

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
RIC-30-16.37
 RICHLAND COUNTY
 MIFFLIN TOWNSHIP
 GRADE SEPARATION OF REED RD WITH USR 30

RF-49 (6)

FHWA REGION	STATE	PROJECT
5	OHIO	RF-49 (6)

125

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 OF TRANSPORTATION IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02, REVISED CODE OF OHIO.

1977 SPECIFICATIONS

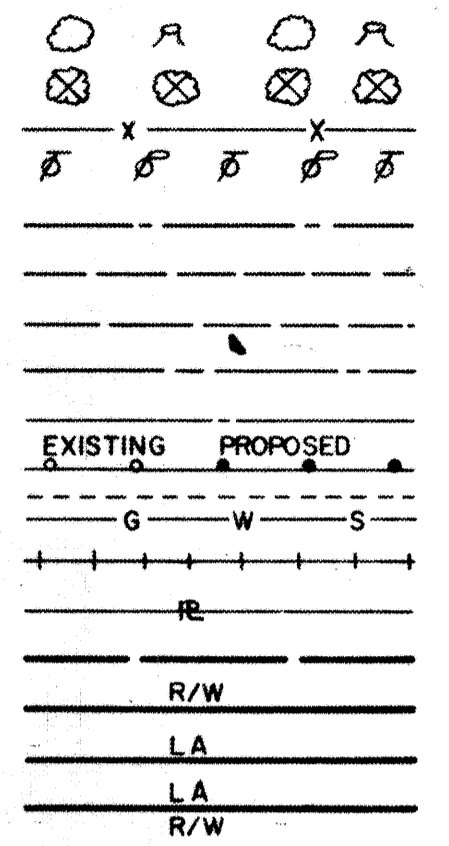
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

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 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.

CONVENTIONAL SIGNS

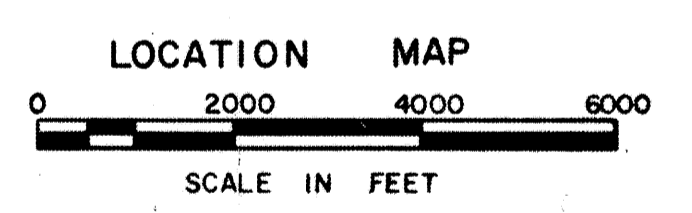
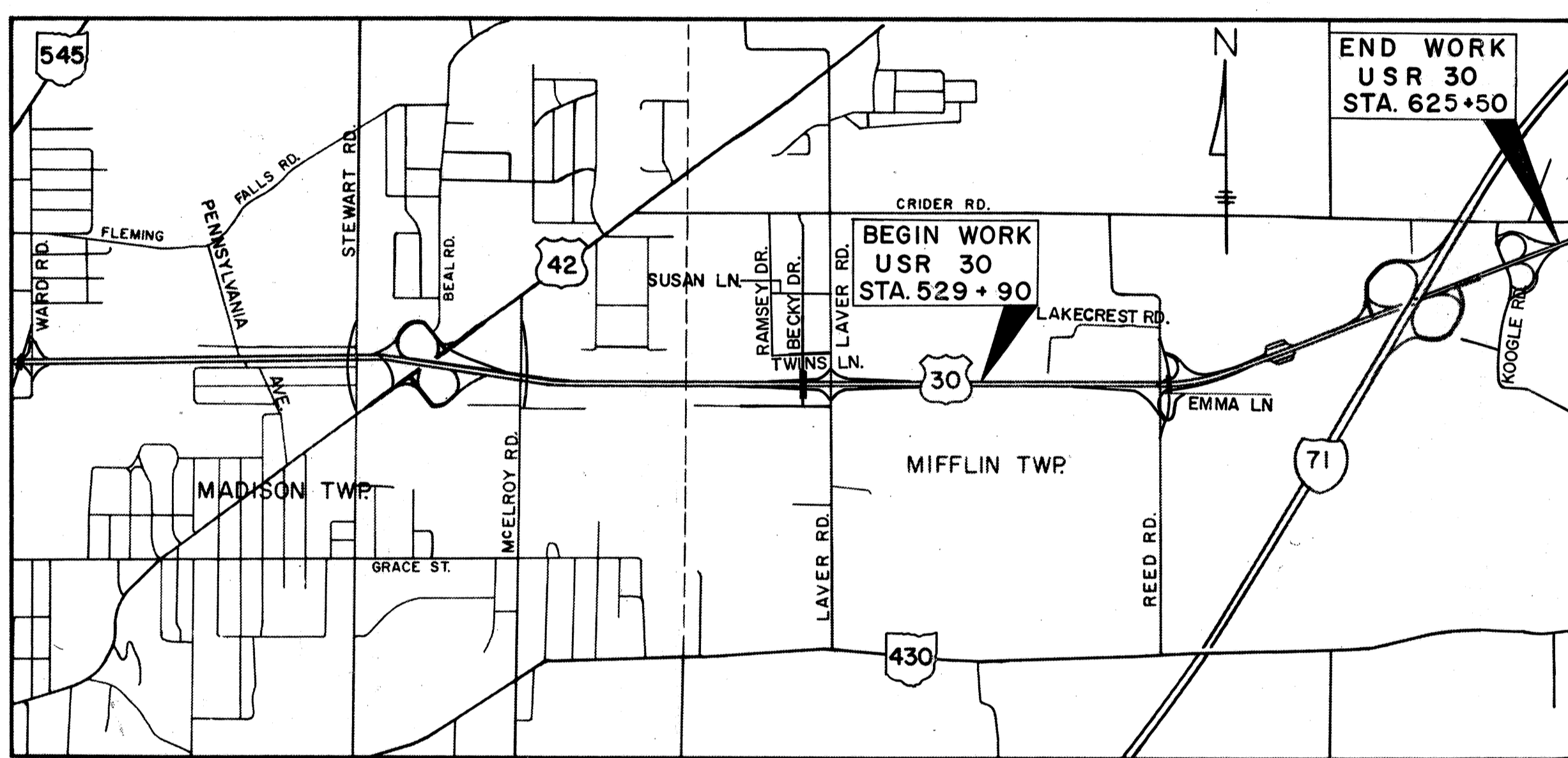
- TREES AND STUMPS (EXISTING)
- TREES (TO BE REMOVED IN NON-LA R/W)
- FENCE LINE
- POLE LINE
- COUNTY LINE
- TOWNSHIP LINE
- SECTION LINE
- CORPORATION LINE
- CENTER LINE
- GUARD RAIL
- EXISTING PIPE RAILROAD
- PROPERTY LINE
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED LIMITED ACCESS RIGHT OF WAY
- PROPOSED LIMITED ACCESS AND RIGHT OF WAY



INDEX OF SHEETS

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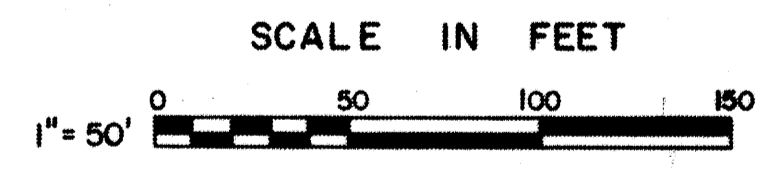
SHEET NUMBERS 14, 98, 109-113, 118 DELETED FROM PLANS.



PORTIONS TO BE IMPROVED
 STATE HIGHWAYS & OTHER ROADS

SCALES

- PLAN 1" = 50'
- PROFILE HORIZONTAL 1" = 50'
- PROFILE VERTICAL 1" = 5'
- CROSS SECTIONS 1" = 10'



LINE DATA

PROJECT	PROJECT LENGTH = 0.00					LENGTH	
	BEGIN STATION	SUSPEND STATION	RESUME STATION	END STATION	LIN. FT.	MILES	
WORK							
USR 30	529+90	582+10	606+90	625+50	5270		
		607+10	625+20				
REED ROAD	11+90			37+10	2520		
EMMA LANE	0+32.38			8+75	842.62		
WORK-TOTAL LENGTH					8632.62	1.634	

STANDARD DRAWINGS

STANDARD DRAWINGS								SUPPLEMENTAL SPECIFICATIONS	
BP-1	6-1-65			HW-4	1-1-70	AS-1-72	6-30-72		
BP-2	12-1-68	F-2	5-1-76	MC-10	5-1-76	RB-1-55	2-2-59		
		F-3	5-1-76	MC-3	6-1-73	SR-1-59	6-12-69		
		F-5	5-1-76	MC-4	7-26-76	SR-1-59	10-15-71	808	1-1-71
BP-5	8-11-75	L-1	6-1-73	MC-5	6-12-73	TC-7.65	10-1-74		
BP-6	6-1-65			MC-6	6-1-65	TC-21.10	10-1-74	844	11-8-74
BP-7	1-1-66	GR-2B	11-9-71	MC-7	10-15-76	TC-22.10	10-1-74	838	3-18-70
CB-2-2-A & B	6-1-65	GR-3	11-9-71	MC-8	6-12-75	TC-51.10	6-2-75	847	4-3-76
CB-4	9-1-69	GR-4	11-9-71	TC-61.10	12-1-75	TC-51.11	6-2-75	836	3-12-75
CB-5	9-1-69	GR-5	1-1-71	TC-71.10	12-1-75	HL-1	9-6-73	1001	1-3-77
CB-6	6-1-65	GR-6	1-1-71			HL-10	1-21-76	5625	1-11-74
CB-458A	6-6-68					HL-15	1-21-76	5713	1-11-74

Prepared and Recommended By
 SHAFFER, JOHNSTON, LICHTENWALTER
 AND ASSOCIATES, INC.
 Consulting Engineers
 MANSFIELD OHIO WOOSTER

