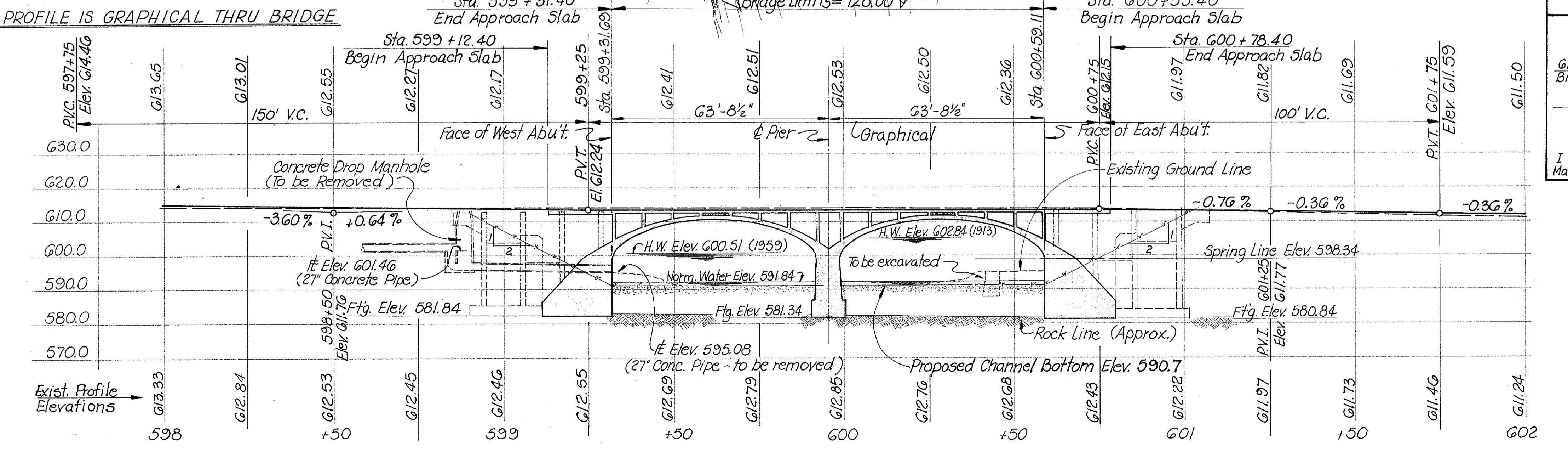
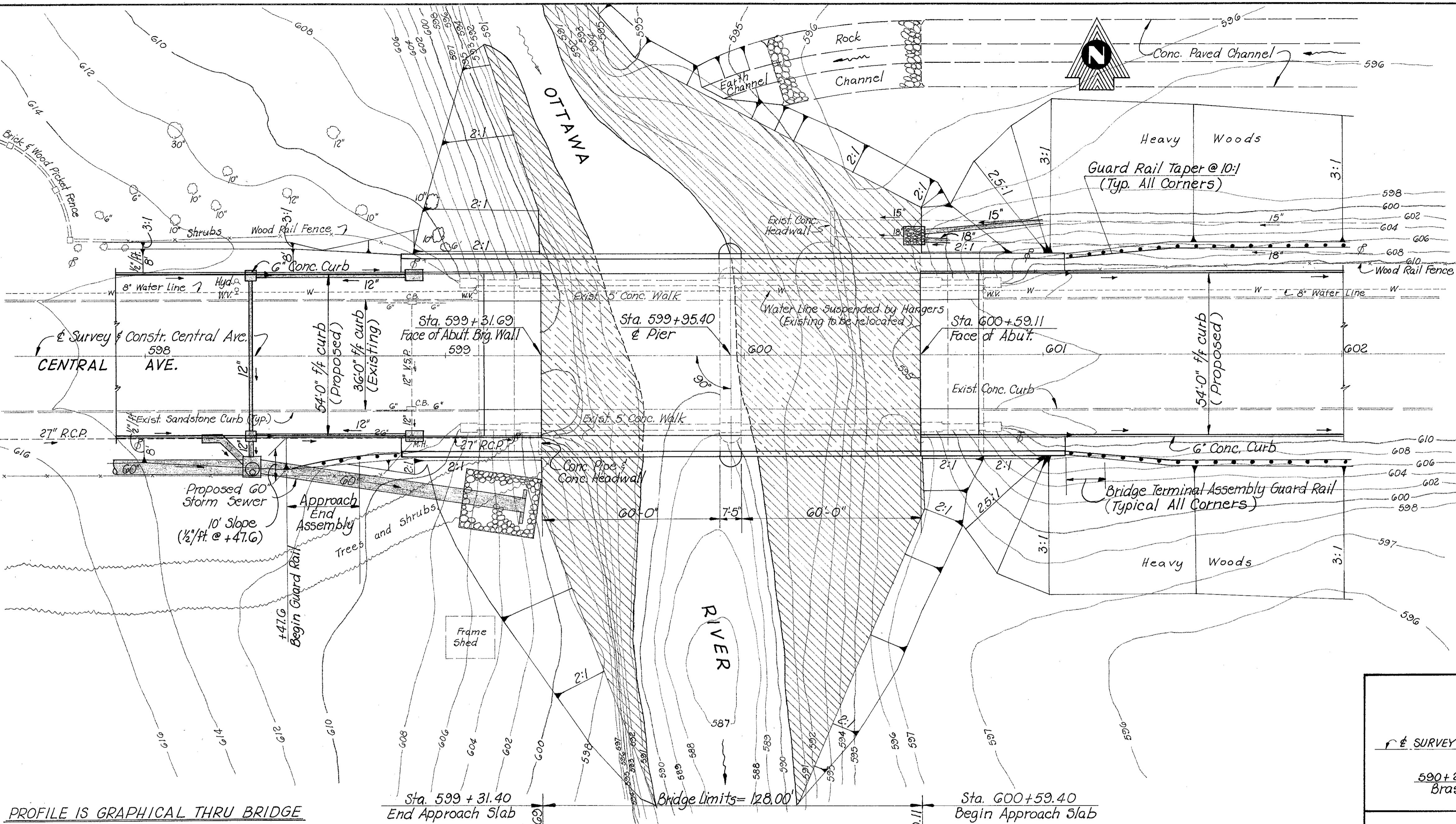


FED. RD. DIVISION STATE PROJECT
2 OHIO

209
253

LUC-120-10.62

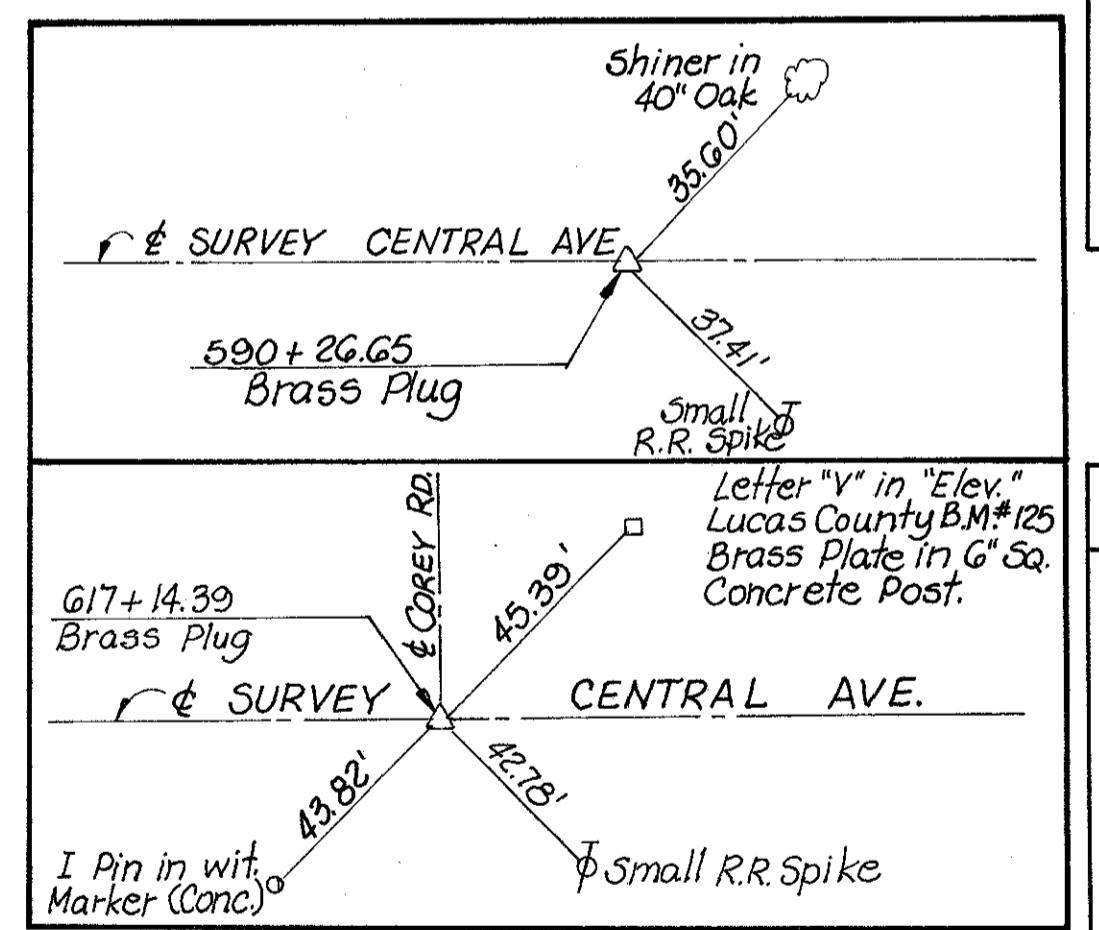


SECTION ALONG & CENTRAL AVENUE

TYPICAL TRANSVERSE SECTION

EXISTING STRUCTURE

TYPE: Reinforced Concrete Arch and Sub-structure.
SPAN: 2 spans @ 60'-0"
ROADWAY: 36'-0" t/f of 5'-0" wide sidewalks
LOAD CAPACITY: Not Known
SKEW: 0° 00' 00"
TYPE OF FLOOR: Reinforced concrete slab, Brick on Sand cushion and Bituminous Resurfacing.



PROPOSED STRUCTURE

TYPE: Reinforced Concrete Arch and Substructure.
SPAN: 2 Spans @ 60'-0"
ROADWAY: 54'-0" t/f of 5'-0" wide sidewalks
LOADING: HS 20-44
SKEW: 0° 00' 00"
WEARING SURFACE: 3/4" Asphalt Concrete @ Crown
APPROACH SLABS: 19'-0"
ALIGNMENT: Tangent
CURBS: 5'-0" sidewalk each side.

BENCH MARKS	
#10	Elev. G16.126 R.R. Spike N. Side of Power Pole Sta. 606+17, 30' Left.
#12	Elev. G16.263 R.R. Spike South Side of Power Pole Sta. 597+75, 30' Left.

CHARLES L. BARBER & ASSOCIATES INC.
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TOLEDO, OHIO

111

SITE PLAN

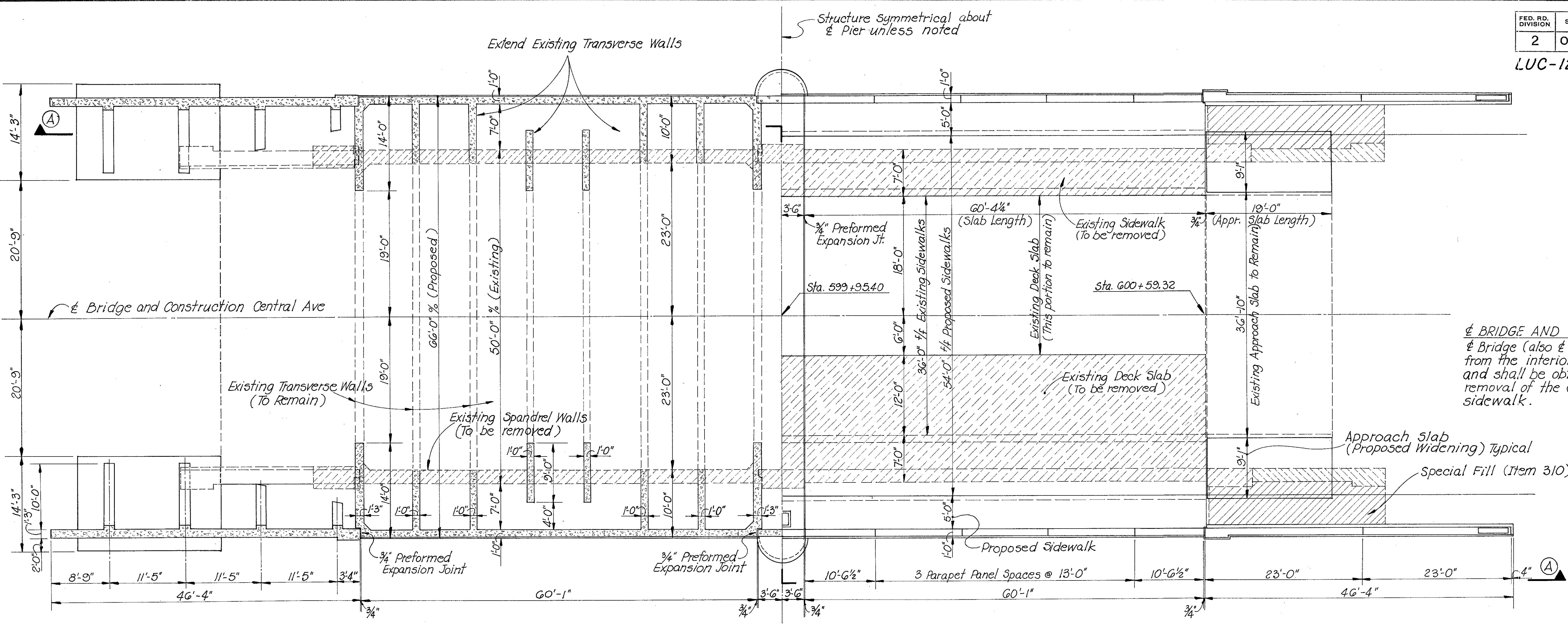
BRIDGE NO. LUC-120-1136
CENTRAL AVE. OVER OTTAWA RIVER
LUCAS CO. STA.599+31.48-600+59

PRESENT TOPOGRAPHY				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHEC
L.J.S.	G.K.J.	E.W.K.	E.W.K.	K.R.

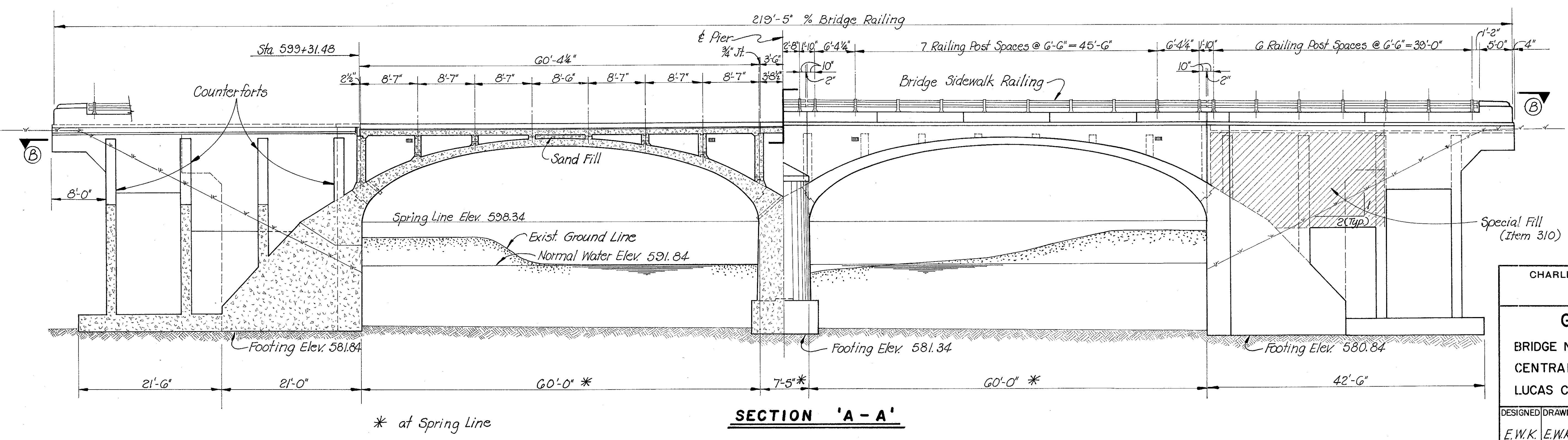
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

210
253

LUC-120-10.62



BRIDGE AND CONSTRUCTION
Bridge (also Construction) is equidistant from the interior faces of the spandrel walls and shall be obtained in the field after the removal of the existing railing and bridge sidewalk.



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2/11

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

211
253

LUC-120-10.62

GENERAL NOTESDESIGN SPECIFICATIONS

The proposed part of this structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1973, including the Ohio "Supplement" to these Specifications.

DESIGN DATA

Concrete, Class "C" ————— Unit Stress 1200 P.S.I. for Superstructure Unit Stress. 1333 P.S.I. for Substructure.

Reinforcing Steel ————— ASTM A615, A616 and A617 unit stress 20,000 p.s.i.

Bracing and Spandrel Wall Anchors ————— A325 or A325N.

Transverse Wall Anchors ————— A325 or A325N.

Arch Ring Anchors ————— A325 or A325N.

Footings ————— A325 or A325N.

Utility Lines ————— A325 or A325N.

Channel Excavation ————— A325 or A325N.

Stainless Steel Fasteners ————— A325 or A325N.

Chemical Admixtures ————— A325 or A325N.

Asphalt Concrete ————— A325 or A325N.

Sand Asphalt ————— A325 or A325N.

Membrane Waterproofing, Sheet type (See proposal note) ————— A325 or A325N.

Subdrainage for wearing course (as per plan) ————— A325 or A325N.

Special Notes ————— A325 or A325N.

General Notes ————— A325 or A325N.

Other Notes ————— A325 or A325N.

Arch Ring Anchors ————— A325 or A325N.

Footings ————— A325 or A325N.

Utility Lines ————— A325 or A325N.

Channel Excavation ————— A325 or A325N.

Stainless Steel Fasteners ————— A325 or A325N.

Chemical Admixtures ————— A325 or A325N.

Asphalt Concrete ————— A325 or A325N.

Sand Asphalt ————— A325 or A325N.

Membrane Waterproofing, Sheet type (See proposal note) ————— A325 or A325N.

Subdrainage for wearing course (as per plan) ————— A325 or A325N.

Special Notes ————— A325 or A325N.

General Notes ————— A325 or A325N.

Other Notes ————— A325 or A325N.

