

3088

MICROFILMED
SEP 29 1987

STATE OF OHIO DEPARTMENT OF HIGHWAYS

I-475-7(17)195

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-475-7(17)195

1
101

LUC-475-0.81

CONVENTIONAL SIGNS

Section Line	-----
Center Line	-----
Corporation Line	-----
Property Line	-----
Fence Line	-----
Township Line	-----
Limited Access Only	----- LA -----
Right of Way Only	----- R/W -----
Existing Right of Way	-----
Guard Rail New Exist.
Railroads	=====
Pole Lines	⊗ Telephone ⊗ Power
Drainage Lines	----- New ----- Exist.
Trees & Stumps	⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗

LUC-475-0.81

SPRINGFIELD TOWNSHIP MONCLOVA TOWNSHIP LUCAS COUNTY

SEPARATION WITH N & W RAILWAY

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 Highways in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

1965 SPECIFICATIONS (See Note Sht. N° 8)

The Standard Specifications of the State of Ohio, Department of Highways, 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 the maintenance and safety of traffic will be as set forth on the plans and estimates.

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Sheet No. 75 revised 9-14-66

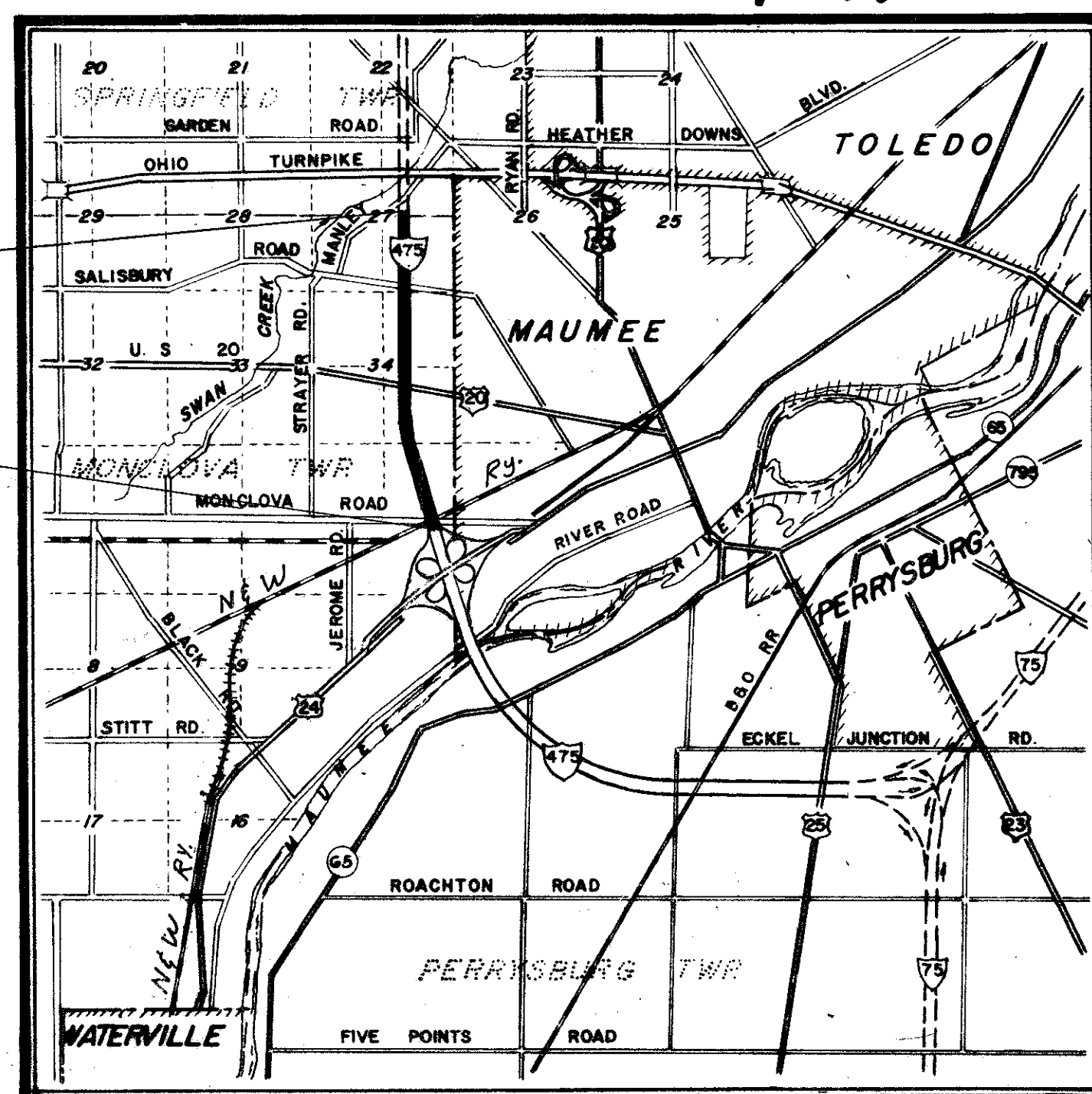
LINE DATA

I-475-7(4)195

Sta. 315+00 to Sta. 436+00
 Net Length of Project = 12,100 Lin. Ft. or 2.291 Miles
 Add for approaches (See Sht. N° 2) = 4,667 Lin. Ft.
 Net Length of Work = 16,767 Lin. Ft. or 3.175 Miles

"See Sheet No. 8 for Conversion Table of Standard Drawings ~1963 Specifications to 1965 Specifications."

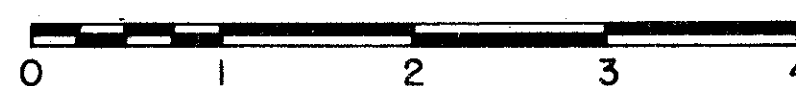
STANDARD CONSTRUCTION DRAWINGS							
DRAWING NO.	DATE	DRAWING NO.	DATE	DRAWING NO.	DATE	DRAWING NO.	DATE
MC-1	6-1-65	GR-3A	6-1-65	HW-E	6-1-65		
MC-3	6-1-65	GR-G	6-1-65	MC-4	6-1-65		
BP-1	6-1-65	MC-G	6-1-65	CD 22A&D	6-1-65		
BP-2	6-1-65	L-1	6-1-65	CB-3	6-1-65		
F-2	6-1-65	MH-1A	6-1-65	MH-1	6-1-65		
F-3	6-1-65	CB-5	6-1-65	BR-1-65 (sht. 1)	2-1-65		
BP-G	6-1-65	BP-3	6-1-65	SD-1-G3	11-12-63		
FACT-1	6-1-65	SP-5	6-1-65	F3B-1-G2	1-15-63		
FACT-2	6-1-65	BP-4	6-1-65	AS-1-54	8-10-65		
BP-7	1-1-66			SD-2-64	11-25-64		
GR-1	6-1-65	HW-1	6-1-65				
GR-2A	9-1-65	HW-3	6-1-65				



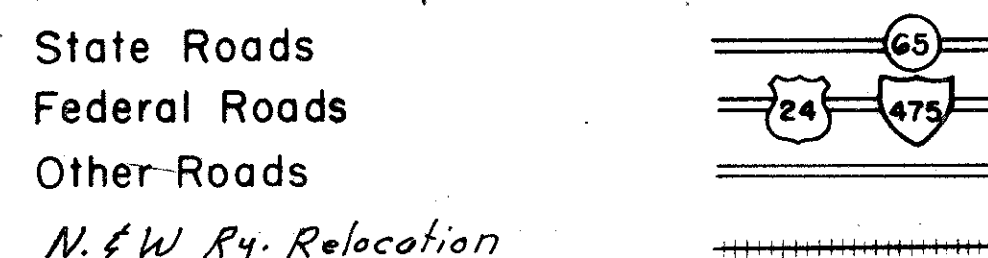
Delivery Point: Maumee Average Haul: 1.0 Mile

LOCATION MAP

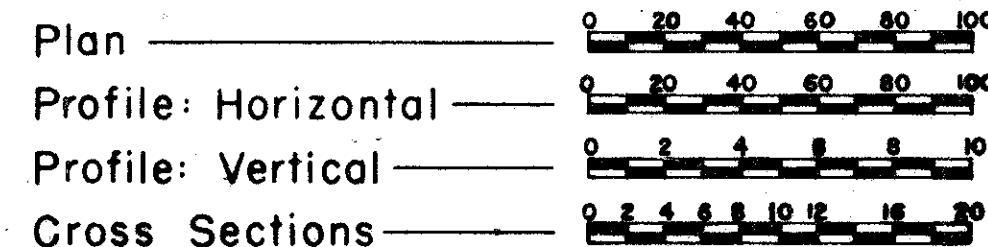
SCALE OF MILES



Portion to be Improved



SCALE



"See Sheet No. 8 for Conversion Table of Supplemental Specifications ~1963 Specifications to 1965 Specifications."

SUPPLEMENTAL SPECIFICATIONS			
Specification No.	Date	Specification No.	Date
801	9-2-65		
811	3-29-65		
803	7-14-65		
803	8-24-65		
804	2-21-66		
806	9-2-65		
1201	9-2-65		
825	4-22-65		

PLANS PREPARED BY
CHARLES L. BARBER & ASSOCIATES
CONSULTING ENGINEERS TOLEDO, OHIO

Charles L. Barber Sept 23, 1964
Date

Approved
Date 10-1-65

Thomas M. Major
Division Deputy Director

Approved
Date 2-25-66

C. W. Abrater
Engineer of Bridges

Approved
Date 3-1-66

R. D. Ritten
Engineer of Location & Design

Approved
Date 3/1/66

R. E. Shultz
Deputy Director of Design & Construction

Approved
Date 5-7-66

T. H. Broad
Deputy Director of Right-of-Way

Approved
Date 3-7-66

E. W. Wilson
Deputy Director of Planning & Programming

Approved
Date

First Assistant Director

Approved
Date 3/7/66

H. E. Mashitt
Director of Highways

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

DIVISION ENGINEER

DATE

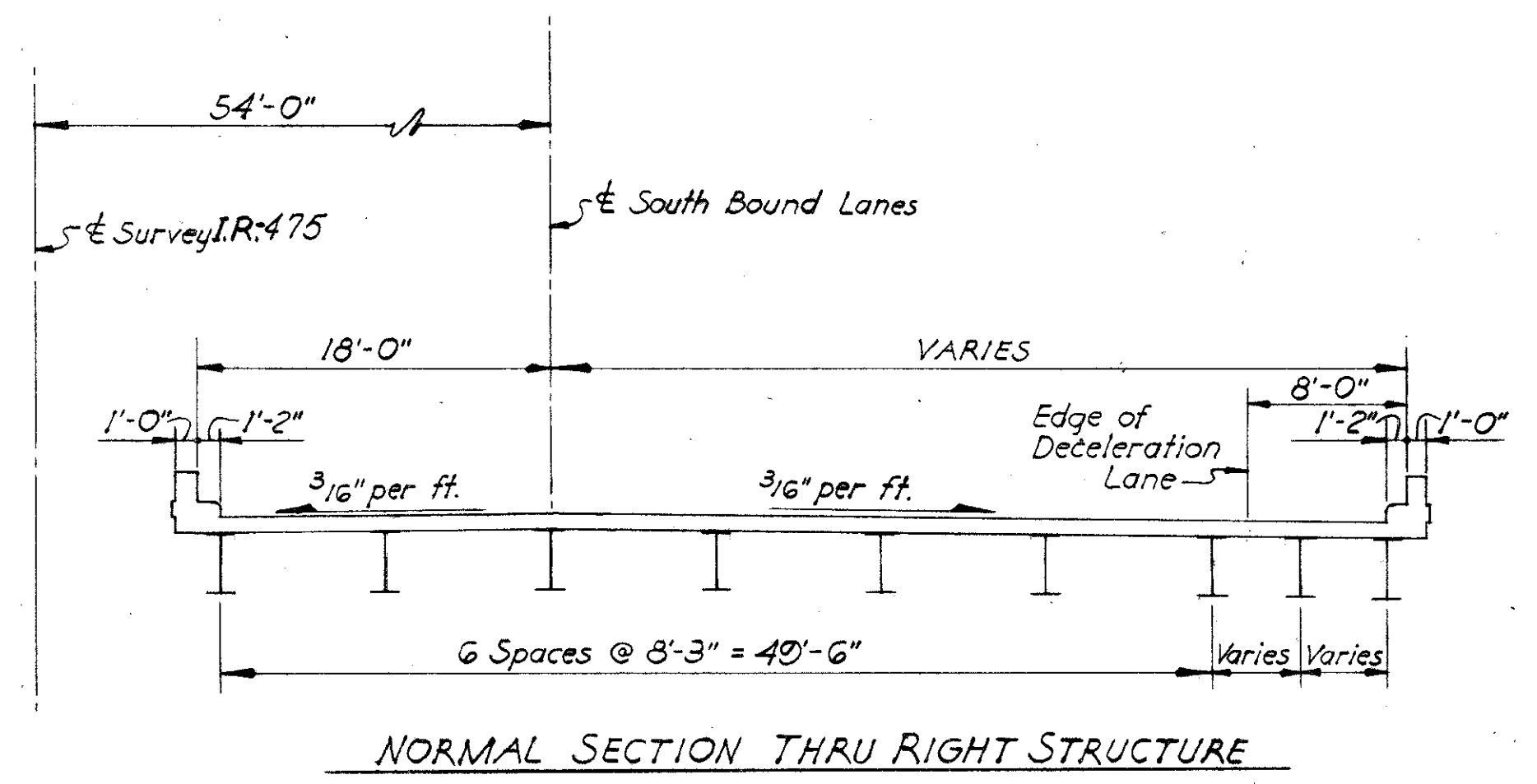
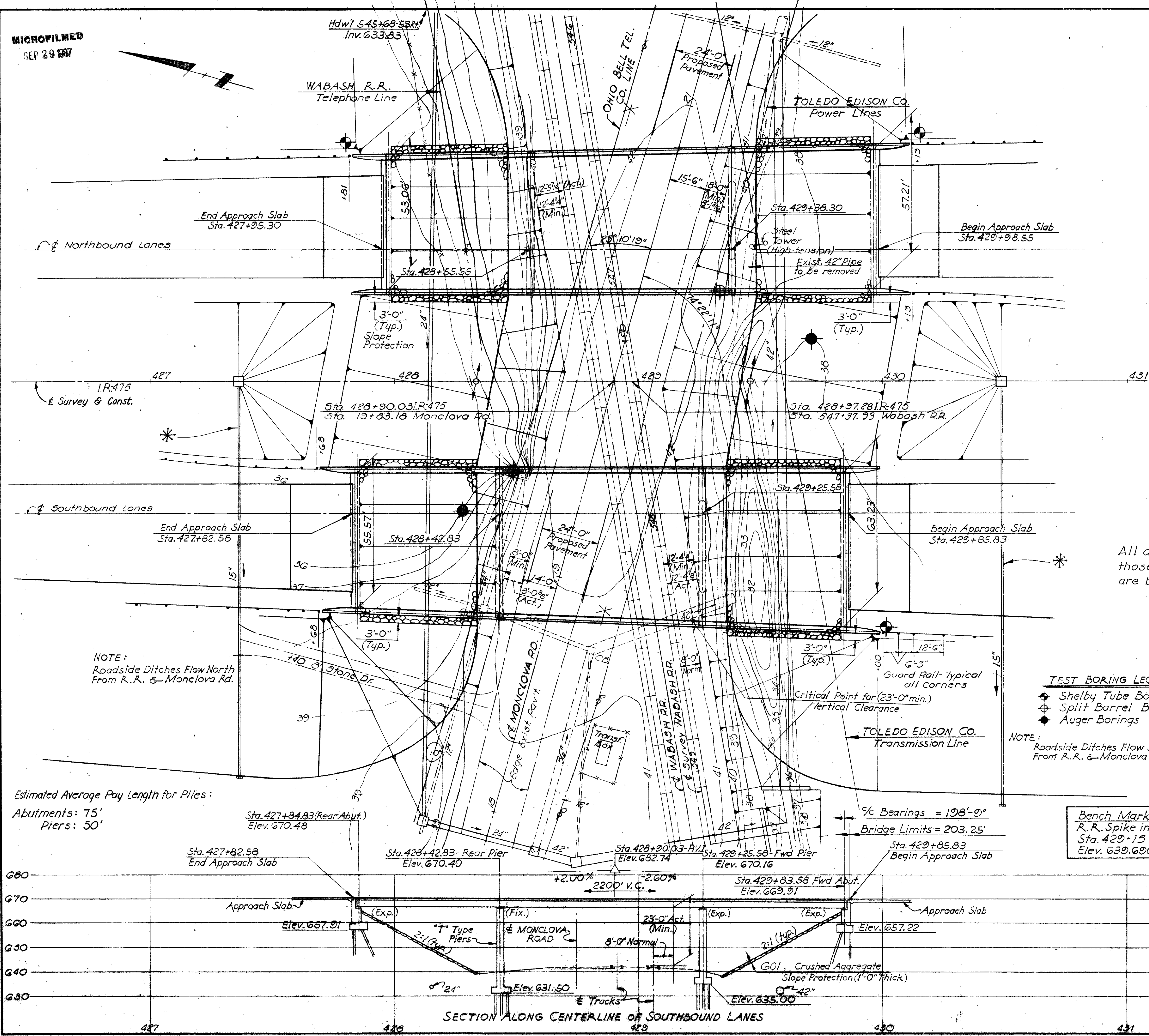
File No. LUCAS COUNTY ~ LUC ~ 475 ~ 0.81
 Date of Letting Contract No. 19

