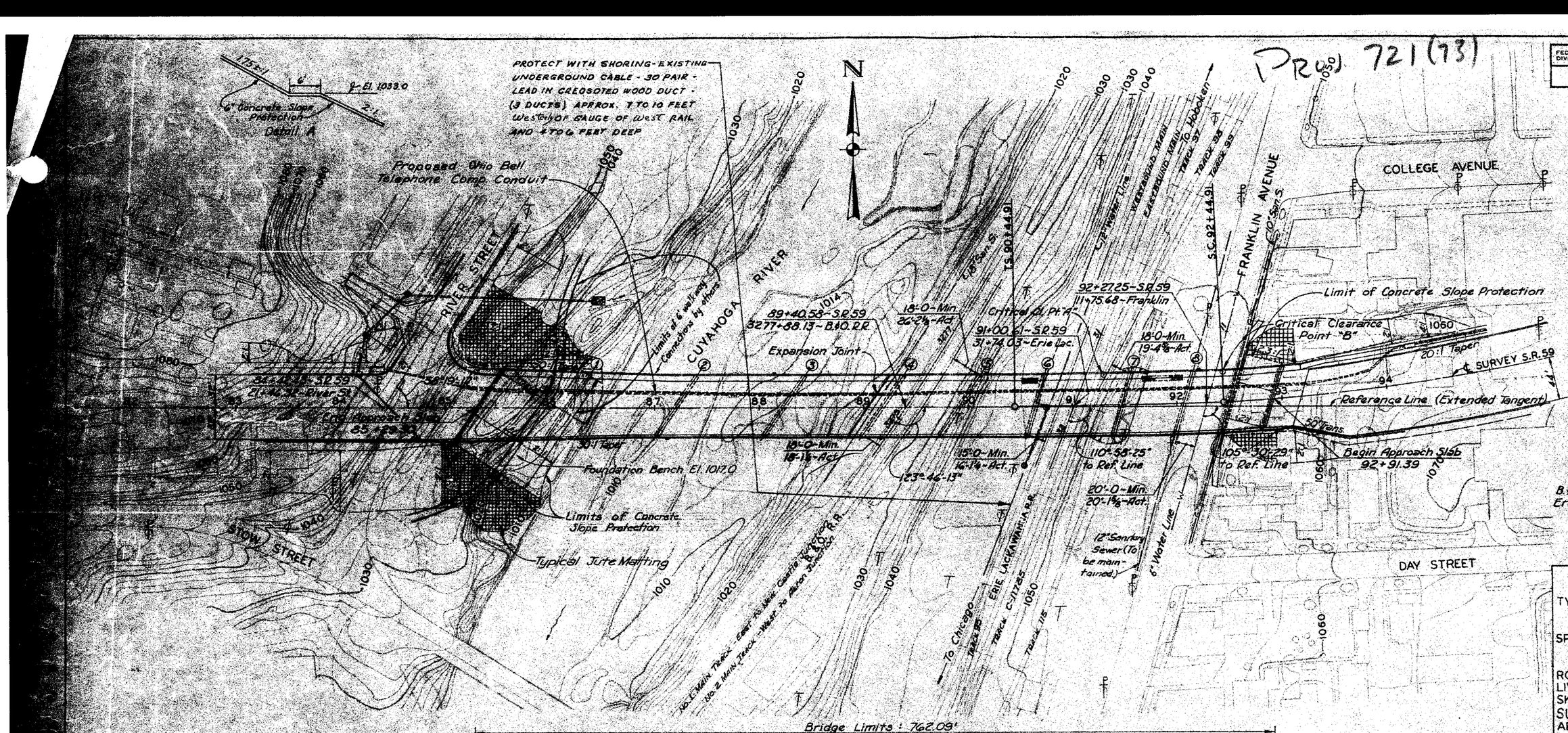
PROJ 721(73)

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

PORTAGE COUNTY
POR-59-0.80
POR-43-11.66
POR-43DA-0.00



CURVE DATA S.R.

P.I. Sta 98+7
Δ = 41° 37' 57"
D_c = 3° 00'
L_c = 1187.56'
R = 1903.66'
L_s = 200'
Θ_s = 3° 00'

Bench Mark Elev. 1071.
G.S. brass disk in fro
Building stamped, Ke

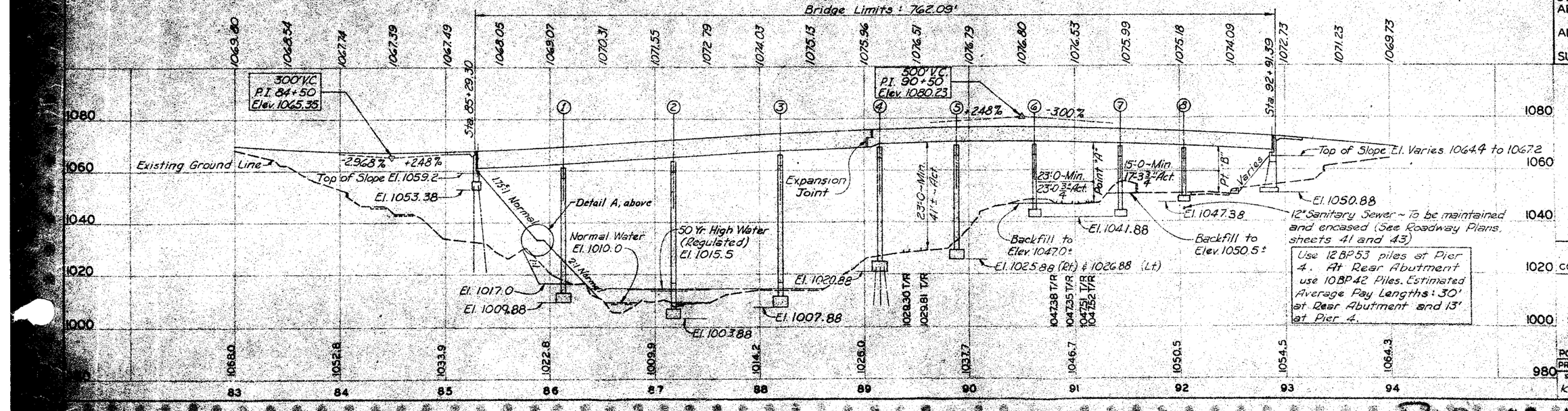
S.R. 59 1985 A.D.T. *

B&O Average Daily Train Tra
Erie L. Average Daily Train Tr

Q_{50} = 4200 c.f.s. (Q

PROPOSED STRUC

TYPE: Continuous steel gir
reinforced concrete dec
substructure units.
SPANS: 84.0' - 103.0' - 103.
74.0' - 74.0' - 81.88' - 59.9
(Measured along ℄ Sur
ROADWAY: 52'-0" face to fac
LIVE LOAD: H S 20-44
SKEW: 33° 30' (Rear) 15° 3
SURFACE COURSE: 1½" Asphal
APPROACH SLABS: A5-1-67
25' long
ALIGNMENT: Tangent, Spi
3° 00' Curve (Lt.)
SUPERELEVATION: Varies



Earthwork limits show schematic. Actual slop conform to plan cros

Use 12 BP 53 piles at Pier 4. At Rear Abutment use 10 BP 42 Piles. Estimated Average Pay Lengths: 30' at Rear Abutment and 13' at Pier 4.

W. E. Q

S

W. E. QUICKSALL AND ASSO
CONSULTING ENGINEERS NEW PHI

SITE PLAN

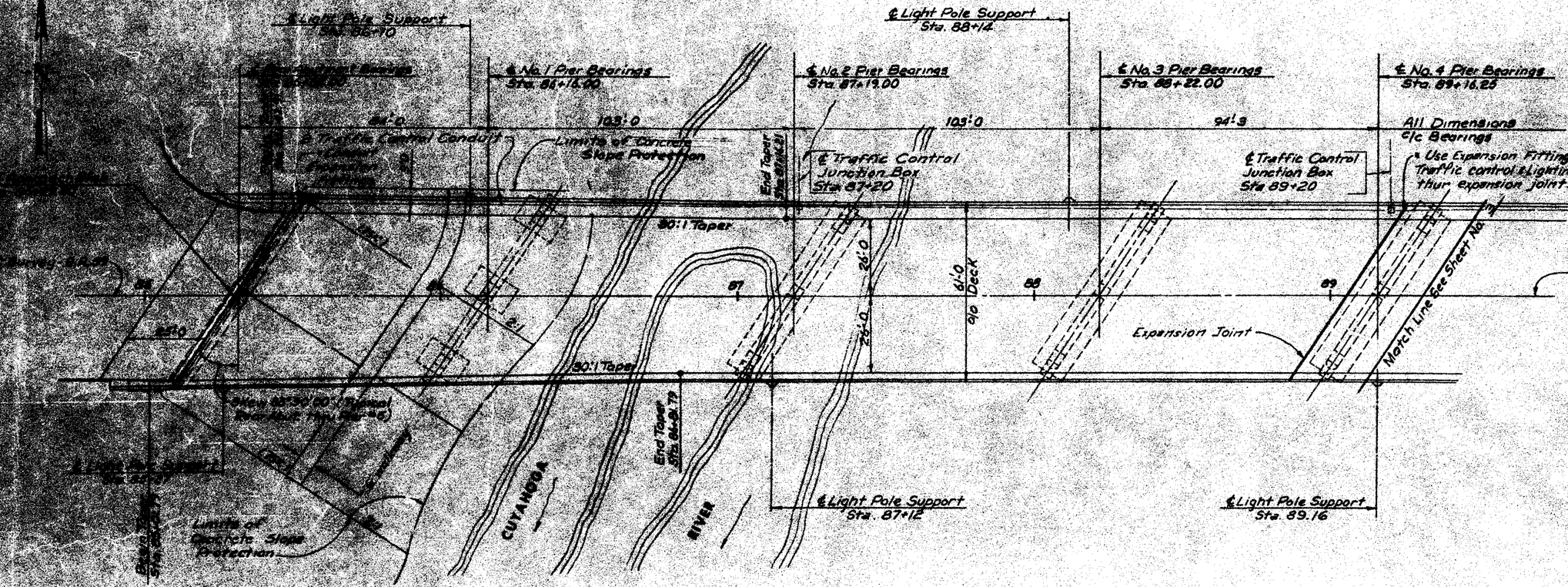
BRIDGE NO. POR-59-
S.R. 59 over B. & O. and ERIE
R.R. and CUYAHOGA

PORTAGE COUNTY

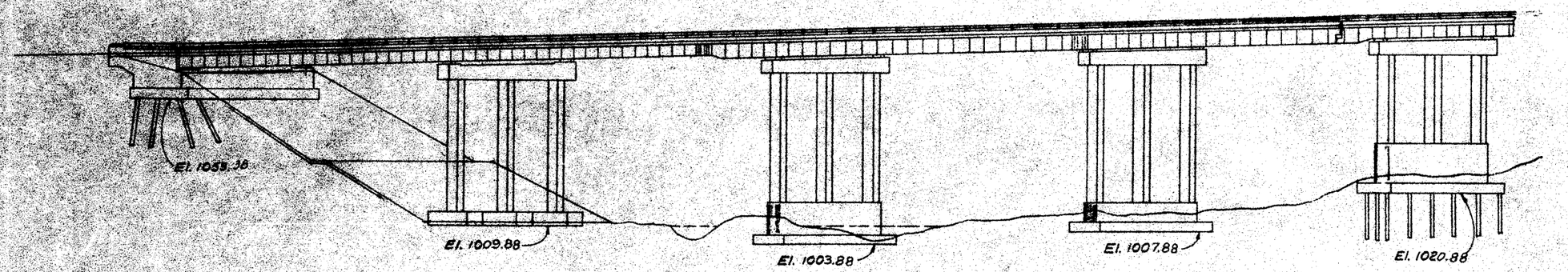
PRESENT TOPOGRAPHY			PROPOS
SURVEYED	DRAWN	DESIGNED	DRAWN
Kucera	T.L.M.	wda	

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

POR-59-0.80
POR-43-11.66
POR-43DA-0.00



PLAN



ELEVATION

For expansion fittings for lighting conduits see Standard drawing HL-5.