ESTIMATED QUANTITIES								
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L.	AS BUILT
202	511	SQ. YD.	Portions of Existing Structure removed, Bituminous re-surfacing, 3" Brick resurfacing and sand cushion.	511				
202	43	CU. YD.	Portions of Existing Structure removed - deck slab.	43				
202	416	CU. YD.	Portions of Existing Structure removed - other concrete including stone facing.	246	113	57		
310	339	CU. YD.	Special Fill.	2	337			
503	LUMP	SUM	Cofferdams, Cribs and Sheeting.			LUMP		
503	1,947	CU. YD.	Unclassified excavation.	1,885	62			
503	76	CU. YD.	Rock excavation.	70	6			
509	117,490	LBS.	Reinforcing Steel	62,126	44,565	10,799		
511	374	CU. YD.	Class "C" Concrete - Abutment Bearing Wall	374				
511	302	CU. YD.	Class "C" Concrete - Abutment Wingwalls, Counterforts and Counterfort Footings.	302				
511	27	CU. YD.	Class "C" Concrete - Pier Footings.		27			
511	124	CU. YD.	Class "C" Concrete - Pier above Footings.		124			
511	232	CU. YD.	Class "C" Concrete-Arch Ring, Spandrel & Transverse Walls.	232				
511	148	CU. YD.	Class "C" Concrete - Deck Slab, Curb & Sidewalk.*	148				
516	176	SQ. FT.	3/4" Pre-formed Expansion Joint Filler.	176				
516	26	LIN. FT.	Folded Copper strip 12" wide x 24 oz.	26				
517	438.83	LIN. FT.	Bridge Sidewalk Railing	254.83	184.00			
808	148	UNITS	Chemical Admixture For Concrete, Type A, B or D	148				
404	53	CU. YD.	Asphalt Concrete (60-70 or AC 20)	404				
Special	11	CU. YD.	Sand Asphalt (See proposal note)	11				
Special	775	SQ. YD.	Membrane Waterproofing, sheet type (See proposal note)	775				
518	256	LIN. FT.	Subdrainage for wearing course (as per plan)	256				

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3/11

ESTIMATED QUANTITIES AND GENERAL NOTES

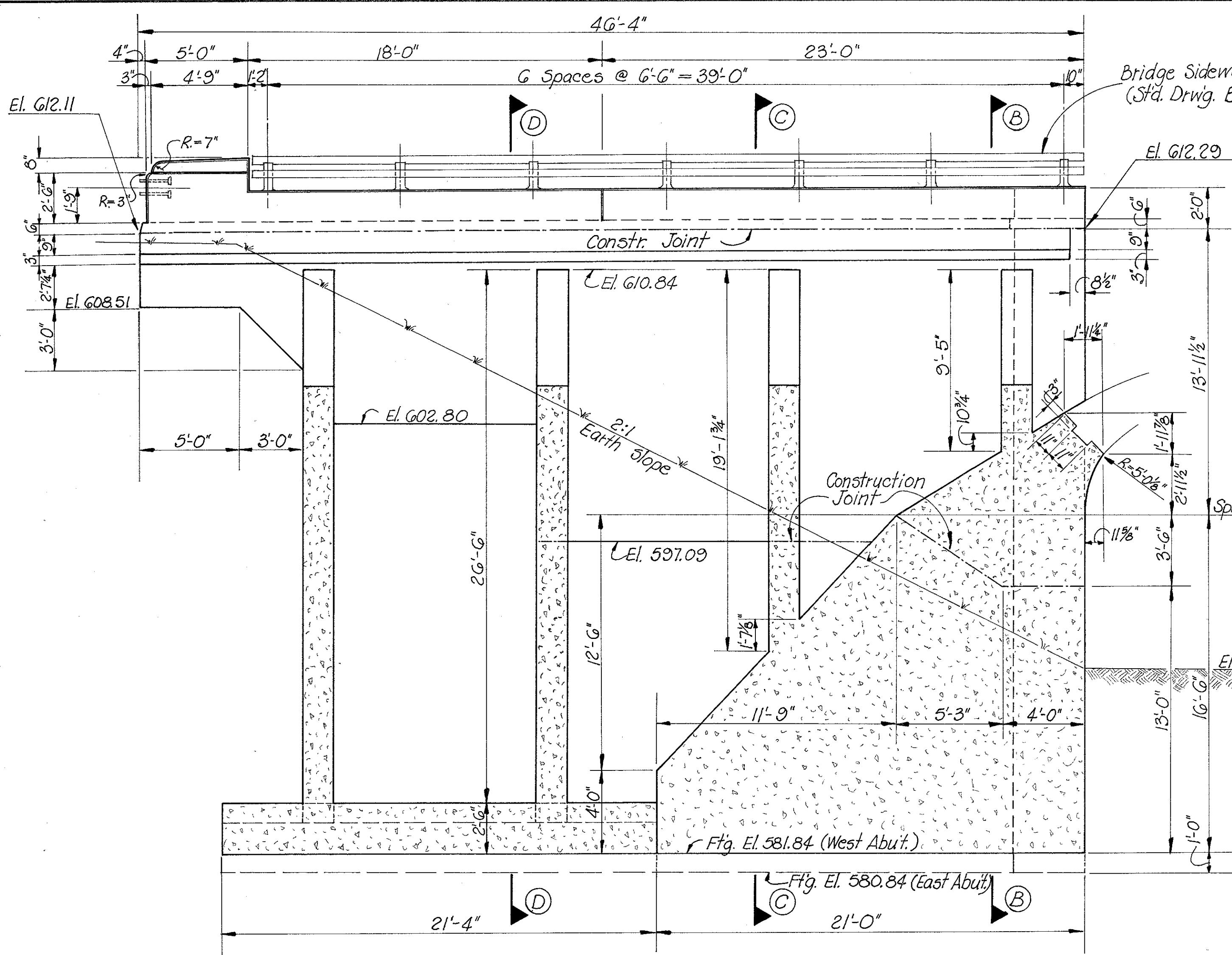
BRIDGE NO. LUC-120-1136

CENTRAL AVE. OVER OTTAWA RIVER

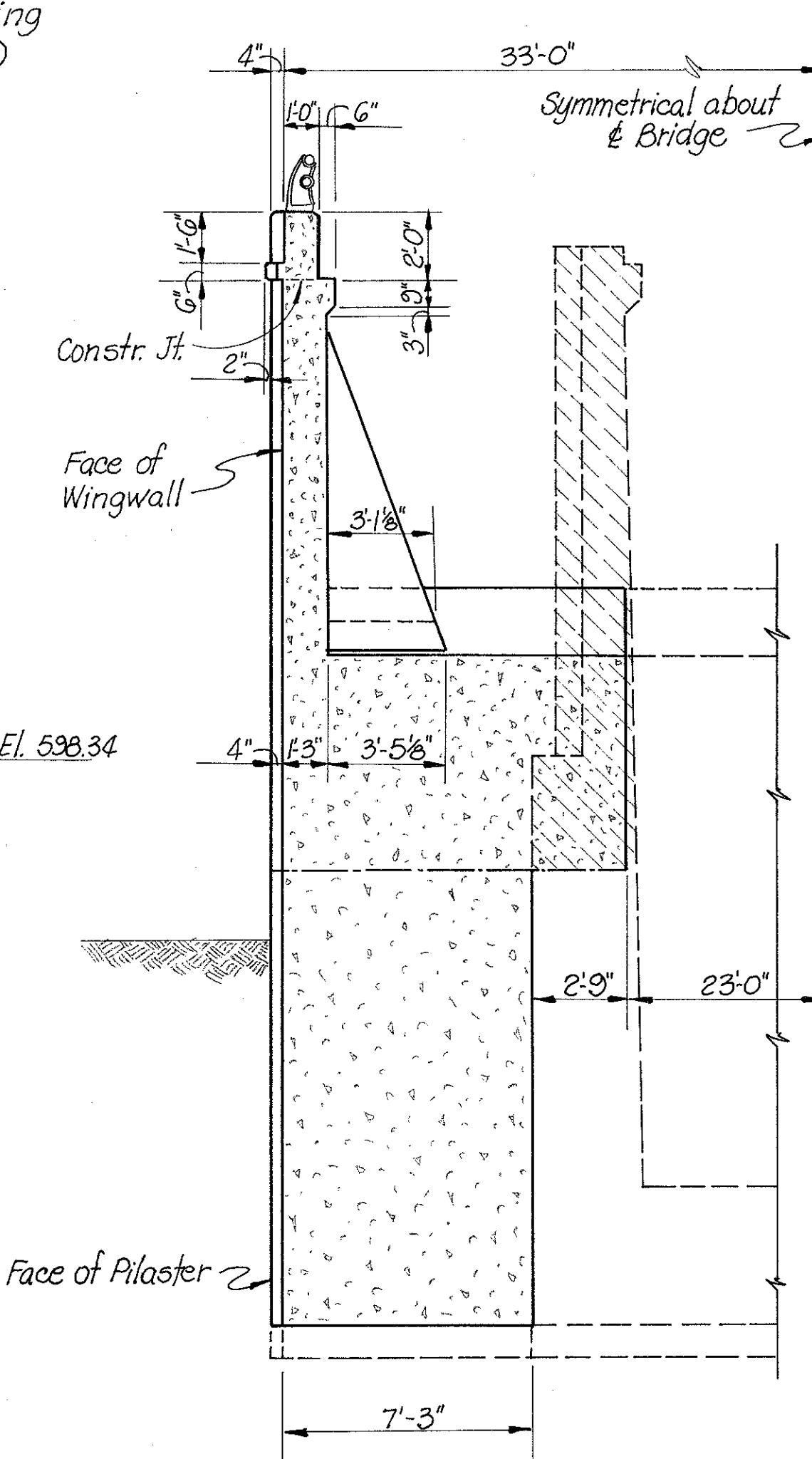
LUCAS CO. STA. 599+31.48-600+59.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.W.K.	E.W.K.	A.F.M.	K.R.R.	J.C.P.		8-19-68
						8-15-68

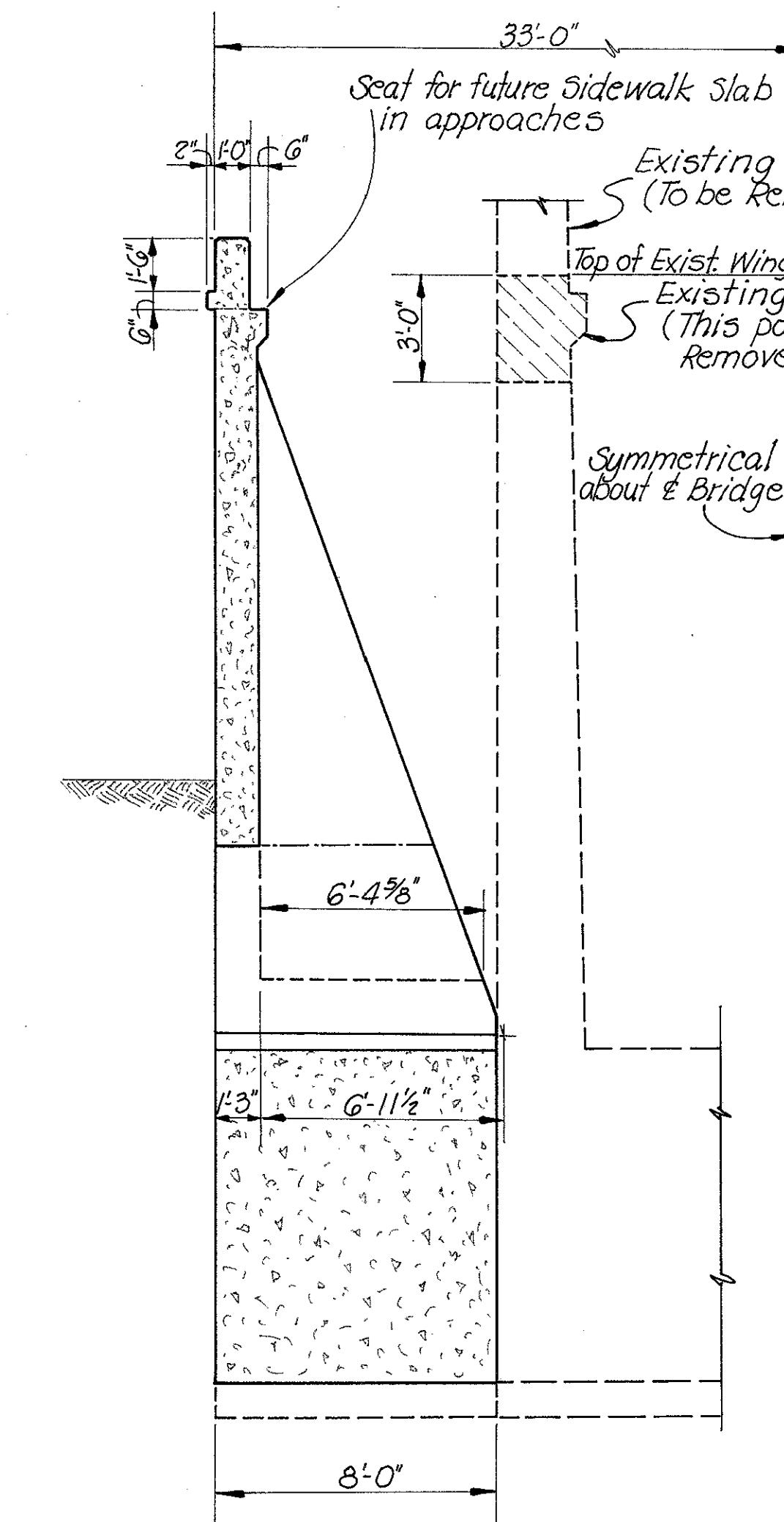
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	LUC-120-10.62

212
253

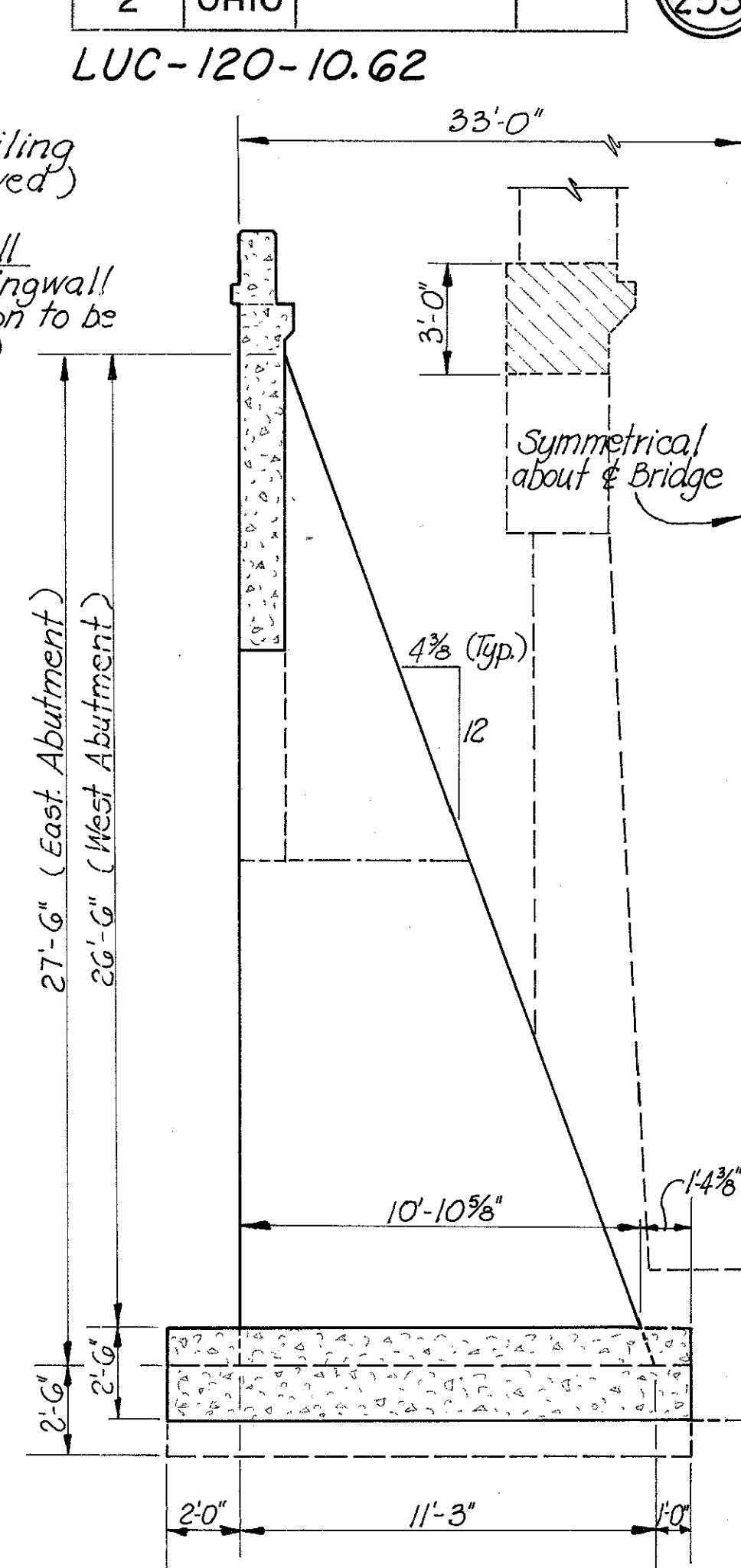
SECTION 'A - A'



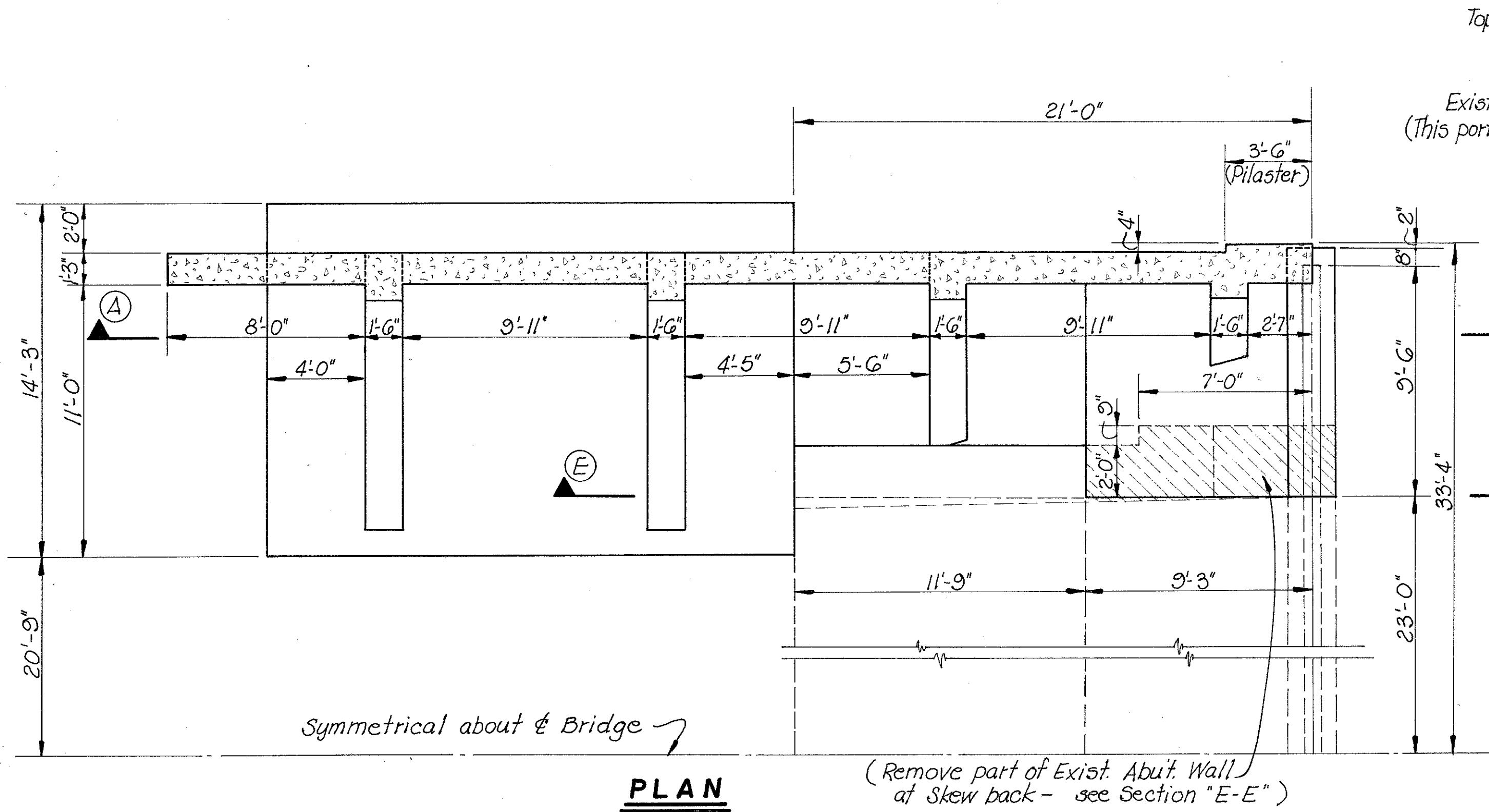
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SECTION 'C - C'

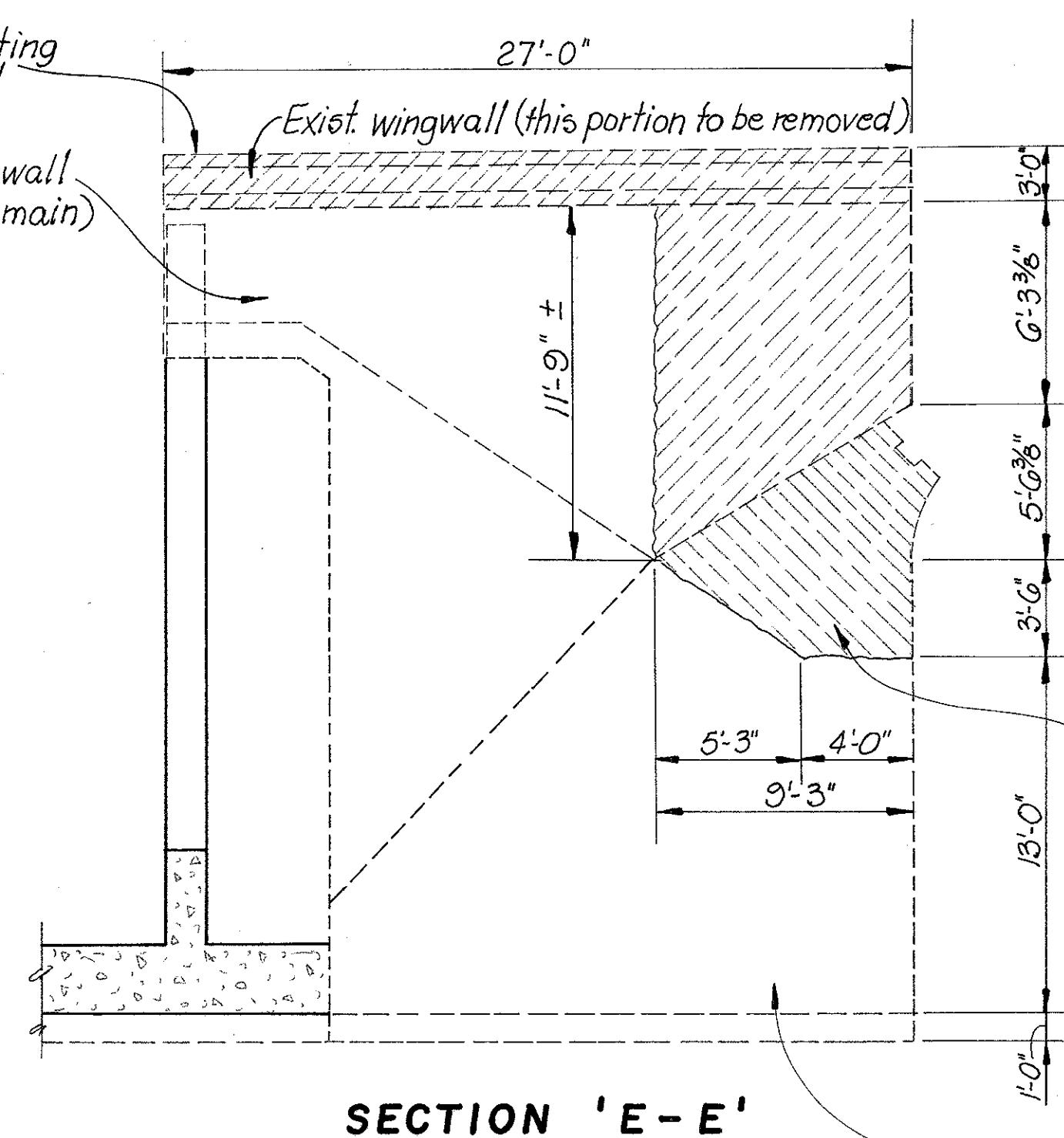


SECTION 'D - D'