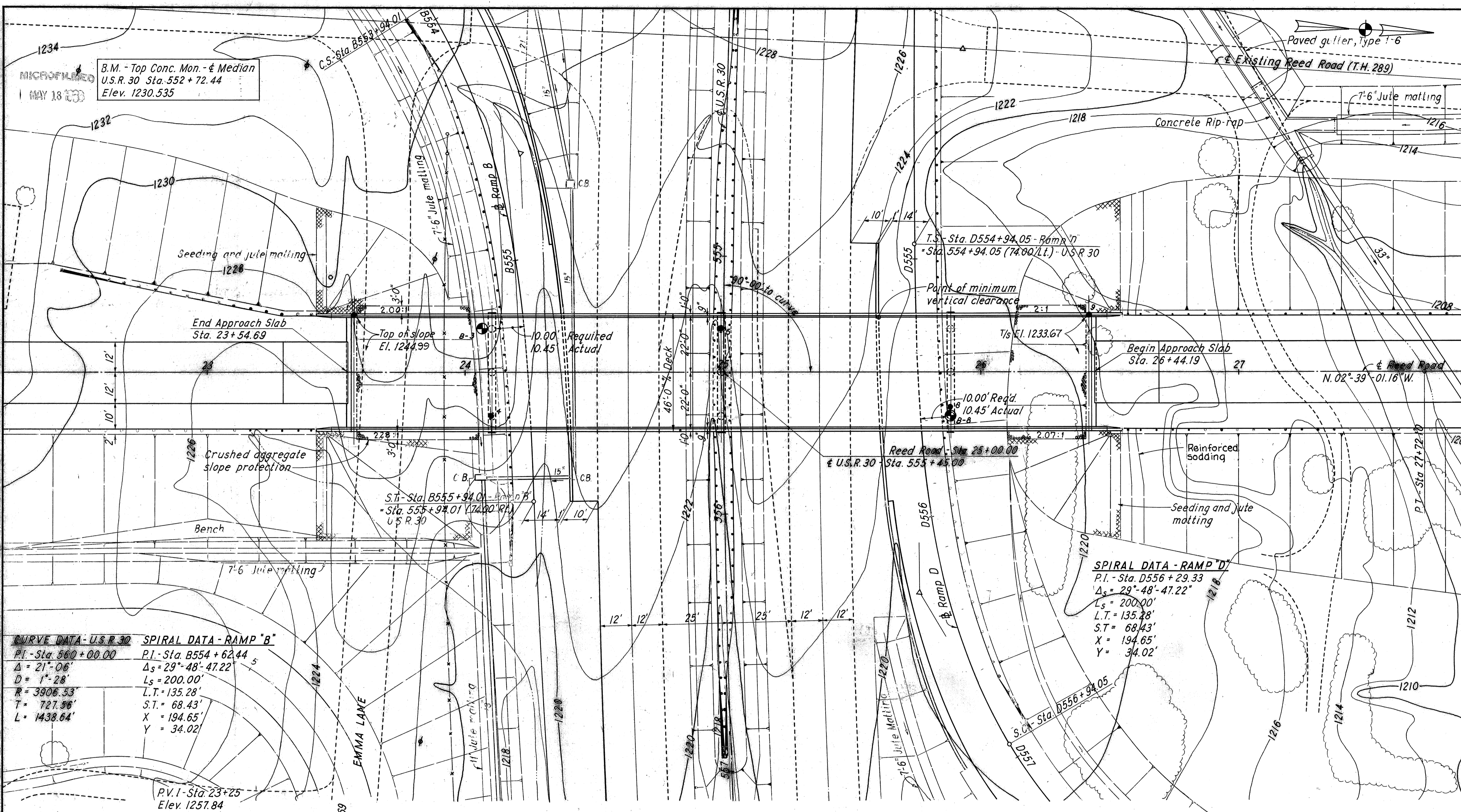
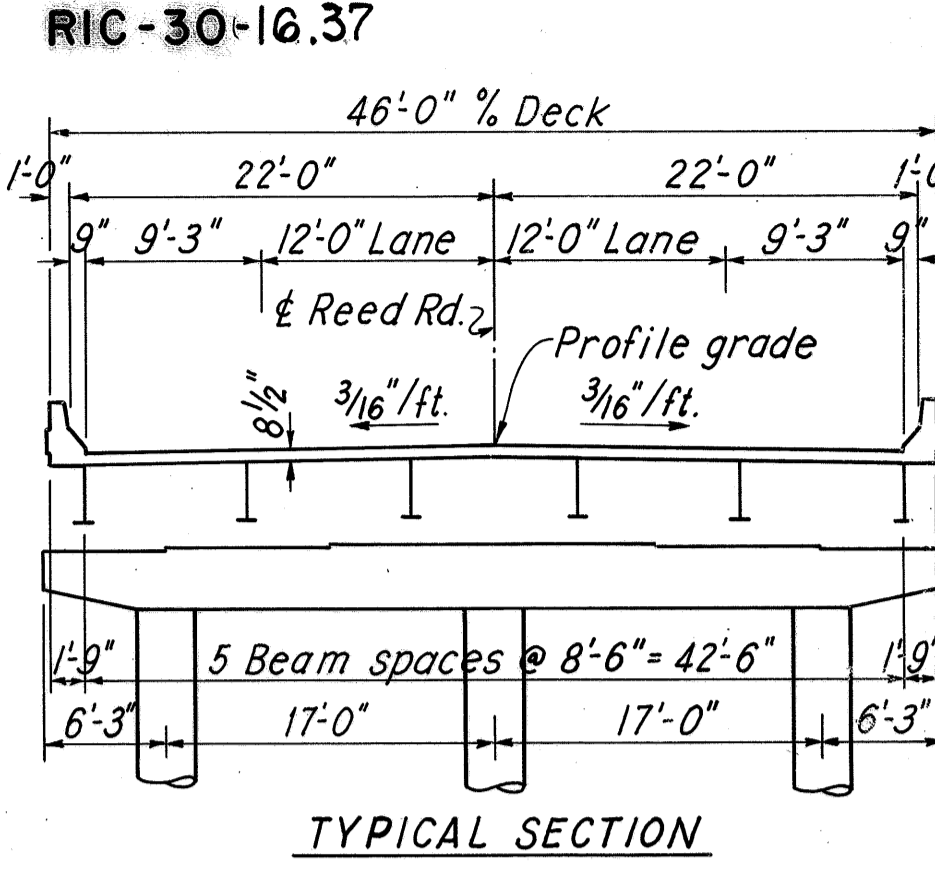
DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DATE _____

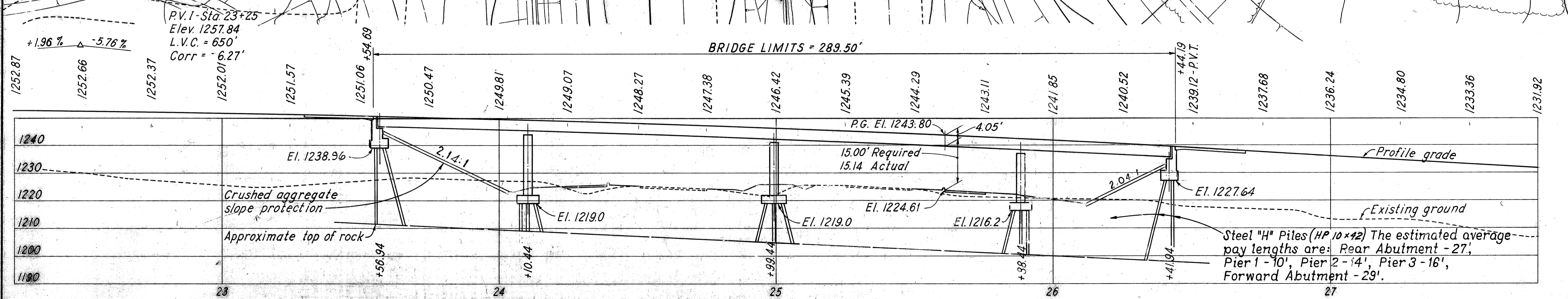
DIVISION ADMINISTRATOR _____

FILE NO. _____
 RICHLAND COUNTY RIC-30-16.37
 DATE OF LETTING _____
 CONTRACT NO. _____

FED. RD. DIVISION	STATE	PROJECT	90
2	OHIO		



CURVE DATA - U.S.R. 30	SPIRAL DATA - RAMP "B"
P.I. - Sta. 560+00.00	P.I. - Sta. B554+62.44
$\Delta = 21^\circ-06'$	$\Delta_s = 29^\circ-48'-47.22"$
$D = 1^\circ-28'$	$L_s = 200.00'$
$R = 3906.53'$	$L.T. = 135.28'$
$T = 727.96'$	$S.T. = 68.43'$
$L = 1438.64'$	$X = 194.65'$
	$Y = 34.02'$



EARTHWORK limits shown are schematic. Actual slopes shall conform to plan cross sections

- Core boring location
- Rod sounding location

PROPOSED STRUCTURE
 TYPE: Continuous steel beam with reinforced concrete deck and substructure
 SPANS: 53.5'-89'-89'-53.5' % Bearings
 ROADWAY: 44'-0" flt Parapets
 LOADING: HS 20-44
 SKEW: 0°
 WEARING SURFACE: 1" Monolithic concrete
 APPROACH SLABS: AS-1-72 (25' long) Modified
 ALIGNMENT: Tangent
 AVERAGE DAILY TRAFFIC: Reed Road (1988) = 1355. U.S.R. 30 (1988) = 16,105

SHAFFER, JOHNSTON, LICHTENWALTER AND ASSOCIATES, INC.
 CONSULTING ENGINEERS
 MANSFIELD OHIO WOOSTER

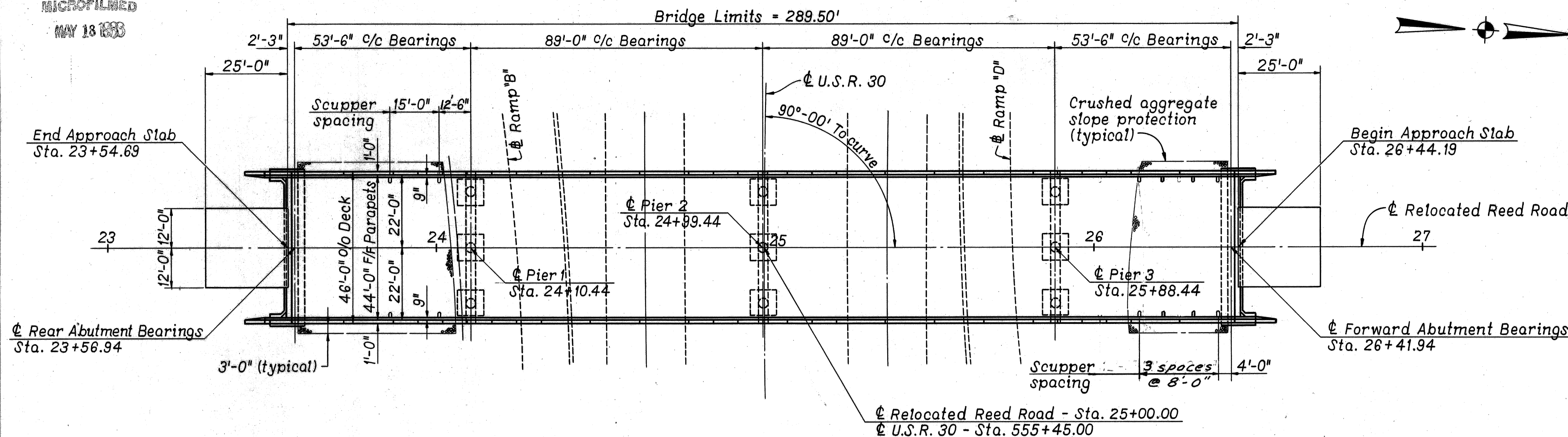
SITE PLAN
 BRIDGE NO. RIC-30-1638
 UNDER REED ROAD (T.H. 289)
 RICHLAND COUNTY U.S.R. 30
 STA. 555+45.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RAK		JM	7-27-70	

MICROFILMED
MAY 18 1983

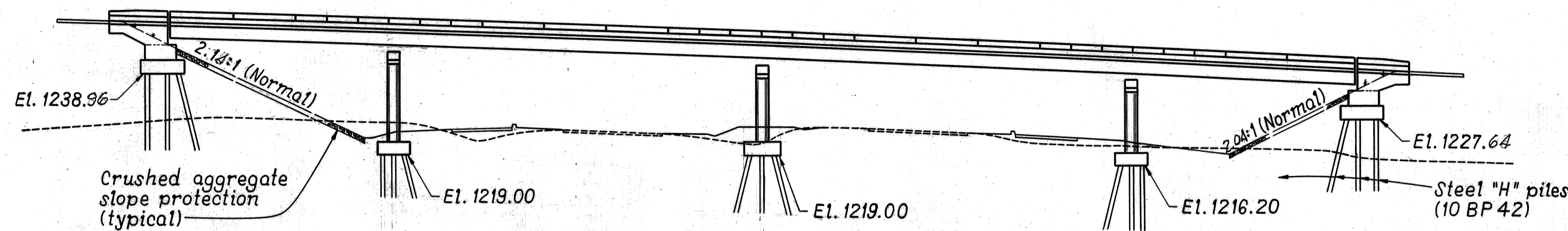
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		91

RIC - 30 - 16.37



P.V.I. - Sta. 23+25
Elev. 1257.84
L.V.C. = 650'
Corr. = -6.27'
+1.96% -5.76%

GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN'L
503	396	Cu.Yds.	Unclassified excavation		218	178	
505	Lump	Sum	Test Pile				Lump
507	1720	Lin.Ft.	Steel H piles, HP 10 x 42		840	880	
509	88,622	Lbs.	Reinforcing steel	49,309	13,123	26,190	
Special	51,342	Lbs.	Epoxy coated reinforcing steel (See Proposal Note)	51,342			
511	421	Cu.Yds.	Class C concrete, superstructure	421			
511	86	Cu.Yds.	Class C concrete, piers above footings			86	
511	159	Cu.Yds.	Class C concrete, footings		78	81	
511	100	Cu.Yds.	Class C concrete, abutments above footings		100		
513	390,316	Lbs.	Structural steel	390,316			
514	390,316	Lbs.	Field painting structural steel	390,316			
518	12	Each	Scuppers, including supports	12			
518	52	Cu.Yds.	Porous backfill		52		
518	77	Lin.Ft.	6" Perforated helical C.S.P. including specials, 707.01		77		
518	82	Lin.Ft.	6" Non-perforated helical C.S.P., 707.01		82		
601	480	Sq.Yds.	Crushed aggregate slope protection				480
808	421	Units	Chemical admixtures for concrete, Type A, B or D	421			
838	3	Hrs.	Special pile tests				3

GENERAL NOTES

REFERENCE shall be made to Standard Drawings AS-1-72 (Dated 6-30-72); SD-1-69, sheets 1 thru 4 of 4 (dated 6-12-69); BR-1-67, sheet 1 of 3 (revised 10-15-71); RB-1-55 (revised 2-2-59); and to Supplemental Specifications 808 (dated 1-1-71), 836 (dated 3-12-75) and 838 (dated 3-18-70)

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1965, including the Ohio "Supplement" to these specifications.

