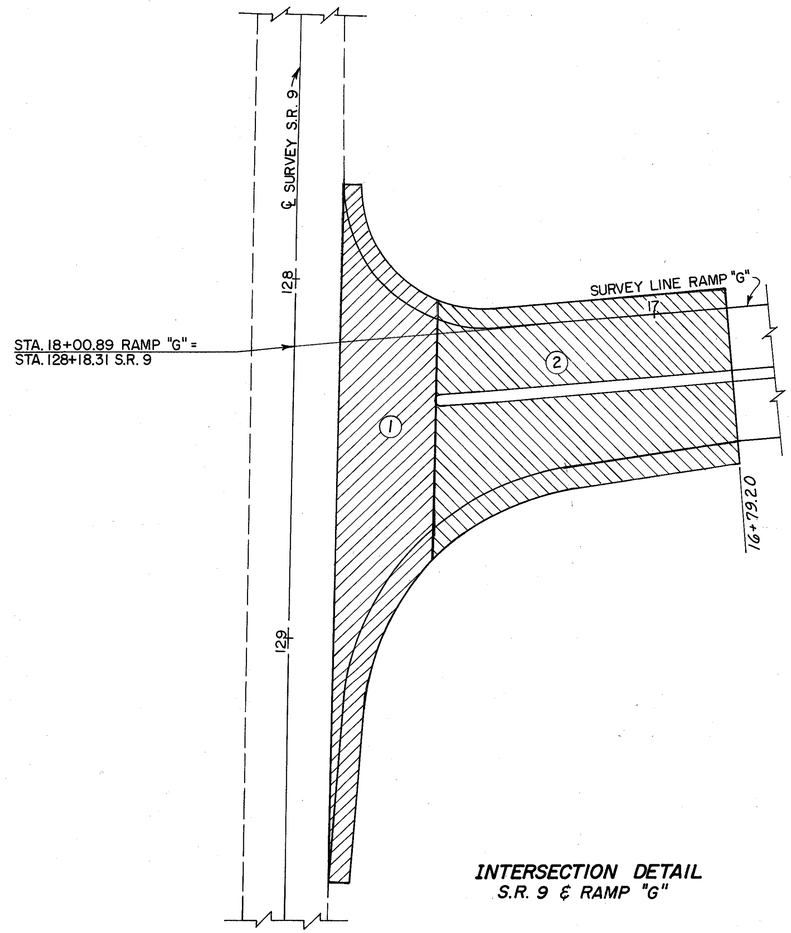


INTERSECTION DETAIL
U.S. 22 & T.R. 65

Planimetered Areas Used in Resurfacing Calculations on sheet Nos. 13 & 16		
Location	①	②
Twp. Rd. 65	122	42
Twp. Rd. 65 Crossover	86	74
S.R. 9 & Ramp 'E'	239	100
S.R. 9 & Ramp 'G'	255	459



INTERSECTION DETAIL
S.R. 9 & RAMP "E"



INTERSECTION DETAIL
S.R. 9 & RAMP "G"

INTERSECTION DETAILS

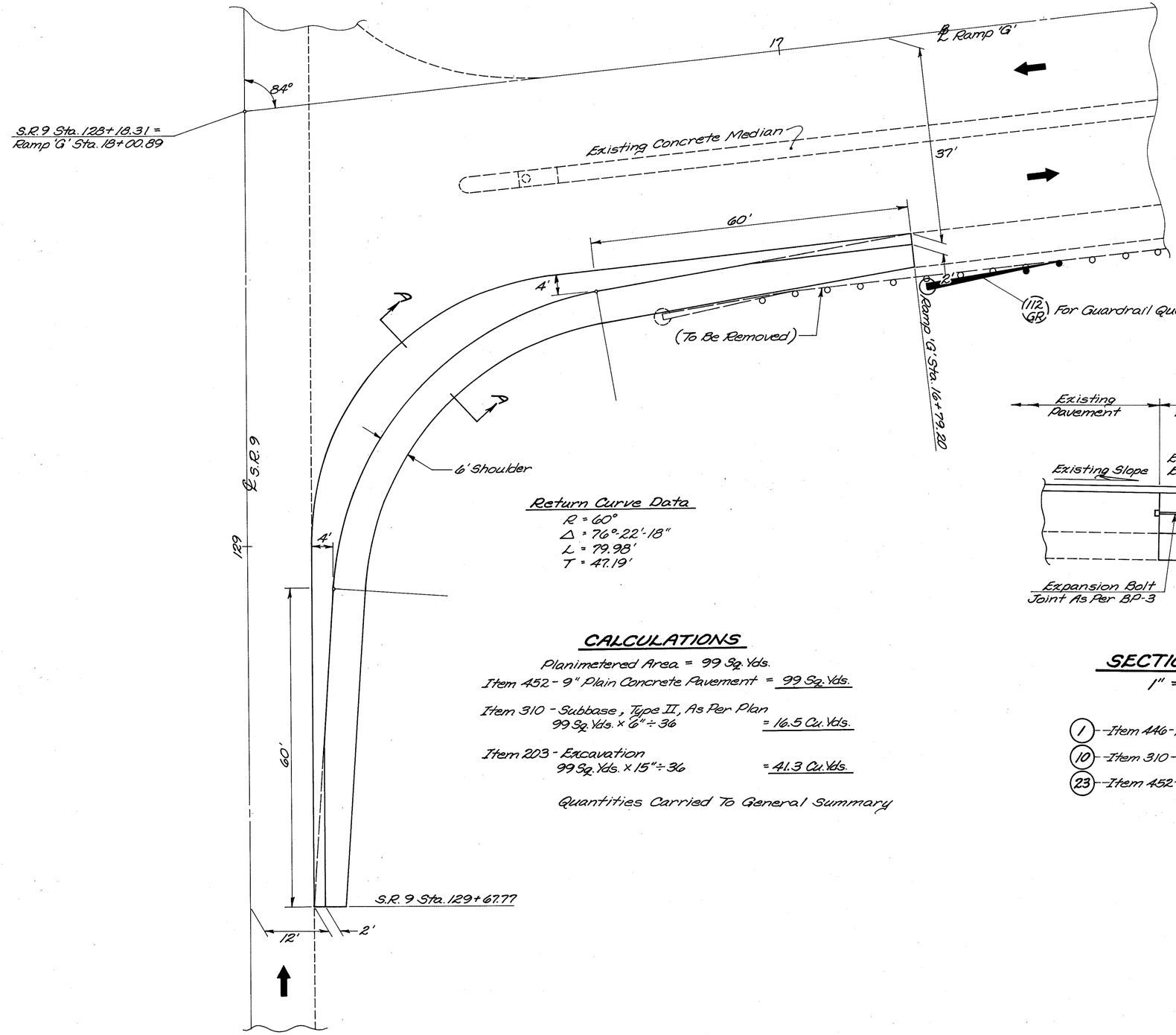
RAMP 'G' INTERSECTION WIDENING DETAIL

Calc. By	Chk'd By
SHG 3-26-90	SAL 3-26-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

62 / 115

HAS-22-15.03



Return Curve Data

$R = 60°$
$\Delta = 76°-22'-18''$
$L = 79.98'$
$T = 47.19'$

CALCULATIONS

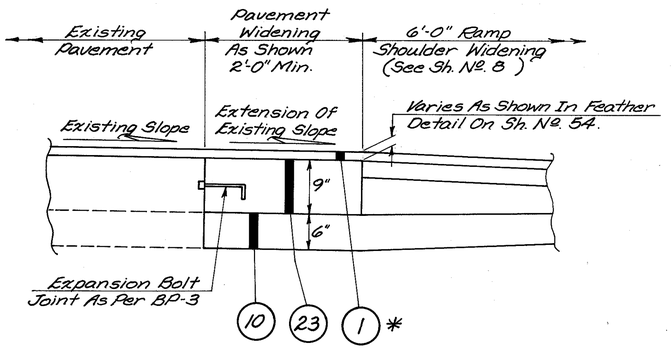
Planimetered Area = 99 Sq. Yds.

Item 452 - 9" Plain Concrete Pavement = 99 Sq. Yds.

Item 310 - Subbase, Type II, As Per Plan
99 Sq. Yds. × 6" ÷ 36 = 16.5 Cu. Yds.

Item 203 - Excavation
99 Sq. Yds. × 15" ÷ 36 = 41.3 Cu. Yds.

Quantities Carried To General Summary



SECTION A-A

1" = 1'

* The Quantity For Item (1) Has Been Included In The Resurfacing Calculations On Sh. No.'s 13 And 15.

LEGEND

(1) -- Item 446 - Asphalt Concrete Surface Course, Type 1, AC-20
(10) -- Item 310 - Subbase, Type II, As Per Plan
(23) -- Item 452 - 9" Plain Concrete Pavement

BRUNING 44-231 70630

INTERSECTION WIDENING DETAIL

SHOULDER REPAIR AND DITCH CLEANOUT DETAILS

QUANTITIES	
CALC. BY: R.R.K.	CHK'D. BY: S.H.G.
DATE: 12-19-89	DATE: 3- 5-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

63
115

LINEAR GRADING, DITCH CLEANOUT

STATION FROM	STATION TO	LANE	LENGTH LIN.FT.	203 LINEAR GRADING DITCH CLEANOUT STA.
799+50	814+50	EASTBOUND	1500	15.00
913+60	921+35		775	7.75
949+90	952+90		300	3.00
996+35	1004+65		830	8.30
1021+95	1025+55		360	3.60
1035+70	1041+40		570	5.70
1075+65	1084+05		840	8.40
1090+00	1102+05		1205	12.05
1108+10	1120+00		1190	11.90
1195+90	1199+00		310	3.10
1213+60	1224+90		1130	11.30
1265+45	1279+80		1435	14.35
796+75	816+05	WESTBOUND	1930	19.30
909+65	913+70		405	4.05
947+20	950+30		310	3.10
956+15	959+85		370	3.70
1020+55	1022+80		225	2.25
1032+40	1037+40		500	5.00
1072+30	1080+40		810	8.10
1087+15	1099+05		1185	11.85
1105+50	1116+50		1100	11.00
1133+10	1136+50		340	3.40
1140+60	1145+50		490	4.90
1146+80	1151+25		445	4.45
1154+20	1157+85		365	3.65
1187+55	1196+95		940	9.40
1263+05	1275+20		1215	12.15
1322+70	1330+35		765	7.65
TOTAL – CARRIED TO GENERAL SUMMARY				218.40

LINEAR GRADING, METHOD 3

STATION FROM	STATION TO	RAMP	LENGTH LIN.FT.	203 LINEAR GRADING METHOD 3 STA.
7+33.40	10+98.69	E	388.29	3.88
6+69.09	9+21.11	G	272.36	2.72
TOTAL – CARRIED TO GENERAL SUMMARY				6.60

ITEM 659

SEEDING & MULCHING

MEDIAN GUARDRAIL REMOVED (FROM SHEET NO. 27)	700.0 S.Y.
LINEAR GRADING, METHOD #3 (FROM SHEET NO. 63) 6.60 STA. x 100 L.F./STA. x 2' WIDTH ÷ 9 =	146.7 S.Y.
LINEAR GRADING, DITCH CLEANOUT (FROM SHEET NO. 63) 218.40 STA. x 100 L.F./STA. x 15' AVG. WIDTH ÷ 9 =	36,400.0 S.Y.
MAINLINE MEDIAN RECONSTRUCTION (FROM SHEET NO. 64)	811.0 S.Y.
MAINLINE MEDIAN RECONSTRUCTION (FROM SHEET NO. 65)	365.0 S.Y.
RAMP MEDIAN RECONSTRUCTION (FROM SHEET NO. 66)	84.0 S.Y.
RAMP MEDIAN RECONSTRUCTION (FROM SHEET NO. 70)	112.0 S.Y.
CATCH BASIN REPLACEMENT (FROM SHEET NO. 73)	1,093.0 S.Y.
BEHIND CONCRETE BARRIER (FROM SHEET NO. 74) 339 L.F. x 4' AVG. WIDTH ÷ 9 =	150.7 S.Y.
TOTAL =	39,862.4 S.Y.
USE:	**39,870 S.Y.**

COMMERCIAL FERTILIZER:
(39,870 S.Y. x 9 x 20) ÷ (2000 x 1000) = 3.59 TON
USE: 3.60 TON

AGRICULTURAL LIMING:
(39,870 S.Y. x 9 x 100) ÷ (2000 x 1000) = 17.94 TON
USE: 18.00 TON

WATER:
(39,870 S.Y. x 120) ÷ (1000 x 1000) x 9 x 2 = 86.12 MGAL.
USE: 87 MGAL.

QUANTITIES CARRIED TO GENERAL SUMMARY.

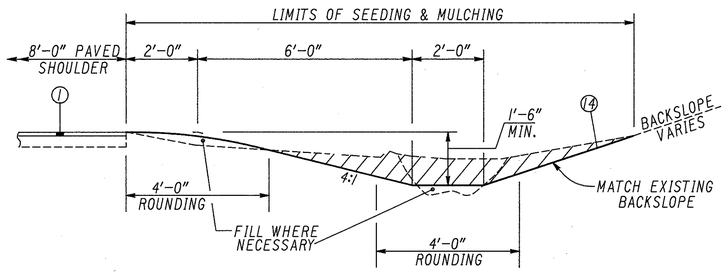
OUTSIDE SHOULDER REPAIR QUANTITIES

STATION FROM	STATION TO	LANE	LENGTH LIN.FT.	WIDTH "W" FT.	203 EXCAVATION CU.YD.	301 BITUMINOUS AGGREGATE BASE, AC-20, CU.YD.	617 COMPACTED AGGREGATE, TYPE B CU.YD.	203 LINEAR GRADING METHOD #1 STATION
850+25	858+10	EASTBOUND	785	2	29.1	29.1	9.7	7.85
885+50	893+65		815	2	30.2	30.2	10.1	8.15
915+30	918+95		365	5	33.8	33.8	4.5	3.65
918+95	921+00		205	2	7.6	7.6	2.5	2.05
969+15	974+75		560	2	20.7	20.7	6.9	5.60
979+50	979+60		10	2	0.4	0.4	0.1	0.10
1021+75	1023+50		175	3	9.7	9.7	2.2	1.75
1028+10	1030+70		260	3	14.4	14.4	3.2	2.60
1035+15	1038+85		370	2	13.7	13.7	4.6	3.70
1041+75	1042+40		65	2	2.4	2.4	0.8	0.65
1044+15	1046+65		250	3	13.9	13.9	3.1	2.50
1047+10	1049+40		230	3	12.8	12.8	2.8	2.30
1059+20	1060+50		130	2	4.8	4.8	1.6	1.30
1175+00	1175+55		55	3	3.1	3.1	0.7	0.55
1176+15	1176+80		65	2	2.4	2.4	0.8	0.65
976+00	977+70	WEST BOUND	170	2	6.3	6.3	2.1	1.70
917+10	917+15		5	2	0.2	0.2	0.1	0.05
890+85	901+05		1020	2	37.8	37.8	12.6	10.20
972+50	973+50	E.B.	100	PROFILE CORRECTION (SEE			1.2	1.00
972+50	974+50	E.B.	200	AT MOORE'S ROAD SHEET)			2.5	2.00
QUANTITIES TO BE USED AS DIRECTED BY THE ENGINEER TO CORRECT ANY SHOULDER DROP-OFF CONDITION							12.3	10.00
TOTALS – CARRIED TO GENERAL SUMMARY					**243.3**	**243.3**	**84.4**	**68.35**

ITEM 617 – WATER:
84.4 C.Y. x 9 GAL./C.Y. ÷ 1000 = 0.8 MGAL. **USE: 1.0 MGAL.**

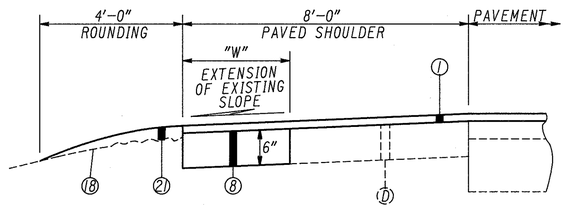
LEGEND

(1)—ITEM 446 – 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
(8)—ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20
(14)—ITEM 659 – SEEDING & MULCHING AND WATER
(18)—ITEM 203 – LINEAR GRADING, METHOD #1
(21)—ITEM 617 – COMPACTED AGGREGATE, TYPE B
(D)--EXISTING BITUMINOUS AGGREGATE BASE



DITCH CLEANOUT DETAIL
(NO SCALE)

NOTE: THE DITCH CLEANOUT DETAIL IS INTENDED TO SHOW THE PROPOSED GROUND LINE ONLY. THE HATCHED AREA DOES NOT REPRESENT ACTUAL FIELD CONDITIONS AND SHALL NOT BE USED TO CALCULATE EXCAVATION VOLUME.



OUTSIDE SHOULDER REPAIR DETAIL
(NO SCALE)

NOTE: THE ASPHALT CONCRETE SURFACE COURSE IS INCLUDED IN THE SHOULDER RESURFACING CALCULATIONS ON SHEET NO'S. 10 & 12.

ASPHALT PAVING UNDER GUARDRAIL QUANTITIES

(SEE SHEET NO. 8 FOR DETAIL)

GUARDRAIL REF. NO.	STATIONS OF PAVING (±) FROM	TO	LENGTH LIN.FT.	WIDTH FT	AREA SQ.YD.	203 LINEAR GRADING METHOD 2 STA.	404 ASPHALT CONC.(UNDER GUARDRAIL) CU.YD.		SPEC. HERBICIDE APPLICATION UNDER ASPHALT SQ.YD.
8-GR	5+38.0 'D'	8+47.0 'D'	337.5	3	112.5	1.13	6.3	45.0	112.5
9-GR	6+62.5 'C'	4+22.6 'D'	300.0	4	133.3	1.33	7.4	53.3	133.3
10-GR	4+24.0 'D'	8+90.3 'D'	450.0	4	200.0	2.00	11.1	80.0	200.0
25-GR	2+80.5 'F'	3+68.0 'F'	87.5	4	38.9	0.39	2.2	15.6	38.9
26-GR	5+22.0 'F'	6+78.0 'E'	412.5	4	183.3	1.83	10.2	73.3	183.3
28-GR	6+77.8 'E'	12+04.6 'E'	512.5	4	227.8	2.28	12.7	91.1	227.8
64-GR	0+98.0 'J'	6+48.0 'J'	550.0	4	244.4	2.44	13.6	97.8	244.4
TOTALS – CARRIED TO GENERAL SUMMARY						**11.40**	**63.5**		**1140.2**

HA22151I

SHOULDER REPAIR & DITCH CLEANOUT DETAILS

BENCHMARK
Sta. 809+87, 38' Lt.
Top of Concrete Pipe
Assumed Elev. 100.00

MAINLINE MEDIAN DETAILS

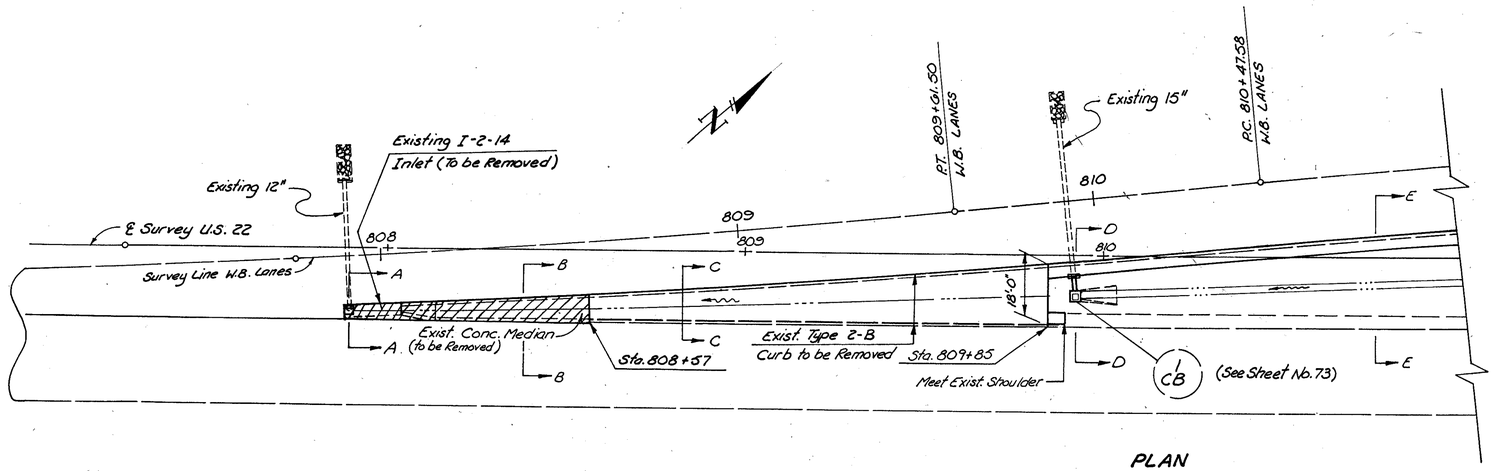
(No Scale)

QUANTITIES		
Calc.	DCH	3-5-90
Chkd.	SHG	3-23-90

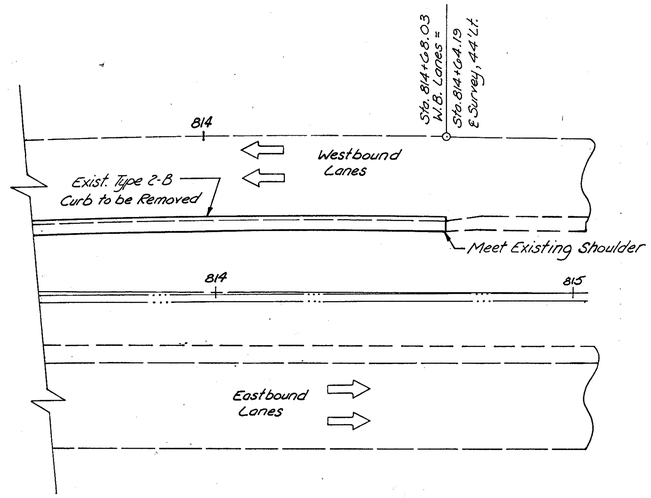
FHWA REGION	STATE	PROJECT	
5	OHIO		

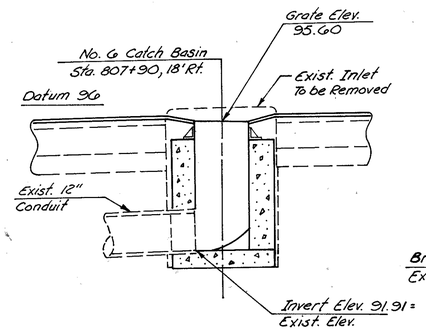
64
115

HAS-22-15.03

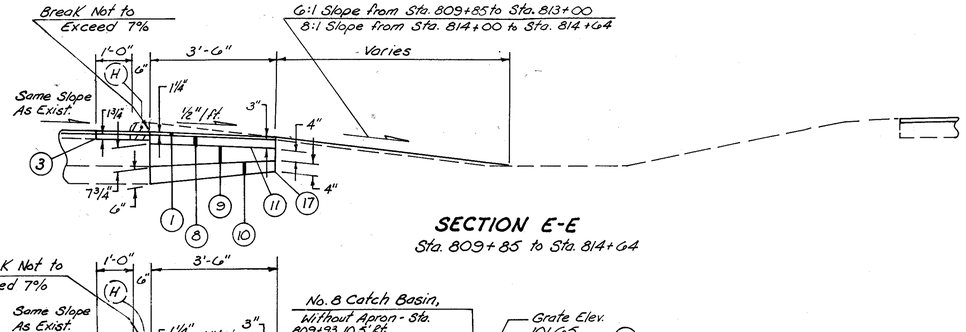


PLAN

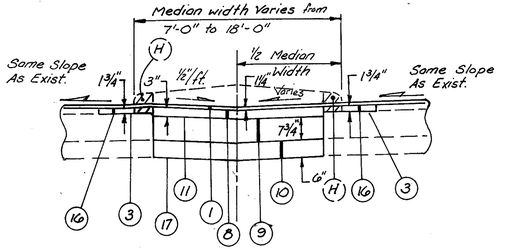




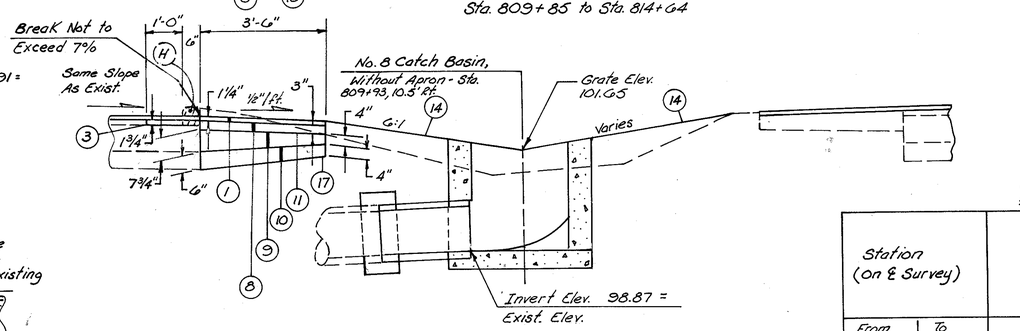
SECTION A-A



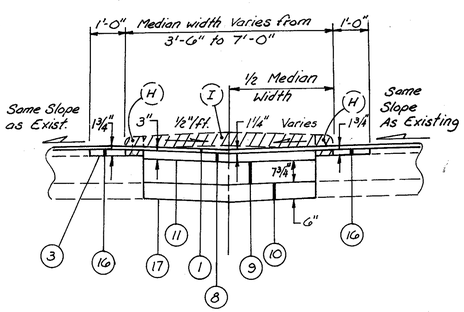
SECTION E-E
Sta. 809+85 to Sta. 814+64



SECTION C-C
Sta. 808+57 to Sta. 809+85



SECTION D-D



SECTION B-B
Sta. 807+89 to Sta. 808+57

For Details not shown, see Std. Drwg's. CB-6 & MC-11
For Legend, see sheet No. 65.
* To be used as directed by the Engineer to replace any asphalt concrete disturbed by the curb removal.

Station (℄ Survey)			202		203			301	304	310	408	446	448	604		659
			Curb Removed As Per Plan	Concrete Median Removed As Per Plan	Excavation	Embankment	Subgrade Compaction	Bituminous Aggregate Base, AC-20	Aggregate Base, As Per Plan	Subbase Type II, As Per Plan	Bituminous Prime Coat	Asphalt Concrete Surface Course, Type 1, AC-20	Asphalt Concrete Intermediate Course, Type 2, AC-20 *	Catch Basin No. 6	Depth	Seeding And Mulching
From	To		Lin. Ft.	Sq. Ft.	C.Y.	C.Y.	S.Y.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Gal.	Cu. Yd.	Cu. Yd.	Ea.	Ft.	S.Y.
807+89	808+04.33				3		3.6	0.3	0.6	0.5	1.4	0.2	0.2			
808+04.33	808+14.35		20	3.3	3		5.4	0.5	0.9	0.8	2.2	0.2	0.2			
808+14.35	808+57		85	23.7	14		21.8	1.8	3.6	3.0	8.7	0.9	0.7			
808+57	809+85		256		143		163.6	13.6	26.7	22.7	65.4	6.2	2.1			
809+85	814+64.19		409		72	61	188.3	15.7	30.7	26.2	74.7	7.5	3.3			811
807+90														1	3.69	
Subtotals to Sheet No. 63																811
TOTALS	Carried to Gen. Summary		770	27	235	61	382.7	31.9	62.5	53.2	152.4	15.0	6.5	1		

BRUNING 44-231 70630

MAINLINE MEDIAN DETAILS

BENCHMARK
Top of bolt at guardrail concrete anchor Sta. 1139+45, 25'± Lt.
Assumed Elev. 200.00

MAINLINE MEDIAN DETAILS

(NO SCALE)

QUANTITIES		FHWA REGION	STATE	PROJECT	
Calc. DCH	Chkd. SHG	5	OHIO		
Date: 3-13-90	Date: 3-20-90	HAS-22-15.03			

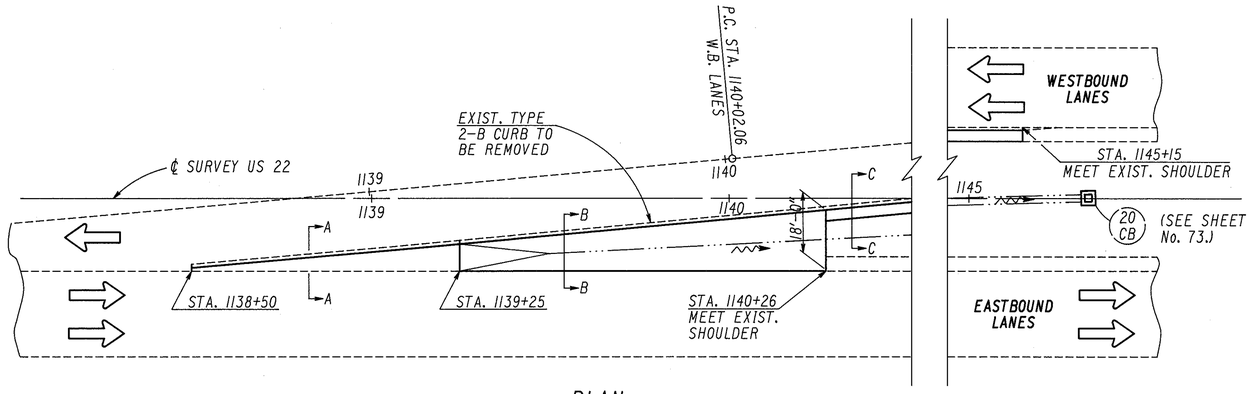
65
115

** TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE ANY ASPHALT CONCRETE DISTURBED BY THE CURB REMOVAL.

MAINLINE MEDIAN QUANTITIES

STATION (ON ℄ SURVEY)		202	203		301	304	310	408	446	448	659
		CURB REMOVED, AS PER PLAN	EXCAVATION	SUBGRADE COMPACTION	BITUMINOUS AGGREGATE BASE, AC-20	AGGREGATE BASE, AS PER PLAN	SUBBASE, TYPE II, AS PER PLAN	BITUMINOUS PRIME COAT	ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC-20	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 **	SEEDING & MULCHING
FROM	TO	LIN.FT.	CU.YD.	SQ.YD.	CU.YD.	CU.YD.	CU.YD.	GAL.	CU.YD.	CU.YD.	SQ.YD.
1138+50	1139+25	75								1.0	
1139+25	1140+26	101	87	157.1	13.1	33.8	26.2	62.8	5.5	0.8	
1140+26	1145+15	489	116	– –	15.8	31.0	26.4	76.1	7.5	4.0	365
SUBTOTALS TO SHEET No. 63											365
TOTALS		665	203	157.1	28.9	64.8	52.6	138.9	13.0	5.8	

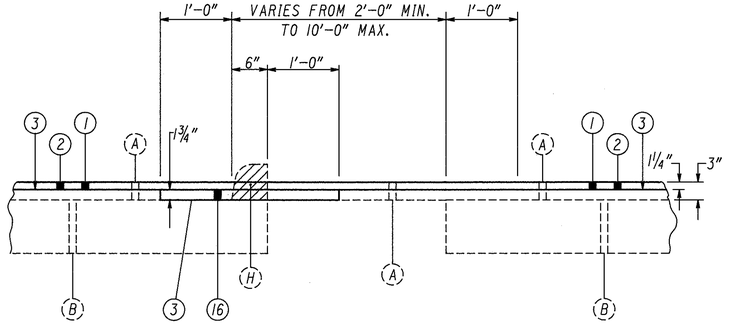
CARRIED TO GENERAL SUMMARY



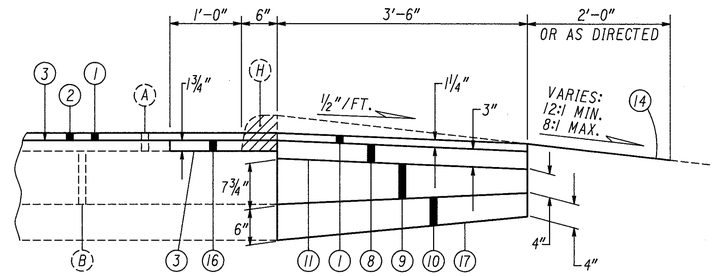
PLAN

LEGEND

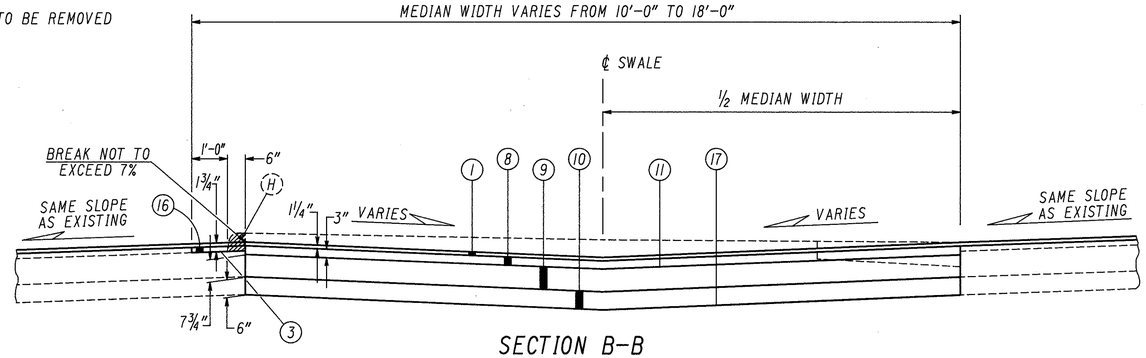
(1) — ITEM 446 – 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC-20
(2) — ITEM 254 – PAVEMENT PLANING, BITUMINOUS (1¼" NOMINAL DEPTH)
(3) — ITEM 407 – TACK COAT
(8) — ITEM 301 – BITUMINOUS AGGREGATE BASE
(9) — ITEM 304 – AGGREGATE BASE, AS PER PLAN
(10) — ITEM 310 – SUBBASE, TYPE II, AS PER PLAN
(11) — ITEM 408 – BITUMINOUS PRIME COAT
(14) — ITEM 659 – SEEDING & MULCHING AND WATER
(16) — ITEM 448 – ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
(17) — ITEM 203 – SUBGRADE COMPACTION
(A) — EXISTING 3" ASPHALT CONCRETE PAVEMENT
(B) — EXISTING 9" REINFORCED CONCRETE PAVEMENT
(H) — EXISTING CURB
(I) — EXISTING CONCRETE MEDIAN
▨ TO BE REMOVED



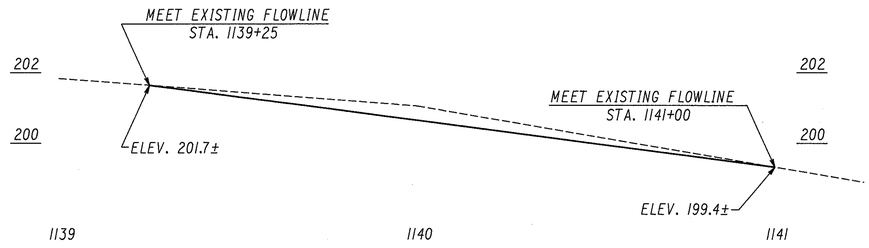
SECTION A–A
STA. 1138+50 TO STA. 1139+25



SECTION C–C
STA. 1140+26 TO STA. 1145+15



SECTION B–B
STA. 1139+25 TO STA. 1140+26



SWALE PROFILE
STA. 1139+25 TO STA. 1140+26

QUANTITIES	
Calc. DCH	Chkd. SHG
Date: 3-13-90	Date: 3-20-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

66
115

RAMP MEDIAN AND DRAINAGE QUANTITIES

REF. No. (SEE SHEET No. 67)	STATION FROM	STATION TO	SEE DETAIL	202 CURB REMOVED, AS PER PLAN	202 CONCRETE MEDIAN REMOVED, AS PER PLAN	202 PAVEMENT REMOVED	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 **	604 INLET AS PER PLAN No. 2-6	604 INLET AS PER PLAN No. 2-8	604 INLET AS PER PLAN No. 2-10	604 DEPTH **	612 CONCRETE MEDIAN	659 SEEDING AND MULCHING
	FROM	TO		LIN.FT.	SQ.YD.	SQ.YD.	CU.YD.	EA.	EA.	EA.	FT.	SQ.YD.	SQ.YD.
	U.S. 250 INTERCHANGE												
1-CM	2+21.73 D	4+24.00 D	A	437	48.6		2.4					72.8	
	4+24.00 D	4+86.20 D	B	133	48.0		0.7					56.0	
	8+94.88 C	8+56.40 C	E	16		48.0							31.0
1-R	4+86.20 D	8+18.89 D	◔	360			1.9						
	S.R. 9 INTERCHANGE												
2-CM	0+40.00 E	6+82.09 E	A	1341	149.0		7.2					223.5	
	6+82.09 E	7+33.40 E	B	108	26.0		0.6					32.0	
	8+30.28 F	8+76.28 F	F	46			0.2						
2-R	7+33.40 E	10+98.69 E	◔	386			2.1						
1-1	0+43.67 E			-15	-1.6			1			4.26	-2.4	
2-1	1+21.83 E			-23	-2.5					1	6.84	-3.8	
3-1	3+05.00 E			-23	-2.5					1	4.10	-3.8	
3-R	6+69.09 G	9+21.11 G	◔	272			1.5						
3-CM	0+78.00 H	1+10.00 H	G	16		51.0							37.0
	9+21.11 G	9+95.00 G	B	158	70.0		0.9					79.0	
	9+95.00 G	14+69.80 G	A	1003	111.4		5.4					167.2	
	14+69.80 G	14+94.80 G	C	50	5.6		0.3					8.3	
	15+69.36	15+94.36 G	C	50	5.6		0.3					8.3	
	15+94.36	17+61.00 G	A	334	37.1		1.8					55.7	
4-1	14+86.63 G			-19	-2.1				1		3.91	-3.1	
5-1	16+76.70 G			-15	-1.6			1			3.70	-2.4	
6-1	17+45.00 G			-15	-1.6			1			3.88	-2.4	
	S.R. 151 INTERCHANGE												
	0+00.00 J	0+62.00 J	B	125	42.0		0.7					49.0	
4-CM	0+62.00 J	0+94.00 J	H	42		34.0	0.1						16.0
	6+82.18 K	12+80.00 K	I	1256	139.6		6.8					209.3	
SUBTOTAL CARRIED TO SHEET No. 63													84.0
TOTALS				6023	671.0	133	32.9	3	1	2	X	943.2	

CARRIED TO THE GENERAL SUMMARY

◔ FOR RAMP SHOULDER CONSTRUCTION DETAILS, SEE SHEET No. 8.
FOR RAMP SHOULDER CONSTRUCTION QUANTITIES, SEE SHEET No. 20.

* MEASURED FROM WINDOW ELEVATION TO INVERT ELEVATION. THE WINDOW ELEVATION SHALL BE 2" BELOW THE TOP OF THE RESURFACING PAVEMENT.

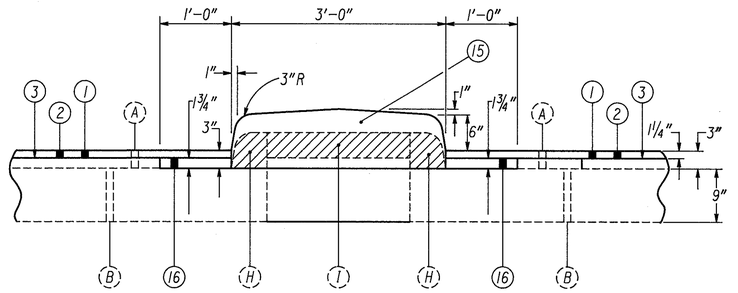
** TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE ANY ASPHALT CONCRETE DISTRIBUTED BY THE CURB REMOVAL.

FOR DETAILS E,F,G, AND H SEE SHEET No's. 68 & 69.

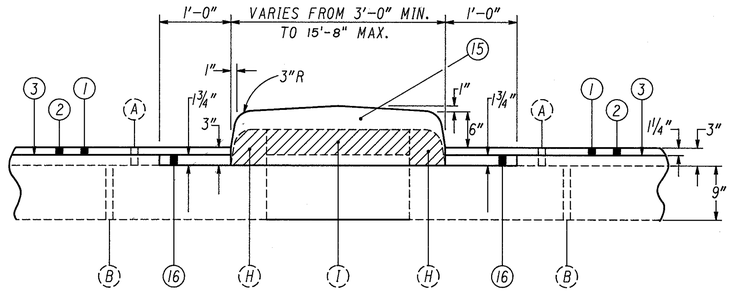
FOR DETAILS NOT SHOWN, SEE STD. DWG'S. I-2 AND MC-6.