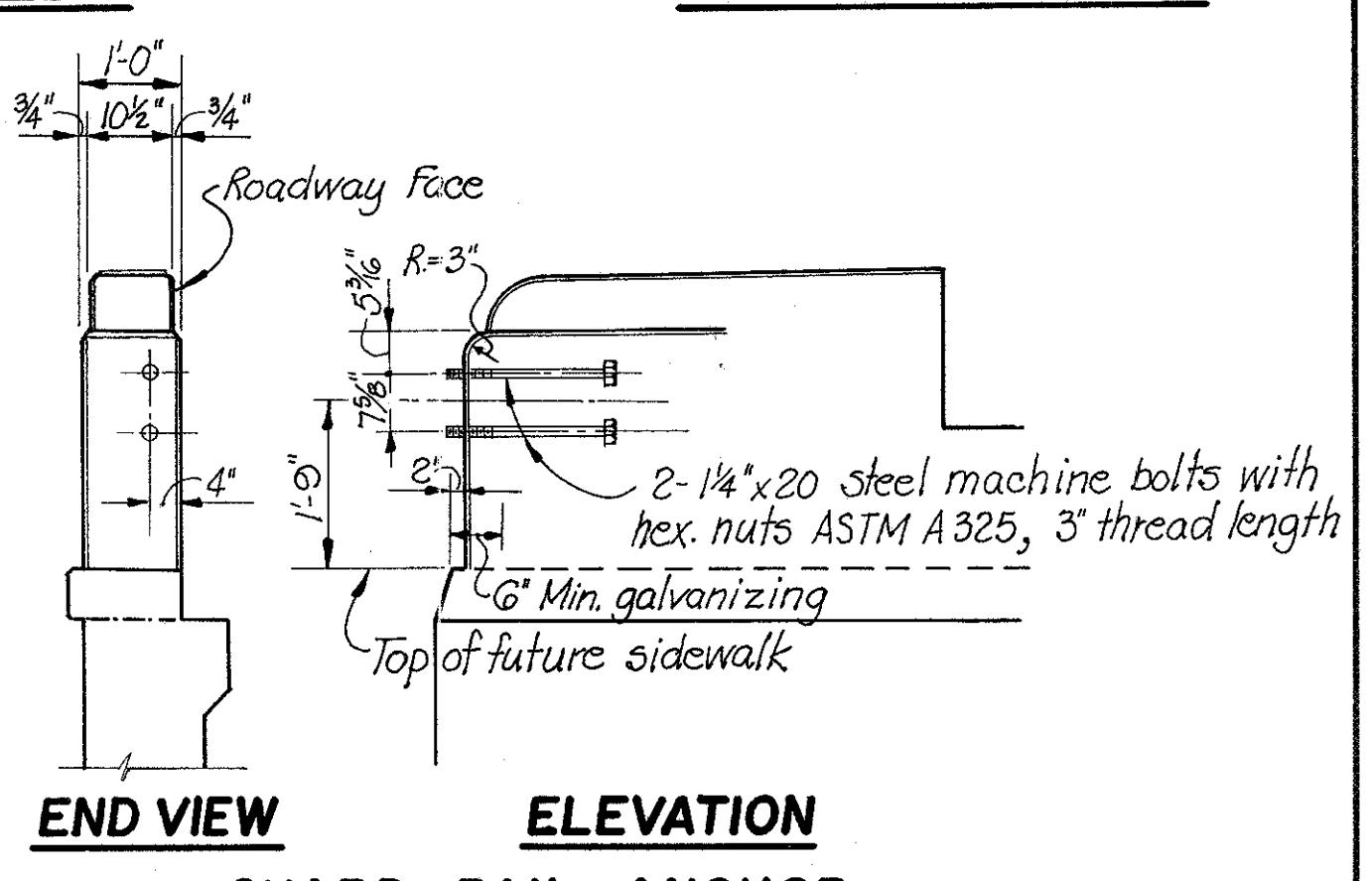
PLAN

(Remove part of Exist. Abut. Wall at Skew back - see Section "E-E")



SECTION 'E - E'

This part of existing abutment wall to remain

END VIEW
ELEVATION
GUARD RAIL ANCHOR

For section 'A-A' see Sheet 5/11

CHARLES L. BARBER & ASSOCIATES INC.
ENGINEERS
TOLEDO, OHIO

4/11

ABUTMENT DETAILS
(DIMENSIONS)

BRIDGE NO. LUC-120-1136

CENTRAL AVE. OVER OTTAWA RIVER

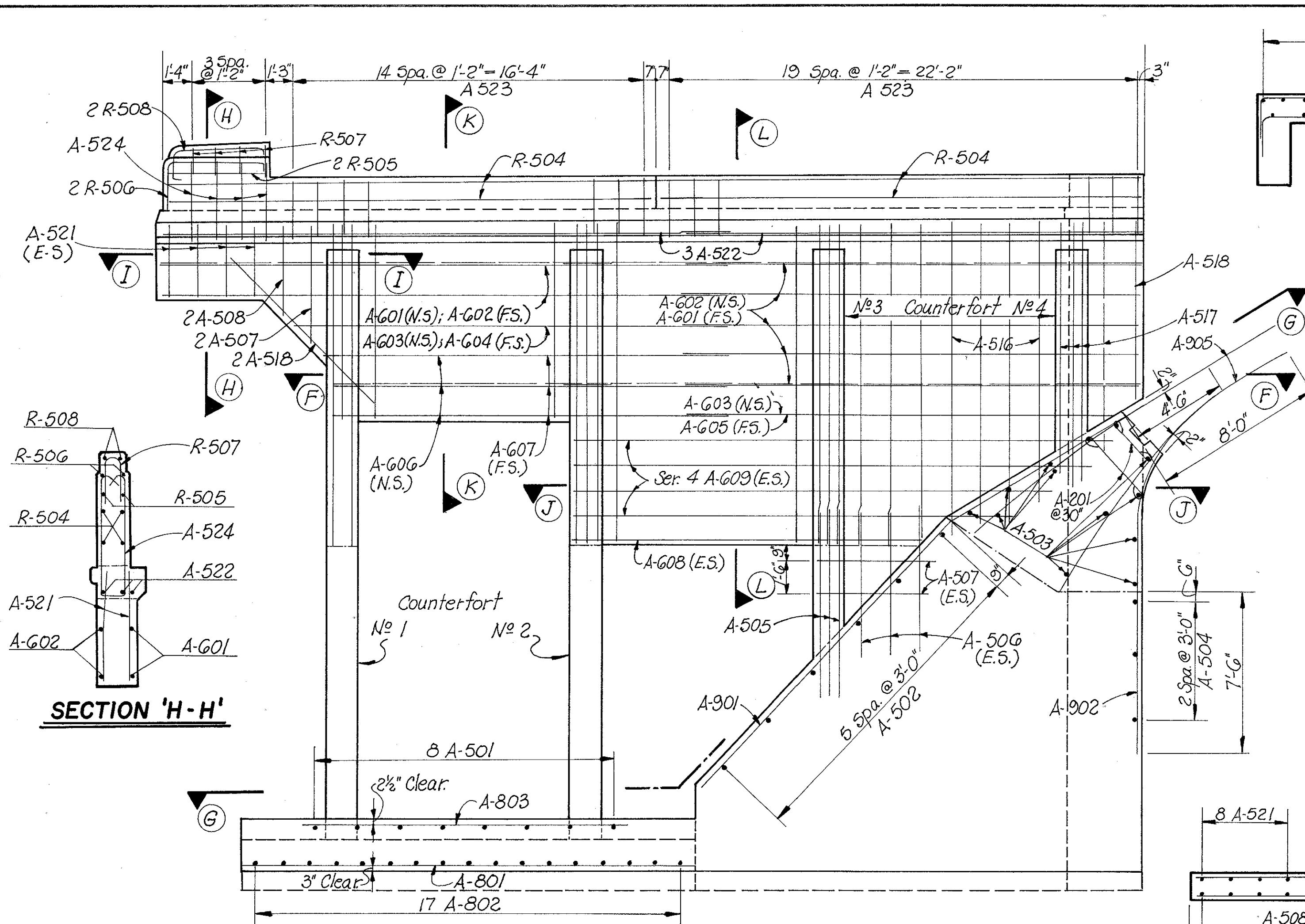
LUCAS CO. STA.599+31.48-600+59.32

DESIGNED DRAWN TRACED CHECKED REVIEWED DATE REVISED
K.R.R. E.W.K. A.F.M. K.R.R. J.C.P. 8-19-68

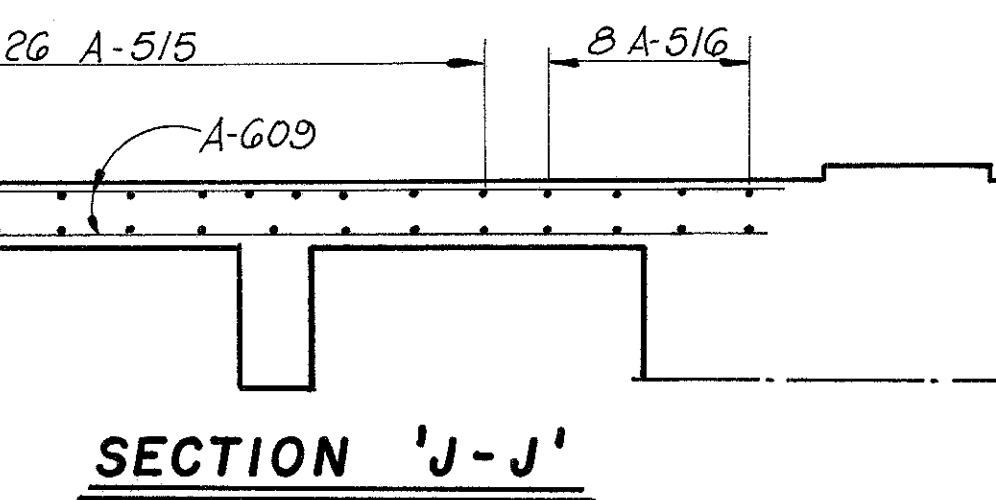
FED. RD. DIVISION STATE PROJECT
2 OHIO

213
253

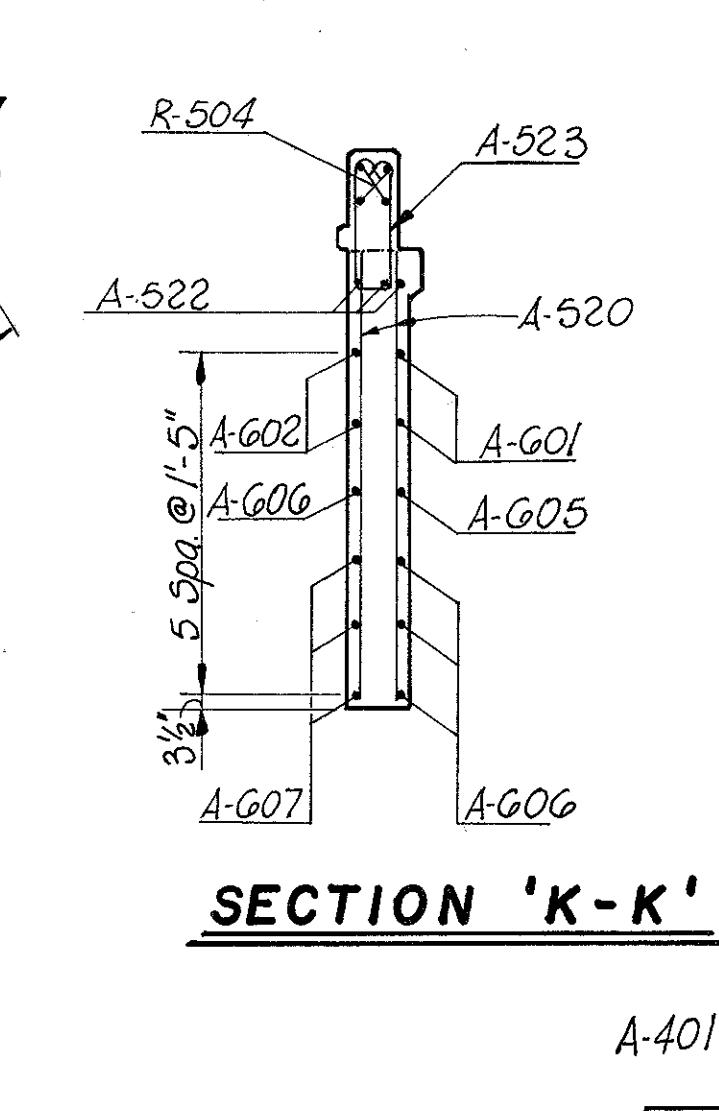
LUC-120-10.62



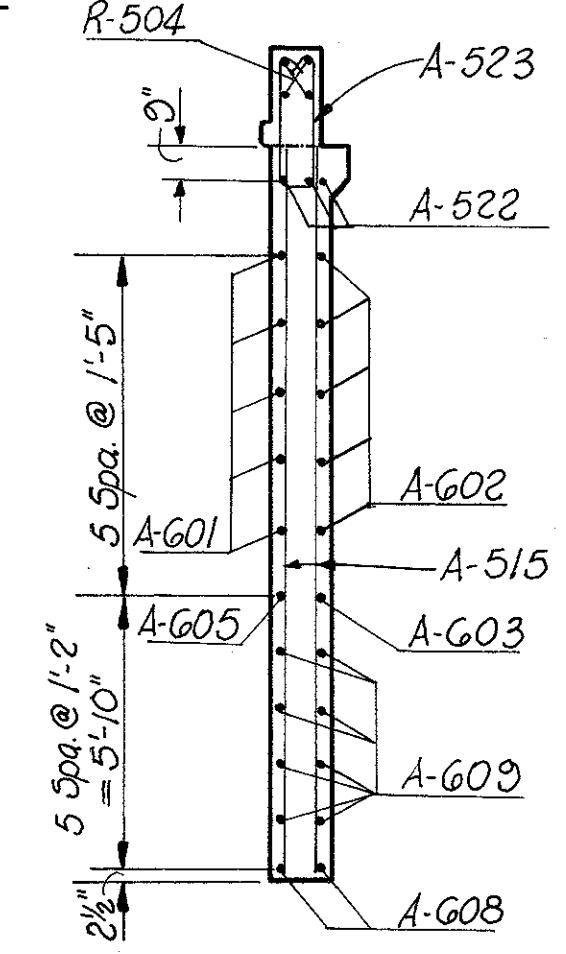
SECTION 'A-A' (REINFORCEMENT)
(See Sheet 4/11 for Section Line 'A-A')



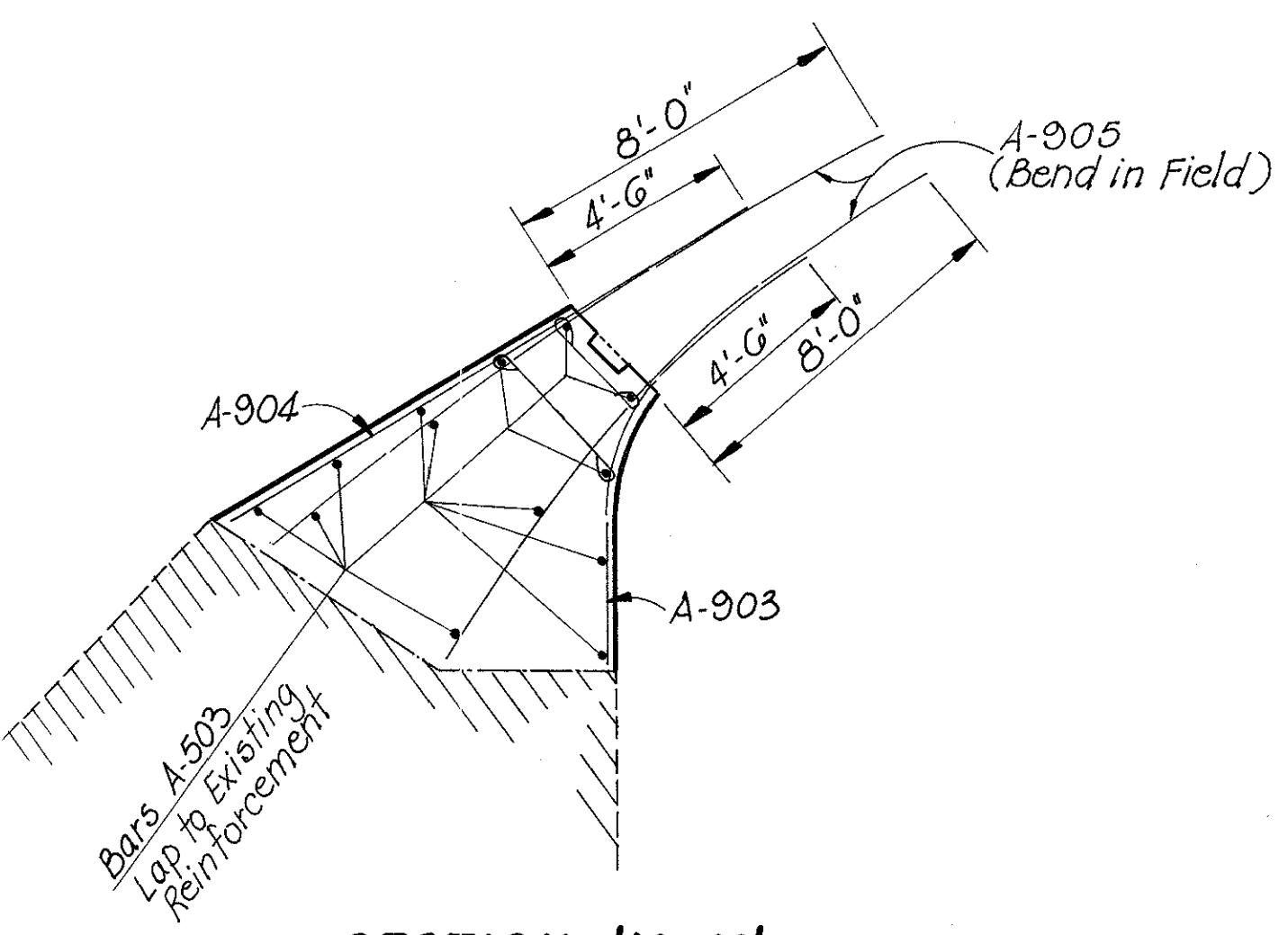
SECTION 'J-J'



