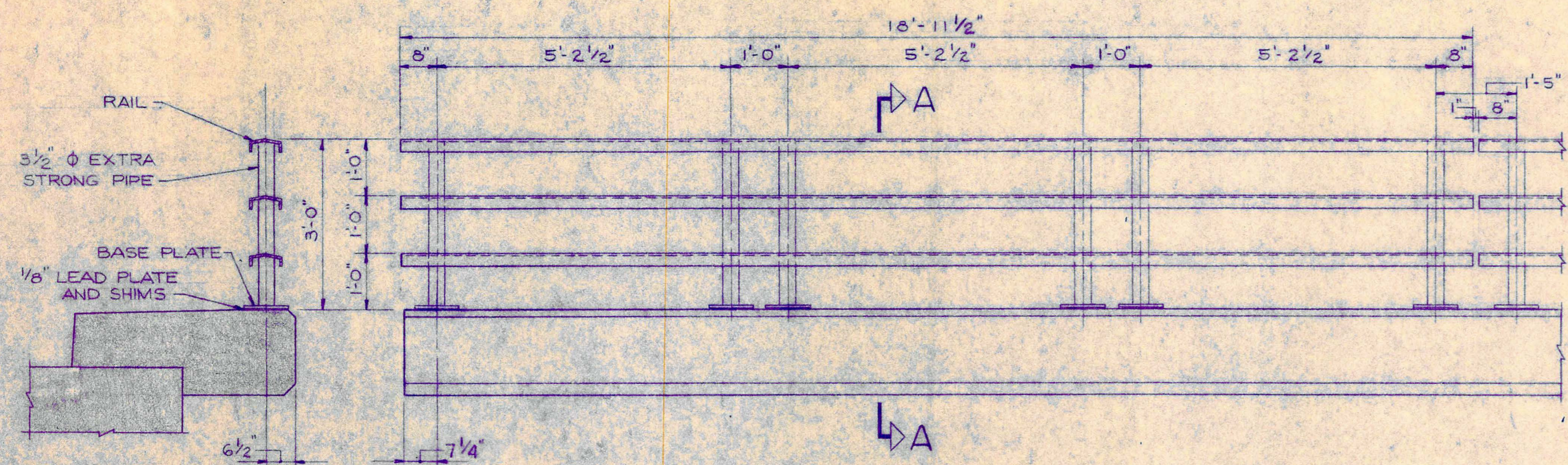


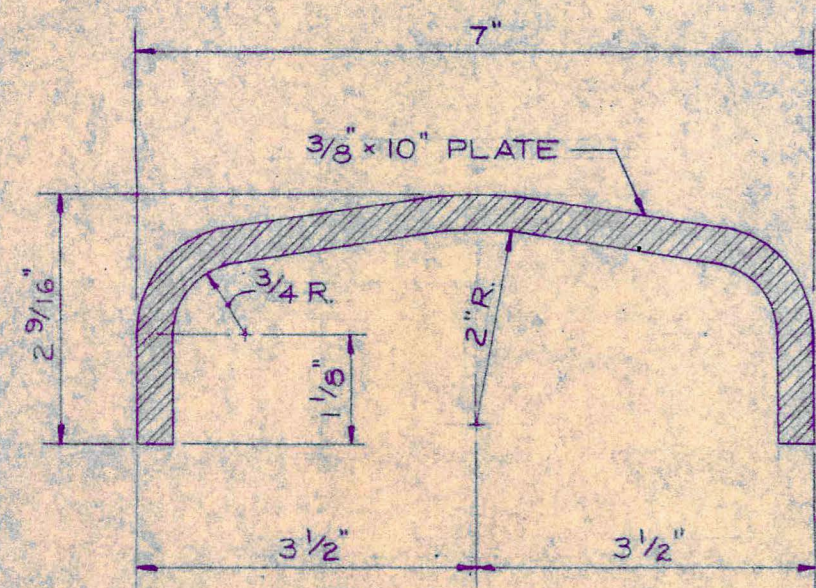
ROUTE	SECTION	SHEET	SHEETS
OAK SPRING ROAD	44-11-2B-CA	17	19

QUANTITIES	
STEEL HANDRAIL	342 L.F.

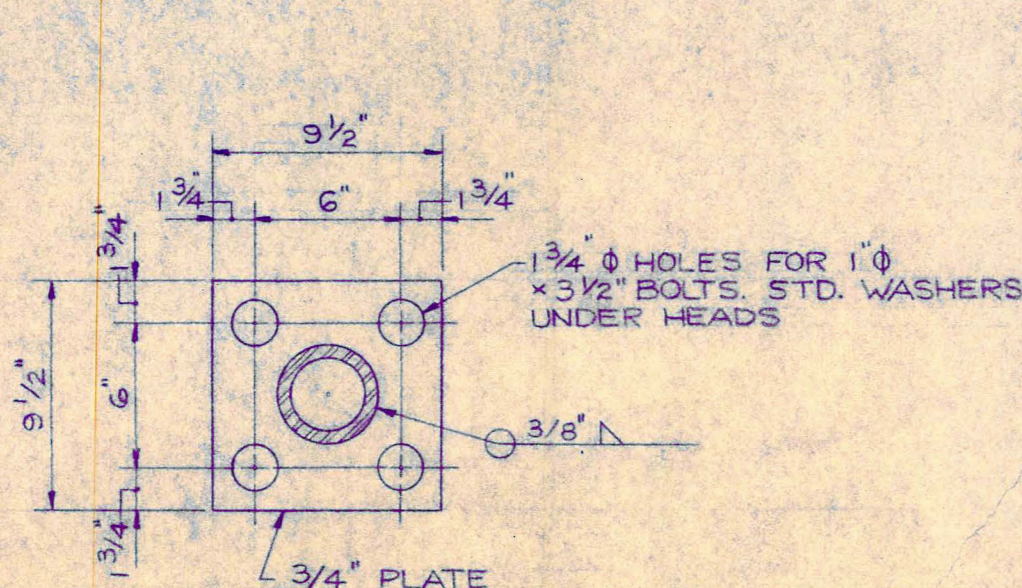


SECTION A-A
SCALE: 1/2" = 1'-0"