MICROFILMED
SEP 29 1987

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

80
101

LUC-475-0.81



All drainage pipes except those shown thus * are by others.

MONCLOVA ROAD
1957 Traffic: 1,440
Combination Trucks-40
1975 Traffic: 2,194
I.R. 475
1975 A. D. T.: NB. Lanes 8,247
SB. Lanes 10,109

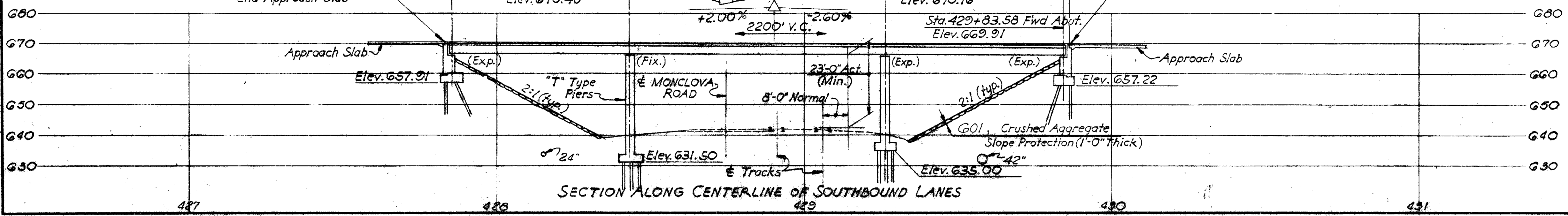
TRAFFIC MOVEMENTS FOR WABASH R.R.
4 Trains and 4 Switching Moves Per Day
Maximum Speed 40 M.P.H.

PROPOSED STRUCTURES
Type: Continuous Steel Beams with Reinforced Concrete Deck & Substructure.
Spans: Left Structure, 58'-0", 82'-9", 58'-0".
Right Structure, 58'-0", 82'-9", 58'-0".
Roadway: Varies
Load Frequency: CF=2000 (1957) Adequate for AASHTO alternate loading.
Skew: 0°00'00"
Wearing Surface: 1" monolithic concrete
Approach Slabs: 25'-0" long
Alignment: Tangent
Curbs: 1'-2" (each side)

TEST BORING LEGEND
 ⊕ Shelby Tube Borings
 ⊕ Split Barrel Borings
 ⊕ Auger Borings
 NOTE: Roadside Ditches Flow South From R.R. & Monclova Rd.

Estimated Average Pile Length for Piles:
Abutments: 75'
Piers: 50'

Bench Mark No. 9
R.R. Spike in Pole
Sta. 429+15 - 470+R.
Elev. 639.690

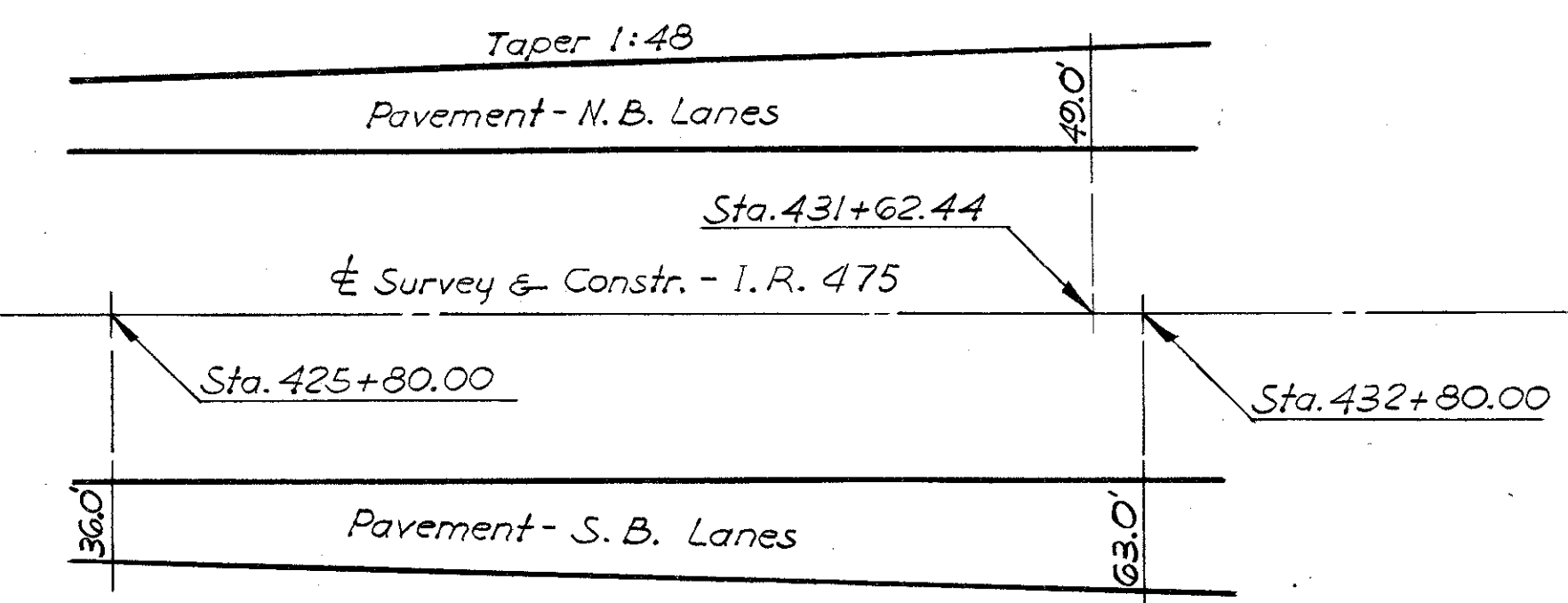
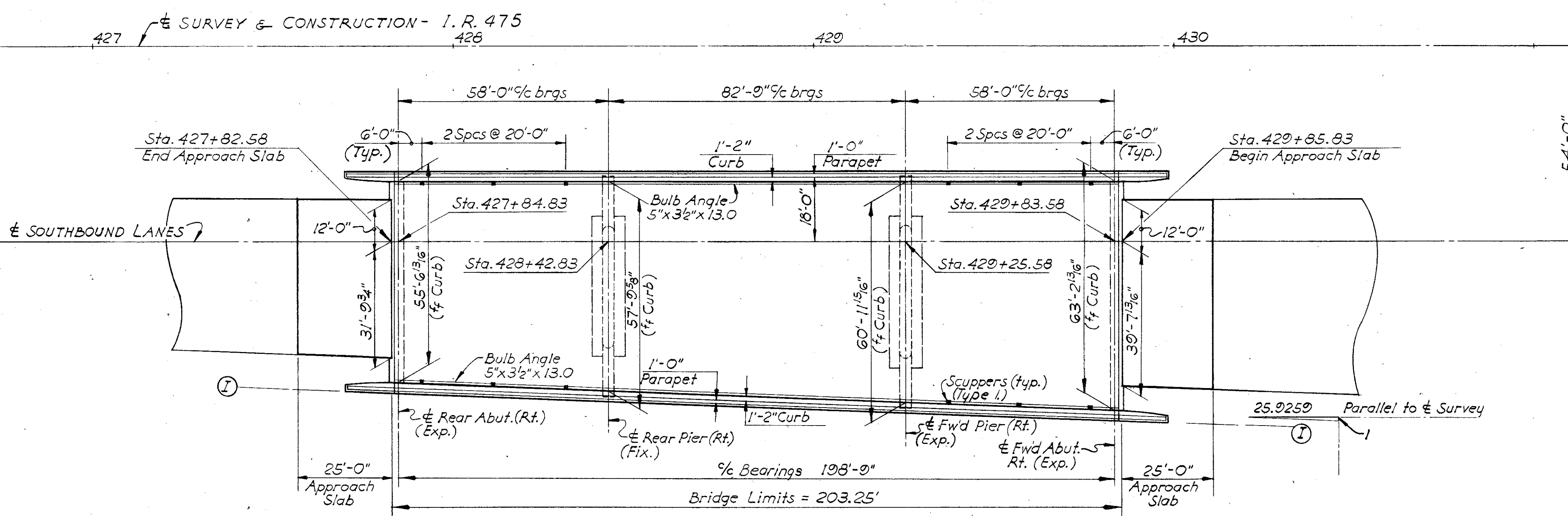
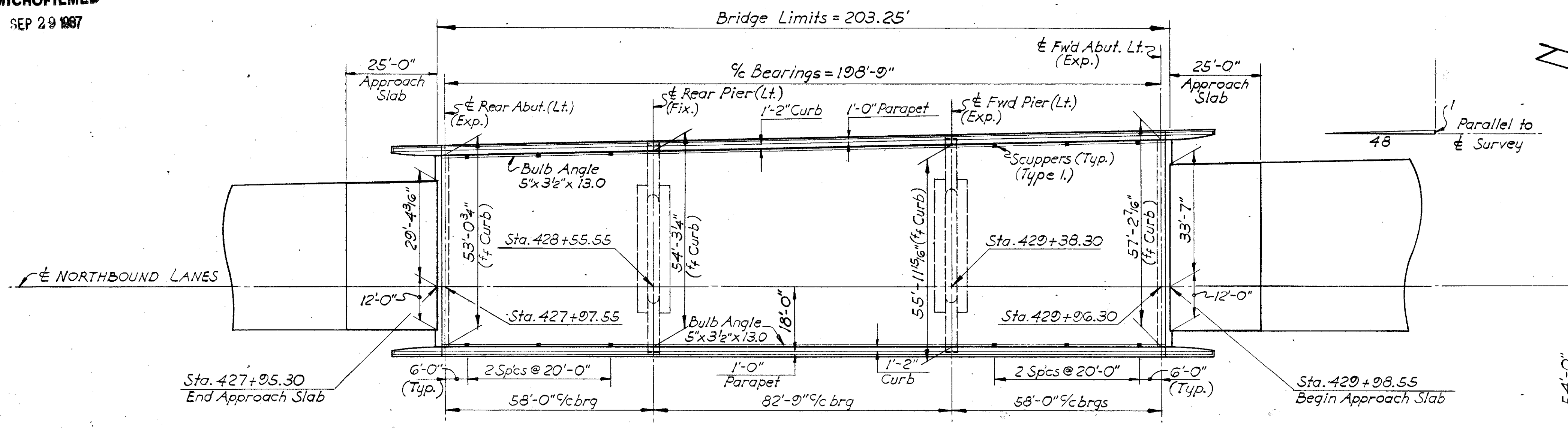