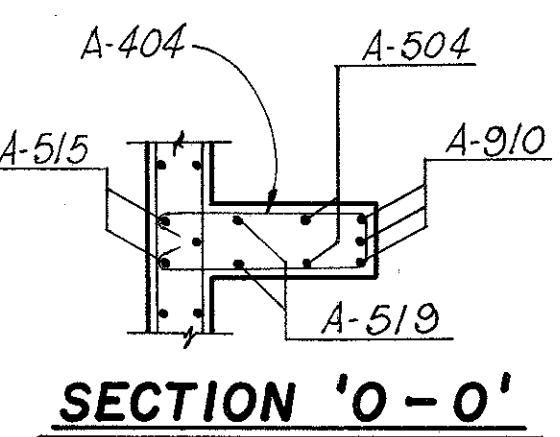
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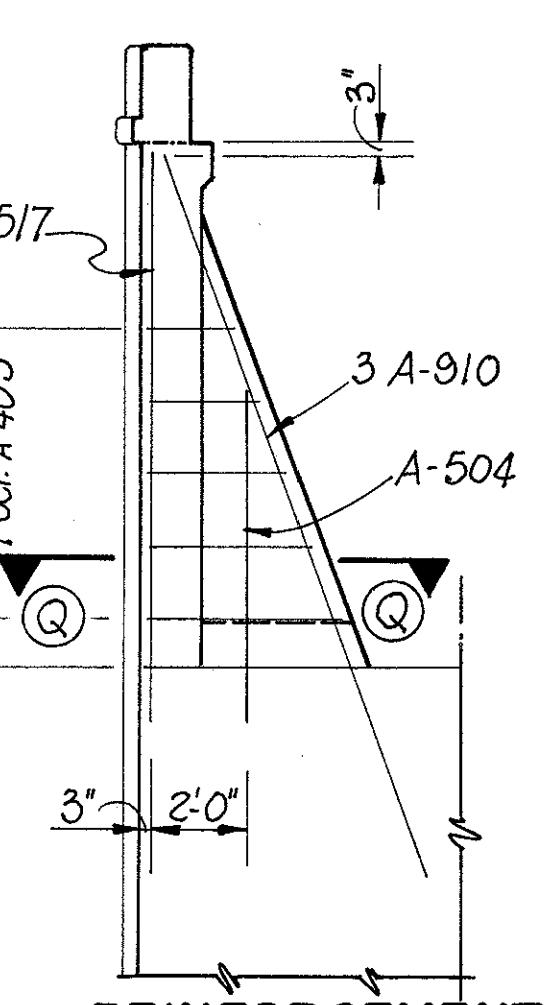
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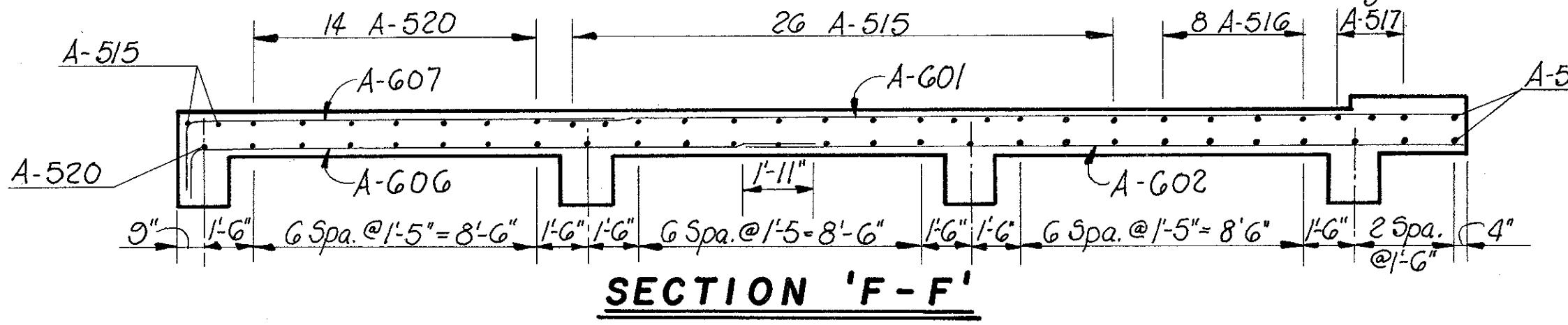
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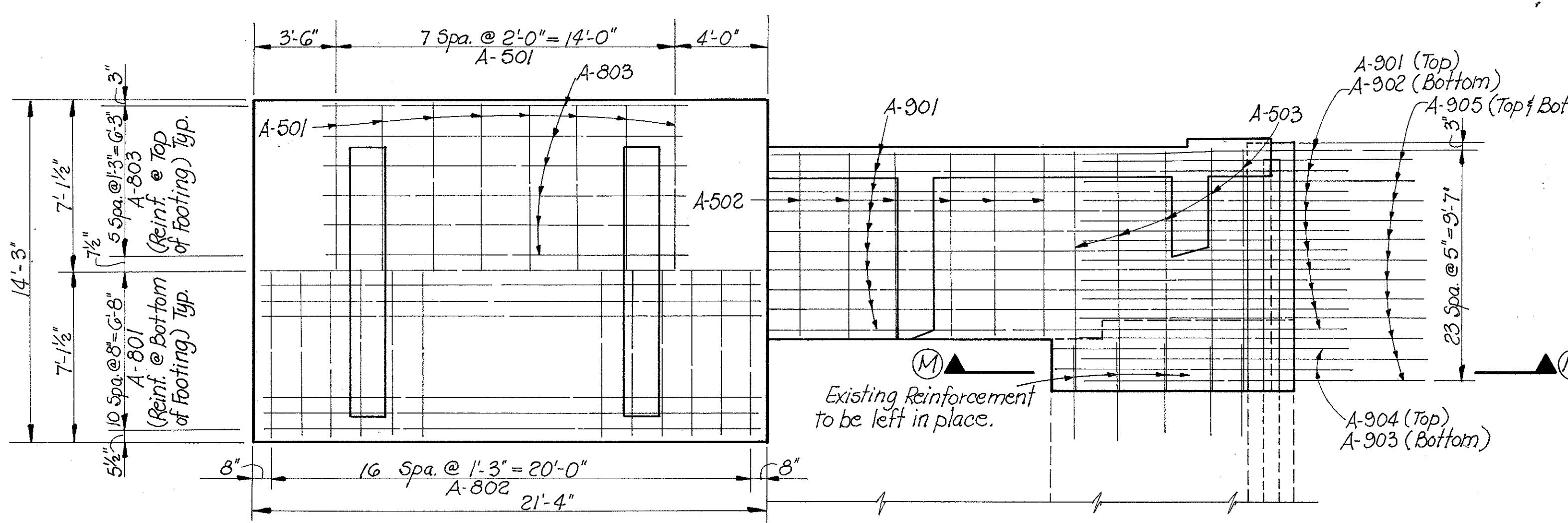
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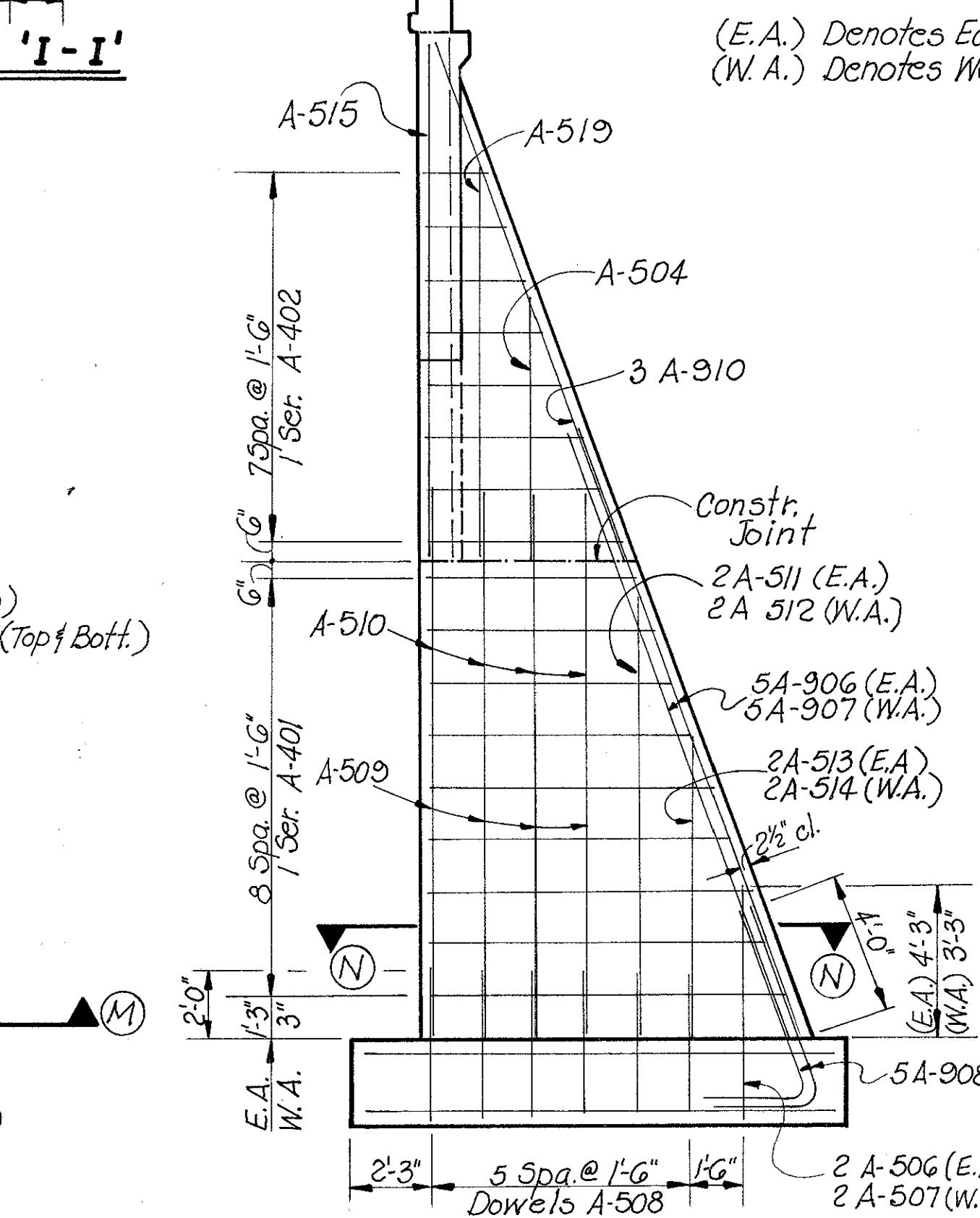
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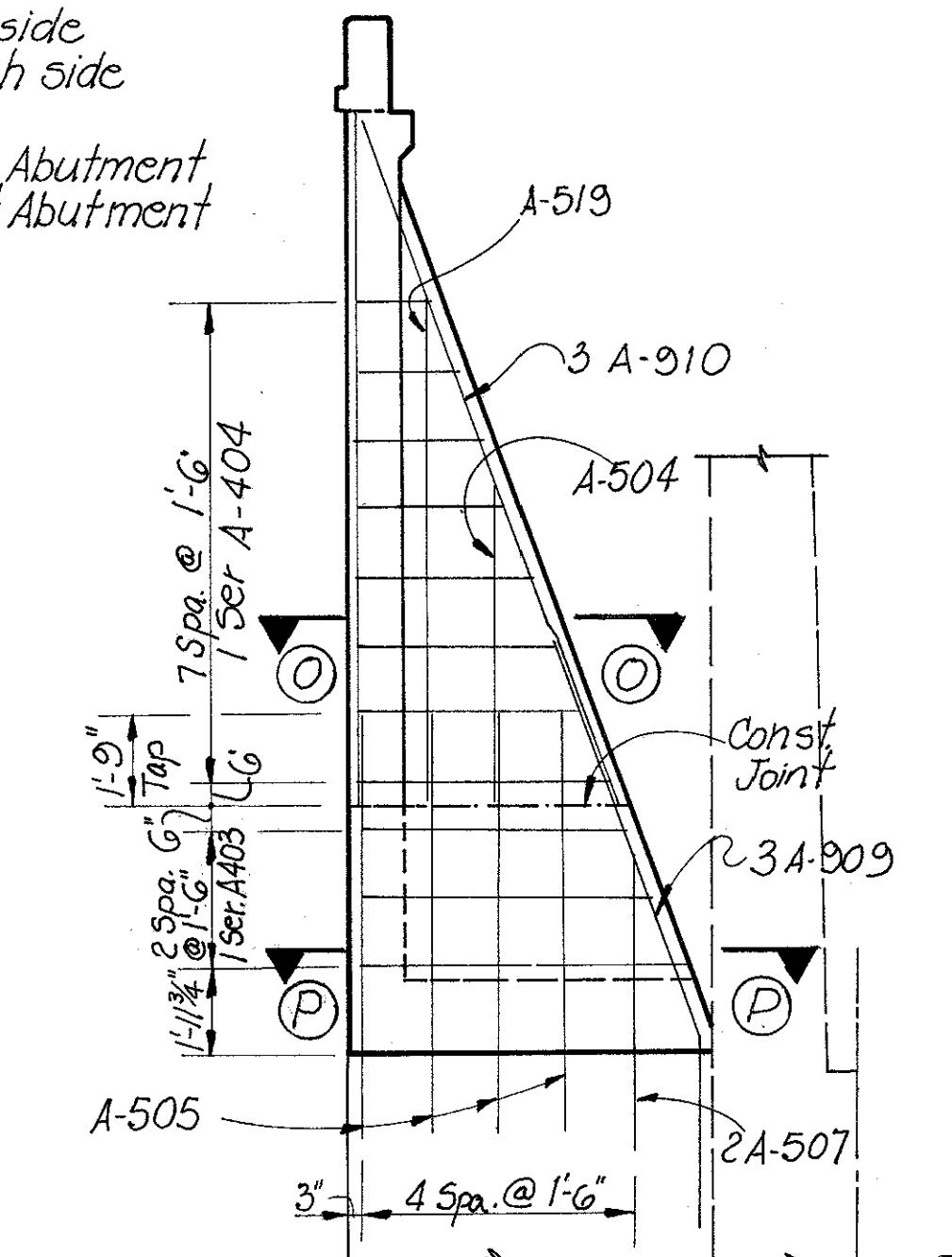
SECTION 'F-F'



SECTION 'G-G' (FOOTING REINFORCEMENT)



REINFORCEMENT IN COUNTERFORT NO. 2



REINFORCEMENT IN COUNTERFORT NO. 3

REINFORCEMENT IN COUNTERFORT NO. 1 & 2

For Reinforcing Schedule see Sheet 10/11

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5/11

ABUTMENT DETAILS (REINFORCEMENT)

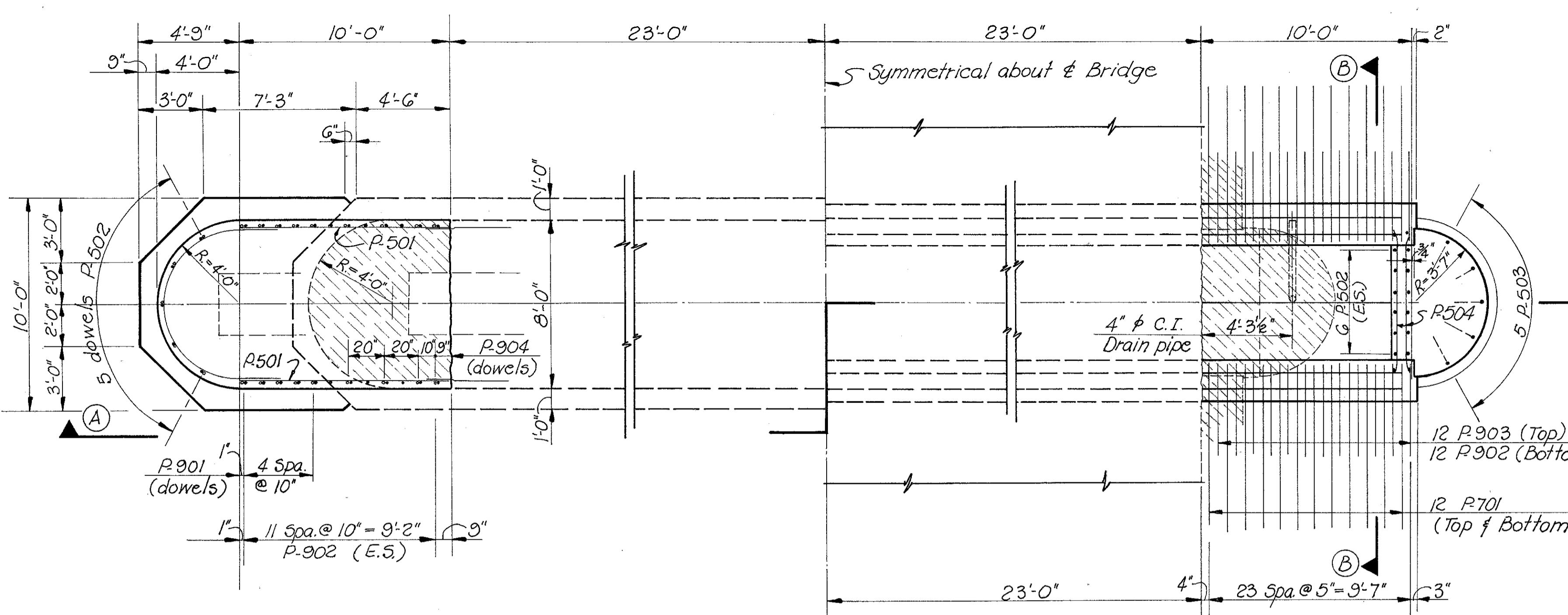
BRIDGE NO. LUC-120-1136
CENTRAL AVE. OVER OTTAWA RIVER
LUCAS CO. STA. 599+31.48-600+59.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.R.R.	E.W.K.	A.F.M.	K.R.R.	J.C.P.	8/19/68	