Note:
10 BP 42 Piles in Rear Abutment and 12 BP 53 Piles in Pier #4. Entire number not shown

For continuation of General Plan & Elevation, See sheet 3

W. E. QUICKSALL AND A
CONSULTING ENGINEERS • NE

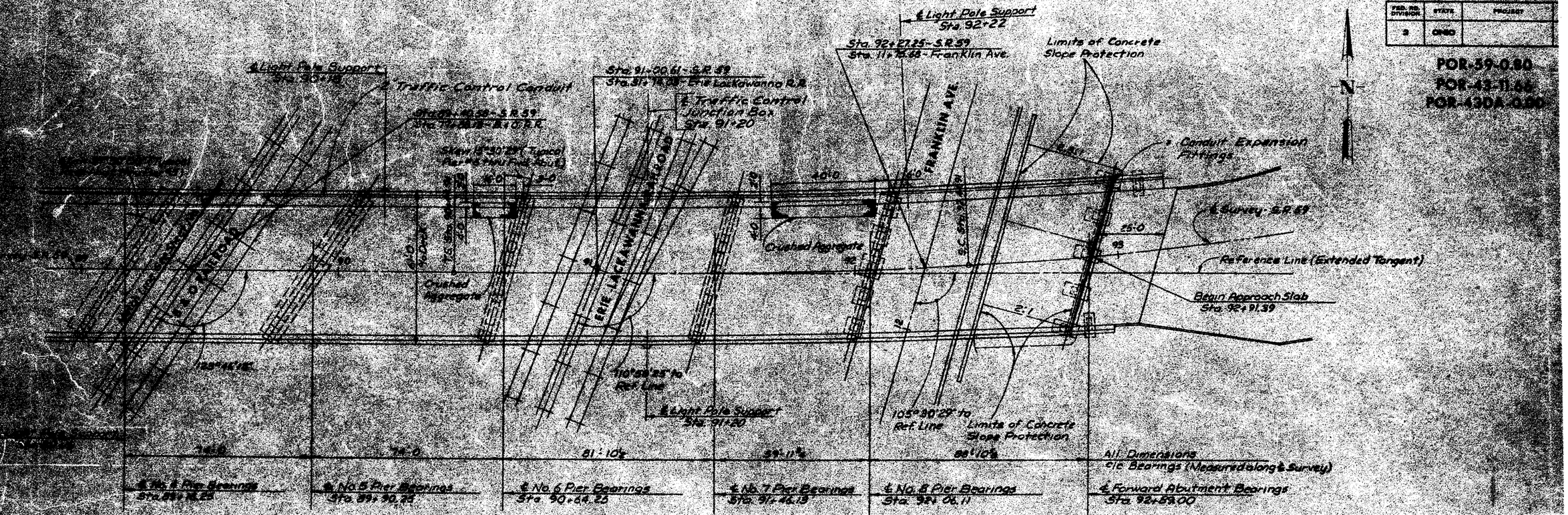
GENERAL PLAN &
BRIDGE NO. POR
S.R. 59 over B&O R.R., ER
R.R. & CUYAHOGA
PORTAGE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED
	PMZ		wdg

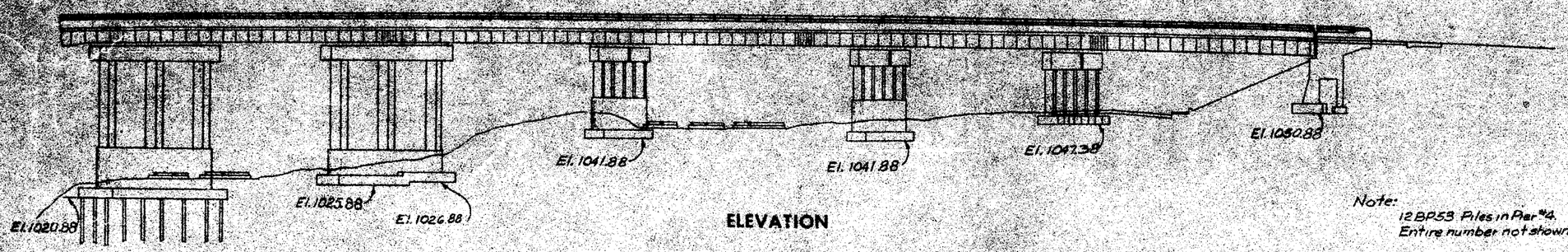
Rev. 8-24-79

FED. ROAD DIVISION	STATE	PROJECT
5	OHIO	

POR-59-0.80
POR-43-11.66
POR-43DA-0.00



PLAN



ELEVATION

Note:
12 BP53 Piles in Pier #4.
Entire number not shown.

W
St

W. E. QUICKSALL AND ASSO
CONSULTING ENGINEERS • NEW

GENERAL PLAN & E

BRIDGE NO. POR-5
S.R. 59 over B&O R.R. ERIE
R.R. & CUYAHOGA R

PORTAGE COUNTY

	PMR			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

POR-59-0.80
POR-43-11.66
POR-43DA-0.00

* Fed., State & City

See Sh. 244 A for Altered Estimated Quantities

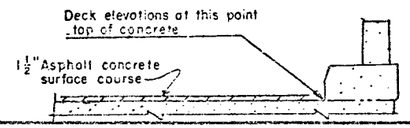
TOP OF DECK SLAB ELEVATIONS

STATION	PROFILE GRADE	CURB LINE ELEV. Lt.	℄	Rt.
85+11.02	1067.56	--	--	1066.97
85+25	1067.72	--	--	1067.14
85+32.00	1067.80	--	1067.68	--
85+50	1068.06	--	1067.98	1067.51
85+52.81	1068.10	1067.49	--	--
85+75	1068.51	1067.95	1068.44	1067.94
85+96.92	1068.99	--	--	1068.42
86+00	1069.07	1068.52	1068.97	1068.50
86+16.00	1069.47	--	1069.35	--
86+25	1069.69	1069.13	1069.58	1069.16
86+35.00	1069.94	1069.37	--	--
86+50	1070.31	1069.76	1070.23	1069.82
86+75	1070.93	1070.42	1070.86	1070.42
87+00	1071.55	1071.05	1071.45	1071.03
87+01.79	1071.59	--	--	1071.07
87+19.00	1072.02	--	1071.90	--
87+25	1072.17	1071.66	1072.06	1071.67
87+36.21	1072.45	1071.92	--	--
87+50	1072.79	1072.28	1072.71	1072.32
87+75	1073.41	1072.93	1073.34	1072.92
88+00	1074.03	1073.55	1073.93	1073.51
88+04.79	1074.15	--	--	1073.62
88+22.00	1074.55	--	1074.43	--
88+25	1074.62	1074.11	1074.50	1074.11
88+39.21	1074.92	1074.39	--	--
88+50	1075.13	1074.62	1075.05	1074.66
88+75	1075.58	1075.10	1075.51	1075.08
88+99.04	1075.95	--	--	1075.47
89+00	1075.96	1075.47	1075.85	1075.49
89+16.25	1076.17	--	1076.05	--
89+25	1076.27	1075.74	1076.17	1075.90
89+33.46	1076.36	1075.84	--	--
89+50	1076.52	1076.02	1076.45	1076.21
89+73.04	1076.68	--	--	1076.38
89+75	1076.69	1076.22	1076.60	1076.40
89+90.25	1076.77	--	1076.65	--
90+00	1076.80	1076.29	1076.68	1076.60
90+07.45	1076.82	1076.29	--	--
90+25	1076.84	1076.31	1076.73	1076.70
90+50	1076.81	1076.28	1076.69	1076.74
90+57.03	1076.78	--	--	1076.72
90+64.25	1076.76	--	1076.64	--
90+71.49	1076.72	1076.20	--	--
90+75	1076.71	1076.19	1076.61	1076.77
91+00	1076.54	1076.08	1076.49	1076.77
91+25	1076.	1075.83	1076.23	1076.63
91+38.59	1076.15	--	--	1076.51
91+46.13	1076.05	--	1075.93	--
91+50	1076.00	1075.35	1075.87	1076.41
91+53.78	1075.95	1075.27	--	--
91+75	1075.62	1074.82	1075.48	1076.15
91+98.02	1075.22	--	--	1075.89
92+00	1075.18	1074.25	1075.05	1075.87
92+06.11	1075.06	--	1074.94	--
92+14.38	1074.90	1073.90	--	--
92+25	1074.67	1073.66	1074.61	1075.55
92+50	1074.09	1073.03	1074.07	1075.10
92+75	1073.45	1072.37	1073.38	1074.38
92+79.76	1073.32	--	--	1074.23
92+89.00	1073.05	--	1072.93	--
92+98.51	1072.78	1071.62	--	--

NOTE:

Elevations shown are at the intersection of the abutment and pier ℄ of bearings and at even 25' stations. Elevations are at face of curb and ℄ survey.

Elevations are those required before deck concrete is placed to allow for dead load deflection caused by the weight of the concrete.



