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MICROFILMED JUL 5 1978
MICROFILMED AUG 3 1978

CUYAHOGA COUNTY CUY-480-8.54	OHIO	1 / 346
I-480-4(35)162	FHWA REGION 5 / FEDERAL PROJECT	

I-480-4(35)162

ISSUE 1

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-480-8.54

CUYAHOGA COUNTY

CITY OF CLEVELAND & CITY OF BROOKPARK

GRADE SEPARATION WITH THE CONSOLIDATED RAIL CORPORATION

DESIGN DESIGNATION

1978 ADT	=	62,000
1998 ADT	=	82,716
DHV	=	4,950
D	=	67%
T	=	4%
V	=	60MPH

CONVENTIONAL SIGNS

Proposed Sewer
Temporary R/W — T
Work Agreement Line
Original Lot Line — O.L. 78 — O.L. 79
Water Line — W
Water Valve
Water Hydrant
Gas Line — G
Gas Valve
Telephone Underground — T
Electric Underground — E
Corporation Line
Fence Line (existing) — (proposed)
Center Line — 352 — 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.

Existing Sewer
Existing Manhole
Proposed Manhole
Existing Catch Basin
Proposed Catch Basin
Manhole Abandoned
Catch Basin Abandoned
Existing Retaining Wall
Limited Access (only) — LA
Right of Way (only) — RW
Limited Access & Right of Way — LA & RW
Existing Right of Way
Property Line — (in existing fence)
Railroad — or
Guardrail (existing) — (proposed)

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SHEETS ADDED TO PLAN

NOS. 41A, 41B, 56A, 66A, 66B, 67A, 67B, 298A, 298B, 328A, 328B, 328C, 328D, 203A, 217A, 217B, 217C, 67C, 67D, 10A

SHEETS DELETED FROM PLAN

NOS. 28, 163, 180 thru 200, 205, 216, 218, 329, 330

LINE DATA

BEGIN PROJECT	STA. 476+00.00
END PROJECT	STA. 573+50.00

PROJECT LENGTH = 9,750.00 LIN. FT. OR 1.846 MILES

ADDITIONAL WORK

I-480 ~ Sta. 573+50 to Sta. 575+09	=	159 Lin. Ft.
N.B. I-71 Signs ~ 4 @ 25 ft. ea.	=	100 Lin. Ft.
S.B. I-71 Signs ~ 3 @ 25 ft. ea.	=	75 Lin. Ft.
Access Rd. C Sta. 0+27 to Sta. 9+00	=	873 Lin. Ft.
Brookpark Road Sta. 161+00 to Sta. 173+25	=	1,225 Lin. Ft.
Sta. 175+75 (Sign)	=	25 Lin. Ft.

TOTAL ADDITIONAL WORK = 2,457 Lin. Ft.

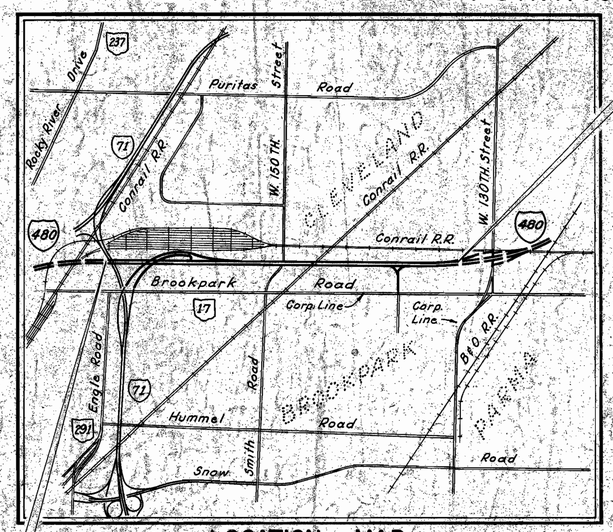
TOTAL LENGTH OF WORK = 12,207 LIN. FT. OR 2.311 MILES

00383

Project: CUYAHOGA COUNTY CUY-480-8.54
Date of Letting _____ 19__, Contract No. _____

LD0300 Rev. 9-3-75

BRUNING 44-560 29724



LOCATION MAP

SCALE IN MILES 0 ½ 1

BEGIN PROJECT
STA. 476+00.00
S.L.M. = 8.54

SCALES

Plan 0 50 100
Profile: Horizontal 0 50 100, Vertical 0 10 or 20 20 or 40
Cross Section: Horizontal 0 10 20, Vertical 0 10 20

LIMITED ACCESS

This improvement is especially designed for thru traffic and has been declared a Limited Access Highway or Freeway by action of the Director of Transportation, in accordance with the provisions of Sec. 5511.02 of the Revised Code of Ohio.

1977 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.