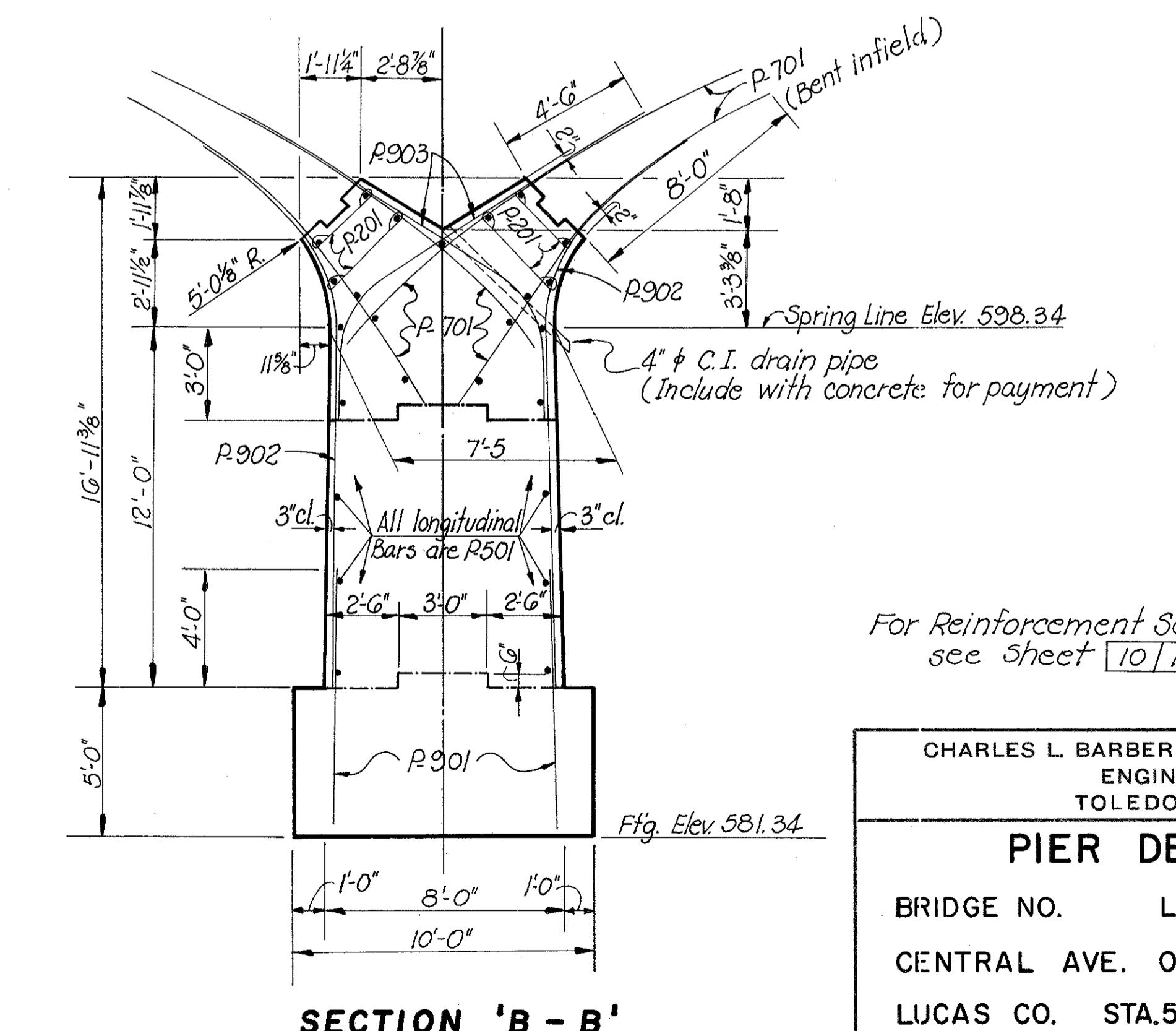
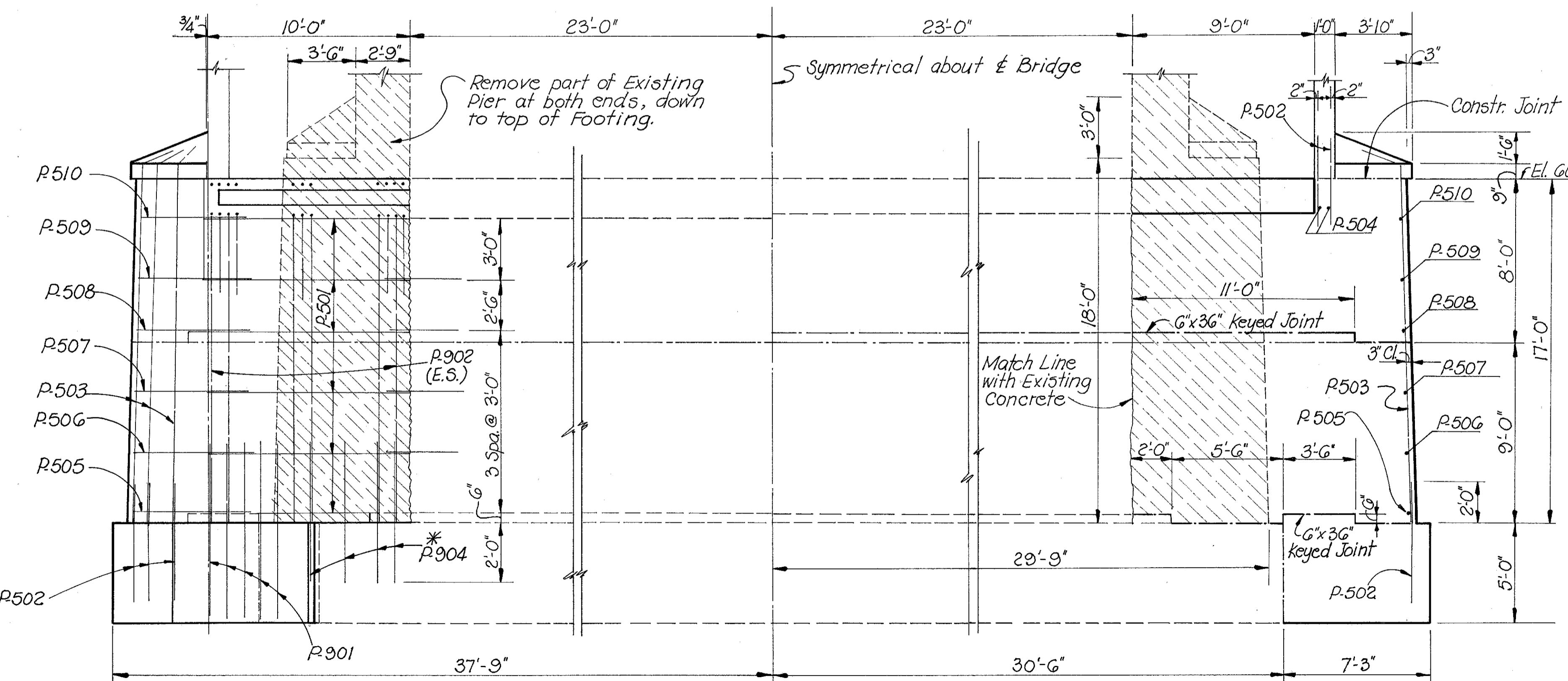
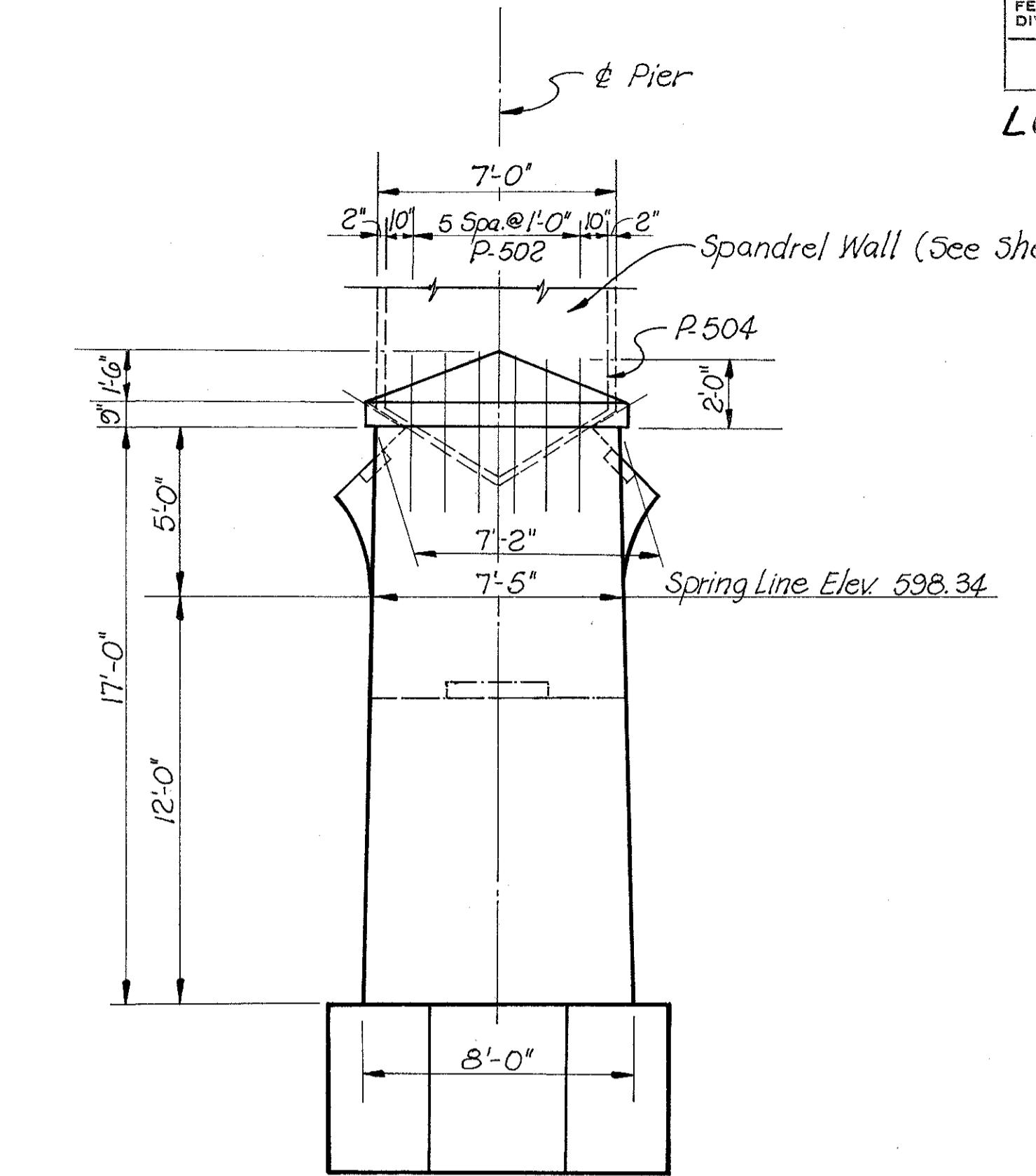
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

214
253

LUC-120-10.62



PLAN - ABOVE CONSTR. JT. ELEV. 603.34

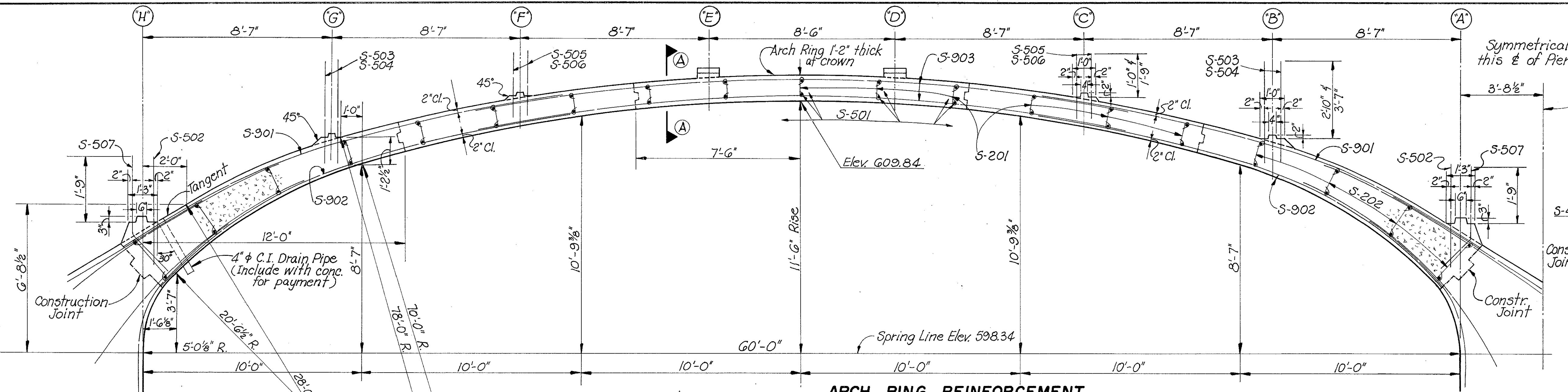


DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.W.K.	E.W.K.	A.F.M.	K.R.R.	J.C.P.	8-19-68	

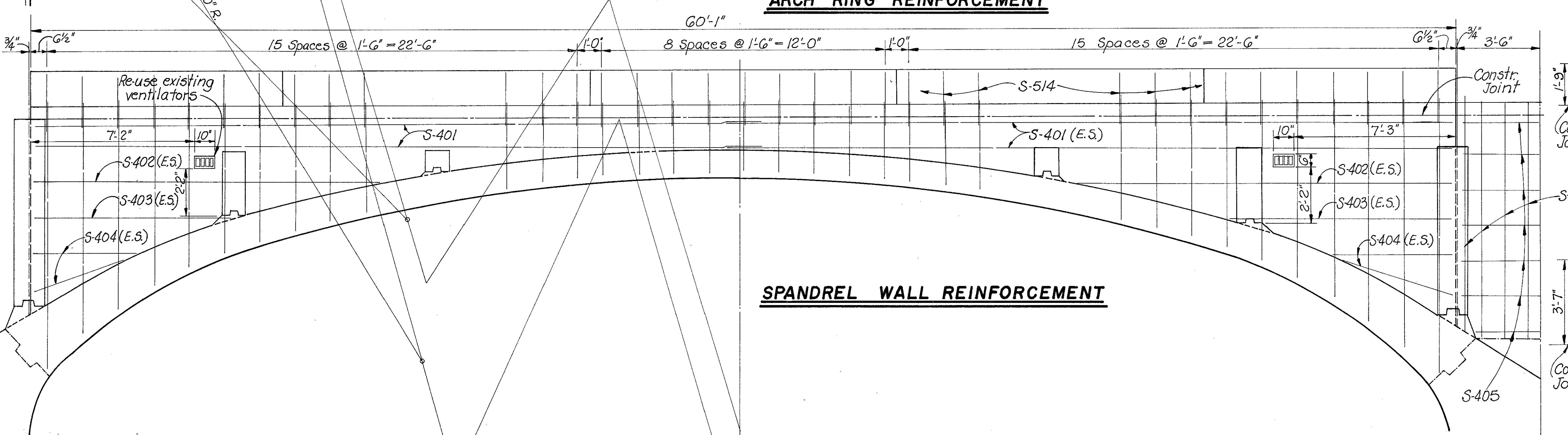
FED. RD. DIVISION STATE PROJECT
2 OHIO

215
253

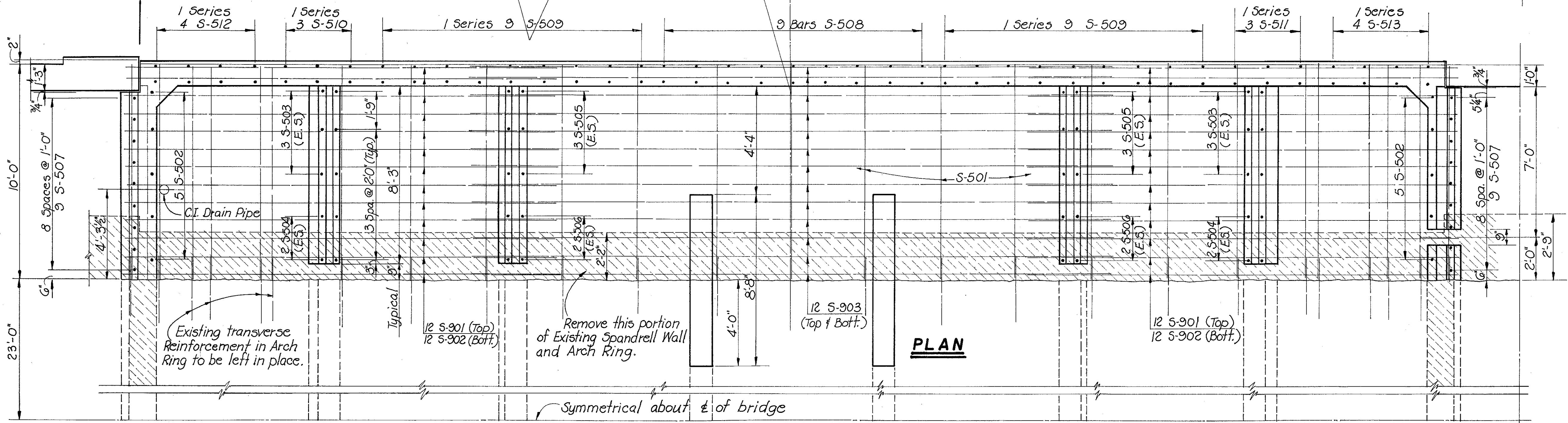
LUC-120-10.62



ARCH RING REINFORCEMENT



SPANDREL WALL REINFORCEMENT



PLAN

- For Reinforcement in Transverse Walls see 8 / 11
- For Reinforcement Schedule see 10 / 11

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ENGINEERS
TOLEDO, OHIO

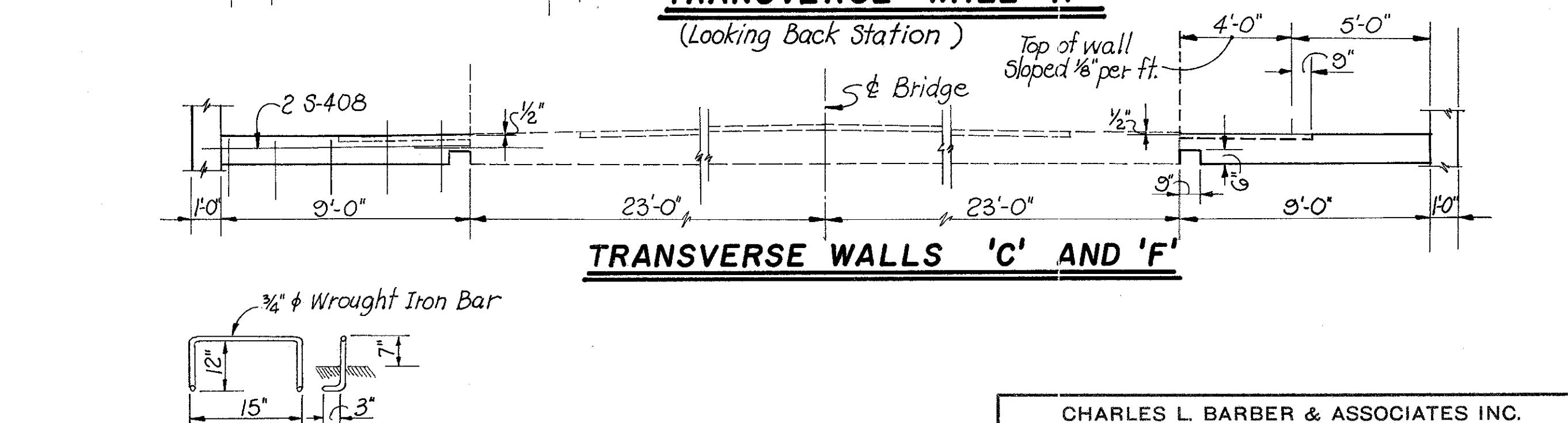
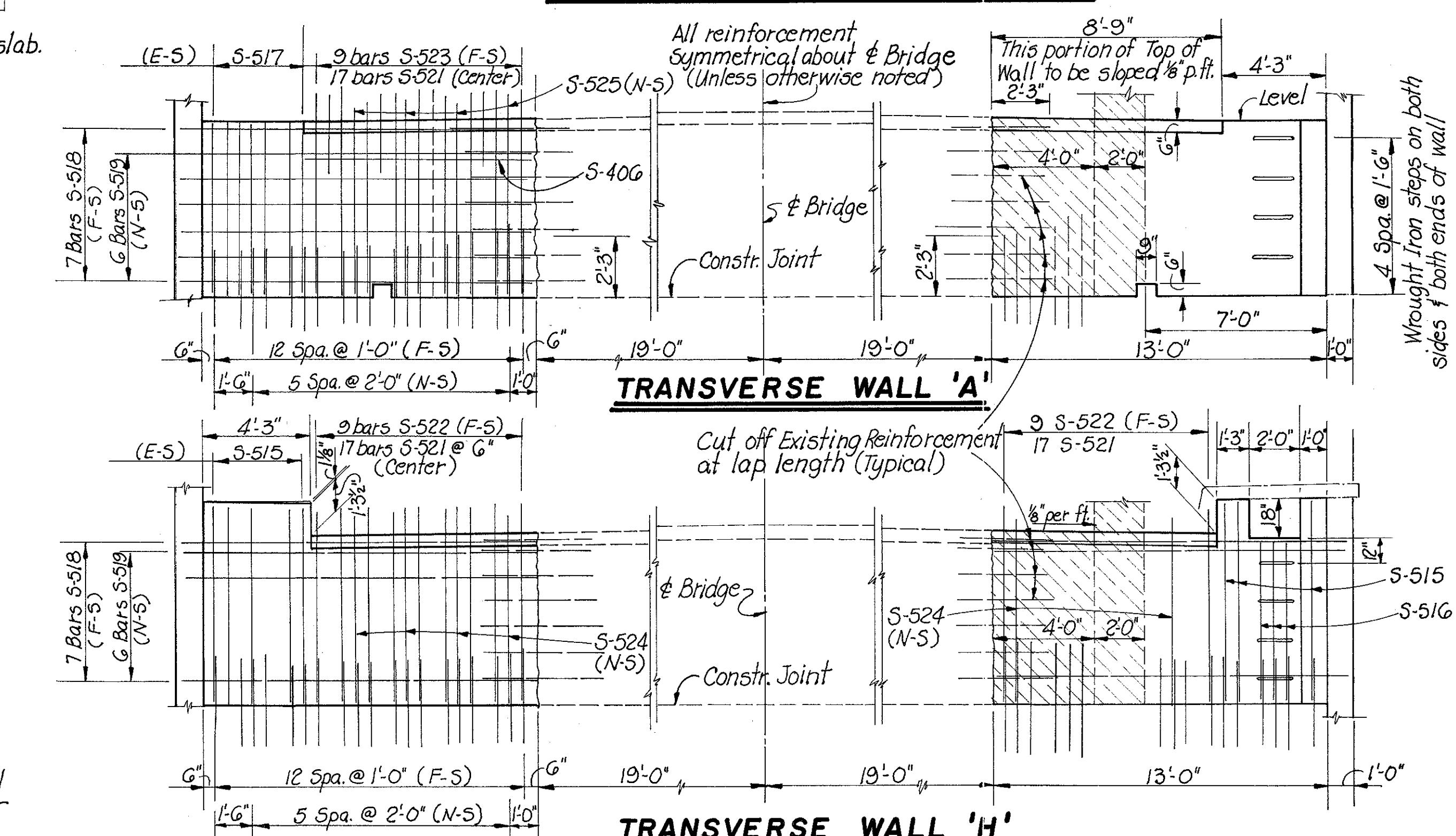
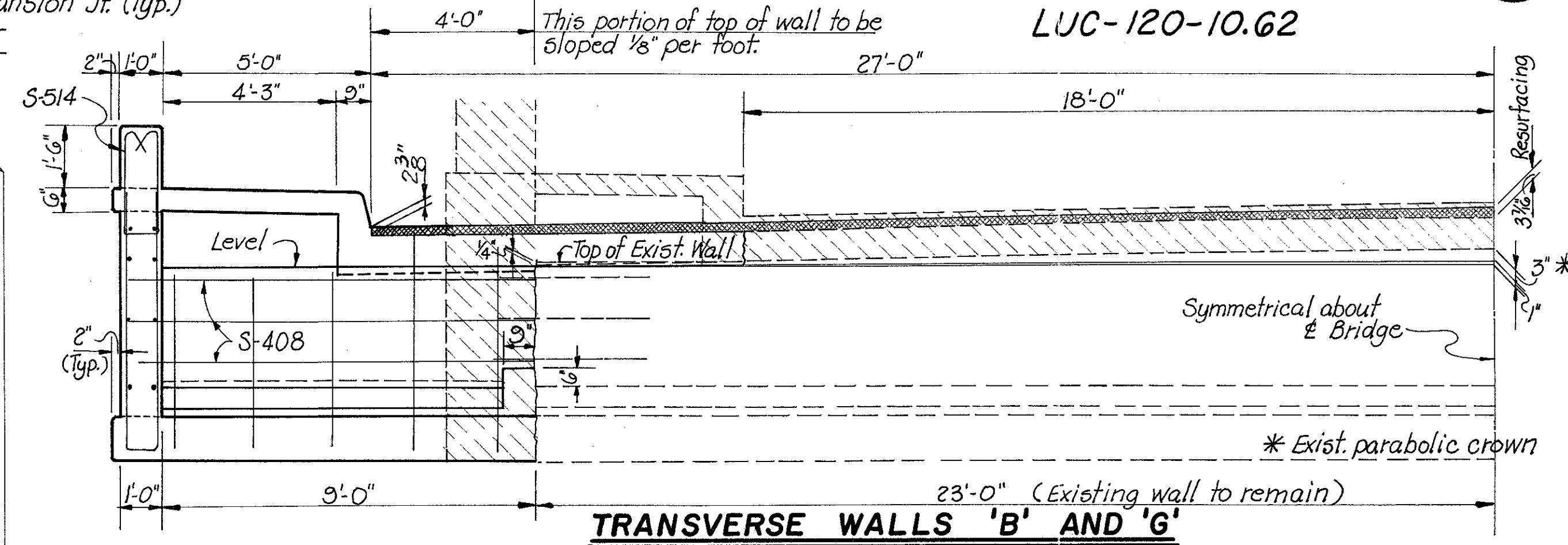
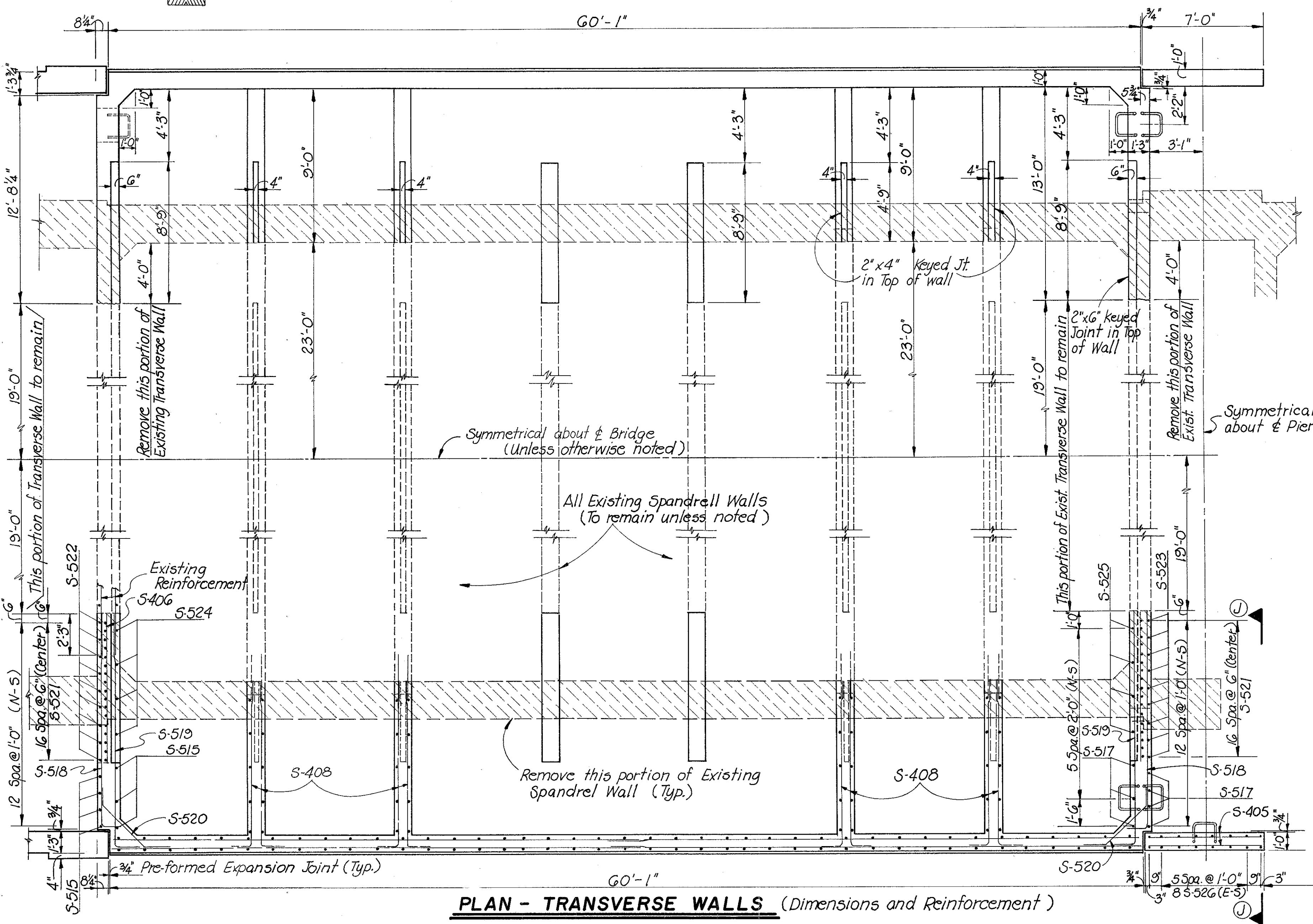
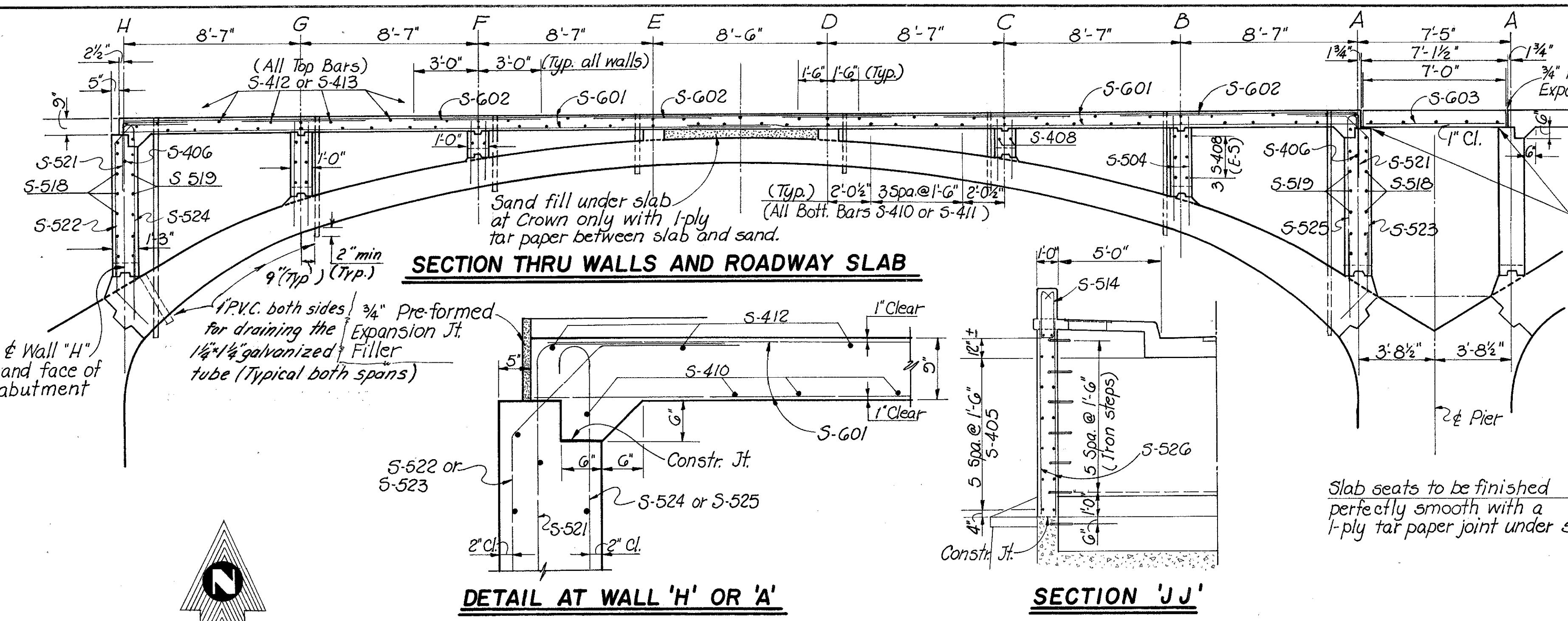
7 / 11