LEGEND

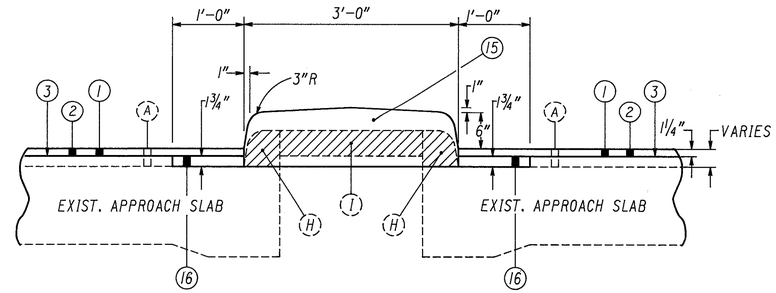
(1) — ITEM 446 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
(2) — ITEM 254 - PAVEMENT PLANING, BITUMINOUS (1¼" NOMINAL DEPTH)
(3) — ITEM 407 - TACK COAT
(8) — ITEM 301 - BITUMINOUS AGGREGATE BASE
(9) — ITEM 304 - AGGREGATE BASE, AS PER PLAN
(10) — ITEM 310 - SUBBASE, TYPE II, AS PER PLAN
(14) — ITEM 659 - SEEDING & MULCHING AND WATER
(15) — ITEM 612 - CONCRETE MEDIAN
(16) — ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
(A) — EXISTING 3" ASPHALT CONCRETE PAVEMENT
(B) — EXISTING 9" REINFORCED CONCRETE PAVEMENT
(H) — EXISTING CURB
(I) — EXISTING CONCRETE MEDIAN
▨ TO BE REMOVED



DETAIL 'A'



DETAIL 'B'



DETAIL 'C'

HA 2215B

RAMP MEDIAN AND DRAINAGE QUANTITIES

FHWA REGION	STATE	PROJECT	
5	OHIO		

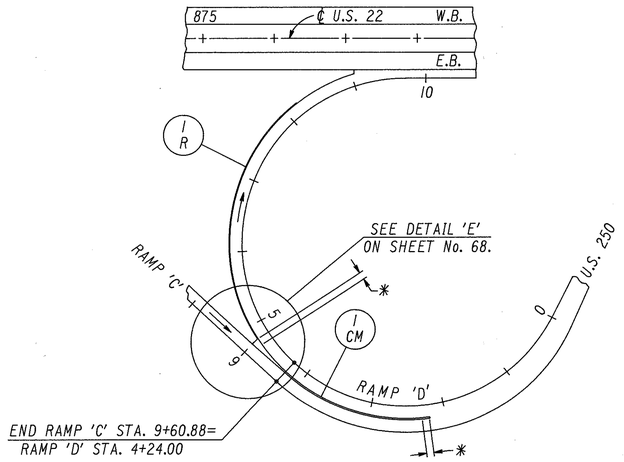
67
115

HAS-22-15.03

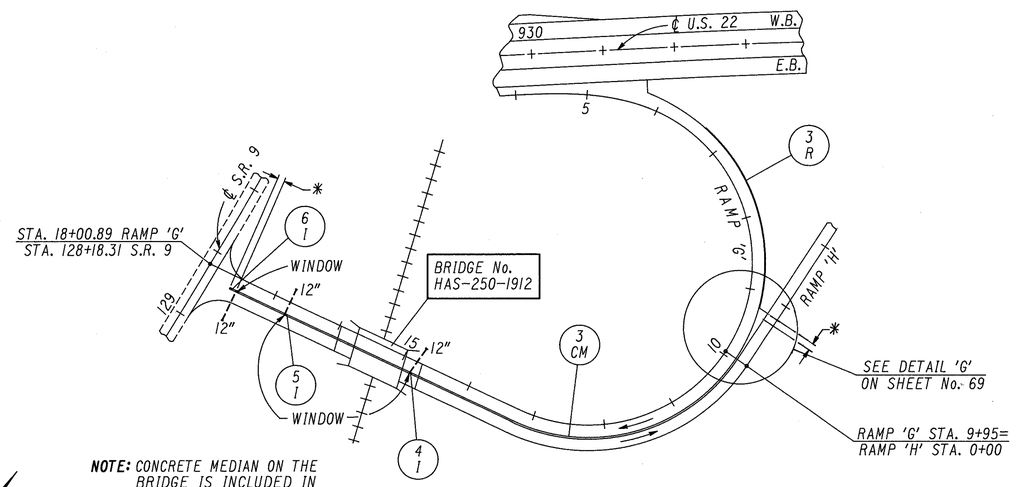
RAMP MEDIAN DETAILS

SCALE:
0' 100' 200'

* TRANSITION MEDIAN HEIGHT FROM 6" TO 0" IN 10'

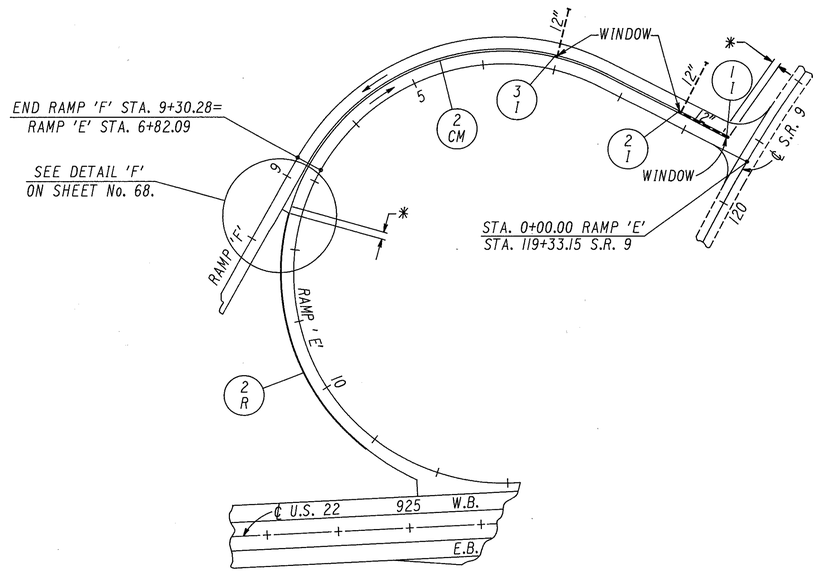


U.S. 250 INTERCHANGE

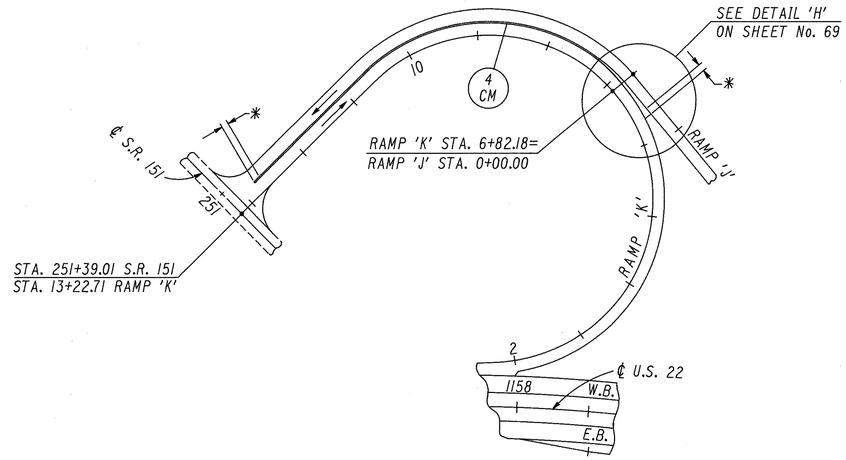


NOTE: CONCRETE MEDIAN ON THE BRIDGE IS INCLUDED IN THE BRIDGE QUANTITIES ON SHEET No. 93.

S.R. 9 INTERCHANGE



S.R. 9 INTERCHANGE



S.R. 151 WEST INTERCHANGE

HA221525A

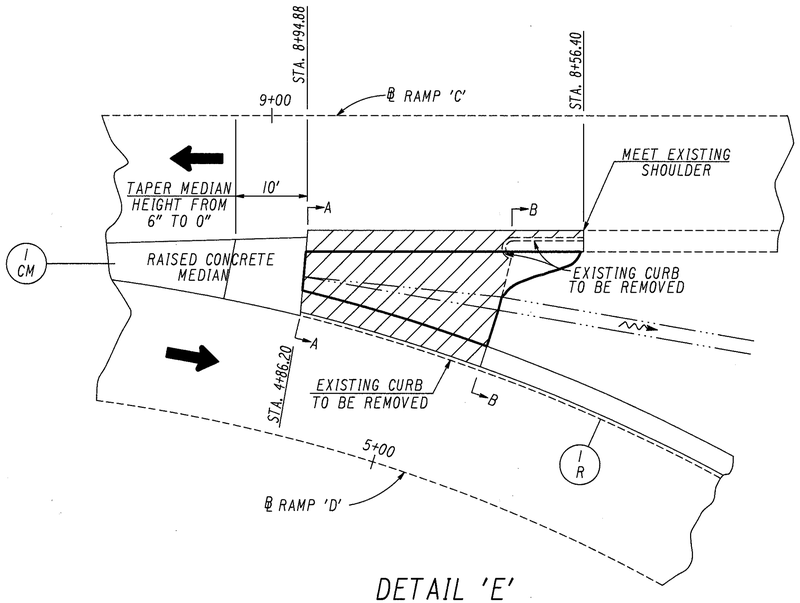
FHWA REGION	STATE	PROJECT	
5	OHIO		

68
115

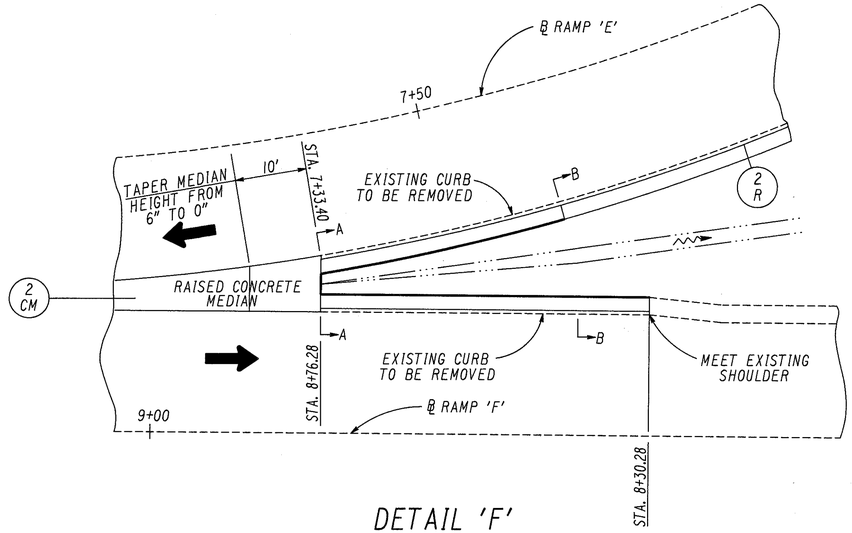
HAS-22-15.03

MEDIAN DETAILS

SCALE:
0' 10' 20'



DETAIL 'E'



DETAIL 'F'

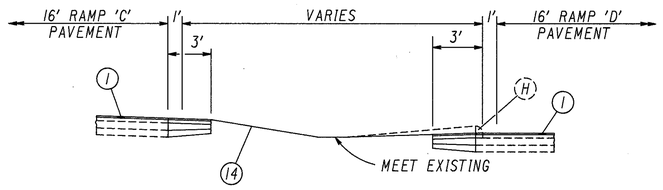
PAVEMENT TO BE REMOVED

AREA TO BE SEEDED

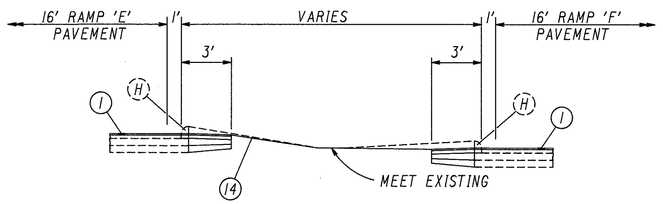
FOR QUANTITIES SEE SHEET No. 66.

FOR RAMP SHOULDER CONSTRUCTION DETAILS, SEE SHEET No. 8.

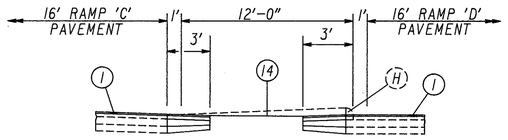
FOR RAMP SHOULDER CONSTRUCTION QUANTITIES, SEE SHEET No. 20.



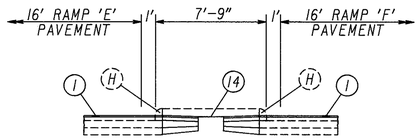
SECTION B-B



SECTION B-B



SECTION A-A



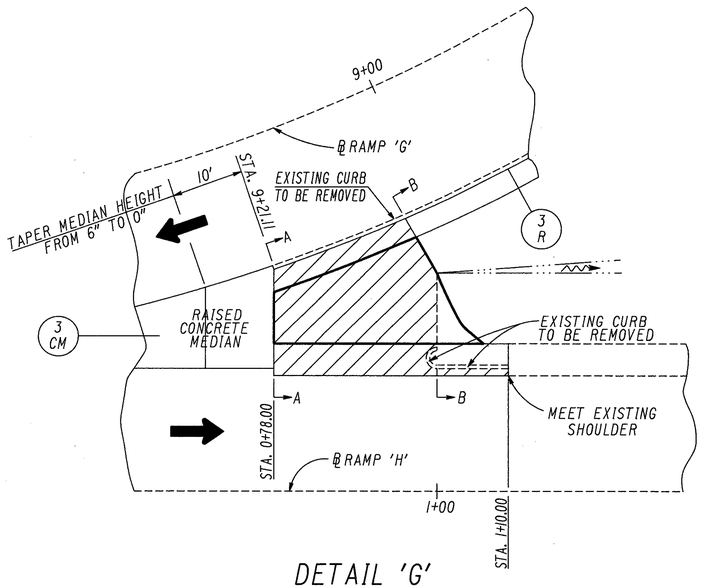
SECTION A-A

HA22I525A

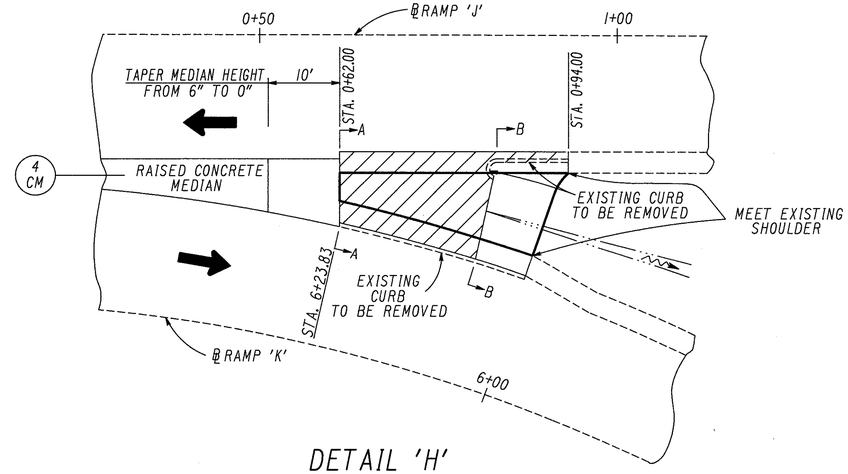
RAMP MEDIAN DETAILS

MEDIAN DETAILS

SCALE:
0' 10' 20'



DETAIL 'G'



DETAIL 'H'

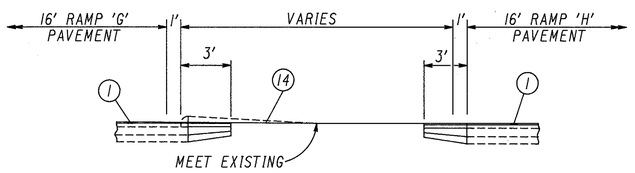
PAVEMENT TO BE REMOVED

AREA TO BE SEEDED

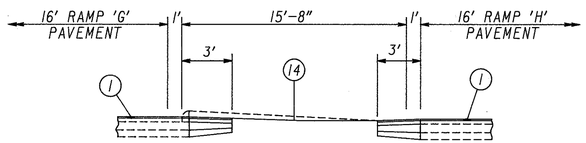
FOR QUANTITIES SEE SHEET No. 66.

FOR RAMP SHOULDER CONSTRUCTION DETAILS, SEE SHEET No. 8.

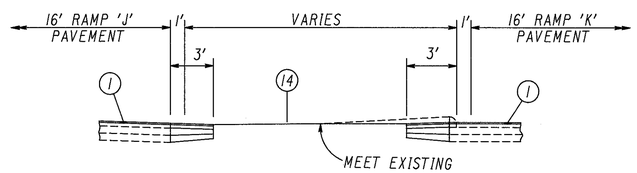
FOR RAMP SHOULDER CONSTRUCTION QUANTITIES, SEE SHEET No. 20.



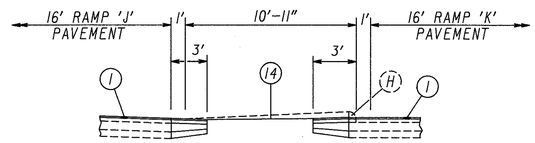
SECTION B-B



SECTION A-A



SECTION B-B



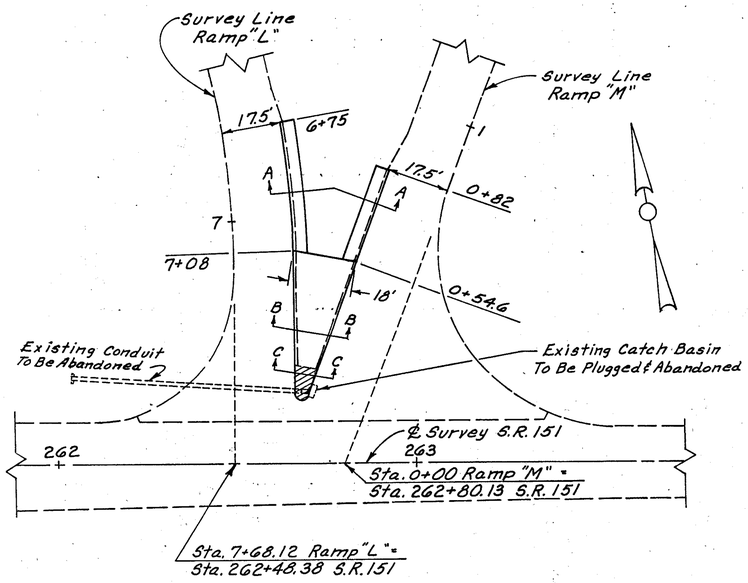
SECTION A-A

QUANTITIES	
Calc.	R.S.K. 7-12-90
Chkd.	S.H.G 7-12-90

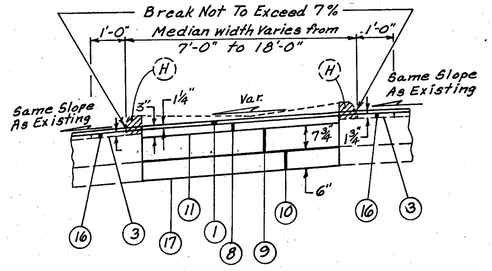
FHWA REGION	STATE	PROJECT	
5	OHIO		

70
115

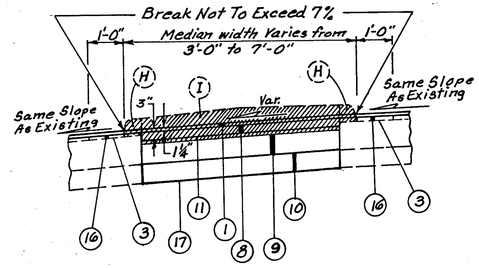
HAS-22-15.03



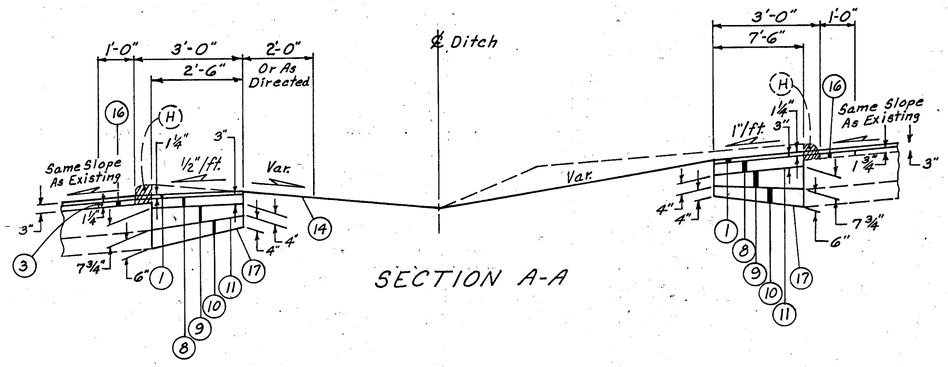
PLAN



SECTION B-B
Sta. 7+08.0 to Sta. 7+39.6 Ramp "L"
Sta. 0+23.0 to Sta. 0+54.6 Ramp "M"



SECTION C-C
Sta. 7+39.6 to Sta. 7+50.2 Ramp "L"
Sta. 0+12.4 to Sta. 0+23.0 Ramp "M"



SECTION A-A

TYPICAL RAMP "L"
Sta. 6+75 to Sta. 7+08

TYPICAL RAMP "M"
Sta. 0+54.6 to Sta. 0+82

		202			203		301	304	310	408	446	448	659
		Curb Removed As Per Plan	Concrete Median Removed As Per Plan	Catch Basin Abandoned	Excavation	Subgrade Compaction	Bituminous Aggregate Base, AC-20	Aggregate Base, As Per Plan	Subbase Type II, As Per Plan	Bituminous Prime Coat	Asphalt Concrete Surface Course, Type 1, AC-20	Asphalt Concrete Intermediate Course, Type 2, AC-20	Seeding And Mulching
From	To	Lin.Ft.	Sq.Yd.	EACH	C.Y.	Sq.Yd.	Cu.Yd.	Cu.Yd.	Cu.Yd.	Gal.	Cu.Yd.	Cu.Yd.	Sq.Yd.
Ramp "L"													
6+75	7+08.0	33			4	9.2	0.8	1.5	1.3	3.7	0.4	0.3	62
7+08.0	7+39.6	32			14	20.2	1.7	4.3	3.4	8.1	0.8	0.3	
7+39.6	7+50.2		3.1		2	2.4	0.2	0.5	0.4	1.0	0.1	0.1	
Ramp "M"													
0+12.4	0+23.0	13	2.4	1	2	2.4	0.2	0.5	0.4	1.0	0.1	0.1	
0+23.0	0+54.6	32		-	14	20.2	1.7	4.3	3.4	8.1	0.8	0.3	
0+54.6	0+82	27			6	7.6	0.6	1.2	1.1	3.0	0.3	0.2	50
Subtotals to Sheet No. 63													112
TOTALS	Carried to Gen. Summary	137	5.5	1	42	62.0	5.2	12.3	10.0	24.9	2.5	1.3	

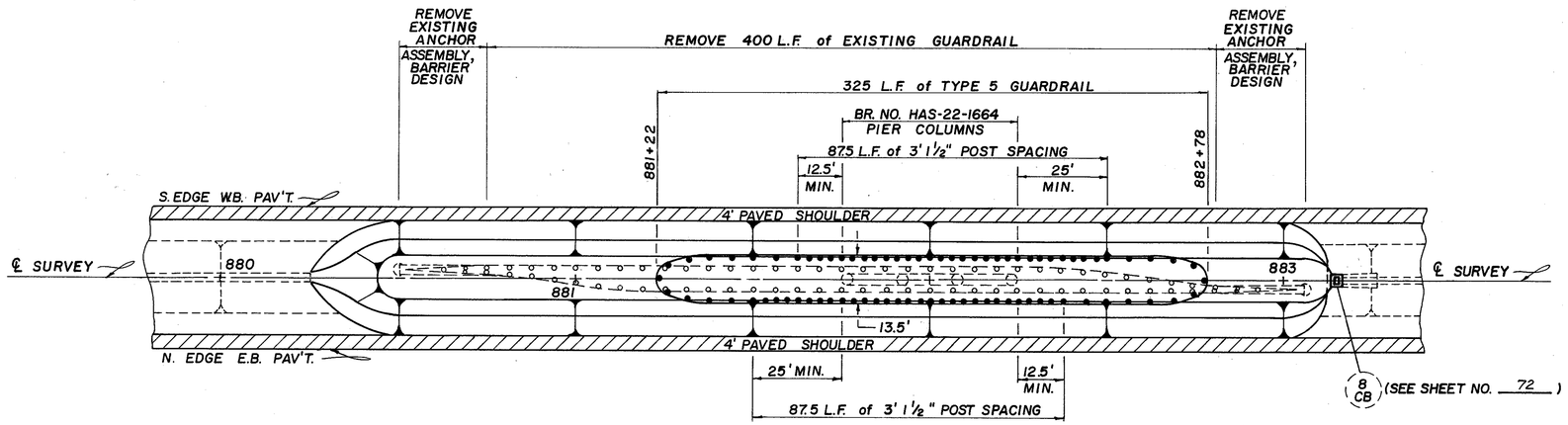
RAMP MEDIAN DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

71/115

HAS-22-15.03

MEDIAN GUARDRAIL DETAIL AT BRIDGE Nº. HAS-22-1664 (12 GR)

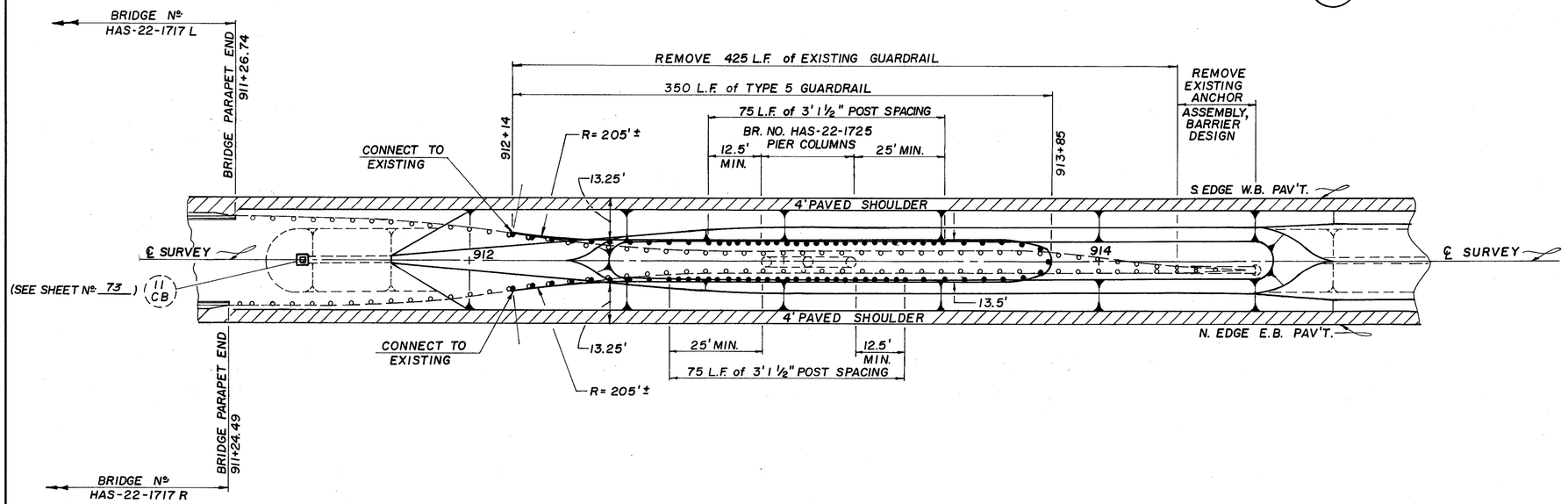


NOTE:
GUARDRAIL WITH 3' 1½" POST SPACING SHALL BE INCLUDED IN THE UNIT PRICE BID OF TYPE 5 GUARDRAIL.

FOR QUANTITIES, SEE SHEET Nº. 23 .

FOR DETAILS NOT SHOWN, SEE STD. DWG'S. GR-3 AND GR-6A.

MEDIAN GUARDRAIL DETAIL AT BRIDGE Nºs HAS-22-1717 L&R AND HAS-22-1725 (17 GR)



BRUNING 44231 70830

MEDIAN GUARDRAIL DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

72
115

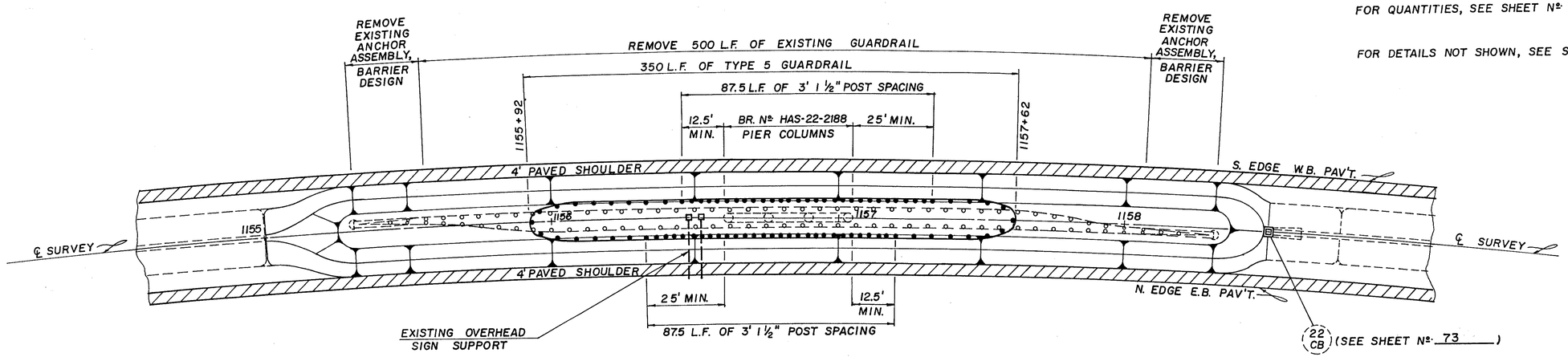
HAS-22-15.03

MEDIAN GUARDRAIL DETAIL AT BRIDGE Nº HAS-22-2188 (61 GR)

NOTE:
GUARDRAIL WITH 3' 1 ½" POST SPACING SHALL BE INCLUDED IN THE UNIT PRICE BID OF TYPE 5 GUARDRAIL.

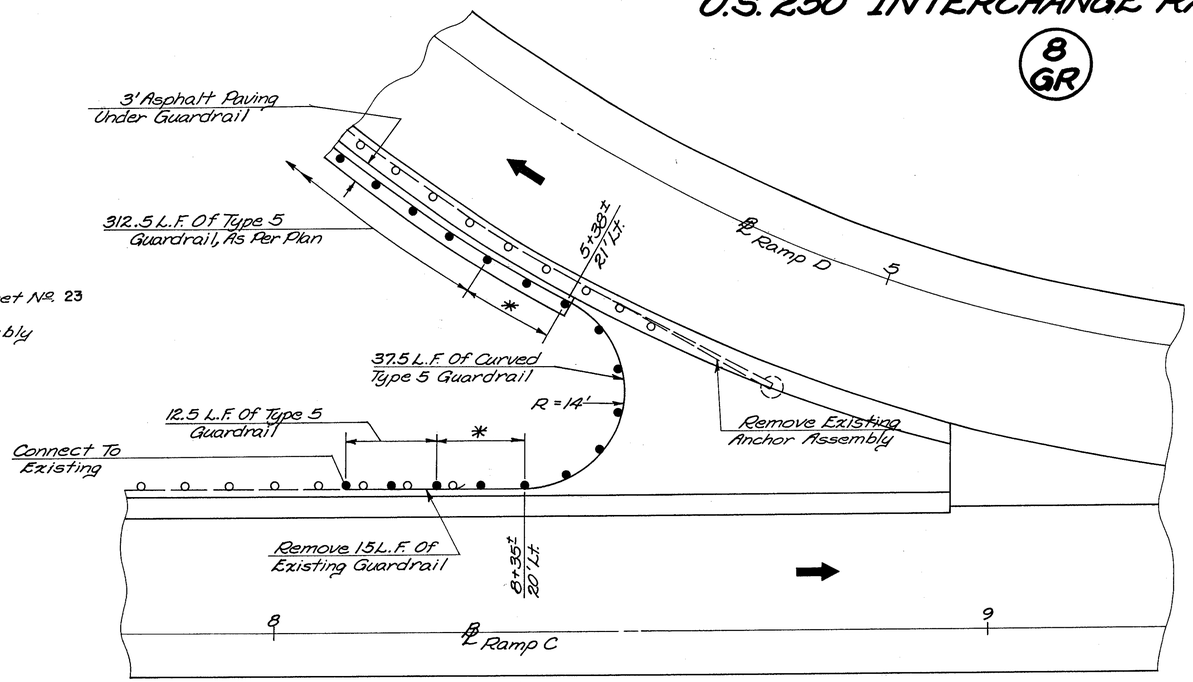
FOR QUANTITIES, SEE SHEET Nº 23

FOR DETAILS NOT SHOWN, SEE STD. DWG'S. GR-3 AND GR-6A.



GUARDRAIL DETAIL
U.S. 250 INTERCHANGE RAMPS C & D

(8 GR)



CATCH BASIN DETAILS

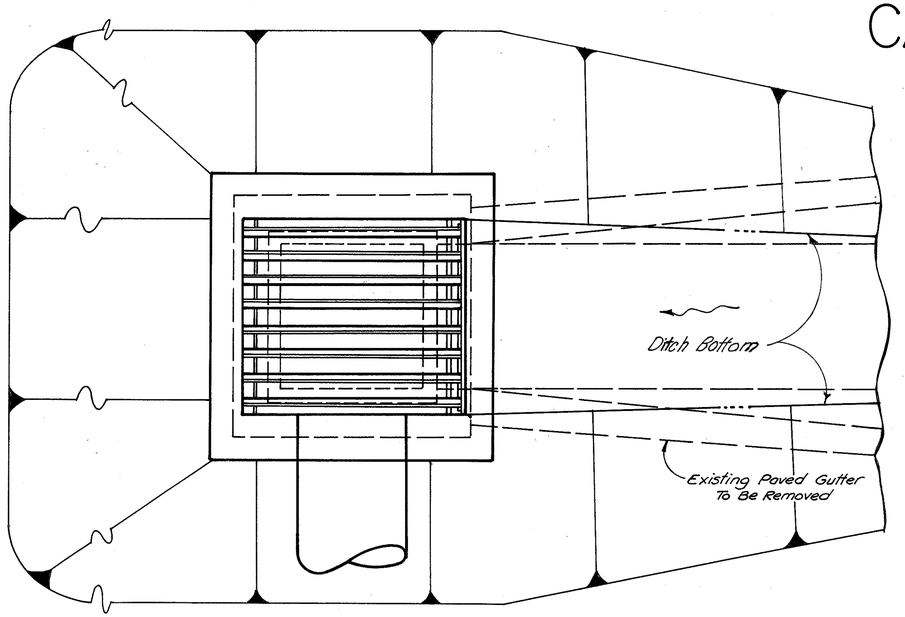
Calc: SHG 3-26-90
Chk'd: RSK 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

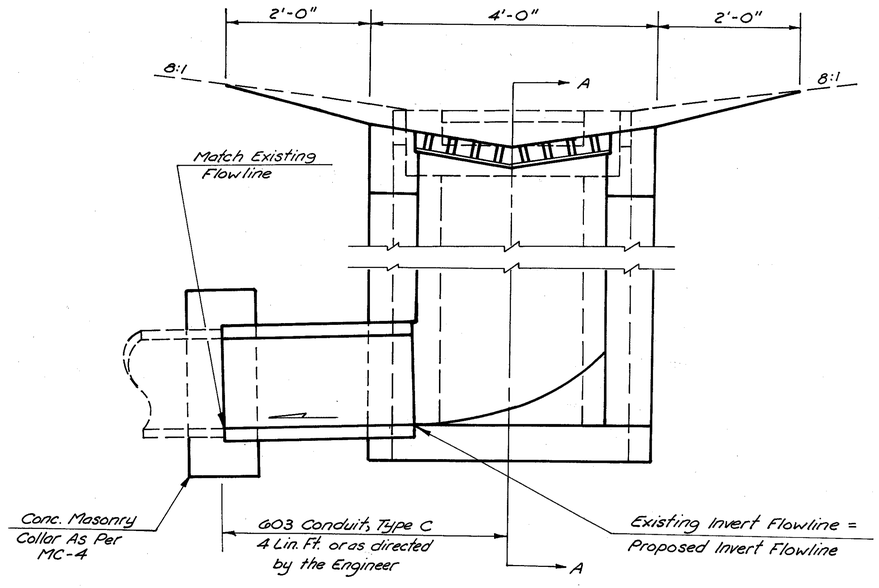
73
115

HAS-22-15.03

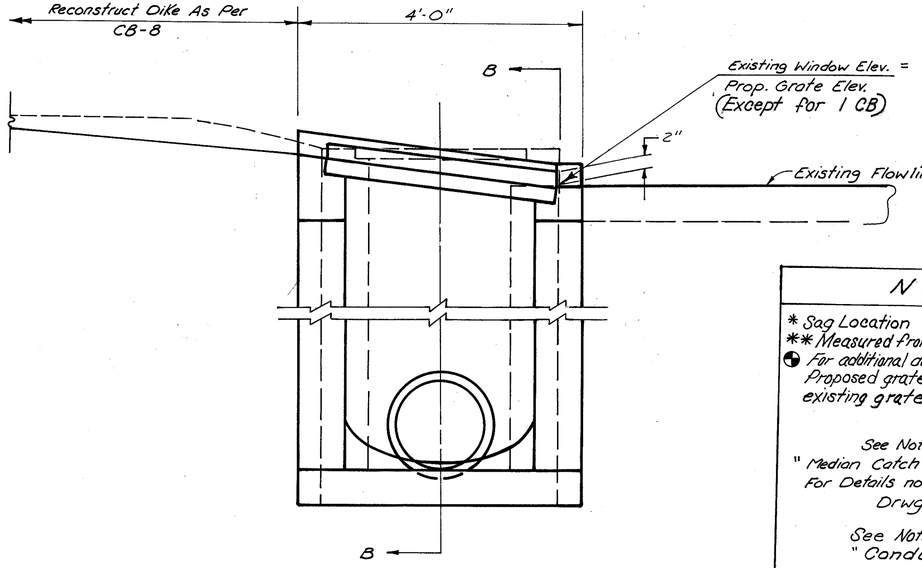
0' 10' 20'
Scale in Feet



PLAN



SECTION B-B



SECTION A-A

NOTES

* Sag Location
** Measured from Grate Elev. to invert Elev.
◒ For additional details, see sheet Nº 64. Proposed grate elev. is 1.23' higher than existing grate.

See Note on Sht. No. 26, "Median Catch Basin Replacement". For Details not Shown See Std. Drwg. CB-8

See Note on Sheet Nº 27 "Conduit Cleanout"

Plan Sht. No.	Reference No.	Median Catch Basin Location (SLM)	603 Conduit, Type C 15"	18"	21"	30"	604 Depth **	Catch Basin No. 3 Without Approach	Spec. Pipe (Conduit) Cleanout	670 Ditch Erosion Protection	207 Straw or Hay Bales	659 Seeding and Mulching	202 Gutter Removed
			L.F	L.F.	L.F.	L.F.	Ft.	Ea.	Lin. Ft.	Sq. Yd.	Ea.	Sq. Yd.	L.F.
42	1-CB	15.318	4.0				2.78◒	1	48	8.3	8	31.4	10
43	2-CB	15.487	4.0				2.55	1	70	8.3	8	31.4	10
43	3-CB	15.690	4.0				2.60	1		8.3	8	31.4	10
43	4-CB	15.860		4.0			2.50	1		8.3	8	31.4	10
43	5-CB	16.296	4.0				2.50	1		8.3	8	31.4	10
43	6-CB	16.466	4.0				2.50	1	80	8.3	8	31.4	10
44	7-CB	16.581				8.0	5.29	1 *		16.6	8	30.2	20
44	8-CB	16.707	4.0				2.60	1		8.3	8	31.4	10
44	9-CB	16.837	4.0				2.50	1		8.3	8	31.4	10
44	10-CB	17.009	4.0				2.50	1		8.3	8	31.4	10
45	11-CB	17.246		4.0	4.0		4.26	1		8.3	8	31.4	10
45	12-CB	17.412	8.0				12.03	1		8.3	8	31.4	10
45	13-CB	17.521	4.0				3.16	1		8.3	8	31.4	10
46	14-CB	17.784	4.0				2.84	1		8.3	8	31.4	10
46	15-CB	17.880	4.0				2.57	1 *	148	16.6	8	30.2	20
46	16-CB	18.003	4.0				2.74	1		8.3	8	31.4	10
46	17-CB	18.205	4.0				2.60	1	70	8.3	8	31.4	10
46	18-CB	18.689	4.0				2.50	1	68	8.3	8	31.4	10
47	19-CB	18.885	4.0				3.00	1		8.3	8	31.4	10
50	20-CB	21.710	4.0				2.98	1 *		16.6	8	30.2	20
50	21-CB	21.781	4.0				2.50	1		8.3	8	31.4	10
50	22-CB	21.960	4.0				2.50	1		8.3	8	31.4	10
51	23-CB	22.402	4.0				2.85	1		8.3	8	31.4	10
51	24-CB	22.621	4.0				2.70	1		8.3	8	31.4	10
51	25-CB	22.716	4.0				2.50	1 *		16.6	8	30.2	20
51	26-CB	22.794	4.0				2.50	1		8.3	8	31.4	10
51	27-CB	23.931	4.0				2.50	1		8.3	8	31.4	10
51	28-CB	23.067	4.0				2.50	1		8.3	8	31.4	10
51	29-CB	23.233	4.0				2.50	1		8.3	8	31.4	10
52	30-CB	23.569	4.0				3.75	1		8.3	8	31.4	10
52	31-CB	23.628	4.0				3.00	1		8.3	8	31.4	10
52	32-CB	23.652	4.0				2.50	1 *		16.6	8	30.2	20
52	33-CB	23.824	4.0				2.50	1		8.3	8	31.4	10
49	34-CB	21.290		4.0	4.0		8.70	1		8.3	8	31.4	10
49	35-CB	21.300		4.0			4.39	1		8.3	8	31.4	10
SUBTOTAL Carried to Sheet No. 68												1093.0	
TOTAL Carried to General Summary			124.0	16.0	8.0	8.0		35	484	332.0	280		400

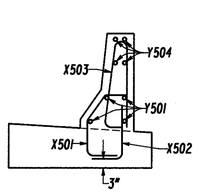
CONCRETE BARRIER DETAILS

CALC. BY: DCH	CHK'D. BY: SHG
DATE: 1-26-90	DATE: 2-6-90

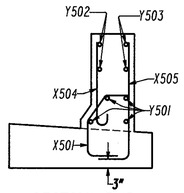
FHWA REGION	STATE	PROJECT	
5	OHIO		

74
115

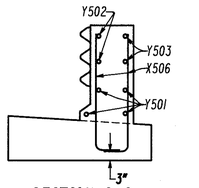
HAS-22-15.03



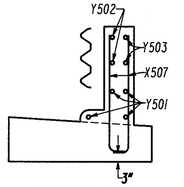
SECTION A-A
SCALE 1"=2'



SECTION B-B
SCALE 1"=2'

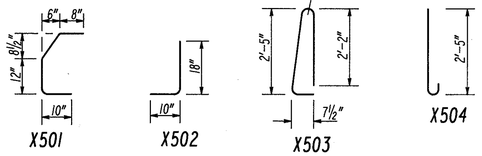


SECTION C-C
SCALE 1"=2'

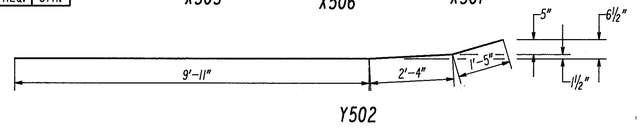


SECTION D-D
SCALE 1"=2'

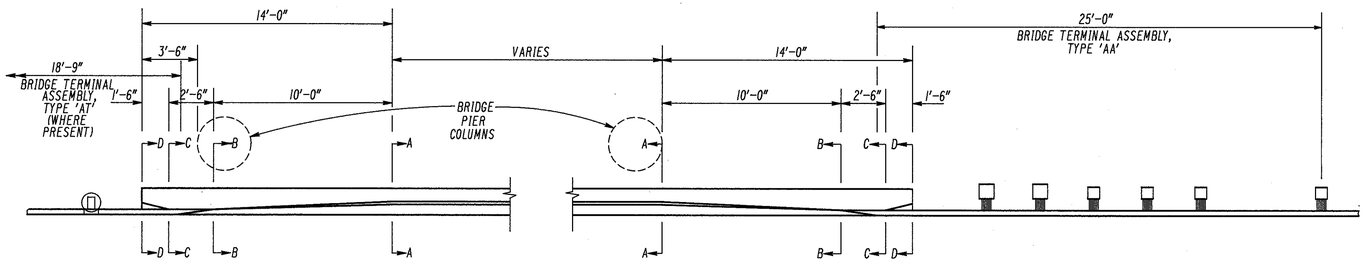
BENDING DIAGRAMS
SCALE 1"=2'



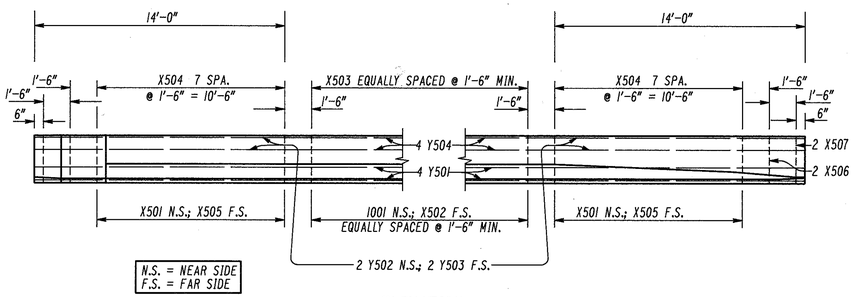
STEEL LIST		
MARK	LENGTH	SHP.
X501	3'-3"	BT.
X502	2'-2½"	BT.
X503	5'-3"	BT.
X504	3'-0"	BT.
X505	3'-11½"	BT.
X506	3'-9½"	BT.
X507	3'-6½"	BT.
Y501	AS REQ.	STR.
Y502	13'-8"	BT.
Y503	13'-8"	STR.
Y504	AS REQ.	STR.