DESIGN DATA:
Design Loading - HS 20-44
Concrete Class "C" - unit stress 1200 p.s.i. for superstructure unit stress 1333 p.s.i. for substructure
Structural Steel - ASTM A36 - unit stress 20,000 p.s.i.
Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 p.s.i. Spiral reinforcement be plain bars ASTM A82 or A615.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutments and Pier 1, and piles driven.

MAINTENANCE OF TRAFFIC: Four lanes of traffic with a minimum horizontal width extending 49' out both directions from U.S.R. 30 and a minimum vertical clearance of 13'-6" shall be maintained on U.S.R. 30 at all times.

PILES shall be driven to refusal on bedrock or to 20 blows per inch for the last few inches of penetration. The design load is 35 tons per pile for the abutment and pier piles.

END DAMS AND SCUPPERS: Steel bar stock utilized for end dams and scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.

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

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".

Modify Standard Drawing AS-1-72 as follows:

- (a) Dimension w = 24'-0"
- (b) change clearance for top reinforcing steel to 3" from 2"
- (c) omit jacking holes.

SHAFFER, JOHNSTON, 2/6
 LICHTENWALTER AND ASSOCIATES, INC.
 Consulting Engineers
 MANSFIELD OHIO WOOSTER

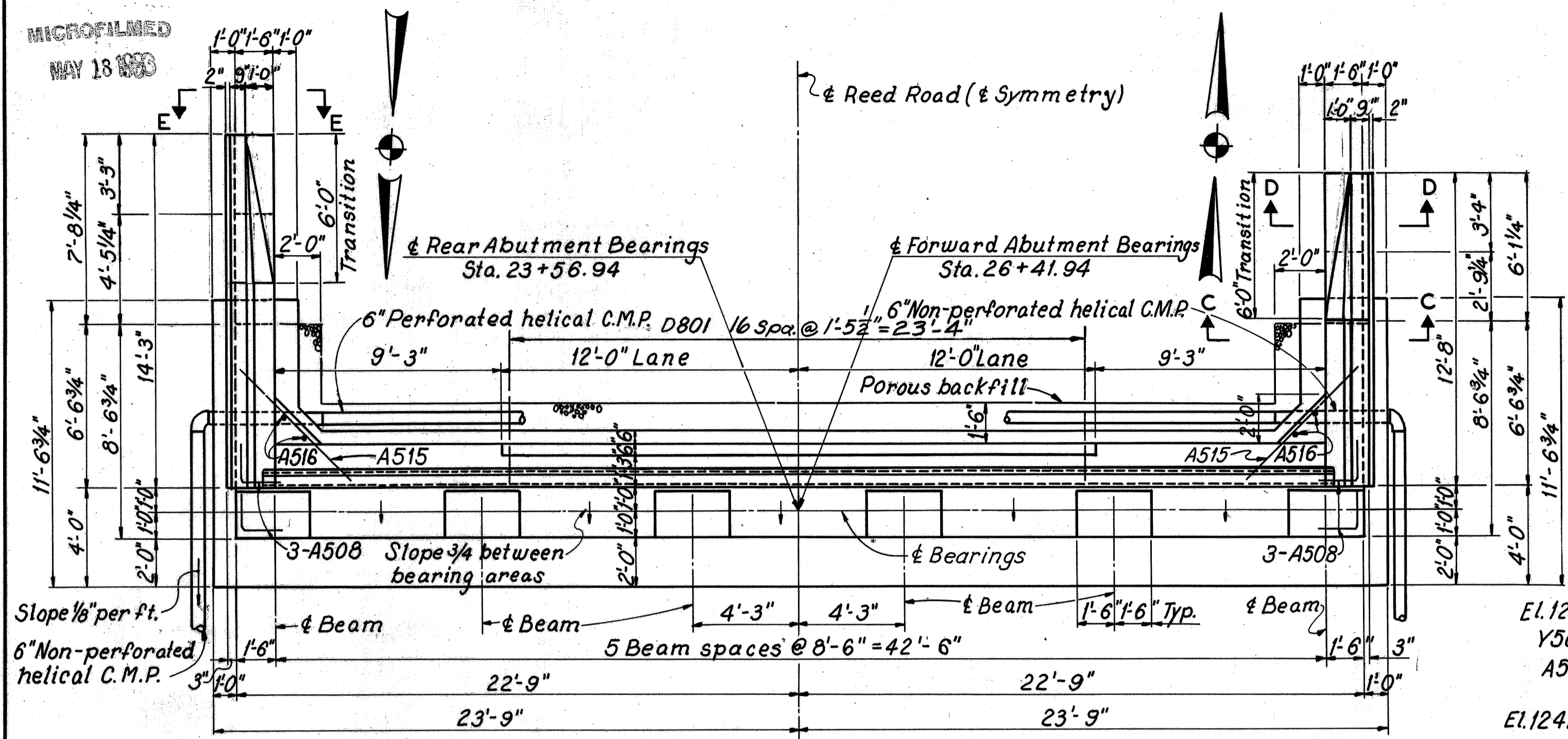
GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES
 BRIDGE NO. RIC - 30 - 1638.2
 UNDER REED ROAD (T.H. 289)
 RICHLAND COUNTY U.S.R. 30
 STA. 555 + 45.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	JM	RWH	LK		7-27-70	

MICROFILMED
MAY 13 1983

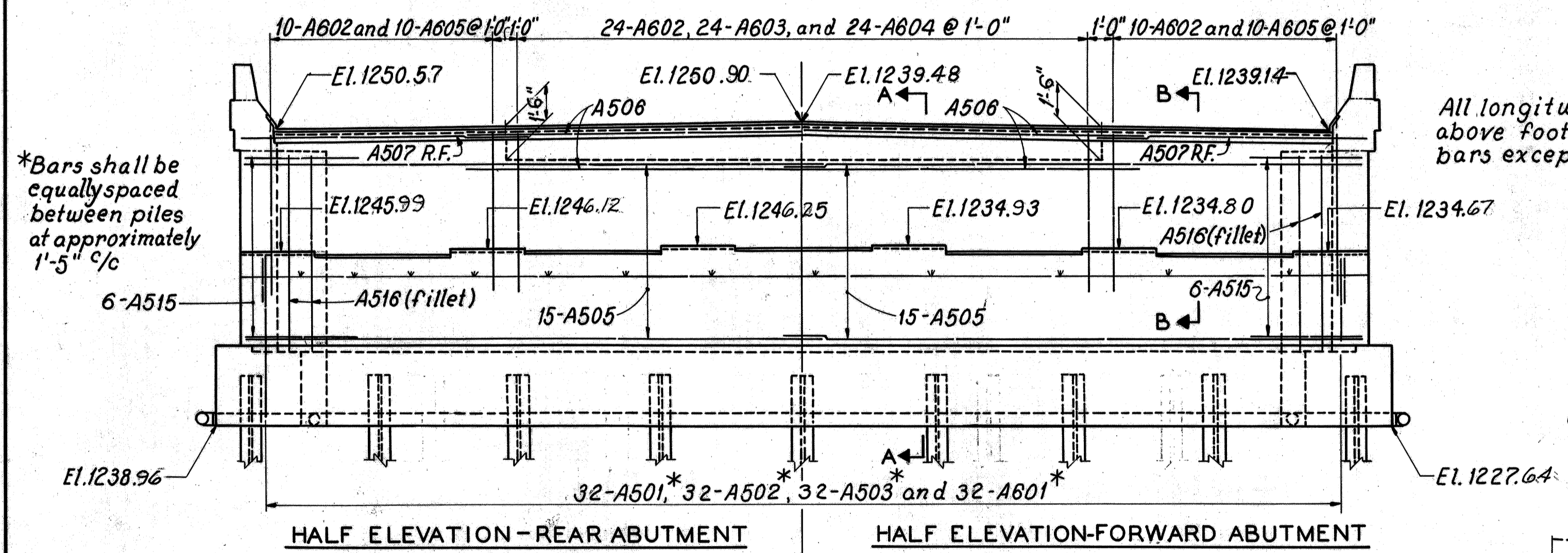
FED. RD. DIVISION	STATE	PROJECT	92
2	OHIO		