The right of way for this improvement will be provided by the State of Ohio.

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

Approved _____ Director of Public Service, City of Cleveland
Date 10/20/77

Approved _____ District Deputy of Transportation
Date 10-20-77

Approved _____ Engineer, Bureau of Bridges and Structural Design
Date 11-9-77

Approved _____ Chief Engineer, Planning and Design
Date 2-15-78

Approved _____ Director, Department of Transportation.
Date 2-15-78

NOTE: All references to former Penn Central Transportation Co. appearing throughout this plan shall be considered to pertain to the Consolidated Rail Corporation.

NOTE: Project designation CUY-80 appearing throughout this plan shall be considered to read CUY-480.

SUPPLEMENTAL SPECIFICATIONS			
801	4-25-77		
808	1-1-71	021	12-4-72
		048	2-19-74
836	3-12-75	950	4-25-77
838	1-13-77	951	4-25-77
839	11-25-70		
842	8-29-74	1001	1-3-77
843	10-23-75		
844	11-8-74		
846	4-25-77		
		3625	1-11-74
850	6-27-77	3713	1-11-74

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS															
BP-1	6-1-65			GR-5	1-1-71	MC-6	6-1-65	HL-1	9-6-73	HL-16	4-6-73	TC-31.21	8-27-76		
BP-2	12-6-76	F-1	5-1-76	GR-6	1-1-71	MC-7	10-15-76	HL-2	7-27-73	HL-22	11-9-77	TC-32.10	8-27-76	TC-61.10	8-19-77
BP-3	12-6-76	F-3	5-1-76			MC-9	11-1-77	HL-3	7-27-73			TC-32.11	8-27-76	TC-71.10	12-1-75
BP-4	12-6-76			HW-1	6-1-65	MH-1	6-12-75	HL-4	1-21-76			TC-41.10	8-19-77		
BP-5	8-11-75	F-5	5-1-76	HW-3	6-1-65	MC-10	5-1-76	HL-5	9-6-73			TC-41.20	4-1-77	TC-81.10	4-18-77
BP-6	6-1-65	F-6	5-1-76	HW-4	1-1-70	MH-3	6-12-75	HL-6	3-22-77			TC-41.50	4-1-77	TC-83.10	9-5-75
BP-7	12-6-76	F-7	11-1-77			MH-5	6-12-75	HL-7	1-21-76	TC-7.65	10-1-74	TC-42.10	8-19-77	TC-83.20	9-5-75
BP-9	12-6-76	GR-1	12-6-76	I-2A	6-6-69			HL-8	1-21-76	TC-12.30	10-1-74	TC-42.20	4-1-77	TC-84.20	9-5-75
BP-10	1-3-75	GR-2B	12-6-76			AS-1-72	6-30-72	HL-9	3-22-77	TC-21.10	10-1-74			TC-85.10	9-5-75
BP-11	1-3-75	GR-3	12-6-76	L-1	6-1-73	BR-1-67	10-15-71	HL-10	1-21-76	TC-21.20	4-18-77	TC-51.10	6-2-75	TC-85.20	9-5-75
CB-3A	1-1-76	GR-3A	12-6-76	MC-1	6-13-69	RB-1-55	2-2-59	HL-11	4-6-73	TC-21.40	8-19-77	TC-51.11	6-2-75	TC-82.10	9-5-75
CB-5	9-1-69	GR-4	12-6-76	MC-3	6-1-73	SD-1-69	6-12-69	HL-12	4-6-73	TC-22.20	8-19-77	TC-52.10	4-1-77		
CB-6	6-1-65	GR-4A	7-26-76	MC-4	7-26-76			HL-15	1-21-76			TC-52.20	4-1-77		

Rev. 7-5-78

Rev. 4-12-78

PLANS PREPARED BY
ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
75 PUBLIC SQUARE
CLEVELAND, OHIO
FOR
STATE OF OHIO