CHARLES L. BARBER & ASSOCIATES
ENGINEERS
TOLEDO, OHIO

SITE PLAN

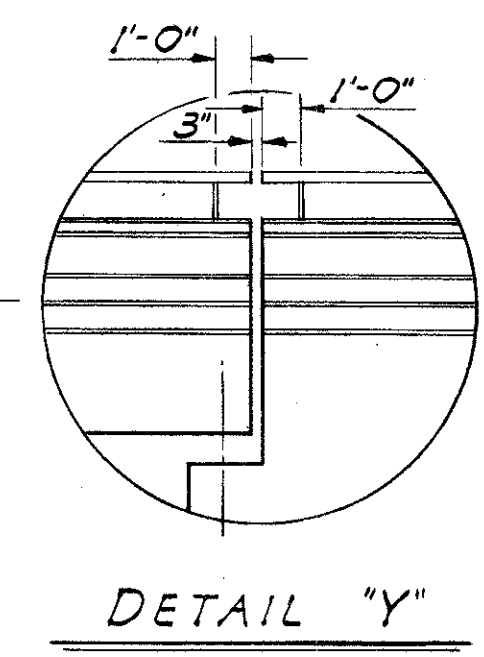
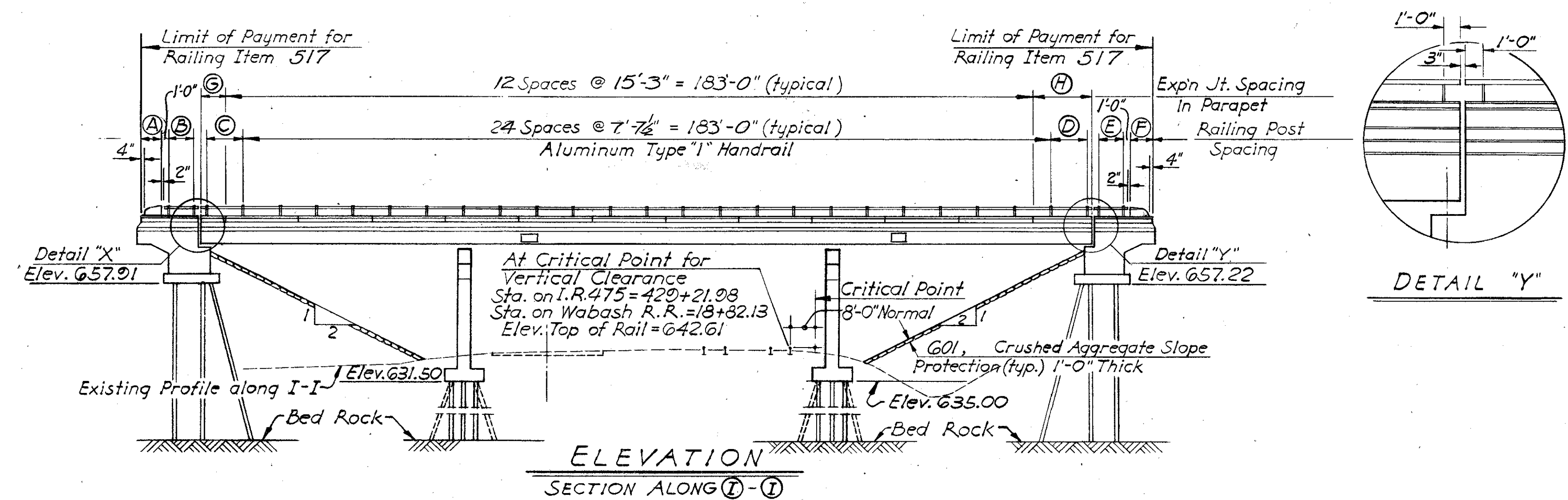
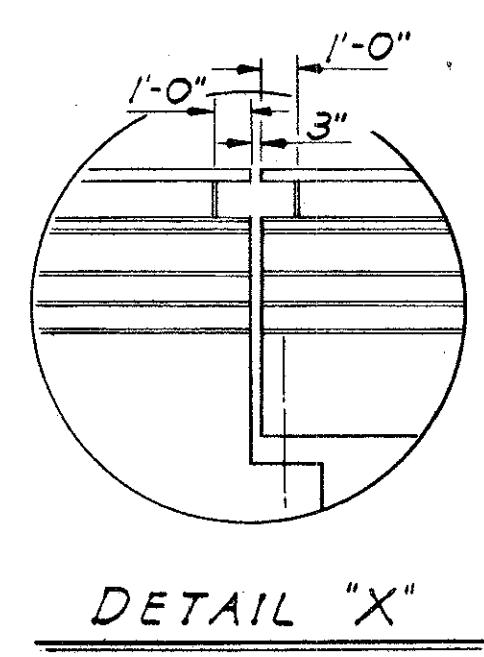
BRIDGE NO. LUC-20-1774 L & R
I.R. 475 L & R OVER WABASH R.R. & MONCLOVA RD.
LUCAS CO. NB. 427+95.30 - 429+98.55
SB. 427+82.58 - 429+85.83
SCALE 1"=20'

PRESENT TOPOGRAPHY		PROPOSED WORK	
SURVEYED	DRAWN	DESIGNED	DRAWN
L.A.B.	L.A.B.	K.R.R.	K.R.R.
		W.B.D.	J.M.C.
			N.B.D.



GENERAL PLAN

LOCATION	DIMENSION							
	A	B	C	D	E	F	G	H
Left Structure-East Parapet	4'-0"	8'-2"	7'-7 3/4"	7'-7 3/4"	8'-2"	4'-0"	4'-10"	12'-5 1/2"
Left Structure-West Parapet	4'-0"	8'-2"	7'-7 1/2"	7'-7 1/2"	8'-2"	4'-0"	4'-9 3/4"	12'-5 1/4"
Right Structure-East Parapet	4'-0"	8'-2"	7'-7 1/2"	7'-7 1/2"	8'-2"	4'-0"	4'-9 3/4"	12'-5 1/4"
Right Structure-West Parapet	4'-0"	8'-2"	7'-8 1/4"	7'-8 1/4"	8'-2"	4'-0"	4'-10 1/2"	12'-6"



ELEVATION
SECTION ALONG I-I

CHARLES L. BARBER & ASSOCIATES
ENGINEERS
TOLEDO, OHIO

**GENERAL PLAN
& ELEVATION**

BRIDGE NO. LUC-20-1774 L.&R.
I.R.475 L.&R. OVER WABASH R.R.
& MONCLOVA ROAD
LUCAS CO. NB 427+95.30-429+98.55
SB 427+82.58-429+85.83

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.R.R.	K.R.R.	H.C.M.	S.S.P.	W.B.D.	Sept. '64	9-7-65

ITEM	TOTAL (Both STRUCTURES)	UNIT	DESCRIPTION	LEFT STRUCTURE				RIGHT STRUCTURE				TOTAL LEFT STRUCTURE	TOTAL RIGHT STRUCTURE	AS BUILT
				SUPER.	ABUTS.	PIERS	GEN'L.	SUPER.	ABUTS.	PIERS	GEN'L.			
503	1,551	Cu. Yds.	Unclassified Excavation		544	198			580	229		742	809	
825	3090	Sq. Yds.	Concrete Surface Treatment	1448							1642	1448	1642	
511	775	Cu. Yds.	Class "C" concrete, (Superstructure)	375				400				375	400	
511	461	Cu. Yds.	Class "C" concrete, (Piers above footing)			216				245		216	245	
511	153	Cu. Yds.	Class "E" concrete, (Pier footing)			72				81		72	81	
511	484	Cu. Yds.	Class "E" concrete, (Abutments)		234				250			234	250	
808	775	Each	Water Reducing Set-Retarding Admixture	375				400				375	400	
503	359,613	Lbs.	Reinforcing Steel	106,107	19,574	47,863		113,250	20,685	52,134		173,544	186,069	
513	876,800	Lbs.	Structural Steel	421,400				455,400				421,400	455,400	
514	876,800	Lbs.	Field Painting of Structural Steel	421,400				455,400				421,400	455,400	
517	914.53	Lin. Ft.	Bridge Railing, Type I	457.22				457.31				457.22	457.31	
505	Lump	Sum	First Test Pile				Lump				Lump	Lump	Lump	
507	12,360	Lin. Ft.	Steel Piles (12 BP.53)		2,470	3,510			2,470	3,910		5,980	6,380	
518	217	Lin. Ft.	6" Perforated Helical CMP, 707.06 incl. Specials		104				113			104	113	
518	254	Lin. Ft.	6" Helical CMP, 707.06, non-perforated.		123				131			123	131	
518	105	Cu. Yds.	Porous Backfill.		50				55			50	55	
518	24	Each	Scuppers including supports.	12				12				12	12	
503	Lump	Sum	Copperdams, Cribbs and Sheeting											
601	1,572	Sq. Yds.	Crushed Aggregate Slope Protection.		767				805			767	805	

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.

DESIGN LOADING CP-2000 (1957) ADEQUATE FOR AASHO ALTERNATE LOADING
 CONCRETE CLASS "C" BASIC UNIT STRESS 1,333 P. S. I.
 CONCRETE CLASS "E" BASIC UNIT STRESS 1,133 P. S. I.
 STRUCTURAL STEEL ASTM A36 - BASIC UNIT STRESS 20,000 P. S. I.
 REINFORCING STEEL ASTM A-15, A16, A160, DEFORMED, INTERMEDIATE, OR HARD GRADE, BASIC UNIT STRESS 20,000 P. S. I., EXCEPT SPIRAL REINFORCEMENT MAY BE PLAIN STRUCTURAL GRADE WITH BASIC UNIT STRESS OF 18,000 P. S. I.

REFERENCE DRAWINGS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS BR-1-65 dated 2-7-65, SD-1-63, DATED 11-12-63, AS-1-54 revised 8-10-65, FSB-1-62 REVISED 1-15-63, SD-2-64 dated 11-25-64, SUPPLEMENTAL SPECIFICATIONS 8 1/2" DATED 3-29-65, AND 8 08 DATED 7-14-65, and 825 dated 4-22-65

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATION (INSTALLING) 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 WILL BE HELD TO A MINIMUM.

EMBANKMENT PROCEDURE

THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS, AND PILES DRIVEN.

EXCAVATION QUANTITY

THE EXCAVATION QUANTITY FOR THE ABUTMENTS INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS.

CONTINUOUS BEAM SHOP ASSEMBLY

REFERENCE PARAGRAPH 4, SEC. 5-7.12 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, IF ROLLED BEAMS ARE FIELD SPICED ONLY AT SUPPORTS. FOR THE PURPOSE OF CHECKING THE FIT UP OF WELD JOINT PREPARATION, ONLY TWO ADJACENT BEAMS NEED BE SHOP ASSEMBLED AT ONE TIME IN THEIR CORRECT UNLOADED POSITIONS. ALL BEAMS SHALL BE ASSEMBLED AND MATCH MARKED.

WELDING

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 ~~BY~~

DECK SLAB HAUNCH

THE HAUNCH IN THE DECK SLAB ADJACENT TO THE TOP OF THE STEEL BEAMS, WHICH IS SHOWN AS 9" WIDE, MAY VARY FROM THIS DIMENSION BETWEEN THE LIMITS OF 6 AND 12 INCHES, EXCEPT THAT THE MAXIMUM SLOPE SHALL NOT EXCEED 3 INCHES PER FT. PAYMENT FOR DECK SLAB CONCRETE SHALL BE BASED ON THE 9 INCH WIDTH.

CONCRETE DECK PLACING

IN ORDER TO FACILITATE WATER CURING OF THE DECK SLAB CONCRETE THE PLACING OF CONCRETE SHALL PROGRESS UP GRADE. THE SLAB SHALL BE PLACED IN SECTIONS, BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE PARALLEL TO THE TRANSVERSE REINFORCING STEEL AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

MACHINE FINISH AT THE OPTION OF THE CONTRACTOR THE CONCRETE BRIDGE DECK MAY BE FINISHED BY THE USE OF A FINISHING MACHINE.

~~SURFACE FINISH OF CONCRETE~~

~~THE REQUIREMENTS OF SEC. 8-1.22, RUBBED FINISH, SHALL APPLY TO THE FOLLOWING EXPOSED CONCRETE SURFACES. THE ENTIRE SUPERSTRUCTURE EXCEPT THE TOP AND BOTTOM SURFACES OF SIDEWALKS AND ROADWAYS. THE ENTIRE SURFACE OF PIERS AND ABUTMENTS, EXCEPT BRIDGE SEATS, BACKWALLS AND THE FACE OF SPILL THRU ABUTMENTS BETWEEN OUTSIDE BEAMS.~~

REINFORCING BAR SIZE

BAR SIZE FOR REINFORCING STEEL IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S601 IS A NO. 6 SIZE BAR. REINFORCING BARS 14S SHALL BE OF INTERMEDIATE OR HARD GRADE, CONFORMING TO ASTM A-408

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

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. 503.04 AND 503.09 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SUBJECT TO THE SUPERVISION OF THE RAILROAD COMPANY, NOTHING IN SEC. 503.04, 503.09, 108.04 OF THE SPECIFICATIONS SHALL BE CONSTRUED TO HOLD THE CONTRACTOR LIABLE FOR ALIGNING AND RESURFACING THE RAILROAD TRACKS.

CONSTRUCTION CLEARANCE OF 20 FT. VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 8 FT. HORIZONTALLY FROM THE CENTER OF TRACKS SHALL BE MAINTAINED AT ALL TIMES.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS PER PILE FOR ABUTMENTS AND PIERS.

FIRST TEST PILE: Payment will be made for only one First Test Pile (Item 505) It may be driven at either the Left or Right Structure.