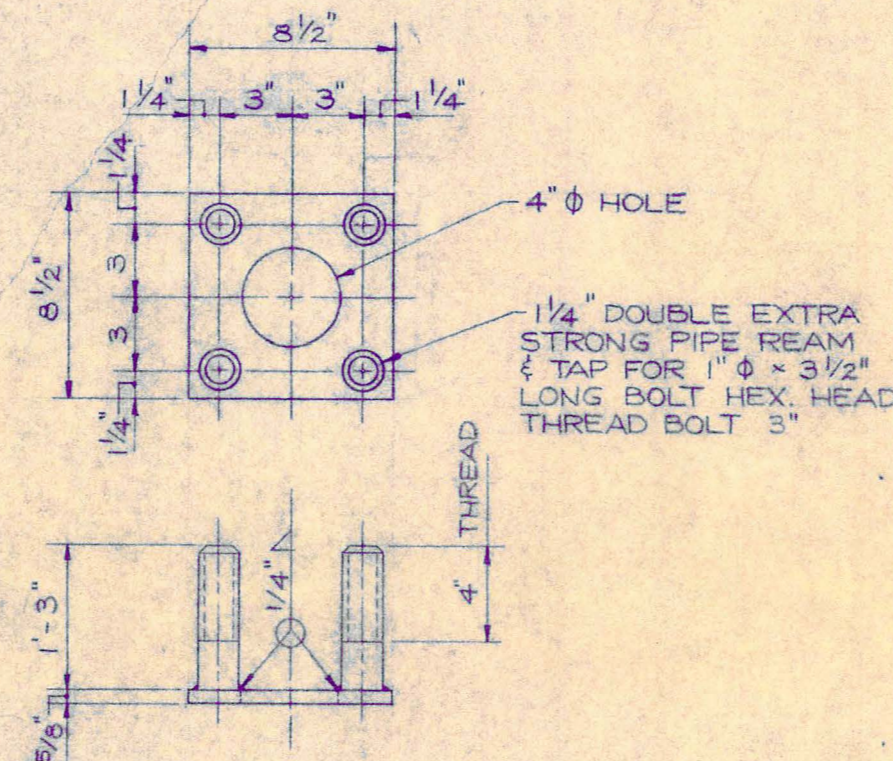
ELEVATION-TYPICAL HANDRAIL UNIT
SCALE: 1/2" = 1'-0" 18-TUS