Y502



PLAN
SCALE 1/4"=1'

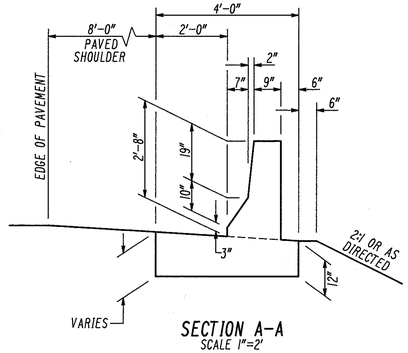


N.S. = NEAR SIDE
F.S. = FAR SIDE

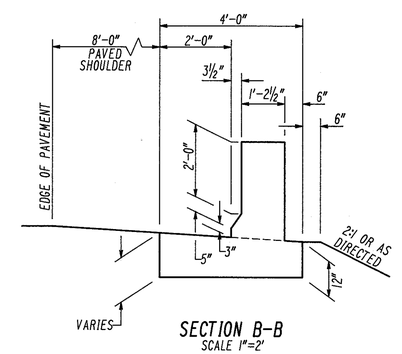
ELEVATION
SCALE 1/4"=1'
(GUARDRAIL NOT SHOWN FOR CLARITY)

CONCRETE BARRIER QUANTITIES				
BRIDGE NO.	LANE	CONCRETE BARRIER STATIONS		622 CONCRETE BARRIER, TYPE D, AS PER PLAN
		FROM	TO	
HAS-22-1664	E.B.	881+27.00	881+91.50	64.5
	W.B.	882+02.50	882+67.00	64.5
HAS-22-1725	E.B.	912+79.71	913+22.21	42.5
	W.B.	912+92.79	913+35.29	42.5
HAS-22-2188	E.B.	1157+01.00	1157+63.50	62.5
	W.B.	1155+91.50	1156+54.00	62.5
TOTAL - CARRIED TO GENERAL SUMMARY				339.0

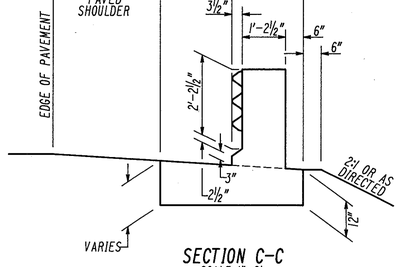
NOTE: BARE SOIL AREAS BEHIND CONCRETE BARRIER ARE TO BE SEEDED AS PER ITEM 659. QUANTITIES FOR SEEDING ARE INCLUDED IN THE CALCULATIONS ON SHEET NO. 63.



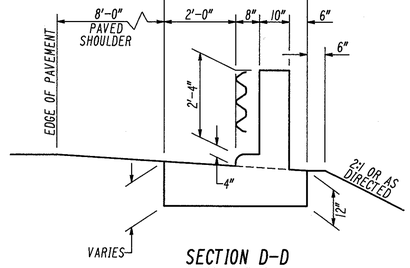
SECTION A-A
SCALE 1"=2'



SECTION B-B
SCALE 1"=2'



SECTION C-C
SCALE 1"=2'



SECTION D-D
SCALE 1"=2'

FOR ADDITIONAL DETAILS SEE STANDARD DRAWING GR-3 AND MC-9.

STEEL QUANTITIES											
	X501	X502	X503	X504	X505	X506	X507	Y501	Y502	Y503	Y504
HAS-22-1664											
EASTBOUND	126'-9"	50'-10"	120'-9"	48'-0"	63'-4"	15'-2"	14'-2"	256'-0"	54'-8"	54'-8"	162'-0"
WESTBOUND	126'-9"	50'-10"	120'-9"	48'-0"	63'-4"	15'-2"	14'-2"	256'-0"	54'-8"	54'-8"	162'-0"
HAS-22-1725											
EASTBOUND	78'-0"	17'-8"	42'-0"	48'-0"	63'-4"	15'-2"	14'-2"	168'-0"	54'-8"	54'-8"	74'-0"
WESTBOUND	78'-0"	17'-8"	42'-0"	48'-0"	63'-4"	15'-2"	14'-2"	168'-0"	54'-8"	54'-8"	74'-0"
HAS-22-2188											
EASTBOUND	123'-6"	48'-7"	115'-6"	48'-0"	63'-4"	15'-2"	14'-2"	248'-0"	54'-8"	54'-8"	154'-0"
WESTBOUND	123'-6"	48'-7"	115'-6"	48'-0"	63'-4"	15'-2"	14'-2"	248'-0"	54'-8"	54'-8"	154'-0"
COLUMN TOTALS	656'-6"	234'-2"	556'-6"	288'-0"	380'-0"	91'-0"	85'-0"	1344'-0"	328'-0"	328'-0"	780'-0"

TOTAL LENGTH 5071'-2"

#5 BARS
BAR WEIGHT = 1.044 LB./FT.
TOTAL WEIGHT = 5071.17' x 1.043 LB./FT. = **5290 LBS.***

*FOR INFORMATION ONLY

QUANTITIES		FHWA REGION	STATE	PROJECT	
CALC. RRK	DATE 3-8-90	5	OHIO		
CHK'D. SHG	DATE 7-18-90				

HAS-22-15.03

I) ITEM SPECIAL - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS

(SEE NOTE IN PROPOSAL AND DETAIL ON SHEET NO. 26)

A) MAINLINE - 2 LANE SECTION (ONE 12' LANE IN EACH DIRECTION)

STA. 796+50 TO STA. 801+43.32 = +493.32 L.F.
STA. 1010+00 TO STA. 1135+00 = +12500.00 L.F.
ADD FOR STATION EQUATION
STA. 1013+25.70 BK = STA. 1011.67 AH = +158.64 L.F.
DEDUCT FOR BRIDGE AND APPROACH SLABS
HAS-22-2126 148.93' + (2 x 25') = -198.93 L.F.
TOTAL 12,953.03 L.F.

12,953.63 L.F. x 1 JOINT/60 L.F. = 216 JOINTS
ADD FOR POSSIBLE ADDITIONAL JOINTS
ESTIMATED ONE ADDITIONAL JOINT EVERY 3,000 L.F.
12,953.63 L.F. x 1 JOINT/3,000 L.F. = + 4 JOINTS
DEDUCT THOSE SPECIFIED FOR FULL DEPTH REPAIR ON
SHEET NO'S. 80 THRU 86 = -47 JOINTS
216 + 4 - 47 = 173 JOINTS OF 24' WIDTH

SAWING AND SEALING LENGTH/JOINT:
24' LANE WIDTH + 2 (8' SHOULDERS) = 40 L.F./JOINT

173 JOINTS x 40 L.F./JOINT =) 6920 L.F.

B) MAINLINE 4 LANE SECTION (TWO 12' LANES IN THE SAME DIRECTION)

EASTBOUND
STA. 801+43.32 TO STA. 1010+00 = 20,856.68 L.F.
STA. 1135+00 TO STA. 1334+03.75 = 19,903.75 L.F.
DEDUCT FOR STATION EQUATIONS
STA. 1168+68.19 BK = STA. 1168+75.64 AH -7.45 L.F.
STA. 1280+62.94 BK = STA. 1280+72.73 AH -9.79 L.F.
STA. 1298+78.92 BK = STA. 1298+80.75 AH -1.83 L.F.
STA. 1329+83.81 BK = STA. 1329+98.24 AH -14.43 L.F.
DEDUCT FOR BRIDGES AND APPROACH SLABS
HAS-22-1717R 185.88 + (2 x 25) -235.88 L.F.
HAS-22-1738R 131.56 + (2 x 25) -181.56 L.F.
HAS-22-1749R 137.28 + (2 x 25) -187.28 L.F.
HAS-22-1753R 94.78 + (2 x 25) -144.78 L.F.
HAS-22-2283R 232.10 + (2 x 25) -282.10 L.F.
HAS-22-2362R 130.56 + (2 x 25) -180.56 L.F.
HAS-22-2460R 134.60 + (2 x 25) -184.60 L.F.
TOTAL = 39,330.17 L.F.

EASTBOUND
STA. 801+43.32 TO STA. 1010+00 20,856.68 L.F.
STA. 1135+00 TO STA. 1262+03.90 12,703.90 L.F.
DEDUCT FOR STATION EQUATION
STA. 1168+68.19 BK = STA. 1168+75.64 AH -7.45 L.F.
DEDUCT FOR BRIDGES AND APPROACH SLABS
HAS-22-1717L 239.88 + (2 x 25) -289.88 L.F.
HAS-22-1738L 131.56 + (2 x 25) -181.56 L.F.
HAS-22-1749L 137.28 + (2 x 25) -187.28 L.F.
HAS-22-1753L 94.78 + (2 x 25) -144.78 L.F.
HAS-22-2283L 232.10 + (2 x 25) -282.10 L.F.
HAS-22-2362L 130.56 + (2 x 25) -180.56 L.F.
TOTAL = 32,286.97 L.F.

TOTAL 4 LANE SECTION : 39,330.17 L.F. + 32,286.97 L.F. = 71,617.14 L.F.
(71,617.14 L.F. x 1 JOINT/60 L.F.) + 2 = 1196 JOINTS
ADD FOR POSSIBLE ADDITIONAL JOINTS FOR EVERY 3,000 L.F.
71,617.14 L.F. x 1 JOINT/3,000 L.F. = 24 JOINTS
DEDUCT THOSE SPECIFIED FOR FULL DEPTH REPAIR ON
SHEET NO'S. 80 THRU 86 = -185 JOINTS
TOTAL NO. OF 4 LANE TRANSVERSE JOINTS =
1196 + 24 - 185 = 1,035 JOINTS OF 24' WIDTH

SAWING AND SEALING LENGTH/JOINT:
24' LANE WIDTH + 4' INSIDE SHOULDER + 8' OUTSIDE SHOULDER = 36 L.F./JOINT
1035 JOINTS x 36 L.F./JOINT = 37,260 L.F.

C) RAMPS (16' WIDE)

RAMP "A" STA. 0+12.21 TO STA. 6+59.49 = 647.28 L.F.
RAMP "B" STA. 3+43.07 TO STA. 8+00.00 = 456.93 L.F.
RAMP "C" STA. 3+54.30 TO STA. 9+60.88 = 606.58 L.F.
RAMP "F" STA. 2+43.72 TO STA. 3+50.76 = 107.04 L.F.
RAMP "F" STA. 5+32.58 TO STA. 9+30.28 = 397.70 L.F.
RAMP "H" STA. 0+00.00 TO STA. 5+30.05 = 530.05 L.F.
RAMP "J" STA. 0+00.00 TO STA. 6+46.81 = 646.81 L.F.
RAMP "K" STA. 1+75.00 TO STA. 6+82.18 = 507.18 L.F.
RAMP "L" STA. 3+17.35 TO STA. 7+56.12 = 438.77 L.F.
RAMP "M" STA. 0+12.77 TO STA. 6+15.02 = 602.25 L.F.
RAMP "N" STA. 5+18.17 TO STA. 17+45.68 = 1,227.51 L.F.
RAMP "Q" STA. 3+58.59 TO STA. 17+49.39 = 1,390.80 L.F.
RAMP "S" STA. 0+12.03 TO STA. 7+44.38 = 732.35 L.F.
RAMP "T" STA. 0+13.01 TO STA. 8+80.23 = 867.22 L.F.
TOTAL = 9,158.47 L.F.

(9,158.47 L.F. x 1 JOINT/60 L.F.) + 13 = 166 JOINTS OF 16' WIDTH
DEDUCT THOSE SPECIFIED FOR FULL DEPTH REPAIR ON
SHEET NO'S. 80 THRU 86 -3 JOINTS
163 JOINTS

SAWING AND SEALING LENGTH/JOINT:
16' RAMP WIDTH + 3' INSIDE SHOULDER + 6' OUTSIDE SHOULDER = 25 L.F./JOINT
163 JOINTS x 25 L.F./JOINT = 4,075 L.F.

D) RAMPS (34' WIDE, 2 WAY)

RAMP "B" STA. 8+00.00 TO STA. 12+54.21 = 454.21 L.F.
454.21 L.F. x 1 JOINT/60 L.F. = 8 JOINTS OF 34' WIDTH

SAWING AND SEALING LENGTH/JOINT:
34' RAMP WIDTH + 2 (6' SHOULDERS) = 46 L.F./JOINT

8 JOINTS x 46 L.F./JOINT = 368 L.F.

E) RAMPS (17' WIDE, 2WAY-SEPARATED BY A RAISED CONCRETE MEDIAN)

RAMP "D" STA. 0+00.00 TO STA. 4+24.00 = 424.00 L.F.
RAMP "E" STA. 0+12.00 TO STA. 6+82.09 = 670.09 L.F.
RAMP "G" STA. 9+95.00 TO STA. 14+72.72 = 477.72 L.F.
RAMP "G" STA. 15+97.28 TO STA. 17+88.82 = 191.54 L.F.
RAMP "K" STA. 6+82.18 TO STA. 13+10.17 = 628.53 L.F.
TOTAL = 2,391.88 L.F.

(2,391.88 L.F. x 2 DIRECTIONS x 1 JOINT/60 L.F.) + 3 =
83 JOINTS OF 17.5' WIDTH
DEDUCT THOSE SPECIIED FOR FULL DEPTH REPAIR ON
SHEET NO'S. 80 THRU 86 -9 JOINTS
74 JOINTS

SAWING AND SEALING LENGTH/JOINT
17' RAMP WIDTH + 6' OUTSIDE SHOULDER = 23 L.F./JOINT

74 JOINTS x 23 L.F./JOINT = 1702 L.F.

F) RAMPS (17' WIDE WITH CURB)

RAMP "D" STA. 4+24.00 TO STA. 9+18.89 = 494.89 L.F.
RAMP "E" STA. 6+82.09 TO STA. 11+98.69 = 516.60 L.F.
RAMP "G" STA. 5+69.09 TO STA. 9+95.00 = 425.91 L.F.
TOTAL = 1,437.40 L.F.

1,437.40 L.F. x 1 JOINT/60 L.F. = 24 JOINTS

SAWING AND SEALING LENGTH/JOINT
17' RAMP WIDTH + 6' OUTSIDE SHOULDER = 23 L.F./JOINT

24 JOINTS x 23 L.F./JOINT = 552 L.F.

G) SPEED CHANGE LANES (ACCELERATION)

RAMP "B" STA. 868+50.00 TO STA. 3+43.07 = 568.07 L.F.
RAMP "D" STA. 9+18.89 TO STA. 884+25.00 = 694.10 L.F.
RAMP "F" STA. 914+25.00 TO STA. 2+43.72 = 468.72 L.F.
RAMP "H" STA. 5+30.05 TO STA. 940+00.00 = 364.96 L.F.
RAMP "K" STA. 153+75.00 TO STA. 1+75.00 = 400.00 L.F.
RAMP "M" STA. 6+15.02 TO STA. 1174+25.00 = 564.81 L.F.
RAMP "N" STA. 1228+00.00 TO STA. 5+18.17 = 868.17 L.F.
RAMP "T" STA. 8+80.23 TO STA. 1266+75.00 = 848.48 L.F.
AT C.R.5 STA. 1303+00.00 TO STA. 1323+25.00 = 2,025.00 L.F.
TOTAL = 6,802.31 L.F.

6,802.31 L.F. x 1 JOINT/60 L.F. = 113 JOINT
DEDUCT THOSE SPECIFIED FOR FULL DEPTH REPAIR ON
SHEET NO'S. 80 THRU 86 -2 = 111 JOINTS OF 9.95 AVG. WIDTH

SAWING AND SEALING LENGTH/JOINT:
9.95 AVG. WIDTH + (8' OUTSIDE SHOULDER *) = 9.95 L.F./JOINT

111 JOINTS x 9.95 L.F./JOINT = 1,104 L.F.

* QUANTITY FOR SHOULDER HAS BEEN INCLUDED WITH MAINLINE QUANTITIES.

H) SPEED CHANGE LANES (DECELERATION)

RAMP "A" STA. 6+59.49 TO STA. 894+75.00 = 547.56 L.F.
RAMP "C" STA. 867+00.00 TO STA. 3+51.30 = 454.30 L.F.
RAMP "E" STA. 11+98.69 TO STA. 931+00.00 = 210.32 L.F.
RAMP "G" STA. 924+75.00 TO STA. 5+69.09 = 337.03 L.F.
RAMP "J" STA. 6+46.81 TO STA. 1169+00.00 = 529.00 L.F.
RAMP "L" STA. 1158+04.62 TO STA. 3+17.35 = 417.35 L.F.
RAMP "Q" STA. 0+00.00 TO STA. 3+58.59 = 358.59 L.F.
RAMP "S" STA. 7+44.38 TO STA. 11+03.27 = 358.89 L.F.
TOTAL = 3,213.04 L.F.

32/3.04 L.F. x 1 JOINT/60 L.F. = 54 JOINTS
DEDUCT THOSE SPECIFIED FOR FULL DEPTH REPAIR ON
SHEET NO'S. 80 THRU 86 -6 = 48 JOINTS OF 15.56 AVG. WIDTH

SAWING AND SEALING LENGTH/JOINT:
15.56' AVG. WIDTH + (8' OUTSIDE SHOULDER *) = 15.56 L.F./JOINT

48 JOINTS x 15.56 L.F./JOINT = 747 L.F.

TOTAL QUANTITY OF SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS:

A) MAINLINE (2 LANE SECTION)	6,920 L.F.
B) MAINLINE (4 LANE SECTION)	37,260 L.F.
C) RAMPS (16' WIDE)	4,075 L.F.
D) RAMPS (17' WIDE - 2 WAY)	368 L.F.
E) RAMPS (17' WIDE - 2 WAY)	1,702 L.F.
F) RAMPS (17' WIDE WITH CURB)	552 L.F.
G) SPEED CHANGE LANES (ACCELERATION)	1,104 L.F.
H) SPEED CHANGE LANES (DECELERATION)	747 L.F.
TOTAL	= 52,728 L.F.

USE 52,730 L.F.
(CARRIED TO GENERAL SUMMARY)

QUANTITIES	
CALC. RRK	DATE 3-8-90
CHK'D. SHG	DATE 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

2) ITEM 254 – PATCHING PLANED SURFACE

ESTIMATE THAT 25% OF THE MAINLINE JOINTS WILL REQUIRE PATCHING AFTER PLANING:
PATCH AREA/JOINT: 24' JOINT x 2' WIDTH ÷ 9 = 5.33 S.Y./JOINT
1208 JOINTS x .25 x 5.33 S.Y./JOINT = **1,610 S.Y.**
CARRIED TO GENERAL SUMMARY

3) ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20

QUANTITY OF FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT FROM PAVEMENT REPAIR SUMMARY – 15,440 S.Y.
A) WEARING COURSE REPLACEMENT (PRIOR TO PAVEMENT PLANING):
15,440 S.Y. x 3" THICK x 1/36 = 1,286.7 C.Y.
B) SHOULDER RESTORATION:
15,440 S.Y. x 9 ÷ 12 L.F. = 11,580 L.F.
(11,580 L.F. x 12" WIDE x 13" DEEP x 1/144) x 1/27 = 464.6 C.Y.
TOTAL QUANTITY OF BITUMINOUS AGGREGATE BASE, AC-20
= 1,286.7 C.Y. + 464.6 C.Y. = 1,752 C.Y. **USE 1,755 C.Y.**
CARRIED TO THE GENERAL SUMMARY

4) SUBBASE/SUBGRADE FAILURES:

ESTIMATE THAT 10% OF THE MAINLINE TRANSVERSE JOINTS ARE PUMPING:
1,208 JOINTS x 0.10 = 121 JOINTS OF 24' WIDTH

REPAIR VOLUME/JOINT = 24' WIDE x 6' LONG x 0.5' DEEP x 1/27 = 2.7 C.Y./JOINT
121 JOINTS x 2.7 C.Y./JOINT = 327 C.Y. USE 330 C.Y.
ITEM 203 – EXCAVATION – – – – – – – – – – – – – **330 C.Y.**
ITEM 304 – AGGREGATE BASE, AS PER PLAN – – – – **330 C.Y.**
CARRIED TO THE GENERAL SUMMARY

5) ITEM SPECIAL – BONDED PATCHING OF RIGID PAVEMENTS, TYPE II

(SEE NOTE IN PROPOSAL; FOR USE WITHIN THE CONCRETE SECTION;
W.B. LANES STA. 1262+03.90 TO 1332+98.75
BY FIELD INSPECTION, ESTIMATE THAT 75 S.Y. OF THE RIGID PAVEMENT REQUIRES BONDED PATCHING
ITEM SPECIAL – BONDED PATCHING OF RIGID PAVEMENT, TYPE II – – – **75 S.Y.**
CARRIED TO THE GENERAL SUMMARY

6) ITEM 801 – TRANSVERSE JOINT SEALING, CLASS III, SILICONE

CONCRETE SECTION; WESTBOUND LANES
STA. 1262+03.90 TO STA. 1332+98.75 = 7,094.85 L.F.
DEDUCT FOR STATION EQUATIONS
STA. 1280+62.94 BK = STA. 1280+72.73 AH −9.79 L.F.
STA. 1298+78.92 BK = STA. 1298+80.75 AH −1.83 L.F.
STA. 1329+83.81 BK = STA. 1329+98.24 AH −14.43 L.F.
DEDUCT FOR BRIDGE AND APPROACH SLABS
HAS-22-2460L 134.60 + (2 x 25) −184.60 L.F.
TOTAL = 6,884.20 L.F.
(6,884.20 L.F. x 1 JOINT/40 L.F.)V+1 = 173 JOINTS
ADD FOR POSSIBLE ADDITIONAL JOINTS
ESTIMATE ONE ADDITIONAL JOINT EVERY 3,000 L.F.
6,884.20 L.F. x 1 JOINT/3,000 L.F. = 2 JOINTS
DEDUCT THOSE JOINTS LISTED FOR FULL DEPTH REPAIR ON SHEET NOs. 81 & 82 = 14 JOINTS
TOTAL NO. OF TRANSVERSE JOINTS
= (173 JOINTS + 2 JOINTS – 14 JOINTS) = 161 JOINTS OF 24' WIDTH

161 JOINTS x 24 L.F./JOINT = 3,864 L.F. **USE 3,870 L.F.**
CARRIED TO THE GENERAL SUMMARY

7) ITEM 801 – LONGITUDINAL JOINT SEALING, CLASS V , SILCONE

LONGITUDINAL JOINT IN CENTER OF 24' PAVEMENT:
TOTAL LENGTH OF THE CONCRETE SECTION (FROM #6) = 6,884.20 L.F.
ADDITIONAL LONGITUDINAL JOINTS:
INTERSECTION WITH T.R. 180 – STA. 1305+33 TO STA. 1310+12 = 479.00 L.F.
MEDIAN CROSSOVER – STA. 1332+52 TO STA. 1332+98.75 = 46.75 L.F.
TOTAL = 7,409.95 L.F.
USE 7,410 L.F.
CARRIED TO THE GENERAL SUMMARY

8) ITEM 812 – GROUT SUBSEALING OF EXISTING CONCRETE PAVEMENT

(FOR USE WITH THE CONCRETE SECTION)
NO. OF TRANSVERSE JOINTS NOT BEING REPAIRED (FROM #6) = 161 JOINTS
161 JOINTS x 3 HOLES/JOINT x 0.01 TONS OF CEMENT/HOLE = 4.8 TON USE 5 TON
ITEM 812 – PORTLAND CEMENT _____ **5 TON**

PAVEMENT REPAIR SUMMARY

FROM SHEET NO.	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS	803 FULL DEPTH PAVEMENT SAWING	SPECIAL SAWING & SEALING ASPHALT CONCRETE PAVEMENT JOINTS, 705.04
	SQ.YD.	SQ.YD.	LIN.FT.	LIN.FT.
80	2843.2	130.6	6101	3348
81	1881.8	514.9	5465	3213
82	1253.0	–	3776	528
83	2146.9	–	5630	1844
84	1511.4	435.0	4868	3003
85	1628.3	369.0	5082	3098
86	72.0	635.3	2109	1352
SUB-TOTALS	11,336.6	2,084.8	33,031	16,386

A 15% INCREASE IS ADDED TO THE PAVEMENT REPAIR QUANTITIES TO PROVIDE FOR FURTHER DETERIORATION WHICH MAY OCCUR BETWEEN THE TIME OF INSPECTION AND THE TIME OF CONSTRUCTION :

ITEM 803 – FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS :
11,336.6 S.Y. x 1.15 = 13,037.1 **USE 13,040 S.Y.**

ITEM 803 – FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS :
2,084.8 S.Y. x 1.15 = 2,397.5 **USE 2,400 S.Y.**

ITEM 803 – FULL DEPTH PAVEMENT SAWING
33,031 L.F. x 1.15 = 37,986 **USE 38,000 L.F.**

ITEM SPECIAL – SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, 705.05
16,386 L.F. x 1.15 = 18,844 **USE 18,850 L.F.**

TOTALS	13,040	2,400	38,000	18,850

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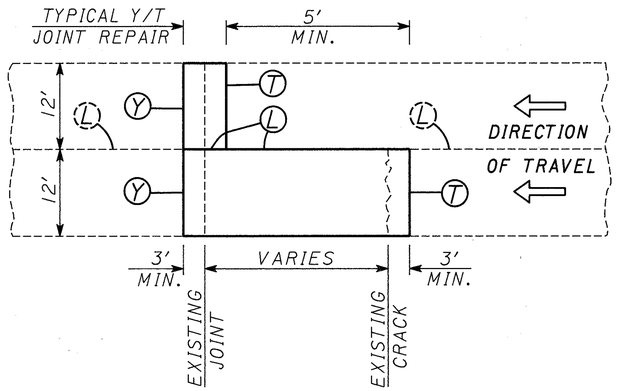
PAVEMENT REPAIR CALCULATIONS

FHWA REGION	STATE	PROJECT	
5	OHIO		

77
115

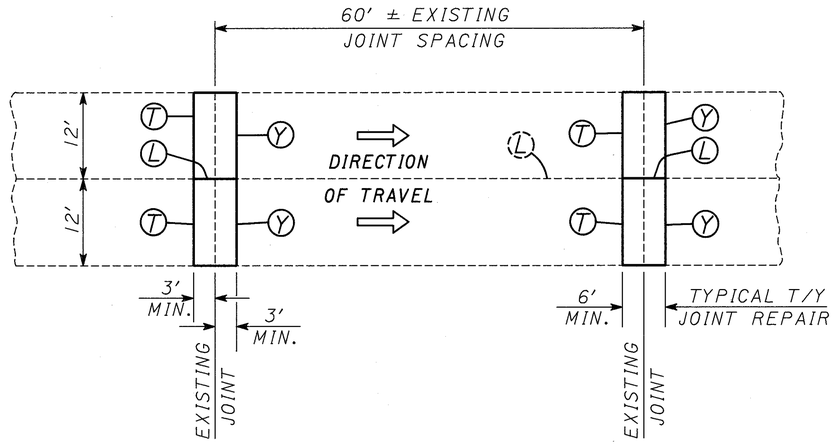
HAS-22-15.03



CRACK/JOINT REPAIR (TYPE T/Y)

(CRACK/JOINT REPAIR WITH A TYPICAL JOINT REPAIR IN ONE LANE ONLY)

NOTE: T/Y REPAIR MAY BE IN EITHER THE TRAVEL LANE OR THE PASSING LANE.



TYPICAL JOINT REPAIR (TYPE T/Y)

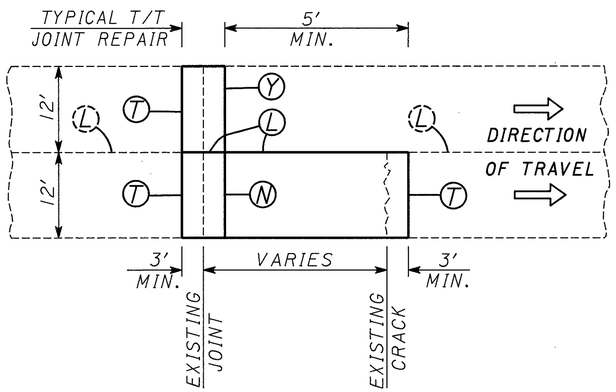
JOINT TYPE LEGEND

- (Y) — TYPE Y (CONTRACTION)
- (T) — TYPE T (TIED)
- (N) — TYPE N (CONTRACTION)
- (L) — LONGITUDINAL JOINT
- (L) — EXISTING LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE STANDARD DRAWING BP-13.
FOR LOCATIONS AND QUANTITIES SEE SHEET NO'S. 80 THRU 86.

SEE GENERAL NOTES "PAVEMENT REPAIR IN THE CONCRETE SECTION" AND "PAVEMENT REPAIR LOCATIONS" ON SHEET NO. 26

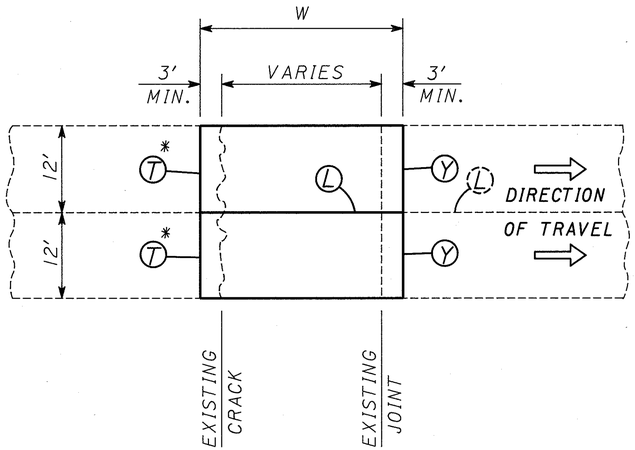
* IF THE PATCH LENGTH 'W' EXCEEDS 10 L.F., THEN THE (T) JOINT SHALL BE REPLACED WITH A (Y) JOINT.



CRACK/JOINT REPAIR (TYPE T/N/T)

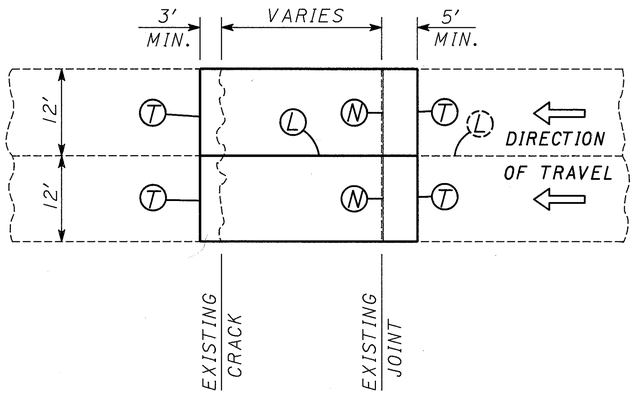
(CRACK/JOINT REPAIR WITH A TYPICAL JOINT REPAIR IN ONE LANE ONLY)

NOTE: T/N/T REPAIR MAY BE IN EITHER THE TRAVEL LANE OR THE PASSING LANE.



CRACK/JOINT REPAIR (TYPE T/Y)

(CRACK/JOINT REPAIR WITH A TYPICAL JOINT REPAIR IN BOTH LANES)



CRACK/JOINT REPAIR (TYPE T/N/T)

(CRACK/JOINT REPAIR WITH A TYPICAL JOINT REPAIR IN BOTH LANES)

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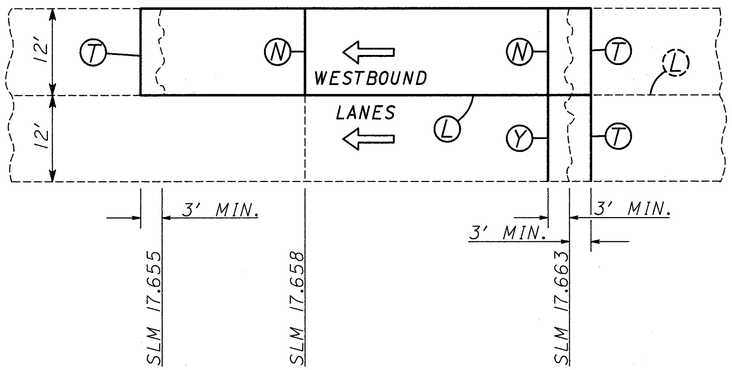
PAVEMENT REPAIR DETAILS

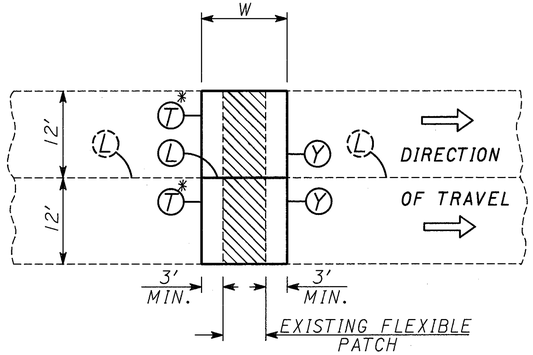
FHWA REGION	STATE	PROJECT	
5	OHIO		

78
115

HAS-22-15.03



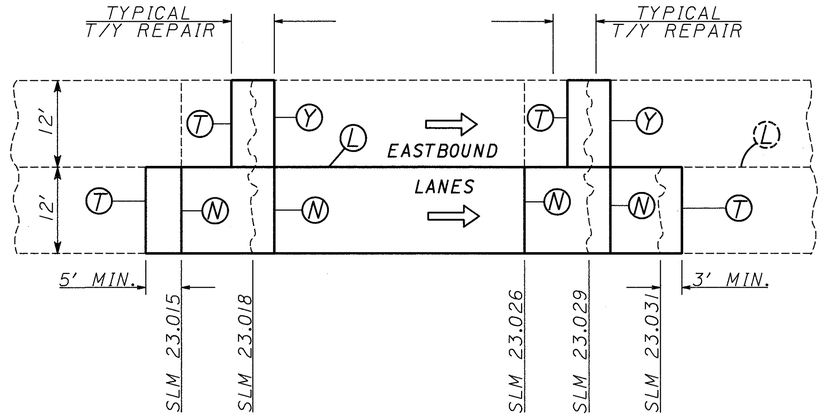
CRACK/JOINT REPAIR (TYPE T/N/T)



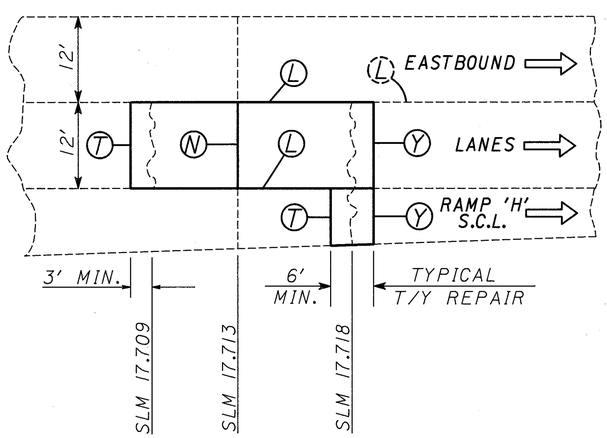
* IF THE PATCH LENGTH 'W' EXCEEDS 10 L.F., THEN THE (T) JOINT SHALL BE REPLACED WITH A (Y) JOINT.

JOINT REPAIR (TYPE T/Y)

(JOINT REPAIR WITH EXISTING FLEXIBLE PATCH IN BOTH LANES)

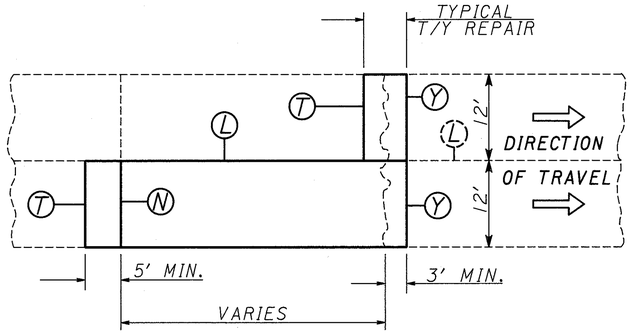


CRACK/JOINT REPAIR (TYPE T/N/T)



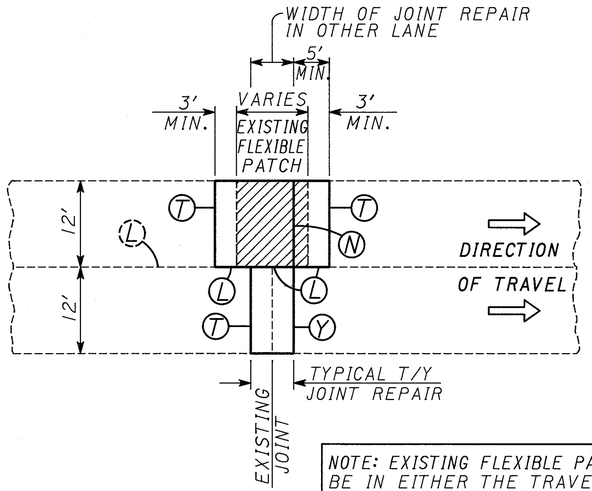
CRACK/JOINT REPAIR (TYPE T/N/Y)

FOR LOCATIONS AND QUANTITIES SEE SHEET NO'S. 80 THRU 86 .



TYPICAL CRACK/JOINT REPAIR (TYPE T/N/T)

(CRACK/JOINT REPAIR WITH A TYPICAL CRACK REPAIR IN ONE LANE ONLY)



NOTE: EXISTING FLEXIBLE PATCH MAY BE IN EITHER THE TRAVEL LANE OR THE PASSING LANE.

TYPICAL JOINT REPAIR (TYPE T/N/T)

(JOINT REPAIR WITH EXISTING FLEXIBLE PATCH IN ONE LANE ONLY)

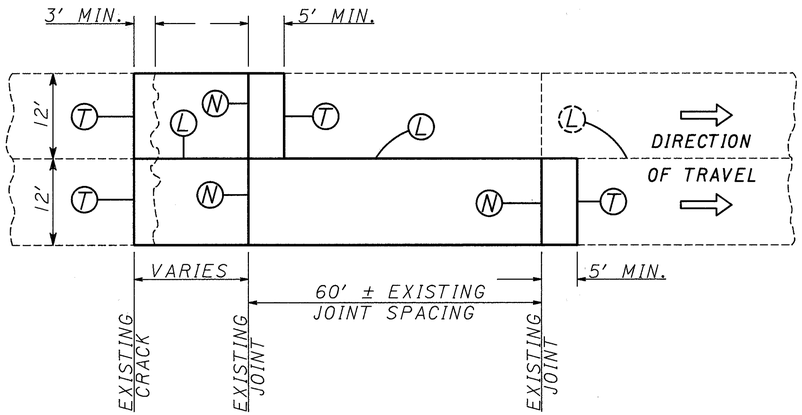
HA022151I

PAVEMENT REPAIR DETAILS

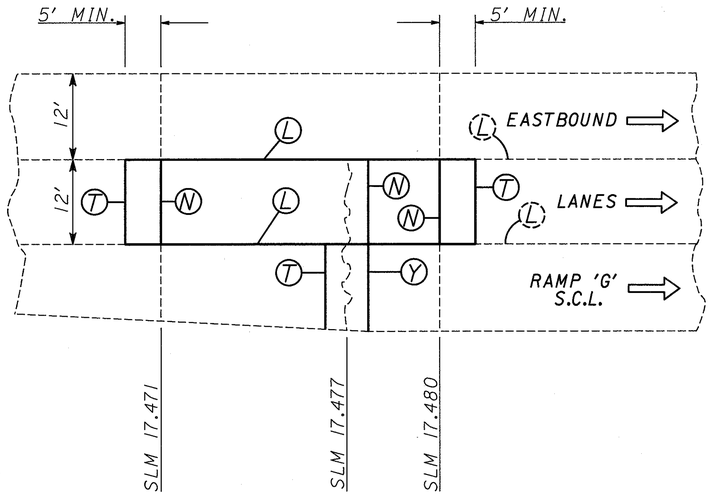
FHWA REGION	STATE	PROJECT	
5	OHIO		

79
115

HAS-22-15.03

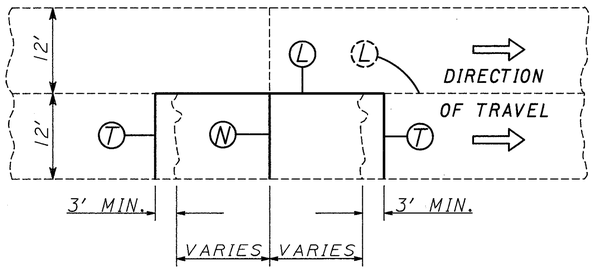


CRACK/JOINT REPAIR (TYPE T/N/T)

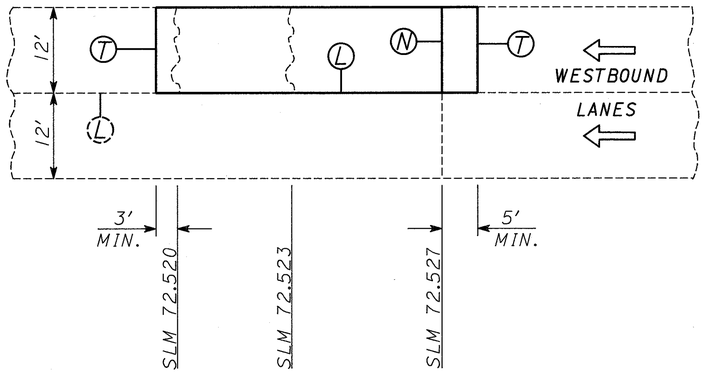


FOR LOCATIONS AND QUANTITIES
SEE SHEET NO'S. 80 THRU 86 .