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Rev. 6-22-78

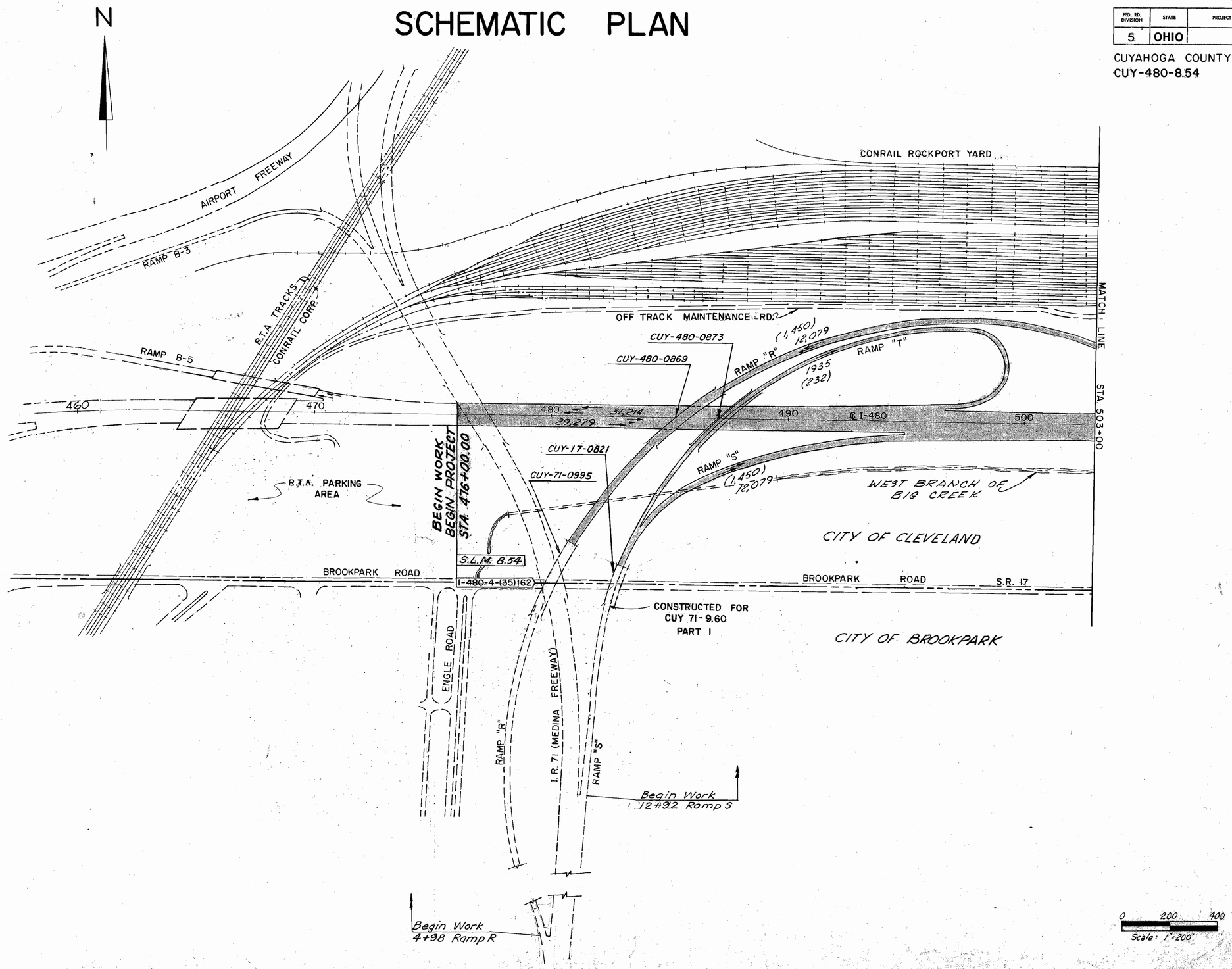
MICROFILMED
AUG 1 1982

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

2/346

CUYAHOGA COUNTY
CUY-480-8.54

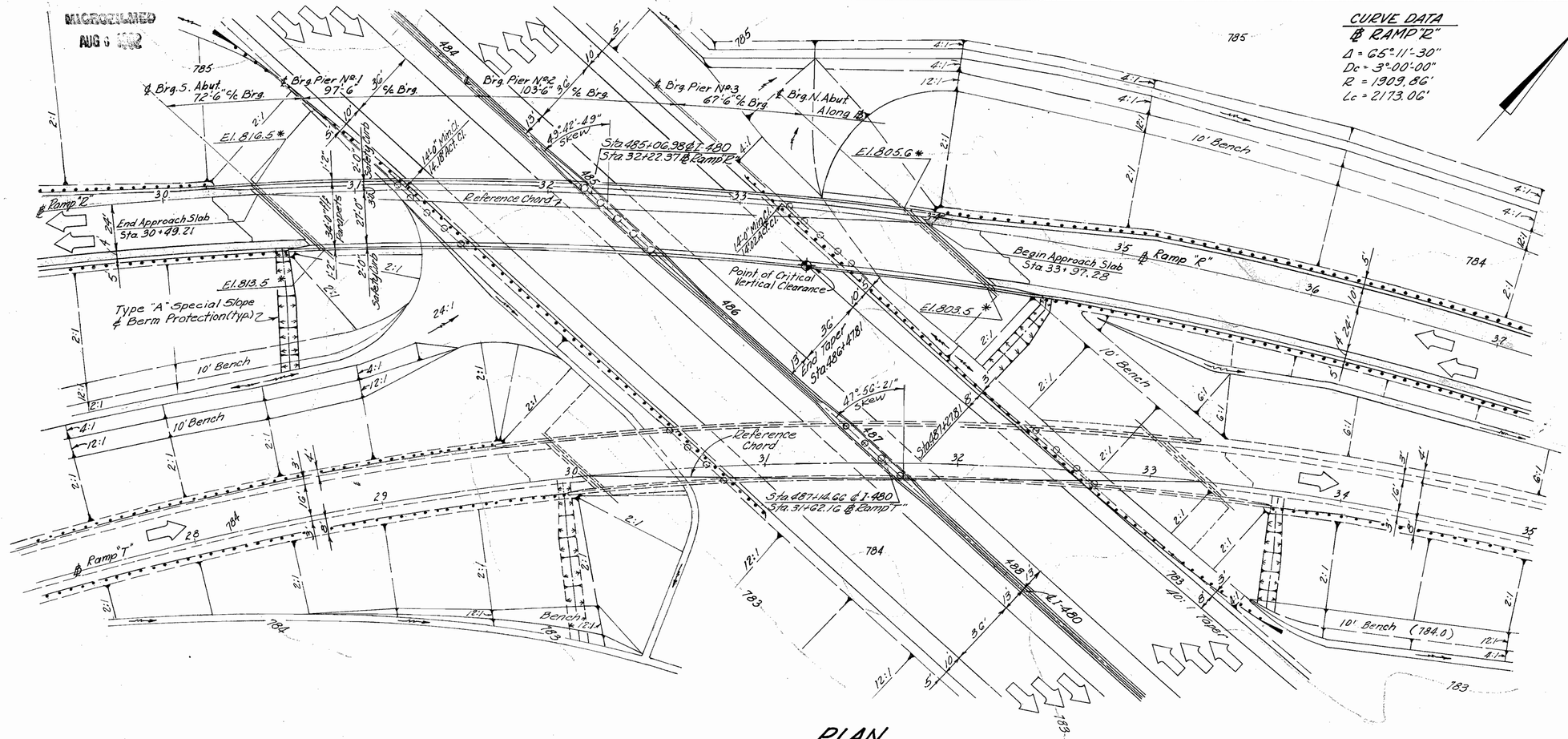


MICROFILMED
AUG 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

219
346

CUYAHOGA COUNTY
CUY.-480-8.54



PLAN

NOTE:

Reference chord is a line between intersections of ℄ Ramp "R" and ℄ Brg's. at abutments, Sta. 30+52.37 & Sta. 33+93.37.

Earthwork limits shown are schematic actual slopes shall conform to plan cross-sections.

* Elevations marked with an asterisk are at top of slope at face of abutment.

TRAFFIC ESTIMATE

DESIGN YEAR	1987
TOTAL A.D.T.	12,079

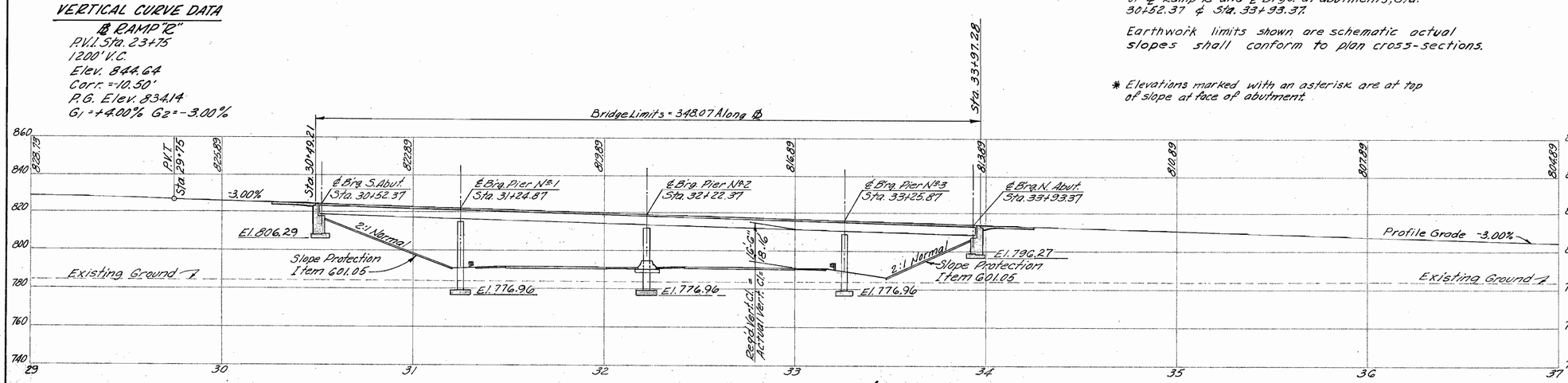
PROPOSED STRUCTURE

TYPE: Continuous steel girder with reinforced concrete deck and substructure.