RAIL DETAIL
3 PER UNIT

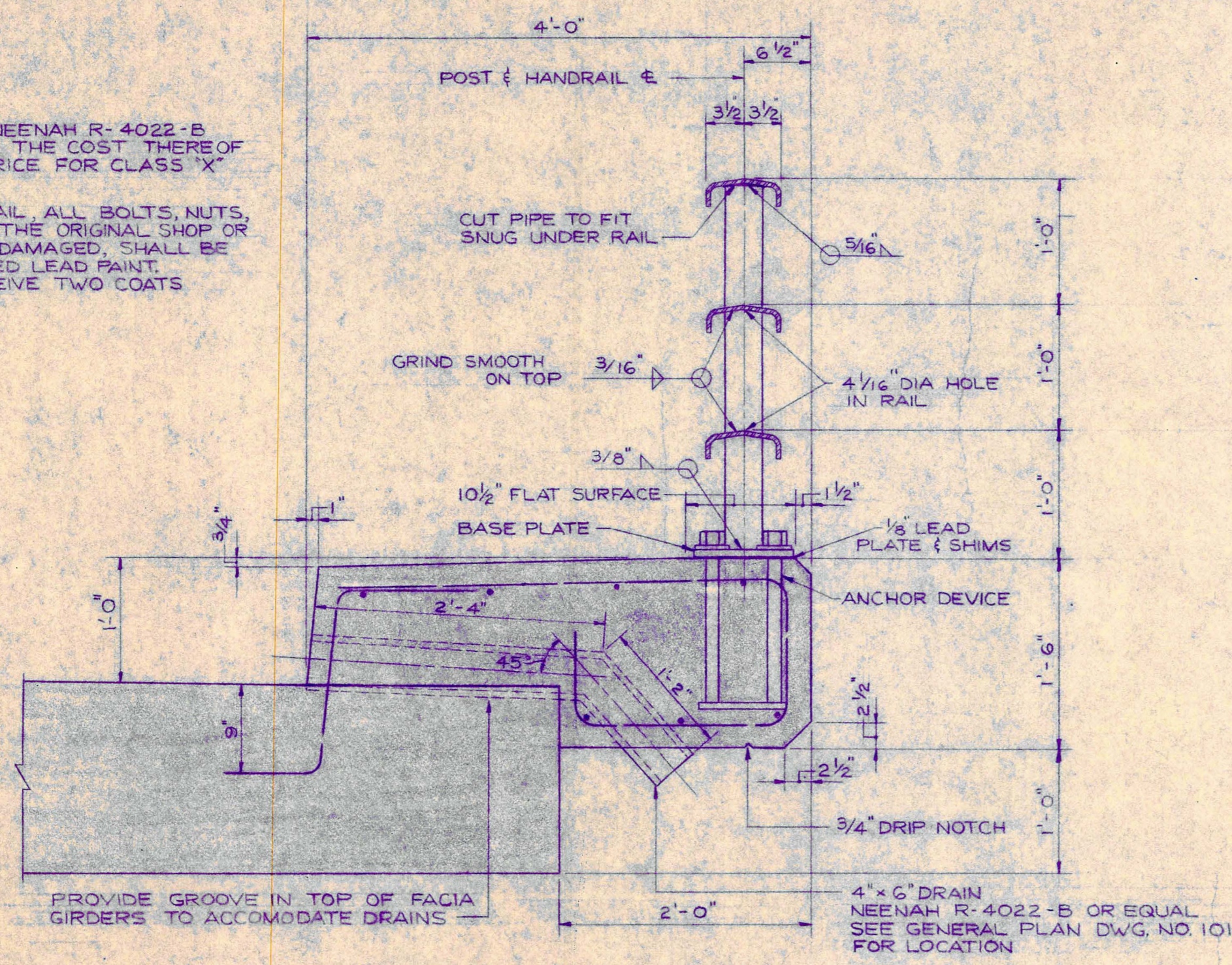


BASE PLATE
6 PER UNIT

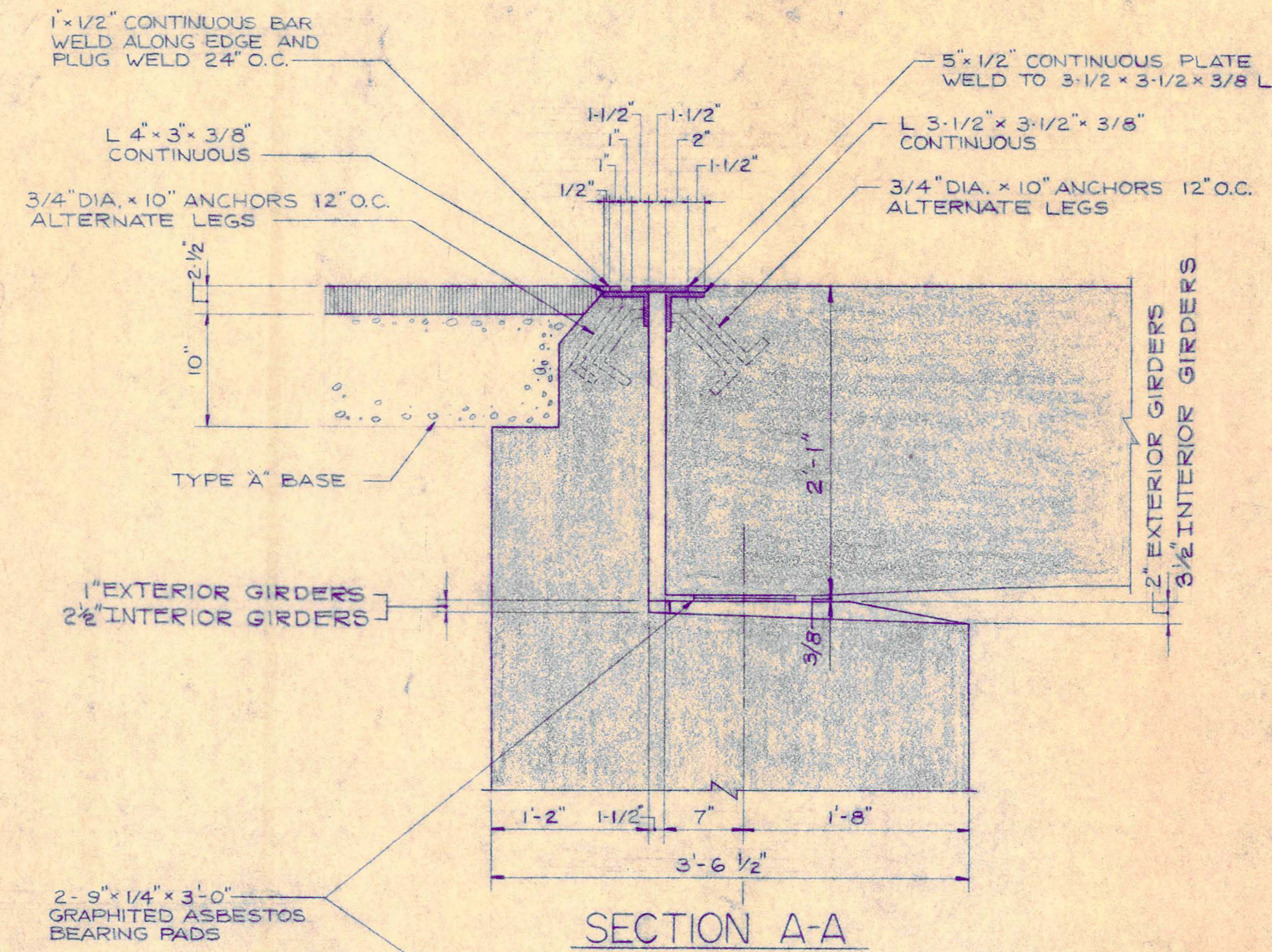


ANCHOR DEVICE
6 PER UNIT

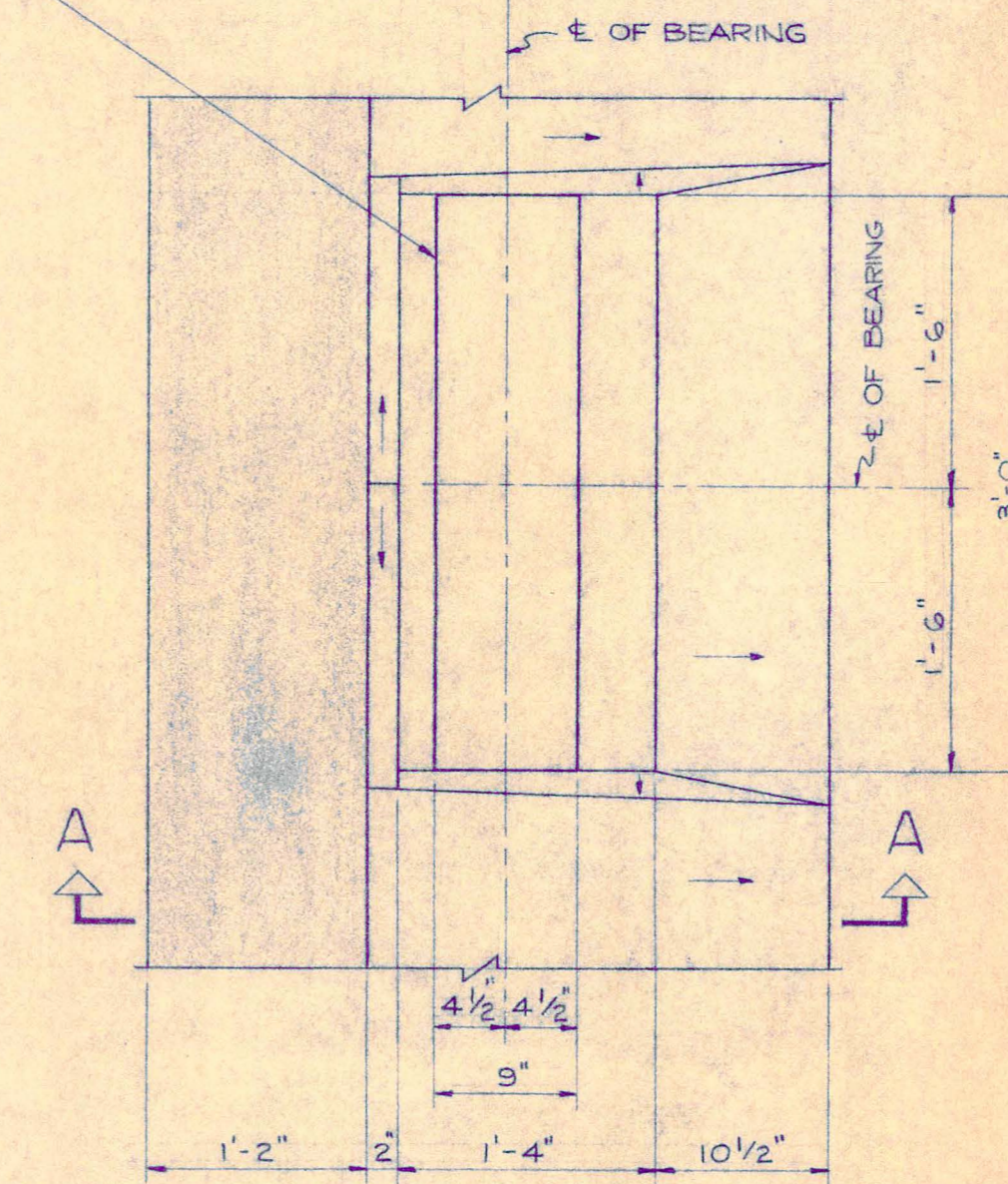
NOTES:
CAST IRON BRIDGE DRAINS TO BE NEENAH R-4022-B OR EQUAL, DIMENSIONED AS SHOWN. THE COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICE FOR CLASS 'X' CONCRETE.
AFTER ERECTION OF STEEL HANDRAIL, ALL BOLTS, NUTS, WASHERS, AND ALL AREAS WHERE THE ORIGINAL SHOP OR SPOT PAINT HAS BEEN REMOVED OR DAMAGED, SHALL BE SPOT PAINTED WITH ONE COAT OF RED LEAD PAINT. THE ENTIRE RAIL SHALL THEN RECEIVE TWO COATS OF ALUMINUM PAINT.



TYPICAL SECTION THRU SIDEWALK AND HANDRAIL
SCALE: 1" = 1'-0"