CRACK/JOINT REPAIR (TYPE T/N/T)



TYPICAL CRACK/JOINT REPAIR (TYPE T/N/T)



CRACK/JOINT REPAIR (TYPE T/N/T)

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

MAINLINE JOINT & CRACK REPAIR LOCATIONS

QUANTITIES	
Calc. RRK	Chkd. SHG
Date: 3-2-90	Date: 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

80/115

EASTBOUND

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT — CLASS MS — TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS — TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS MS — TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS — TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS FS — TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS FS — TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS FS — TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS FS — TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
15.072						–	8.0			30	20	JOINT REPAIR
15.084						–	8.0			30	20	JOINT REPAIR
15.098						–	8.0			30	20	CRACK REPAIR
15.110						–	8.0			30	20	CRACK REPAIR
15.122						–	8.0			30	20	CRACK REPAIR
15.139						–	8.0			30	20	JOINT REPAIR
15.206/15.214								–	65.3	73	20	CRK/JNT REPAIR
15.223						–	8.0			30	20	CRACK REPAIR
15.243/15.251						–	9.3			31	20	EXISTING PRJ & CRK
15.283		8.0	8.0							54	32	CRACK REPAIR
15.412		8.0	8.0							54	36	CRACK REPAIR
15.419		9.3	9.3							55	36	EXISTING PRJ
15.433		8.0	8.0							54	36	CRACK REPAIR
15.529		12.0	12.0							60	36	FLEX PATCH REPAIR
15.555		8.0	8.0							54	36	CRACK REPAIR
15.612		9.3	9.3							55	36	EXISTING PRJ
15.644/15.645		18.7	18.7							62	36	FLEX PATCH REPAIR
15.659		8.0	8.0							54	36	CRACK REPAIR
15.674		8.0	8.0							54	36	CRACK REPAIR
15.692		–	8.0							30	20	JOINT REPAIR
15.712		8.0	8.0							54	36	JOINT REPAIR
15.727		8.0	8.0							54	36	CRACK REPAIR
15.746		12.0	12.0							60	36	FLEX PATCH REPAIR
15.792		9.3	9.3							55	36	EXISTING PRJ
15.815		12.0	12.0							69	28	FLEX PATCH REPAIR
15.830		8.0	8.0							60	28	CRACK REPAIR
15.867		8.0	8.0							54	36	CRACK REPAIR
15.903		8.0	8.0							54	36	CRACK REPAIR
15.914		8.0	8.0							54	36	CRACK REPAIR
15.925		8.0	8.0							54	36	CRACK REPAIR
15.983		9.3	9.3							55	36	EXISTING PRJ
16.020		16.0	18.7							62	36	FLEX PATCH REPAIR
16.086		8.0	8.0							54	36	CRACK REPAIR
16.126/16.130		36.0	36.0							75	36	FLEX PATCH REPAIR
16.187		9.3	9.3							55	36	EXISTING PRJ
16.197		8.0	8.0							54	36	CRACK REPAIR
16.324		8.0	8.0							54	36	CRACK REPAIR
16.354		8.0	8.0							54	36	CRACK REPAIR
16.366		8.0	8.0							54	36	CRACK REPAIR
16.377		9.3	9.3							55	36	EXISTING PRJ
16.495/16.510		38.7	116.0							135	56	CRK/JNT REPAIR
16.569/16.571		24.0	24.0							66	36	EXISTING PRJ/CRK
16.753		9.3	9.3							55	36	EXISTING PRJ
16.778		8.0	8.0							54	36	CRACK REPAIR
16.791/16.794		–	29.3							70	36	CRACK REPAIR
16.802		8.0	8.0							54	36	CRACK REPAIR
16.810/16.816				–	53.3					64	20	CRK/JNT REPAIR
16.823/16.829		–	50.7							62	20	CRACK REPAIR
16.907		8.0	8.0							54	36	CRACK REPAIR
16.929		–	8.0							30	20	CRACK REPAIR
16.933		9.3	9.3							55	36	EXISTING PRJ
16.945		–	8.0							30	20	JOINT REPAIR
16.957		–	8.0							30	20	JOINT REPAIR
17.143		–	8.0							30	20	CRACK REPAIR
17.148		9.3	9.3							55	36	EXISTING PRJ
17.158		8.0	8.0							54	36	CRACK REPAIR
COL. 1 SUBTOTALS		429.1	629.1	–	53.3	–	65.3	–	65.3	2938	1760	
		1058.2		53.3		65.3		65.3				
		CLASSS MS 1111.5				CLASS FS 130.6						

EASTBOUND

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT — CLASS MS — TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS — TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS MS — TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS — TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS MS — TYPE T/N/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS — TYPE T/N/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
17.172/17.207		BRIDGE NO. HAS-22-1717R								
17.342/17.344		8.0	22.7					65	36	CRK/JNT REPAIR
17.350		–	8.0					30	20	CRACK REPAIR
17.353		8.0	8.0					54	36	CRACK REPAIR
17.355		–	8.0					30	20	JOINT REPAIR
17.359		–	8.0					30	20	CRACK REPAIR
17.363		9.3	9.3					55	36	EXISTING PRJ
17.373		8.0	21.3					64	36	FLEX PATCH REPAIR
17.386/17.411		BRIDGE NO. HAS-22-1738R								
17.423		–	8.0					30	20	CRACK REPAIR
17.431		8.0	8.0					54	36	CRACK REPAIR
17.437		8.0	8.0					54	36	CRACK REPAIR
17.444		8.0	8.0					54	36	CRACK REPAIR
17.448		–	16.0					36	20	CRACK REPAIR
17.454/17.461		–	57.3					67	20	CRACK REPAIR
17.468		–	8.0					36	12	CRACK REPAIR
17.471/17.480				–	77.4			138	36	SEE DETAIL SH. NO. 79
17.487/17.513		BRIDGE NO. HAS-22-1749R								
17.531/17.549		BRIDGE NO. HAS-22-1753R								
17.565		9.3	9.3					62	28	EXISTING PRJ
17.580		8.0	8.0					60	28	CRACK REPAIR
17.600		8.0	8.0					54	36	CRACK REPAIR
17.603/17.610		8.0	–			–	60.0	93	56	CRK/JNT REPAIR
17.624/17.642		8.0	–			–	137.3	151	56	CRK/JNT REPAIR
17.653/17.660				–	57.3			67	20	CRK/JNT REPAIR
17.674		–	8.0					36	12	CRACK REPAIR
17.709/17.718						–	72.0	132	24	SEE DETAIL SH. NO. 78
17.722		8.0	8.0					60	28	CRACK REPAIR
17.732/17.751				144.0	144.0			264	56	CRK/JNT REPAIR
17.761		–	8.0					30	20	CRACK REPAIR
17.765		–	8.0					30	20	CRACK REPAIR
17.772		9.3	9.3					55	36	EXISTING PRJ
17.777		8.0	8.0					54	36	CRACK REPAIR
17.796		8.0	8.0					54	36	CRACK REPAIR
17.815		8.0	8.0					54	36	JOINT REPAIR
17.826		8.0	8.0					54	36	JOINT REPAIR
17.849/17.866				–	130.7			122	40	CRK/JNT REPAIR
17.872		8.0	8.0					54	36	JOINT REPAIR
17.887		–	8.0					30	20	CRACK REPAIR
17.921		8.0	8.0					54	36	CRACK REPAIR
17.937		–	8.0					30	20	CRACK REPAIR
17.949/17.963				33.3	109.3			130	56	CRK/JNT REPAIR
17.983/17.984		16.0	16.0					60	36	EXISTING PRJ & CRK
17.992		16.0	16.0					60	36	FLEX PATCH REPAIR
18.000		8.0	8.0					54	36	CRACK REPAIR
18.033		8.0	8.0					54	36	CRACK REPAIR
18.133		8.0	8.0					54	36	CRACK REPAIR
18.141		18.7	18.7					62	36	FLEX PATCH REPAIR
18.149		8.0	8.0					54	36	CRACK REPAIR
18.193		9.3	9.3					55	36	EXISTING PRJ
18.309		8.0	8.0					54	36	CRACK REPAIR
18.324/18.327		21.3	36.0					75	36	FLEX PATCH REPAIR
18.408		8.0	8.0					54	36	CRACK REPAIR
COL. 2 SUBTOTALS		293.2	473.2			177.3	518.7	269.3		3163	1588	
		766.4				696.0		269.3				
						1731.7						
COL. 1 SUBTOTALS						1111.5			130.6	2938	1760	
TOTALS CARRIED TO SHT. NO. 76.		CLASS MS 2843.2						CLASS FS 130.6		6101	3348	

PAVEMENT REPAIR

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

MAINLINE JOINT & CRACK REPAIR LOCATIONS

QUANTITIES	
Calc. RRK	Chkd. SHG
Date: 3-2-90	Date: 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS FS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS FS TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
18.414		9.3	9.3			55	36	EXISTING PRJ
18.427		8.0	8.0			54	36	CRACK REPAIR
18.437		8.0	8.0			54	36	CRACK REPAIR
18.571		8.0	8.0			54	36	CRACK REPAIR
18.578		8.0	8.0			54	36	JOINT REPAIR
18.615		8.0	8.0			54	36	CRACK REPAIR
18.627		8.0	8.0			54	36	CRACK REPAIR
18.637		8.0	8.0			54	36	CRACK REPAIR
18.678		8.0	8.0			54	36	CRACK REPAIR
18.692		8.0	8.0			54	36	JOINT REPAIR
18.704		–	8.0			30	20	JOINT REPAIR
18.715		–	8.0			30	20	JOINT REPAIR
18.726		18.7	18.7			62	36	FLEX PATCH REPAIR
18.760		13.3	8.0			58	36	CRACK REPAIR
18.783		8.0	8.0			54	36	JOINT REPAIR
18.803		8.0	8.0			54	36	CRACK REPAIR
18.817		8.0	8.0			54	36	JOINT REPAIR
18.825		9.3	9.3			55	36	EXISTING PRJ
18.840		–	8.0			30	20	JOINT REPAIR
18.878				7.3	8.0	52	31	CRACK REPAIR
18.891				5.3	8.0	46	28	CRACK REPAIR
18.900/18.903				5.3	28.0	61	28	CRACK REPAIR
18.913/18.915				–	22.7	41	20	CRACK REPAIR
18.930				4.0	8.0	48	26	JOINT REPAIR
18.941				3.3	8.0	46	25	JOINT REPAIR
18.953				2.7	8.0	44	24	JOINT REPAIR
18.994				2.0	8.0	42	23	JOINT REPAIR
19.004				–	8.0	30	20	JOINT REPAIR
19.015				–	8.0	30	20	JOINT REPAIR
19.020				–	8.0	30	20	CRACK REPAIR
19.026				–	29.3	46	20	FLEX PATCH REPAIR
19.042/19.045				–	29.3	46	20	CRACK REPAIR
19.059				–	8.0	30	20	JOINT REPAIR
19.196				–	16.0	36	20	FLEX PATCH REPAIR
19.251				–	9.3	31	20	EXISTING PRJ
19.254				–	8.0	30	20	JOINT REPAIR
19.507				–	18.7	38	20	FLEX PATCH REPAIR
19.679				–	9.3	31	20	EXISTING PRJ
20.006				–	13.3	34	20	FLEX PATCH REPAIR
20.097				–	16.0	36	20	FLEX PATCH REPAIR
20.158				–	16.0	36	20	FLEX PATCH REPAIR
20.245				–	21.3	40	20	FLEX PATCH REPAIR
20.378				–	8.0	30	20	CRACK REPAIR
20.507				–	21.3	40	20	CRACK REPAIR
20.682				–	24.0	42	20	FLEX PATCH REPAIR
20.982				–	16.0	36	20	FLEX PATCH REPAIR
21.001				–	21.3	40	20	FLEX PATCH REPAIR
21.048				–	13.3	34	20	FLEX PATCH REPAIR
21.230				–	13.3	34	20	FLEX PATCH REPAIR
21.250				–	16.0	36	20	FLEX PATCH REPAIR
21.260/21.288		BRIDGE NO HAS-22-2126						
21.296				–	8.0	30	20	CRACK REPAIR
21.316				–	13.3	34	20	FLEX PATCH REPAIR
21.410				–	8.0	30	20	JOINT REPAIR
21.518				–	8.0	30	20	CRACK REPAIR
21.613/21.621		–	64.0			72	20	CRACK REPAIR
		146.6	229.3	29.9	487.7			
COL. 1 SUBTOTALS		375.9		517.6				
		CLASS MS	375.9	CLASS FS	517.6	2318	1381	

EASTBOUND

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS MS TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS MS TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
21.629		18.7	–			38	16	FLEX PATCH REPAIR
21.689		16.0	16.0			60	36	FLEX PATCH REPAIR
21.720		16.0	16.0			60	36	FLEX PATCH REPAIR
21.735		8.0	8.0			54	36	CRACK REPAIR
21.757		8.0	8.0			54	36	CRACK REPAIR
21.769		8.0	8.0			54	36	CRACK REPAIR
21.786		8.0	8.0			54	36	CRACK REPAIR
21.794		8.0	8.0			54	36	CRACK REPAIR
21.808		8.0	8.0			54	36	CRACK REPAIR
21.909		8.0	8.0			54	36	CRACK REPAIR
21.979		8.0	8.0			60	28	CRACK REPAIR
22.009		8.0	8.0			54	36	CRACK REPAIR
22.054		8.0	8.0			54	36	CRACK REPAIR
22.060		8.0	21.3			64	36	CRACK REPAIR
22.088		8.0	8.0			54	36	CRACK REPAIR
22.093/22.105		92.0	92.0			186	28	CRACK REPAIR
22.202		8.0	8.0			54	36	CRACK REPAIR
22.214		14.7	21.3			69	36	CRACK REPAIR
22.241		9.3	9.3			55	36	EXISTING PRJ
22.274/22.283		72.0	72.0			102	36	CRACK REPAIR
22.425		8.0	8.0			54	36	CRACK REPAIR
22.433		9.3	9.3			55	36	EXISTING PRJ
22.443		–	8.0			30	20	CRACK REPAIR
22.610		–	8.0			30	20	CRACK REPAIR
22.655/22.659		8.0	–	–	38.7	77	36	CRK/JNT REPAIR
22.675		8.0	8.0			54	36	CRACK REPAIR
22.802		8.0	8.0			54	36	CRACK REPAIR
22.819/22.821		–	–	22.7	22.7	65	36	CRK/PRJ REPAIR
22.838/22.882		BRIDGE HAS-22-2284R						
22.892/22.895				29.3	29.3	70	36	CRK/PRJ REPAIR
23.015/23.031		16.0	–	–	122.7	164	112	SEE DETAIL SH NO. 78
23.045		8.0	8.0			54	36	CRACK REPAIR
23.053		9.3	9.3			55	36	EXISTING PRJ
23.058		–	8.0			30	20	CRACK REPAIR
23.149		8.0	12.0			57	36	CRACK REPAIR
23.235		9.3	9.3			55	36	EXISTING PRJ
23.409		9.3	9.3			55	36	EXISTING PRJ
23.446		8.0	8.0			54	36	CRACK REPAIR
23.456		13.3	13.3			58	36	FLEX PATCH REPAIR
23.466		13.3	13.3			58	36	FLEX PATCH REPAIR
23.479		13.3	13.3			58	36	FLEX PATCH REPAIR
23.498		8.0	8.0			54	36	CRACK REPAIR
23.536		14.7	8.0			59	36	CRACK REPAIR
23.540		8.0	8.0			54	36	JOINT REPAIR
23.559		9.3	9.3			55	36	EXISTING PRJ
23.613/23.638		BRIDGE HAS-22-2362R						
23.660		–	8.0			30	20	CRACK REPAIR
23.674		8.0	8.0			54	36	CRACK REPAIR
23.774		13.3	13.3			58	36	FLEX PATCH REPAIR
23.877		13.3	13.3			68	28	FLEX PATCH REPAIR
23.897		13.3	13.3			68	28	FLEX PATCH REPAIR
23.991		20.0	20.0			63	36	FLEX PATCH REPAIR
24.003		8.0	8.0			54	36	JOINT REPAIR
24.144		9.3	9.3			55	36	EXISTING PRJ
		617	623.5	52.0	213.4			
COL. 2 SUBTOTALS		1240.5		265.4		3147	1832	
		1505.9						
COL. 1 SUBTOTALS		375.9		514.9		2318	1381	
TOTALS *		CLASS MS 1881.8		CLASS FS 514.9		5465	3213	

EASTBOUND

* QUANTITIES CARRIED TO SHEET NO. 76.

PAVEMENT REPAIR

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

MAINLINE JOINT & CRACK REPAIR LOCATIONS

QUANTITIES	
Calc. RRK	Chkd. SHG
Date: 3-6-90	Date: 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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EASTBOUND

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS — TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
24.183		8.0	8.0			54	36	JOINT REPAIR
24.203		–	8.0			30	20	CRACK REPAIR
24.214		–	8.0			30	20	CRACK REPAIR
24.222		24.0	18.7			66	36	FLEX PATCH REPAIR
24.321		24.0	8.0			66	36	CRACK REPAIR
24.333		8.0	8.0			54	36	CRACK REPAIR
24.351		9.3	9.3			55	36	JOINT REPAIR
24.364		8.0	8.0			54	36	CRACK REPAIR
24.379		8.0	8.0			54	36	CRACK REPAIR
24.439		8.0	8.0			54	36	CRACK REPAIR
24.569/24.571				25.3	25.3	67	36	CRK/JNT REPAIR
24.588/24.613		BRIDGE NO. HAS-22-2460R						
24.651		–	8.0			36	12	CRACK REPAIR
24.818		9.3	9.3			69	24	EXISTING PRJ
25.028		12.0	12.0			57	36	FLEX PATCH REPAIR
25.189		–	8.0			30	20	CRACK REPAIR
25.204		8.0	8.0			54	36	JOINT REPAIR
25.210		9.3	9.3			55	36	EXISTING PRJ
COL. 1 SUBTOTALS		135.9	146.6	25.3	25.3	885	528	
		282.5		50.6				
		333.1						

WESTBOUND

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS — TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
25.194		8.0	8.0			54		CRACK REPAIR
25.161		8.0	8.0			54		CRACK REPAIR
25.147		8.0	8.0			54		CRACK REPAIR
25.137		8.0	8.0			54		CRACK REPAIR
25.131		8.0	8.0			54		CRACK REPAIR
25.116		8.0	8.0			54		CRACK REPAIR
25.108		21.3	8.0			64		CRACK REPAIR
25.085		8.0	8.0			54		CRACK REPAIR
25.056		8.0	8.0			54		CRACK REPAIR
25.042		8.0	8.0			54		CRACK REPAIR
25.040		8.0	8.0			54		CRACK REPAIR
25.018		8.0	8.0			54		CRACK REPAIR
24.942		8.0	8.0			54		CRACK REPAIR
24.920		8.0	8.0			54		CRACK REPAIR
24.904		8.0	8.0			54		CRACK REPAIR
24.897		16.0	8.0			60		CRACK REPAIR
24.892		8.0	8.0			54.		CRACK REPAIR
24.882		8.0	8.0			54		CRACK REPAIR
24.869		8.0	8.0			54		CRACK REPAIR
24.860		8.0	8.0			54		CRACK REPAIR
24.853		8.0	8.0			54		CRACK REPAIR
24.839		8.0	8.0			54		CRACK REPAIR
24.829		16.0	10.7			60		CRACK REPAIR
24.822		8.0	8.0			54		CRACK REPAIR
24.815		8.0	8.0			54		CRACK REPAIR
24.808		8.0	12.0			57		CRACK REPAIR
24.802/24.799		8.0	29.3			70		CRACK REPAIR
24.792		8.0	8.0			54		CRACK REPAIR
24.785		10.7	8.0			62		CRACK REPAIR
24.777		8.0	8.0			60		CRACK REPAIR
24.770		10.7	8.0			62		CRACK REPAIR
24.762		8.0	8.0			60		CRACK REPAIR
24.755		8.0	8.0			60		CRACK REPAIR
24.748		8.0	8.0			60		CRACK REPAIR
24.739		8.0	8.0			60		CRACK REPAIR
24.725		8.0	8.0			60		CRACK REPAIR
24.717		8.0	8.0			60		CRACK REPAIR
24.703		8.0	8.0			60		CRACK REPAIR
24.695		8.0	8.0			54		JOINT REPAIR
24.687		8.0	8.0			54		CRACK REPAIR
24.678		9.3	10.7			56		CRACK REPAIR
24.673		8.0	8.0			54		CRACK REPAIR
24.664		8.0	8.0			54		CRACK REPAIR
24.658		–	17.3			37		CRACK REPAIR
24.650		–	8.0			30		CRACK REPAIR
24.648/24.646		8.0	–	–	25.3	67		JOINT REPAIR
24.632/24.607		BRIDGE NO. HAS-22-2460L						
24.597		8.0	8.0			54		CRACK REPAIR
24.593		13.3	13.3			58		EXISTING PRJ
24.591		8.0	8.0			54		CRACK REPAIR
24.584		8.0	8.0			54		CRACK REPAIR
24.575		8.0	8.0			54		CRACK REPAIR
24.568		8.0	8.0			54		CRACK REPAIR
COL. 2 SUBTOTALS		441.3	453.3	–	25.3	2891		
		894.6		25.3				
		919.9						
COL. 1 SUBTOTALS		333.1				885	528	
TOTALS *		1253.0				3776	528	

* QUANTITIES CARRIED TO SHEET NO. 76.

PAVEMENT REPAIR

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

MAINLINE JOINT & CRACK REPAIR LOCATIONS

QUANTITIES	
Calc. RRK	Chkd. SHG
Date: 3-6-90	Date: 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TRAVEL LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
24.542		–	8.0			30		JOINT REPAIR
24.519		–	8.0			30		JOINT REPAIR
24.512		–	8.0			30		JOINT REPAIR
24.505		–	8.0			30		JOINT REPAIR
24.500		8.0	8.0			54		CRACK REPAIR
24.497		8.0	8.0			54		JOINT REPAIR
24.475		–	8.0			30		JOINT REPAIR
24.455		–	8.0			30		CRACK REPAIR
24.452		–	8.0			30		JOINT REPAIR
24.442		8.0	8.0			54		CRACK REPAIR
24.425		8.0	8.0			54		CRACK REPAIR
24.420		14.7	14.7			64		CRACK REPAIR
24.407/24.404				32	32	72		CRK/JNT REPAIR
24.397		18.7	8.0			62		CRACK REPAIR
24.389		8.0	8.0			54		CRACK REPAIR
24.382/24.380		22.7	22.7			65		CRACK REPAIR
24.373		8.0	8.0			54		CRACK REPAIR
24.366		8.0	8.0			54		CRACK REPAIR
24.362		–	8.0			30		JOINT REPAIR
24.358		8.0	12.0			57		CRACK REPAIR
24.351		8.0	8.0			54		CRACK REPAIR
24.344		16.0	8.0			60		CRACK REPAIR
24.337		8.0	8.0			54		CRACK REPAIR
24.329		10.7	8.0			56		CRACK REPAIR
24.322		8.0	8.0			54		CRACK REPAIR
24.314/24.312		22.7	22.7			65		CRACK REPAIR
24.307		8.0	8.0			54		CRACK REPAIR
24.299		10.7	13.3			58		CRACK REPAIR
24.292/24.289		29.3	29.3			70		CRACK REPAIR
24.284		8.0	8.0			54		CRACK REPAIR
24.276		8.0	8.0			54		CRACK REPAIR
24.269		12.0	8.0			57		CRACK REPAIR
24.262		10.7	8.0			56		CRACK REPAIR
24.256		–	8.0			30		JOINT REPAIR
24.254/24.252		8.0	22.7			65		CRACK REPAIR
24.246		8.0	8.0			54		CRACK REPAIR
24.238		8.0	8.0			54		CRACK REPAIR
24.224		8.0	8.0			54		CRACK REPAIR
24.216		8.0	8.0			54		CRACK REPAIR
24.201		–	8.0			30		CRACK REPAIR
24.196		–	8.0			30		JOINT REPAIR
24.178		9.3	12.0			58		CRACK REPAIR
24.169		8.0	9.3			55		CRACK REPAIR
24.152/24.150		8.0	–	–	25.3	67		CRK/JNT REPAIR
24.132		8.0	8.0			54		CRACK REPAIR
24.101		8.0	8.0			54		CRACK REPAIR
24.092		8.0	8.0			54		CRACK REPAIR
24.070		8.0	8.0			54		CRACK REPAIR
23.996		8.0	13.3			58		CRACK REPAIR
23.989		8.0	8.0			54		CRACK REPAIR
23.860		8.0	8.0			54	36	JOINT REPAIR
23.856		9.3	9.3			55	36	EXISTING PRJ
23.852		8.0	8.0			54	36	CRACK REPAIR
23.839		8.0	8.0			54	36	CRACK REPAIR
23.829		8.0	8.0			54	36	CRACK REPAIR
23.728		8.0	8.0			54	36	CRACK REPAIR
	WESTBOUND							
COL. 1 SUBTOTALS		442.8	525.3	32	57.3	2888	216	
		968.1		89.3				
		1057.4						

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
23.637		9.3	9.3	55	36	EXISTING PRJ
23.623/23.598		BRIDGE NO. HAS-22-2362L				
23.586		10.7	8.0	56	36	CRACK REPAIR
23.580		9.3	9.3	55	36	EXISTING PRJ
23.572/23.568		36.0	36.0	75	36	CRACK REPAIR
23.559		13.3	8.0	58	36	CRACK REPAIR
23.540		8.0	8.0	54	36	CRACK REPAIR
23.500		8.0	8.0	54	36	CRACK REPAIR
23.481		10.7	8.0	56	36	CRACK REPAIR
23.413/23.409		–	36.0	51	20	CRACK REPAIR
23.400/23.399		16.0	16.0	60	36	EXIST PRJ/CRK REP
23.392/23.376		–	120.0	120	12	CRACK REPAIR
23.355		8.0	8.0	60	28	CRACK REPAIR
23.260		–	8.0	36	12	CRACK REPAIR
23.247		–	8.0	36	12	CRACK REPAIR
23.243		–	8.0	36	12	CRACK REPAIR
23.230		8.0	8.0	60	28	CRACK REPAIR
23.219		8.0	8.0	54	36	CRACK REPAIR
23.210		9.3	9.3	55	36	EXISTING PRJ
23.201		8.0	8.0	54	36	CRACK REPAIR
23.194		8.0	8.0	54	36	CRACK REPAIR
23.186		8.0	8.0	54	36	CRACK REPAIR
23.182		8.0	8.0	54	36	CRACK REPAIR
23.176/23.174		22.7	22.7	65	36	FLEX PATCH REPAIR
23.157		12.0	8.0	57	36	CRACK REPAIR
23.110		8.0	8.0	54	36	CRACK REPAIR
23.098		8.0	8.0	54	36	CRACK REPAIR
23.087		8.0	8.0	54	36	CRACK REPAIR
23.084		8.0	8.0	54	36	CRACK REPAIR
23.057		8.0	8.0	54	36	CRACK REPAIR
23.046		8.0	8.0	54	36	CRACK REPAIR
23.042		8.0	8.0	54	36	CRACK REPAIR
23.038/23.036		22.7	22.7	65	36	EXIST PRJ/CRK REP
23.029		9.3	10.7	57	36	CRACK REPAIR
23.024		8.0	8.0	54	36	CRACK REPAIR
23.020		8.0	8.0	54	36	CRACK REPAIR
23.014/23.012		22.7	22.7	65	36	CRACK REPAIR
23.008		–	8.0	30	20	CRACK REPAIR
22.989		8.0	8.0	54	36	CRACK REPAIR
22.985		–	8.0	30	20	CRACK REPAIR
22.970		8.0	8.0	54	36	CRACK REPAIR
22.966		–	8.0	30	20	CRACK REPAIR
22.956		8.0	8.0	54	36	CRACK REPAIR
22.944		8.0	8.0	54	36	CRACK REPAIR
22.876/22.875		14.7	14.7	59	36	EXIST PRJ/CRK REP
22.867/22.823		BRIDGE NO. HAS-22-2284L				
22.802/22.801		14.7	14.7	59	36	EXIST PRJ/CRK REP
22.793		8.0	8.0	54	36	CRACK REPAIR
22.785		8.0	8.0	54	36	CRACK REPAIR
22.735		–	8.0	30	20	CRACK REPAIR
22.675		8.0	8.0	54	36	JOINT REPAIR
22.645		–	8.0	30	20	CRACK REPAIR
22.641		8.0	8.0	54	36	JOINT REPAIR
	WESTBOUND					
COL. 2 SUBTOTALS		441.4	648.1	2742	1628	
		1089.5				
COL. 1 SUBTOTALS		1089.5				
		1057.4		2888	216	
TOTALS *		2146.9		5630	1844	

* QUANTITIES CARRIED TO SHEET NO. 76.

PAVEMENT REPAIR

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

MAINLINE JOINT & CRACK REPAIR LOCATIONS

QUANTITIES	
Calc. RRK	Chkd. SHG
Date: 3-7-90	Date: 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

84
115

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
22.636		–	8.0			30	20	CRACK REPAIR
22.614		8.0	8.0			54	36	CRACK REPAIR
22.610		–	8.0			30	20	CRACK REPAIR
22.602		8.0	8.0			54	36	CRACK REPAIR
22.597/22.594		29.3	29.3			70	36	FLEX PATCH REPAIR
22.580		8.0	8.0			54	36	CRACK REPAIR
22.553		–	8.0			30	20	CRACK REPAIR
22.534		8.0	8.0			54	36	CRACK REPAIR
22.527/22.520				–	60.0	69	20	SEE DETAIL SH NO. 79
22.511		8.0	8.0			54	36	CRACK REPAIR
22.495		8.0	8.0			54	36	CRACK REPAIR
22.484		–	8.0			30	20	CRACK REPAIR
22.458		9.3	9.3			55	36	EXISTING PRJ
22.449		–	8.0			30	20	CRACK REPAIR
22.441		8.0	8.0			54	30	CRACK REPAIR
22.431		–	8.0			30	20	CRACK REPAIR
22.423		8.0	8.0			54	36	JOINT REPAIR
22.407		8.0	8.0			54	36	CRACK REPAIR
22.397		9.3	9.3			55	36	EXISTING PRJ
22.393		8.0	8.0			54	36	CRACK REPAIR
22.380		8.0	8.0			54	36	CRACK REPAIR
22.370		–	8.0			30	20	CRACK REPAIR
22.347		8.0	8.0			54	36	CRACK REPAIR
22.288		8.0	8.0			54	36	CRACK REPAIR
22.266		8.0	8.0			54	36	CRACK REPAIR
22.259		–	8.0			30	20	CRACK REPAIR
22.248		8.0	13.3			58	36	CRACK REPAIR
22.243/22.238		42.7	42.7			80	36	FLEX PAT/CRK REP
22.225		8.0	8.0			54	36	CRACK REPAIR
22.215		8.0	8.0			54	36	CRACK REPAIR
22.209		8.0	8.0			54	36	CRACK REPAIR
22.142		8.0	8.0			54	36	CRACK REPAIR
22.132		8.0	8.0			54	36	CRACK REPAIR
22.119		8.0	8.0			54	36	CRACK REPAIR
22.104		21.3	21.3			64	36	FLEX PATCH REPAIR
22.100		8.0	8.0			54	36	CRACK REPAIR
22.077		8.0	8.0			60	28	CRACK REPAIR
22.046		8.0	–			30	16	JOINT REPAIR
21.991		–	9.3			31	20	EXISTING PRJ
21.987		21.3	–			40	16	FLEX PATCH REPAIR
21.983		8.0	8.0			54	36	CRACK REPAIR
21.926		8.0	8.0			54	36	CRACK REPAIR
21.920		9.3	9.3			55	36	EXISTING PRJ
21.847		8.0	8.0			60	28	CRACK REPAIR
21.840		8.0	8.0			60	28	JOINT REPAIR
21.837		8.0	8.0			60	28	CRACK REPAIR
21.828		8.0	8.0			60	28	JOINT REPAIR
21.821		13.3	8.0			64	28	CRACK REPAIR
21.789		8.0	8.0			54	36	CRACK REPAIR
21.780		8.0	8.0			54	36	CRACK REPAIR
21.770		9.3	16.0			61	36	CRACK REPAIR
21.760		–	8.0			30	20	CRACK REPAIR
21.758		8.0	–			30	16	CRACK REPAIR
21.755/21.752		8.0	29.3			70	36	CRACK REPAIR
21.742		8.0	8.0			54	36	CRACK REPAIR
21.722		8.0	8.0			54	36	CRACK REPAIR
21.706/21.702		–	36.0			51	20	CRACK REPAIR
COL. 1 SUBTOTALS		453.1	561.1	–	60	2911	1746	
		1014.2		60				
		1074.2						

WESTBOUND

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS FS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	CLASS FS TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
21.699		8.0	–			30	16	CRACK REPAIR
21.693		8.0	8.0			54	20	JOINT REPAIR
21.688		–	8.0			30	20	CRACK REPAIR
21.686/21.683		29.3	–			46	16	FLEX PATCH REPAIR
21.605				5.3	8.0	52	32	CRACK REPAIR
21.560				2.7	8.0	44	24	CRACK REPAIR
21.545				2.0	8.0	42	23	CRACK REPAIR
21.534				–	9.3	34	22	CRACK REPAIR
21.520				–	10.7	28	16	FLEX PATCH REPAIR
21.518				–	8.0	24	20	CRACK REPAIR
21.410				–	8.0	24	20	JOINT REPAIR
21.316				–	13.3	24	20	FLEX PATCH REPAIR
21.296				–	8.0	24	20	CRACK REPAIR
21.288/21.260		BRIDGE NO. HAS-22-2126						
21.250				–	16.0	24	20	FLEX PATCH REPAIR
21.230				–	13.3	24	20	FLEX PATCH REPAIR
21.048				–	13.3	24	20	FLEX PATCH REPAIR
21.001				–	21.3	24	20	FLEX PATCH REPAIR
20.982				–	16.0	24	20	FLEX PATCH REPAIR
20.682				–	24.0	24	20	FLEX PATCH REPAIR
20.507				–	21.3	24	20	FLEX PATCH REPAIR
20.378				–	8.0	24	20	CRACK REPAIR
20.245				–	21.3	24	20	FLEX PATCH REPAIR
20.158				–	16.0	24	20	FLEX PATCH REPAIR
20.097				–	16.0	24	20	FLEX PATCH REPAIR
20.006				–	13.3	24	20	FLEX PATCH REPAIR
19.679				–	9.3	24	20	EXISTING PRJ
19.507				–	18.7	24	20	FLEX PATCH REPAIR
19.254				–	8.0	24	20	JOINT REPAIR
19.251				–	9.3	24	20	EXISTING PRJ
19.196				–	16.0	24	20	FLEX PATCH REPAIR
19.059				–	8.0	24	20	JOINT REPAIR
19.045/19.042				–	29.3	46	20	CRACK REPAIR
19.026				–	29.3	46	20	FLEX PATCH REPAIR
19.020				–	8.0	30	20	CRACK REPAIR
19.015				–	8.0	30	20	JOINT REPAIR
18.871		8.0	8.0			54	36	CRACK REPAIR
18.858		16.0	12.0			63	36	FLEX PATCH REPAIR
18.738		8.0	8.0			54	36	JOINT REPAIR
18.716		8.0	8.0			54	36	JOINT REPAIR
18.708/18.704		–	36.0			51	20	CRACK REPAIR
18.664		16.0	16.0			60	36	FLEX PATCH REPAIR
18.652		8.0	8.0			54	36	CRACK REPAIR
18.641		8.0	8.0			54	36	CRACK REPAIR
18.621		8.0	8.0			54	36	CRACK REPAIR
18.602		–	8.0			30	20	JOINT REPAIR
18.587		8.0	8.0			54	36	CRACK REPAIR
18.580/18.569		–	85.3			88	20	CRACK REPAIR
18.448		9.3	9.3			55	36	EXISTING PRJ
18.431		–	8.0			30	20	CRACK REPAIR
18.294		8.0	8.0			54	36	CRACK REPAIR
18.281		8.0	8.0			54	36	CRACK REPAIR
18.249		8.0	8.0			54	36	CRACK REPAIR
COL. 2 SUBTOTALS		166.6	270.6	10.0	425.0	1957	1257	
		437.2		435.0				
COL. 1 SUBTOTALS		1074.2		435.0		2911	1746	
TOTALS *		CLASS MS 1511.4		CLASS FS 435.0		4868	3003	

WESTBOUND

* QUANTITIES CARRIED TO SHEET NO. 76.

PAVEMENT REPAIR

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

MAINLINE JOINT & CRACK REPAIR LOCATIONS

QUANTITIES	
Calc. RRK	Chkd. SHG
Date: 3-7-90	Date: 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

85/115

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
18.245	WESTBOUND	8.0	8.0			54	36	CRACK REPAIR
18.241		21.3	21.3			64	36	FLEX PATCH REPAIR
18.221		9.3	9.3			55	36	EXISTING PRJ
18.214		8.0	8.0			54	36	CRACK REPAIR
18.210		–	8.0			30	20	CRACK REPAIR
18.203		8.0	8.0			54	36	CRACK REPAIR
18.187		8.0	8.0			54	36	CRACK REPAIR
18.184		–	8.0			30	20	CRACK REPAIR
18.166		8.0	8.0			54	36	CRACK REPAIR
18.150		9.3	9.3			55	36	EXISTING PRJ
18.110		–	8.0			30	20	CRACK REPAIR
18.098		–	8.0			30	20	CRACK REPAIR
18.081		8.0	8.0			54	36	JOINT REPAIR
18.016		8.0	8.0			54	36	JOINT REPAIR
18.004		8.0	8.0			54	36	CRACK REPAIR
17.995		8.0	8.0			54	36	CRACK REPAIR
17.989		–	8.0			30	20	JOINT REPAIR
17.977		8.0	8.0			54	36	JOINT REPAIR
17.966		8.0	8.0			54	36	JOINT REPAIR
17.959		9.3	9.3			55	36	EXISTING PRJ
17.955		–	8.0			30	20	JOINT REPAIR
17.943		–	8.0			30	20	JOINT REPAIR
17.940		8.0	8.0			54	36	CRACK REPAIR
17.932		–	8.0			30	20	JOINT REPAIR
17.920		–	8.0			30	20	JOINT REPAIR
17.909		–	8.0			30	20	JOINT REPAIR
17.898		–	8.0			30	20	JOINT REPAIR
17.886/17.883				–	32.0	48	20	CRK/JNT REPAIR
17.875		8.0	8.0			54	36	JOINT REPAIR
17.858		–	8.0			30	20	CRACK REPAIR
17.826		–	8.0			30	20	CRACK REPAIR
17.803		–	8.0			30	20	CRACK REPAIR
17.799		–	8.0			30	20	CRACK REPAIR
17.792		8.0	8.0			54	36	CRACK REPAIR
17.780		8.0	8.0			54	36	CRACK REPAIR
17.773		–	8.0			30	20	CRACK REPAIR
17.769		9.3	9.3			55	36	EXISTING PRJ
17.765		8.0	8.0			54	36	CRACK REPAIR
17.754		8.0	8.0			54	36	CRACK REPAIR
17.746		8.0	8.0			54	36	CRACK REPAIR
17.743		8.0	8.0			54	36	JOINT REPAIR
17.730		8.0	8.0			54	36	CRACK REPAIR
17.719		8.0	8.0			54	36	CRACK REPAIR
17.708		8.0	8.0			54	36	CRACK REPAIR
17.688/17.686		22.7	22.7			65	36	CRACK REPAIR
17.677		8.0	8.0			54	36	CRACK REPAIR
17.673		8.0	8.0			54	36	CRACK REPAIR
17.663/17.655		8.0	–	–	64	96	56	SEE DETAIL SH NO. 78
17.651		8.0	8.0			54	36	CRACK REPAIR
17.643		–	8.0			30	20	CRACK REPAIR
17.627		8.0	8.0			54	36	CRACK REPAIR
17.615		8.0	8.0			54	36	CRACK REPAIR
17.603		–	8.0			30	20	CRACK REPAIR
17.597		8.0	8.0			54	36	CRACK REPAIR
17.594		8.0	–			30	16	CRACK REPAIR
17.592		–	8.0			30	20	CRACK REPAIR
COL. 1 SUBTOTALS		321.2	457.2	–	96	2605	1696	
		778.4		96				
		874.4						

EXISTING JOINT OR CRACK STRAIGHT LINE MILEAGE (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS MS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	CLASS FS TYPE T/Y (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/Y (TIED/CONTR.) TRAVEL LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) PASSING LANE SQ. YD.	TYPE T/N/T (TIED/CONTR.) TRAVEL LANE SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
17.582	WESTBOUND	8.0	8.0							54	36	CRACK REPAIR
17.575		9.3	9.3							55	36	EXISTING PRJ
17.573		8.0	8.0							54	36	CRACK REPAIR
17.571/17.569		22.7	22.7							82	28	CRACK REPAIR
17.563/17.559		8.0	–	–	37.3					104	40	CRK/JNT REPAIR
17.553/17.535		BRIDGE NO. HAS-22-1753L										
17.521/17.495		BRIDGE NO. HAS-22-1749L										
17.471		8.0	8.0							54	36	CRACK REPAIR
17.425		9.3	9.3							55	36	EXISTING PRJ
17.419		–	8.0							30	20	CRACK REPAIR
17.412		–	8.0							30	20	CRACK REPAIR
17.406/17.381		BRIDGE NO. HAS-22-1738L										
17.363		8.0	8.0							54	36	CRACK REPAIR
17.352		16.0	8.0							60	36	CRACK REPAIR
17.347		9.3	9.3							62	28	EXISTING PRJ
17.306		–	8.0							36	12	CRACK REPAIR
17.284		9.3	9.3							62	28	EXISTING PRJ
17.268		–	8.0							36	12	JOINT REPAIR
17.265		–	16.0							48	12	FLEX PATCH REPAIR
17.242		8.0	8.0							54	36	CRACK REPAIR
17.214		8.0	8.0							54	36	CRACK REPAIR
17.207/17.143		BRIDGE NO. HAS-22-1717L										
17.122		9.3	9.3							55	36	EXISTING PRJ
17.062		8.0	8.0							54	36	CRACK REPAIR
17.039		8.0	8.0							54	36	CRACK REPAIR
16.937		9.3	9.3							55	36	EXISTING PRJ
16.842		16.0	24.0							84	28	JOINT REPAIR
16.746		9.3	9.3							55	36	EXISTING PRJ
16.539		9.3	9.3							55	36	EXISTING PRJ
16.343		9.3	9.3							55	36	EXISTING PRJ
16.164		9.3	9.3							55	36	EXISTING PRJ
15.961		8.0	8.0							54	36	CRACK REPAIR
15.819		8.0	–							30	16	CRACK REPAIR
15.673		8.0	8.0							54	36	JOINT REPAIR
15.631		8.0	8.0							54	36	CRACK REPAIR
15.616		16.0	16.0							60	36	FLEX PATCH REPAIR
15.505		8.0	8.0							54	36	CRACK REPAIR
15.470/15.463		57.3	57.3							91	36	FLEX PATCH REPAIR
15.388		9.3	9.3							55	36	EXISTING PRJ
15.298						4.0	8.0			42	26	JOINT REPAIR
15.286						4.0	9.3			43	26	EXISTING PRJ
15.277						2.7	8.0			38	24	CRACK REPAIR
15.251/15.243						90.7	64.0			107	37	EXIST PRJ/CRK REP
15.223						8.0	8.0			54	32	CRACK REPAIR
15.214/15.206								49	65.3	91	29	CRK/JNT REPAIR
15.139						–	8.0			24	20	JOINT REPAIR
15.122						–	8.0			24	20	CRACK REPAIR
15.110						–	8.0			24	20	CRACK REPAIR
15.098						–	8.0			24	20	CRACK REPAIR
15.084						–	8.0			24	20	JOINT REPAIR
15.072						–	8.0			24	20	JOINT REPAIR
COL. 2 SUBTOTALS		342.3	374.3			109.4	145.3	49	65.3	2477	1402	
		716.6		–	37.3	254.7		114.3				
		753.9				369.0						
COL. 1 SUBTOTALS		874.4				–				2605	1696	
TOTALS *		CLASS MS 1628.3				CLASS FS 369.0				5082	3098	

* QUANTITIES CARRIED TO SHEET NO. 76.

PAVEMENT REPAIR

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

RAMP & SPEED CHANGE LANE JOINT & CRACK REPAIR LOCATIONS

QUANTITIES	
Calc. RRK	Chkd. SHG
Date: 3-7-90	Date: 7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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EXISTING JOINT OR CRACK STENCIL STATION LOCATION (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS FS TYPE T/Y SQ. YD.	CLASS FS TYPE T/N/T SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SPEC. SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
US 250 INTERCHANGE						
9+53	RAMP A	8.7		26	21	JOINT REPAIR
5+29	RAMP B	10.7		38	25	JOINT REPAIR
8+82	RAMP C	10.7		38	25	CRACK REPAIR
9+37		12.4		39	25	EXISTING PRJ
507+15	US 250	8.0		30	16	CRACK REPAIR
507+52		8.0		30	16	CRACK REPAIR
507+75		8.0		30	16	CRACK REPAIR
507+93		8.0		30	16	JOINT REPAIR
508+13		16.0		54	32	CRACK REPAIR
4+42	RAMP D	13.6		49	23	EXISTING PRJ
SR 9 INTERCHANGE						
1+03	RAMP E	11.7		47	24	CRACK REPAIR
1+29		11.7		47	24	CRACK REPAIR
1+44		11.7		47	24	JOINT REPAIR
2+02		11.7		47	24	JOINT REPAIR
3+75/4+17			50.8	91	24	CRK/JNT REPAIR
4+31		11.7		47	24	JOINT REPAIR
5+43		11.7		47	24	JOINT REPAIR
5+93		11.7		47	24	JOINT REPAIR
16+63/16+84		6.0		18	17	CRACK REPAIR
17+16/17+26		8.9		10	13	CRACK REPAIR
914+51	RAMP F	1.3		4	10	JOINT REPAIR
914+67		1.3		4	10	JOINT REPAIR
915+51		5.4		14	15	EXISTING PRJ
0+17		7.3		28	19	CRACK REPAIR
5+64		10.7		38	25	CRACK REPAIR
6+56		10.7		38	25	JOINT REPAIR
0+00	RAMP G	7.3		28	19	SEE DETAIL SH NO. 79
4+60		10.9		35	20	EXISTING PRJ
5+40		16.0		54	30	CRACK REPAIR
14+11		11.7		47	24	CRACK REPAIR
16+50		15.6		51	24	FLEX PATCH REPAIR
938+43	RAMP H	6.7		20	18	CRACK REPAIR
939+17/940+17			36.0	6	22	CRK/JNT REPAIR
SR 151 INTERCHANGE (WEST)						
6+04	RAMP J	12.0		42	27	CRACK REPAIR
1153+97	RAMP K	1.3		4	10	CRACK REPAIR
1154+34		2.7		8	12	JOINT REPAIR
1154+98		4.7		14	15	JOINT REPAIR
2+08		10.7		38	25	CRACK REPAIR
12+12		11.7		47	24	JOINT REPAIR
12+31		11.7		47	24	CRACK REPAIR
SR 151 INTERCHANGE (EAST)						
1228+58	RAMP N	2.0		6	11	CRACK REPAIR
1229+27		3.3		10	13	CRACK REPAIR
1229+48		4.0		12	14	CRACK REPAIR
1230+16		5.3		16	16	CRACK REPAIR
3+68		8.0		24	18	CRACK REPAIR
5+37		12.0		42	24	CRACK REPAIR
7+70/7+95		27.5		47	14	CRACK REPAIR
8+11/8+48		38.2		59	14	CRACK REPAIR
17+10		10.7		38	25	CRACK REPAIR
COL. 1 SUBTOTALS		471.6	86.8			
		558.4		1633	984	

EXISTING JOINT OR CRACK STENCIL STATION LOCATION (±)	LANE	803 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID PAVEMENT REPLACEMENT CLASS FS TYPE T/Y SQ. YD.	CLASS MS TYPE T/Y SQ. YD.	FULL DEPTH PAV'T. SAWING LIN. FT.	SAWING & SEALING ASPHALT CONCRETE PAV'T. JOINTS LIN. FT.	COMMENTS
4+21	RAMP Q	12.7		44	28	CRACK REPAIR
7+83		10.7		38	25	CRACK REPAIR
9+68		10.7		38	25	CRACK REPAIR
11+57		10.7		38	25	JOINT REPAIR
13+43		10.7		38	25	CRACK REPAIR
14+98		10.7		38	25	CRACK REPAIR
16+21		10.7		38	25	CRACK REPAIR
CR 29	CR 29 TURNING LANE		12.0	24	20	FLEX PATCH REPAIR
15.830			8.0	24	20	CRACK REPAIR
TR 180						
24.785	TR 180 TURNING LANE		1.3	4	10	CRACK REPAIR
24.777			2.7	8	12	CRACK REPAIR
24.770			4.0	12	14	CRACK REPAIR
24.762			5.3	16	16	CRACK REPAIR
24.755			6.7	20	18	CRACK REPAIR
24.748			8.0	24	20	CRACK REPAIR
24.739			8.0	24	20	CRACK REPAIR
24.725			8.0	24	20	CRACK REPAIR
24.703			8.0	24	20	CRACK REPAIR
COL. 2 SUBTOTALS		76.9	72.0	476	368	
COL. 1 SUBTOTALS		558.4	–	1633	984	
TOTALS *		CLASS FS 635.3	CLASS MS 72.0	2109	1352	

* QUANTITIES CARRIED TO SHEET NO. 76.