ESTIMATED QUANTITIES

	ITEM	TOTAL*	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER	GENERAL	AS BUILT	AS BUILT
	503	Lump	Sum	Cofferdams, cribs and sheeting				Lump		
	503	1185	Cu. Yd.	Unclassified Excavation	355	830				
	503	384	Cu. Yd.	Rock Excavation	4	380				
	505	Lump	Sum	Test Pile				Lump		
870	507	870	Lin.Ft.	Steel Piles, ‡ HP10x42 870	750					
	507	468	Lin.Ft.	Steel Piles, † HP12x53		468				
650,895	509	657,228	Lbs.	Reinforcing Steel 23,225	23,563	210,265	423,395			
	511	1510	Cu. Yd.	Class 'C' Concrete, Superstructure			1510			
	511	744	Cu. Yd.	Class 'C' Concrete, Pier Caps and Columns		744				
	511	220	Cu. Yd.	Class 'C' Concrete, Abutments above Footings	220					
595	511	601	Cu. Yd.	Class 'C' Concrete, Footings 101	107	494				
	511	475	Cu. Yd.	Class 'C' Concrete, Pier Walls		475				
	512	38	Lin.Ft.	Premolded Sealing Strip	38					
	513	1,245,100 *	Lbs.	Structural Steel			1,245,100 *			
	514	1,229,200 *	Lbs.	Field Painting of Structural Steel			1,229,200 *			
	517	1593.07	Lin.Ft.	Railing - Bridge sidewalk railing with concrete parapet	75.25		1517.82			
	518	76	Cu. Yd.	Porous Backfill	76					
	518	38	Each	Scuppers, Including Supports			38			
	518	138	Lin.Ft.	6" Perforated Helical C.M.P. Including Specials (707.01)	138					
	518	91	Lin.Ft.	6" Non-perforated Helical C.M.P. (707.01)	91					
	601	38	Sq. Yd.	Crushed Aggregate Slope Protection				38		
	601	1729	Sq. Yd.	Concrete Slope Protection	1729					
	625			See Sheet No. 171 for Lighting Summary						
	808	1510	Unit	Chemical admixture for concrete Type A, B or D			1510			
				* 19,140 pounds to be paid for by the Ohio Bell Co.						
	625			See Sheet No. 200 for Traffic Control Summary						
	404	125	Cu. Yd.	Asphalt concrete (70-85 or AC 20)			125			
	Special	63	Cu. Yd.	Sand-Asphalt (See proposal note)			63			
	Special	4,500	Sq. Yd.	Membrane waterproofing, sheet Type (See Proposal Note)			4,500			

‡ HP12x53 piles formerly designated 12BP53, † HP10x42 piles formerly 10BP42

GENERAL NOTES

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: - HS20-44
Concrete Class C: - Unit Stress 1200 p.s.i. for superstructure
Unit Stress 1335 p.s.i. for substructure
Structural Steel: - ASTM A-36; unit stress 20,000 p.s.i.
Reinforcing Steel: - ASTM A615, A616 or A617 unit stress 20,000 p.s.i.

REFERENCE shall be made to:

Standard Drawings:	Supplemental Specifications:
SD-1-69, dated 6-12-69	809, dated 1-1-71
AS-1-67, revised 6-12-69	
RB-1-55, revised 2-2-59	836, dated 1-1-71
BR-2-67, dated 10-15-71	927, dated 1-1-71

CONSTRUCTION PROCEDURE: Rear Abutment and Pier 1
After the footings for Pier 1 have been built, the embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutment. Excavation shall then be made for the abutment and Pier 1 columns. Refer to the project plan, sheets 39 and 74A, for details of benching the foundation slopes.

CONSTRUCTION PROCEDURE: Forward Abutment. After the pedestals have been built, the embankment shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutment. Excavation shall then be made for the abutment cross beams.

FORWARD ABUTMENT EXCAVATION QUANTITY, in addition to 503.11, includes the excavation for the cross beams

‡ If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHO Designation, M42-70. Spirol reinforcement may be plain bars ASTM A82, A306, A499 or A615

PILES shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

Rear Abutment piles	40 tons per pile using a 15,000 ft. lb. hammer
	45 tons per pile using a 11,000 ft. lb. hammer
Pier 4 piles	70 tons per pile using a 15,000 ft. lb. hammer
	75 tons per pile using a 11,000 ft. lb. hammer

If the energy rating of the hammer is between the rating as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile at the Rear Abutment and 40 tons per pile at Pier 4.

FOUNDATION BEARING PRESSURE: The forward abutment footings are designed for a maximum bearing pressure of 4 tons per sq. ft. All pier footings except Pier 4 are designed for a maximum bearing pressure of 6 tons per sq. ft.

FOOTINGS shall extend a minimum of 3 inches into bedrock or to the elevation shown, whichever is lower.

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

MAINTENANCE OF TRAFFIC: Two lanes of traffic with a minimum horizontal width of 26'-0 and a minimum vertical clearance of 15'-0 shall be maintained on Franklin Avenue, except for short periods of time during the erection of the structural steel.

GENERAL NOTES CON'T.

CONSTRUCTION CLEARANCE of 20' vertically above the top of the railro rails and 8' horizontally from the center of tracks shall be ma tained at all times. (Erie - Lackawanna)

RAILROAD AERIAL LINES will be relocated by the Railroad. The Contra tor shall use all precautions necessary to see that the lines a not disturbed during the construction stage and shall cooperate with the Railroad in the relocation of these lines. The cost o the relocation shall be included in the railroad force account

END DAM PAINTING: Portions of end dams which will be in contact wit steel or with concrete shall not be painted. All other portion shall be cleaned and painted in accordance with 514.

REINFORCING STEEL CLEARANCE shall be 2" from face of concrete to fac bar on all bars except in footings. Footing reinforcing steel be 3" clear from all concrete faces.

WELDS on non-stress carrying members are shown thus: N > 1/4

SHEETING AND BRACING PLANS for excavation adjacent to railroad track shall be approved by the Director and by the railroad company b fore work on this excavation may begin. (Item 501.06)

Traffic Control: For conduit extension thru abutm backwall and expansion fitting at abutments deck expansion joint, refer to Standard Construction Drawings HL-4, dated 1-1-66.

Construction clearance of 21' vertically above t top of the railroad rails and 8' horizontally f the center of tracks shall be maintained at times. (B & O).

For lighting details, See *Standard Drawing HL-3, HL-4 HL-5 & HL-7.*

W.E.Q. BR
Sheet

W. E. QUICKSALL AND ASSOCIATES, INC
CONSULTING ENGINEERS • NEW PHILADELPHIA

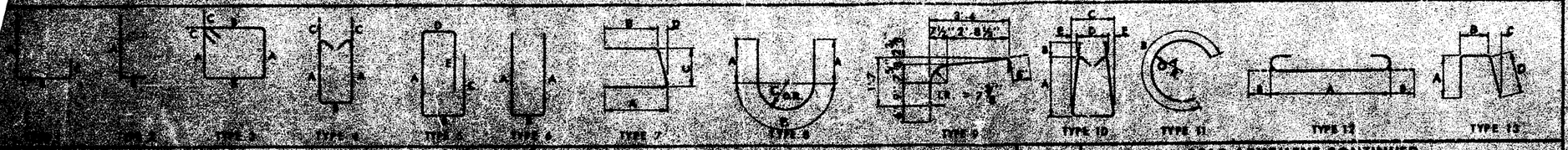
GENERAL NOTES, ESTIMATED QUANTITIES & SLAB ELEVATIONS
BRIDGE NO. POR-59-0187
S.R. 59 over B & O R.R., ERIE-LACKAWANNA R.R. & CUYAHOGA RIVER STA.
PORTAGE COUNTY STA.

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE
	4		PMZ 6-16-65	DLM 6/69	

Rev. 3-4-74 Rev. 8-22-73

FED. ROAD DESIGNATION	STATE	PROJECT
2	OHIO	

POR-59-0.8
POR-43-11.6
POR-43DA-0



SUPERSTRUCTURE

MARK	TYPE	A	B	C	D	E	NO	LENGTH	WEIGHT
S702	S						72	36'-4	26941
S703	S						36	37'-8	27948
S704	S						730	42'-7	33937
S705	S						730	31'-2	46833
S706	S						70	30'-8	5222
S707	S						41	30'-9	2577
S708	S						41	35'-5	2945
S709	S						41	29'-9	2495
S710	S						41	34'-5	2884
S711	S						42	28'-9	2468
S712	S						42	33'-4	2864
S713	S						42	27'-8	2601
S714	S						46	32'-8	3040
S715	S						28	41'-2	2103
S716	S						28	40'-6	3753
S717	S						48	35'-11	3304
S718	S						41	38'-4	3496
S719	S						42	34'-3	2972
S720	S						41	38'-4	3218
S721	S						41	33'-8	2829
S722	S						42	37'-4	3205
S723	S						42	32'-8	2804
S724	S						68	31'-11	2936
S725	S	Varies by increments of 1'-1⅝"					2	2'-3	3063
							Sets of 32	to 40'-7	
S726	S	Varies by increments of 1'-1⅝"					1	7'-4	1071
							Set of 25	to 34'-7	
S727	S	Varies by increments of 1'-1⅝"					1	8'-4	1049
							Set of 24	to 35'-5	
S728	S	Varies by increments of 1'-1⅝"					2	3'-7	1827
							Sets of 24	to 31'-8	
S729	S	Varies by increments of 1'-1⅝"					1	2'-9	835
							Set of 23	to 29'-11	
S730	S	Varies by increments of 1'-1⅝"					1	3'-3	824
							Set of 24	to 29'-10	
S732	S	Varies by increments of 2'-7¾"					1	10'-4	455
							Set 10	to 34'-2	
S731	S	Varies by increments of 1'-1⅝"					2	6'-0	2437
							Sets of 28	to 36'-7	
S734	S	Varies by increments of 2'-7¾"					2	5'-9	853
							Sets of 11	to 32'-2	
S733	S	Varies by increments of 2'-7¾"					1	5'-9	361
							Set of 10	to 29'-7	
S734	S	Varies by increments of 1'-1⅝"					1	8'-2	775
							Set of 20	to 29'-9	
S735	S	Varies by increments of 1'-1⅝"					1	3'-7	586
							Set of 20	to 25'-1	
S736	S						10	5'-6	112
S737	S						20	5'-0	204
S601	S						2633	30'-0	118643
S602	S						31	18'-3	850

SUPERSTRUCTURE CONTINUED

MARK	TYPE	A	B	C	D	E	NO	LENGTH	WEIGHT
S603	S						69	10'-0	1397
S604	S	Varies by increments of 5'-6"					1	3'-10	1203
							Set of 23	to 28'-3	
S605	S	Varies by increments of 5'-6"					1	6'-10	1347
							Set of 20	to 28'-8	
S606	S						164	40'-0	7450
S607	S						80	33'-0	3065
S608	S						80	33'-2	4035
S609	S						80	29'-0	871
S610	S						20	26'-0	781
S501	S	7½"	1'-6				450	2'-6	1299
S502	S	7½"	1'-4				1034	2'-4	2516
S503	S	7½"	1'-2				490	2'-2	1185
S504	S	8'-6"	8"	5"			1137	5'-7	2681
S505	S	7½"	5½"				496	6'-6	3376
S506	S	7½"	8'-6				517	3'-6	1887
L501	For bending diagrams see						32	3'-1"	103
L502	Standard Drawing HL-4.						32	7'-4	245
L503							48	8'-0"	401
L505	S						32	2'-9"	92