CHARLES L. BARBER & ASSOCIATES
ENGINEERS
TOLEDO, OHIO

ESTIMATED QUANTITIES & GENERAL NOTES

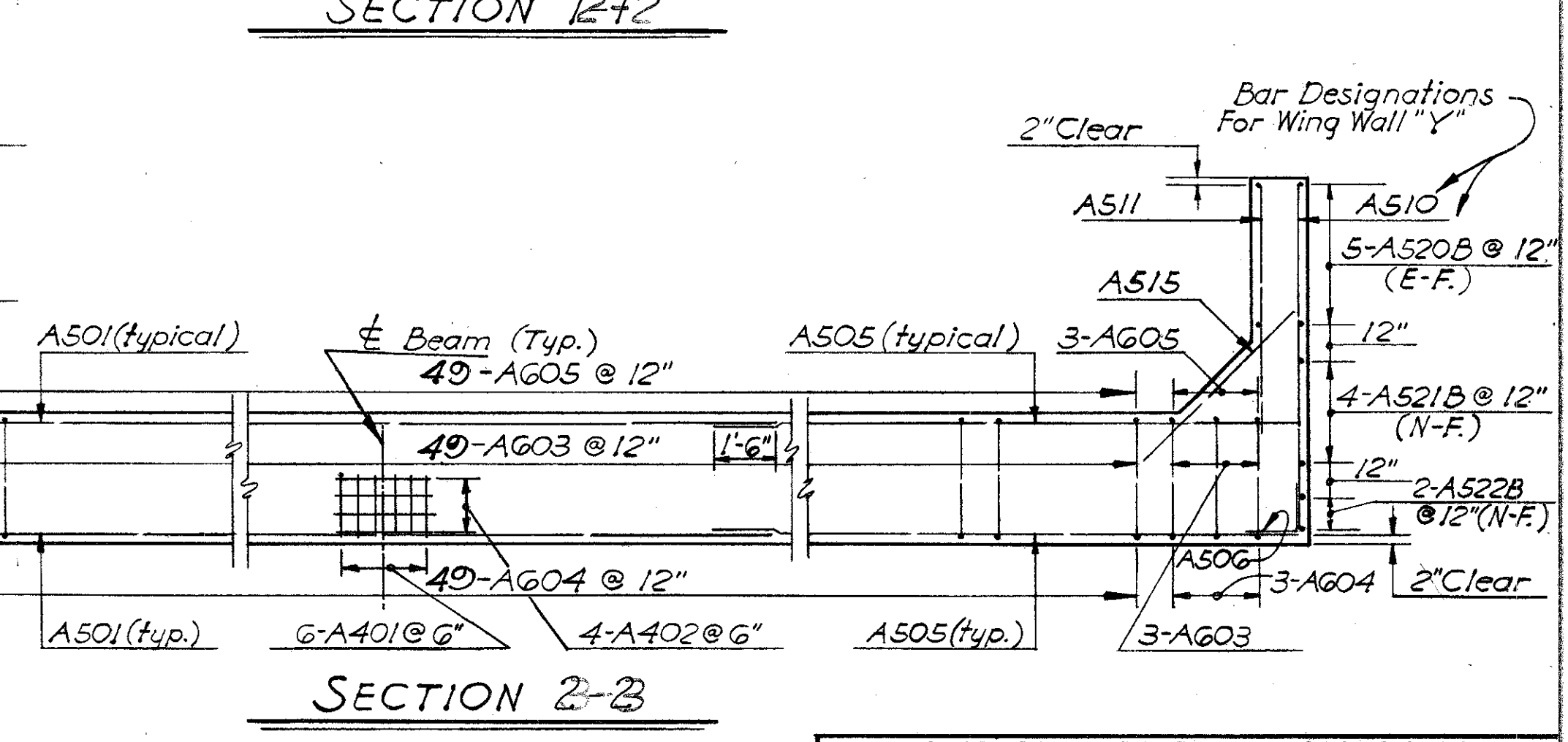
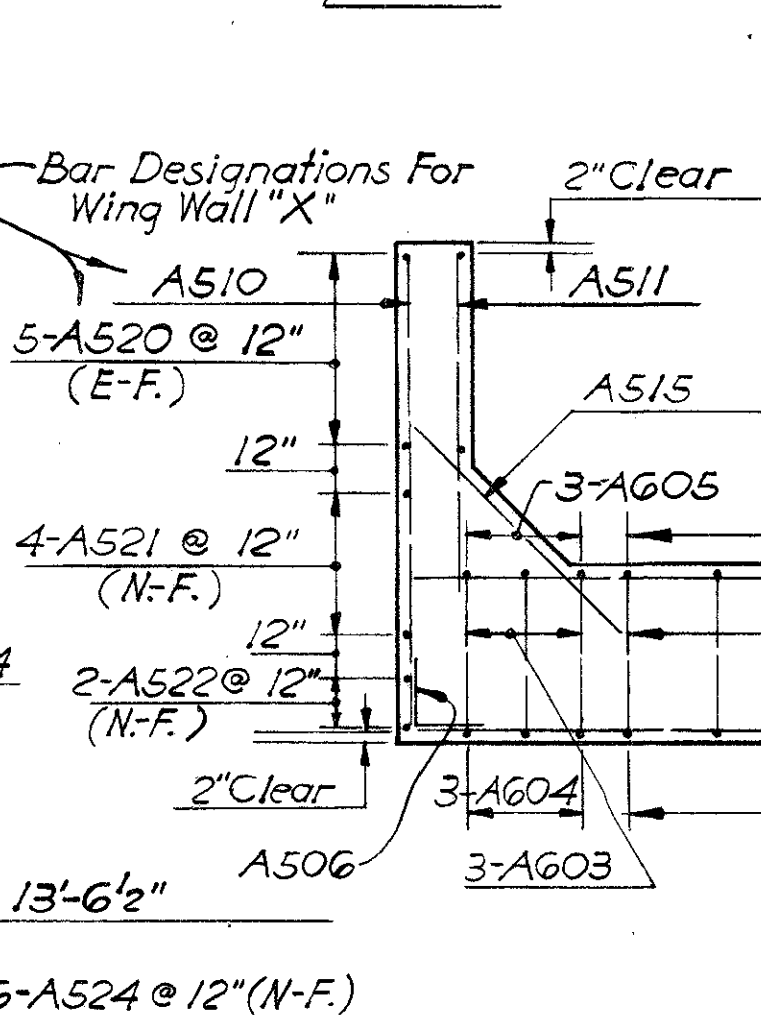
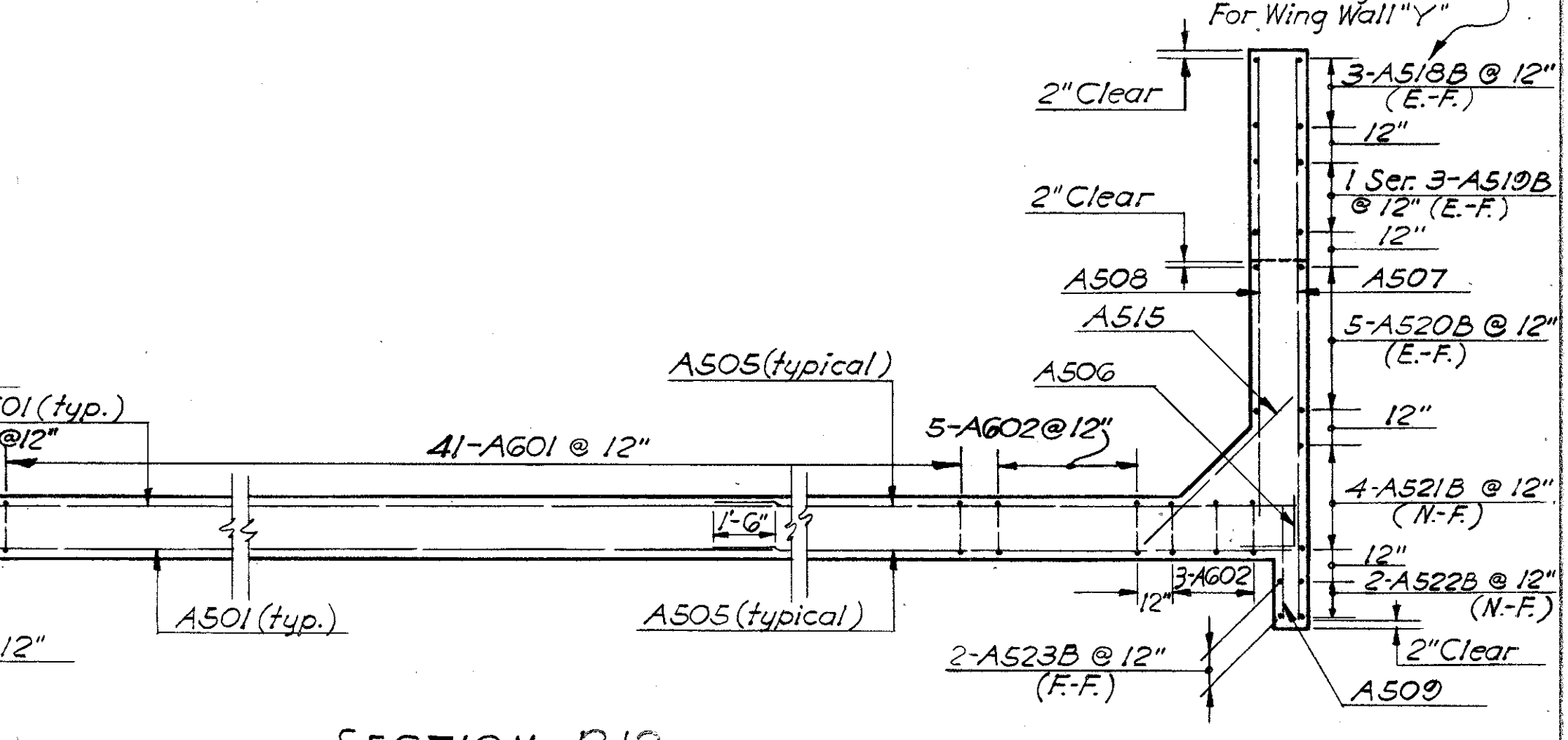
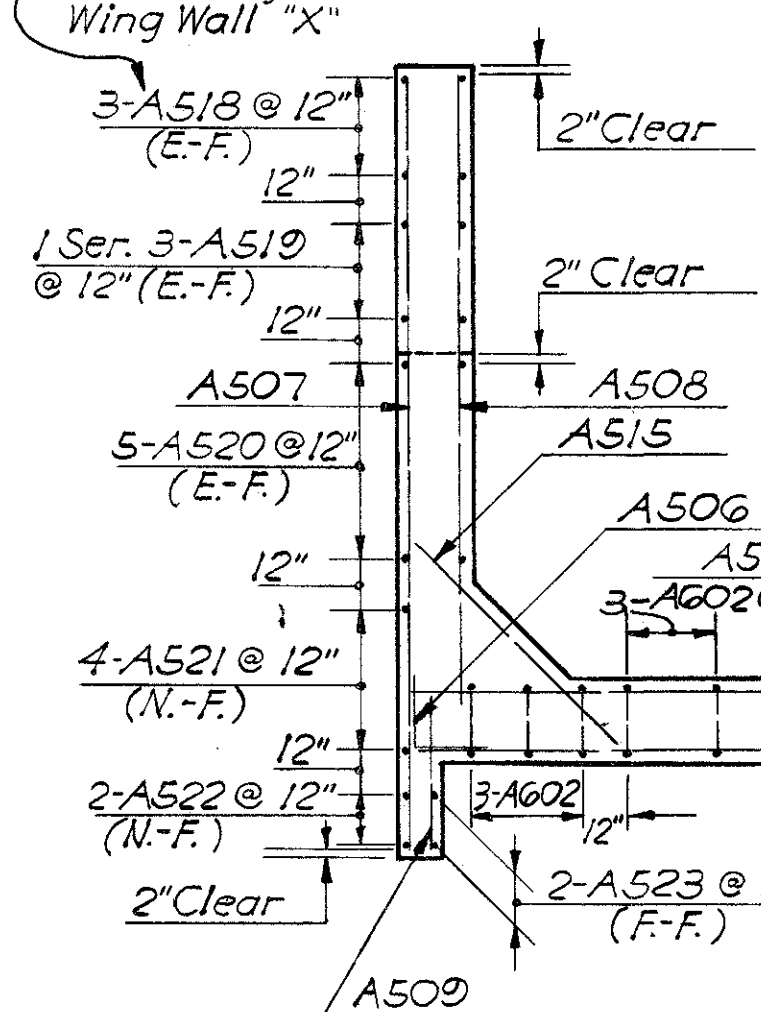
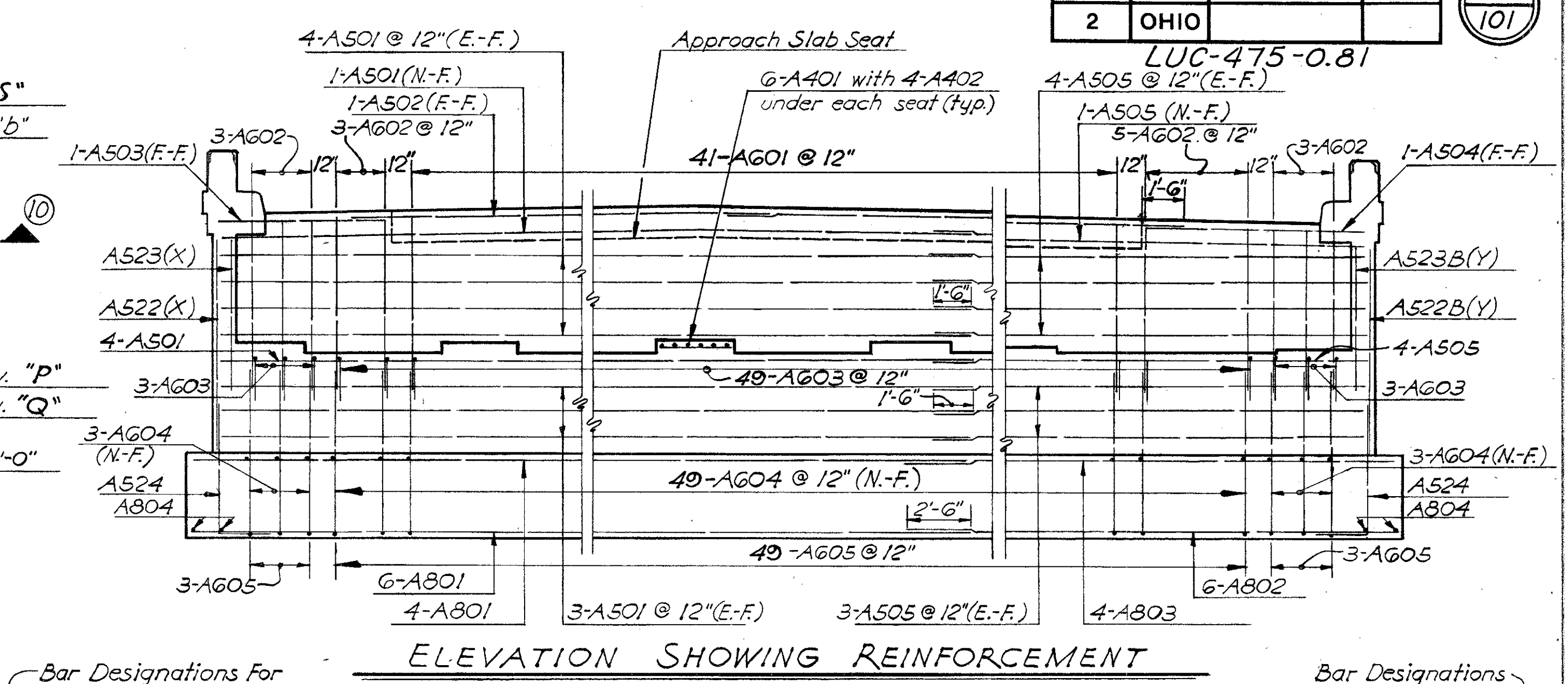
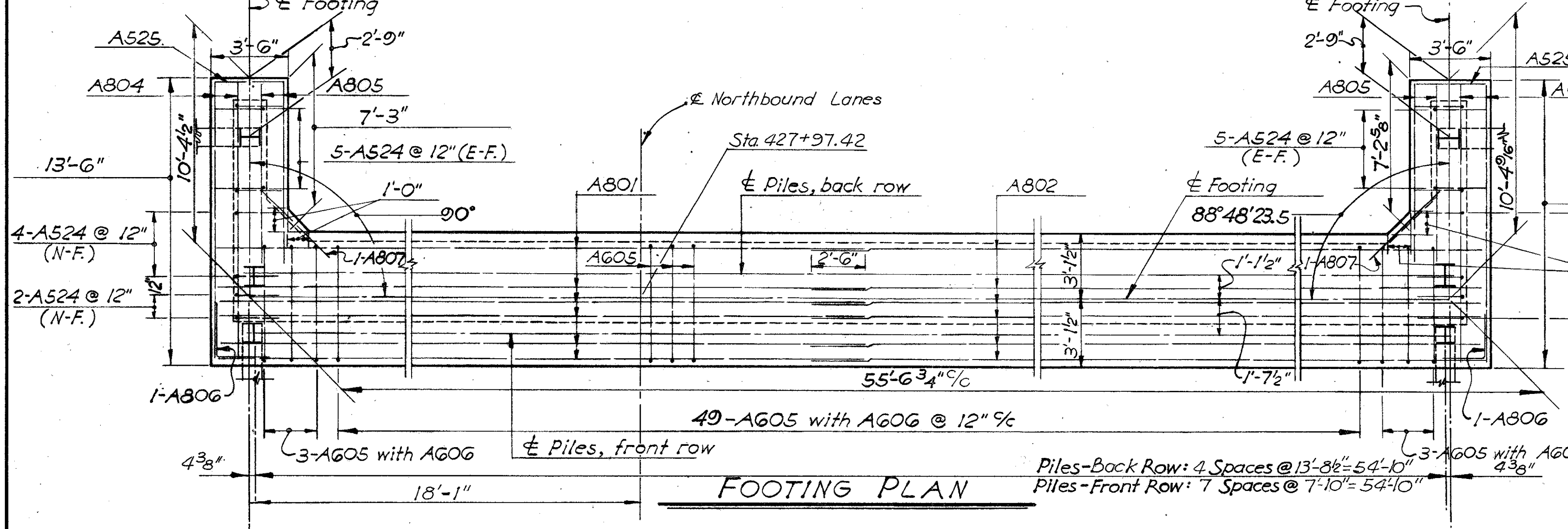
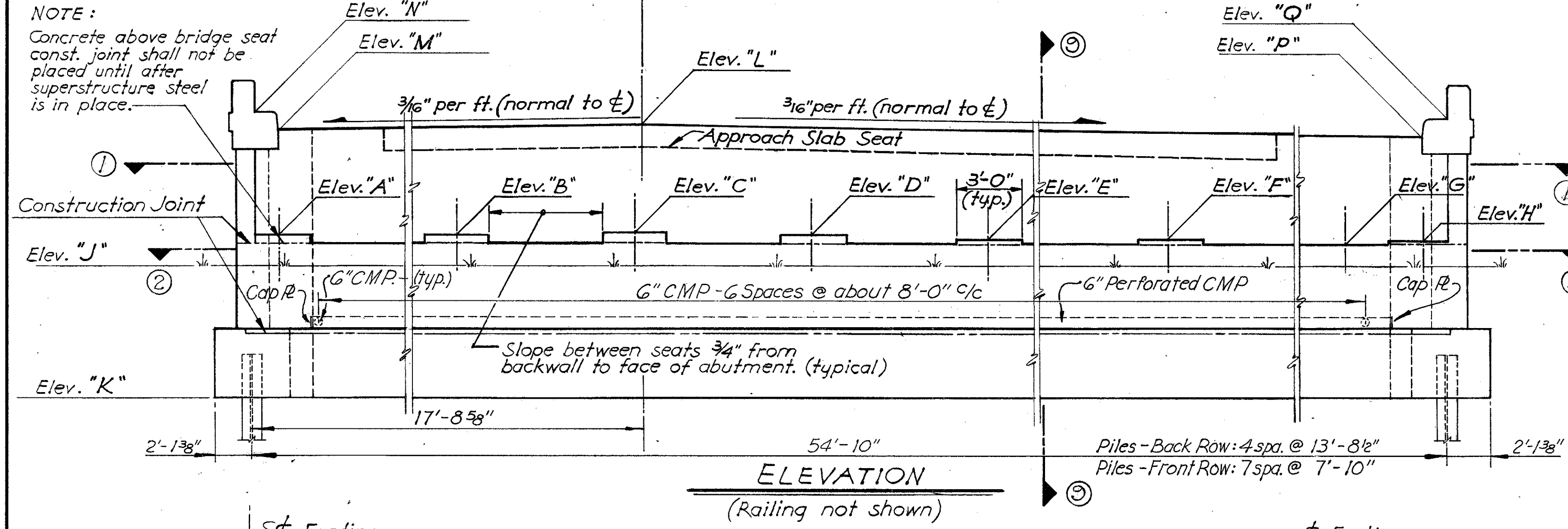
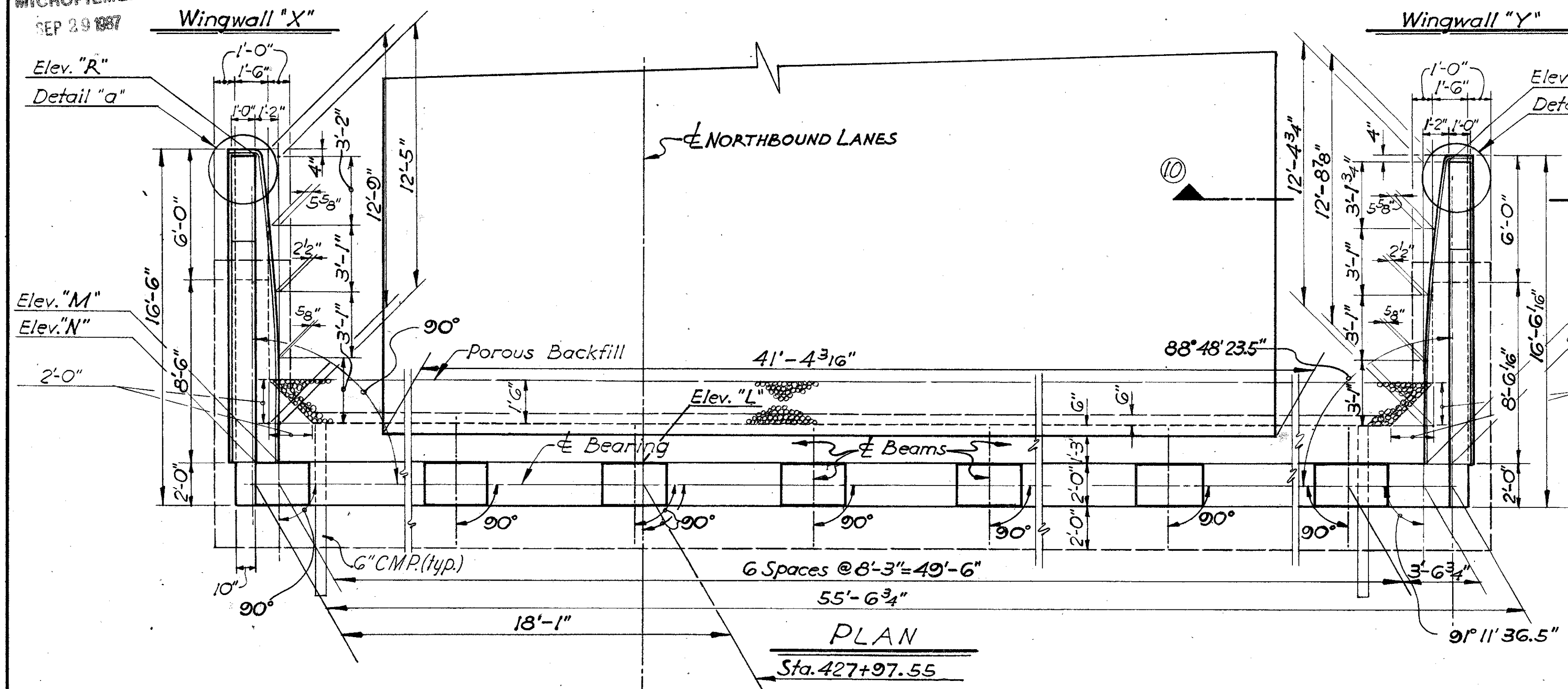
BRIDGE NO. LUC-20-1774 L.&R.
I.R.475 L.&R. OVER WABASH R.R. & MONCLOVA ROAD
LUCAS CO. NB.427+95.30 - 429+98.55
SB.427+82.58 - 429+85.83