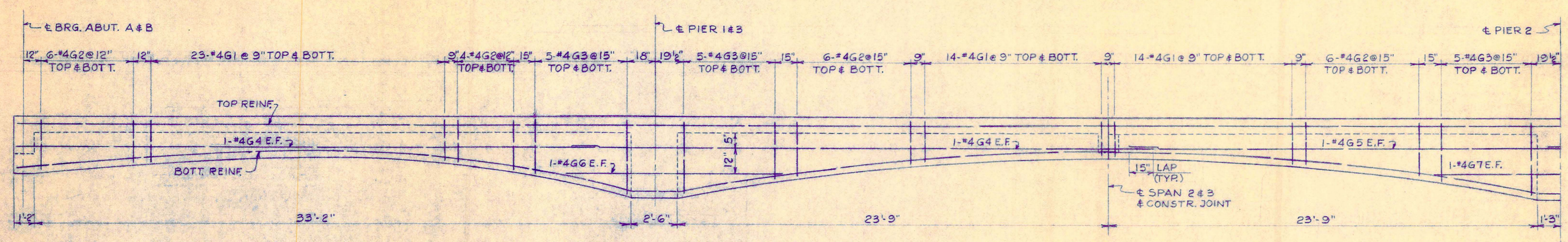


SECTION A-A

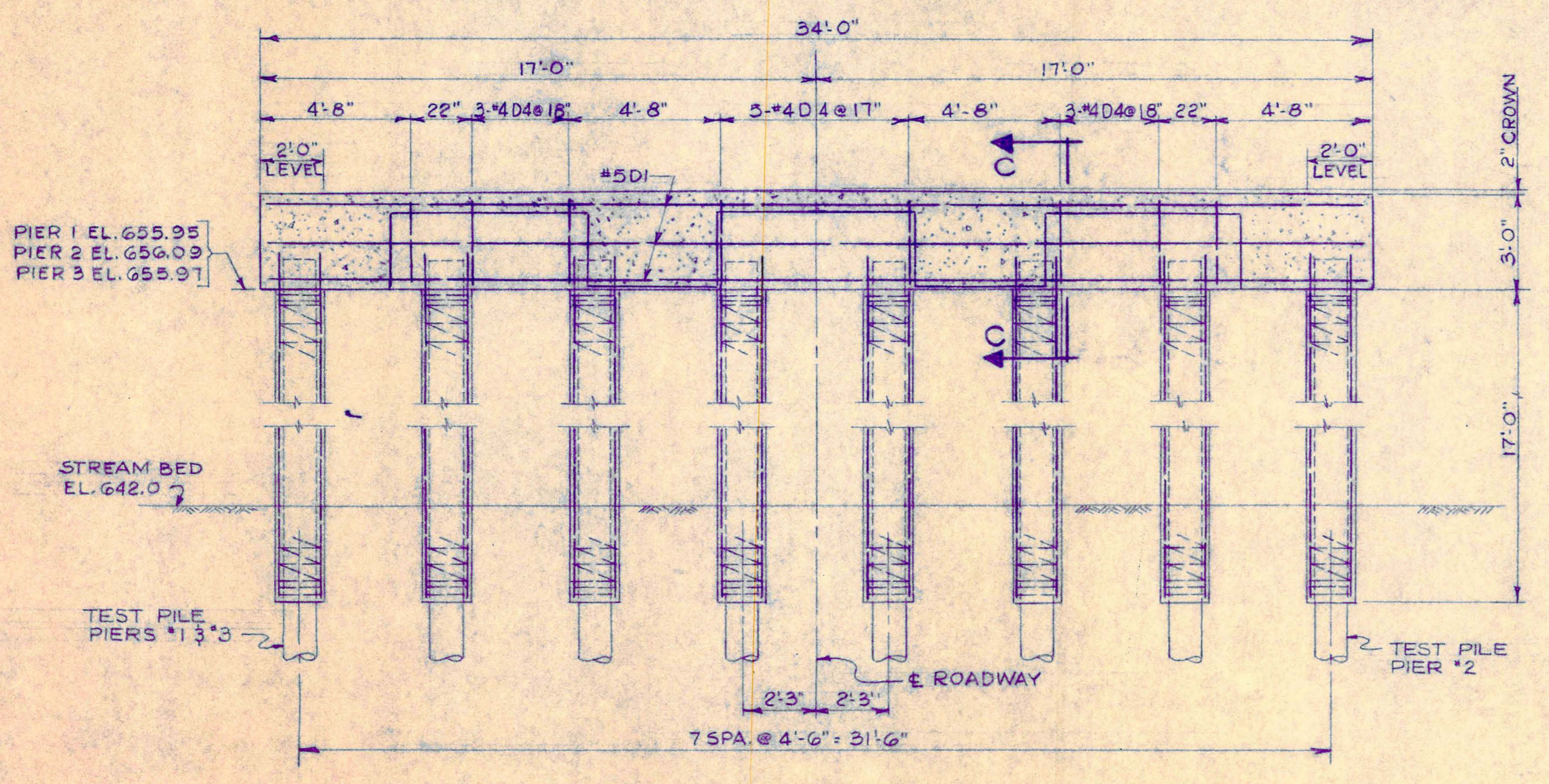


TYPICAL BEARING DETAILS
SCALE: 1" = 1'-0"

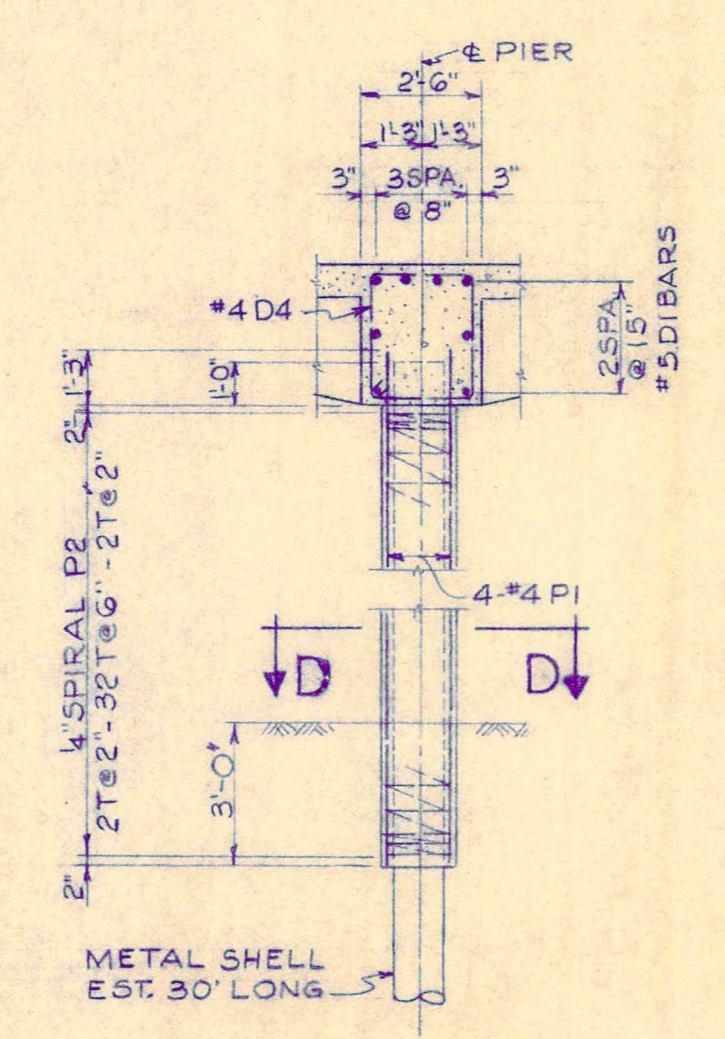
REVISIONS					OAK SPRING ROAD BRIDGE		
NO	DATE	ITEM	BY	APP	LAKE COUNTY HIGHWAY DEPARTMENT SECTION 44-11-2B-CA		
					DECK, SIDEWALK AND HANDRAIL DETAILS		
					DESIGN J. L. F.	H.F. SOMMERSCHIED	DATE
					DRAWN R. A.	CONSULTING ENGINEER	JOB NO 65-11
					CHECKED	1725 NORTH LEWIS AVE WAUKEGAN, ILLINOIS	DRAWING NO 106
					APPROVED	711 DEVON AVENUE PARK RIDGE, ILLINOIS	