REAR ABUTMENT

MARK	TYPE	A	B	C	D	E	NO	LENGTH	WEIGHT
AB01	S						21	31'-0	1738
AB02	S						6	17'-7	281
AB03	S						5	13'-6	180
AB04	S						1	11'-3	30
A701	S	9'-0	1'-5	7'-8	11"	3'-0	53	21'-4	2311
A702	S	7'-10	1'-5	6'-6	11"	3'-0	20	19'-0	777
A703	6	8'-5	1'-5				5	18'-7	190
A704	6	9'-9	1'-2				7	20'-4	291
A705	6	9'-3	1'-2				10	19'-4	395
A706	S	2'-8	1'-5	1'-8	11"	2'-0	6	7'-8	94
A707	6	4'-8	1'-5				6	10'-5	128
A601	1	7'-10	5'-4	2'-6			8	15'-4	184
A602	1	7'-4	5'-4	2'-6			9	14'-10	201
A603	1	6'-9	5'-4	2'-6			28	14'-3	600
A604	1	6'-7	5'-4	2'-6			11	14'-1	233
A501	6	1'-7	5'-4				56	8'-3	482
A502	6	1'-9	3'-5				56	6'-8	390
A503	2	1'-10	7½"				8	8'-4	70
A504	2	7'-4	7½"				9	7'-10	74
A505	2	6'-9	7½"				28	7'-3	212
A506	2	6'-7	7½"				11	7'-1	81

REAR ABUTMENT CONTINUED

MARK	TYPE	A	B	C	D	E	NO	LENGTH	WEIGHT
A507	S						19	30'-8	605
A508	S						10	25'-0	241
A509	S						4	26'-0	108
A510	S						5	15'-7	81
A511	S						2	13'-8	29
A512	S	Varies by increments of 2'-4"					1 Set of 5	11'-0 to 11'-9	59
A513	S						2	5'-10	13
A514	S						8	28'-6	238
A515	S						2	13'-10	29
A516	S						5	15'-3	79
A517	S	Varies by increments of 7'-4"					1 Set of 5	13'-0 to 15'-5	74
A518	S						2	29'-6	62
A519	13	2'-9	2'-0	5½"	3'-9½"		1	7'-3	8
A520	3	2'-6	3'-0	5			18	11'-6	216
A521	S						20	6'-3	134
A522	6	4'-10	1'-2				2	10'-7	22
A523	6	3'-9	1'-2				4	8'-5	35
A524	6	2'-0	1'-4				16	5'-1	83
A525	7	2'-6	2'-4	1'-4	2"		16	5'-11	99
A526	S						1	4'-4	5
A527	S						10	20'-11	218
A528	S						6	14'-9	92
A529	S						2	13'-10	29
A530	4	2'-2	8"	5"			21	5'-7	122
A531	2	6'-6	7½				14	7'-0	102
A532	S						2	4'-10	18
A533	4	4'-9	1'-2	5"			2	11'-3	23
A534	4	3'-10	1'-2	5"			4	9'-5	39
A535	12	5'-6	7"				6	6'-8	42
A536	S						6	10'-8	67
A537	S						8	16'-4	136
A538	S						2	9'-4	19

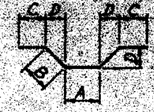
NOTES

BAR SIZE is indicated in the bar mark. The first [illegible] three digits are used, and the final two digits indicate the bar size number. For example, A[illegible] used, indicate the bar size number. For example, A[illegible] size bar and A1014 is a No. 10 size.

SPIRAL REINFORCING BARS: The "Length" shown in the [illegible] for the spiral bars is the distance from the top of [illegible] to the bottom of the pier cap.
The "No. of Turns" shown is the "Length" divided by [illegible] plus 3 turns (total number of closed coils), expressed [illegible] nearest whole number. Spiral reinforcing bars must [illegible] deformations and shall in other respects conform to [illegible] 1½ closed coils shall be provided at the ends of the [illegible] unit.
Four steel channel, tee or angle spacers weighing [illegible] 0.68 lb. per lin. ft. of spacer, shall be equally [illegible] the periphery of the coil. The number of pounds of [illegible] based on 0.68 per lin. ft., will be paid for as [illegible] steel and is included in the tabulated quantity of [illegible]

All dimensions are out-to-out.

S in the "TYPE" column indicates straight bars.



TYPE 18

For additional reinforcing steel, see sheets 6 & 7

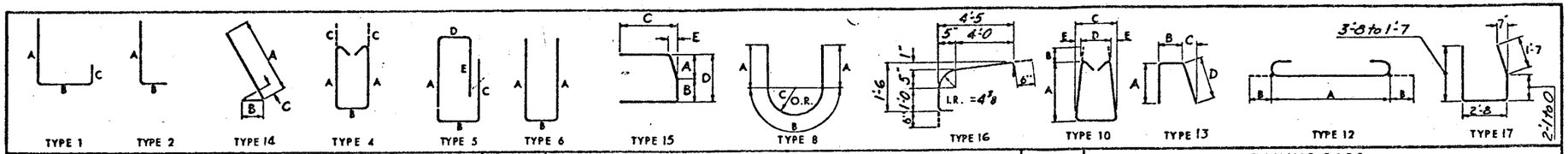
W. E. QUICKSALL AND A[illegible]
CONSULTING ENGINEERS • NE[illegible]

REINFORCING BA[illegible]
BRIDGE NO. POR[illegible]
S.R. 59 over B&O R.R., ERI[illegible]
R.R. & CUYAHOGA[illegible]
PORTAGE COUNTY

Rev. 8-24-73

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

POR-59-0.80
POR-43-11.66
POR-43DA-0.00



FORWARD ABUTMENT

MARK	TYPE	A	B	C	D	E	NO.	LENGTH	WEIGHT
B1101	S		*				20	9'-6	1009
B801	S						6	30'-6	489
B802	S						4	16'-6	176
B803	S						4	17'-0	182
B804	S						10	15'-0	401
B805	S						12	10'-3	328
B806	S						8	12'-0	256
B807	S						18	10'-6	505
B808	S						12	11'-10	379
B809	S						10	16'-0	427
B810	14	4'-6	13"	7"			6	5'-5	87
B811	S						3	13'-9	110
B812	2	5'-3	13"				30	6'-2	494
B813	S						3	12'-3	98
B701	5	8'-7	1'-5	7'-3	11"	3'-3	52	20'-9	2205
B702	1	9'-0	1'-5	8'-8			5	18'-9	192
B703	5	2'-8	1'-5	1'-4	11"	2'-0	4	7'-8	43
B704	6	4'-8	1'-5				4	10'-5	85
B601	S						12	*3'-6	171
B501	S						10	30'-6	318
B502	S						10	15'-0	156
B503	S						10	16'-0	167
B504	S						60	4'-6	282
B505	6	2'-6	3'-5				22	8'-2	187
B506	6	2'-8	3'-5				28	8'-6	248
B507	6	2'-11	3'-5				26	9'-0	244
B508	6	3'-2	3'-5				8	9'-6	79
B509	6	2'-11	2'-8				18	8'-3	155
B510	6	3'-7	2'-8				16	9'-7	160
B511	13	3'-5	1'-5	1'-2	3'-8		5	8'-3	43
B512	17	Varies by increments of 1'-0'2					1 Set of 5	5'-7 to 9'-9	40
B513	S						2	10'-6	22
B514	S						2	3'-9	8
B515	S						8	19'-8	164
B516	S						10	16'-8	174
B517	S						6	13'-5	84
B518	S						10	11'-8	122
B519	S						2	7'-6	16
B520	S						16	6'-6	108
B521	S						16	6'-5	107
B522	S						18	5'-5	102
B523	2	6'-5	7'2"				18	6'-11	130
B524	4	2'-2	8"	5"			19	5'-7	111
B525	6	2'-0	1'-4				14	5'-1	74
B526	15	8"	8"	2'-0	1'-4	2"	14	4'-11	72
B527	6	3'-6	1'-2				4	7'-11	33
B528	6	4'-8	1'-2				2	10'-3	21
B529	4	3'-7	1'-2	5"			5	8'-11	47
B530	4	5'-4	1'-2	5"			1	12'-5	13

See sh 244 A for altered Reinforcing steel list

FORWARD ABUTMENT CONTINUED

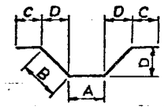
MARK	TYPE	A	B	C	D	E	NO.	LENGTH	WEIGHT
B531	S						1	3'-7	4
B532	S						1	4'-11	5
B533	12	8'-3	7"				6	9'-5	59
B534	12	6'-3	7"				7	7'-5	54
B535	6	1'-3	1'-2				4	3'-5	14
B536	6	2'-0	1'-2				4	4'-11	21
B537	6	2'-10	1'-2				4	5'-9	24
B538	6	3'-3	1'-2				4	7'-5	31
B539	6	3'-10	1'-2				6	8'-7	54
B540	S						2	9'-8	20
B541	S						2	11'-10	25
B542	S						2	4'-3	9
B543	S						2	8'-5	18

RAILING BARS

MARK	TYPE	A	B	C	D	E	NO.	LENGTH	WEIGHT
R501	8	1'-3	9"	3'4"			16	3'-3	*
R502	16						8	6'-7	*
R503	1	3'-2	4'-8	8"			8	8'-3	*
R504	4	3'-2	8"	5"			16	7'-7	*
R505	S						8	4'-8	*
R506	S						4	20'-11	*
R507	S						8	16'-8	*
R508	S						4	19'-8	*
R509	S						12	16'-9	*
R510	S						4	13'-7	*
R511	S						296	14'-8	*
R512	S						8	13'-0	*
R513	S						228	4'-8	*
R514	S						28	3'-9	*
R515	18	1'-3½	1'-11½	7½"	1'-5		8	6'-2	*

REPLACEMENT BARS

RE1101	Str.						5	8'-6	
RE1001	Str.						2	8'-2	
RE901	Str.						1	7'-10	
RE801	Str.						1	7'-6	
RE701	Str.						14	7'-2	
RE501	Str.						9	6'-11	
RE501	Str.						2	6'-7	
RE401	Str.						1	6'-3	



TYPE 18

NOTES

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, A700 is a No 7 size bar and A1014 is a No. 10 size.