RIC-30-16.37



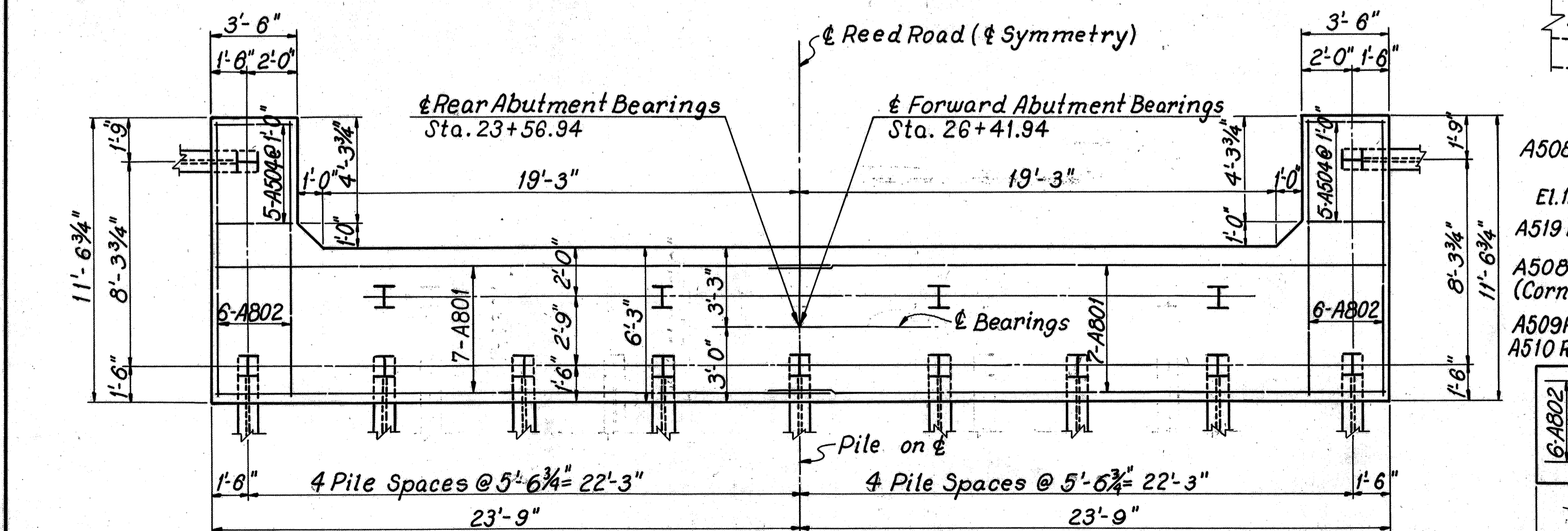
HALF PLAN - REAR ABUTMENT

HALF PLAN - FORWARD ABUTMENT



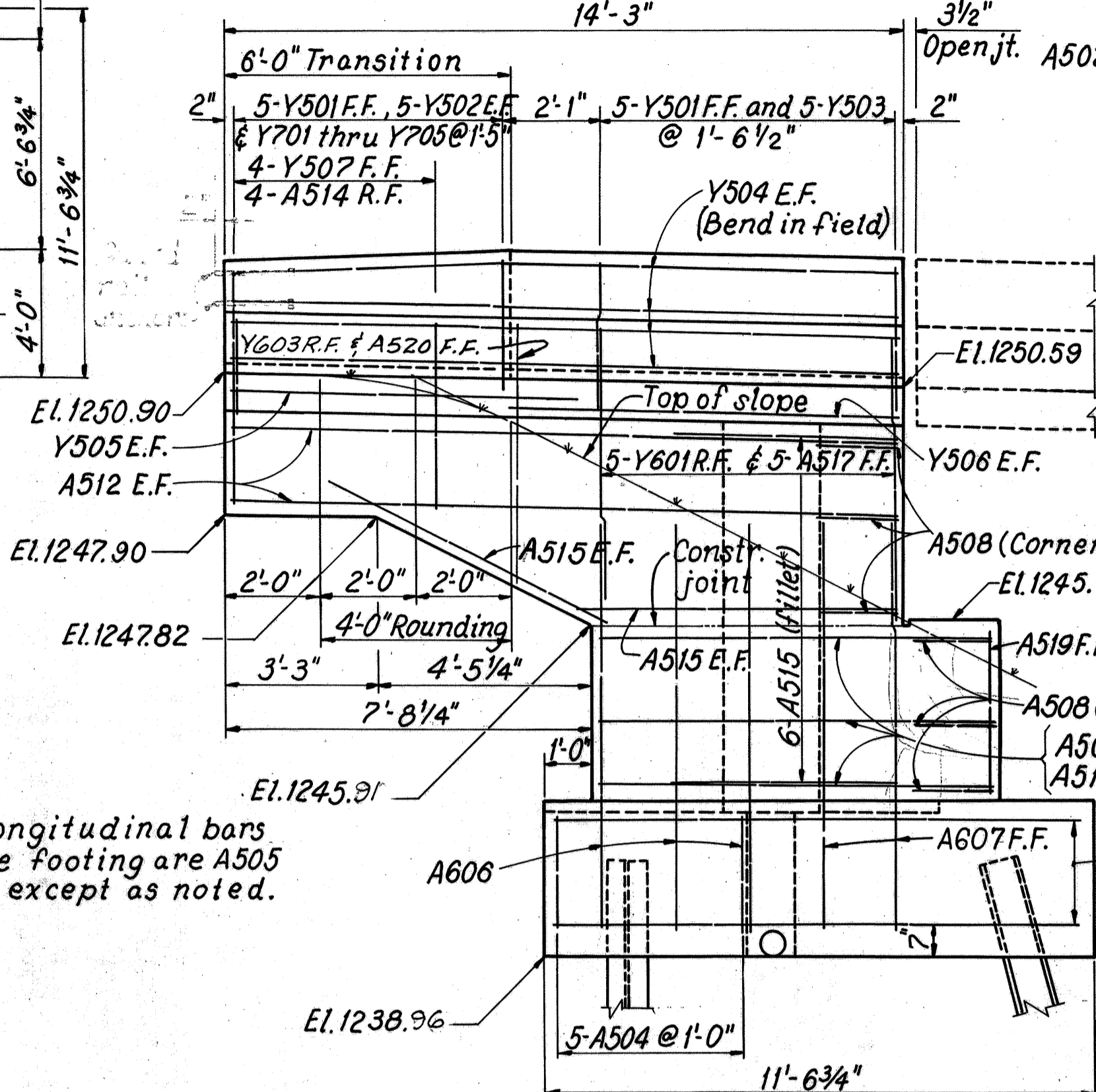
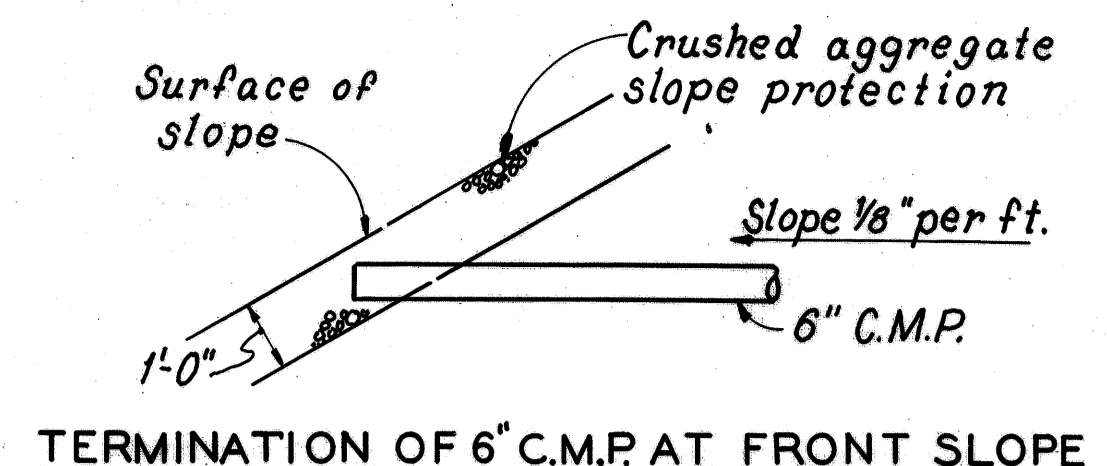
HALF ELEVATION - REAR ABUTMENT

HALF ELEVATION - FORWARD ABUTMENT

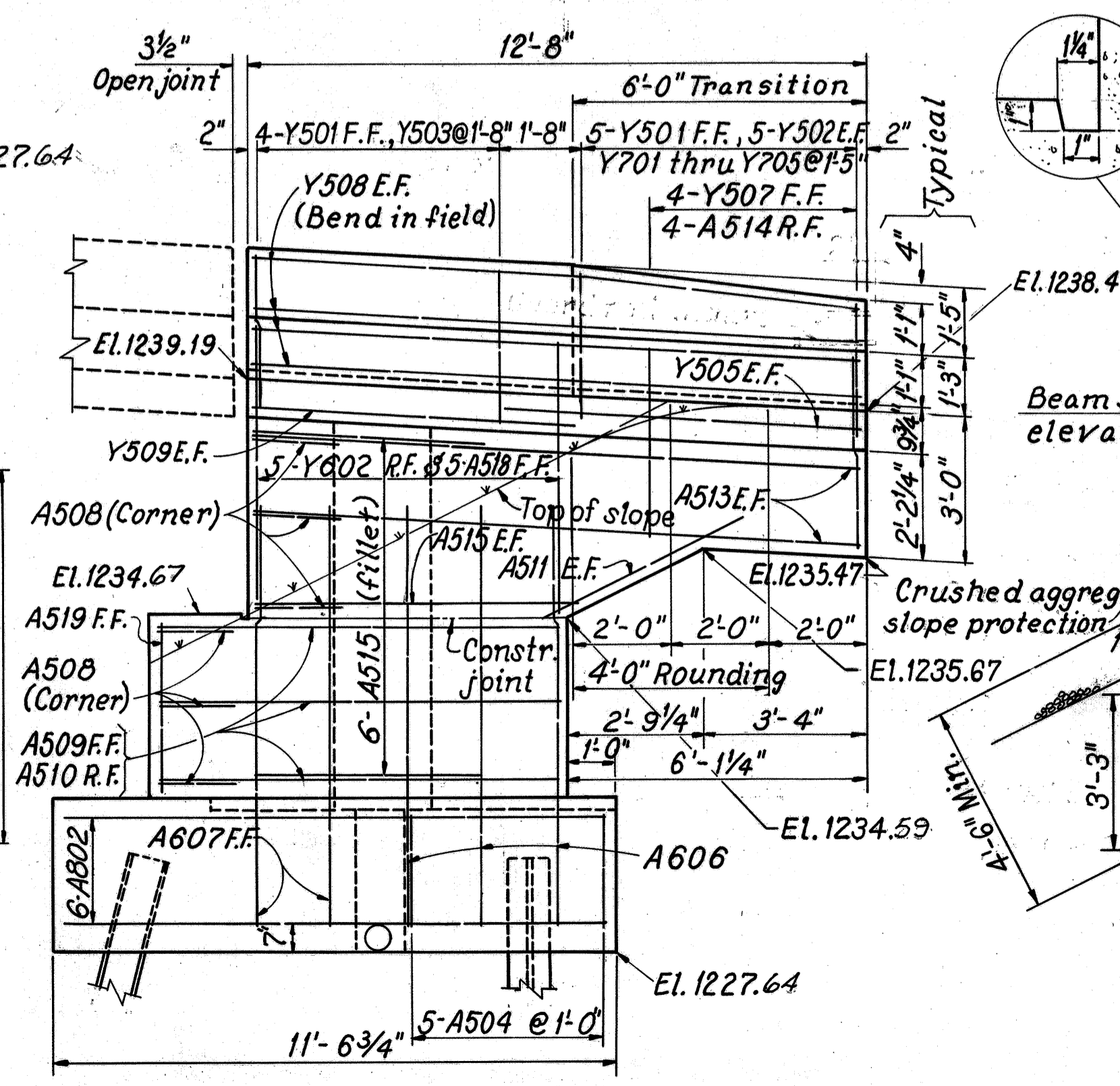


HALF FOOTING PLAN - REAR ABUTMENT

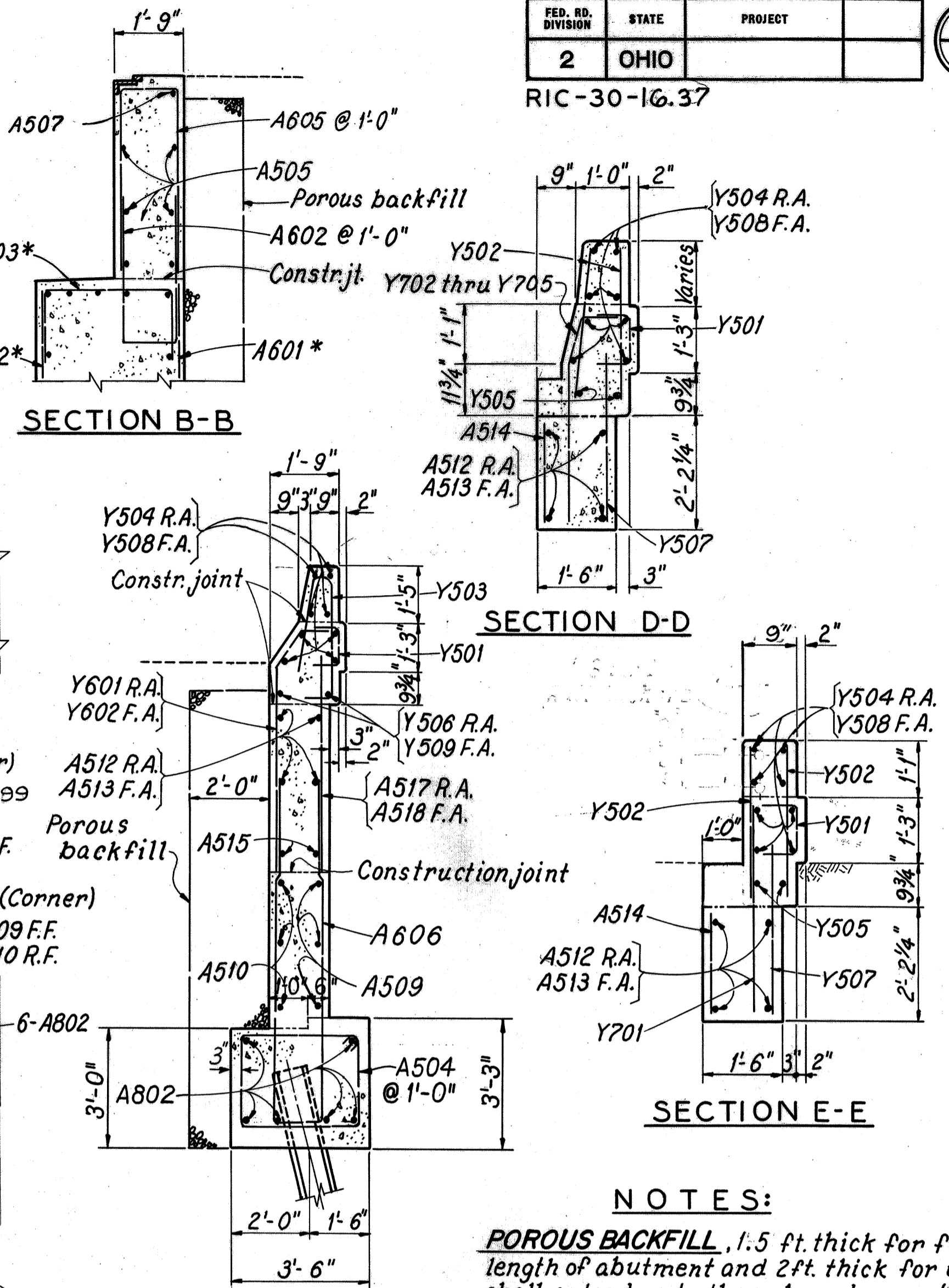
HALF FOOTING PLAN - FORWARD ABUTMENT



WINGWALL ELEVATION - REAR ABUTMENT



WINGWALL ELEVATION - FORWARD ABUTMENT



SECTION B-B

SECTION D-D

SECTION E-E

NOTES:

POROUS BACKFILL, 1.5 ft. thick for full length of abutment and 2 ft. thick for wings, shall extend up to the subgrade and laterally to the ends of the wing walls.