SPANS: 72'-6", 97'-6", 103'-6", 67'-6" ⅋ Brg. Along ℄
ROADWAY: 34'-0" f/f Parapets

LOADING: C.F.-2000 (1957) Adequate for AASHO alternate loading.
SURFACE COURSE: Monolithic Concrete
SKEW: 49°42'-49" Rt. forward with respect to Ref. Chord.
ALIGNMENT: 3°00'00" Curve Right
APPROACH SLABS: AS-1-72 Modified (25' long)
SUPERELEVATION: 0.049 ft per ft

VERTICAL CURVE DATA
℄ RAMP "R"
P.V.I. Sta. 23+75
1200' V.C.
Elev. 844.64
Corr. = -10.50'
P.G. Elev. 834.14
G_1 = +4.00% G_2 = -3.00%



PROFILE ALONG ℄ RAMP "R"

0 30 60
Scale in Feet

1/16

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

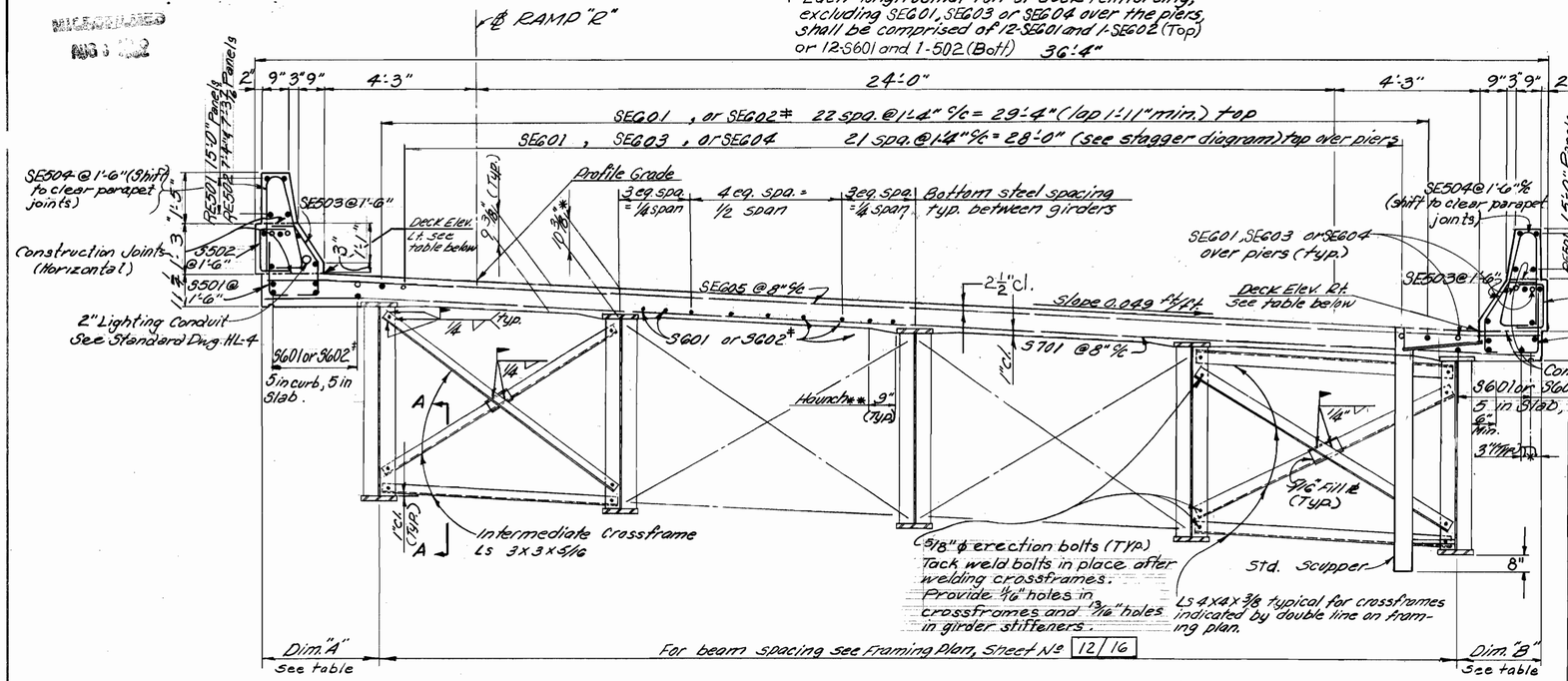
SITE PLAN
BRIDGE No CUY-480-0869
RAMP "R" OVER I-480
CUYAHOGA COUNTY STA. 30+49.21 STA. 33+97.28