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 the nearest whole number. Spiral reinforcing bars may have deformations and shall in other respects conform to Item 509 11/2 closed coils shall be provided at the ends of each spiral unit.
Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be equally spaced along the periphery of the coil. The number of pounds of these spacers based on 0.68 per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

All dimensions are out-to-out.

S in the "TYPE" column indicates straight bars.

* Include with railing for payment.

For additional reinforcing steel, see sheet 7

W.E.Q. D.R.
Sheet 8

W. E. QUICKSALL AND ASSOCIATES, INC
CONSULTING ENGINEERS • NEW PHILADELPHIA

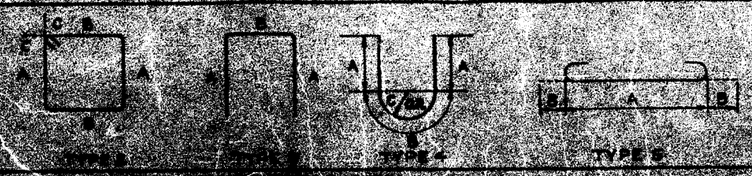
REINFORCING BAR SCHED
BRIDGE NO. POR-59-0187
S.R. 59 over B&O R.R., ERIE-LACKAWA
R.R. & CUYAHOGA RIVER
STA. 8
PORTAGE COUNTY STA. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
	[illegible]		wdb	DLM	6/64

Rev. 5-4-74

FED. AID PROJECT	STATE	PROJECT
2	OHIO	

POR-59-0.40
POR-43-11.66
POR-43DA-0.00



PIER REINFORCING STEEL

MARK	TYPE	A	B	C	NO. PER PIER								TOTAL WT.	LENGTH	WEIGHT
					1	2	3	4	5	6	7	8			
P101	Str.				24								24	14'6	711
P102	Str.				57								57	9'6	1107
P103	3	4'2	3'8			14	14						28	11'8	668
P104	Str.							130					130	12'10	3410
P105	Str.									34	34		68	5'8	764
P106	Str.											36	36	6'6	478
P107	3	4'5	3'0			18	18						36	12'2	835
P108	3	4'9	3'8			18	18						36	12'10	944
P109	3	4'10	4'8			50	50						100	13'0	2697
P910	1	4'8	1'0					128					128	5'6	1485
P601	Str.				8								8	10'8	166
P602	3	3'11	2'8							46			46	10'2	738
P603	3	4'7	3'8							14			14	11'6	243
P604	Str.					10	10	16					36	32'3	1852
P605	Str.					130				114	114		358	10'4	4548
P606	1	4'8	10"							114	114		228	8'4	1896
P607	3	4'9	3'8		32			42					64	12'4	1577
P608	3	4'9	2'8									18	18	11'10	320
P609	3	4'10	3'8		8								8	13'0	166
P610	3	4'2	3'8		22			14	80				116	11'8	2033
P611	3	5'0	2'8								10	14	24	12'4	445
P612	3	5'5	2'8									10	10	13'2	198
P613	3	3'10	3'8		8								8	15'0	180
P614	3	4'4	2'8								18	6	24	11'0	397
P615	3	4'5	3'8		20			22					42	12'2	778
P616	3	4'6	3'8					14					14	12'4	259
P501	Str.				8								8	39'0	325
P502	Str.					8	8	8	8				32	35'8	1190
P503	Str.					24	16	28	20				88	30'4	2784
P504	4	1'7	5'2	1'10		12	8	14	11				45	8'4	391
P505	Str.								5				5	27'8	144
P506	Str.								2				2	82'6	68
P507	Str.									10	10		20	30'1	628
P508	Str.									24	24		48	27'4	1368
P509	3	3'8	2'8							24	24	24	72	9'9	732
P510	4	1'7	2'8	1'4						12	12		24	5'10	146
P511	Str.									4	4	4	12	36'8	459
P512	Str.									4	4	4	12	23'8	290
P513	Str.								5				5	40'0	209
P514	3	3'11	2'8							10	10		20	10'3	214
P515	3	4'4	2'8									10	10	11'1	116
P401	2	3'8	3'8	4½"	126	126	135	84	87				558	15'0	5393
P402	2	2'7	2'7	4½"	126	126	135	84	87				556	10'9	4007
P403	2	2'8	2'8	4½"						88	80	135	303	11'1	2243
P404	2	1'11	1'11	4½"						22	20		42	8'1	227

PIER REINFORCING STEEL

MARK	TYPE	A	B	C	NO. PER PIER								TOTAL WT.	LENGTH	WEIGHT
					1	2	3	4	5	6	7	8			
P101	Str.				24								24	14'6	711
P102	Str.				57								57	9'6	1107
P103	3	4'2	3'8			14	14						28	11'8	668
P104	Str.							130					130	12'10	3410
P105	Str.									34	34		68	5'8	764
P106	Str.											36	36	6'6	478
P107	3	4'5	3'0			18	18						36	12'2	835
P108	3	4'9	3'8			18	18						36	12'10	944
P109	3	4'10	4'8			50	50						100	13'0	2697
P910	1	4'8	1'0					128					128	5'6	1485
P601	Str.				8								8	10'8	166
P602	3	3'11	2'8							46			46	10'2	738
P603	3	4'7	3'8							14			14	11'6	243
P604	Str.					10	10	16					36	32'3	1852
P605	Str.					130				114	114		358	10'4	4548
P606	1	4'8	10"							114	114		228	8'4	1896
P607	3	4'9	3'8		32			42					64	12'4	1577
P608	3	4'9	2'8									18	18	11'10	320
P609	3	4'10	3'8		8								8	13'0	166
P610	3	4'2	3'8		22			14	80				116	11'8	2033
P611	3	5'0	2'8								10	14	24	12'4	445
P612	3	5'5	2'8									10	10	13'2	198
P613	3	3'10	3'8		8								8	15'0	180
P614	3	4'4	2'8								18	6	24	11'0	397
P615	3	4'5	3'8		20			22					42	12'2	778
P616	3	4'6	3'8					14					14	12'4	259
P501	Str.				8								8	39'0	325
P502	Str.					8	8	8	8				32	35'8	1190
P503	Str.					24	16	28	20				88	30'4	2784
P504	4	1'7	5'2	1'10		12	8	14	11				45	8'4	391
P505	Str.								5				5	27'8	144
P506	Str.								2				2	82'6	68
P507	Str.									10	10		20	30'1	628
P508	Str.									24	24		48	27'4	1368
P509	3	3'8	2'8							24	24	24	72	9'9	732
P510	4	1'7	2'8	1'4						12	12		24	5'10	146
P511	Str.									4	4	4	12	36'8	459
P512	Str.									4	4	4	12	23'8	290
P513	Str.								5				5	40'0	209
P514	3	3'11	2'8							10	10		20	10'3	214
P515	3	4'4	2'8									10	10	11'1	116
P401	2	3'8	3'8	4½"	126	126	135	84	87				558	15'0	5393
P402	2	2'7	2'7	4½"	126	126	135	84	87				556	10'9	4007
P403	2	2'8	2'8	4½"						88	80	135	303	11'1	2243
P404	2	1'11	1'11	4½"						22	20		42	8'1	227

NOTES

BAR SIZE is indicated in th... The first digit means the ... used, and the last two are ... four are used, zero is not ... numbers. For example, #10 ... sized bar and #104 is a #4 ...

All dimensions are out-to-...

Str. in the "TYPE" column ... straight bars.

W.I.O. ...

W. E. QUICKALL AND ASS...
CONSULTING ENGINEERS ... OHIO

REINFORCING BAR
BRIDGE NO. POR-...
S.R. 59 over B&O R.R., ERIE R.R. & CUYAHOGA

PORTAGE COUNTY

DESIGNED	DRAWN	CHECKED	QUANTITIES	APPROVED
	PMZ			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

POR-59-0.80
POR-43-11.66
POR-43DA-0.00

℄ Brgs. Rear Abutment
Sta. 85+32.00

℄ Survey S.R. 59

58°24'33"

125° 24'33"

14'-0

1'-11½

2'-11½

1'-0

2'-9

2'-0

6'-1

1'-6

1'-2¼

1'-6

1'-11½

6'-5

6'-9

17'-10¼

4'-9¾

6-Spaces @ 12'-0 c/c

13-Spaces @ 6'-0 c/c

40'-6¾

5'-9½

84'-5⅛

℄ Brgs. No. 1 Pier
Sta. 86+16.00

10 BP42 Piles = 72'-0 Back Row

10 BP42 Piles = 78'-0 Front Row

44'-2¾

10'-0

29'-6

2'-0¼

10'-0

29'-6

7'-6

7'-6

15'-0

5'-0

5'-0

10'-0

℄ Brgs. No. 2 Pier
Sta. 87+19.00

33'-6

2'-1⅛

39'-6

6'-0

6'-0

12'-0

℄ Brgs. No. 3 Pier
Sta. 88+22.00

Skew 33°30'00" (Typical Rear Abut. thru Pier #5)

Footing for No. 3 Pier is identical to No. 2 Pier.

℄ Brgs. No. 4 Pier
Sta. 89+16.25

1'-10½

12 BP53 Piles = 65'-3

33'-6

2'-1⅛

11-Spaces @ 5'-9

33'-6

67'-0

1'-6

4'-9

4'-9

6'-3

6'-3

12'-6

1'-6

1'-10½

See sh. 244A for revised Forward Abutment footing plan.

↥ Indicates a 4:1 battered pile and direction of batter.

℄ Brgs. No. 5 Pier
Sta. 89+90.25

33'-6

T.S. 90+44.91

2'-1⅛

67'-0

33'-6

4'-3

4'-3

6'-6

℄ Brgs. No. 6 Pier
Sta. 90+64.25

Skew 15°30'29" (Typical Pier #6 thru Fwd. Abut.)