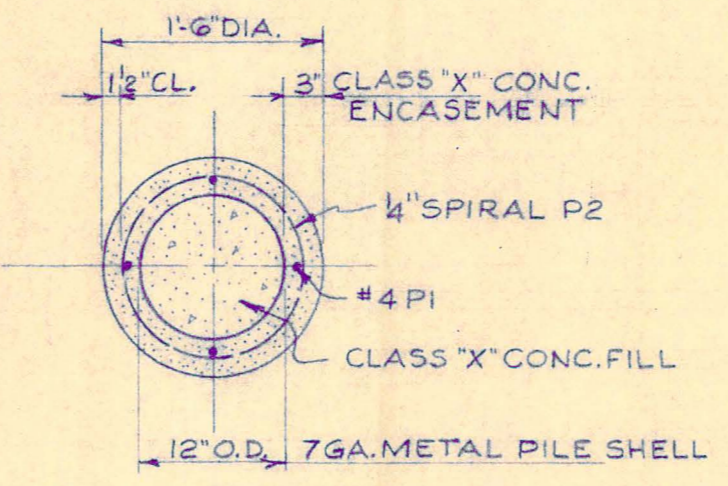
HALF GIRDER ELEVATION
SCALE: 1/4"=1'-0" HORIZ.; 3/8"=1'-0" VERT.



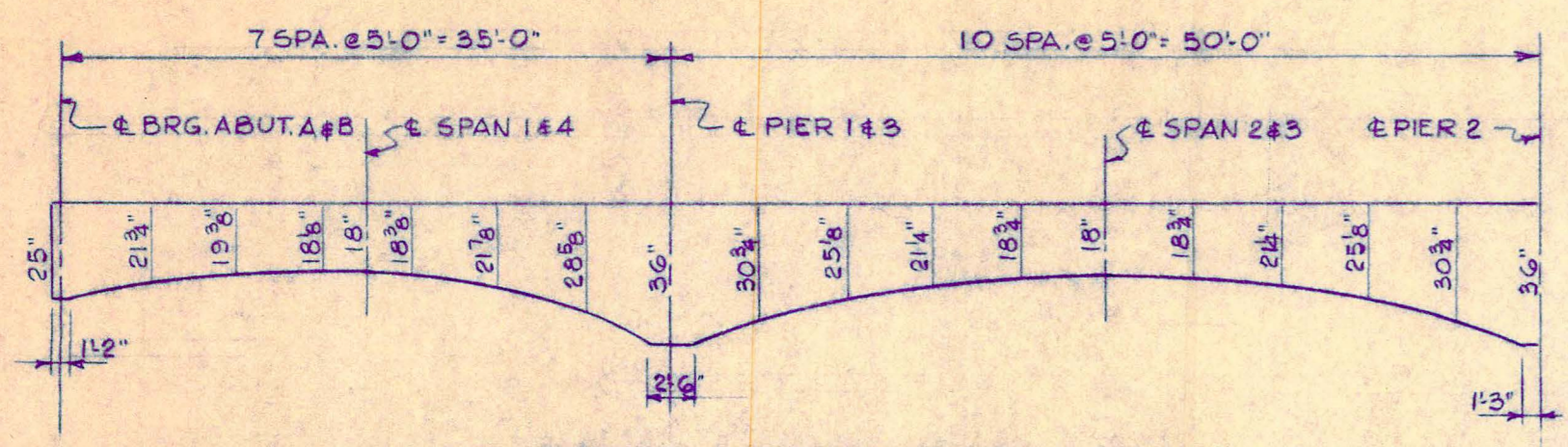
ELEVATION - PIERS 1, 2 & 3
LOOKING EAST
SCALE: 1/4"=1'-0"



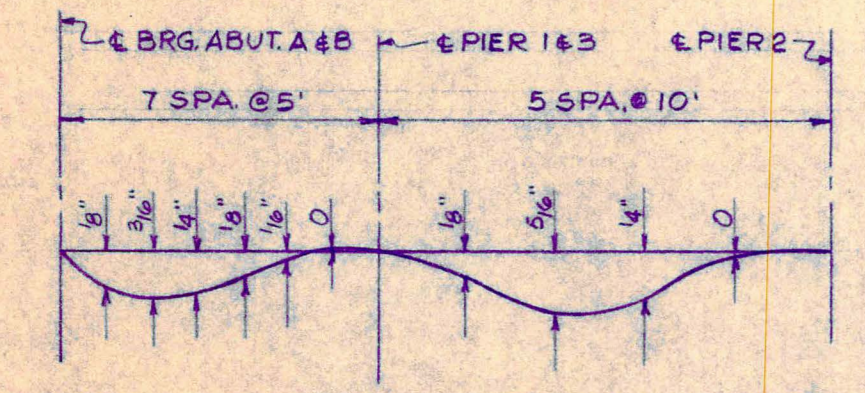
SECTION C-C
SCALE: 1/4"=1'-0"



SECTION D-D
SCALE: 1/4"=1'-0"



GIRDER GEOMETRICS
NOT TO SCALE



D. L. DEFLECTION DIAGRAM
NOT TO SCALE

NOTE:
CONTRACTOR SHALL ALLOW FOR SETTLEMENT OF FORMS, SHRINKAGE OF CONCRETE AND DEAD LOAD DEFLECTION WHEN FORMING THE GIRDERS AND FINISHING THE BRIDGE DECK TO FINAL GRADE.