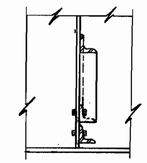
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	R.T.		G.W.M.	G.W.M.	3/6/67	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

229
346

CUYAHOGA COUNTY
CUY.-480-8.54





SECTION "A-A"

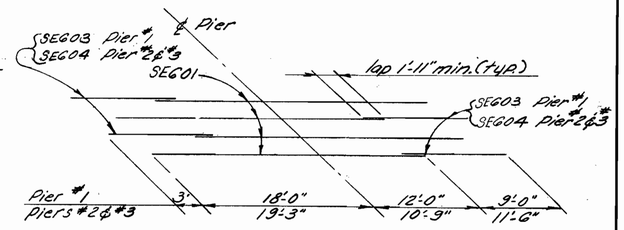


DIAGRAM SHOWING STAGGER OF SEG01, SEG03, & SEG04 BARS OVER PIERS

SLAB CANTILEVERS

LOCATION	DIM. "A"	DIM. "B"
℄ Brg. S. Abut.	2'-0"	1'-10 1/8"
Span #1 1/4 Pt.	2'-4 3/4"	1'-9 3/4"
1/2 Pt.	2'-7 1/2"	1'-10 3/4"
3/4 Pt.	2'-8 1/8"	2'-1 7/8"
Pier #1	2'-6 3/4"	2'-7 1/4"
Span #2, Splice Pt.	2'-3"	3'-3"
1/2 Pt.	3'-0 1/4"	2'-6 3/4"
3/4 Pt.	3'-3 5/8"	2'-4 1/4"
Pier #2	3'-3 1/8"	2'-5 3/4"
Span #3, Splice Pt.	3'-0"	2'-10 1/8"
1/2 Pt.	3'-3"	2'-7 1/2"
Splice Pt.	3'-0"	2'-11"
Pier #3	3'-2 1/2"	2'-6 1/2"
Span #4, 1/4 Pt.	3'-2 5/8"	2'-5"
1/2 Pt.	3'-0 5/8"	2'-5 1/2"
3/4 Pt.	2'-9 1/8"	2'-7 3/4"
℄ Brg. N. Abut.	2'-4"	3'-0"

NOTES

*This dimension is from the top of the slab to the top of the web of the girder and is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per sec. 511.19 of the construction and materials specifications.

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

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

Transverse slab bars shall be field bent below safety curb as required. Cost of field bending shall be included in Item 509 for payment.

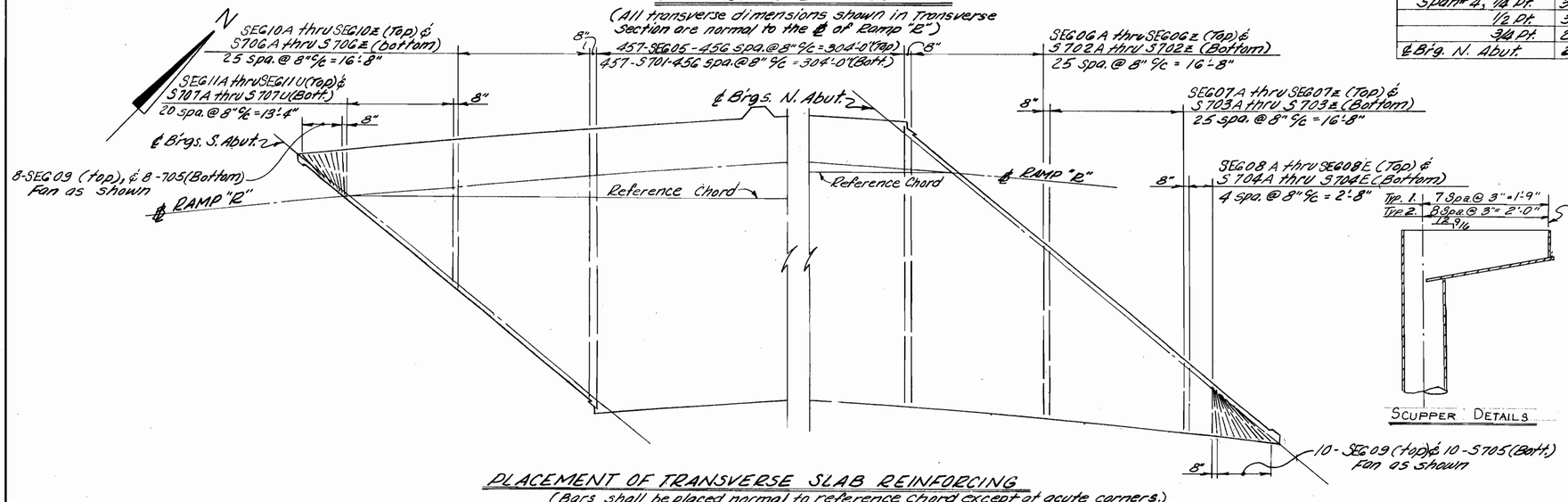
Scuppers shall be in accordance with Standard Drawing SD-1-69 except that scupper pipes shall extend 8" below the bottom of the beams instead of 2".
For Scupper Details see standard Drawing SD-1-69.