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.R.R.	K.R.R.	C.L.P.	S.S.P.	W.B.D.	Sept. 9-7-65	
					64	

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SEP 29 1987

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	LUC-475-0.81

83
101



NOTE:
Concrete above bridge seat const. joint shall not be placed until after superstructure steel is in place.

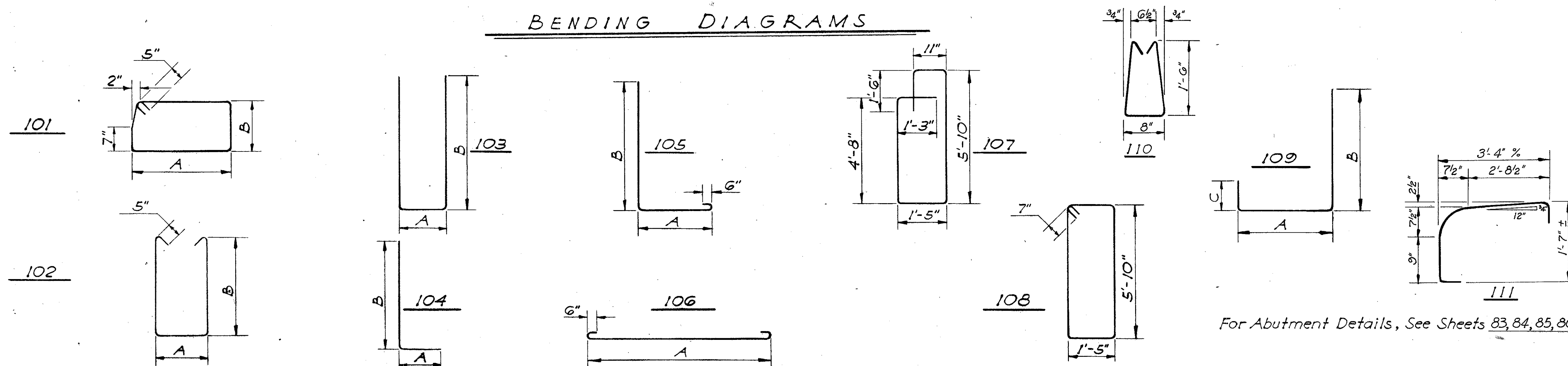
For other details, elevations and notes, See Sheet No. 87
For reinforcement schedule, See Sheet No. 88

CHARLES L. BARBER & ASSOCIATES ENGINEERS TOLEDO, OHIO					
LEFT STRUCTURE REAR ABUTMENT					
BRIDGE NO.	LUC-20-1774 L.B.R.				
I.R.475	L.B.R. OVER WABASH R.R. & MONCLOVA ROAD				
LUCAS CO.	NB. 427+95.30-429+98.55 SB. 427+82.58-429+85.83				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE REVISION
K.R.R.	K.R.R.	H.C.M.	S.S.P.	W.B.D.	Sept. 9-7-65 64