29'-6

1'-9¾

59'-0

29'-6

3'-0

3'-0

6'-0

℄ Brgs. No. 7 Pier
Sta. 91+46.13

55°

29'-6

2'-2⅝

29'-6

59'-0

7'-0

3'-6

3'-6

7'-0

3'-6

3'-6

7'-0

3'-9

3'-9

7'-6

3'-9

3'-9

S.C. 92+44.91

12'-6

7'-0

3'-6

3'-6

3'-6

3'-6

1'-10½

12'-6

7'-6

3'-9

3'-9

3'-9

3'-9

7'-6

12'-6

3'-0

3'-0

6'-0

℄ Brgs. No. 8 Pier
Sta. 92+06.11

40°-3⅜

15'-4⅛

15'-4⅛

15'-4⅛

15'-4⅛

2'-6

2'-6

2'-6

2'-6

13'-0⅞

1'-6

10'-0

2'-6

2'-3

2'-3

4'-6

5'-3

5'-0

2'-6

2'-6

Face of Wingwall

110°30'37"

Face of Abutment Sta. 92+87.94

Face of Abutment

℄ Survey S.R. 59

6'-5½

Reference Line (Extended Tangent)

70°11'02"

2'-1⅛

24'-2

1'-6

10'-0

Face of Wingwall

11'-8⅛

2'-3

-N-

W.E.Q. BR

Sheet 8

W. E. QUICKSALL AND ASSOCIATES, INC
CONSULTING ENGINEERS • NEW PHILADELPHIA

FOOTING PLAN

BRIDGE NO. POR-59-0187
S.R. 59 over B&O R.R., ERIE-LACKAWA
R.R. & CUYAHOGA RIVER
PORTAGE COUNTY
STA. 85
STA. 92

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
	PMZ		wda	DLM	6/69

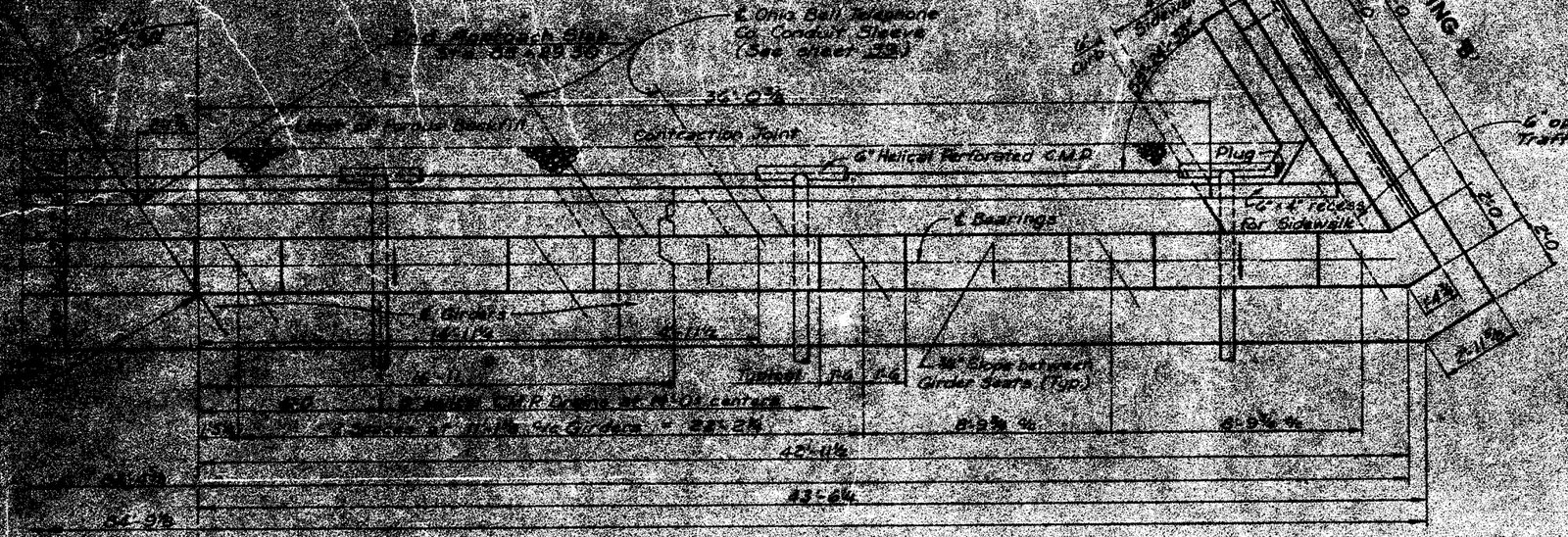
Rev. 5-4-74

FED. ROAD DIVISION	STATE	PROJECT
5	OHIO	

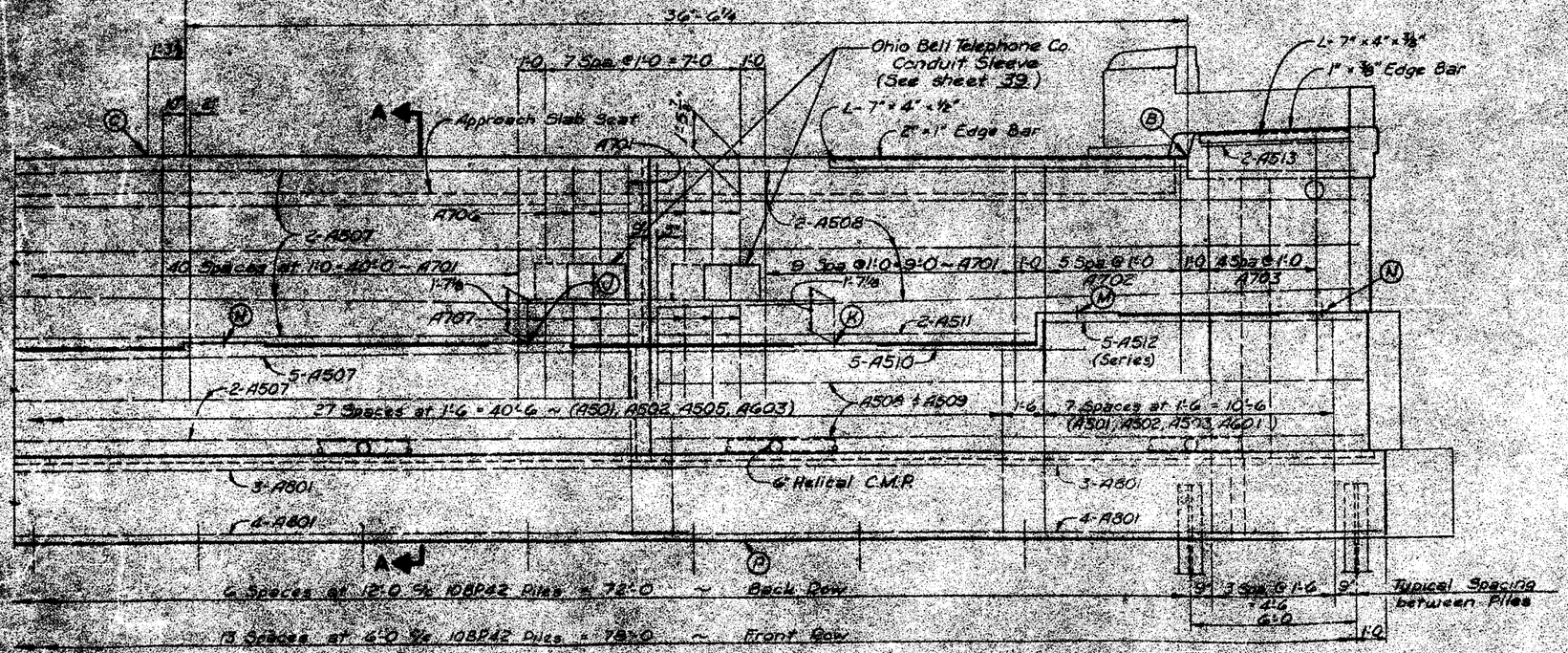
POR-59-0.00
POR-43-11.66
POR-430A-0.00

Note:
Adjustable Type Elbows meeting specifications requirements for gage and coating are acceptable for mating bends to perforated corrugated metal pipe. Elbows and the stub of pipe need not be re-formed.

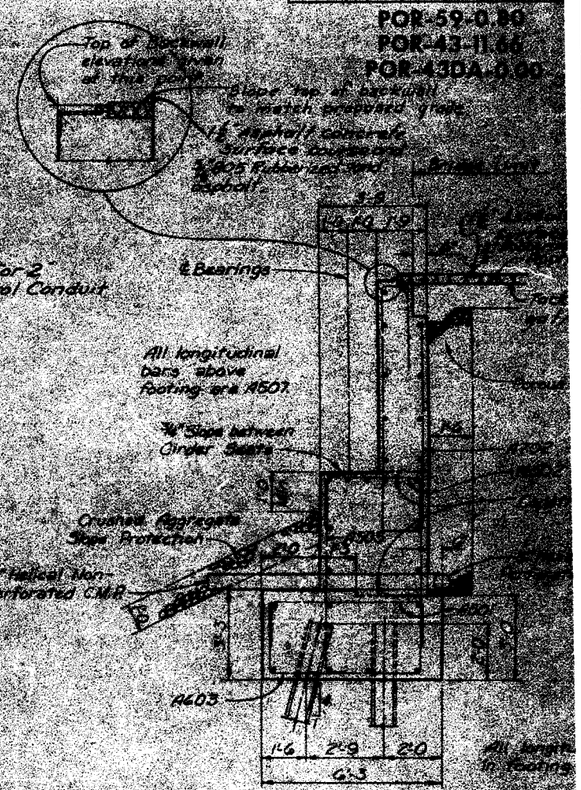
Arrows backfill shall extend upward from the top of the footing to the aggregate slab and to the bottom of the sidewalk.