BILL OF MATERIAL

MARK	NO.	SIZE	LENGTH	TYPE	MARK	NO.	SIZE	LENGTH	TYPE
D1	346	#5	33'-8"	STRAIGHT	G35	8	#11	21'-6"	STRAIGHT
D2	16	#6	33'-9"	"	G36	8	#11	12'-6"	"
D3	156	#5	32'-0"	"	G37	8	#8	13'-0"	"
D5	156	#5	24'-9"	"	G38	8	#11	20'-6"	"
G4	32	#4	32'-0"	"	G39	8	#11	22'-0"	"
G5	16	#4	24'-6"	"	G40	32	#11	45'-0"	"
G6	16	#4	12'-0"	"	G41	8	#11	47'-6"	"
G7	8	#4	14'-0"	"	G42	20	#11	18'-6"	"
G8	12	#11	34'-0"	"	S1	34	#5	23'-3"	"
G9	4	#11	26'-0"	"	P1	96	#4	18'-1"	"
G10	4	#11	14'-0"	"					
G11	12	#11	20'-0"	"	D4	39	#4	10'-4"	BENT
G12	8	#11	44'-0"	"	D6	108	#4	4'-0"	"
G13	20	#11	24'-0"	"	G1	816	#4	6'-3"	"
G14	8	#11	41'-6"	"	G2	352	#4	6'-9"	"
G15	8	#11	21'-0"	"	G3	240	#4	7'-6"	"
G16	40	#11	33'-0"	"	G29	40	#11	10'-1"	"
G17	16	#11	28'-0"	"	G32	20	#11	10'-1"	"
G18	16	#11	19'-0"	"	S2	344	#5	7'-2"	"
G19	8	#11	12'-0"	"	S3	344	#5	3'-9"	"
G20	4	#11	16'-0"	"					
G21	4	#11	32'-0"	"					
G22	8	#11	41'-0"	"					
G23	8	#11	38'-6"	"					
G24	8	#11	48'-0"	"					
G25	16	#11	25'-0"	"					
G26	8	#11	39'-0"	"					
G27	24	#11	24'-6"	"					
G28	8	#11	18'-0"	"					
G30	4	#8	8'-0"	"					
G31	20	#11	49'-0"	"					
G34	8	#11	16'-6"	"					