PAVEMENT REPAIR

FHWA REGION	STATE	PROJECT	
5	OHIO		

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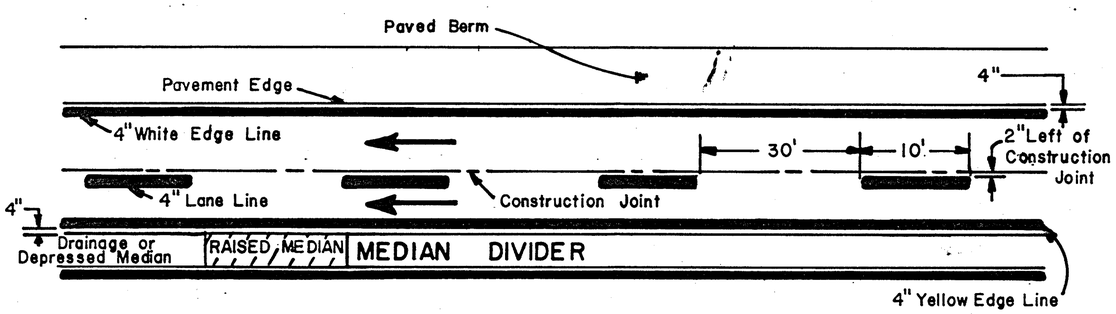
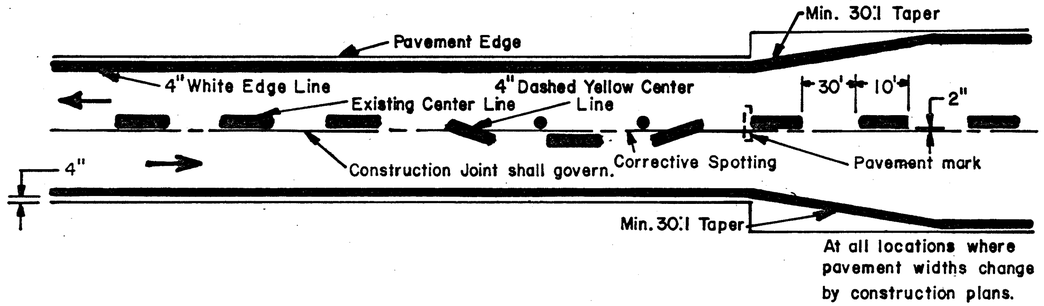
HAS-22-15.03

PAVEMENT MARKING TYPICAL DETAILS

FREEWAY & EXPRESSWAY MAINLINE MARKINGS

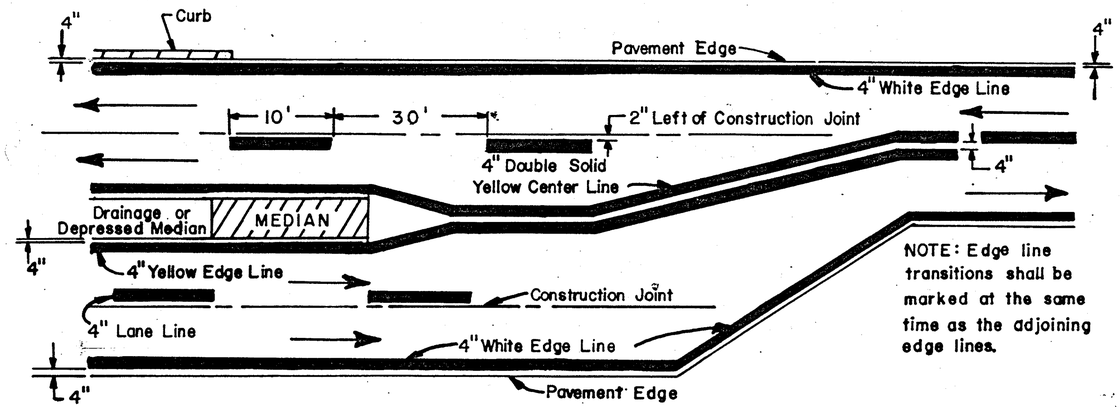


TWO LANE MARKINGS



At all locations where pavement widths change by construction plans.

MULTILANE DIVIDED & UNDIVIDED HIGHWAY MARKINGS



NOTE: Edge line transitions shall be marked at the same time as the adjoining edge lines.

NOTES:

1. THE DISTANCE FROM THE PAVEMENT EDGE TO THE NEARSIDE EDGE OF THE EDGELINE MAY BE INCREASED WITH THE APPROVAL OF THE ENGINEER IN ORDER TO MAINTAIN UNIFORM LANE WIDTH.
2. SEE TC-72.20 FOR PAVEMENT MARKINGS ENTRANCE AND EXIT RAMP TERMINALS.
3. THE WIDTH OF LINE APPLIED SHALL BE THE WIDTH SPECIFIED PLUS OR MINUS 1/4".

OHIO DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING TYPICAL DETAILS

DATE 11/80

QUANTITIES			
Calc.	J.C.N.	Chk'd.	SHG
Date	3-23-90	Date	7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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ITEM 621 ~ PAVEMENT MARKING

STATION FROM	STATION TO	LANE OR RAMP	SIDE OF PAVEMENT	Edge Lines White	Edge Lines Yellow	Lane Lines	Center Lines Double Solid	Center Lines Single Dashed	Center Lines Lt. Dashed Rt. Solid	Center Lines Lt. Solid Rt. Dashed	Channelizing Lines	Transverse Lines (White)	Stop Lines
FROM	TO			Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
796+50	807+26.16	TWO LANE SECTIONS	Ctr.				1,076.16						
1002+00	1013+25.7 Bk		Ctr.				1,125.70						
1011+67.05 Ah	1018+70		Ctr.				702.95						
1020+00	1024+50		Ctr.							450.00			
1024+50	1081+00		Ctr.					5,650.00					
1081+00	1085+55		Ctr.						455.00				
1086+30	1091+30		Ctr.							500.00			
1091+30	1116+60		Ctr.					2,530.00					
1116+60	1125+50		Ctr.						890.00				
1125+50	1138+50		Ctr.				1,300.00						
796+50	807+26.16		Lt.-Rt.	2,152.32									
1002+00	1013+25.7 Bk		Lt.-Rt.	2,251.40									
1011+67.05 Ah	1018+57		Lt.-Rt.	1,379.90									
1020+00	1085+60		Lt.-Rt.	13,120.00									
1086+40	1132+85		Lt.-Rt.	9,290.00									
807+26.16	1002+00	EASTBOUND LANE	Ctr.			19,473.84							
807+26.16	837+64		Lt.		3,037.84								
807+26.16	837+52		Rt.	3,025.84									
838+22	973+82		Lt.		13,560.00								
839+06	877+84		Rt.	3,878.00									
877+28	936+89		Rt.	5,961.00									
936+32	973+64		Rt.	3,732.00									
974+35	1002+00		Lt.		2,765.00								
975+65	1002+00		Rt.	2,635.00									
1138+50	1168+68.19 Bk		Ctr.			3,018.19							
1168+75.64 Ah	1280+62.94 Bk		Ctr.			11,187.30							
1280+72.73 Ah	1298+78.92 Bk		Ctr.			1,806.19							
1298+80.75 Ah	1329+83.81 Bk		Ctr.			3,103.06							
1329+98.24 Ah	1334+07.71		Ctr.			409.47							
1304+00	1329+83.81 Bk		Rt.			2,583.81							
1329+98.24 Ah	1334+07.71		Rt.			409.47							
807+26.16	837+64		Lt.		3,037.84								
838+22	973+82		Lt.		13,560.00								
974+35	1002+00		Lt.		2,765.00								
807+26.16	837+52		Rt.	3,025.84									
839+06	877+84		Rt.	3,878.00									
877+28	936+89		Rt.	5,961.00									
936+32	973+64		Rt.	3,732.00									
975+65	1002+00		Rt.	2,635.00									
1138+50	1168+68.19BK		Lt.		3,018.19								
1168+75.64AH	1280+62.94BK		Lt.		11,187.30								
1280+72.73AH	1298+78.82BK		Lt.		1,806.09								
1298+80.75AH	1305+85		Lt.		704.25								
1306+63	1329+83.81BK		Lt.		2,320.81								
1329+98.24AH	1334+07.71		Lt.		409.47								
1138+50	1168+68.19BK		Rt.	3,018.19									
1168+75.64AH	1169+13		Rt.	37.36									
1168+49	1168+68.19BK		Rt.	19.19									
1168+75.64AH	1259+38		Rt.	9,062.36									
1258+25	1280+62.94BK		Rt.	2,237.94									
1280+72.73AH	1298+78.92BK		Rt.	1,806.19									
1298+80.75AH	1305+85		Rt.	704.25									
1306+63	1329+83.81BK		Rt.	2,320.81									
1329+98.24AH	1333+10		Rt.	311.76									

ITEM 621 ~ PAVEMENT MARKING

STATION FROM	STATION TO	LANE OR RAMP	SIDE OF PAVEMENT	Edge Lines White	Edge Lines Yellow	Lane Lines	Center Lines Double Solid	Center Lines Single Dashed	Center Lines Lt. Dashed Rt. Solid	Center Lines Lt. Solid Rt. Dashed	Channelizing Lines	Transverse Lines (White)	Stop Lines
FROM	TO			Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
814+75	1002+00	WESTBOUND LANE	Ctr.			18,725.00							
1146+10	1168+68.19BK		Ctr.			2,258.19							
1168+75.64AH	1280+62.94BK		Ctr.			11,187.30							
1280+72.73AH	1298+78.92Bk		Ctr.			1,806.19							
1298+80.75AH	1329+83.81BK		Ctr.			3,103.06							
1329+98.24AH	1334+07.71		Ctr.			409.47							
807+26.16	836+85		Rt.		2,958.84								
840+98	973+34		Rt.		13,236.00								
974+35	1002+00		Rt.		2,765.00								
1138+50	1168+68.19BK		Rt.		3,018.19								
1168+75.64AH	1280+62.94BK		Rt.		11,187.30								
1280+72.73AH	1298+78.92BK		Rt.		1,806.19								
1298+80.75AH	1305+85		Rt.		704.25								
1306+63	1329+83.81BK		Rt.		2,320.81								
1329+98.24AH	1334+07.71		Rt.		409.47								
807+26.16	874+21		Lt.	6,694.84									
873+66	918+96		Lt.	4,530.00									
918+30	973+24		Lt.	5,494.00									
974+44	1002+00		Lt.	2,756.00									
1138+50	1157+70		Lt.	1,920.00									
1156+00	1168+68.19BK		Lt.	1,268.19									
1168+75.64AH	1236+70		Lt.	6,794.36									
1235+57	1280+62.94BK		Lt.	4,505.94									
1280+72.73AH	1298+78.92BK		Lt.	1,806.19									
1298+80.75AH	1305+85		Lt.	704.25									
1306+63	1329+83.81BK		Lt.	2,320.81									
1329+98.24AH	1334+07.71		Lt.	409.47									
C.R. 2 (NORTH)													38
C.R. 2 (SOUTH)													20
C.R. 29			RT.										50
MOORE RD.			LT.										30
MOORE RD.			RT.										25
C.R. 51			LT.										18
C.R. 51			RT.										13
C.R. 13			LT.										20
C.R. 13			RT.										20
T.R. 60			LT.										20
T.R. 177			LT.										20
T.R. 177			RT.										20
C.R. 5			RT.										16
T.R. 180			LT.										18
T.R. 65			RT.										16
TOTALS	(Carried To General Summary)			125,379.40	96,577.84	79,480.54	4,204.81	8,180.00	1,345.00	950.00			344
				42.04 Miles		15.05 Mi.	2.78 Miles						

PAVEMENT MARKING QUANTITIES

QUANTITIES			
Calc.	J.C.N.	Chk'd.	SHG
Date	3-23-90	Date	7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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ITEM 621 ~ PAVEMENT MARKING

STATION FROM	STATION TO	LANE OR RAMP	SIDE OF PAVEMENT	Edge Lines White	Edge Lines White	Lane Lines	Center Lines Double Solid	Center Lines Single Dashed	Island Marking	Curb Marking	Channelizing Lines	Transverse Lines (White)	Stop Lines
				Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
U.S. 250 INTERCHANGE													
0+22		Ramp 'A'	Lt.-Rt.										35
0+08	6+23	Ramp 'A'	Rt.		616.43								
0+20	6+23	Ramp 'A'	Lt.	632.93									
6+23	8+63	Ramp 'A'	Rt.								483	305	
8+63	9+43	Ramp 'A'	Rt.			80							
1+45	2+90	Ramp 'B'	Rt.			145							
2+90	3+43	Ramp 'B'	Rt.								53		
3+43	8+00	Ramp 'B'	Rt.		462.00								
3+43	7+27	Ramp 'B'	Lt.	384.00									
8+39	12+65	Ramp 'B'	Lt.	439.55									
8+39	12+12	Ramp 'B'	Ctr.				373						
12+12		Ramp 'B'	Rt.										36
1+49	2+98	Ramp 'C'	Lt.			149							
2+98	3+69	Ramp 'C'	Lt.								146	89	
3+69	9+60.88	Ramp 'C'	Lt.-Rt.	591.88	591.88								
8+56.40	9+60.88	Ramp 'C'	Lt.							104.48			
0+00	2+21.73	Ramp 'D'	Lt.-Rt.	443.46			221.73						
2+21.73	2+41.73	Ramp 'D'	Lt.						60				
2+41.73	4+24	Ramp 'D'	Lt.							364.54			
2+21.73	9+19	Ramp 'D'	Lt.-Rt.	697.00	697.00								
9+19	9+72	Ramp 'D'	Lt.								53		
9+72	11+80	Ramp 'D'	Lt.			208							
506+57.53	509+42.96	US 250	Lt.-Rt.	285.43			285.43						
506+57.53	507+02	US 250	Lt.	44.47									
508+08	509+42.96	US 250	Lt.	134.96									
S.R. 9 INTERCHANGE													
0+21		Ramp 'E'	Rt.										30
0+21	11+83	Ramp 'E'	Lt.	1,193.50	1,213.76								
0+21	6.82.09	Ramp 'E'	Rt.		693.23								
0+12	6+82.09	Ramp 'E'	Rt.	756.27									
0+40	0+60	Ramp 'E'	Rt.						60				
0+60	6+82.09	Ramp 'E'	Rt.							1,245			
6+82.09	10+98.69	Ramp 'E'	Rt.							417			
11+83	12+61	Ramp 'E'	Rt.								161	101	
12+61	14+61	Ramp 'E'	Rt.			200							
0+90	1+80	Ramp 'F'	Rt.			90							
1+80	2+43	Ramp 'F'	Rt.								63		
2+43	9+30.28	Ramp 'F'	Lt.-Rt.	687.28	700.27								
8+30.28	9+30.28	Ramp 'F'	Rt.							100			
2+46	4+93	Ramp 'G'	Lt.			247							
4+93	5+84	Ramp 'G'	Lt.								188	108	
5+84	17+86	Ramp 'G'	Rt.	1,227.32									
5+84	17+79	Ramp 'G'	Rt.		1,319.54								
6+69.09	9+95	Ramp 'G'	Lt.							326			
9+95	17+61	Ramp 'G'	Lt.							1,532			
9+95	17+79	Ramp 'G'	Lt.		814.14								
9+95	17+99	Ramp 'G'	Lt.	879.08									
17+79		Ramp 'G'	Lt.										33
0+00	1+10	Ramp 'H'	Lt.							110			
0+00	5+30	Ramp 'H'	Lt.-Rt.	530.00	541.97								
5+30	5+84	Ramp 'H'	Lt.								54		
5+84	6+29	Ramp 'H'	Lt.			45							

ITEM 621 ~ PAVEMENT MARKING

STATION FROM	STATION TO	LANE OR RAMP	SIDE OF PAVEMENT	Edge Lines White	Edge Lines White	Lane Lines	Center Lines Double Solid	Center Lines Single Dashed	Island Marking	Curb Marking	Channelizing Lines	Transverse Lines (White)	Stop Lines
				Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
S.R. 151 WEST INTERCHANGE													
0+00	0+94	Ramp 'J'	Rt.							94			
0+00	6+26	Ramp 'J'	Lt.-Rt.	626.00	626.00								
6+26	8+64	Ramp 'J'	Rt.								482	266	
8+64	9+26	Ramp 'J'	Rt.			102							
0+00	1+74	Ramp 'K'	Rt.								174		
1+74	13+08	Ramp 'K'	Lt.	1,165.25									
1+74	12+99	Ramp 'K'	Rt.		1,187.03								
6+00	6+82.18	Ramp 'K'	Rt.							83			
6+82.18	12+80	Ramp 'K'	Rt.						60	1,157			
6+82.18	12+99	Ramp 'K'	Lt.		651.68								
6+82.18	13+08	Ramp 'K'	Rt.	712.53									
12+99		Ramp 'K'	Rt.										30
1+30	2+60	Ramp 'L'	Lt.			130							
2+60	3+32	Ramp 'L'	Lt.								152	96	
3+32	7+56	Ramp 'L'	Rt.	446.95									
3+32	7+48	Ramp 'L'	Lt.		442.73								
7+48		Ramp 'L'	Lt.										33
0+12	6+15.02	Ramp 'M'	Lt.-Rt.	603.00	613.00								
6+15.02	6+68.07	Ramp 'M'	Lt.								53		
6+68.07	8+13.07	Ramp 'M'	Lt.			145							
S.R. 151 EAST INTERCHANGE													
2+03	4+07.53	Ramp 'N'	Rt.			204							
4+07.53	5+18.17	Ramp 'N'	Rt.								111		
5+18.17	17+45	Ramp 'N'	Lt.-Rt.	1,256.00	1,244.00								
2+44	3+83	Ramp 'Q'	Lt.								284	188	
3+83	17+50	Ramp 'Q'	Lt.-Rt.	1,388.00	1,374.00								
17+40		Ramp 'Q'	Lt.										40
0+20		Ramp 'S'	Rt.										40
0+12	7+19	Ramp 'S'	Lt.-Rt.	732.00	724.00								
7+19	8+58	Ramp 'S'	Rt.								280	183	
0+12	8+80.23	Ramp 'T'	Lt.-Rt.	893.00	890.00								
8+80.23	9+90.88	Ramp 'T'	Lt.								111		
9+90.88	11+84.88	Ramp 'T'	Lt.			194							
TOTALS (Carried To General Summary)				16,749.86	15,402.66	1,939	880.16		180	5,533.02	2,848	1,336	277
				6.09 Miles		0.37 Mi.	0.17 Mi.						

PAVEMENT MARKING QUANTITIES

QUANTITIES			
Calc.	J.C.N.	Chk'd.	SHG
Date	3-28-90	Date	7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

TRAFFIC CONTROL QUANTITIES

SHEET NO.	REF. NO.	STATION	SIDE OF ℄	WORK REQUIRED	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			ITEM 630					
										REMOVAL OF GROUND MOUNTED SIGN & REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL			GROUND MOUNTED SUPPORTS, NO. 3 POST	GROUND MOUNTED SUPPORTS, NO. 4 POST
					INCHES	FEET	LT.	CNTR	RT.	EACH	EACH			LIN.FT.	LIN.FT.
	1-S	2+26 Ramp D	Lt.	Rmv. Sign & Support & Reerect Sign on New Support		2.0		14.5		1	1				14.5
	2-S	0+49 Ramp E	Rt.	Rmv. Sign & Support & Reerect Sign on New Support		2.0		13.5		1	1			13.5	
	3-S	17+47 Ramp G	Lt.	Rmv. Sign & Support & Reerect Sign on New Support		2.0		13.5		1	1			13.5	
	4-S	12+60 Ramp K	Rt.	Rmv. Sign & Support & Reerect Sign on New Support		2.0		13.5		1	1			13.5	
TOTALS		(Carried To General Summary)								4	4			40.5	14.5

MAINTENANCE OF TRAFFIC

ITEM 614 ~ TEMPORARY PAVEMENT MARKING

STATION FROM	STATION TO	LANE OR RAMP	NUMBER OF APPLI-CATIONS	Temporary Lane Lines, Class I	Temporary Edge Lines, Class I		Temporary Gore Markings, Class II	Temporary Center Lines, Class I	Work Zone Marking Sign
					White	Yellow			
				Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each
796+50	807+26.16	Two Lane	2		4,306			2,152	2
1002+00	1138+50		2		54,600			27,300	12
807+26.16	1002+00	Eastbound	2	38,948	38,948	38,948			6
1138+50	1168+68.19BK		2	6,037	6,037	6,037			2
1168+75.64AH	1280+62.94BK		2	22,375	22,375	22,375			2
1280+72.73AH	1298+78.92BK		2	3,613	3,613	3,613			2
1298+80.75AH	1329+83.81BK		2	6,207	6,207	6,207			2
1329+98.24AH	1334+07.71		2	819	819	819			
1304+00	1321+00		2	3,400					
807+26.16	1002+00	Westbound	2	38,948	38,948	38,948			6
1138+50	1168+68.19BK		2	6,037	6,037	6,037			2
1168+75.64AH	1263+08.90		2	18,867	18,867	18,867			2
1263+08.90	1280+62.94BK		1	1,754	1.754	1,754			
1280+72.73AH	1298+78.92BK		1	1,806	1,806	1,806			2
1298+80.75AH	1329+83.81BK		1	3,103	3,103	3.103			2
1329+98.24AH	1334+07.71		1	410	410	410			
Ramp 'B'			2				400		4
Ramp 'D'			2				400		2
Ramp 'F'			2				400		2
Ramp 'H'			2				400		2
Ramp 'K'			2				400		2
Ramp 'M'			2				400		2
Ramp 'N'			2				400		2
Ramp 'T'			2				400		2
TOTALS	(Carried To General Summary)			152,324	207,834	148,926	3200	29,452	60
				28.85 Mi.	67.57 Miles			5.58 Mi.	

Item 614 88 Each Work Zone Speed Limit Sign.
See Proposal Note

QUANTITIES	
CALC. BY: R.R.K.	CHK'D. BY: S.H.G.
DATE: 2- 6-90	DATE: 3- 6-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

91/115

ITEM 620 - DELINEATORS

STATION FROM	STATION TO	LANE OR RAMP		SIDE	TYPE C FLEXIBLE POST MOUNTED	TYPE C BRACKET MOUNTED	TYPE D FLEXIBLE POST MOUNTED	DELINEATOR SPACING	DELINEATOR REMOVED FOR DISPOSAL
					EACH	EACH	EACH	FT.	EACH
797+00	865+00	EASTBOUND		RT.	18			400	
867+00	871+00			RT.	3			200	
874+00	878+00			RT.	2			400	
880+00	884+00			RT.	3			200	
888+00	924+00			RT.	8	2		400	
926+00	940+00			RT.	7	1		200	
944+00	992+00			RT.	13			400	
994+00	998+00			RT.	3			200	
998+80	1010+00			RT.	15			80	
1012+00	1014+00			RT.	2			200	
1018+00	1158+00			RT.	35	1		400	
1160+00	1174+00			RT.	8			200	
1178+00	1230+00			RT.	13	1		400	
1232+00	1236+00			RT.	3			200	
1240+00	1332+00			RT.	21	3		400	
795+40	799+40	WESTBOUND		LT.	3			200	
801+40	815+00			LT.	18			80	
817+00	821+00			LT.	3			200	
825+00	865+00			LT.	11			400	
867+00	873+00			LT.	4			200	
877+00	889+00			LT.	4			400	
897+00	895+00			LT.	3			200	
899+00	915+00			LT.	4	1		400	
915+00	931+00			LT.	6	3		200	
935+00	1127+00			LT.	48	1		400	
1129+00	1135+00			LT.	4			200	
1135+80	1147+00			LT.	15			80	
1151+00	1169+00			LT.	10			200	
1173+00	1229+00			LT.	14	1		400	
1231+00	1237+00			LT.	4			200	
1241+00	1253+00			LT.	3	1		400	
1255+00	1259+00			LT.	3			200	
1263+00	1331+00			LT.	17	1		400	
6+00	2+00	RAMP A	U.S. 250 INTERCHANGE	RT.	3			200	
12+00	4+00	RAMP B		RT.	5			200	450
4+00	8+00	RAMP C		LT.			3	200	
5+00	0+00	RAMP D		RT.	11			50	
508+00	506+00	U.S. 250		RT.	2			200	
506+50	508+50			RT.	2			200	
0+00	5+00	RAMP D		RT.	11			50	
5+50	9+00			LT.			8	50	
12+00	8+00	RAMP E	S.R. 9 INTERCHANGE	LT.			9	50	
7+50	2+50			RT.	11			50	
1+50	0+50			RT.	2			100	
1+00	2+00			RT.	2			100	
2+50	6+50			RT.	9			50	
8+30	7+30	RAMP F		RT.	2			100	
6+60	3+80			LT.			5	70	
6+00	9+00	RAMP G		LT.	7			50	
9+50	13+00			RT.	8			50	
14+00	16+00			RT.	2			200	
16+00	14+00			RT.	2			200	
13+00	10+00			RT.	7			50	
1+00	3+00	RAMP H		LT.			3	100	
3+50	5+00			LT.			4	50	
6+00	2+00	RAMP J	S.R. 151 INTERCHANGE WEST	LT.			3	200	
1+00	0+00			RT.	2			100	
7+32	10+32	RAMP K		RT.	7			50	
11+32	12+32			RT.	2			100	
12+62	11+62			RT.	2			100	
10+62	6+62			RT.	9			50	
6+12	2+12			LT.			9	50	
3+50	7+00	RAMP L		LT.			8	50	
0+50	2+50			LT.			2	200	
3+50	4+50	RAMP M		LT.			2	100	
5+00	5+50			LT.			2	50	
17+00	7+00	RAMP N	S.R. 151 INTERCHANGE EAST	RT.	6			200	
3+60	5+20	RAMP Q		RT.	3			80	
7+20	15+20			RT.	5			200	
6+10	4+50	RAMP S		RT.	3			80	
2+50	6+50			RT.	2			200	
1+00	5+00	RAMP T		RT.	3			200	
6+00	9+00			RT.	4			100	
TOTALS - CARRIED TO GENERAL SUMMARY					462	16	58		450

ITEM 802 - BARRIER REFLECTORS

S.L.M. FROM	S.L.M. TO	DIR.	SIDE	BARRIER REFLECTOR TYPE A	BARRIER REFLECTOR TYPE B	COMMENTS
15.582	15.814	EB	RT.	13		
16.202	16.467	EB	RT.	14		
16.434	16.465	EB	LT.	3		
16.532	16.579	EB	RT.	3		
16.657	16.719	EB	LT.	4		
17.079	17.252	EB	RT.	7	2	INC. HAS-22-1717
17.152	17.301	EB	LT.	6	2	INC. HAS-22-1717
17.355	17.552	EB	RT.	6	5	INC. HAS-22-1738, HAS-22-1749 & HAS-22-1753
17.335	17.553	EB	LT.	8	4	INC. HAS-22-1738, HAS-22-1749 & HAS-22-1753
17.713	17.894	EB	RT.	10		
18.118	18.277	EB	RT.	9		
18.473	18.620	EB	RT.	8		
18.930	19.242	EB	RT.	17		
19.358	19.556	EB	RT.	11		
19.657	19.832	EB	RT.	10		
19.890	20.007	EB	RT.	6		
20.075	20.305	EB	RT.	12		
20.465	20.543	EB	RT.	4		
20.554	20.580	EB	RT.	3		
20.806	20.920	EB	RT.	6		
21.141	21.322	EB	RT.	8	1	INC. HAS-22-2126
21.517	21.560	EB	RT.	3		
21.669	21.757	EB	RT.	5		
21.818	22.000	EB	RT.	10		
21.900	21.956	EB	LT.	3		
22.144	22.186	EB	RT.	3		
22.275	22.490	EB	RT.	12		
22.631	22.968	EB	RT.	16	2	INC. HAS-22-2283
22.830	22.926	EB	LT.	3	2	INC. HAS-22-2283
23.177	23.293	EB	RT.	6		
23.421	23.758	EB	RT.	17	2	INC. HAS-22-2362
23.564	23.638	EB	LT.	3	1	INC. HAS-22-2362
23.808	23.937	EB	RT.	7		
24.204	24.244	EB	RT.	3		
24.410	24.648	EB	RT.	12	1	INC. HAS-22-2460
24.567	24.622	EB	LT.	2	1	INC. HAS-22-2460
25.017	25.039	EB	RT.	3		

ITEM 802 - BARRIER REFLECTORS

S.L.M. FROM	S.L.M. TO	DIR.	SIDE	BARRIER REFLECTOR TYPE A	BARRIER REFLECTOR TYPE B	COMMENTS
24.672	24.442	WB	RT.	12	1	INC. HAS-22-2460
24.653	24.609	WB	LT.	2	1	INC. HAS-22-2460
24.286	24.248	WB	RT.	3		
23.910	23.837	WB	RT.	4		
23.812	23.781	WB	RT.	3		
23.812	23.781	WB	LT.	3		
23.750	23.505	WB	RT.	7	1	INC. HAS-22-2362
23.692	23.617	WB	LT.	3	1	INC. HAS-22-2362
23.295	23.183	WB	RT.	6		
22.977	22.644	WB	RT.	15	3	INC. HAS-22-2283
22.921	22.828	WB	LT.	3	2	INC. HAS-22-2283
22.424	22.345	WB	RT.	4		
22.203	22.158	WB	RT.	3		
21.900	21.830	WB	RT.	4		
21.553	21.505	WB	RT.	3		
21.309	21.144	WB	RT.	7	2	INC. HAS-22-2126
20.921	20.797	WB	RT.	7		
20.575	20.542	WB	RT.	3		
20.529	20.441	WB	RT.	5		
20.294	20.051	WB	RT.	13		
19.979	19.865	WB	RT.	6		
19.818	19.640	WB	RT.	9		
19.542	19.353	WB	RT.	10		
19.247	18.900	WB	RT.	18		
18.748	18.719	WB	RT.	3		
18.590	18.475	WB	RT.	6		
18.261	18.203	WB	RT.	3		
17.900	17.508	WB	RT.	19	3	INC. HAS-22-1753 & HAS-22-1749
17.589	17.390	WB	LT.	8	4	INC. HAS-22-1755, HAS-22-1749 & HAS-22-1738
17.422	17.366	WB	RT.	2	2	INC. HAS-22-1738
17.252	16.965	WB	RT.	12	4	INC. HAS-22-1717
16.668	16.626	WB	RT.	3		
16.379	16.162	WB	RT.	12		
15.815	15.714	WB	RT.	6		
15.677	15.496	WB	RT.	10		
TOTALS				513	47	

CARRIED TO GENERAL SUMMARY

HA221528 BLG

QUANTITIES			
Calc.	J.C.N.	Chk'd.	SHG
Date	6-20-90	Date	7-18-90

FHWA REGION	STATE	PROJECT	
5	OHIO		

92
115

HAS-22-15.03

ITEM 862 ~ RAISED PAVEMENT MARKERS

STATION From	STATION To	LANE OR RAMP	SIDE OF PAV'T.	Length	Spacing	One Way White	One Way Yellow	Two Way White/Red	Two Way Yellow/Yellow
				Lin. Ft.	Feet	Each	Each	Each	Each
U.S. 22									
796+50	807+26.16	TWO LANE SECTIONS	Ctr.	1,076.16	40				28
1002+00	1013+25.7 B		Ctr.	1,125.70	40				29
1011+67.05 A	1018+70		Ctr.	702.95	40				19
1020+00	1085+55		Ctr.	6,555.00	40				165
1086+30	1138+50		Ctr.	5,220.00	40				132
807+26.16	1002+00	EASTBOUND LANE	Ctr.	19,473.84	80			245	
1138+50	1168+68.19 B		Ctr.	3,018.19	80			39	
1168+75.64 A	1280+62.94 B		Ctr.	11,187.30	80			141	
1280+12.73 A	1298+78.92 B		Ctr.	1,806.19	80			24	
1298+80.75 A	1329+83.81 B		Ctr.	3,103.06	80			40	
1329+98.24 A	1334+07.71		Ctr.	409.47	80			6	
1304+00	1329+83.81 B		Rt.	2,583.81	80			33	
1329+98.24 A	1334+07.71		Rt.	409.47	80			6	
814+75	1002+00	WESTBOUND LANE	Ctr.	18,725.00	80			235	
1146+10	1168+68.19 B		Ctr.	2,258.19	80			29	
1168+75.64 A	1280+62.94 B		Ctr.	11,187.30	80			141	
1280+72.73 A	1298+78.92 B		Ctr.	1,806.19	80			24	
1298+80.75 A	1329+83.81 B		Ctr.	3,103.06	80			40	
1329+98.24 A	1334+07.71		Ctr.	409.47	80			6	
U.S. 250 INTERCHANGE									
5+43	6+23	RAMP 'A'	Rt.	80	40		2		
6+23	8+63		Rt.	241	20	13			
888+17	888+97		Lt.	80	40	2			
888+97	891+33		Rt.	242	20	13			
2+90	3+48	RAMP 'B'	Rt.	58	40	2			
3+48	5+08		Rt.	160	40		5		
874+07	875+79		Lt.	172	40	5			
871+02	871+73	RAMP 'C'	Rt.	71	20	4			
871+73	872+53		Rt.	80	40	2			
2+98	3+69		Lt.	75	20	4			
3+69	4+49		Lt.	80	40		2		
0+00	2+21.73	RAMP 'D'	Ctr.	221.73	40				6
8+55	9+19		Lt.	64	40		2		
9+19	9+72		Lt.	53	40	2			
876+59	877+84		Rt.	125	40	4			
506+57.53	509+42.96		Ctr.	285.43	40				8
S.R. 9 INTERCHANGE									
11+05	11+83	RAMP 'E'	Rt.	80	40		2		
11+83	12+61		Rt.	83	20	5			
924+41	925+21		Lt.	80	40	2			
925+21	926+09		Lt.	78	20	5			
1+80	2+43	RAMP 'F'	Rt.	63	40	2			
2+43	3+75		Rt.	136	40		4		
918+30	920+30		Lt.	200	40	6			
4+93	5+84	RAMP 'G'	Lt.	96	20	6			
5+84	6+64		Lt.	80	40		2		
930+69	931+61		Rt.	92	20	6			
931+61	932+41		Rt.	80	40	2			
3+98	5+30	RAMP 'H'	Lt.	140	40		4		
5+30	5+84		Lt.	54	40	2			
934+99	936+89		Rt.	190	40	5			

ITEM 862 ~ RAISED PAVEMENT MARKERS

STATION From	STATION To	LANE OR RAMP	SIDE OF PAV'T.	Length	Spacing	One Way White	One Way Yellow	Two Way White/Red	Two Way Yellow/Yellow
				Lin. Ft.	Feet	Each	Each	Each	Each
S.R. 151 WEST INTERCHANGE									
5+46	6+26	RAMP 'J'	Rt.	80	40		2		
6+26	8+64		Rt.	242	20	13			
1162+96	1163+76		Lt.	80	40	2			
1163+76	1166+16		Lt.	240	20	13			
0+00	1+74	RAMP 'K'	Rt.	174	40	5			
1+74	3+25		Rt.	160	40		5		
1156+00	1159+35		Lt.	335	40	9			
2+60	3+32	RAMP 'L'	Lt.	78	20	5			
3+32	4+12		Lt.	80	40		2		
1161+76	1162+50		Rt.	74	20	5			
1162+50	1163+30		Rt.	80	40		2		
4+85	6+15	RAMP 'M'	Lt.	140	40		5		
6+15	6+68		Lt.	53	40	2			
1167+23	1169+13		Rt.	190	40	6			
S.R. 151 EAST INTERCHANGE									
4+08	5+19	RAMP 'N'	Rt.	111	40	4			
5+19	6+78		Rt.	160	40		5		
1235+57	1238+27		Lt.	270	40	8			
2+44	3+83	RAMP 'Q'	Lt.	143	20	8			
3+83	4+63		Lt.	80	40		2		
1234+42	1235+83		Rt.	141	20	8			
1235+83	1236+63		Rt.	80	40	2			
6+39	7+19	RAMP 'S'	Rt.	80	40		2		
7+19	8+58		Rt.	140	20	8			
1255+35	1256+15		Lt.	80	40	2			
1256+15	1257+54		Lt.	139	20	8			
6+74	8+80	RAMP 'T'	Lt.	206	40		6		
8+80	9+91		Lt.	111	40	3			
1256+20	1259+38		Rt.	318	40	9			
TOTAL (Carried To General Summary)						212	54	1,009	387
						266		1,396	
						1,662			

RAISED PAVEMENT MARKERS

FHWA REGION	STATE	PROJECT	
5	OHIO		

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HAS-22-15.03

BRIDGE NUMBERS

HAS-22	HAS-22-1717		HAS-22	HAS-22-1738		HAS-22	HAS-22-1749		HAS-22-1753		HAS-22	HAS-22	HAS-22-2362		HAS-22	BRIDGE SUMMARY				
1664	LEFT	RIGHT	1725	LEFT	RIGHT	1738F	LEFT	RIGHT	LEFT	RIGHT	2126	2188	LEFT	RIGHT	2460 L	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
–	–	–	–	–	–	–	758	758	523	523	690	–	–	–	–	202	23500	3252	Sq.Yd.	Wearing course removed
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Lump	202	11202	Lump	Lump	Portions of structure removed
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Lump	503	21300	Lump	Lump	Unclassified excavation
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	48613	509	15800	48613	Lbs.	Epoxy coated reinforcing steel, Grade 60
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	44	510	11100	44	Each	Dowel holes
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	210	511	31508	210	Cu.Yd.	Class S concrete, Superstructure
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	511	46000	7	Cu.Yd.	Class C concrete, Wingwalls
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	84	516	13200	84	Sq.Ft.	½" Preformed expasion joint filler
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	104	516	13600	104	Sq.Ft.	1" Preformed expasion joint filler
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	36	512	51244400	36	Sq.Yd.	Type B Waterproofing
–	–	–	12	–	–	–	16	12	10	10	13	–	16	16	–	518	62100	105	Lin.Ft.	Scupper lengthening, as per plan
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17	518	21101	17	Cu.Yd.	Porous backfill, as per plan
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	124	518	41100	124	Lin.Ft.	6" Helical perforated CSP, 707.01
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	13	518	41200	13	Lin.Ft.	6" Helical nonperforated CSP, including specials, 701.01
–	–	–	–	–	–	–	–	–	–	–	132	–	–	–	–	* 519	11100	132	Sq.Ft.	Patching concrete structure
–	–	–	1	2	2	1	–	–	–	–	–	–	1	2	–	845	40200	9	Cu.Yd.	Latex modified concrete Overlay (Patching), As Per Plan
–	–	–	524	551	551	376	–	–	–	–	–	–	546	546	–	Special	51273000	3094	Sq.Yd.	Treating concrete bridge decks with HMWM Resin (See Proposal Note)
437	534	430	705	328	325	335	828	828	289	290	379	1041	290	290	255	Special	51267502	7589	Sq.Yd.	Sealing of concrete surfaces (Epoxy) (See Proposal Note)
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	~~Lump~~	~~Special~~	~~51400100~~	~~Lump~~	~~Lump~~	~~Field painting of existing steel, surface preparation, System OZEU (See Proposal Note)~~
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	~~Lump~~	~~Special~~	~~51400200~~	~~Lump~~	~~Lump~~	~~Field painting of existing steel, prime coat, System OZEU (See Proposal Note)~~
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	~~Lump~~	~~Special~~	~~51400300~~	~~Lump~~	~~Lump~~	~~Field painting of existing steel, intermediate coat, System OZEU (See Proposal Note)~~
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	~~Lump~~	~~Special~~	~~51400900~~	~~Lump~~	~~Lump~~	~~Field painting of existing steel, finish coat, System OZEU (See Proposal Note)~~
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	~~Lump~~	~~Special~~	~~51426000~~	~~Lump~~	~~Lump~~	~~Contain, collect, store and evaluate abrasives and paint chips (See Proposal Note)~~
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	~~Lump~~	~~Special~~	~~51426010~~	~~Lump~~	~~Lump~~	~~Shipment and disposal of non-hazardous waste (See Proposal Note)~~
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	~~Lump~~	~~Special~~	~~51426020~~	~~Lump~~	~~Lump~~	~~Shipment and disposal of hazardous waste (See Proposal Note)~~
–	–	–	–	–	–	–	* –	–	Lump	Lump	Lump	–	–	–	Lump	Special	10000300	Lump	Lump	*Premium on railroad's protective public Liability And Property Damage Liability Insurance.
–	–	–	–	–	–	–	758	758	523	523	690	–	–	–	–	Special	22000	3252	Sq.Yd.	Micro-Silica modified concrete overlay (1¼" thick) (See Proposal Note)
–	–	–	–	–	–	–	6	3	2	1	6	–	–	–	–	Special	2200	18	Cu.Yd.	Micro-Silica modified concrete overlay (Variable thickness) (See Proposal Note)
–	–	–	–	–	–	–	Lump	Lump	Lump	Lump	Lump	–	–	–	–	Special	22300	Lump	Lump	Test slab (See Proposal Note)

* 50% Federal Participation

*This item carried to incidentals.

REVISED 1-3-91

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

BRIDGE SUMMARY

HAS-22-1664
HAS-22-1717 L/R
HAS-22-1725
HAS-22-1738 L/R
HAS-22-1738F
HAS-22-1749 L/R
HAS-22-1753 L/R
HAS-22-2126
HAS-22-2188
HAS-22-2362 L/R
HAS-22-2460 L

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
JAS	JAS	WRG			

BRIDGE NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

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HAS-22-15.03

PROPOSED WORK FOR BRIDGE NO. HAS-22-2460 L

1. Remove existing reinforced concrete deck and integral portion of abutment, wingwalls and approach slabs.
2. Clean and paint all structural steel.
3. Construct new reinforced concrete deck with integral abutments, new wingwalls and new approach slabs.