HALF - PLAN LEFT



HALF - ELEVATION LEFT



SECTION A-A

ELEVATIONS						
B	C	H	J	K	M	
1067.67	1067.77	1060.74	1060.68	1060.62	1060.72	1060

Note:
For additional details see sheets 10 & 11

W.E.Q. S
S.H

W. E. GUCKERT AND ASSOCIATES
CONSULTING ENGINEERS - MINNEAPOLIS

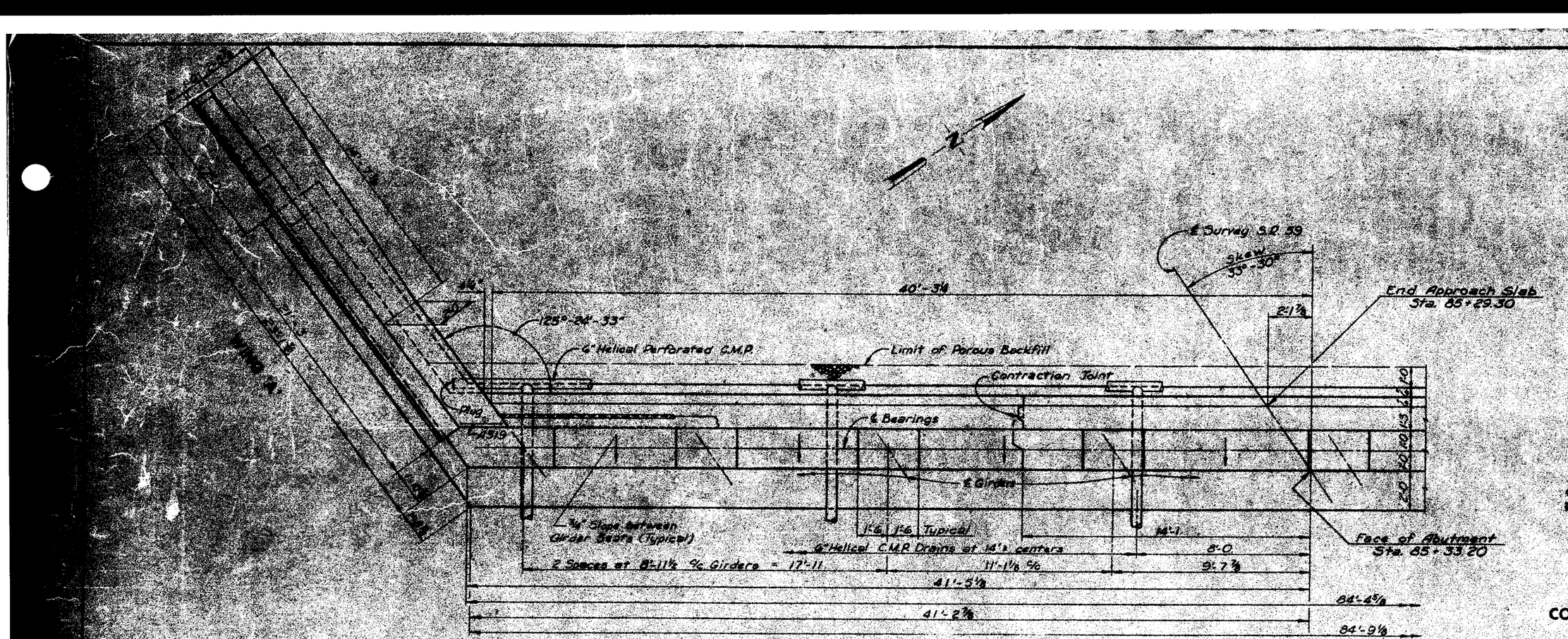
REAR ABUTMENT DE
BRIDGE NO. POR-59-
S.R. 59 over S&O R.R. & B&A
R.R. & CUYAHOGA RI
PORTAGE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	APPROVED
	EK		WAG	WAG

Rev. 6-5-59

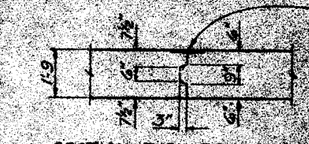
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

POR-59-0.80
POR-43-11.66
POR-43DA-0.00



HALF - PLAN RIGHT

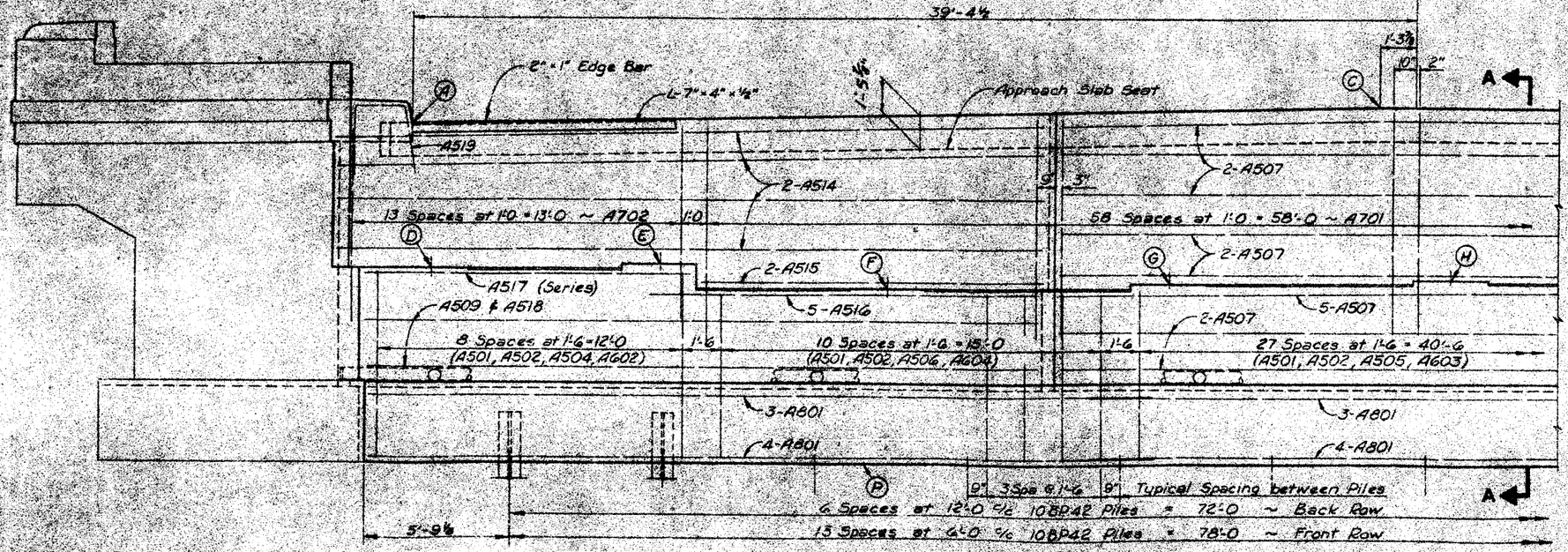
12" - ½" Premolded Sealing Strip
15" x ¾" recess from top of slab to bottom of Approach Slab