ARCH RING AND
SPANDREL WALL DETAILS
BRIDGE NO. LUC-120-1136

CENTRAL AVE. OVER OTTAWA RIVER
LUCAS CO. STA. 599+31.48-600+59.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.W.K.	E.W.K.	A.F.M.	K.R.R.	J.C.P.	8/19/68	

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	LUC-120-10.62

210
253

DETAIL OF WROUGHT IRON STEPS
(Steps Included With Concrete for Payment)

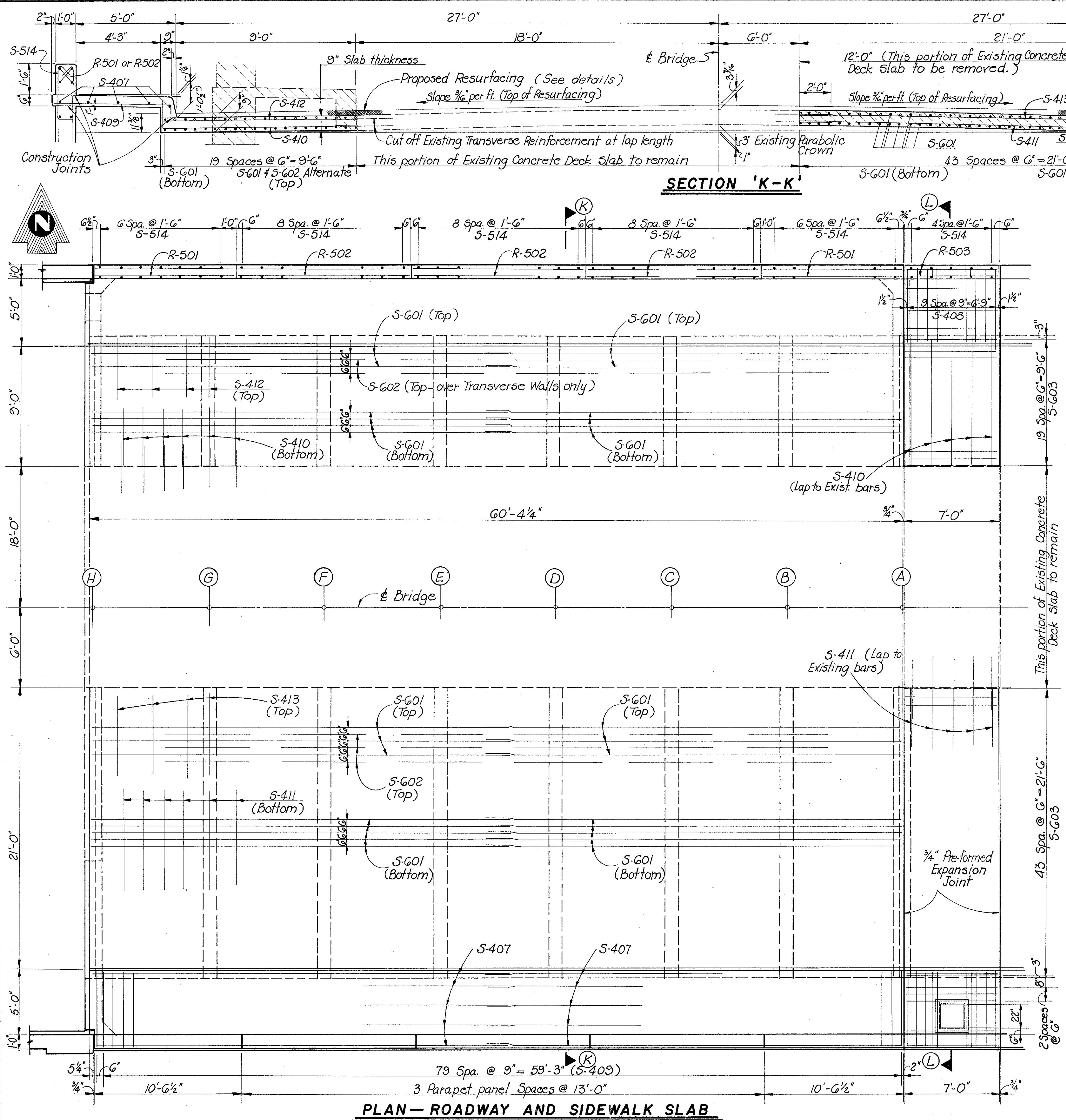
- For Locating & Bridge see note on Sheet 2/11
- Include Sand Fill under slab between Transverse Walls 'E' and 'D', in Item 310 for payment.
- For Reinforcing Schedule see Sheet 10/11

CHARLES L. BARBER & ASSOCIATES INC. ENGINEERS TOLEDO, OHIO					
8/11					
TRANSVERSE WALL DETAILS					
BRIDGE NO.	LUC-120-1136	CENTRAL AVE.	OVER OTTAWA RIVER	LUCAS CO.	STA. 599+31.48-600+59.32
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE REVISED
E.W.K.	E.W.K.	A.F.M.	K.R.R.	J.C.P.	8-19-68

FED. RD. DIVISION STATE PROJECT
2 OHIO

217
253

LUC-120-10.62



FED. RD.	STATE	PROJECT
2	OHIO	

 218
253

LUC-120-10.62

REINFORCEMENT SCHEDULE

MARK	NO.	LENGTH	SHAPE	INCR.	WEIGHT (LBS.)
SUPERSTRUCTURE:					
S-201	132	2'-3"	STR.		50
S-202	96	4'-6"	STR.		72
S-401	32	30'-6"	STR.		652
S-402	16	15'-0"	STR.		160
S-403	16	9'-0"	STR.		96
S-404	32	5'-0"	STR.		107
S-405	39	6'-8"	STR.		174
S-406	8	8'-9"	STR.		47
S-407	40	30'-7"	STR.		817
S-408	64	10'-7"	BENT		452
S-409	264	6'-1"	BENT		1,073
S-410	77	10'-11"	BENT		562
S-411	77	22'-11"	BENT		1,179
S-412	58	9'-6"	STR.		368
S-413	58	21'-6"	STR.		833
R-501	32	10'-3"	STR.		***
R-502	48	12'-8"	STR.		***
R-503	8	6'-8"	STR.		***
S-501	152	9'-11"	STR.		1,572
S-502	40	3'-5"	STR.		143
S-503	48	4'-4"	STR.		217
S-504	32	5'-0"	STR.		167
S-505	48	2'-2"	STR.		108
S-506	32	2'-11"	STR.		97
S-507	72	3'-11"	BENT		294
S-508	36	6'-5"	BENT		241
S-509	8 ser. 9	From 6'-7" to 10'-11"	BENT	G 1/2"	657
S-510	4 ser. 3	From 11'-11" to 13'-11"	BENT	12"	162
S-511	4 ser. 3	From 12'-5" to 14'-3"	BENT	14"	170
S-512	4 ser. 4	From 15'-7" to 22'-1"	BENT	2'-2"	314
S-513	4 ser. 4	From 16'-5" to 22'-11"	BENT	2'-2"	328
S-514	174	6'-7"	BENT		1,195
S-515	22	7'-8"	STR.		176
S-516	6	6'-2"	STR.		39
S-517	28	6'-8"	STR.		195
S-518	56	13'-5"	BENT		784
S-519	48	14'-7"	BENT		730
S-520	48	5'-7"	BENT		280
S-521	136	6'-2"	BENT		875
S-522	36	8'-11"	BENT		335
S-523	36	9'-2"	BENT		344
S-524	16	7'-7"	BENT		127
S-525	16	7'-10"	BENT		131
S-526	32	9'-7"	STR.		320
S-601	384	31'-0"	STR.		17,880
S-602	384	6'-0"	STR.		3,461
S-603	64	6'-8"	STR.		641
S-901	96	21'-6"	STR.		7,018
S-902	96	20'-6"	STR.		6,691
S-903	96	30'-0"	STR.		9,792
SUPERSTRUCTURE TOTAL:					

MARK	NO.	LENGTH	SHAPE	INCR.	WEIGHT (LBS.)
ABUTMENTS : (TWO)					
A-201	32	4'-6"	STR.		24
A-401	8 ser. 9	From 1d'-11" to 23'-7"	BENT	13"	926
A-402	8 ser. 8	From 6'-7" to 14'-2"	BENT	13"	444
A-403	4 ser. 3	From 14'-0" to 16'-2"	BENT	13"	121
A-404	4 ser. 8	From 5'-8" to 13'-3"	BENT	13"	202
A-405	4 ser. 5	From 5'-6" to 9'-10"	BENT	13"	105
R-504	32	22'-8"	STR.		***
R-505	8	4'-8"	STR.		***
R-506	8	8'-3"	BENT		***
R-507	16	3'-3"	BENT		***
R-508	8	6'-7"	BENT		***
P-201	24	4'-6"	STR.		18
P-501	50	10'-0"	STR.		522
P-502	34	5'-0"	STR.		177
P-503	10	19'-0"	BENT		198
P-504	4	11'-3"	BENT		47
P-505	2	15'-0"	BENT		31
P-506	2	14'-9"	BENT		31
P-507	2	14'-6"	BENT		30
P-508	2	14'-3"	BENT		30
P-509	2	14'-1"	BENT		29
P-510	2	13'-10"	BENT		29
P-701	96	15'-6"	STR.		3,041
P-901	20	8'-6"	STR.		578
P-902	48	19'-9"	BENT		3,223
P-903	48	15'-3"	BENT		2,489
P-904	16	6'-0"	STR.		326
PIER TOTAL:					

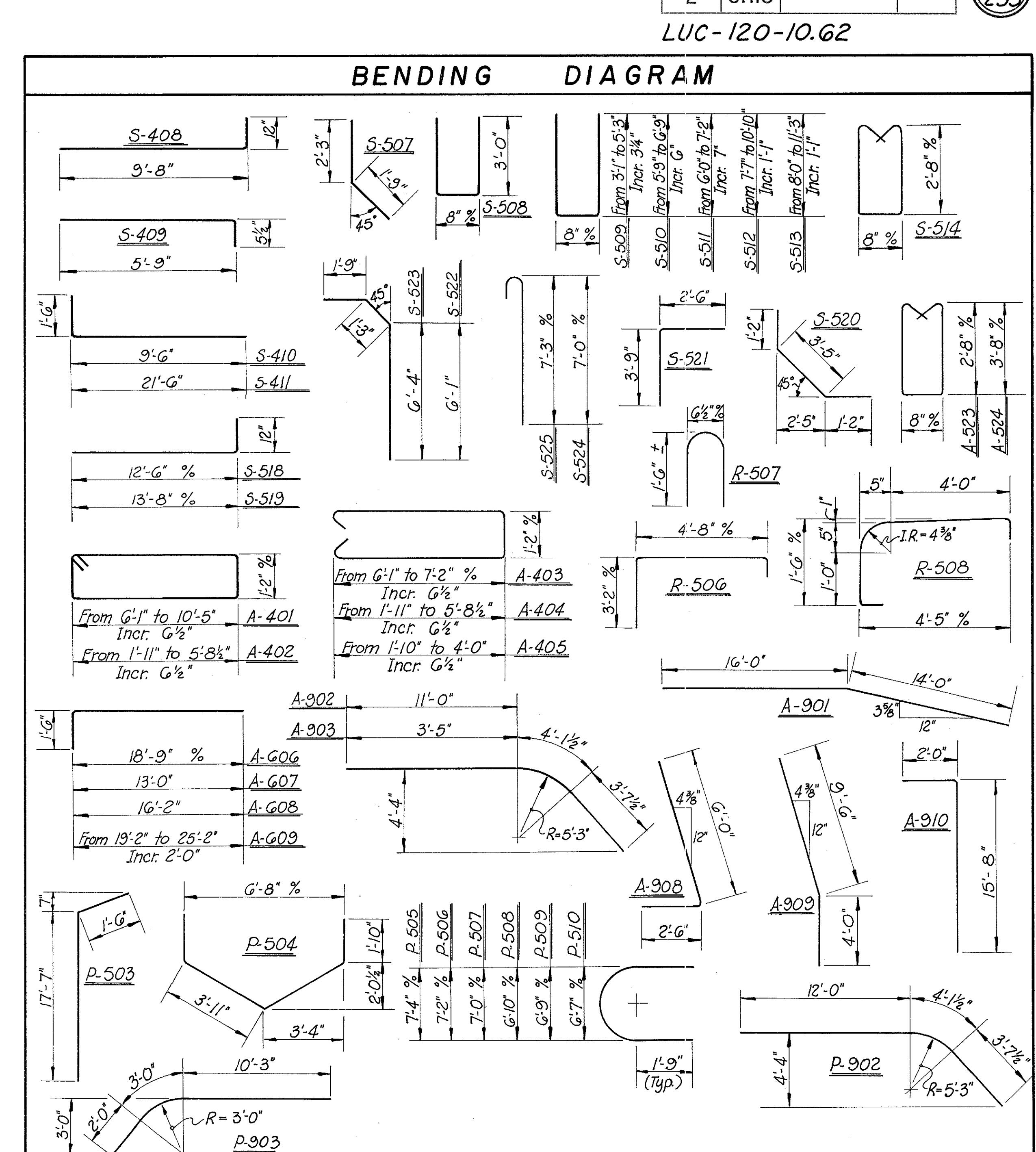
MARK	NO.	LENGTH	SHAPE	INCR.	WEIGHT (LBS.)
ABUTMENTS CONT'D.:					
A-903	8	11'-2"	BENT		304
A-904	8	14'-0"	STR.		381
A-905	96	17'-0"	STR.		5,549
A-906	20	18'-6"	STR.		1,258
A-907	20	17'-6"	STR.		1,190
A-908	40	8'-3"	BENT		1,120
A-909	12	13'-6"	BENT		551
A-910	48	17'-5"	BENT		2,842
ABUTMENTS TOTAL:					
PIER : (ONE)					
P-201	24	4'-6"	STR.		18
P-501	50	10'-0"	STR.		522
P-502	34	5'-0"	STR.		177
P-503	10	19'-0"	BENT		198
P-504	4	11'-3"	BENT		47
P-505	2	15'-0"	BENT		31
P-506	2	14'-9"	BENT		31
P-507	2	14'-6"	BENT		30
P-508	2	14'-3"	BENT		30
P-509	2	14'-1"	BENT		29
P-510	2	13'-10"	BENT		29
P-701	96	15'-6"	STR.		3,041
P-901	20	8'-6"	STR.		578
P-902	48	19'-9"	BENT		3,223
P-903	48	15'-3"	BENT		2,489
P-904	16	6'-0"	STR.		326
PIER TOTAL:					