CONTINGENCY QUANTITIES

Specific locations and usage of the estimated quantities set up on this plan to be used "As directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this project. Estimated quantities of materials shall not be ordered for delivery to the project unless authorized by the Engineer.

EXISTING STRUCTURE VERIFICATION

Details and dimensions on these plans pertaining to the existing structure have been obtained from plans of the existing structure and/or from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS sections 102.05, 105.02 and 513.02. Contract bid prices shall be based upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

ITEM 845 - LATEX MODIFIED CONCRETE OVERLAY (PATCHING), AS PER PLAN

This work shall include repair of the existing overlayed concrete bridge deck as per Supplemental Specification 845 with the following changes. The existing concrete overlay will not be removed where it is found to be sound. The removal of the top 1/4 " is not required. Areas that are found to be unsound shall be removed by first making a vertical diamond saw cut, to a depth of two (2) inches, around the unsound area. The unsound areas of the overlay shall then be removed. After initial removal of the unsound areas and all obviously loose and disintegrated concrete, the Contractor shall sound the deck and remove other areas as per 845.05. The use of a power scarifier will not be permitted.
After placing, the LMC shall be finished with a power screed or hand finished as directed by the Engineer. All other requirements of 845 shall be met.
The price bid for this item shall include the cost of removal, furnishing, placing, texturing and curing of the LMC patches and all other material, labor and equipment required to complete the work. Payment will be made at the contract bid price for Item 845, cubic yard, Latex modified concrete overlay (patching), as per plan.

ITEM 518 - SCUPPER LENGTHENING, AS PER PLAN

The Contractor shall remove a minimum of 6" of the bottom of each scupper downspout, unless otherwise directed by the Engineer.
The contractor shall then weld an extension to the existing scupper downspout. The downspout extension shall be in accordance with 518 and shall extend a minimum of 8" below the bottom flange of the adjacent beam. The material and the size of the extension shall be the same as that of the existing scupper downspout. The Contractor shall also clean and paint the entire scupper downspout including the extension as per 514.06. Cost for all material, labor and incidentals for the above work shall be included under Item 518 - Scupper lengthening, as per plan.

ITEM SPECIAL - SEALING CONCRETE SURFACES

An epoxy concrete sealer shall be applied to the surfaces as shown on the Typical Sections for the full length of the bridge including wingwalls.
Sealer shall also be applied to all exposed surfaces of the piers excluding the pier cap tops for the following bridges: HAS-22-1664, HAS-22-1725, HAS-22-1749 L/R, and HAS-22-2188.
See Proposal Note for the surface preparation requirements, application rates, material requirements and application procedures.

DESIGN DATA

Design Loading- HS20-44 Case II and the Alternate Military Loading
Concrete Class C - Unit Stress 1333 p.s.i. (Substructure)
Concrete Class S - Unit Stress 1500 p.s.i. (Superstructure)
Reinforcing Steel - ASTM A615, A616, A617 - Unit Stress 24000 p.s.i.
Deck Protection Method: Epoxy Coated Reinforcing Steel both mats
Monolithic Wearing Surface is assumed for design purposes to be 1" thick.

ITEM 509 - REPLACEMENT OF EXISTING REINFORCING STEEL

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

COOPERATION WITH RAILROADS

The Contractor shall cooperate at all times with the local officials of the railroad company. He shall use all reasonable care and diligence in the work in order to avoid accidents, damage or interference with the trains or other property of the railroad. The Contractor shall notify the local officials of the railroad prior to starting work that may affect railroad property or facilities and shall pay the railroad company the cost of flagmen furnished by the railroad company and made necessary because of any of the Contractors operations over or adjacent to the tracks. No scaffold, planks or other equipment shall be suspended or erected above or within 10 feet of a rail over which trains are operating without prior written approval of the Chief Engineer, or his authorized representative of the railroad company. Failure to notify the railroad company as noted above shall be cause for stopping work until all provisions for protecting railroad property have been provided.

RAILROAD PROTECTIVE PUBLIC LIABILITY INSURANCE

The Contractor shall furnish evidence to the highway department that, with respect to the operators he or any of his subcontractors perform, he has provided for and in behalf of the Railroad Company a Railroad Protective Liability policy of insurance providing a combined single limit for damages arising out of bodily injuries to or death of one or more persons and out of injury to or destruction of property including such property in the care, custody and control of the Railroad Company in the amount of $2,000,000.00 per occurence and subject to that limit per occurence, an aggregate limit in the amount of $6,000,000.00 for each annual period.

The above railroad protective policy of insurance shall comform to the Railroad Liability requirements prescribed by the Federal Highway Administration in FHPM: 6-6-2-2 as amended.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

The Contractor shall remove the existing deck and parapets, integral backwalls to the beam seats, wingwalls to El. 1180.92 on the north side and El. 1181.20 on the south side of the rear abutment; El. 1185.24 on the south side and El. 1184.87 on the north side of the forward abutment of Bridge No. HAS-22-2460L.

ITEM 202 - WEARING COURSE REMOVED

The Contractor shall remove the existing latex modified concrete overlay on Bridge No's HAS-22-1749 L/R, HAS-22-1753 L/R and HAS-22-2126.

~~DATE PAINTED~~

~~The completion date of the finish coat of paint (Month and Year) (i.e. 9-81) shall be stenciled on the structure, as directed by the Engineer, in a contrasting color. Payment shall be included in the price bid for Item Special, Field painting of existing steel, finish coat, System OZEU (See Proposal Note)~~

PROTECTION OF PERSONS AND PROPERTY

The Contractor shall collect, remove and dipose of all buckets, rags, or other discarded materials and he shall leave the job site in a clean condition.

The Contractor shall protect all portions of the structure which are not to be painted, against damage or disfigurement by splashes, spatters, and smirches of paint.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

~~PAINT~~

~~Final coat of field painting of existing Structural Steel shall be gray.~~

REVISED 1-3-91

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

BRIDGE NOTES

HAS-22-1664
HAS-22-1717 L/R
HAS-22-1725
HAS-22-1738 L/R
HAS-22-1738F
HAS-22-1749 L/R
HAS-22-1753 L/R
HAS-22-2126
HAS-22-2188
HAS-22-2362 L/R
HAS-22-2460 L

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
JAS	JAS	WRG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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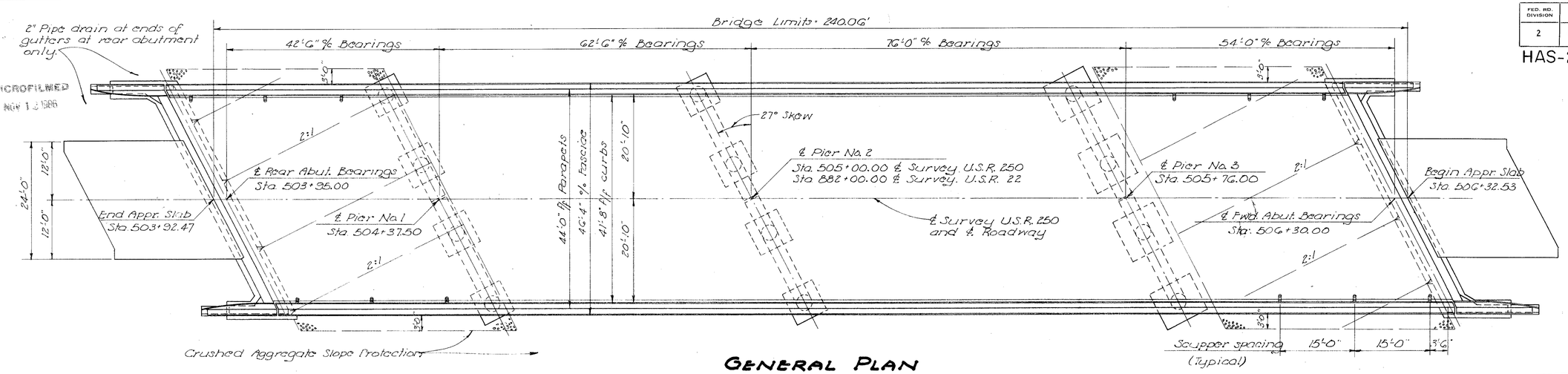
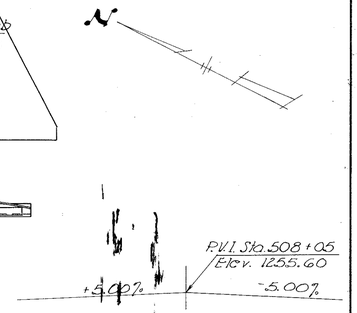
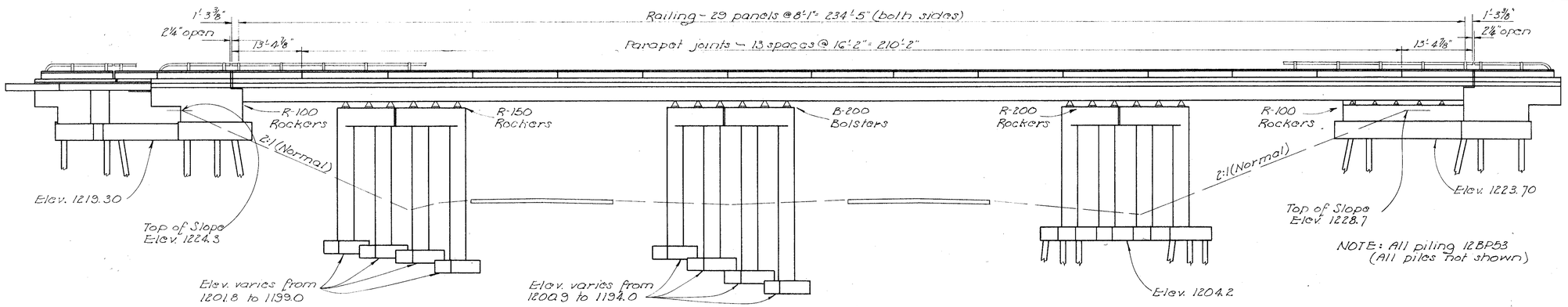
HAS-22-15.03



GENERAL PLAN





NOTE: All piling 12BP53 (All piles not shown)

GENERAL ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUT.	PIERS	GEN'L
E-2	Lump	Sum	Cofferdams, cribs & sheeting				Lump
E-2	546	Cu. Yd.	Unclassified excavation, including rock		286	260	
S-1	347	Cu. Yd.	Class "C" concrete, superstructure	347			
S-1	128	Cu. Yd.	Class "C" concrete, pier caps & columns			128	
S-1	64	Cu. Yd.	Class "E" concrete, pier footings			64	
S-1	100	Cu. Yd.	Class "E" concrete, abutments above footings		100		
S-1	83	Cu. Yd.	Class "E" concrete, abutment footings		83		
S-4	151,608	Lb.	Reinforcing steel	101,304	13,376	36,928	
S-7	336,500	Lb.	Structural steel	336,500			
S-8	336,500	Lb.	Field painting of structural steel, as per plan	336,500			
S-14	531.46	Lin. Ft.	Railing (aluminum rail and supports and concrete parapets)	474.71	56.75		
S-16	Lump	Sum	First test pile				Lump
S-18	1310	Lin. Ft.	Steel piles, 12 BP 53		830	480	
S-29	57	Cu. Yd.	Porous backfill		57		
1-10	500	Sq. Yd.	Crushed aggregate slope protection		500		

GENERAL NOTES

REFERENCE shall be made to Standard Drawing BE-1-55, revised 2-2-59.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

PROCEDURE: The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the sub-grade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutments, rear pier and forward pier.

EXCAVATION AND BACKFILL: Excavation quantity includes the removal of fill material between the surface of the proposed embankment and the bottom of the footings. Backfill behind the abutments shall be made with material meeting the requirements of Sec. 1-22 and shall be compacted in accordance with the requirements for embankment compaction. The payment for this 1-22 backfill shall be considered as included in the payment for E-2, Unclassified excavation.

PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the Bridge Foundation Investigation Report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. S-18.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the rear abutment piles:
48 tons per pile using a 11,000 ft lb. hammer
41 tons per pile using a 15,000 ft lb or greater hammer

For the pier piles:
42 tons per pile using a 11,000 ft lb. hammer
38 tons per pile using a 15,000 ft lb. or greater hammer

For the forward abutment piles:
38 tons per pile using a 11,000 ft lb hammer
35 tons per pile using a 15,000 ft lb or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 34 tons per pile for the abutment piles and 30 tons per pile for the pier piles.

FOUNDATION BEARING PRESSURE: Pier footings for Piers No. 1 and No. 2 are designed for a maximum bearing pressure of 6 tons per sq. ft.

DECK PLACING PROCEDURE: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds are shown thus: B

FOR INFORMATION ONLY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

3/23

GENERAL PLAN, ELEVATION & NOTES & ESTIMATED QUANTITIES
BRIDGE NO. HAS-22-1664
UNDER RELOCATED U.S.R. 250
U.S.R. 22
HARRISON COUNTY — Sta. 882+00.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
OPM EJE.	EJE.	Rice	NEY	BFG MHA	11-12-59	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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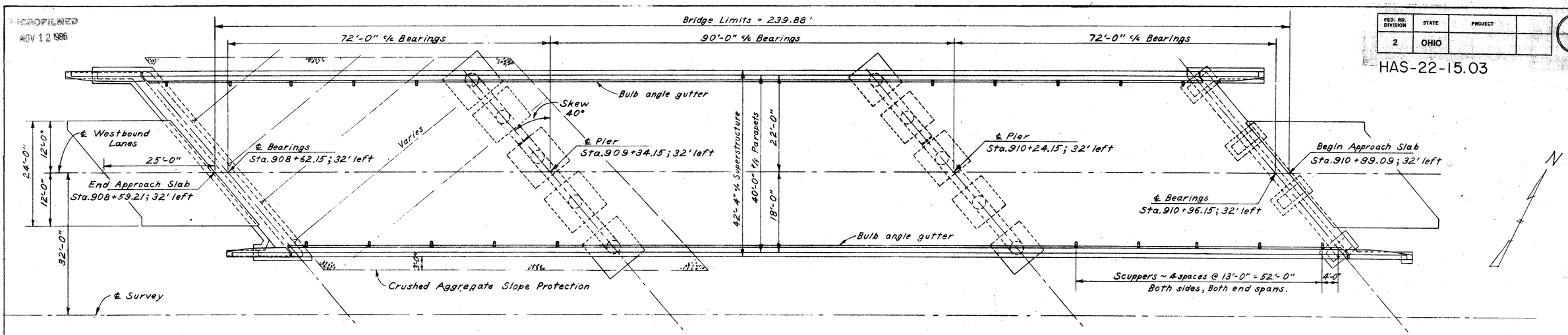
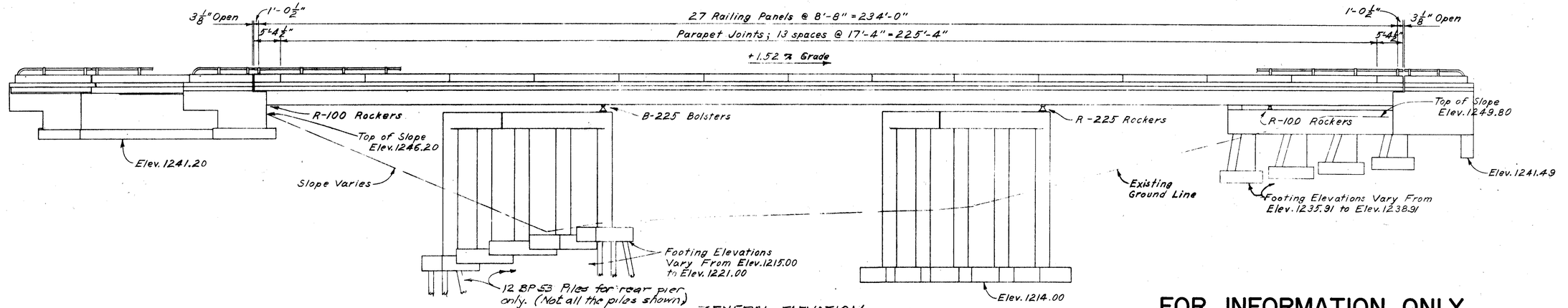
HAS-22-15.03



GENERAL PLAN



GENERAL ELEVATION

FOR INFORMATION ONLY

GENERAL NOTES

~~REFERENCE~~ shall be made to Standard Drawing RB-1-55 revised 2-2-59.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of ~~Design~~ Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

EXCAVATION QUANTITY for the forward abutment, in addition to that outlined in Sec. E-209, includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-209 and by the existing ground surface.

EXCAVATION QUANTITY for the rear abutment includes the removal of fill material required for construction of the abutment.

BACKFILL behind both abutments shall be made with material meeting the requirments of Sec. I-22 and shall be compacted in accordance with the requirements for embankment compaction. The payment for this I-22 Backfill shall be considered as included in the payment for E-2, Unclassified Excavation.

EXCAVATION QUANTITY for the rear pier includes the removal of fill material required for construction of the pier.

PILES shall be driven to firm ~~contact~~ with shale. If the length of penetration is approximately equal to the depth to shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:
For the forward abutment wing piles: 44 tons per pile using a 7000 ft.lb hammer, 37 tons per pile using a 11000 ft.lb hammer, and 35 tons per pile using a 15000 ft.lb or greater hammer.
For the rear pier piles: 44 tons per pile using a 7000 ft.lb. hammer, ~~37 tons~~ per pile using a 11000 ft.lb. hammer, 35 tons per pile using a ~~15000~~ ft.lb or greater hammer.
If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 25 tons per pile for the abutment piles and 25 tons per pile for the pier piles.

FOOTINGS for forward ~~pier~~ and forward abutment (except north wingwall) shall extend a minimum of 3" into solid rock or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: Rear abutment footings are designed for a maximum bearing pressure of 2½ tons per sq. ft. Forward pier and forward abutment footings are designed for a maximum bearing pressure of 4 tons per sq. ft.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the contractor, be made in the shop.

UTILITY LINES: All labor and expense involved in relocating the affected utility lines shall be borne by the owner. The Contractor and Owner are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

4/23

GENERAL PLAN & ELEVATION & GENERAL NOTES
Bridge No. HAS-22-17.17/L
Westbound over existing U.S.R. 250
HARRISON COUNTY Sta. 908+59.21, 32' left
Sta. 910+99.09, 32' left

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ZZE	ZZE	ECB	DGM	BFG	7-16-59	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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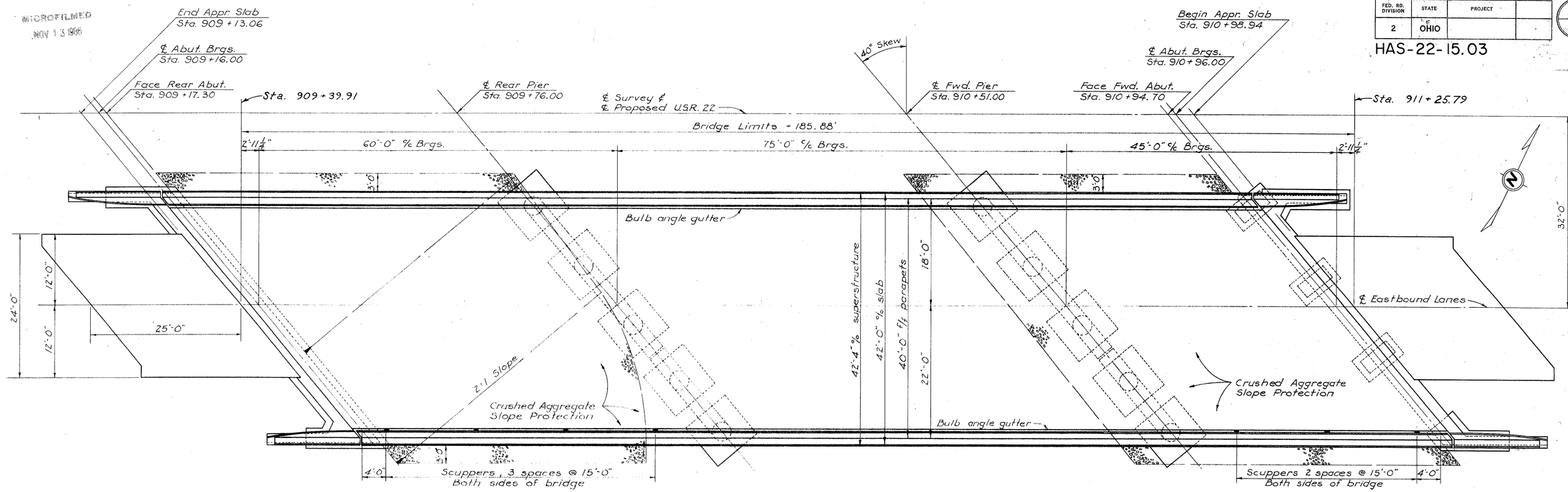
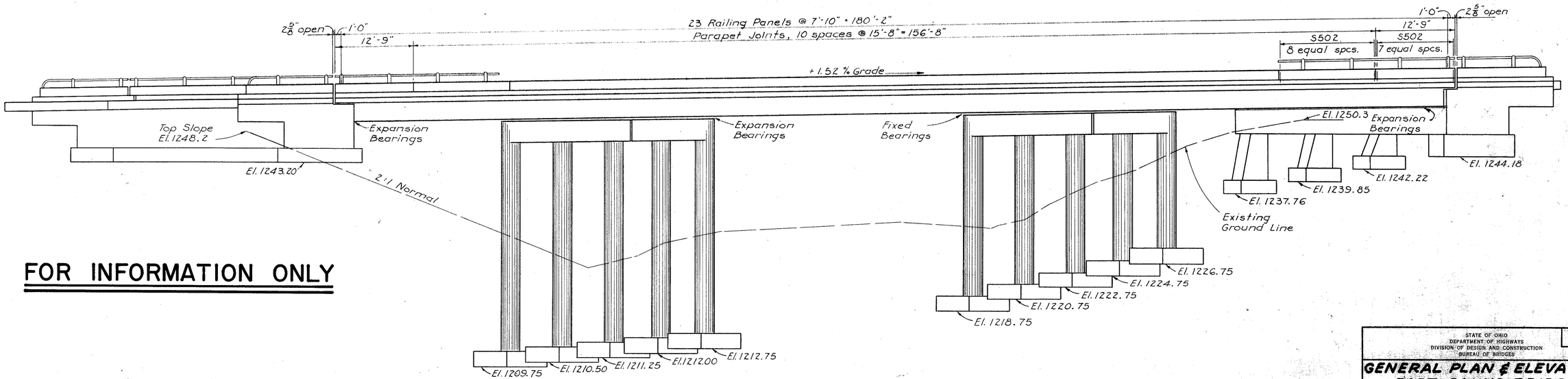
115

HAS-22-15.03



GENERAL PLAN
(Northeast wing piles not shown)



ELEVATION
(Northeast wing piles not shown)

FOR INFORMATION ONLY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

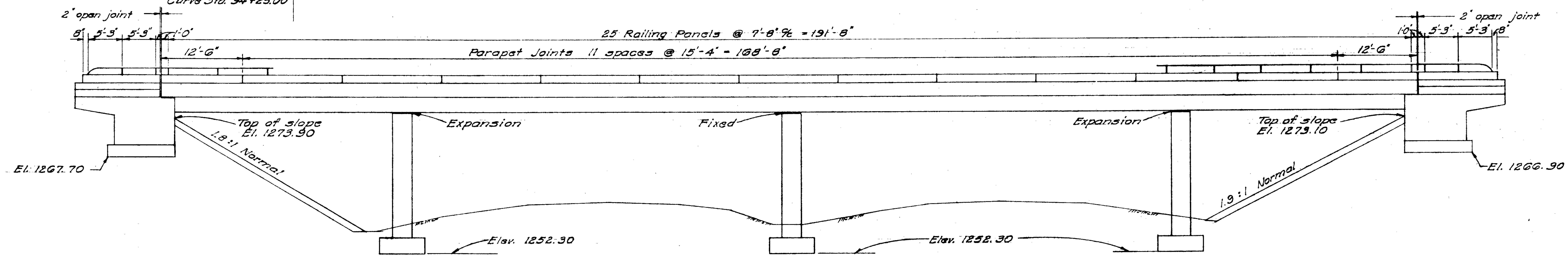
5/23

GENERAL PLAN & ELEVATION
EAST BOUND BRIDGE

BRIDGE NO. HAS-22-1717 R
OVER EXISTING U.S.R. 250
HARRISON COUNTY STA. 909 + 13.06
910 + 98.94

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.T.C.	W.T.C.	J.G.W.	D.C.A.	B.F.G.	3-31-58	

GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abuts	Piers	Supers	Gen'l
E-2	16	Cu. Yd.	Unclassified excavation	16			
E-2	162	Cu. Yd.	Rock excavation	80	82		
S-1	185	Cu. Yd.	Class "C" concrete, superstructure			185	
S-1	71	Cu. Yd.	Class "C" concrete, pier caps and columns		71		
S-1	41	Cu. Yd.	Class "E" concrete, pier footings		41		
S-1	106	Cu. Yd.	Class "E" concrete, abutments	106			
S-4	65,701	Lb.	Reinforcing steel	6,440	16,195	43,066	
S-7	129,300	Lb.	Structural steel			129,300	
S-8	129,300	Lb.	Field painting of structural steel, as per plan			129,300	
S-14	436.67	Lin. Ft.	Railing (Aluminum rail and supports, and concrete parapet)	48.67		388	
S-29	26	Cu. Yd.	Porous backfill	26			
I-10	310	Sq. Yd.	Crushed aggregate slope protection				310

GENERAL NOTES

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

FOOTINGS shall extend a minimum of 3" into solid rock or shale or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 5.5 tons per sq. ft. and abutment footings for 2.5 tons per sq. ft.

CONCRETE DECK PLACING: In order to facilitate water curing of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

FOR INFORMATION ONLY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

6 / 23

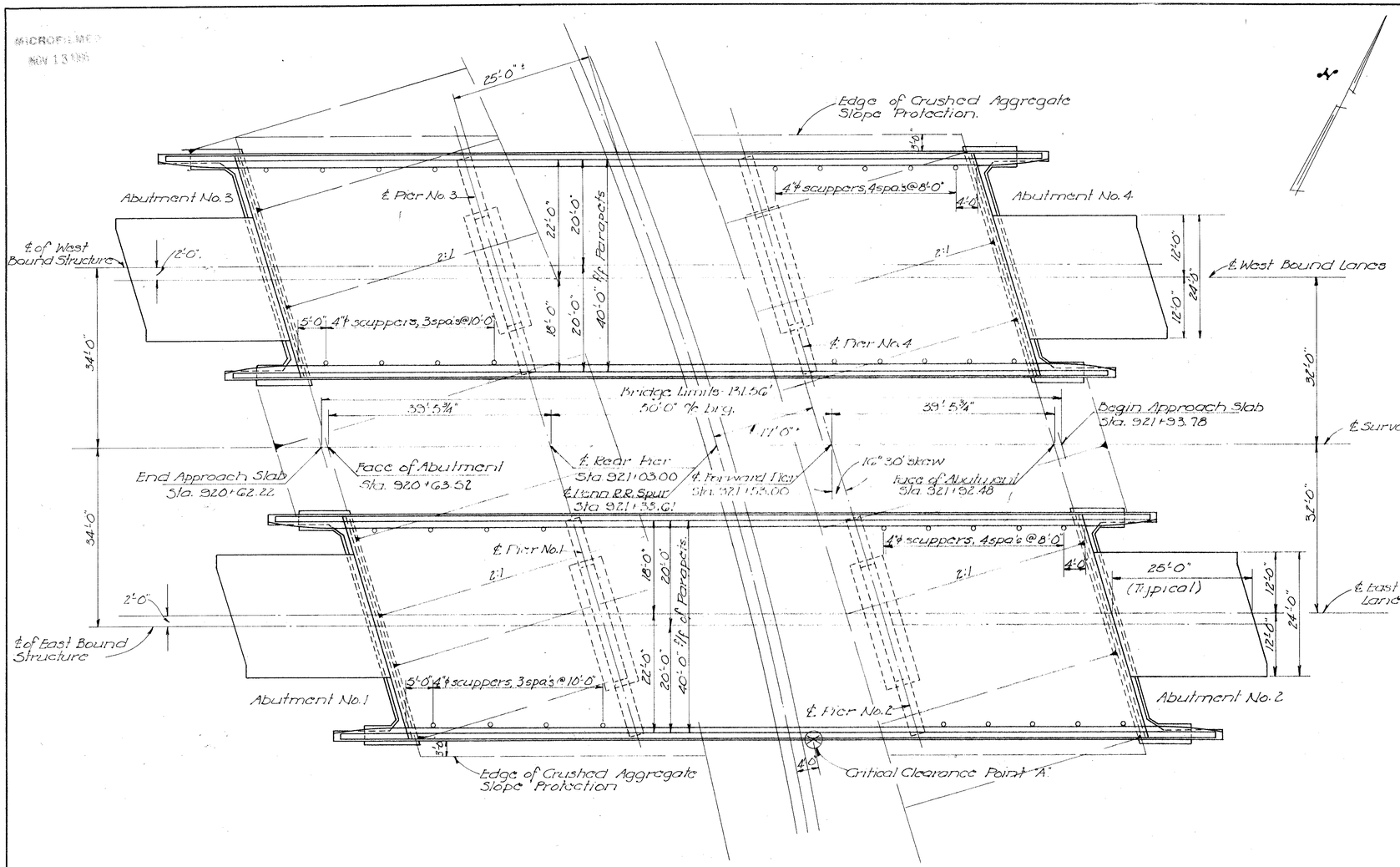
GENERAL PLAN & ELEVATION, NOTES & ESTIMATED QUANTITIES
BRIDGE NO. HAS-22-1725
UNDER TWP. RD. NO. 243
HARRISON COUNTY STA. 94+01.75 STA. 95+98.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JDJ	JDJ		NJB		6-30-59	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

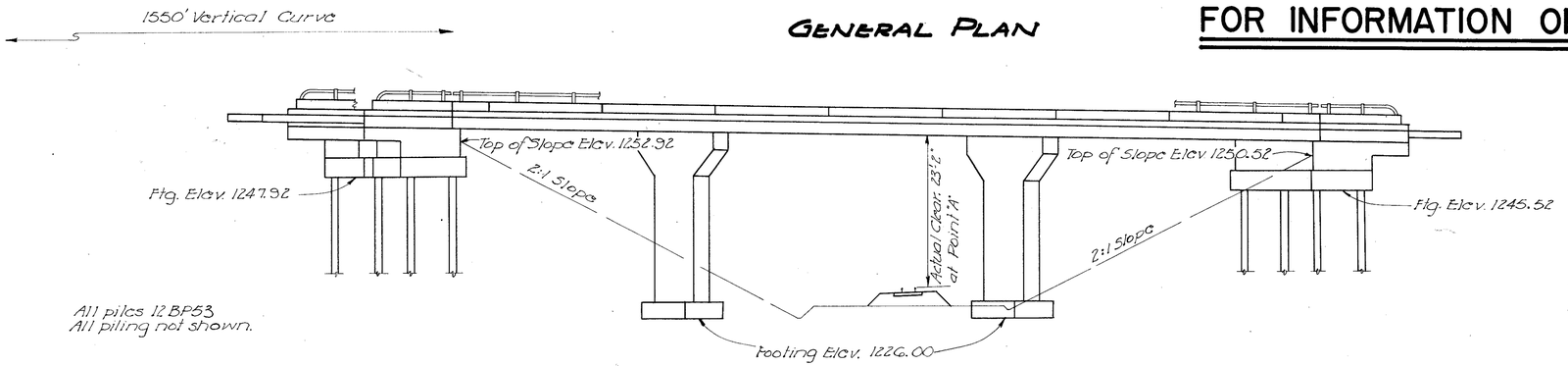
99
115

HAS-22-15.03



GENERAL PLAN

FOR INFORMATION ONLY



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawing CS-2-54, revised 2-1-58.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with the current revisions thereof.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments.

PILES shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as obtained when the capacity according to the formula in Sec. 5-1805 is not less than the following value for a pile hammer of the indicated energy rating:

43 tons per pile using a 11,000 ft. lb. hammer
39 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 30 tons per pile.

PIER FOOTINGS shall extend a minimum of 3" into rock or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 5. tons per sq. ft.

CONSTRUCTION CLEARANCE of 20 ft. vertically above the top of railroad rails and 8ft. horizontally from the center of tracks shall be maintained at all times.

ALIGNING RAILROAD TRACKS: After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sections E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the Railroad Company, nothing in Sections E-2.04, E-2.08 or G-2.07 of the Specifications shall be construed to hold the Contractor liable for aligning and re-surfacing the railroad tracks.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

7/23

GENERAL PLAN, ELEVATION & NOTES

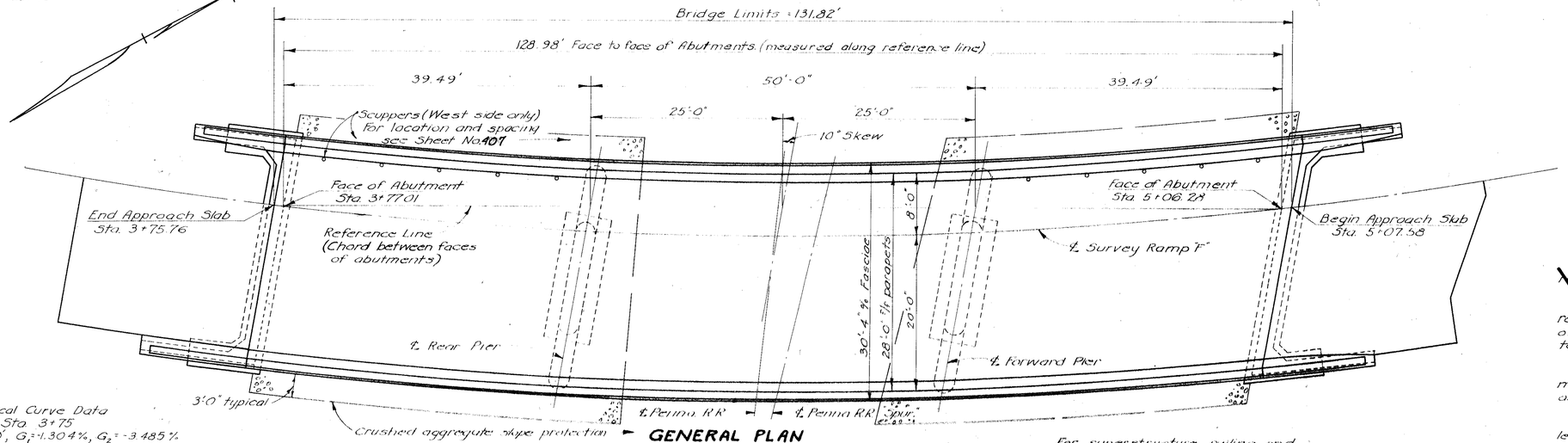
BRIDGE NO. HAS-22-1738 L&R
OVER SPUR OF PENN. R.R.
HARRISON COUNTY STA. 920+62.22
STA. 921+93.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GMP	GMP	Rice	CPD	BFG CPD	3-27-59	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO.		

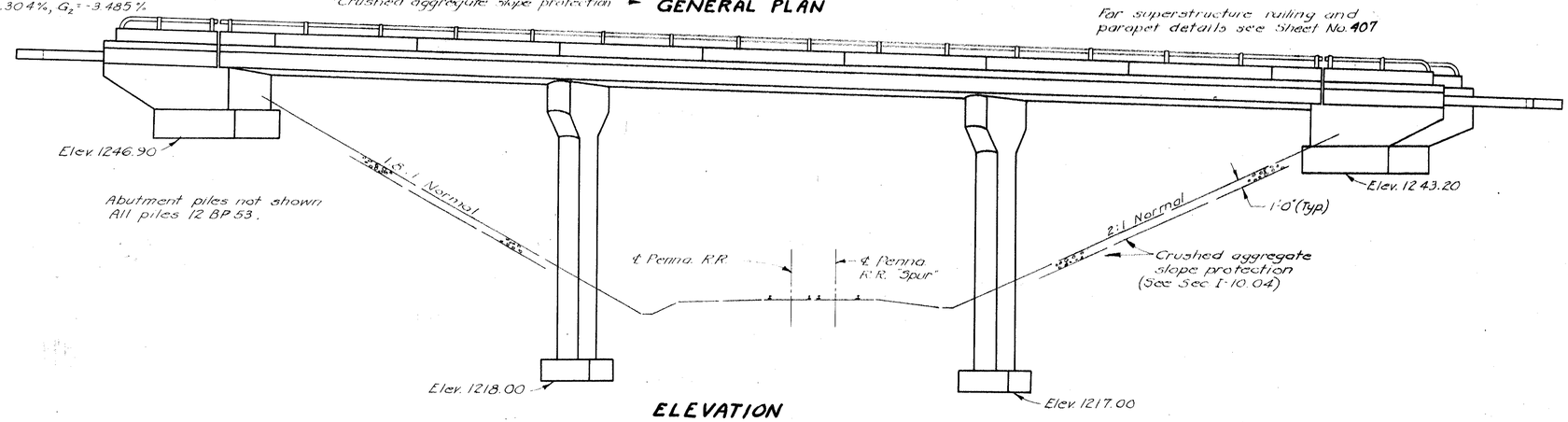
100
115

HAS-22-15.03



GENERAL PLAN

Vertical Curve Data
PVI. Sta. 3+75
L = 250', G_1 = +1.304%, G_2 = -3.485%



ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Abut.	Piers	Gen'l
E-2	Lump	Sum	Cofferdams, cribs, and sheeting				Lump
E-2	255	Cu. Yd.	Unclassified excavation		125	130	
E-2	14	Cu. Yd.	Shale excavation			14	
S-1	287	Cu. Yd.	Class "C" concrete, superstructure	287			
S-1	81	Cu. Yd.	Class "E" concrete, abutments		81		
S-1	22	Cu. Yd.	Class "E" concrete, pier footings			22	
S-1	96	Cu. Yd.	Class "E" concrete, pier walls			96	
S-4	81,771	Lb.	Reinforcing Steel	66,035	6,940	8,796	
S-14	311.58	Lin. Ft.	Railing (aluminum rail and supports, and concrete parapets)	263.65	47.93		
S-16	Lump	Sum	First test pile				Lump
S-18	460	Lin. Ft.	Steel piles (12 BP 53)		460		
S-29	26	Cu. Yds.	Porous backfill		26		
S-29	10	Each	Scuppers, 4" diameter cast iron or wrought iron pipe	10			
I-10	420	Sq. Yds.	Crushed aggregate slope protection		420		

GENERAL NOTES

REFERENCE shall be made to Standard Drawing AR-1-57, revised 2-2-59.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments and the piers.

PILES shall be driven to firm contact with shale. If the length of penetration is approximately equal to the depth to shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 518.05 is not less than the following value for a pile hammer of the indicated energy rating:

48 tons per pile using a 11,000 ft. lb. hammer
40 tons per pile using a 15,000 ft. lb. hammer or greater

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 27 tons per pile.

PIER FOOTINGS shall extend a minimum of 3" into solid shale or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 5 tons per square foot.

CONSTRUCTION CLEARANCE of 20'-0" vertically above the top of the railroad rails and 8'-0" horizontally from the center of the tracks shall be maintained at all times.

SHEETING AND BRACING: Before construction is started, eight sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the Railroad Company.

ALIGNING RAILROAD TRACKS: After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the Railroad Company, nothing in Sec. E-2.04, E-2.08 or G-8.07 of the Specifications shall be construed to hold the Contractor liable for aligning and resurfacing the railroad tracks.

FOR INFORMATION ONLY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

8/23

GENERAL PLAN, ELEVATION, NOTES & ESTIMATED QUANTITIES

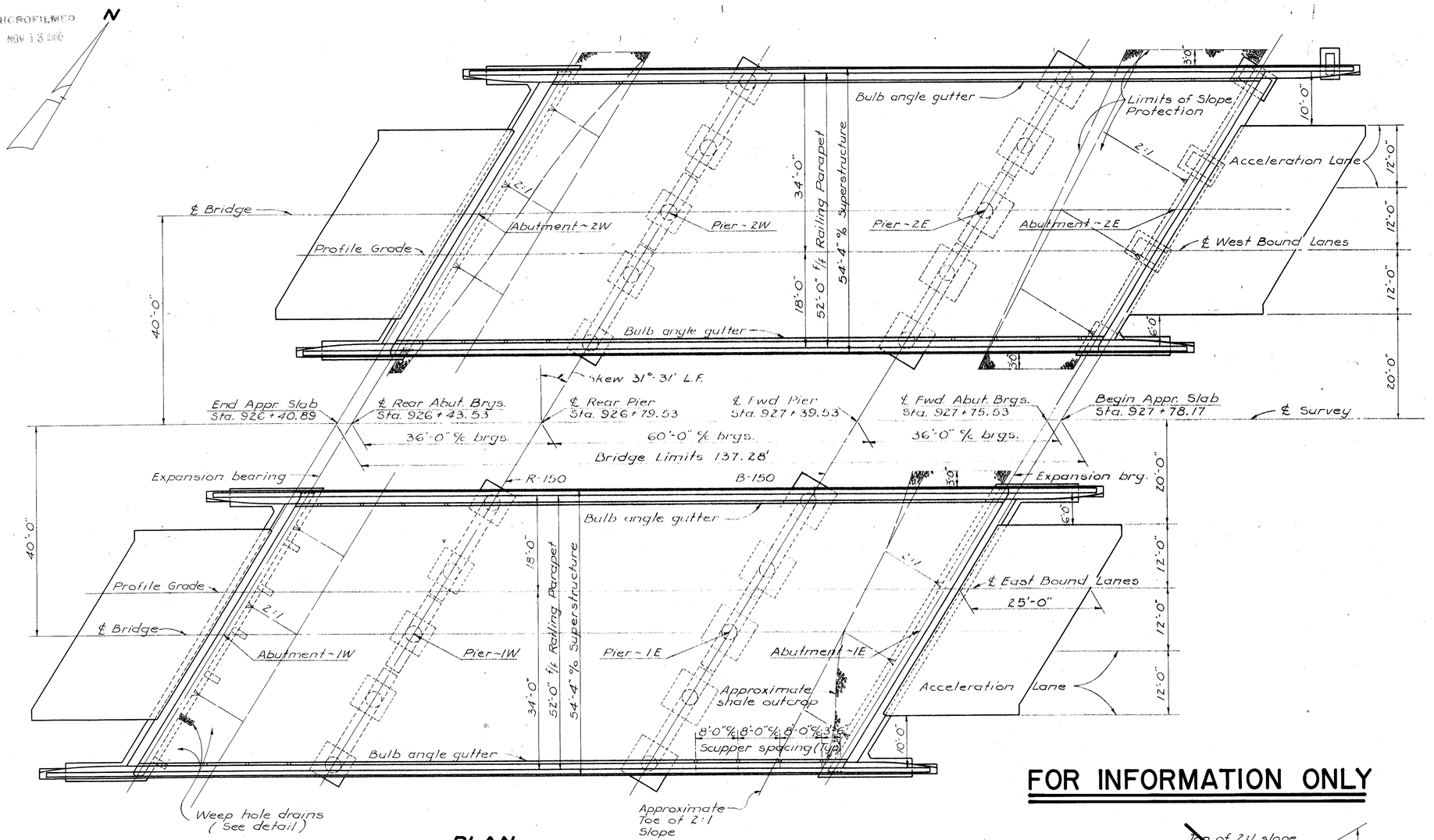
BRIDGE NO. HAS-22-17.38 "F"
OVER PENNA. R.R. SPUR
HARRISON COUNTY STA. 3+75.76
5+07.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
NJB	NJB	ERB	WCK	BFG JAH	11-12-59	

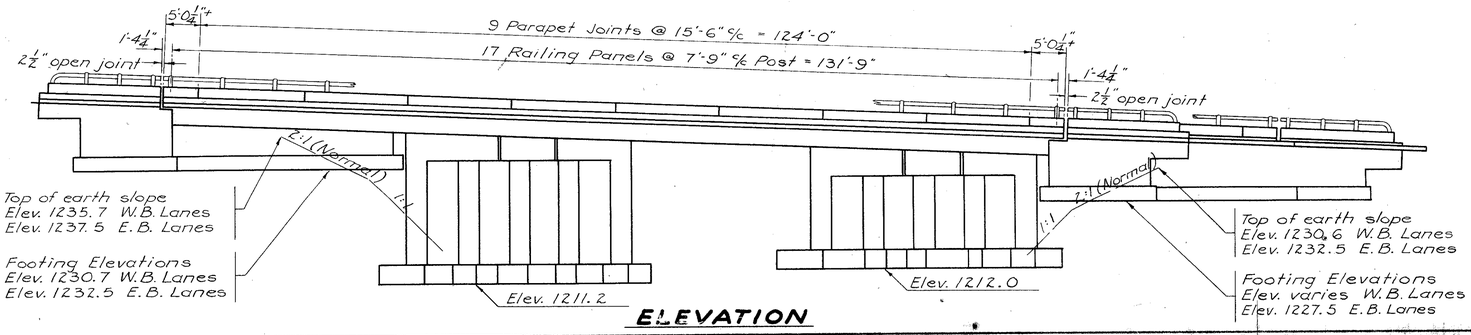
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

101
115

HAS-22-15.03



PLAN



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawing RB-1-55 revised 2-2-59.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

FOOTINGS shall extend a minimum of 3" into underlying layers of shale and/or sandstone or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: All footings are designed for a maximum bearing pressure of 4.0 tons per sq. ft.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

WELDING shall be Class "A" except as shown. Any welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds are shown thus: (B)

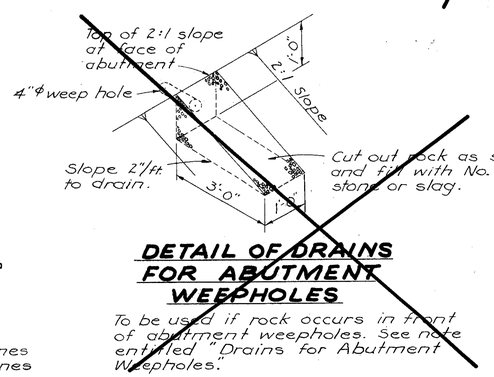
EXCAVATION QUANTITY includes the removal of fill material required for construction of abutment 2E.