SECTION THRU BACKWALL

SECTION THRU BRIDGE SEAT

CONTRACTION JOINT DETAILS



HALF - ELEVATION RIGHT

ELEVATIONS						
A	C	D	E	F	G	
1067.06	1067.77	1061.17	1061.33	1060.97	1060.58	106

Note:
For additional details see sheets 9 & 11

W.E.Q. BR
Shee

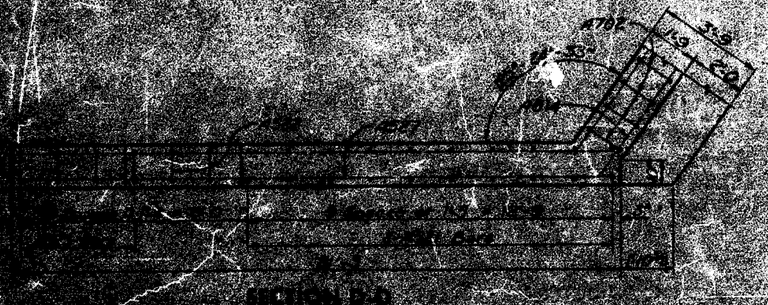
W. E. QUICKSALL AND ASSOCIA
CONSULTING ENGINEERS • NEW PHIL

REAR ABUTMENT D
BRIDGE NO. POR-59
S.R. 59 over B&O R.R., ERIE-LA
R.R. & CUYAHOGA RI
PORTAGE COUNTY

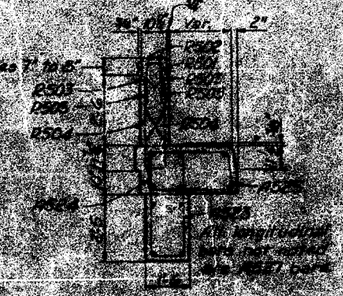
	12		PMZ	DLM

FED. AID DIVISION	STATE	PROJECT
5	OHIO	

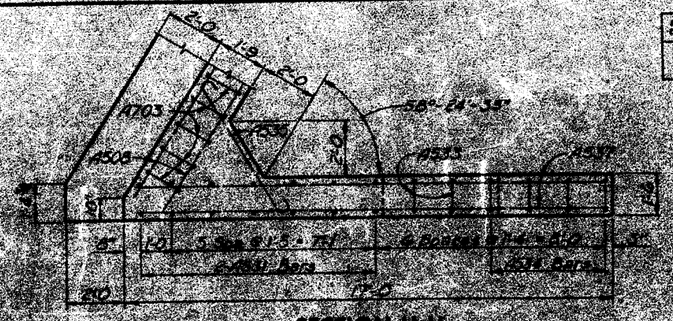
POR-59-0.80
POR-43-11.66
POR-43DA-0.80



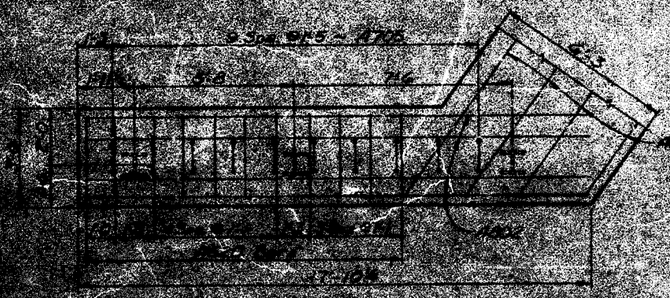
SECTION D-D



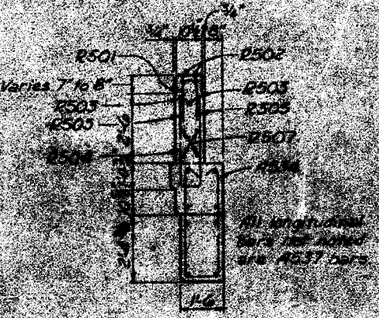
SECTION E-E



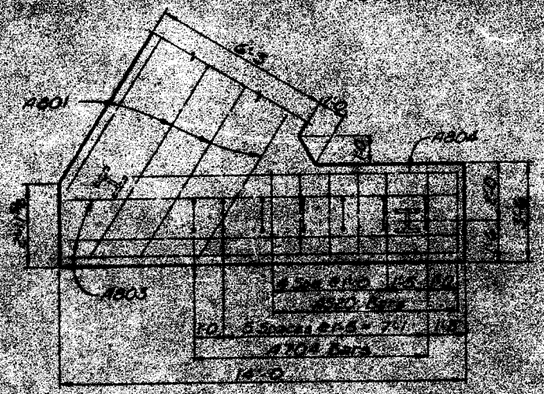
SECTION H-H



SECTION C-C

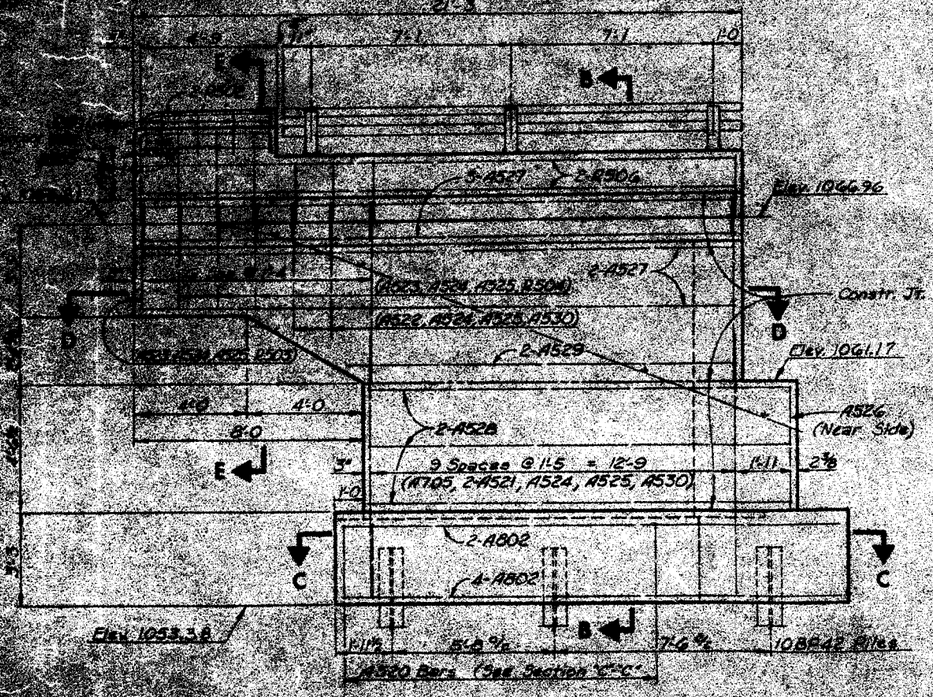


SECTION J-J

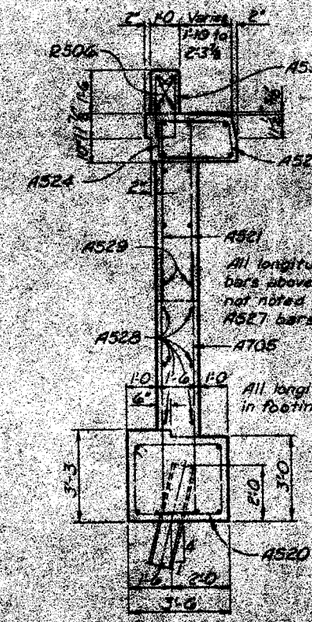


SECTION G-G

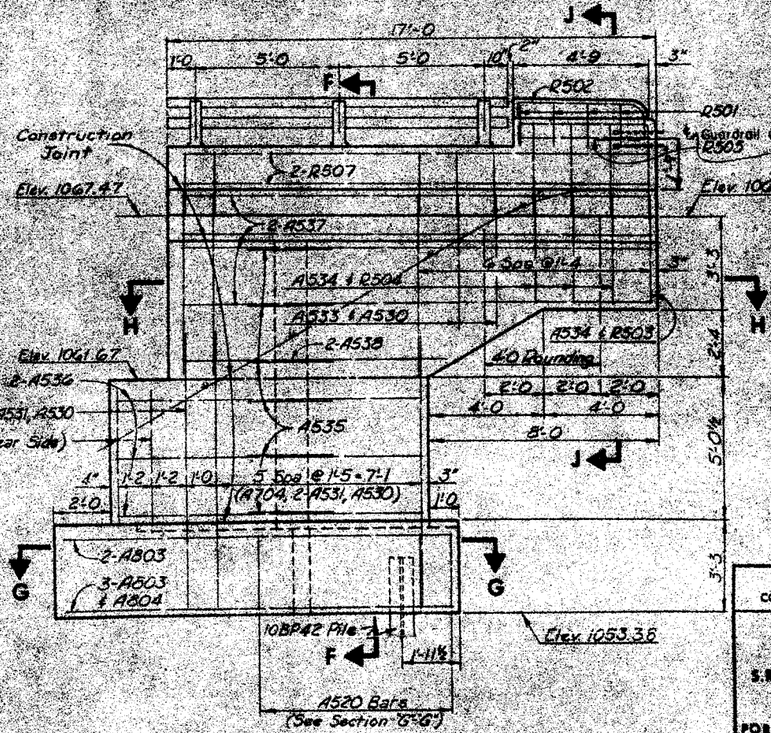
SECTION F-F



ELEVATION - WING 'A'



SECTION B-B



ELEVATION - WING 'B'

W.P.G. SI

W. E. GIRCSTALL AND ASS
CONSULTING ENGINEERS

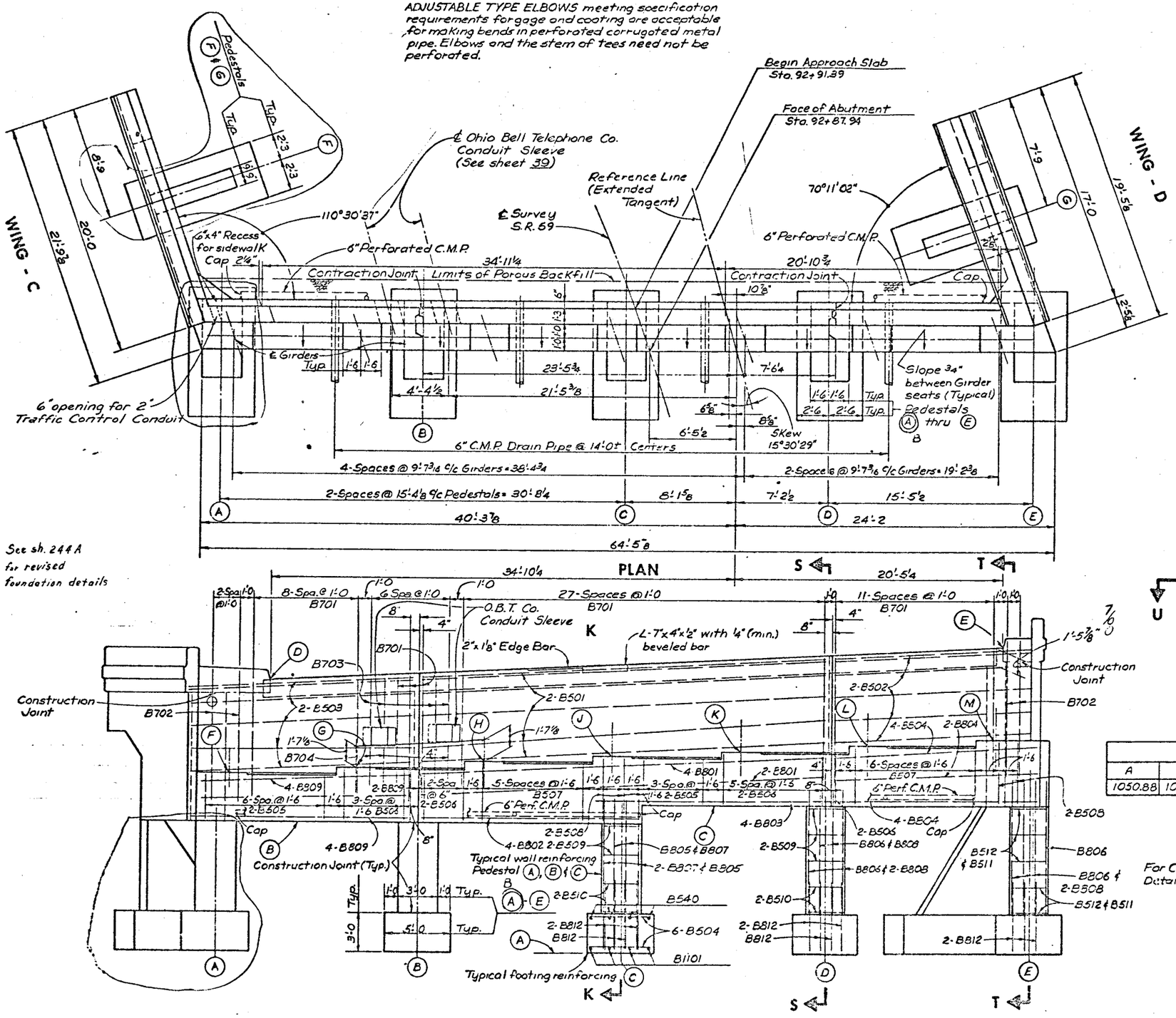
REAR ABUTMENT
BRIDGE NO. POR
S.R. 59 over B&O R.R. &
R.R. & CUYAHOGA

PORTAGE COUNTY

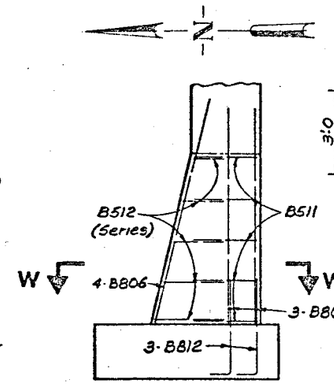
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

POR-59-0.80
POR-43-11.66
POR-43DA-0.00

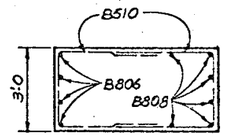
ADJUSTABLE TYPE ELBOWS meeting specification requirements for gage and coating are acceptable for making bends in perforated corrugated metal pipe. Elbows and the stem of tees need not be perforated.



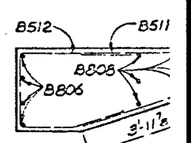
See sh. 244A for revised foundation details



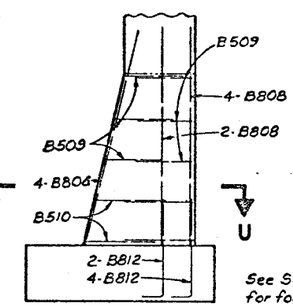
SECTION T-T



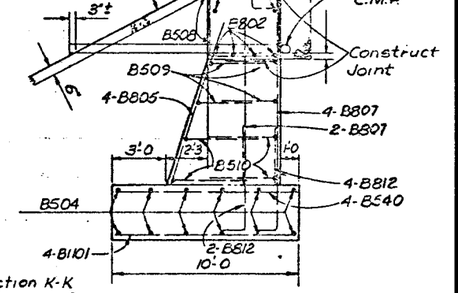
SECTION U-U



SECTION W-W



SECTION S-S



See Section K-K for footing reinforcing

SECTION K-K

⅝" Rubberized Sand Asphalt and 1 2" Asphalt conc

POROUS BACKFILL shall extend upward from the bottom of the cross beam to the appro slab and to the bottom of the sidewalk.

ELEVATIONS										
A	B	C	D	E	F	G	H	J	K	L
1050.88	1061.79	1063.16	1071.69	1074.30	1065.54	1066.00	1066.46	1066.91	1067.36	1067.81

For additional details, see Sheet 13

W.E.Q. BRI

Sheet

W. E. QUICKSALL AND ASSOCIATES, IN
CONSULTING ENGINEERS • NEW PHILADELPHIA

FORWARD ABUTMENT
BRIDGE NO. POR-59-0187
S.R. 59 over B&O R.R., ERIE-LACKAW
R.R. & CUYAHOGA RIVER
PORTAGE COUNTY STA. 8
STA. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
	Pi Z		wda	WAI	5/67

Rev. 3-4-71 Rev 8-24-73