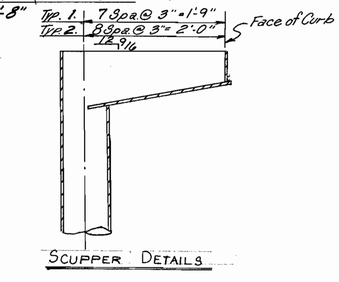
For additional Railing Details see Standard Drawing BRI-67.

For details of pilaster anchor bolts and pilaster see standard Drawings HL-3 & HL-4.

TRANSVERSE SECTION

(All transverse dimensions shown in Transverse Section are normal to the ℄ of Ramp "R")





SCUPPER DETAILS

PLACEMENT OF TRANSVERSE SLAB REINFORCING

(Bars shall be placed normal to reference chord except at acute corners.)

DECK ELEVATION AT FACE OF CURB

Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation
30+50.00 Lt.	824.60	31+69.87 Lt.	821.03	33+22.20 Lt.	816.43	30+80.69 Rt.	822.09	32+04.66 Rt.	818.40	33+63.06 Rt.	813.62
30+66.63 Lt.	824.12	31+94.51 Lt.	820.28	33+38.70 Lt.	815.94	30+99.20 Rt.	821.55	32+30.15 Rt.	817.62	33+80.50 Rt.	813.10
30+84.83 Lt.	823.58	32+19.16 Lt.	819.52	33+55.20 Lt.	815.46	31+17.70 Rt.	821.00	32+55.64 Rt.	816.84	33+97.95 Rt.	812.58
31+03.03 Lt.	823.02	32+39.77 Lt.	818.93	33+71.70 Lt.	814.96	31+36.20 Rt.	820.43	32+76.95 Rt.	816.22	34+15.39 Rt.	812.06
31+21.23 Lt.	822.46	32+70.39 Lt.	818.04	33+88.19 Lt.	814.45	31+54.70 Rt.	819.87	33+08.81 Rt.	815.30	34+32.82 Rt.	811.52
31+40.31 Lt.	821.90	33+01.02 Lt.	817.09			31+74.09 Rt.	819.30	33+40.69 Rt.	814.31		

NOTE:

The Deck Elevations shown in the table are at top of the reinforced concrete slab and are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

11/16

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

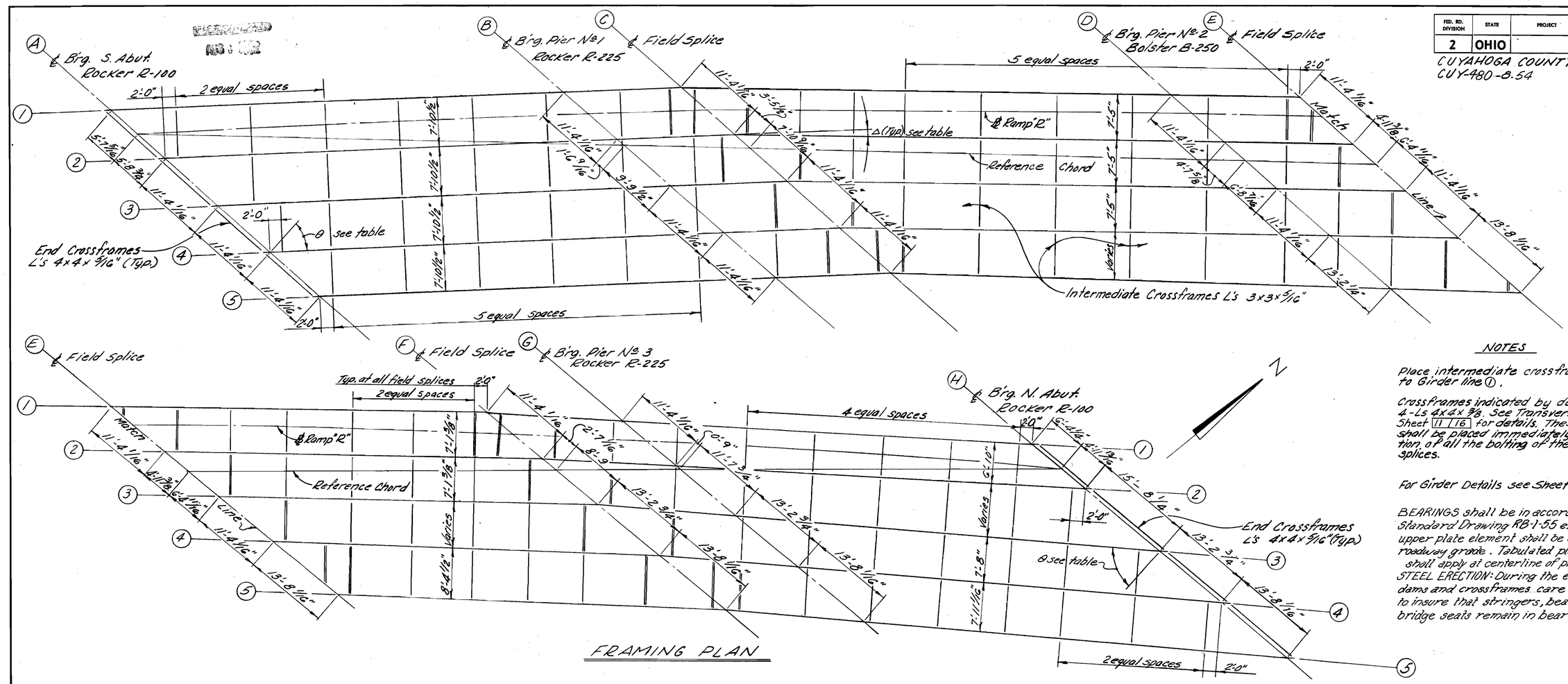
BRIDGE No CUY. 480-0869
RAMP "R" OVER I-480
CUYAHOGA COUNTY STA. 30+49.21 STA. 33+97.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	R.T.		G.W.M.	G.W.M.	3/6/67	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
CUY-480-8.54