NOTATION: F.F. - Front Face; R.F. - Rear Face; E.F. - Each Face; R.A. - Rear Abutment; F.A. - Forward Abutment

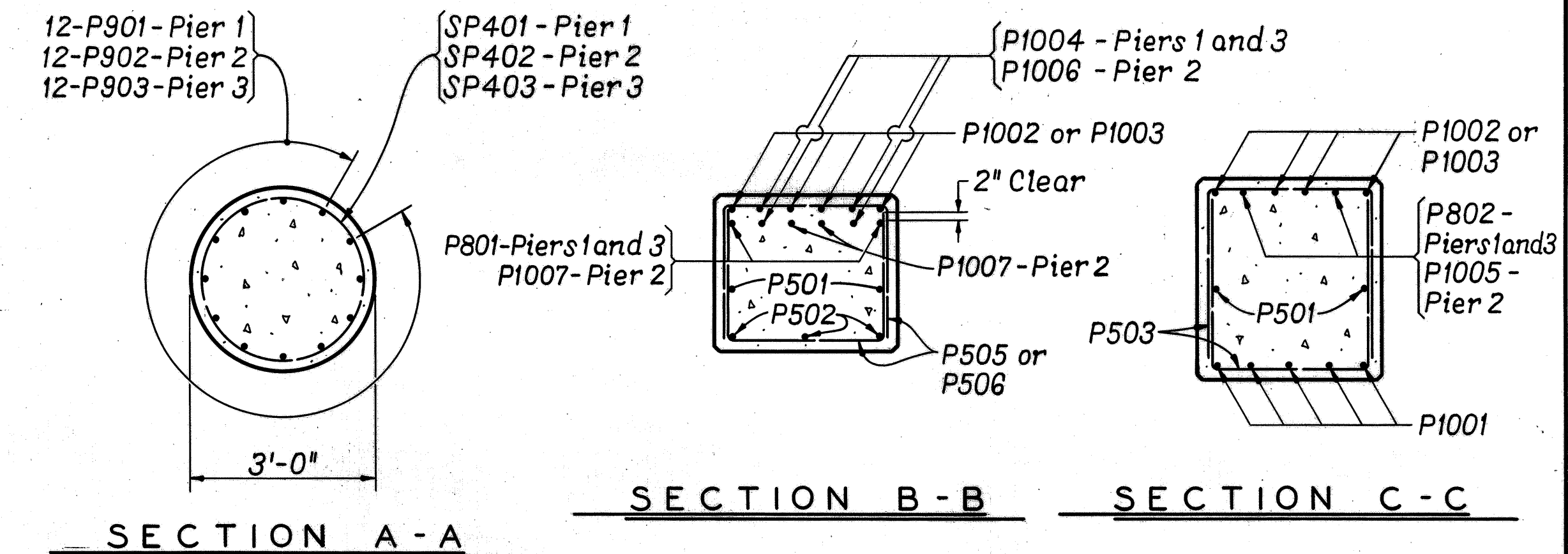
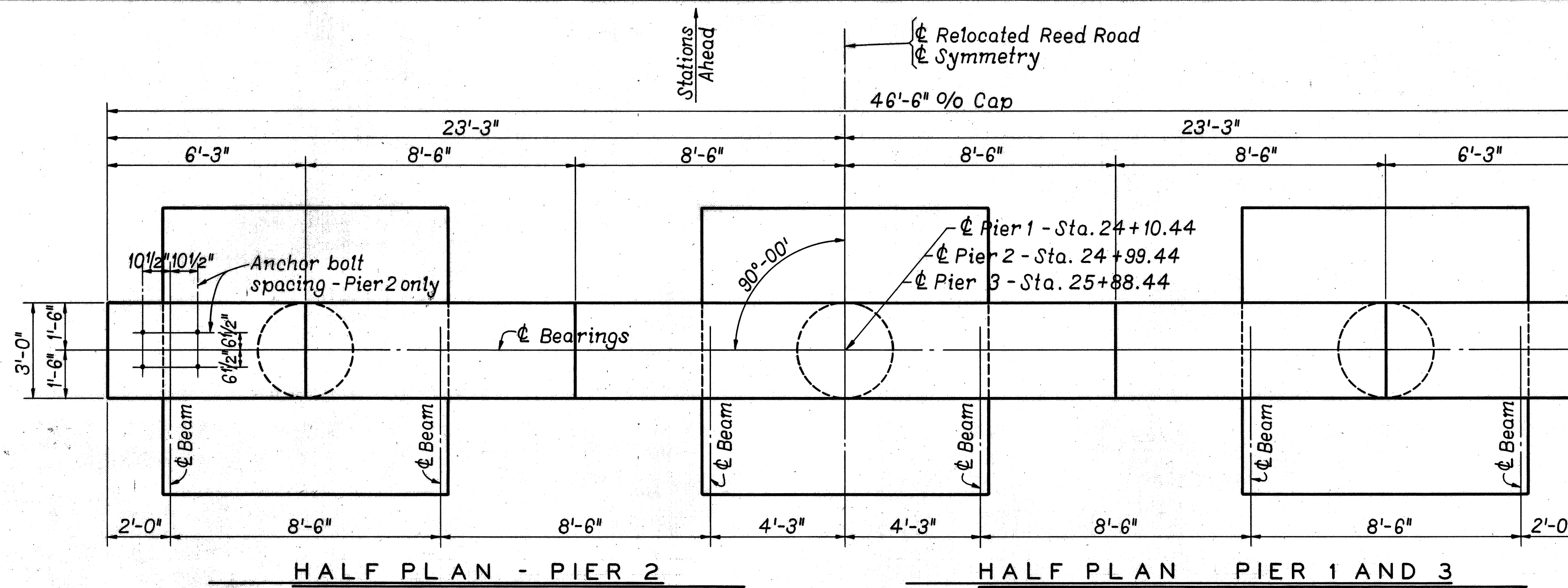
PARAPET TRANSITION (AND WINGWALL ENDS) shall be as shown on Std. DWG. BR-1-67 revised 10-15-71. Reinforcing steel shall be field bent or cut to fit the revised shape.