REINFORCEMENT SCHEDULE													REINFORCEMENT SCHEDULE (CONTINUED)																											
MARK	NUMBER				LENGTH				TYPE	DIMENSION			WEIGHT - POUNDS				MARK	NUMBER				LENGTH				TYPE	DIMENSION			WEIGHT - POUNDS										
	Left Struct.		Right Struct.		Left Structure		Right Structure			A	B	C	Left Structure		Right Structure			Left Struct.		Right Struct.		Left Structure		Right Structure			A	B	C	Left Structure		Right Structure								
	R.A.	F.A.	R.A.	F.A.	R.A.	F.A.	R.A.	F.A.					R.A.	F.A.	R.A.	F.A.		R.A.	F.A.	R.A.	F.A.	R.A.	F.A.	R.A.	F.A.					R.A.	F.A.	R.A.	F.A.	R.A.	F.A.	R.A.	F.A.			
A401		48		54	1'-8"				Str.					54		60					A519B	2Ser.3	2Ser.3	2Ser.3	2Ser.3	3'-0" to 4'-0"	3'-7" to 4'-7"	3'-0" to 4'-0"	4'-2" to 5'-2"	Str.				G"	13	13	13	15		
A402		32		36	2'-8"				Str.					57		64					A520	10	10	10	10	9'-8"	9'-8"	9'-9"	10'-1"	Str.					101	101	102	105		
A526	4	4	4	4	5'-8"				101	1'-1"	1'-4"		23	23	23	23					A520B	10	10	10	10	9'-5"	9'-4"	9'-5"	9'-8"	Str.					98	97	98	101		
A527	2Ser.3	2Ser.3	2Ser.3	2Ser.3	6'-3" to 6'-9"				101	1'-4 1/2" to 1'-7 1/2"	1'-4"	3"	20	20	20	20					A521	4	4	4	4	9'-8"	9'-8"	9'-9"	9'-10"	Str.					40	40	41	41		
A528	2Ser.3	2Ser.3	2Ser.3	2Ser.3	6'-11" to 7'-1"				101	1'-8 1/2" to 1'-9 1/2"	1'-4"	1"	22	22	22	22					A521B	4	4	4	4	9'-5"	9'-4"	9'-5"	9'-5"	Str.					39	38	39	39		
A529	4	4	4	4	7'-2"				101	1'-10"	1'-4"		30	30	30	30					A522	2	2	2	2	7'-11"	7'-11"	8'-0"	8'-1"	Str.					17	17	17	17		
A530	20	20	20	20					102	8"	2'-2"		122	122	122	122					A522B	2	2	2	2	7'-8"	7'-7"	7'-8"	7'-8"	Str.					16	16	16	16		
																					A523	2	2	2	2	5'-5"	5'-5"	5'-6"	5'-7"	Str.					11	11	11	12		
																					A523B	2	2	2	2	5'-2"	5'-1"	5'-2"	5'-2"	Str.					10	10	10	11		
																					A524	32	32	32	32	7'-8"				105	2'-2"	5'-0"		256	256	256	256			
A501	19	19	19	19	30'-0"				Str.				595	595	595	595					A525	2	2	2	2	4'-2"				106	3'-2"			8	8	8	8			
A502	2	2	2	2	23'-0"	25'-0"	24'-2"	28'-1"	Str.				48	52	50	59					R503	6	6	6	6	4'-2"	4'-2"	4'-2"	4'-2"	110					***	***	***	***		
A503	1	1	1	1	6'-8"	8'-8"	8'-8"	6'-8"	Str.				7	9	9	7					R504	4	4	4	4	5'-4"	5'-4"	5'-4"	5'-4"	111					***	***	***	***		
A504	1	1	1	1	8'-8"	6'-8"	6'-8"	8'-8"	Str.				9	7	7	9					AG01	41	45	43	51	15'-7"				107					959	1053	1006	1193		
A505	19	19	19	19	28'-2"	32'-4"	30'-8"	38'-4"	Str.				558	641	608	760					AG02	14	14	14	14	15'-8"				108					330	330	330	330		
A506	18	18	18	18	4'-0"				104	2'-0"	2'-0"		75	75	75	75					AG03	55	59	57	65	7'-5"				103	3'-5"	2'-0"		613	658	635	724			
A507	8	8	8	8	16'-2"				Str.				135	135	135	135					AG04	55	59	57	65	8'-6"				104	2'-0"	6'-6"		702	753	728	830			
A508	8	8	8	8	12'-11"				Str.				108	108	108	108					AG05	55	59	57	65	14'-2"				109	5'-5"	6'-6"	2'-3"	1170	1255	1212	1382			
A509	10	10	10	10	3'-5"				Str.				36	36	36	36					AG06	55	59	57	65	9'-11"				103	5'-5"	2'-3"		820	879	849	968			
A510	8	8	8	8	10'-2"				Str.				85	85	85	85																								
A511	8	8	8	8	6'-11"				Str.				58	58	58	58																								
A512	2	2	2	2	11'-4"				Str.				24	24	24	24					A801	10	10	10	10	30'-0"				31'-4"	Str.						801			837
A513	2	2	2	2	8'-1"				Str.				17	17	17	17					A802	6	6	6	6	31'-2"	35'-4"	33'-8"	40'-0"	Str.						499	566	539	641	
A514	4	4	4	4	6'-6"				Str.				27	27	27	27					A803	4	4	4	4	31'-2"	35'-4"	33'-8"	40'-0"	Str.						334	377	360	427	
A515	18	18	18	18	6'-0"				Str.				113	113	113	113					A804	4	4	4	4	13'-2"				Str.					142	142	142	142		
A516	8	8	8	8	13'-10"				Str.				***	***	***	***					A805	4	4	4	4	8'-5"				Str.					91	91	91	91		
A517	8	8	8	8	14'-0"				Str.				117	117	117	117					A806	2	2	2	2	5'-0"				104	2'-6"	2'-6"		27	27	27	27			
A518	6	6	6	6	4'-0"	3'-11"	4'-1"	4'-7"	Str.				25	25	26	29					A807	2	2	2	2	4'-6"				Str.					24	24	24	24		
A518B	6	6	6	6	3'-9"	3'-7"	3'-9"	4'-2"	Str.				23	22	24	26																								
A519	2Ser.3	2Ser.3	2Ser.3	2Ser.3	4'-0" to 5'-0"	3'-11" to 4'-11"	4'-1" to 5'-1"	4'-7" to 5'-7"	Str.				G"	14	14	14	16																							
													TOTAL POUNDS													9,523	10,051	9,811	10,874											

R. A. Denotes Rear Abutment. F. A. Denotes Forward Abutment. (***) Horizontal reinforcement in the concrete parapet will be included with the railing for payment (Item 517).

BENDING DIAGRAMS



For Abutment Details, See Sheets 83, 84, 85, 86, 87, 87.

CHARLES L. BARBER & ASSOCIATES
ENGINEERS
TOLEDO, OHIO

ABUTMENT REINFORCEMENT SCHEDULE
LEFT & RIGHT STRUCTURES

BRIDGE NO. LUC-20-1774 L & R.
1R 475 L & R. OVER WABASH R.R.
& MONCLOVA ROAD

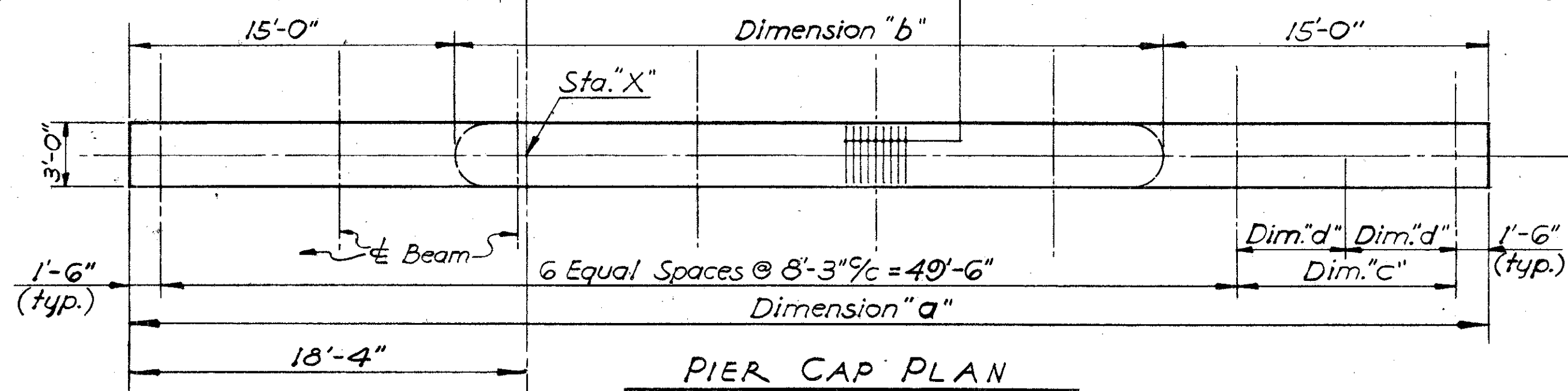
LUCAS CO. NB. 427+95.30-429+98.55
SB. 427+82.58-429+85.83

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.R.R.	K.R.R.	H.C.M.	S.S.P.	W.B.D.	Sept. '64	9-7-65

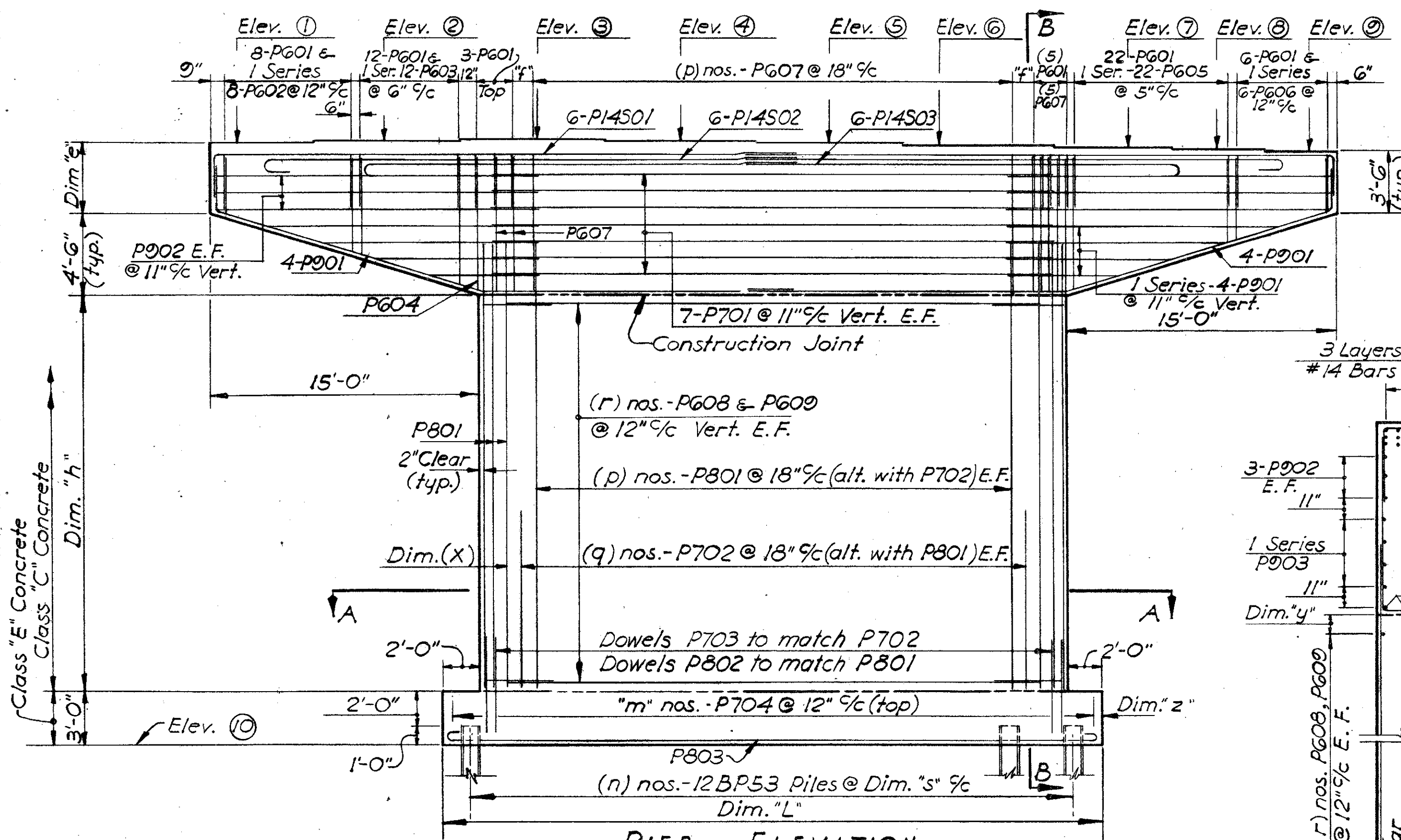
Back: Lt. Structure
Ahead: Rt. Structure

P401 @ 4" c/c; @ under each Interior Beam
and 8 under each Exterior Beam.
Reinforcement bars shall clear anchor bolts.