REPLACEMENT BAR LIST

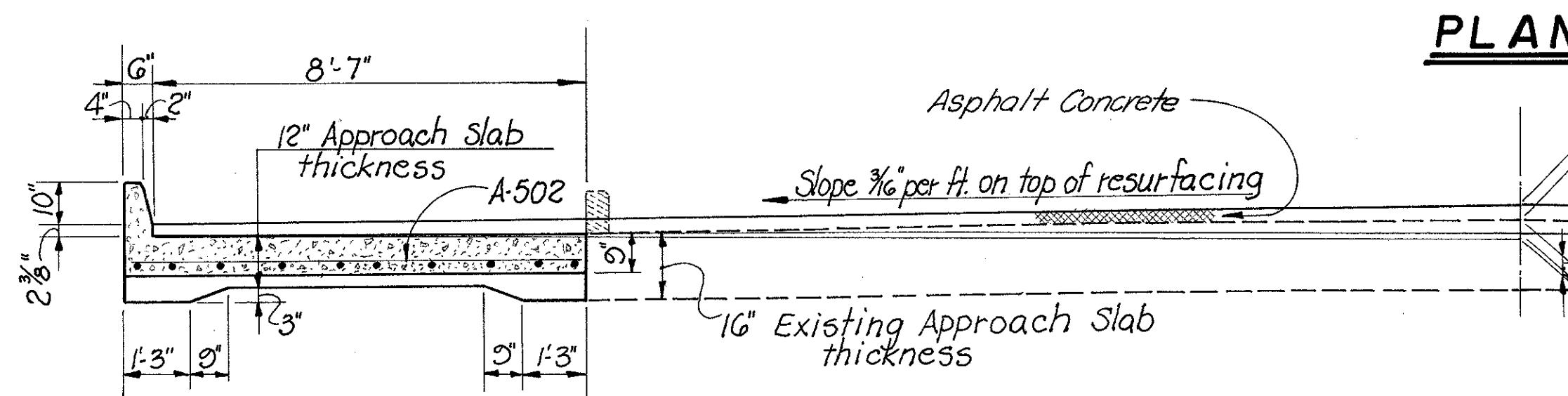
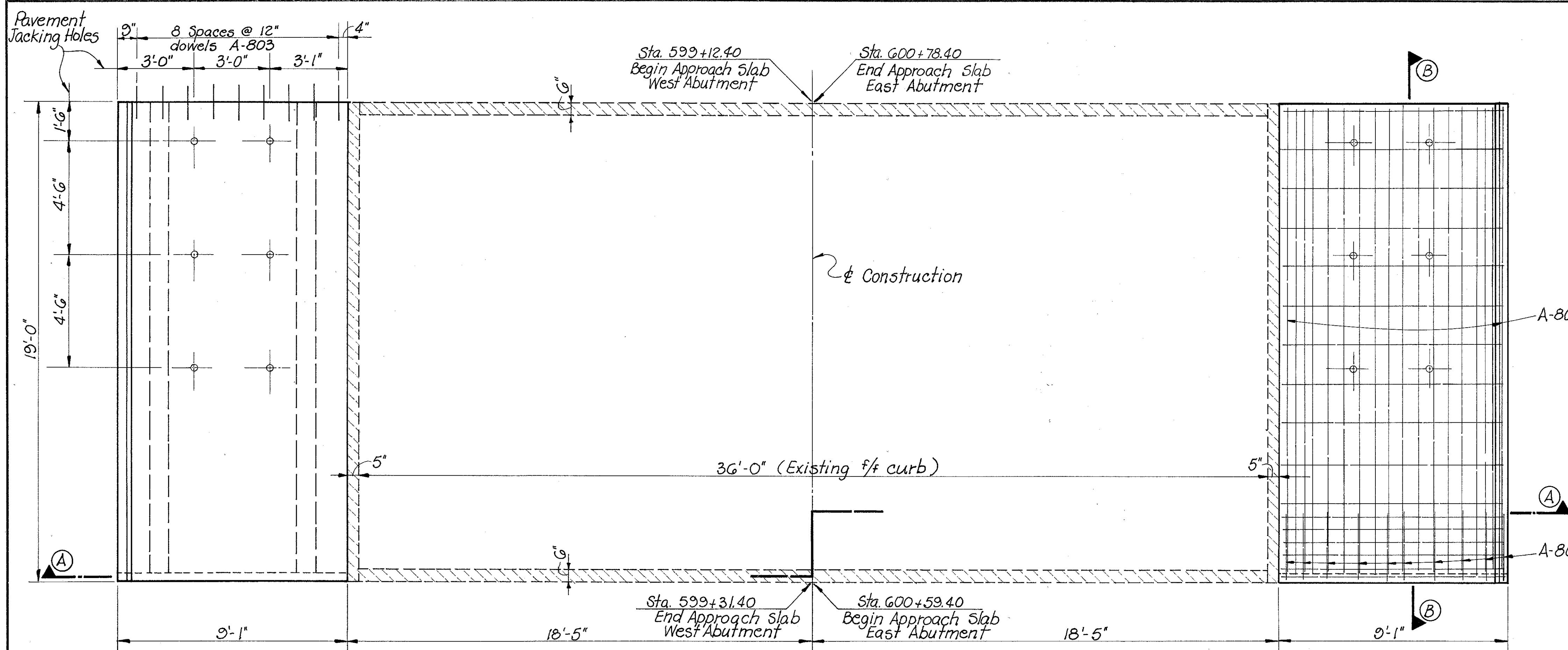
MARK	NO.	LENGTH	SHAPE
RE-201	1	5'-8"	STR.
RE-401	1	6'-3"	STR.
RE-501	2	6'-7"	STR.
RE-601	2	6'-11"	STR.
RE-701	1	7'-3"	STR.
RE-801	1	7'-6"	STR.
RE-901	3	7'-10"	STR.

The Bar size is indicated in the bar mark.
 The first digit where three digits are used, and
 the first two digits where four digits are used
 indicate the bar size number.
 For example, A-601 is a No. 6 size bar.

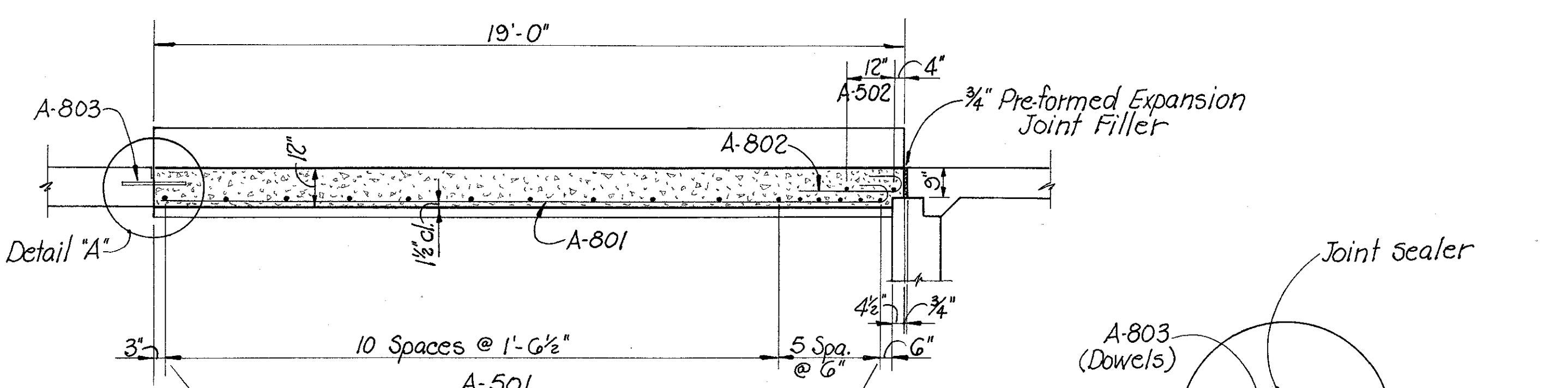
 Reinforcing bars in Concrete Parapet
 and End Post are included with Railing
 for Payment. (Item 517)



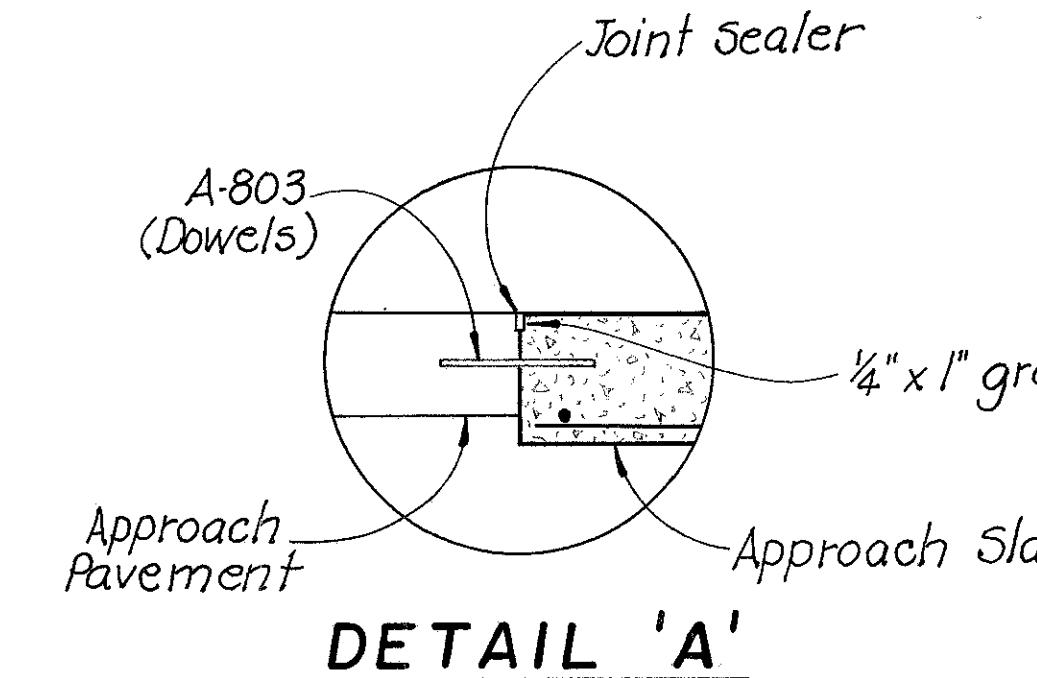
CHARLES L. BARBER & ASSOCIATES INC.	ENGINEERS	TOLEDO, OHIO	10/11
REINFORCEMENT SCHEDULE AND BENDING DIAGRAM			
BRIDGE NO.	LUC-120-1136		
CENTRAL AVE.	OVER OTTAWA RIVER	LUCAS CO.	STA. 599+31.48-600+59.32
DESIGNED	DRAWN	TRACED	CHECKED
E.W.K.	E.W.K.	A.F.M.	K.R.R.
REVIEWED			



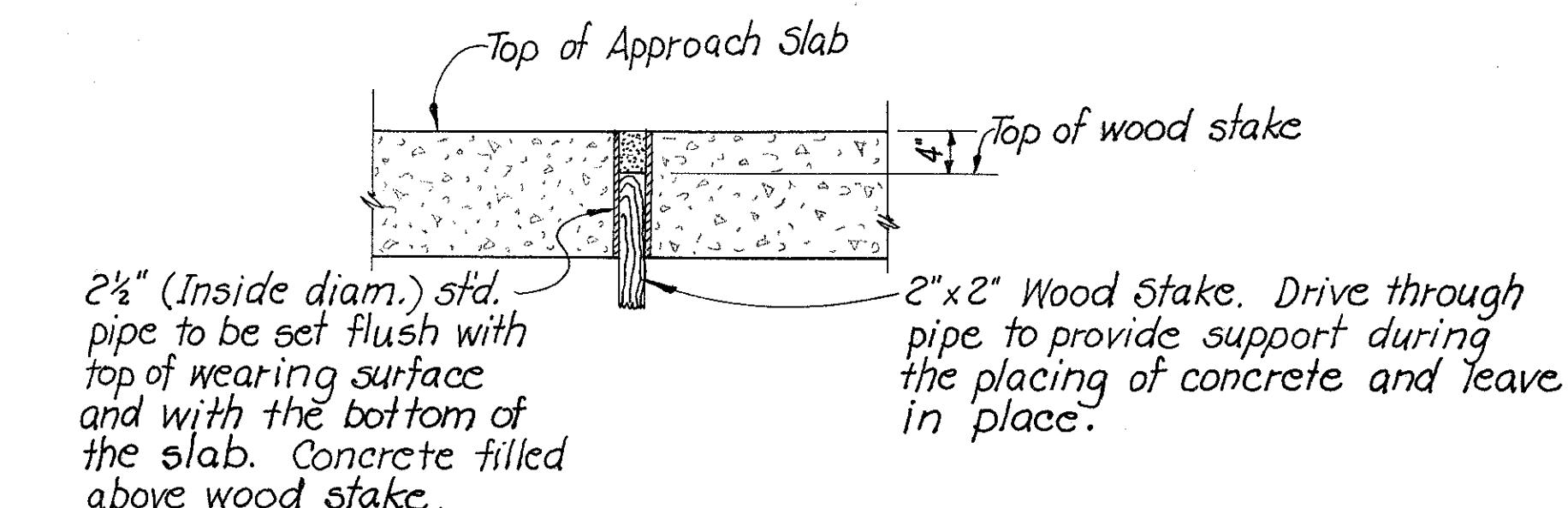
SECTION 'A - A'



SECTION 'B - B'



DETAIL 'A'



DETAIL OF HOLES FOR PAVEMENT JACKING

FED. RD. DIV.	STATE	PROJECT
2	OHIO	LUC-120-10.62

219
253

STATION		SQ. YDS.
ITEM	FROM TO	
611	Reinforced Concrete Approach Slab	599+12.40 59.9 + 31.40 38.4
		600+59.40 600 + 78.40 38.4

(Quantity carried to Roadway General Summary)

REINFORCEMENT SCHEDULE			
MARK	NO	LENGTH	SHAPE
A-801	72	18'-5"	Bent
A-802	40	3'-10"	Bent
A-803	36	1'-6"	Str.
A-501	64	10'-2"	Bent
A-502	8	8'-9"	Str.
A-503	4	18'-8"	Str.

BENDING DIAGRAM		
MARK	Dim. "A"	INCR.
A-801	18'-4"	
A-802	2'-9"	

NOTES:

1. Details shown are for West Approach Slab-Stations 599+12.40 – 599+31.40, and East Approach Slab-Stations 600+59.40 – 600+78.40.
2. Concrete shall be Class "C".
3. Bar size is indicated in the bar mark. The first digit where three digits are used indicates the bar size number. For an example a A-801 is a No 8 size bar.
4. Payment for the construction joint at the Approach Pavement end of the Approach Slab, including dowel bars, is included in the price per Sq. Yd. bid for the Approach Slab.
5. Payment for $\frac{3}{4}$ " Pre-formed Expansion Joint Filler is included in the Bridge Quantities under Item 516.