CRUSHED AGGREGATE SLOPE PROTECTION shall be placed in accordance with Item I-10.04 except that the lower limit of such aggregate protection shall be the top of shale and/or rock outcrop.

DRAINS FOR ABUTMENT WEEPHOLES: Where shale and/or rock extends above a horizontal plane located 18" below the elevation of the top of slope at the face of abutment, drains for abutment weep holes shall be provided as shown on the plans. Payment for these drains shall be included with Item I-10, Crushed Aggregate Slope Protection.

MAINTENANCE AND PROTECTION OF TRAFFIC: Two lanes of traffic with a horizontal width of 26'-0" shall be maintained on S.R. 9 at all times. The Contractor shall safeguard the traveling public by providing platforms, nets or other suitable protection above the travelled lanes. A minimum vertical clearance of 12'-9" shall be provided at all times. The above conditions shall apply only if the proposed structure over S.R. 9 is not completed until after reconstructed S.R. 9 is completed and opened to traffic.

FOR INFORMATION ONLY



DETAIL OF DRAINS FOR ABUTMENT WEEPHOLES

To be used if rock occurs in front of abutment weepholes. See note entitled "Drains for Abutment Weepholes."

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

9/23

GENERAL PLAN & ELEVATION, GENERAL NOTES

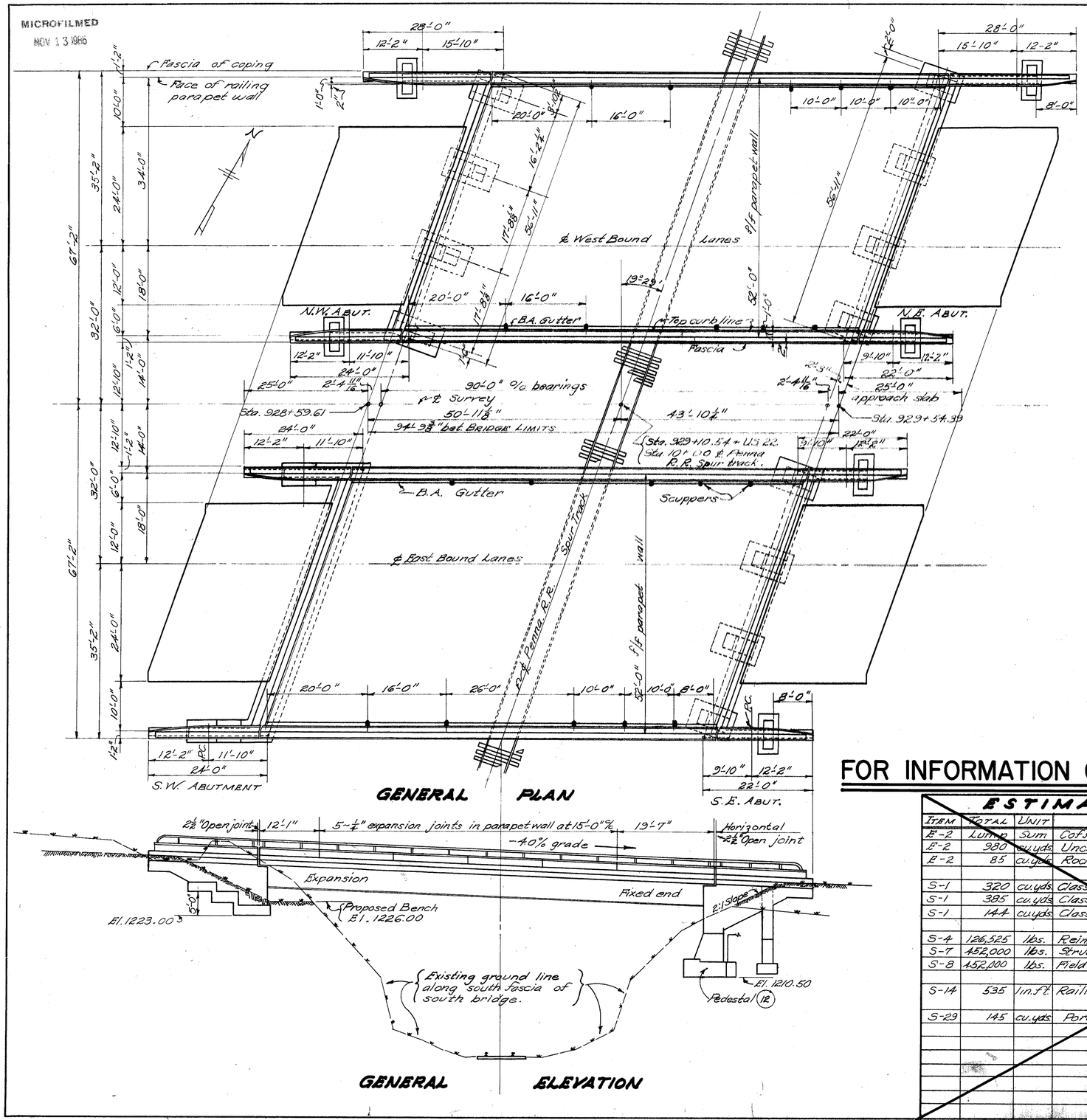
BRIDGE NO. HAS-22-1749 L&R
over S.R. 9
HARRISON COUNTY Sta. 926+40.89
927+78.17

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.B.L.	E.B.L.	J.G.W.	Innes	O.F.G.	5-4-59	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

102
115

HAS-22-15.03



GENERAL NOTES

REFERENCE shall be made to Standard Drawing No. RB-1-55, revised 2-2-59, for rocker and bolster details.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with the current revisions thereof.

EXCAVATION QUANTITY, in addition to that outlined in Sec. E-2.09, includes the removal of material bounded by the proposed bench, by the existing ground line if above bench elevation, and by the vertical planes described in Sec. E-2.09.

EXCAVATION INSPECTION: All excavations for footings shall be inspected in the field by a soils engineer or geologist provided by the State. This inspection is to insure that all footings will be extended into a firm rock foundation.

CONSTRUCTION CLEARANCE of 20'-0" vertically above top of the railroad rails and 8'-0" horizontally from the center of the tracks shall be maintained at all times.

FOOTINGS shall extend a minimum of 3" into solid rock, or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: Footings are designed for a maximum bearing pressure of four (4.0) tons per sq. ft.

BACKFILL: Backfill behind the abutments shall be made with materials meeting the requirements of Sec. I-22 and shall be compacted in accordance with the requirements for embankment compaction. The payment for this I-22 backfill shall be considered as included with the payment for E-2, Unclassified Excavation.

FABRICATION of GIRDERS: The plates that comprise each flange and those that comprise each web of shop welded girder segments shall be completely welded into a single plate before these flanges and webs are welded together to form each girder segment.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds are shown thus: B

The shop plans of the girders submitted for approval shall show in detail the procedure to be used for each type of weld. Welds that connect the girder flanges to the webs shall be made by the submerged arc automatic weld process.

CONCRETE DECK PLACING: In order to facilitate water curing of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, with a transverse construction joint which is normal to the centerline of the bridge and is located near the center of the span.

PAINT: One additional field coat of paint of the same kind as the shop coat shall be applied to the structural steel before the application of the aluminum paint except to those surfaces which are in contact with concrete.

GENERAL NOTES continued on Sheet No. 419.

FOR INFORMATION ONLY

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	GEN'L.
E-2	LUMP	SUM	Cofferdams, cribs, and sheeting			Lump
E-2	980	cu.yds.	Unclassified excavation		980	
E-2	85	cu.yds.	Rock excavation		85	
S-1	320	cu.yds.	Class "C" concrete, superstructure	320		
S-1	385	cu.yds.	Class "C" concrete, abuts. above footings		385	
S-1	144	cu.yds.	Class "E" concrete, footings		144	
S-4	126,525	lbs.	Reinforcing steel	84,700	41,825	
S-7	452,000	lbs.	Structural steel	452,000		
S-8	452,000	lbs.	Field painting of structural steel (3 coats)	452,000		
S-14	535	lin.ft.	Railing (Aluminum rail and supports, and concrete parapets)	369	166	
S-29	145	cu.yds.	Porous backfill		145	

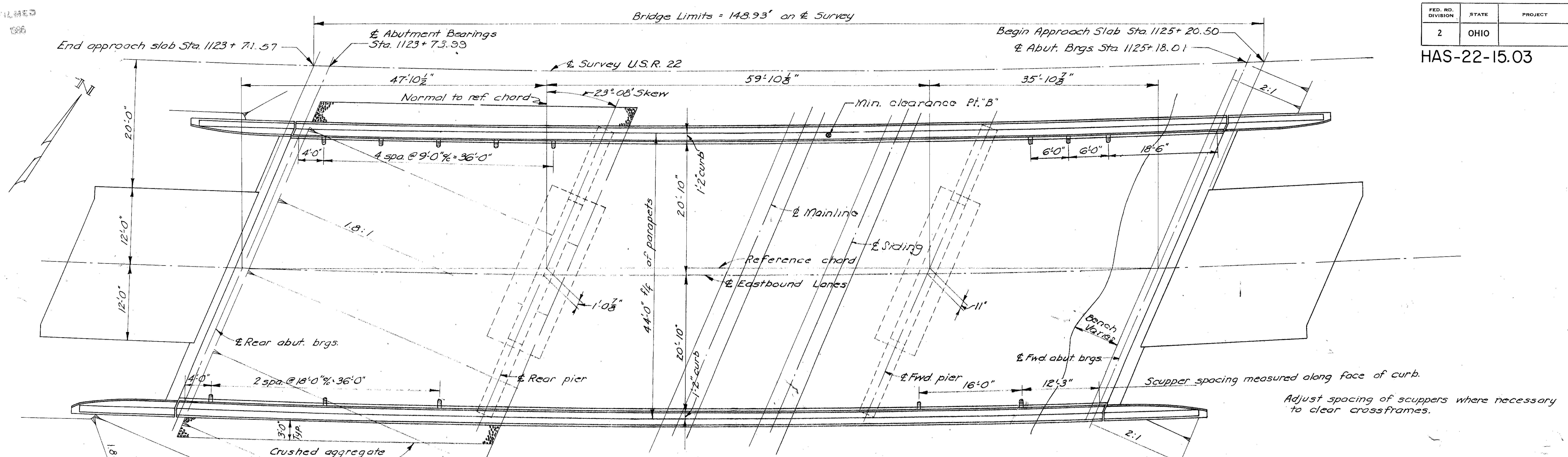
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

10/23

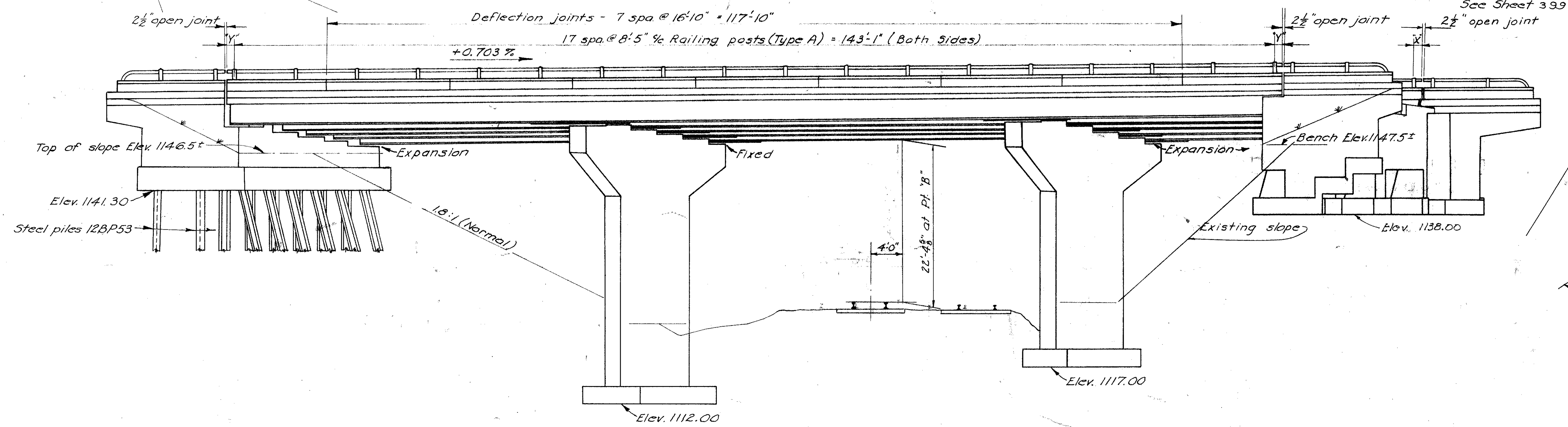
GENERAL PLAN & ELEVATION, NOTES & ESTIMATED QUANTITIES

BRIDGE NO. HAS-22-1753 L & R
OVER PENNA. R.R. (SPUR)
HARRISON County STA. 928+59.61
to 929+54.39

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KED	KED	C.M.	WCK	BFG	8-28-59	

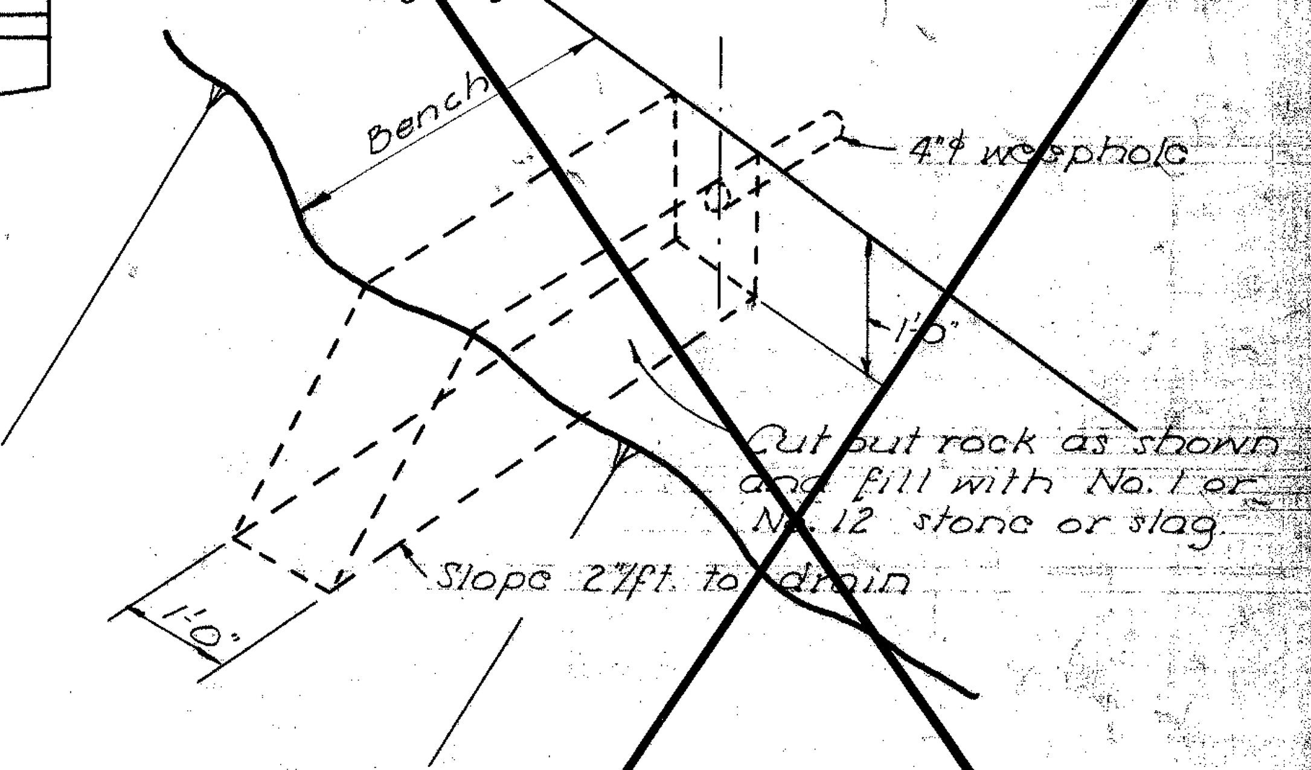

Bridge Limits = 148.93' on ℄ Survey
End approach slab Sta. 1123 + 71.57
℄ Abutment Bearings Sta. 1123 + 73.99
Begin Approach Slab Sta. 1125 + 20.50
℄ Abut. Brgs. Sta. 1125 + 18.01
℄ Survey U.S.R. 22
47'-10½"
59'-10⅛"
35'-10⅞"
Normal to ref. chord
23°-08' Skew
Min. clearance Pt. "B"
2:1
20'-0"
12'-0"
12'-0"
4'-0"
4 spa. @ 9'-0" c/c = 36'-0"
6'-0"
6'-0"
18'-6"
1.8:1
℄ Mainline
℄ Siding
Reference chord
℄ Eastbound Lanes
20'-10"
1'-2" curb
44'-0" f/f of parapets
20'-10"
1'-2" curb
1'-0⅞"
11"
Bench Varies
℄ Rear abut. brgs.
℄ Fwd. abut brgs.
℄ Rear pier
℄ Fwd. pier
4'-0"
2 spa. @ 18'-0" c/c = 36'-0"
16'-0"
12'-3"
Scupper spacing measured along face of curb.
Adjust spacing of scuppers where necessary to clear crossframes.
3'-0" Typ.
Crushed aggregate slope protection
1.8:1
2:1

GENERAL PLAN


2½" open joint
"Y"
Deflection joints - 7 spa. @ 16'-10" = 117'-10"
17 spa. @ 8'-5" c/c Railing posts (Type A) = 143'-1" (Both Sides)
+0.703 %
2½" open joint
"Y"
2½" open joint
"X"
See Sheet 399 for railing dimensions "X" and "Y".
Top of slope Elev. 1146.5±
Expansion
Fixed
Expansion
Bench Elev. 1147.5±
Elev. 1141.30
Steel piles 12BP53
1.8:1 (Normal)
4'-0"
22'-4⅝" at Pt. "B"
Existing slope
Elev. 1138.00
Elev. 1117.00
Elev. 1112.00

ELEVATION

Where shale and/or rock exists in front of weepholes, drains shall be provided as shown. Payment of these drains shall be included with Item 1-10 Crushed Aggregate Slope Protection.



DETAIL OF DRAINS FOR ABUTMENT WEEPHOLES
(Forward abutment only)

See Sheet 395 for General Notes and Estimated Quantities.

FOR INFORMATION ONLY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

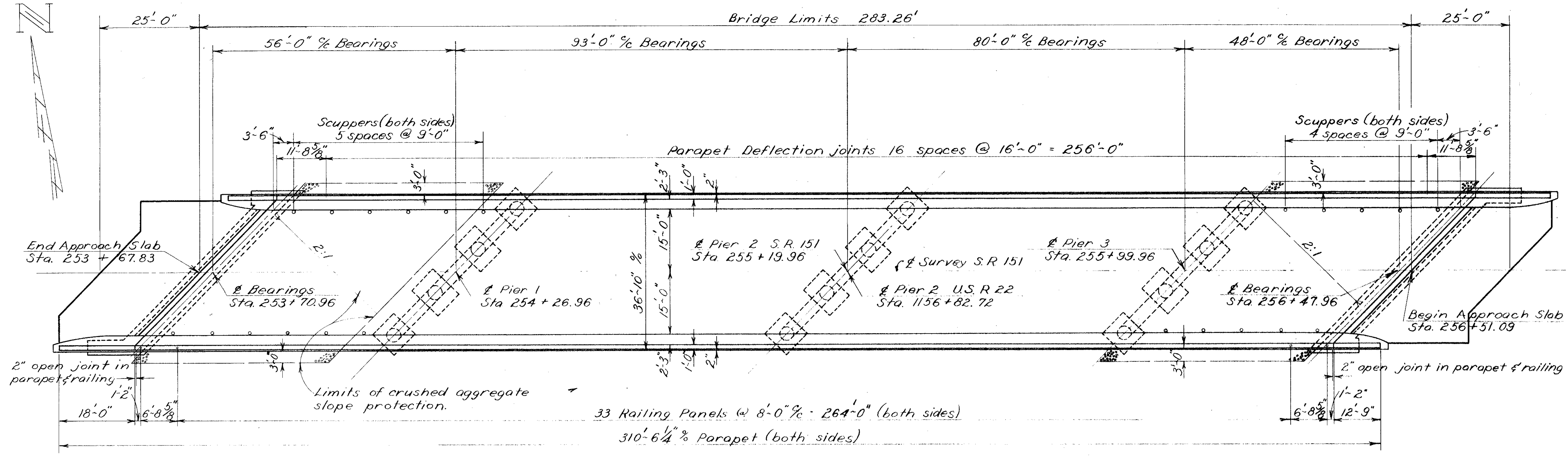
12 / 23

GENERAL PLAN & ELEVATION

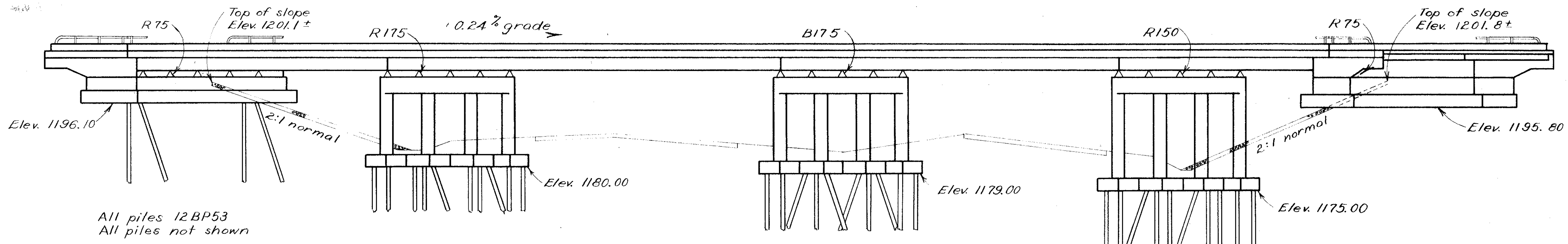
BRIDGE NO. HAS-22-2126 E.B.
OVER N.Y.C. & S.T.L. R.R.
STA. 1123 + 71.57 – 1125 + 20.50
HARRISON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	WJJ	RLB	INNES	BFG NHH	4-15-60	

HAS-22-15.03



GENERAL PLAN



All piles 12 BP53
All piles not shown

ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings AR-1-57 and RB-1-55, both revised 2-2-59, and to Common Details sheets 438 & 439, and to Supplemental Specification S-101 dated 12-2-59.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

PROCEDURE: The embankment at the abutments and Pier 3 shall be placed and compacted up to the finished spill-thru slope and to the level of the sub-grade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutments and the pier. The embankment shall be in place a minimum of 60 days before excavation is begun for the forward abutment.

ABUTMENT BACKFILL: Backfill behind the abutments shall be made with material meeting the requirements of Sec. I-22 and shall be compacted in accordance with the requirements for embankment compaction. The payment for this I-22 backfill shall be considered as included in the payment for E-2, Unclassified Excavation.

EXCAVATION QUANTITY includes the removal of fill material required for construction of both abutments and Pier 3.

PILES shall be driven with a hammer of not less than 11,000 ft. lbs. per blow, to firm contact with shale. If the length of penetration is approximately equal to the depth to shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. S-18.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the rear abutment piles:
33 tons per pile using an 11,000 ft. lb. hammer
31 tons per pile using a 15,000 ft. lb. hammer

For Pier 1:
52 tons per pile using an 11,000 ft. lb. hammer
45 tons per pile using a 15,000 ft. lb. hammer

For Pier 2:
48 tons per pile using an 11,000 ft. lb. hammer
42 tons per pile using a 15,000 ft. lb. hammer

For Pier 3:
42 tons per pile using an 11,000 ft. lb. hammer
38 tons per pile using a 15,000 ft. lb. hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 28 tons per pile for the abutment piles and 30 tons per pile for the pier piles.

STEEL: See Proposal regarding A-373 steel.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Deck Slabs."

GENERAL NOTES (cont'd)

FOUNDATION BEARING PRESSURE: The Forward Abutment footing is designed for a maximum bearing pressure of 1.6 tons per sq. ft.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds are shown thus: B

PAINTING: After erection and after the shop coat has been cleaned and where necessary repointed in accordance with Sec. 8.04, an additional coat of the same paint as used in the shop shall be applied over the outside face of the outside steel beams and to all surfaces of the bottom flange of the outside beams.

BURIED PIPE under Rear Abutment is to be relocated or abandoned.

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GEN'L.
E-2	410	Cu. Yd.	Unclassified excavation	250	160		
S-1	300	Cu. Yd.	Class "C" concrete, superstructure			300	
S-1	114	Cu. Yd.	Class "C" concrete, pier caps and columns		114		
S-1	178	Cu. Yd.	Class "E" concrete, abutments	178			
S-1	75	Cu. Yd.	Class "E" concrete, pier footings		75		
S-4	111,936	Lb.	Reinforcing steel	10,378	25,786	75,772	
S-7	311,100	Lb.	Structural steel			311,100	
S-8	311,100	Lb.	Field painting of structural steel, as per plan			311,100	
S-14	621.06	Lin. Ft.	Railing (aluminum rail and supports and concrete parapet)	61.50		559.56	
S-16	Lump	Sum	First test pile				Lump
S-18	1250	Lin. Ft.	Steel piles, 12 BP53	450	800		
S-29	42	Cu. Yd.	Porous backfill	42			
I-10	563	Sq. Yd.	Crushed aggregate slope protection				563

FOR INFORMATION ONLY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

13/23

GENERAL PLAN & ELEVATION
NOTES & ESTIMATED QUANTITIES
BRIDGE NO. HAS-22-2188
under S.R. 151

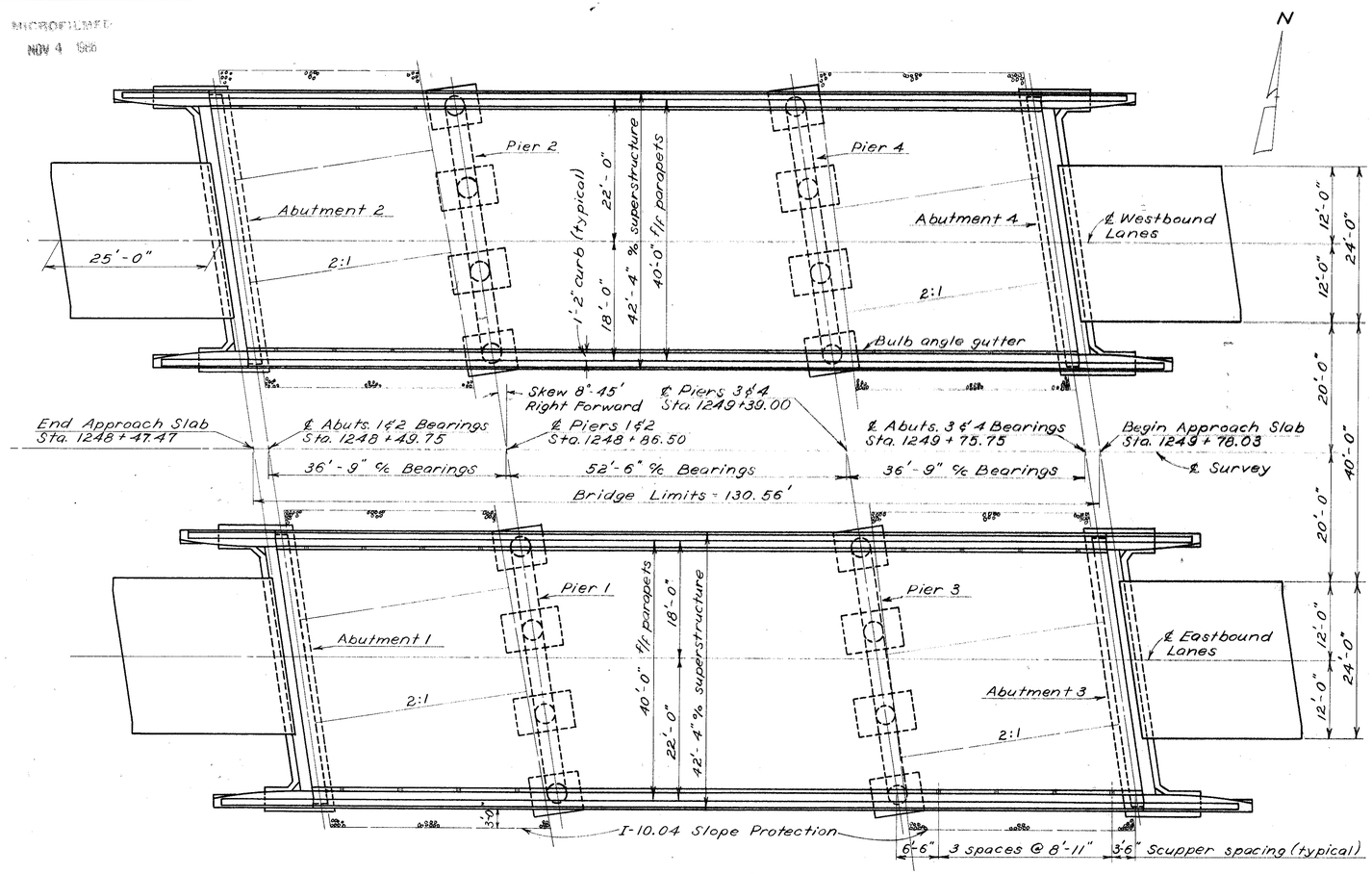
HARRISON COUNTY Sta. 1156 + 82.72

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DM	DM	RLJ	WJJ	BFG	1-12-60	

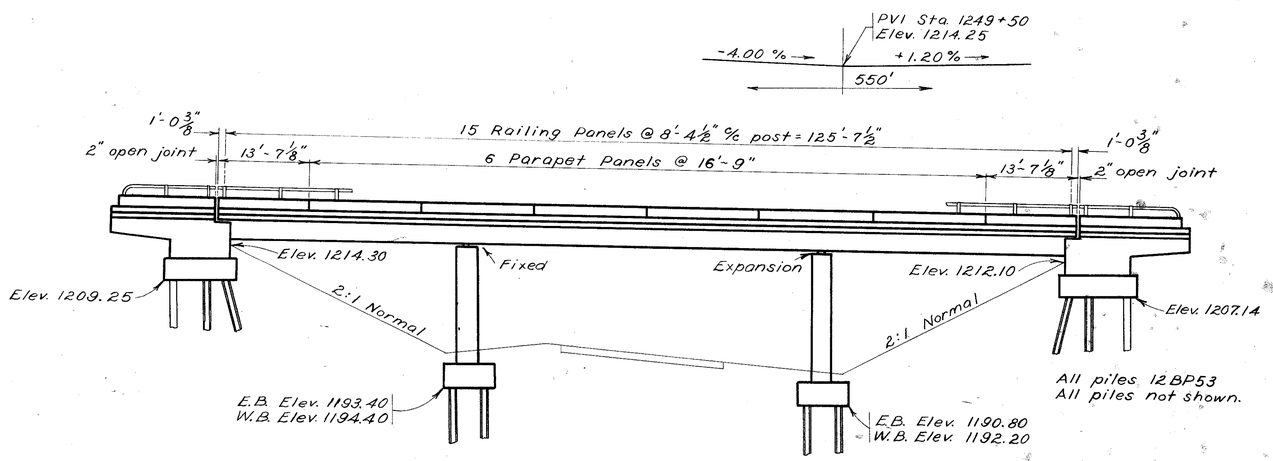
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

106
115

HAS-22-15.03



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Abuts.	Piers	Gen'l.
E-2	627	Cu. Yds.	Unclassified Excavation		407	220	
S-1	348	Cu. Yds.	Class "C" concrete, superstructure	348			
S-1	128	Cu. Yds.	Class "C" concrete, pier caps & columns			128	
S-1	106	Cu. Yds.	Class "E" concrete, pier footings			106	
S-1	290	Cu. Yds.	Class "E" concrete, abutments		290		
S-4	143,770	Lbs.	Reinforcing steel	97,066	18,051	33,653	
S-7	239,500	Lbs.	Structural steel	239500			
S-8	239,500	Lbs.	Field painting of structural steel, as per plan	239,500			
S-14	617.75	Lin. Ft.	Railing (aluminum rail and supports, and concrete parapet)	512.08	105.67		
S-16	Lump	Sum	First test pile				Lump
S-18	2900	Lin. Ft.	Steel piles, 12 BP 53		1620	1280	
S-29	58	Cu. Yds.	Porous backfill		58		
I-10	790	Sq. Yds.	Crushed aggregate slope protection				790

GENERAL NOTES

REFERENCE shall be made to Supplemental Spec. No. S-101, dated 12-2-59.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

EXCAVATION AND BACKFILL: Excavation quantity includes the removal of fill material between the surface of proposed embankment and the bottom of abutment and pier footings. Backfill behind the abutments shall be made with material meeting the requirements of Sec. I-22 and shall be compacted in accordance with the requirements for embankment compaction. The payment for this I-22 backfill shall be considered as included in the payment for E-2, Unclassified Excavation.

STEEL: See Proposal regarding A-373 steel.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Deck Slabs."

PILES shall be driven with a hammer of not less than 11000 ft. lb. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the first contact shall be considered as attained when the capacity according to the formula in Sec. 518.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the abutment piles:

45 tons per pile using a 11000 ft. lb. hammer
40 tons per pile using a 15000 ft. lb. or greater hammer

For the pier piles:
37 tons per pile using a 11000 ft. lb. hammer
33 tons per pile using a 15000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile for the abutment piles and 25 tons per pile for the pier piles.

FOR INFORMATION ONLY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

14/23

GENERAL PLAN & ELEVATION
NOTES & ESTIMATED QUANTITIES
BRIDGE NO. HAS-22-2362 L&R
OVER C.R. 4
HARRISON COUNTY STA. 1248+47.47
1249+78.03

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.B.L.	E.B.L.	R.L.J.	N.E.Y.	DFG		

FHWA REGION	STATE	PROJECT	
5	OHIO		

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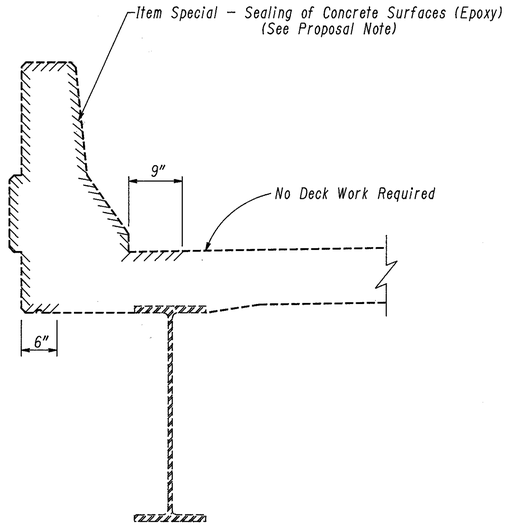
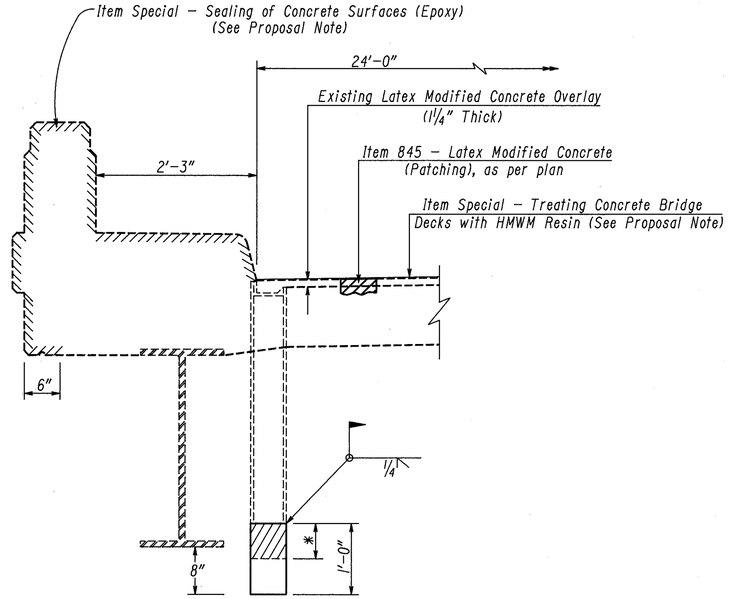
115

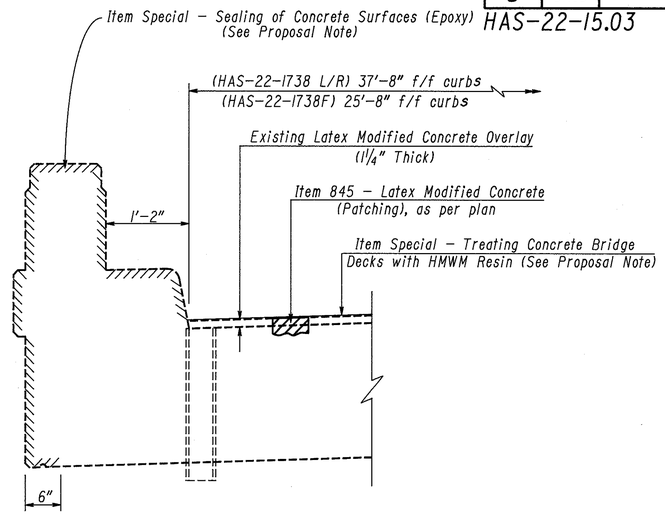
HAS-22-15.03



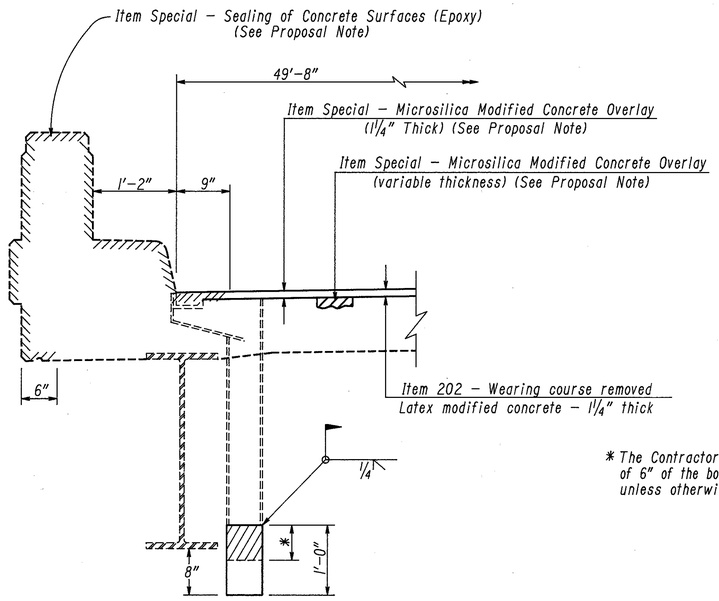
PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-1717 L/R)



PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-1725)

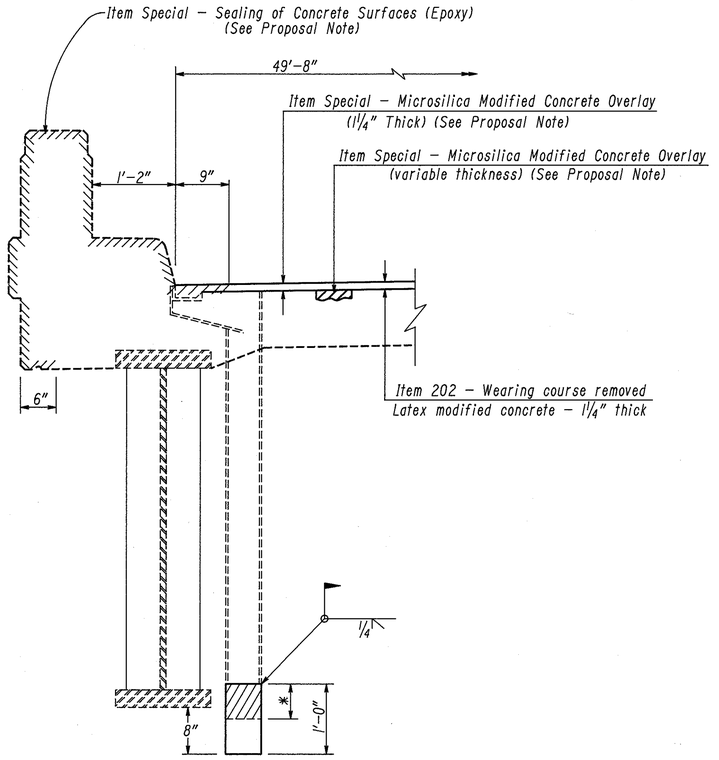


PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-1738 L/R)
(Bridge No. HAS-22-1738F)



PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-1749 L/R)

* The Contractor shall remove a minimum of 6" of the bottom of each scupper downspout, unless otherwise directed by the Engineer.



PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-1753 L/R)

NOTE: For Bridge No's. HAS-22-1749 L/R and HAS-22-1753 L/R, scarification of the deck is not required following the removal of the existing latex modified concrete overlay.