LUC-475-0.81



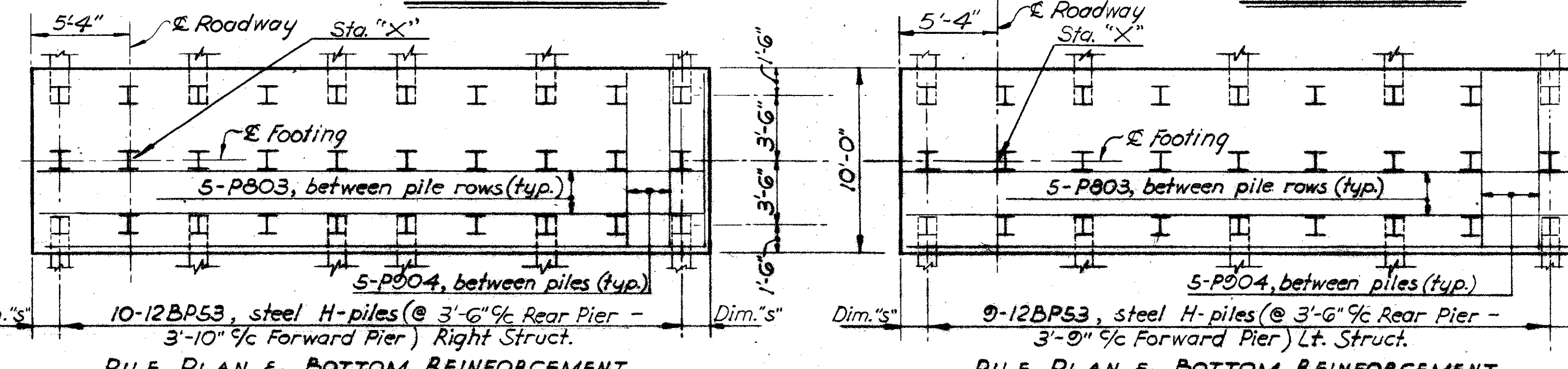
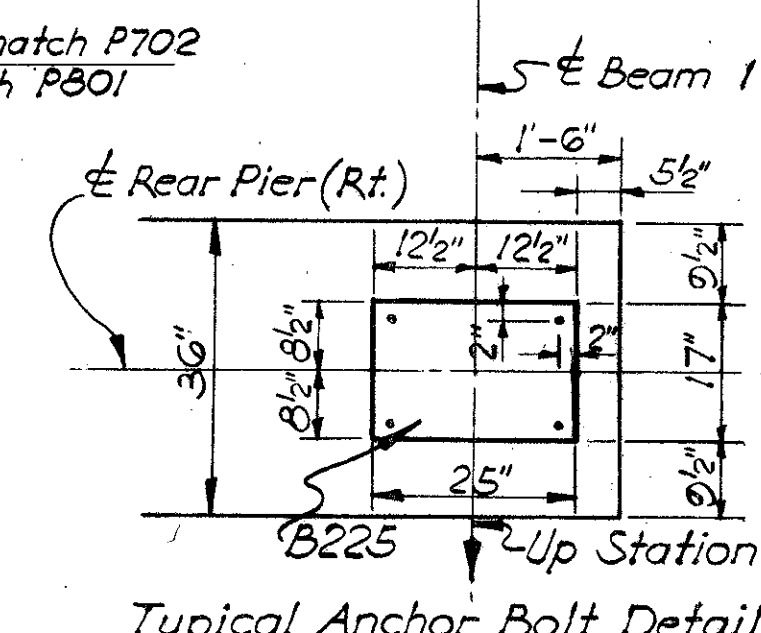
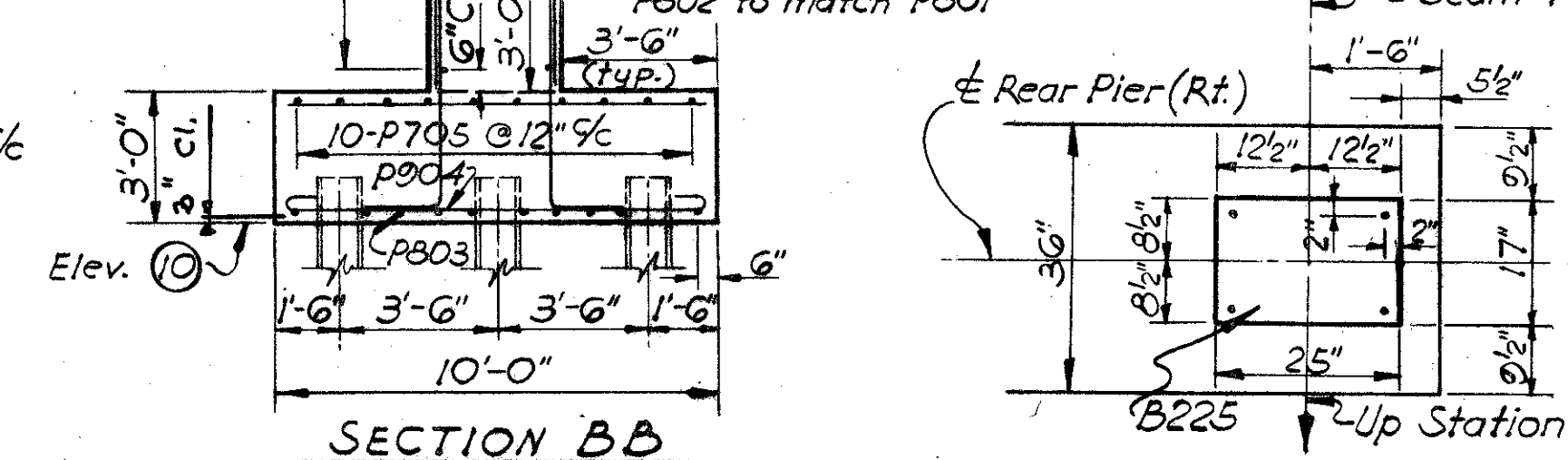
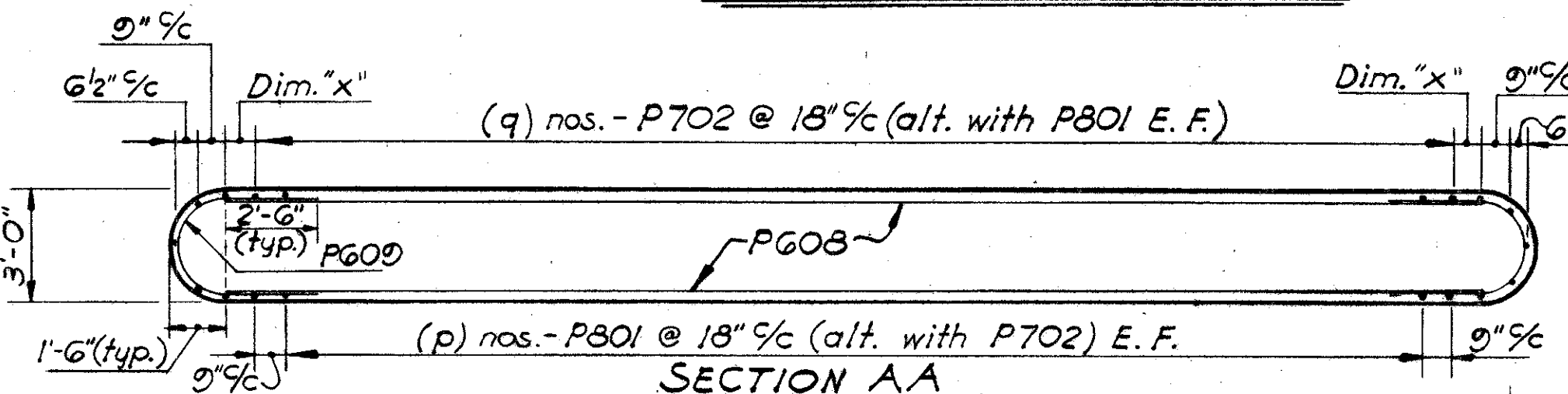
Struct.	Pier	Elev. ①	Elev. ②	Elev. ③	Elev. ④	Elev. ⑤	Elev. ⑥	Elev. ⑦	Elev. ⑧	Elev. ⑨	Elev. ⑩	Sta. "X"	Dim. a	Dim. "L"
Left	Rear Pier	664.93	664.92	665.05	664.93	664.80	664.67	664.54	—	664.61	631.50	428+55.55	57'-3 3/4"	31'-3 3/4"
	Fow'd Pier	664.70	664.69	664.82	664.70	664.57	664.44	664.31	—	664.35	635.00	429+38.30	59'-0"	33'-0"
Right	Rear Pier	664.86	664.85	665.07	664.86	664.73	664.60	664.47	—	664.54	631.50	428+42.83	60'-0 5/8"	34'-0 5/8"
	Fow'd Pier	664.65	664.74	664.87	664.75	664.62	664.49	664.36	—	664.41	635.00	429+25.58	64'-0"	38'-0"



Dim.	Right Struct.		Left Struct.	
	R. Pier	F. Pier	R. Pier	F. Pier
Dim. "b"	30'-0 5/8"	34'-0"	27'-3 3/4"	29'-0"
Dim. "c"	8'-3 5/8"	—	4'-0 1/4"	6'-6"
Dim. "d"	—	5'-0"	—	—
Dim. "e"	3'-10 1/8"	3'-11 3/8"	3'-0 7/8"	3'-10 5/8"
Dim. "f"	1'-7 13/16"	1'-0"	1'-4 5/8"	1'-6"
Dim. "h"	21'-11 1/4"	18'-2 1/4"	22'-1 1/2"	18'-3 1/2"
Nos. "m"	35	38	32	33
Nos. "n"	10	10	9	9
Nos. "p"	17	19	15	16
Nos. "q"	18	20	16	17
Nos. "r"	22	18	22	18
Dim. "s"	1'-7 13/16"	1'-0"	1'-7 5/8"	1'-6"
Dim. "x"	1'-1 13/16"	1'-3"	0'-10 5/8"	1'-0"
Dim. "y"	0'-5 1/4"	0'-8 1/4"	0'-7 5/8"	0'-0 13/16"
Dim. "z"	0'-4 13/16"	0'-6"	0'-1 5/8"	0'-6"

- NOTES**
1. Bar dimensions are given out to out.
 2. Bars of a series shall vary by a constant increment.
 3. Bars shall clear the face of concrete by 2" unless otherwise noted.
 4. Special care shall be taken in placing reinforcing bars in the vicinity of the bridge seats so as to avoid interference with the location of anchor bar holes.
 5. Pile design load: 50 tons per pile.

Mark	Shape	Incr.	Rear Pier Lt. Struct.			Fow'd Pier Lt. Struct.			Rear Pier Rt. Struct.			Fow'd Pier Rt. Struct.		
			No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
P401	Str.		70	2'-6"	117	70	2'-6"	117	70	2'-6"	117	70	2'-6"	132
P601	Bent		56	8'-8"	729	56	8'-8"	729	56	8'-8"	729	56	8'-8"	729
P602	Bent	7"	1 Ser. 8	0'-5" to 13'-6"	138	1 Ser. 8	0'-5" to 13'-6"	138	1 Ser. 8	0'-5" to 13'-6"	138	1 Ser. 8	0'-5" to 13'-6"	138
P603	Bent	3 1/2"	1 Ser. 12	13'-11" to 17'-1 1/2"	280	1 Ser. 12	13'-11" to 17'-1 1/2"	280	1 Ser. 12	13'-11" to 17'-1 1/2"	280	1 Ser. 12	13'-11" to 17'-1 1/2"	280
P604	Bent		1	17'-10"	27	1	17'-10"	27	1	17'-10"	27	1	17'-10"	27
P605	Bent	3"	1 Ser. 22	12'-6" to 17'-9"	500	1 Ser. 22	12'-6" to 17'-9"	500	1 Ser. 22	12'-6" to 17'-9"	500	1 Ser. 22	12'-6" to 17'-9"	500
P606	Bent	7"	1 Ser. 6	0'-4" to 12'-3"	97	1 Ser. 6	0'-4" to 12'-3"	97	1 Ser. 6	0'-4" to 12'-3"	97	1 Ser. 6	0'-4" to 12'-3"	97
P607	Bent		22	18'-0"	595	23	18'-0"	622	24	18'-0"	649	26	18'-0"	703
P608	Str.		44	24'-4"	1608	36	26'-0"	1406	44	27'-10"	1839	36	31'-0"	1676
P609	Bent		44	8'-11"	589	36	8'-11"	482	44	8'-11"	589	36	8'-11"	482
P701	Str.		14	25'-10"	739	14	27'-6"	787	14	29'-4"	839	14	32'-6"	930
P702	Str.		32	10'-0"	654	34	10'-0"	695	36	10'-0"	736	40	10'-0"	818
P703	Bent		32	7'-2"	469	34	7'-2"	498	36	7'-2"	527	40	7'-2"	586
P704	Str.		32	0'-6"	621	33	0'-6"	641	35	0'-6"	680	38	0'-6"	738
P705	Str.		10	30'-0"	629	10	32'-6"	664	10	34'-4"	702	10	37'-6"	767
P801	Str.		40	24'-7"	2625	42	20'-10"	2336	44	24'-5"	2868	48	20'-8"	2649
P802	Bent		40	7'-2"	765	42	7'-2"	804	44	7'-2"	842	48	7'-2"	918
P803	Bent		10	32'-11"	879	10	34'-8"	926	10	36'-6"	975	10	39'-8"	1059
P901	Bent		8	33'-3"	904	8	34'-1"	927	8	35'-0"	952	8	36'-7"	995
P902	Str.		12	18'-7"	758	12	18'-7"	758	12	18'-7"	758	12	18'-7"	758
P903	Str.	3'-0"	4 Ser. 4	15'-10" to 6'-10"	616	4 Ser. 4	15'-10" to 6'-10"	616	4 Ser. 4	15'-10" to 6'-10"	616	4 Ser. 4	15'-10" to 6'-10"	616
P904	Bent		40	12'-0"	1632	40	12'-0"	1632	45	12'-0"	1836	45	12'-0"	1836
P14501	Bent		12	33'-2"	3045	12	34'-1"	3129	12	35'-0"	3213	12	36'-7"	3358
P14502	Bent		12	29'-0"	2731	12	30'-8"	2815	12	31'-7"	2899	12	33'-2"	3045
P14503	Bent		12	24'-0"	2203	12	24'-11"	2287	12	25'-10"	2372	12	27'-5"	2517
TOTAL					23,950 #			23,913 #			25,780 #			26,354 #



MARK	a	b
P601	2'-8"	3'-0"
P602	2'-8"	3'-4 1/2" to 5'-5"
P603	2'-8"	5'-7 1/2" to 7'-2 3/4"
P604	2'-8"	7'-7"
P605	2'-8"	4'-11" to 7'-6 1/2"
P606	2'-8"	3'-4" to 4'-0 1/2"
P607	2'-8"	7'-8"

CHARLES L. BARBER & ASSOCIATES
ENGINEERS
TOLEDO, OHIO

**PIER DETAILS
LEFT & RIGHT STRUCTURES**

BRIDGE NO. LUC-20-1774 L.&R.
LR.475 L.&R. OVER WABASH R.R.
& MONCLOVA ROAD

LUCAS CO. NB. 4274-95.30-429+98.55
SB. 4274-82.58-429+85.83

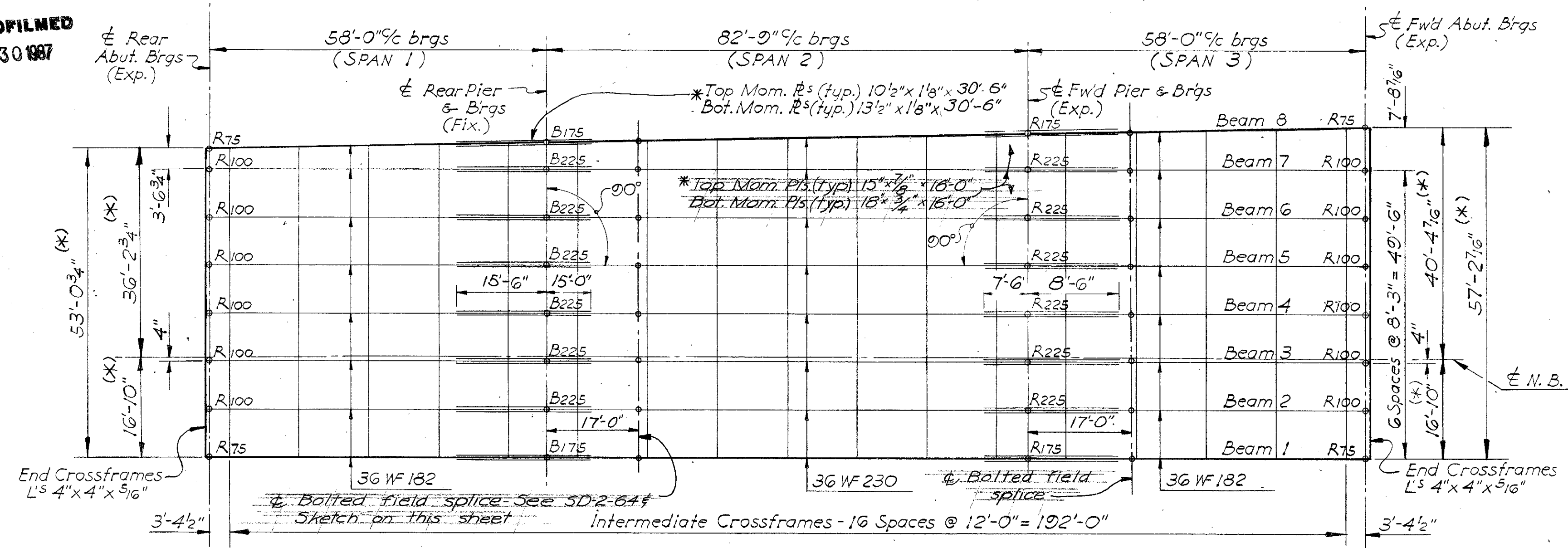
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.S.P.	S.S.P.	H.C.M.	K.R.R.	W.B.D.	Sept. '64	9-7-65