CHARLES L. BARBER & ASSOCIATES INC.
ENGINEERS
TOLEDO, OHIO

11/11

APPROACH SLABS-EAST & WEST

BRIDGE NO. LUC-120-1136

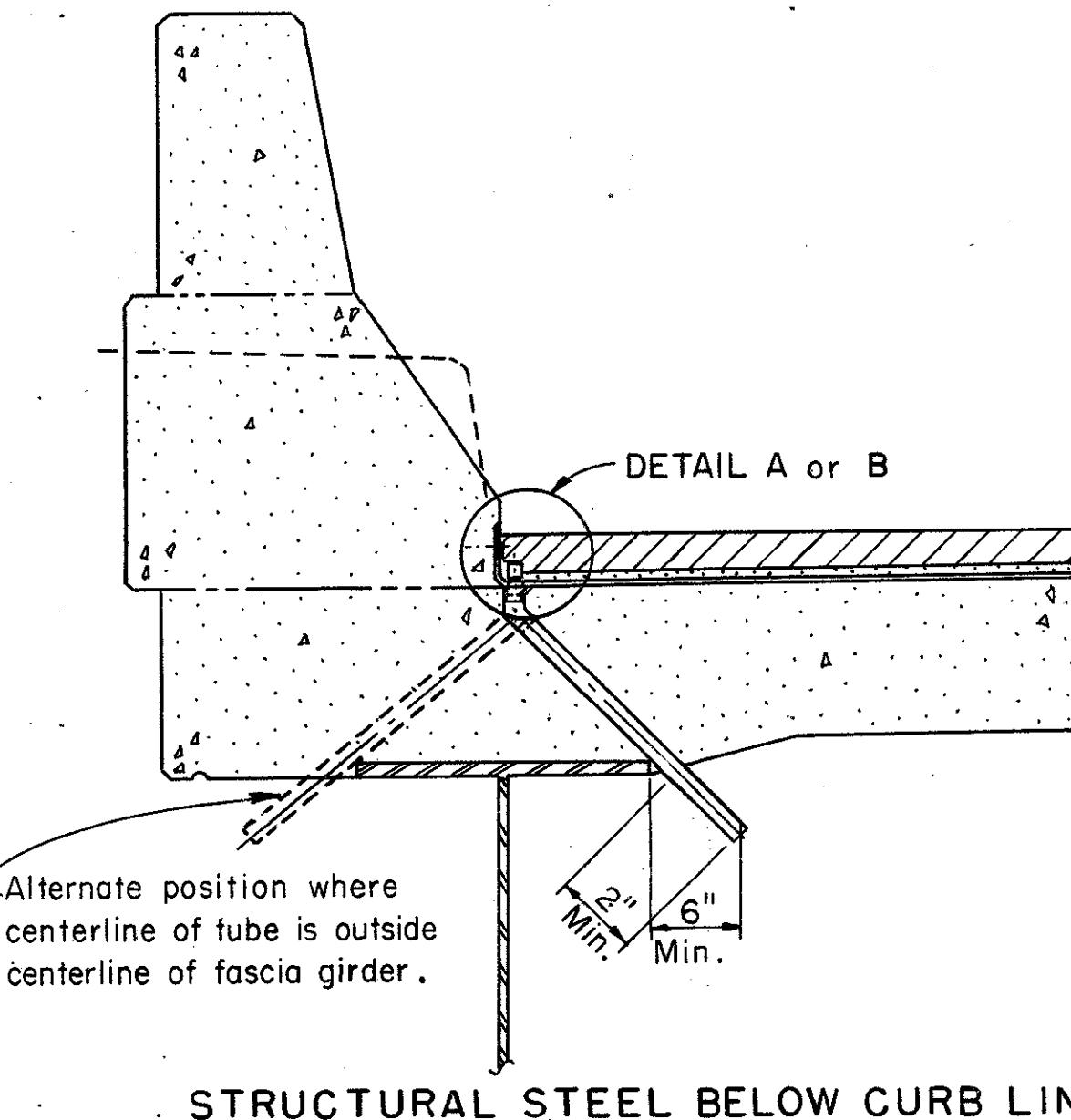
CENTRAL AVE. OVER OTTAWA RIVER

LUCAS CO. STA. 599+31.48-600+59.32

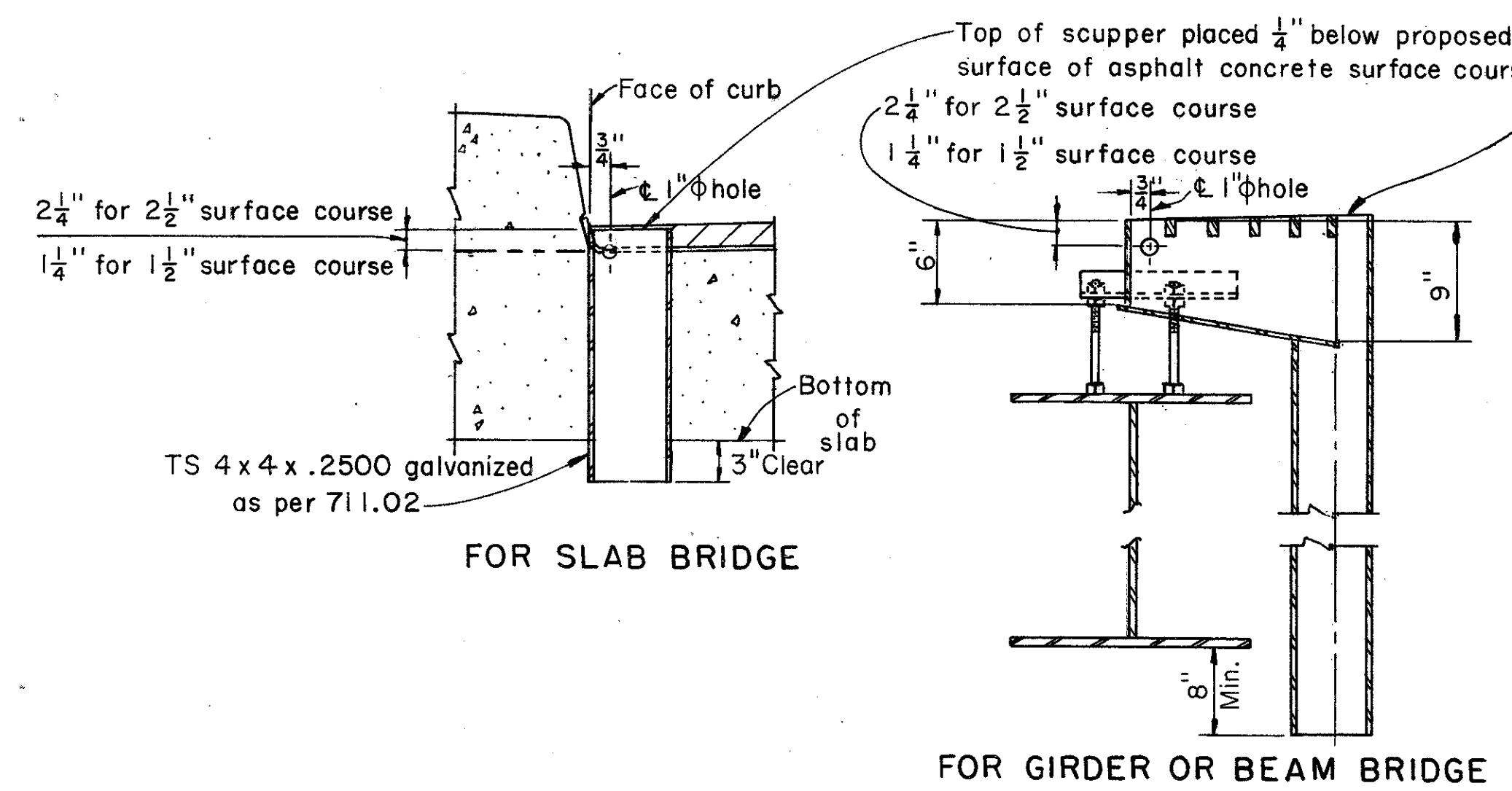
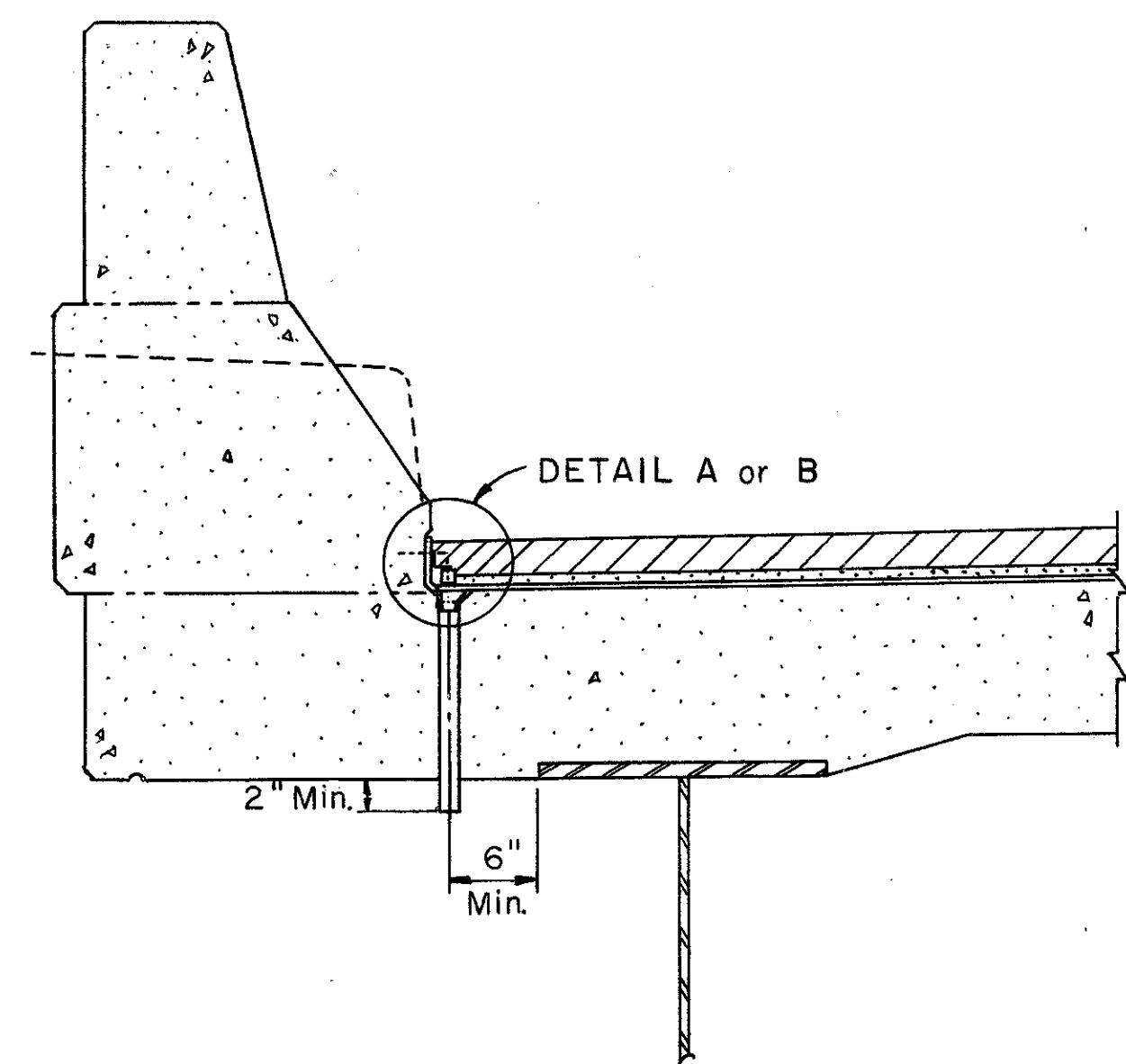
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.W.K.	E.W.K.	A.F.M.	K.R.R.	J.C.P.	8/19/68	

FHWA REGION	STATE	PROJECT	
5	OHIO	LUC-120-10.62	219A 253

LUC-120-10.62



STRUCTURAL STEEL BELOW CURB LINE NO STRUCTURAL STEEL BELOW CURB LINE
DRAINAGE TUBE ARRANGEMENT

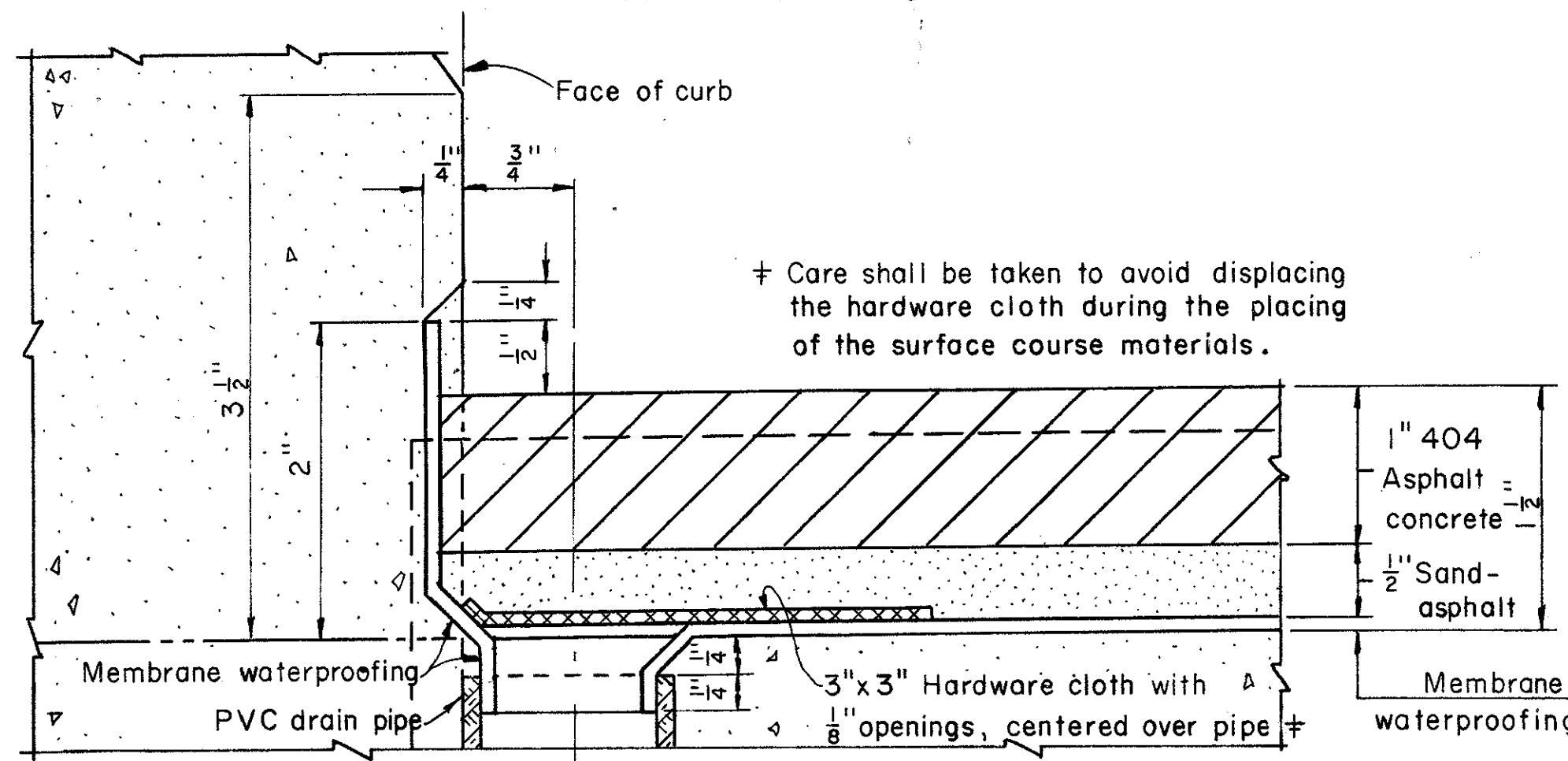


FOR SLAB BRIDGE

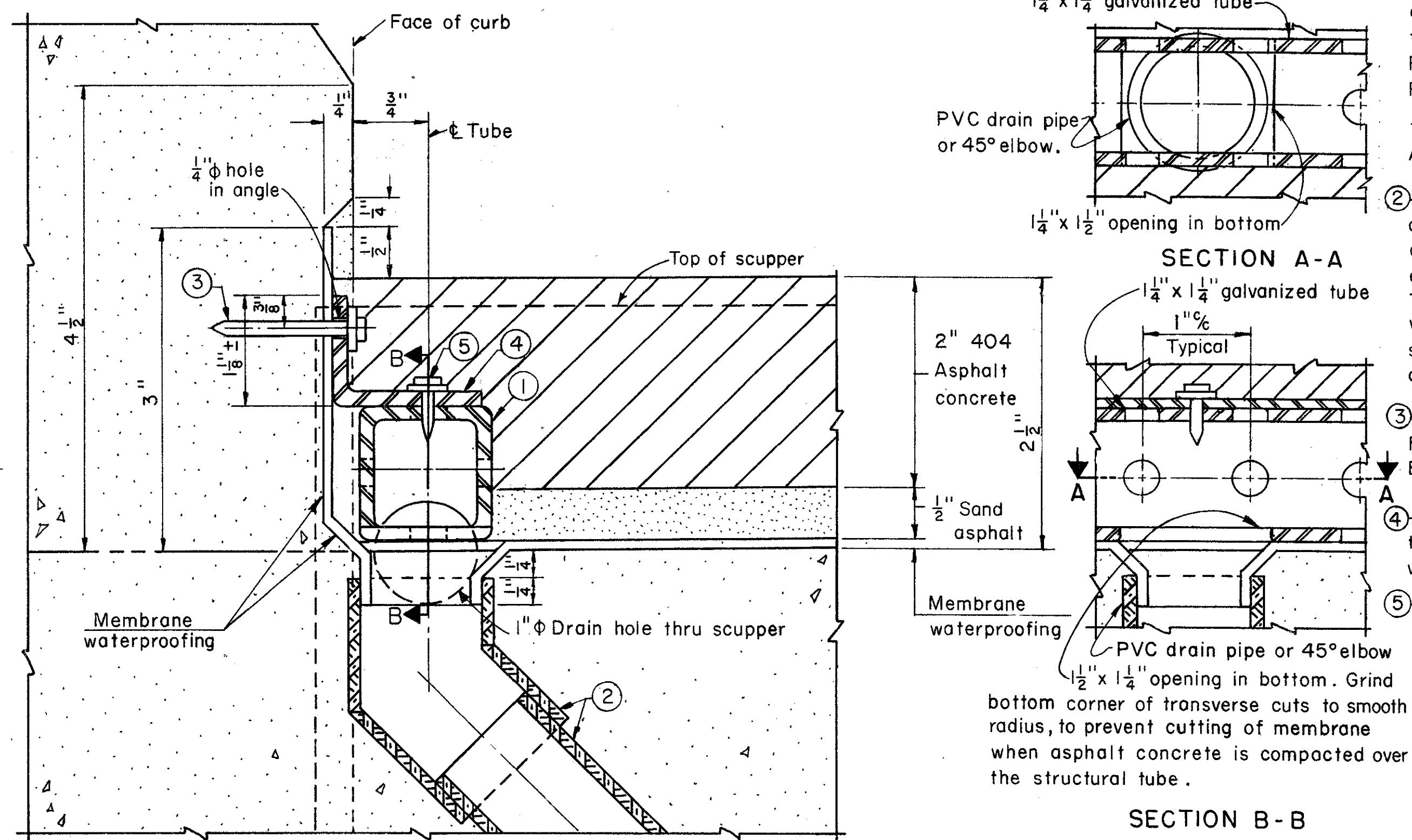
FOR GIRDER OR BEAM BRIDGE

SCUPPER DETAILS

(Scupper details conform to SD-I-69 except as noted)



SUBDRAINAGE FOR 1 1/2" SURFACE COURSE



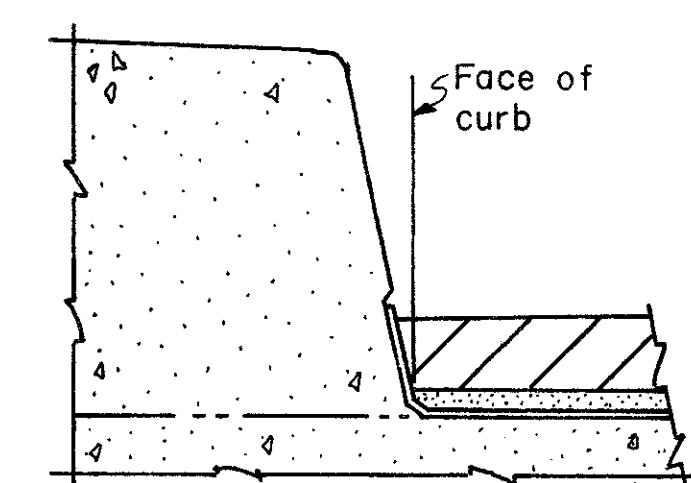
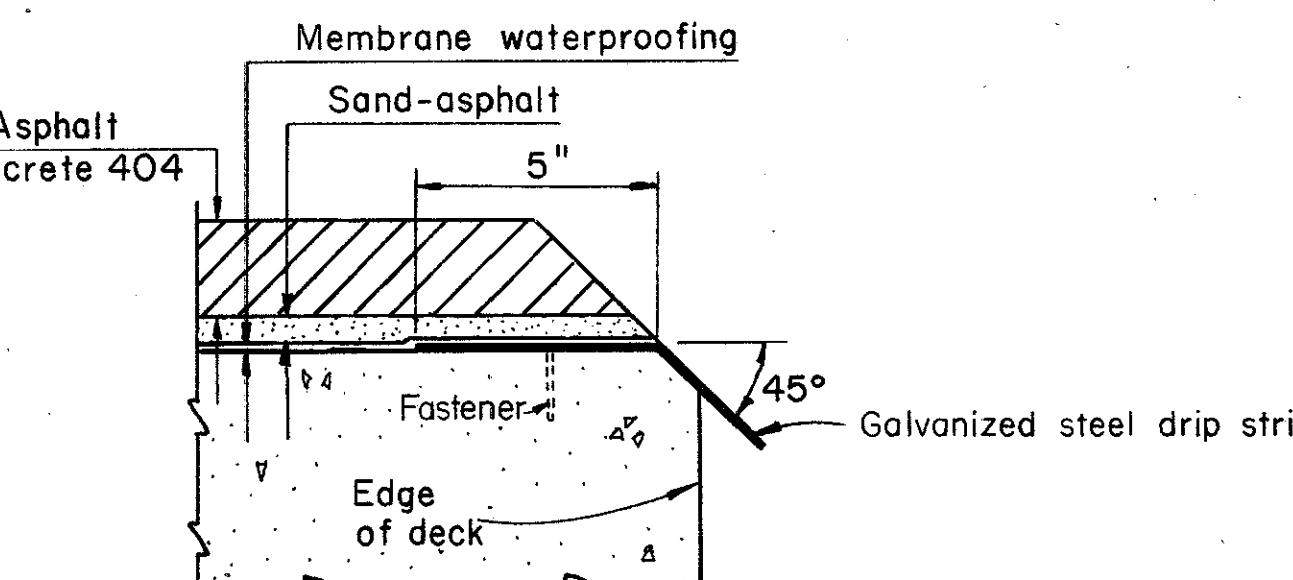
SECTION A-A

SECTION B-B

SUBDRAINAGE FOR 2 1/2" SURFACE COURSE

DRIP STRIP
BRIDGES WITHOUT CURBS

Galvanized Steel Drip Strip: Prior to applying deck membrane waterproofing a bent galvanized steel drip strip, 8" x 0.105" shall be installed along the edges of the deck as shown. The strips shall be fastened at 3'-0" maximum with power driven pins or #10 galvanized expansion screws, subject to the approval of the Engineer. The strips shall be placed the full length of the deck. Where splices are required a 3" (min.) lap shall be used, with a fastener through the lap. Steel shall meet the requirements of ASTM A568 and galvanizing shall be in accordance with 711.02. Payment shall be at the contract price bid for Item Special, Sq. Ft., Galvanized steel drip strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.



SHAPE OF SIDEWALK CURB

SUBDRAINAGE FOR ASPHALT CONCRETE SURFACE COURSE
The subdrainage system shall consist of PVC pipes and fittings and structural tubes as specified on this sheet. The pipes shall be spaced at approximately six foot intervals with a pipe placed within one foot of each expansion joint, except that they shall be relocated or extended as necessary for any discharge to clear bridge seats, structural members such as beams, diaphragms and crossbracing by at least six (6) inches. Pipes shall not be placed over or within four (4) feet of a pavement or sidewalk, within ten (10) feet of the centerline of a railroad track or along curb lines where the deck configuration does not permit water to accumulate.

Where the plans specify a two and one half (2 1/2) inch surface course, the subdrainage shall be as shown on Detail A. The structural tube may be placed in any convenient lengths using butt joints. The price bid per linear foot for this drainage system shall include all PVC pipe and fittings, structural tubes, and all labor necessary to complete the item. The quantity will be the actual length of structural tube required. Payment will be made at the contract price for: Item 518, Lin. Ft., Subdrainage for wearing course, as per plan.

Where the plans specify a one and one half (1 1/2) inch surface course, the subdrainage shall be as shown in Detail B. The price bid for each drain shall include the PVC pipe and fitting, the hardware cloth and all necessary labor to complete the item. Payment will be made at the contract price for: Item 518, Ea., Subdrainage for wearing course, as per plan.

If no sand-asphalt is specified, the 404 shall be either 2 1/2" placed in two 1 1/4" courses or 1 1/2" placed in one course.

① 1 1/4" x 1 1/4" galvanized, perforated, structural tube with 1/2" ± 1/4" holes 1" on centers on all four sides as shown. Cut 1 1/2" x 1 1/4" opening in bottom, centered over each PVC drain pipe. The steel for the structural tube shall conform to the following:
PREGALVANIZED, ASTM A446, Grade A Steel, Galvanizing as per ASTM A525.
POSTGALVANIZED, ASTM A569 or A366, Galvanizing as per 711.02.

The minimum steel thickness shall be 0.105". Any damaged galvanizing shall be repaired as per AASHTO M36.

② 1" PVC DRAIN PIPE AND 45° ELBOW, SCHEDULE 40. Position accurately to match 1 1/4" x 1 1/4" openings in perforated tube. Place membrane to lap into the pipe, and seal the hole around the lip of the pipe. (This operation is important to the serviceability of the membrane.) The drain pipe and elbow shall comply with the dimensions and markings of ASTM D1785 and ASTM D2466, Type I and II respectively. The elbow shall be used only where structural steel is below curb line. Where the elbow is not adequate to provide clearance between the PVC pipe and the structural steel, the elbow shall be contorted as required and cut on a line 1/4" below and parallel with the deck surface. The solvent cement for the pipe and fittings shall conform to ASTM D2564.

③ 1/2" x 5/32" x 1/4" flat head drive pin and washer. Fastening of the structural tube by methods other than shown shall be subject to approval by the Engineer. (Driving pins into bridge deck is prohibited.)

④ 1 1/2" x 1 1/2" x 1/8", 3" long, clipped and galvanized, or bent galvanized steel plate 2 1/2" x 3" x 0.105" thick. Attach to curb at approximately 10'-0" % except near joints, where the angle shall be placed within 6' of the end of each tube section.

⑤ 1/2" x 1/8" x 1/4" flat head drive pin and washer driven thru angle and tube.

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

DECK DRAINAGE DETAILS
FOR BRIDGES WITH ASPHALT CONCRETE
SURFACE COURSE
BRIDGE NO. LUC-120-1136
CENTRAL AVE. OVER OTTAWA RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DLM	GJ		CPD	WJJ	7-27-73	