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MANSFIELD OHIO WOOSTER

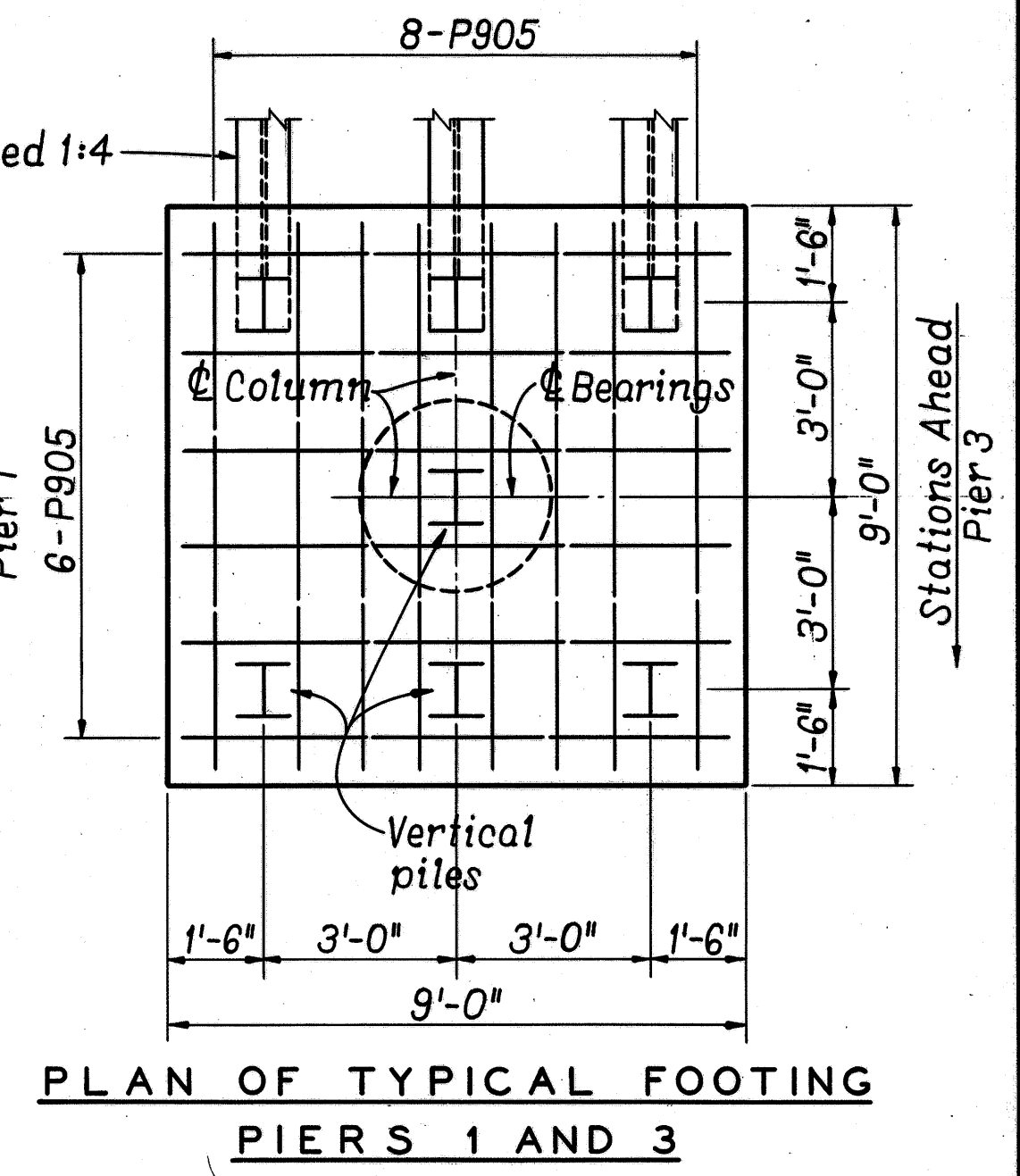
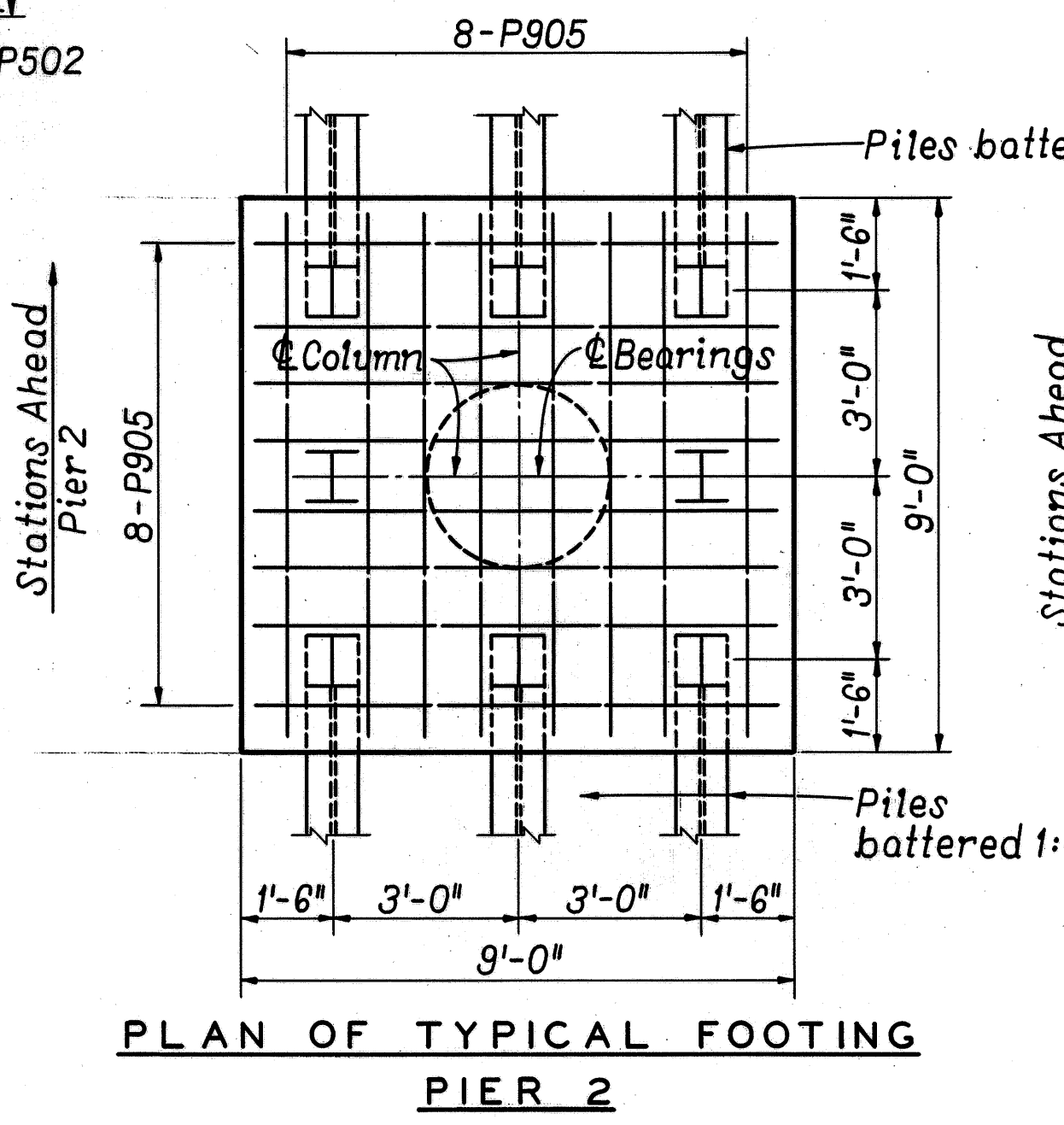
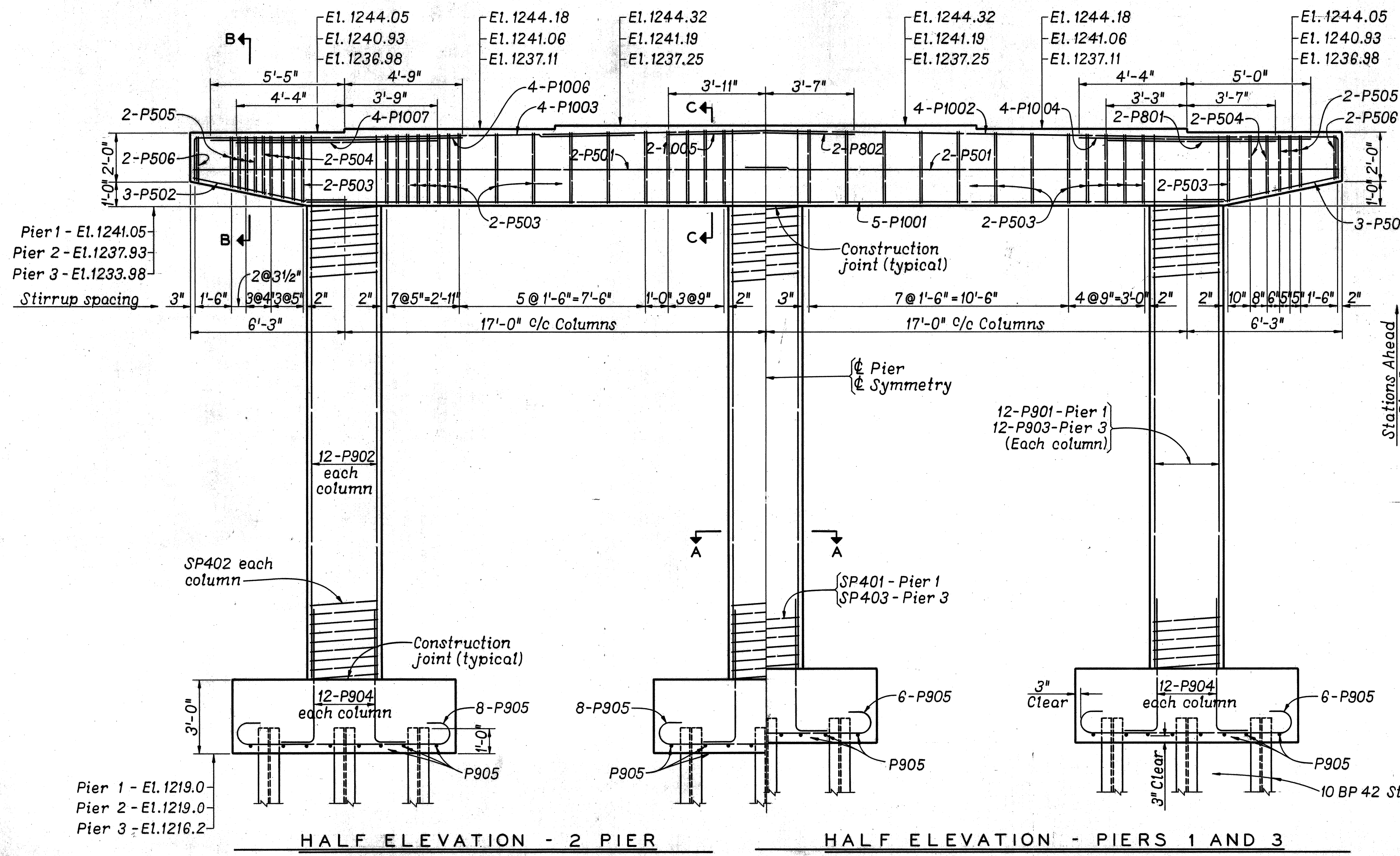
ABUTMENTS
BRIDGE NO. RIC-30-1638
UNDER REED ROAD (T.H. 289)
RICHLAND COUNTY U.S.R. 30
STA. 555+45.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	TJS	JM		7-27-70	

RIC - 30 -16.37.

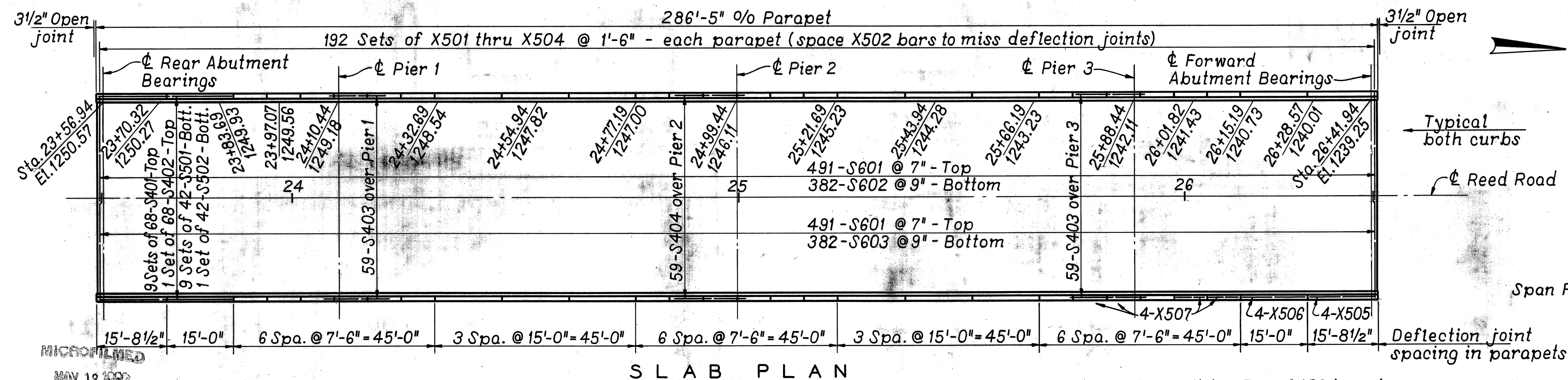


NOTES:
BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat of Pier 2 so as to avoid interference with the drilling of bearing anchor holes or the pre-setting of bearing anchors.
BATTERED PILES: The following piles shall be battered 1:4 in the direction of the U.S.R. 30 pavements: Pier 1 - front row; Pier 2 - both outside rows; Pier 3 - rear row.
BEARING ANCHORS: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.

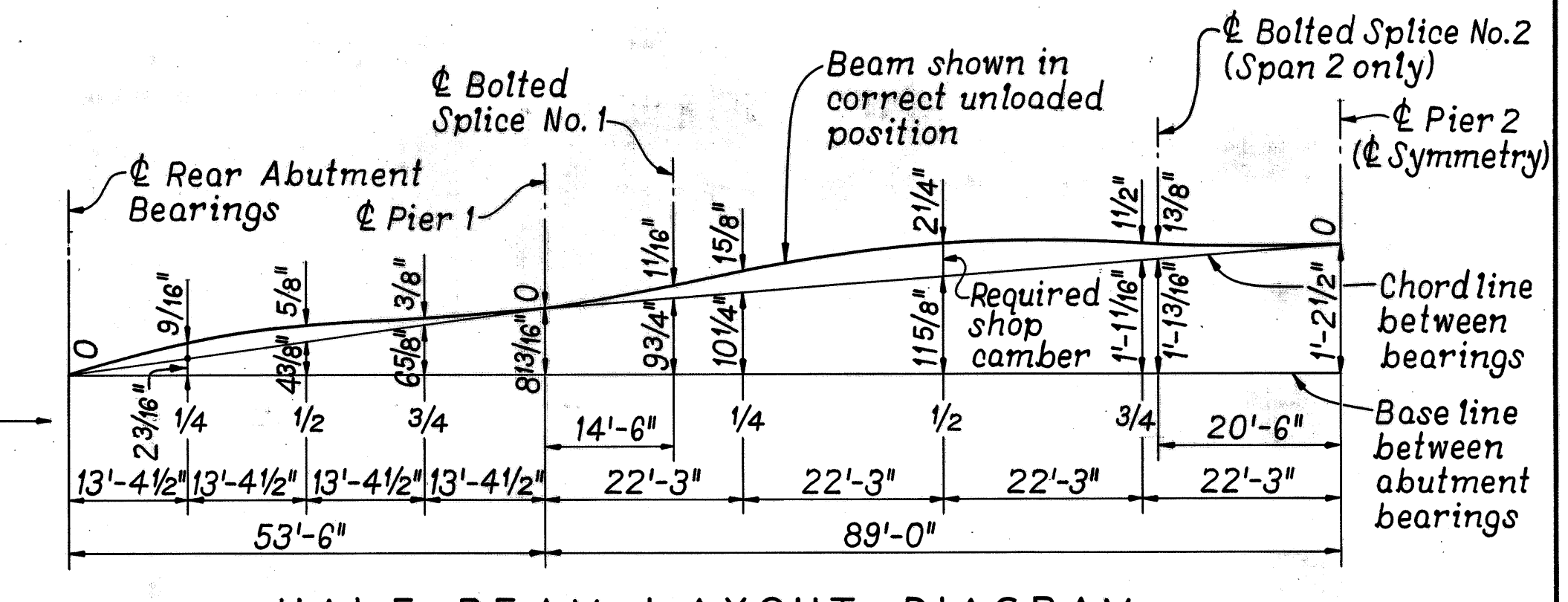


SHAFFER, JOHNSTON, LICHENWALTER AND ASSOCIATES, INC. Consulting Engineers		4/6
MANSFIELD	OHIO	WOOSTER
PIERS		
BRIDGE NO. RIC - 30 -1638.2		
UNDER REED ROAD (T.H. 289)		
RICHLAND COUNTY		U.S.R. 30
STA. 555 + 45.00		
DESIGNED	DRAWN	TRACED
RAK	RAK	RWH
CHECKED	REVIEWED	DATE
	JM	7-28-70