MICROFILMED
SEP 30 1987

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

91
101

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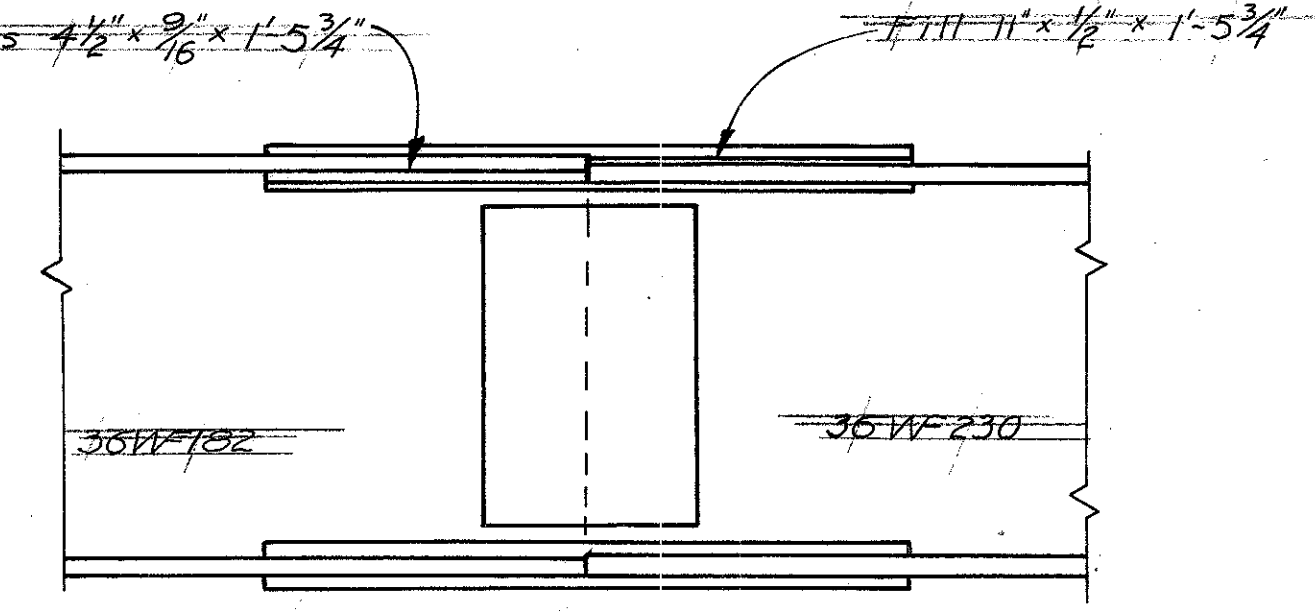


FRAMING PLAN-LEFT STRUCTURE

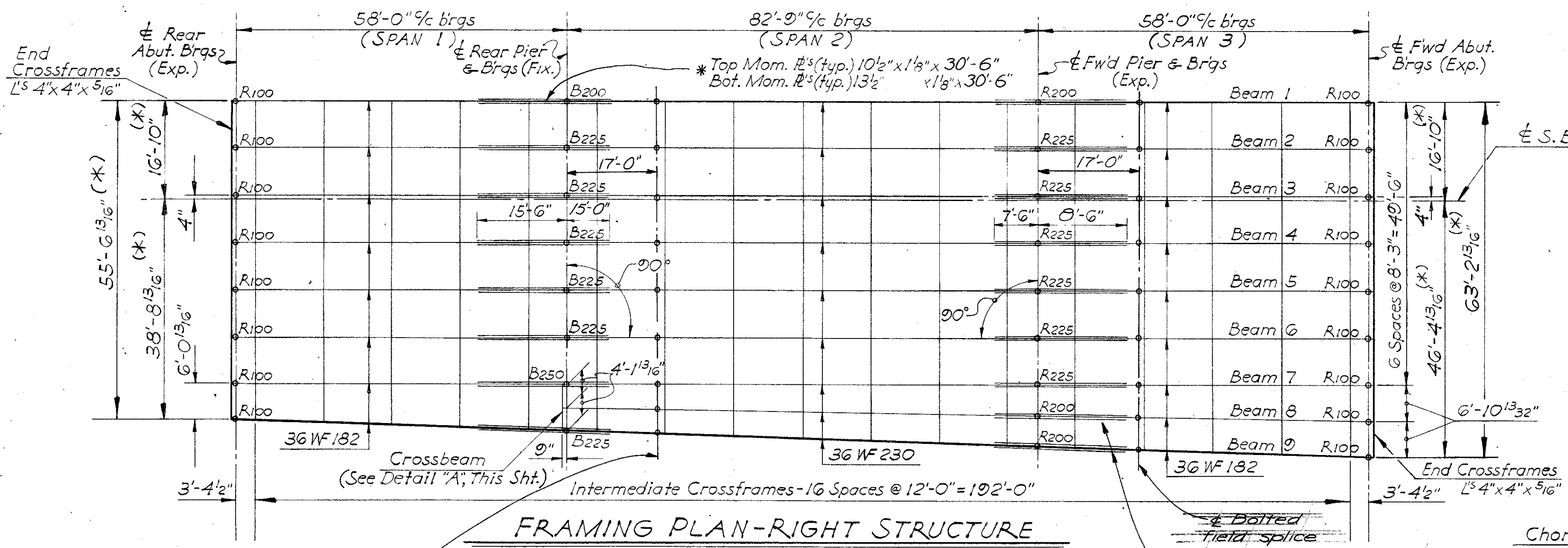
NOTE
Dimensions shown thus (*) are measured along ϵ bearing.

DEFLECTION & CAMBER - LEFT STRUCTURE

BEAM	BEAM 1			BEAMS 2 thru 6			BEAM 7			BEAM 8		
SPANS	1	2	3	1	2	3	1	2	3	1	2	3
DEFLECTION DUE TO STEEL DEAD LOAD	1/32"	3/16"	1/32"	1/32"	3/16"	1/32"	1/32"	3/16"	1/32"	1/32"	3/16"	1/32"
DEFLECTION DUE TO REMAINING DEAD LOAD	3/16"	5/8"	3/16"	3/16"	11/16"	3/16"	1/8"	9/16"	1/32"	3/32"	1/2"	3/16"
CONVEXITY	1/8"	1/4"	1/8"	1/8"	7/32"	1/8"	1/8"	7/32"	1/8"	1/8"	1/4"	1/8"
SUM OF DEFLECTION AND CONVEXITY	11/32"	11/16"	11/32"	11/32"	13/32"	11/32"	9/32"	3/32"	3/8"	1/4"	15/16"	11/32"
CAMBER REQUIRED, Δy	0	1/16"	0	0	1/8"	0	0	1"	0	0	15/16"	0



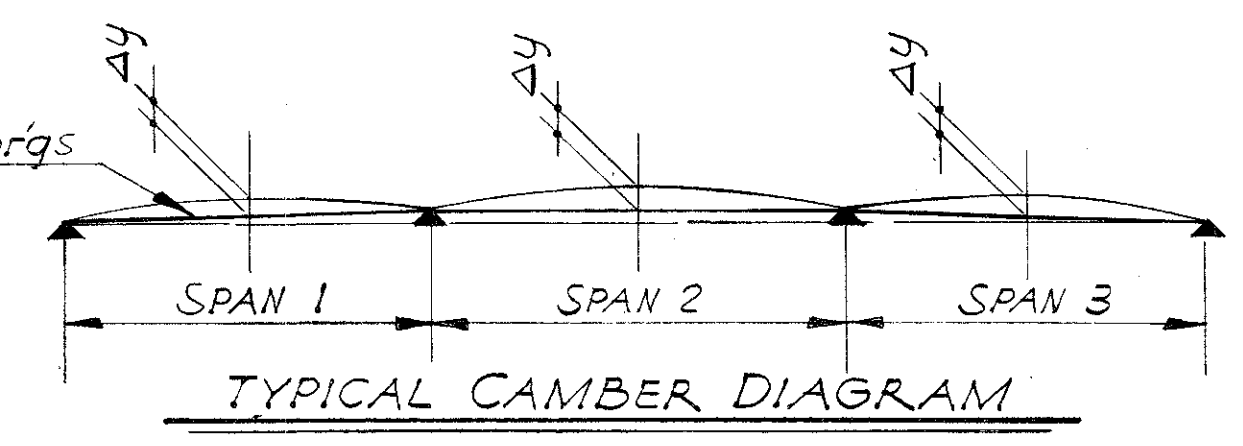
SKETCH SHOWING NOMINAL FILLS REQUIRED IN BOLTED FIELD SPLICE



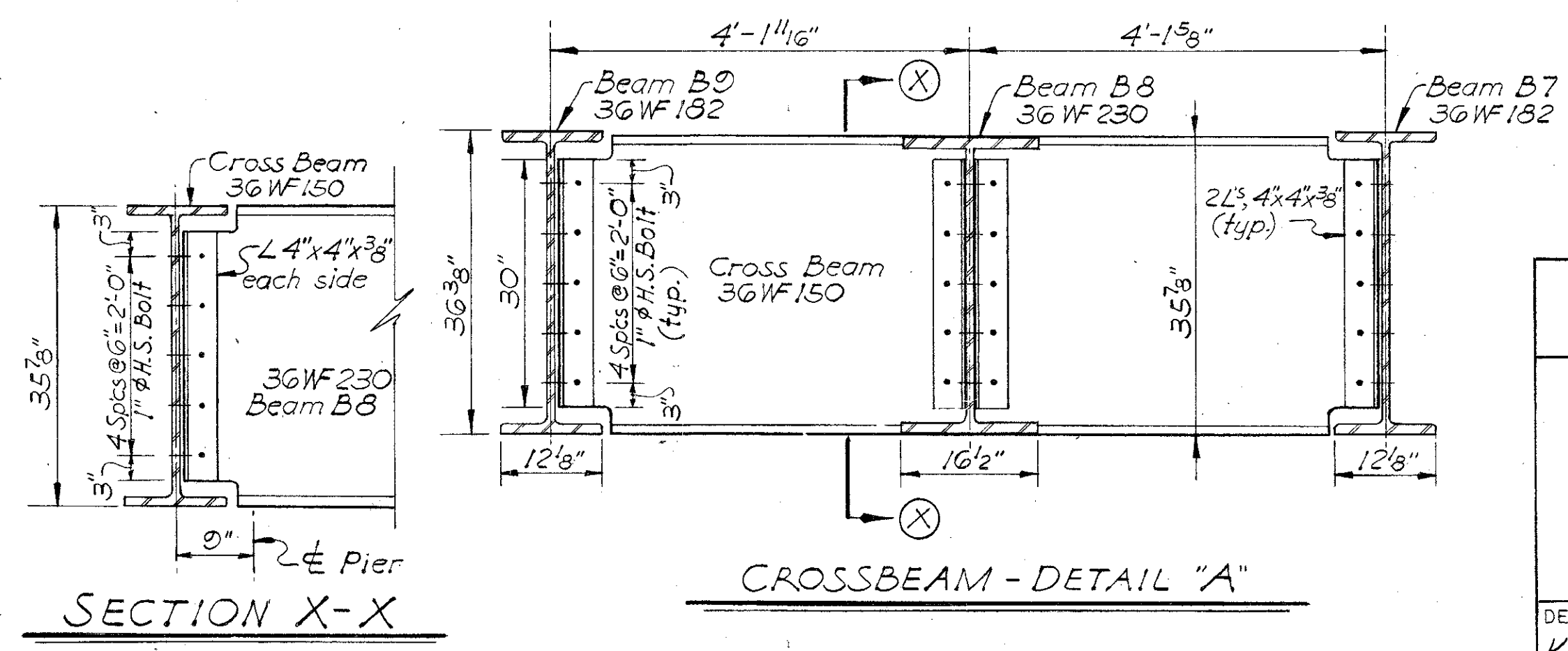
FRAMING PLAN-RIGHT STRUCTURE

DEFLECTION & CAMBER - RIGHT STRUCTURE

BEAM	BEAM 1			BEAMS 2 thru 6			BEAM 7			BEAM 8			BEAM 9		
SPANS	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
DEFLECTION DUE TO STEEL DEAD LOAD	1/32"	5/32"	1/32"	1/32"	7/32"	1/32"	1/32"	7/32"	1/32"	-	3/8"	0	1/32"	5/32"	1/32"
DEFLECTION DUE TO REMAINING DEAD LOAD	3/16"	19/32"	3/16"	7/32"	21/32"	7/32"	7/32"	13/32"	3/16"	-	27/32"	3/32"	7/32"	11/32"	3/16"
CONVEXITY	1/8"	7/32"	1/8"	1/8"	7/32"	1/8"	1/8"	7/32"	1/8"	-	7/32"	1/8"	1/8"	7/32"	1/8"
SUM OF DEFLECTION AND CONVEXITY	11/32"	31/32"	11/32"	3/8"	13/32"	3/8"	3/8"	27/32"	11/32"	-	15/32"	7/32"	3/8"	23/32"	11/32"
CAMBER REQUIRED, Δy	0	1"	0	0	1/8"	0	0	7/8"	0	-	13/16"	0	0	3/4"	0



TYPICAL CAMBER DIAGRAM



SECTION X-X

CROSSBEAM-DETAIL "A"

For reinforcement layout and schedule, See Sheet No. 90.

CHARLES L. BARBER & ASSOCIATES
ENGINEERS
TOLEDO, OHIO

SUPERSTRUCTURE DETAILS
LEFT & RIGHT STRUCTURES
BRIDGE NO. LUC-20-1774 L.&R.
I.R.475 L.&R. OVER WABASH R.R.
& MONCLOVA ROAD
LUCAS CO. NB.427+95.30 - 429+98.55
SB.427+82.58 - 429+85.83

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.R.R.	K.R.R.	H.C.M.	S.S.P.	W.B.D.	Sept. '64	9-7-65
S.S.P.			K.R.R.			