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

15 / 23

BRIDGE DETAILS

HAS-22-1717 L/R
HAS-22-1725
HAS-22-1738 L/R
HAS-22-1738F
HAS-22-1749 L/R
HAS-22-1753 L/R

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
JAS	JAS	WRG			

FHWA REGION	STATE	PROJECT	
5	OHIO		

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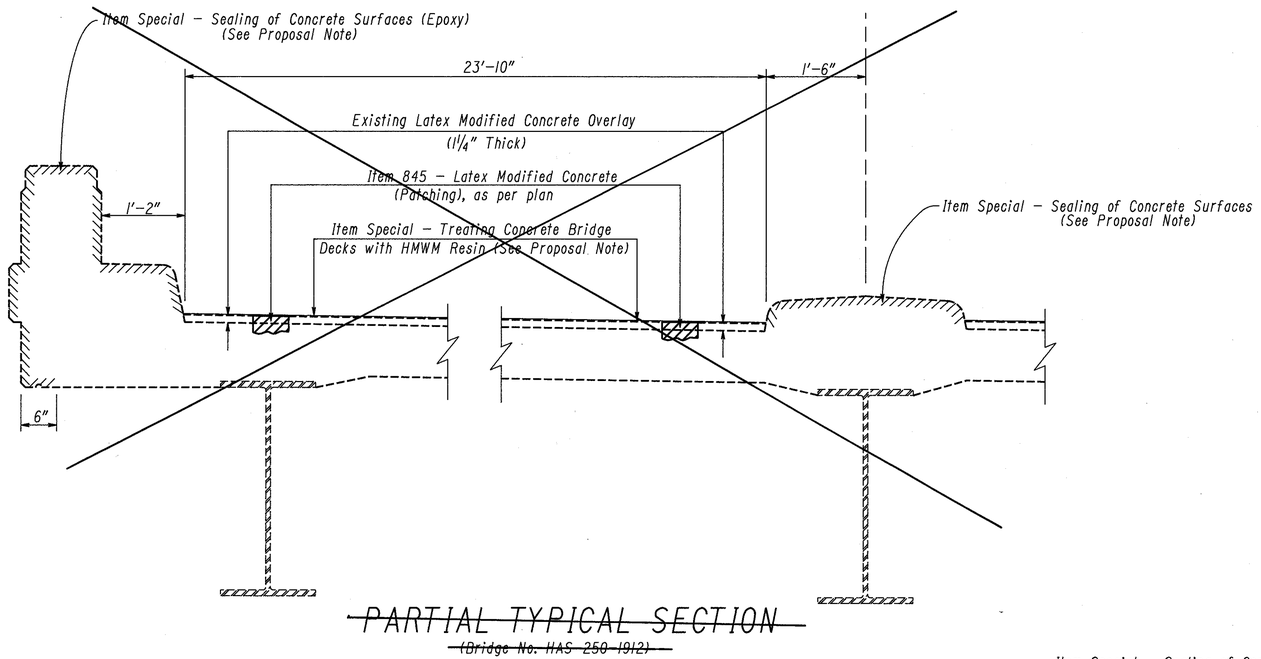
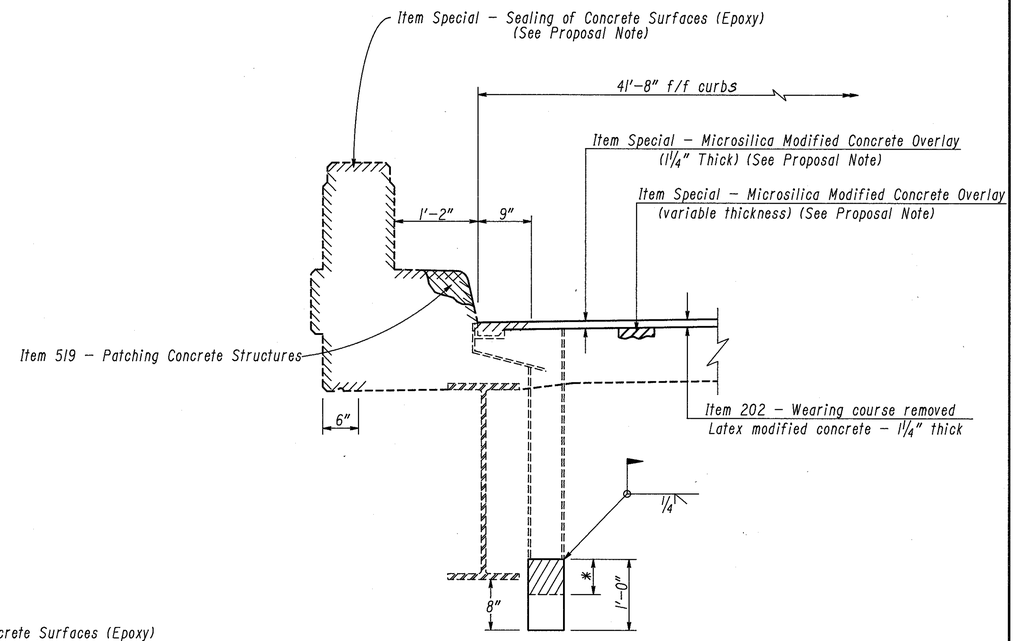
115

HAS-22-15.03

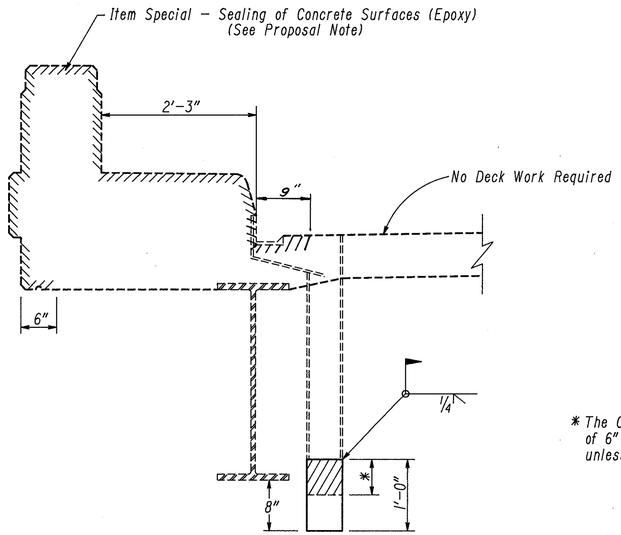


~~PARTIAL TYPICAL SECTION~~
~~(Bridge No. HAS-250-1912)~~



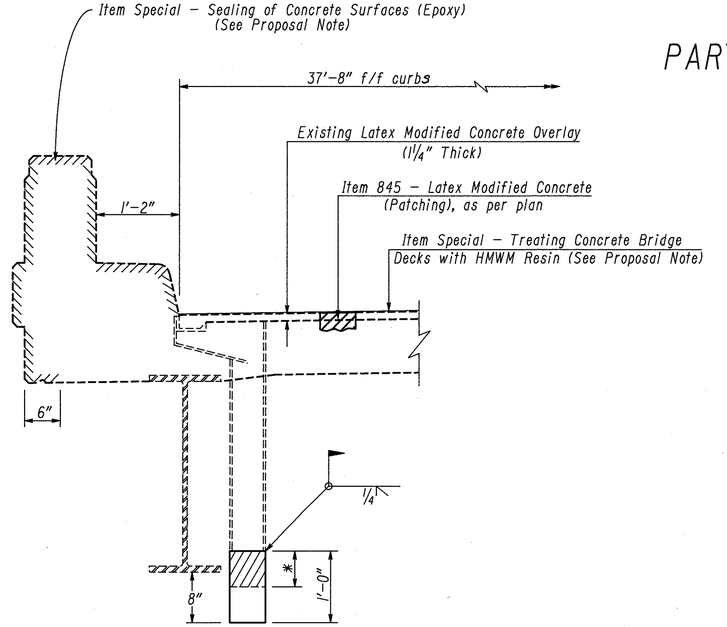
PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-2126)

NOTE: For Bridge No. HAS-22-2126 scarification of the deck is not required following the removal of the existing latex modified concrete overlay.



* The Contractor shall remove a minimum of 6" of the bottom of each scupper downspout, unless otherwise directed by the Engineer.

PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-2188)



PARTIAL TYPICAL SECTION
(Bridge No. HAS-22-2362 L/R)

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

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BRIDGE DETAILS

HAS-22-2126
HAS-22-2188
HAS-22-2362 L/R

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
JAS	JAS	WRG			

B.M. El. 1184.39 □ cut on N.W. Wingwall
Bridge No. HAS-22-2460L
Sta. 1300+29± - 26'± Left ℄ West Bound Lanes

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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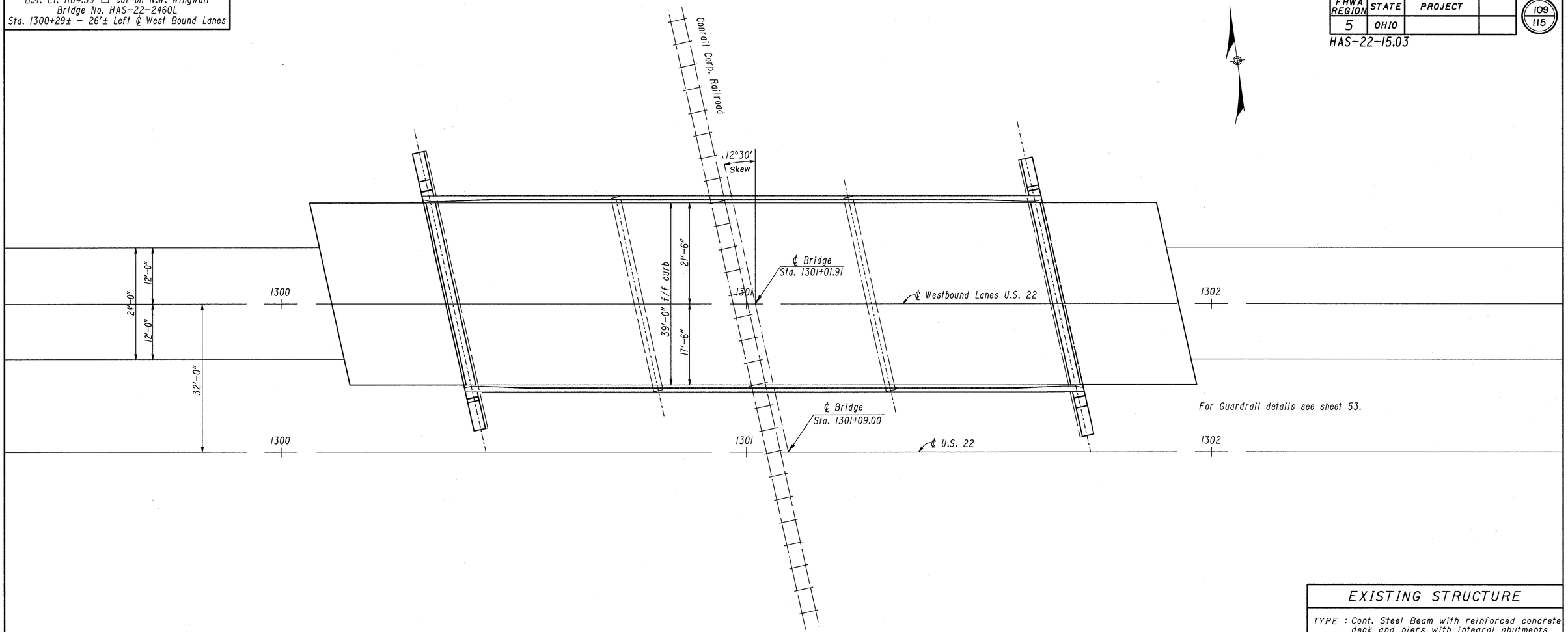
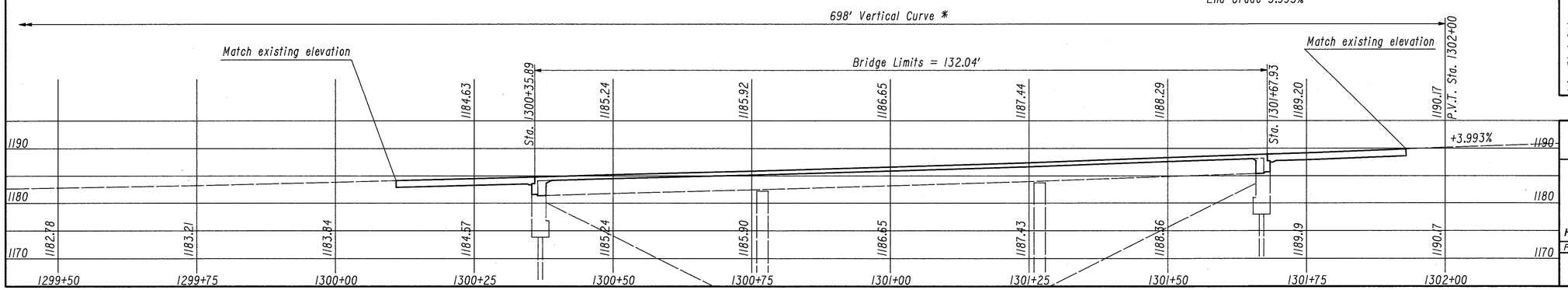


For Guardrail details see sheet 53.

*** VERTICAL CURVE DATA**

P.V.I. Sta. 1298+50.66 - El. 1176.24
Begin Grade = -2.61%
End Grade 3.993%



EXISTING STRUCTURE

TYPE : Cont. Steel Beam with reinforced concrete deck and piers with integral abutments
SPAN LENGTH : 40.00' - 50.00' - 40.00' c/c brgs.
ROADWAY WIDTH : 38'-6" f/f curbs
LOADING : HS-20-44
ALIGNMENT : Tan SKEW : 12°30' R.F
WEARING SURFACE Latex modified concrete

PROPOSED STRUCTURE

TYPE : Cont. Steel Beam with reinforced concrete deck and piers with integral abutments
SPAN LENGTH : 40.00' - 50.00' - 40.00' c/c brgs.
ROADWAY WIDTH : 39'-6" f/f curb
LOADING : HS-20-44 and Alternate Military Loading
ALIGNMENT : Tan SKEW : 12°30' R.F
WEARING SURFACE : 1" Monolithic concrete with epoxy coated reinforcing
APPROACH SLABS: AS-1-81 (26' Long).
S.F.N. - 3401413

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

SITE PLAN

BRIDGE NO. HAS-22-2460 L
OVER CONRAIL CORP RAILROAD

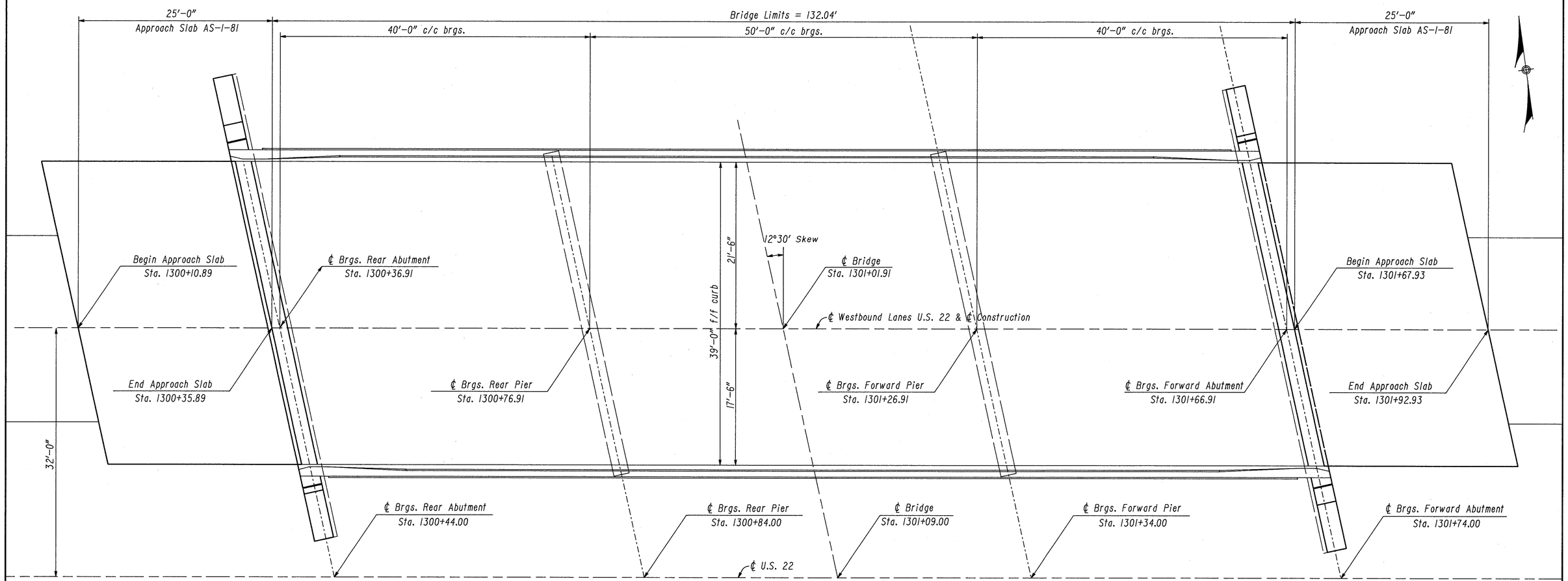
HARRISON COUNTY

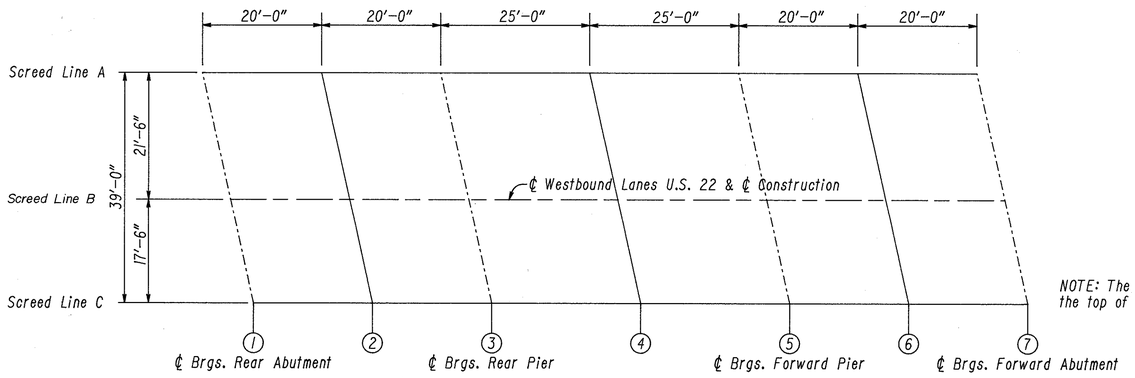
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	CADD	DESIGNED	CADD	CHECKED	REVIEWED
DISTRICT 11	WRG	WRG	WRG	JLO	

FHWA REGION	STATE	PROJECT	
5	OHIO		

110
115

HAS-22-15.03





DECK SCREED ELEVATIONS

NO.	LINE A	LINE B	LINE C
1	1184.47	1184.93	1184.78
2	1184.99	1185.46	1185.32
3	1185.51	1185.99	1185.85
4	1186.26	1186.74	1186.62
5	1187.02	1187.52	1187.41
6	1187.72	1188.22	1188.12
7	1188.40	1188.92	1188.83

NOTE: The deck screed elevations shown at the respective edges of the top of the concrete deck are those required before the concrete is placed.

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

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GENERAL PLAN & DECK SCREED ELEVATIONS

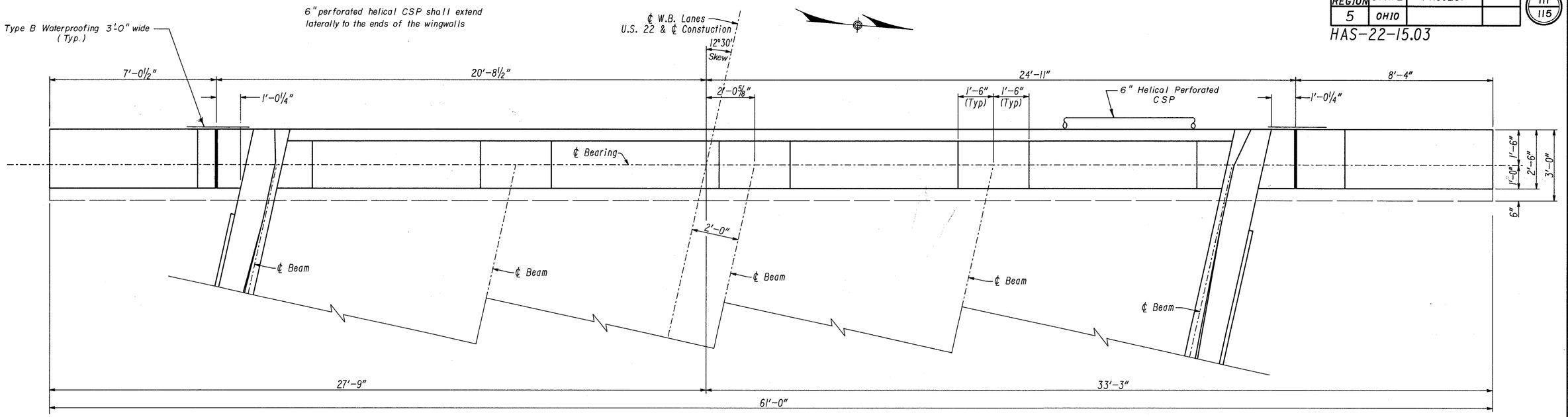
BRIDGE NO. HAS-22-2460 L
OVER CONRAIL CORP RAILROAD

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
WRG	WRG	JLO			

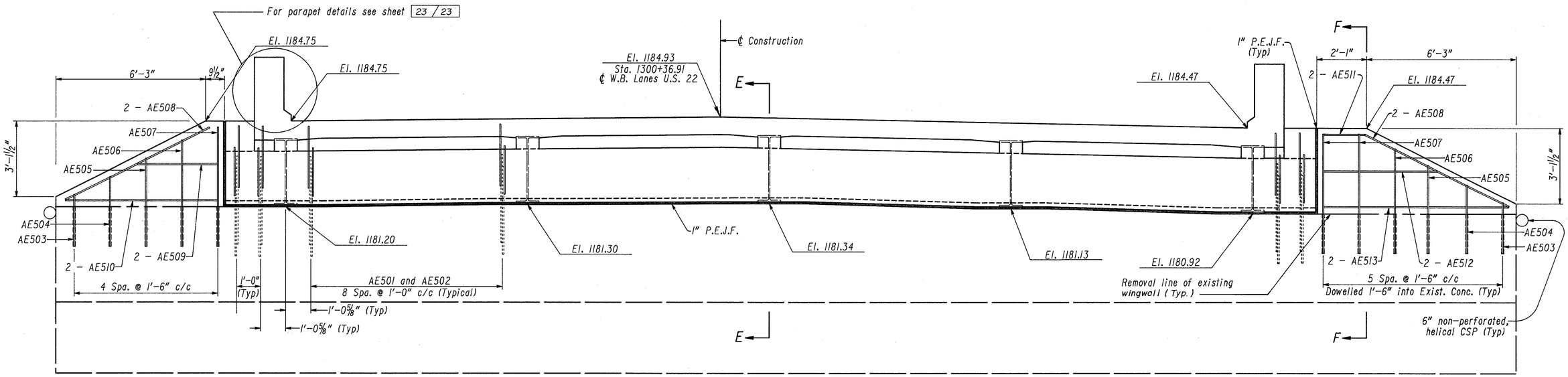
FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

111
115



REAR ABUTMENT PLAN



ELEVATION

Sections E-E & F-F are on sheet 21 / 23

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

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REAR ABUTMENT DETAILS

BRIDGE No. HAS-22-2460 L
OVER CONRAIL CORP RAILROAD

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
WRG	WRG	JLO			

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

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115

Type B Waterproofing 3'-0" wide (Typ.)

℄ W.B. Lanes U.S. 22 & ℄ Constuction

12°30'

6" perforated, helical CSP shall extend laterally to the ends of the wingwalls.

7'-0½"

24'-9¾"

20'-9¾"

8'-4"

1'-0¼"

2'-0⅝"

1'-6" (Typ)

1'-6" (Typ)

6" perforated, helical CSP

1'-0¼"

℄ Bearing

1'-0"

1'-6"

2'-6"

3'-0"

6"

2'-0"

℄ Beam

℄ Beam

℄ Beam

℄ Beam

℄ Beam

31'-10¼"

29'-1¾"

61'-0"

FORWARD ABUTMENT PLAN

El. 1188.40

El. 1188.40

For parapet details see sheet 23 / 23

El. 1188.92
Sta. 1301+66.91
℄ W.B. Lanes U.S. 22

℄ Construction

1" P.E.J.F. (Typ.)

2'-1"

6'-3"

6'-3"

9½"

2 - AE508

AE507

AE506

AE505

3'-1½"

El. 1188.79

2 - AE511

El. 1188.79

2 - AE508

AE507

AE506

AE505

3'-1½"

AE504

AE503

El. 1184.87

El. 1185.08

1" P.E.J.F.

El. 1185.32

El. 1185.31

El. 1185.24

AE504

AE503

2 - AE510

2 - AE509

2 - AE513

2 - AE512

4 Spa. @ 1'-6" c/c

1'-0" (Typ)

AE501 and AE502
8 Spa. @ 1'-0" c/c (Typical)

5 Spa. @ 1'-6" c/c
Dowelled 1'-6" into Exist. Conc. (Typ)

1'-0⅝" (Typ)

1'-0⅝" (Typ)

Removal line of existing wingwall (Typ.)

6" non-perforated, helical CSP (Typ)

E

E

F

F

ELEVATION

Sections E-E & F-F are on sheet 21 / 23

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

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FORWARD ABUTMENT DETAILS

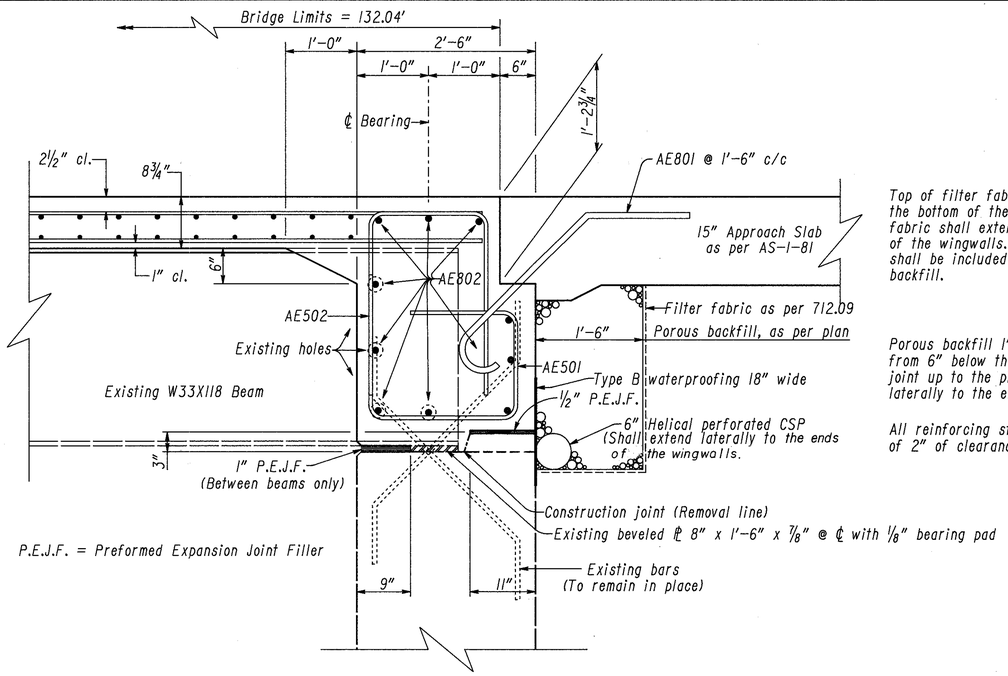
BRIDGE No. HAS-22-2460 L
OVER CONRAIL CORP RAILROAD

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
WRG	WRG	JLO			

FHWA REGION	STATE	PROJECT	
5	OHIO		

113
115

HAS-22-15.03



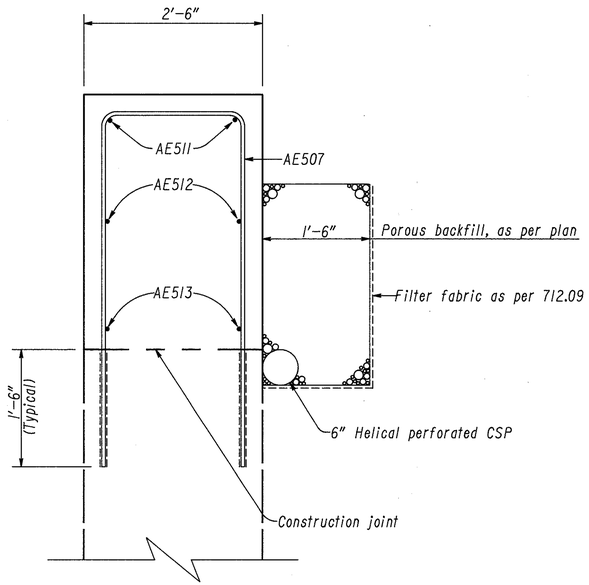
P.E.J.F. = Preformed Expansion Joint Filler

SECTION E-E

Top of filter fabric shall be level with the bottom of the approach slab. Filter fabric shall extend laterally to the ends of the wingwalls. Payment for filter fabric shall be included with Item 518 – Porous backfill.

Porous backfill 1'-6" thick shall extend from 6" below the bridge seat construction joint up to the plan of the subgrade and laterally to the ends of the wingwalls.

All reinforcing steel shall have a minimum of 2" of clearance unless otherwise noted.



SECTION F-F

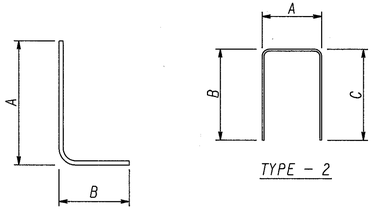
REINFORCING STEEL LIST

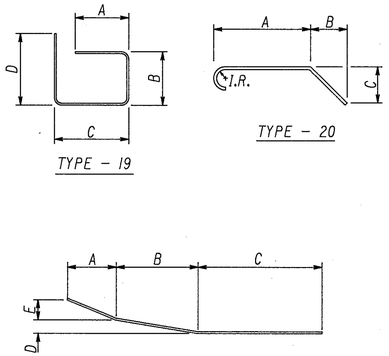
MARK	NUMBER REAR	NUMBER FWD.	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R
ABUTMENT REINFORCING STEEL												
AE501	40	40	80	6'-8½"	560	19	1'-6"	1'-6"	2'-1"	2'-0"		
AE502	40	40	80	6'-6½"	546	2	1'-8"	2'-6¾"	2'-6¾"			
AE503	2	2	4	6'-1"	25	2	2'-0"	2'-2"	2'-2"			
AE504	2	2	4	7'-7"	32	2	2'-0"	2'-11"	2'-11"			
AE505	2	2	4	9'-1"	38	2	2'-0"	3'-8"	3'-8"			
AE506	2	2	4	10'-7"	44	2	2'-0"	4'-5"	4'-5"			
AE507	3	3	6	11'-8"	73	2	2'-0"	4'-11½"	4'-11½"			
AE508	4	4	8	6'-8½"	56	St.						
AE509	2	2	4	3'-4½"	14	St.						
AE510	2	2	4	6'-4½"	27	St.						
AE511	2	2	4	1'-9½"	7	St.						
AE512	2	2	4	4'-9"	20	St.						
AE513	2	2	4	7'-9"	32	St.						
AE801	26	26	52	4'-4½"	607	20	2'-8½"	1'-0"	1'-0"			3"
AE802	10	10	20	45'-0"	2403	St.						

MARK	NUMBER LEFT	NUMBER RIGHT	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R
SUPERSTRUCTURE REINFORCING STEEL												
SE401	–	–	228	30'-0"	4569	St.						
SE402	–	–	57	16'-10½"	643	St.						
SE403	–	–	108	20'-0"	1443	St.						
SE501	–	–	224	30'-0"	7009	St.						
SE502	–	–	56	18'-2½"	1064	St.						
SE503	228	228*	456	21'-8"	10305	St.						
SE504	70	70	140	3'-2"	462	17	2'-2"	2'-5"	1¼"	8"		2⅛"
SE505	86	86	172	3'-2½"	576	16	10"	9"	10"	6½"	10½"	
SE506	70	70	140	2'-4"	341	1	1'-7"	10½"				
SE507	12	12	24	15'-4"	384	St.						
SE508	32	32	64	4'-8"	312	St.						
SE509	8	8	16	14'-10"	248	St.						
SE510	20	20	40	7'-2"	299	St.						
SE511	20	20	40	9'-0"	375	1	7'-2"	1'-11½"				
SE512	4	4	8	15'-4½"	128	21	1'-5"	2'-4"	11'-7"	1½"	5"	
SE513	8	–	8	Varies from 3'-10" to 20'-11"	103	St.						
SE514	–	8	8	Varies from 3'-3" to 20'-4½"	99	St.						
SE515	7	–	7	Varies from 4'-11½" to 18'-9"	84	St.						
SE516	–	8	8	Varies from 2'-3" to 19'-4"	90	St.						
SE601	228	228*	456	21'-10"	14954	St.						
SE602	8	–	8	Varies from 3'-10" to 20'-11"	149	St.						
SE603	–	8	8	Varies from 3'-3" to 20'-4½"	142	St.						
SE604	7	–	7	Varies from 4'-11½" to 18'-9"	120	St.						
SE605	–	8	8	Varies from 2'-3" to 19'-4"	130	St.						

Rebars with the prefix "E" shall be epoxy coated.

BENDING DIAGRAMS





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

21 / 23

MISC. DETAILS AND REINFORCING STEEL LIST

BRIDGE NO. HAS-22-2460 L
OVER CONRAIL CORP RAILROAD

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
WRG	WRG	JLO			

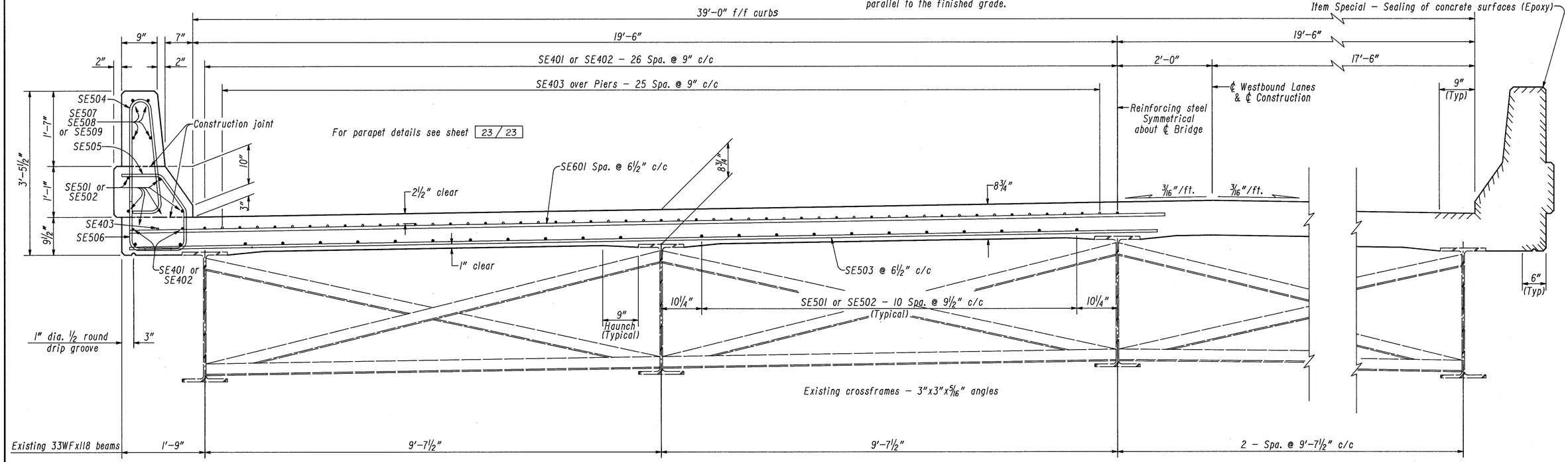
FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-22-15.03

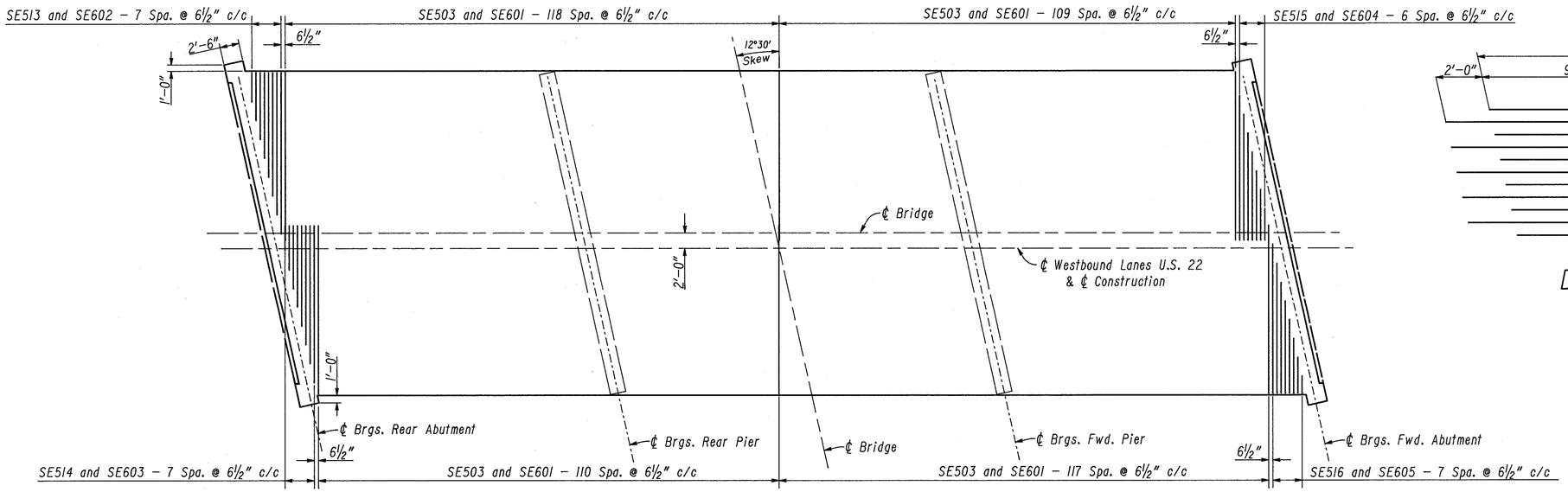
114
115

Each longitudinal line of reinforcing steel shall consist of :
4 - SE401 and 1 - SE402 with a 1'-4" min. lap splice in the top of the slab,
4 - SE501 and 1 - SE502 with a 1'-8" min. lap splice in the bottom of the slab.
SE402 and SE502 shall be used in place of the SE401 and SE501 respectively to finish out the total length of reinforcing in the deck.

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



TYPICAL DECK SECTION



TRANSVERSE REINFORCING STEEL LAYOUT

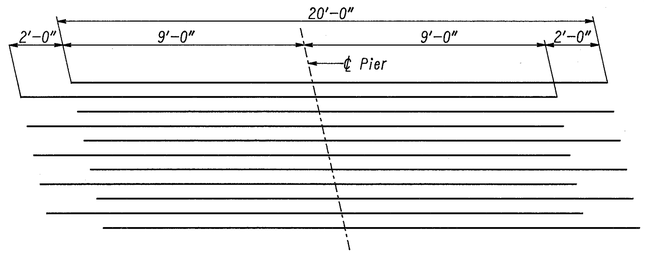


DIAGRAM SHOWING STAGGER OF SE403 BARS OVER PIERS

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

22 / 23

SUPERSTRUCTURE DETAILS

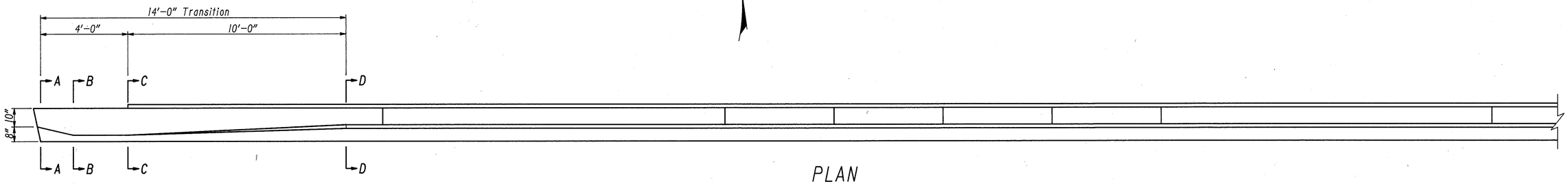
BRIDGE NO. HAS-22-2460 L
OVER CONRAIL CORP RAILROAD

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
WRG	WRG	JLO			

FHWA REGION	STATE	PROJECT	
5	OHIO		

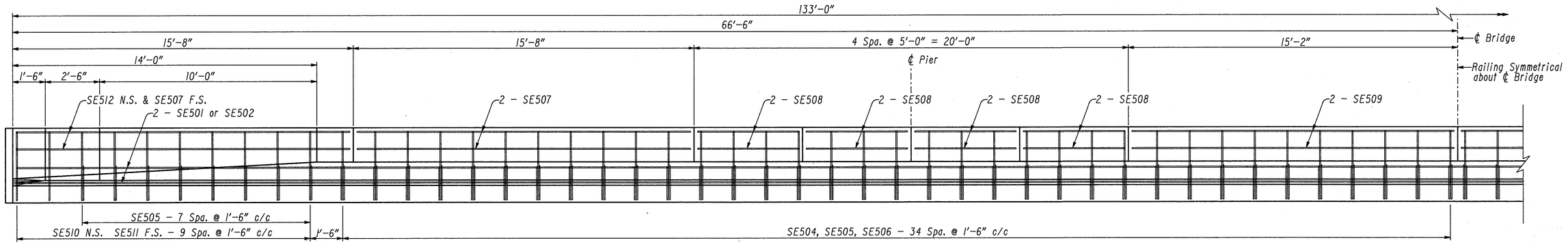
115
115

HAS-22-15.03

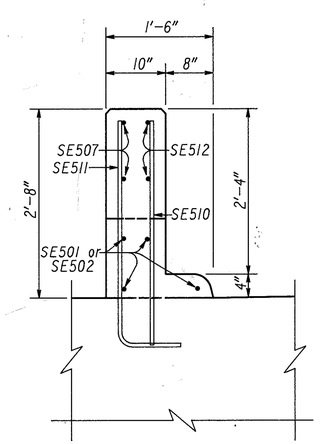


PLAN

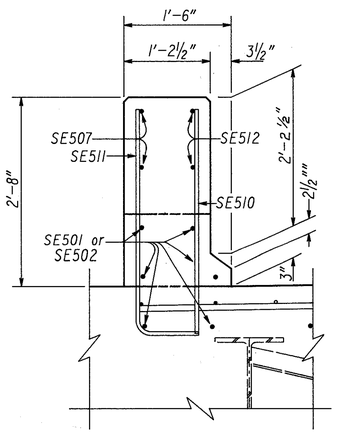
Parapet details shown on the North side
of the Bridge – South side similar by rotation.



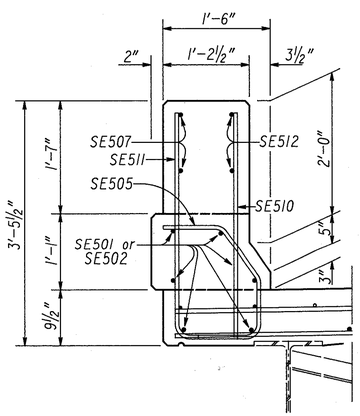
ELEVATION



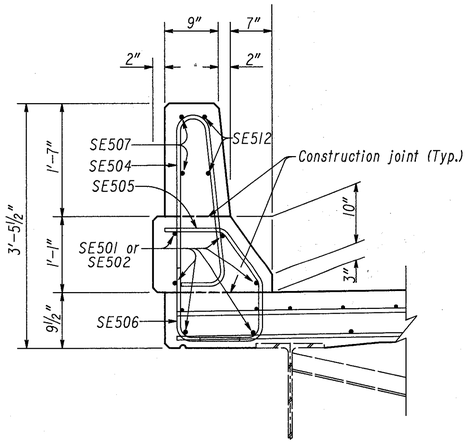
SECTION A–A



SECTION B–B



SECTION C–C



SECTION D–D

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

23 / 23

BRIDGE RAILING DETAILS

BRIDGE NO. HAS-22-2460 L
OVER CONRAIL CORP RAILROAD

DESIGNED	CADD	CHECKED	REVIEWED	DATE	REVISED
WRG	WRG	JLO			

11262 HA2