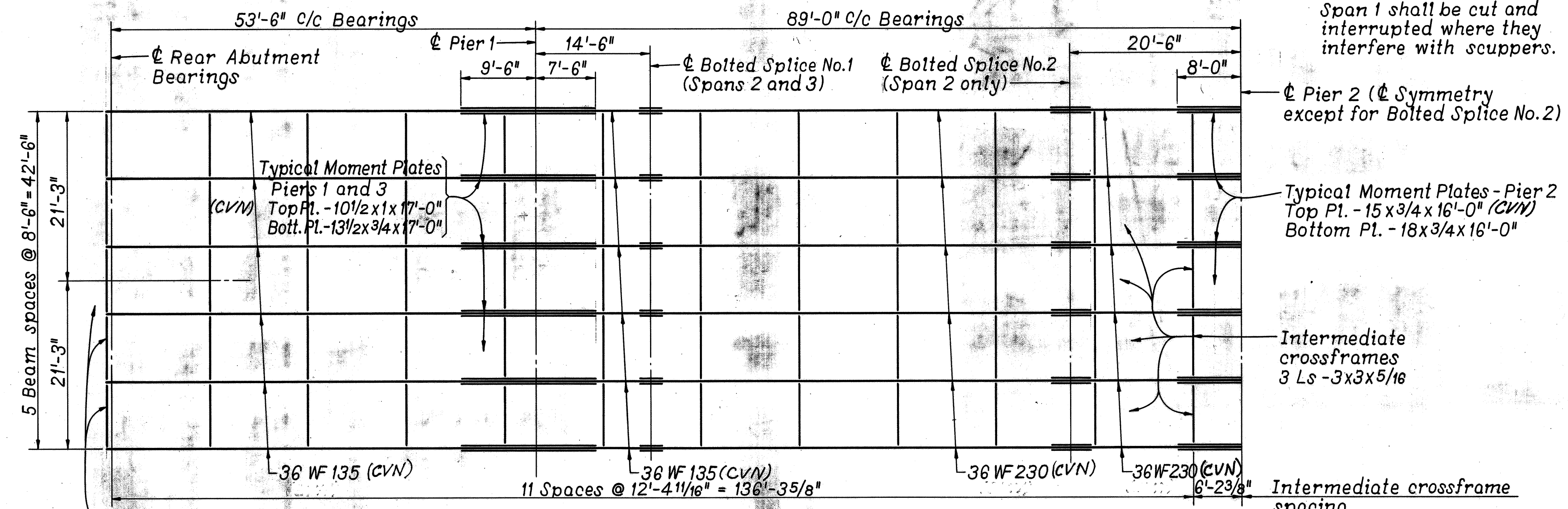
RIC - 30 - 16.37



SLAB PLAN



HALF BEAM LAYOUT DIAGRAM



HALF FRAMING PLAN

CAMBERING of beam is required in accordance with the following table:

SPAN LOCATION	END SPANS			MIDDLE SPANS				
	1/4	1/2	3/4	SPLICE NO. 1	1/4	1/2	3/4	SPLICE NO. 2 *
Deflection due to weight of steel	0	0	0	1/8"	1/8"	3/16"	1/8"	1/16"
Deflection due to remaining dead load	3/16"	1/8"	0	3/16"	7/16"	5/8"	5/16"	5/16"
Adjustment required for vertical curve	3/8"	1/2"	3/8"	3/4"	1 1/16"	1 7/16"	1 1/16"	1"
Required shop camber	3/16"	5/8"	3/8"	1 1/16"	1 5/8"	2 1/4"	1 1/2"	1 3/8"

* Span 2 only

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

NOTES:

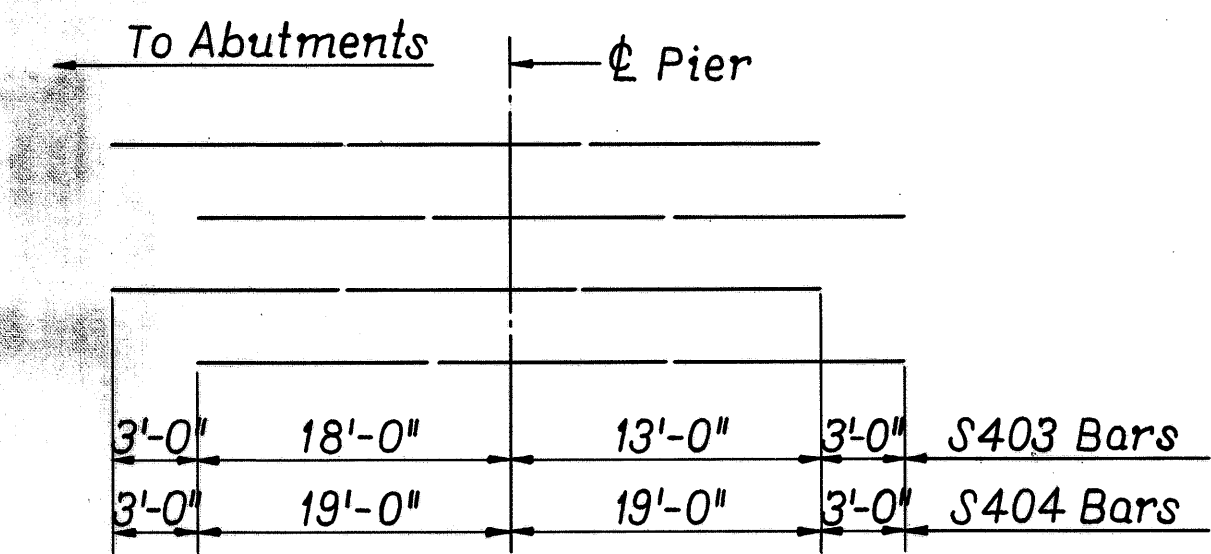


DIAGRAM SHOWING STAGGER OF S 403 AND S 404 BARS OVER PIERS

ELEVATIONS shown on Slab Plan are at deck level at face of curb and are those which are required before the deck concrete is placed. These points are located at quarter points of each span.

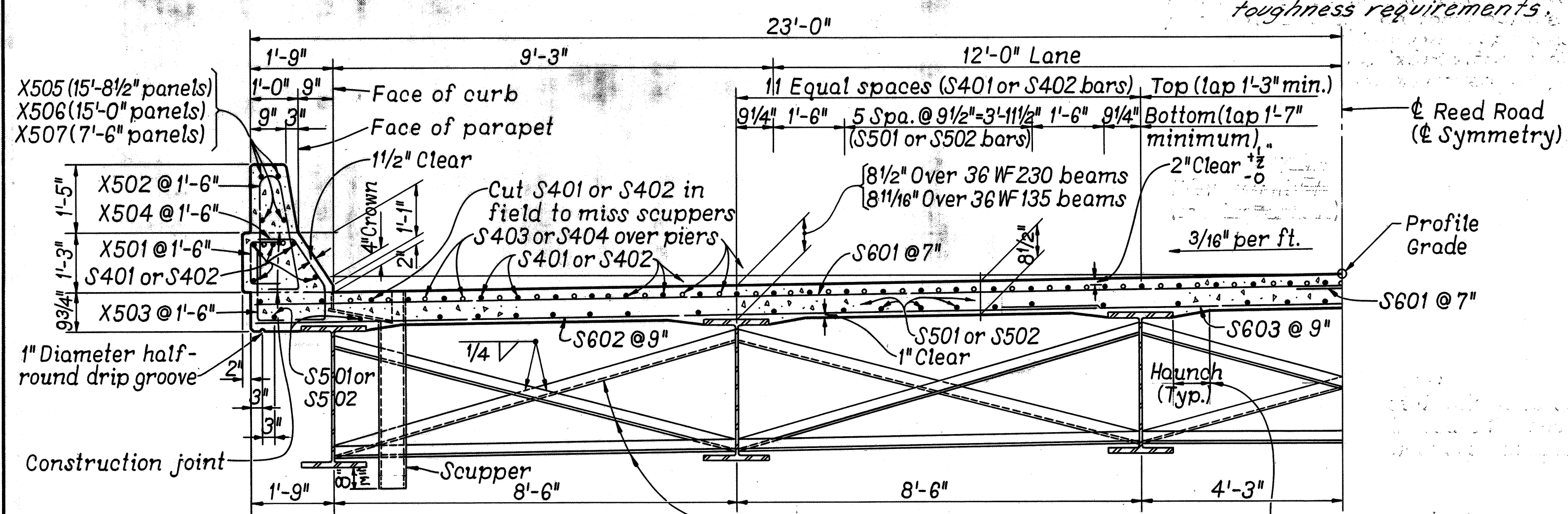
END CROSSFRAMES, END DAMS, SCUPPERS, CURB PLATES, MOMENT PLATE WELDING, AND BOLTED BEAM SPLICES: See Standard Drawing SD-1-69, sheets 1 thru 4 of 4.

PARAPET: See Standard Drawing BR-1-67, sheet 1 of 3.

BEARINGS: See Standard Drawing RB-1-55 for the following:

- Abutments: R-100
- Piers 1 and 3: R-200
- Pier 2: B-225

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.

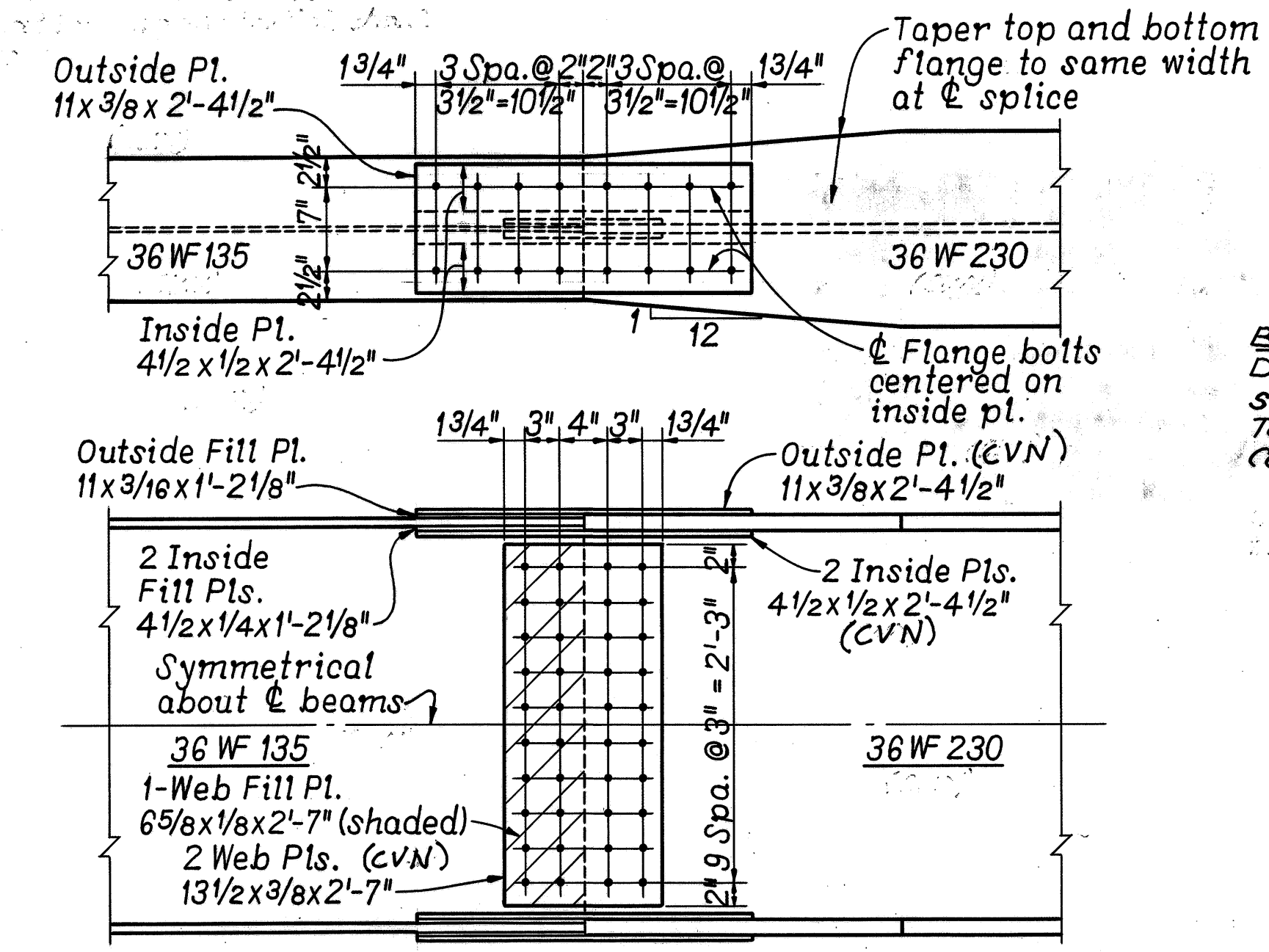


HALF TRANSVERSE SECTION

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

Intermediate crossframe angles - 3x3x5/16. Weld both sides of vertical leg and top side of horizontal leg to beam with 1/4" continuous fillet weld.