230
346



FRAMING PLAN

NOTES

Place intermediate crossframes normal to Girder line ①.

Crossframes indicated by double line are 4-Ls 4x4x3/8. See Transverse Section Sheet 11/16 for details. These Crossframes shall be placed immediately upon completion of all the bolting of the adjacent field splices.

For Girder Details see Sheet No. 13/16.

BEARINGS shall be in accordance with Standard Drawing RB-1-55 except that upper plate element shall be beveled to match roadway grade. Tabulated plate thickness C shall apply at centerline of plate.

STEEL ERECTION: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

TABLE OF DEFLECTION ANGLES & GIRDER LENGTHS

Bearing Point or Splice Point

		Girder Row ①	Girder Row ②	Girder Row ③	Girder Row ④	Girder Row ⑤
Ⓐ	θ	46°-00'-52"	46°-00'-52"	46°-00'-52"	46°-00'-52"	46°-00'-52"
	Length Ⓐ Ⓑ	72'-11 1/8"	72'-11 1/8"	72'-11 1/8"	72'-11 1/8"	72'-11 1/8"
Ⓑ	Δ	0	0	0	0	0
	Length Ⓑ Ⓒ	19'-1 1/2"	19'-1 1/2"	19'-1 1/2"	19'-1 1/2"	19'-1 1/2"
Ⓒ	Δ	3°-08'-44"	3°-08'-44"	3°-08'-44"	3°-08'-44	4°-00'-26
	Length Ⓒ Ⓓ	78'-11 13/16"	78'-11 13/16"	78'-11 13/16"	78'-11 13/16"	80'-4 11/16"
Ⓓ	Δ	0	0	0	0	0
	Length Ⓓ Ⓔ	20'-7 5/8"	20'-7 5/8"	20'-7 5/8"	20'-7 5/8"	21'-0 9/16"
Ⓔ	Δ	1°-58'-46"	1°-58'-46"	1°-58'-46"	3°-03'-39"	2°-11'-57"
	Length Ⓔ Ⓕ	61'-4 3/16"	61'-4 3/16	61'-4 3/16"	62'-10"	62'-10"
Ⓕ	Δ	1°-47'-20"	1°-47'-20"	3°-26'-33"	2°-21'-40"	2°-21'-40
	Length Ⓕ Ⓖ	21'-2 9/16"	21'-2 9/16"	22'-0 3/4"	22'-0 3/4"	22'-0 3/4"
Ⓖ	Δ	0	0	0	0	0
	Length Ⓖ Ⓗ	66'-1 1/4	66'-1 1/4"	68'-9 1/8"	68'-9 1/8"	68'-9 1/8"
Ⓗ	θ	52°-55'-41"	52°-55'-41"	54°-34'-54"	54°-34'-54"	54°-34'-54"

12/16

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE No. CUY-480-0869
RAMP "R" OVER I-480
CUYAHOGA COUNTY STA. 30+49.21 STA. 33+97.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	R.T.		G.W.M.	G.W.M.	3/6/67	