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



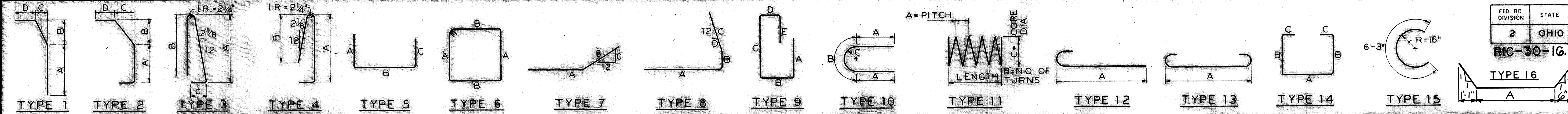
BOLTED BEAM SPLICE NO. 1

For Bolted Beam Splice No. 2 see Standard Drawing SD-1-69, sheet 4.

SHAFER, JOHNSTON, LICHENWALTER AND ASSOCIATES, INC. Consulting Engineers		5 / 6
MANSFIELD	OHIO	WOOSTER
SUPERSTRUCTURE		
BRIDGE NO. RIC - 30 - 1638.2		
UNDER REED ROAD (T.H. 289)		
RICHLAND COUNTY		U.S.R. 30
STA. 555 + 45.00		
DESIGNED	DRAWN	TRACED
RAK	RAK	RWH
CHECKED	REVIEWED	DATE
	JM	7-28-70

RIC-30-16-37

TYPE 16



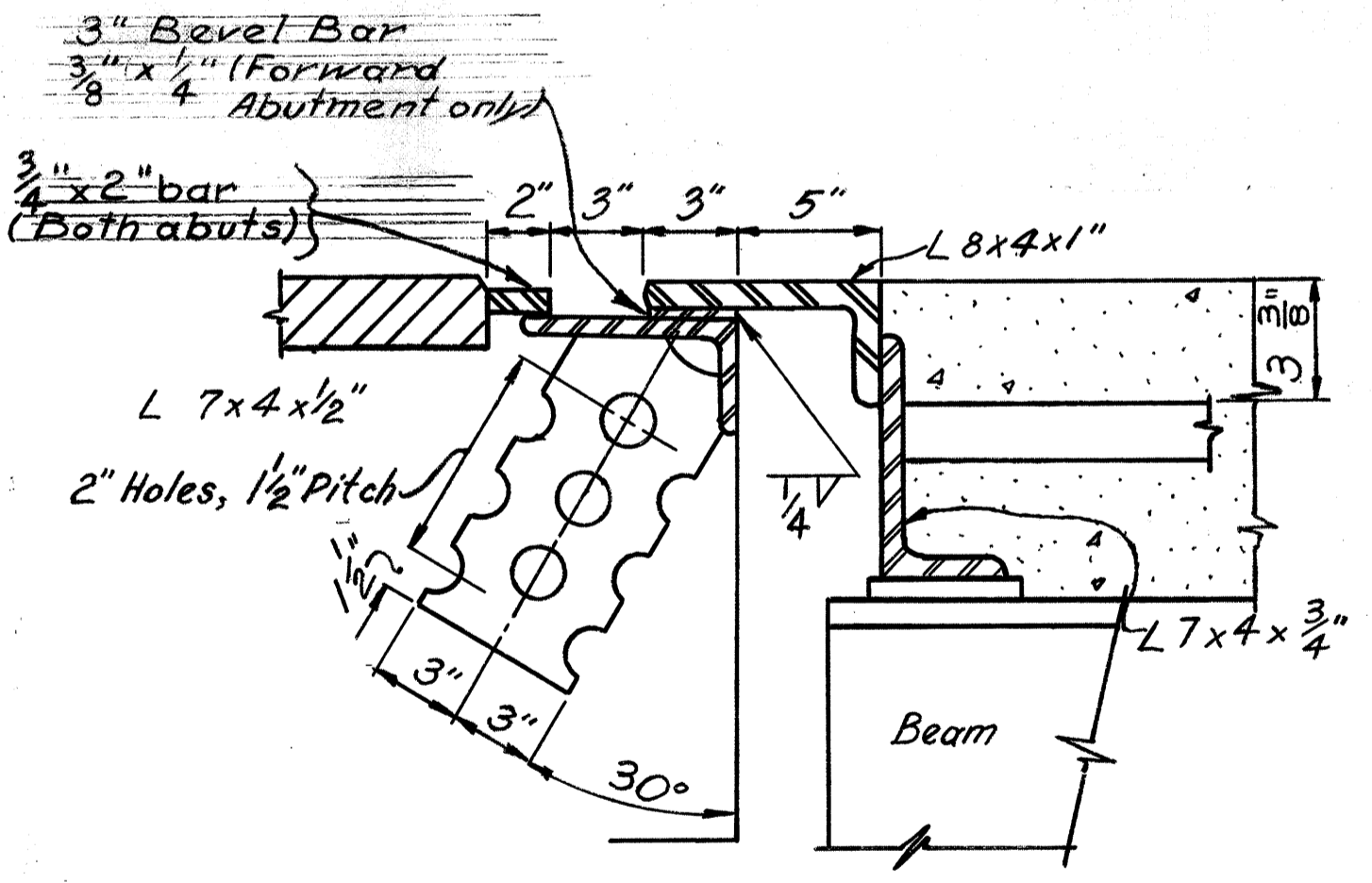
ABUTMENTS										
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT	
A501	82	8'-3"	3	1'-7"	3'-4"	1'-7"				551
A502	81	7'-0"	3	7'-6"	8'-6"	0				481
A503	84	6'-10"	3	1'-10"	3'-5"	1'-10"				458
A504	20	11'-0"	8	2'-3"	3'-0"					229
A505	80	23'-4"	Str.							1460
A506	4	27'-2"	Str.							113
A507	4	10'-8"	Str.							45
A508	24	3'-1"	3	1'-7"	1'-7"	0				77
A509	12	8'-2"	Str.							102
A510	12	4'-4"	Str.							34
A511	4	4'-8"	Str.							19
A512	8	13'-11"	Str.							118
A513	8	12'-4"	Str.							103
A514	10	1'-10"	Str.							31
A515	30	6'-8"	Str.							244
A516	8	7'-10"	Str.							83
A517	10	4'-10"	Str.							30
A518	10	4'-3"	Str.							44
A519	1	3'-10"	Str.							18
A520	2	5'-1"	Str.							11
A521	84	14'-1"	5	6'-8"	5'-4"	2'-7"				1354
A522	88	8'-3"	5	3'-9"	1'-5"	3'-9"				1133
A523	88	8'-7"	5	2'-9"	1'-3"	2'-9"				483
A524	88	8'-7"	5	3'-0"	1"	3'-0"				475
A525	18	8'-3"	5	4'-8"	1'-5"	4'-8"				628
A526	18	8'-0"	5	8'-7"	1'-8"	8'-7"				324
A527	1	8'-3"	Str.							783
A528	28	21'-8"	Str.							1050
A529	28	14'-0"	Str.							783
D801	34	5'-6"	16	3'-5"		7 1/2"				499
A530	38	2'-0"	3	1 1/4"	1'-0"	7 1/2"				79
A531	10	2'-8"	Str.							118
A532	10	8'-3"	1	3'-1"	2'-3"					117
A533	8	13'-11"	Str.							244
A534	8	7'-10"	Str.							83
A535	10	4'-10"	Str.							30
A536	10	4'-3"	Str.							44
A537	1	3'-10"	Str.							18
A538	1	5'-1"	Str.							11
A539	10	6'-8"	1	4'-10"	11 1/2"	9"	9"			100
A540	10	8'-1"	1	4'-3"	11 1/2"	9"	9"			91
Y603	2	6'-11"	1	5'-1"	11 1/2"	9"	9"			21
Y604	1	3'-11"	Str.							34
Y605	1	4'-7"	1	3'-0"	11 1/2"	24"	8"			37
Y606	1	4'-8"	1	3'-0"	11 1/2"	8"	8"			38
Y607	1	4'-9"	1	3'-0"	11 1/2"	8"	8"			39
Y608	1	4'-10"	1	3'-0"	11 1/2"	9"	9"			40
TOTAL										13123

MISSISSIPPI
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PIERS										
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT	
A501	12	23'-11"	Str.							289
A502	12	8'-3"	7	4'-8"	1'-7"	2'-6"				117
A503	178	7'-8"	5	2'-8"	2'-8"	2'-8"				1423
A504	38	6'-11"	5	2'-3"	2'-8"	2'-3"				231
A505	40	6'-5"	5	2'-0"	2'-8"	2'-0"				289
A506	12	3'-8"	5	1'-8"	2'-8"	1'-8"				72
A507	8	6'-10"	Str.							118
A508	4	7'-2"	Str.							77
A509	36	21'-10"	Str.							2672
A510	38	18'-9"	Str.							2295
A511	38	17'-7"	Str.							2132
A512	128	8'-8"	3	5'-6"	1'-3"	0				2387
A513	152	14'-0"	13	8'-8"						4937
A514	15	37'-0"	Str.							2388
A515	12	33'-4"	5	1'-8"	38'-0"	0				1781
A516	12	18'-7"	3	1'-8"	17'-3"	0				580
A517	18	3'-4"	Str.							843
A518	2	7'-10"	Str.							87
A519	2	10'-2"	Str.							350
A520	1	8'-7"	Str.							739
S501	3	18'-0"	11	44"	54"	2'-8"				1080
S502	3	15'-11"	11	44"	55"	2'-8"				909
S503	3	18'-9"	11	44"	52"	2'-8"				887
TOTAL										28190

SUPERSTRUCTURE										
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT	
S404	59	41'-0"	Str.							1616
S501	378	30'-0"	Str.							11,827
S502	42	30'-5"	Str.							1332
S503	382	17'-8"	Str.							10,137
S504	382	30'-0"	Str.							17,213
K501	384	2'-0"	3	7 1/2"	1'-0"	7 1/2"				801
K502	384	3'-4"	3	2'-3"	2'-2"	7 1/2"				2136
K503	384	2'-0"	3	7 1/2"	1'-6"	0				801
K504	384	2'-10"	2	8"	11 1/2"	9"	9"			1135
K505	18	15'-1"	Str.							236
K506	84	14'-8"	Str.							978
K507	144	7'-2"	Str.							1076
TOTAL										49309

EPOXY COATED REINFORCING STEEL										
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT	
S401	612	30'-0"	Str.							12,264
S402	68	27'-5"	Str.							1,245
S403	118	34'-0"	Str.							2,680
S601	982	23'-10"	Str.							35,153
TOTAL										51,342



END DAM DETAILS
(For additional details, see Standard Drawing SD-1-G9 sheet 1 of 4 sheets.)

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used indicate the bar size number. For example A506 is a No. 5 size bar and P1002 is a No. 10 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils) expressed as nearest whole number. Spiral reinforcing bars shall conform to Item 509. 1/2 closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.80 lbs per lin ft of spacers, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.80 lbs per lin ft will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

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

SHAFER, JOHNSTON, & ASSOCIATES, INC.
Consulting Engineers
MANSFIELD OHIO WOOSTER

REINFORCING STEEL
BRIDGE NO. RIC-30-1638
UNDER REED ROAD (T.H. 289)

RICHLAND COUNTY USR 30

STA. 555 + 45.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RGS			JM 7/29/70	