QUANTITIES

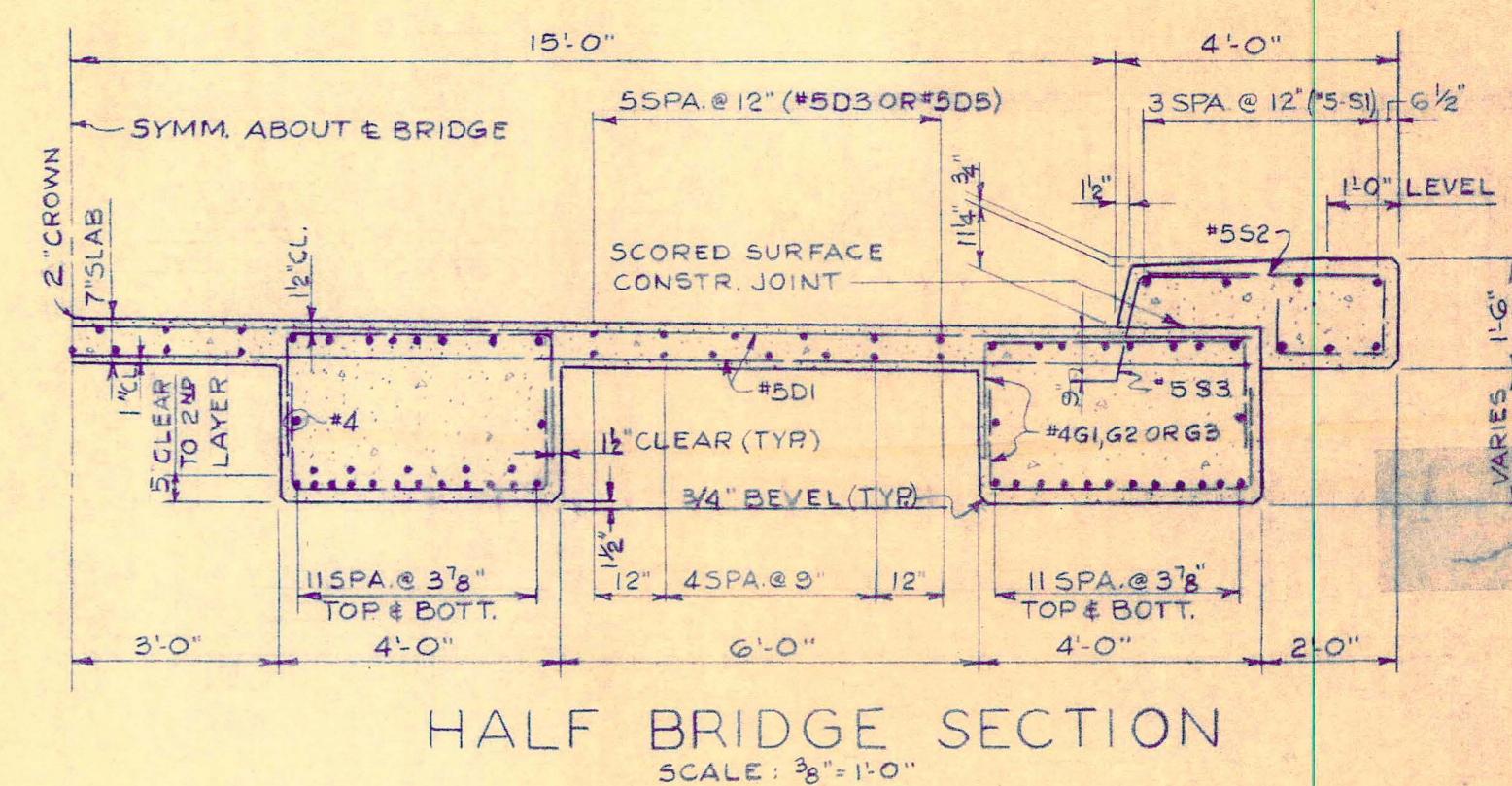
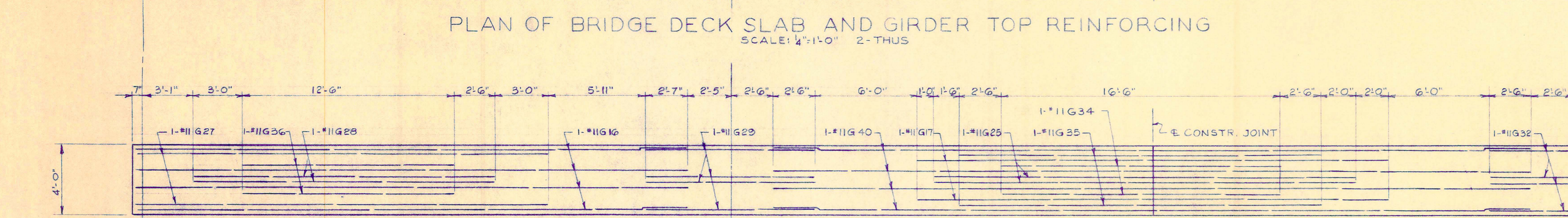
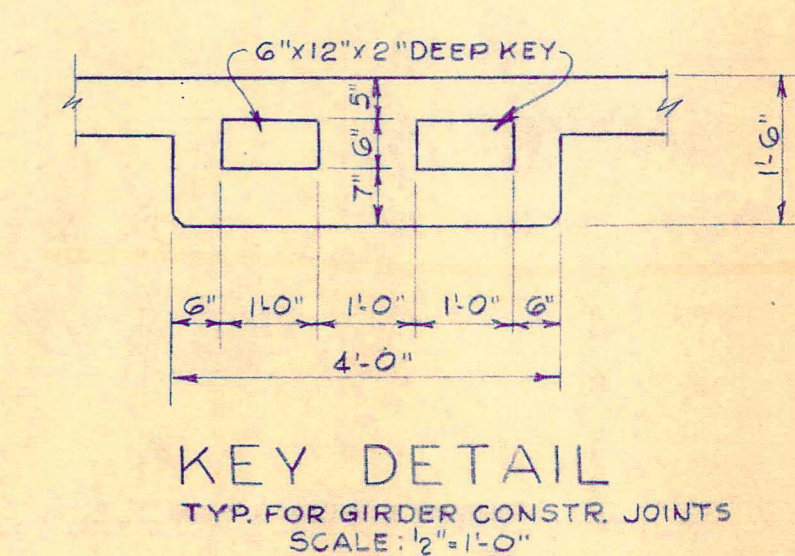
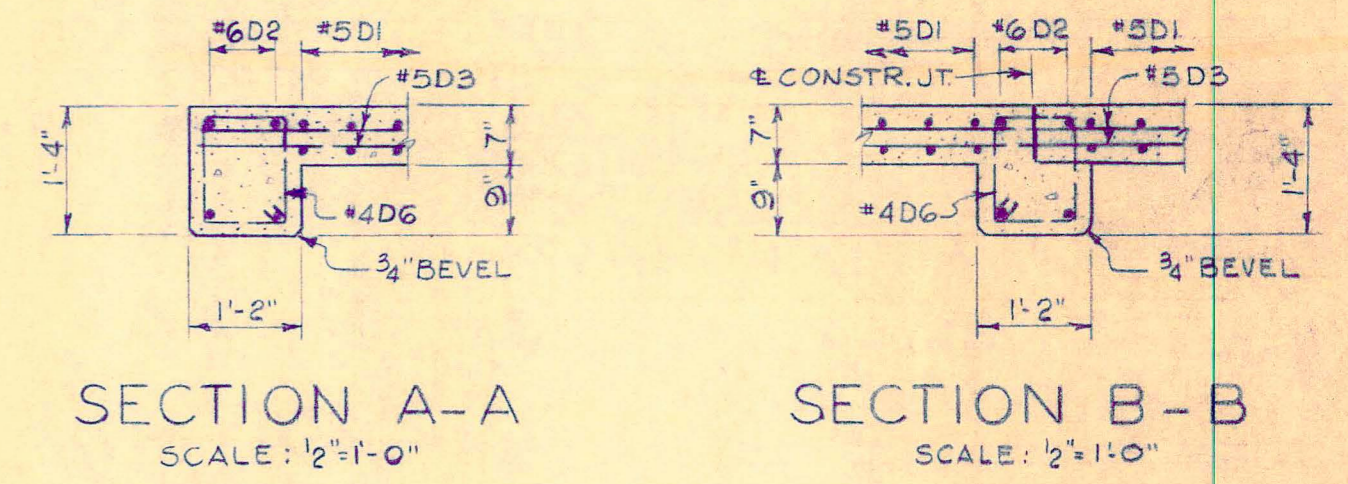
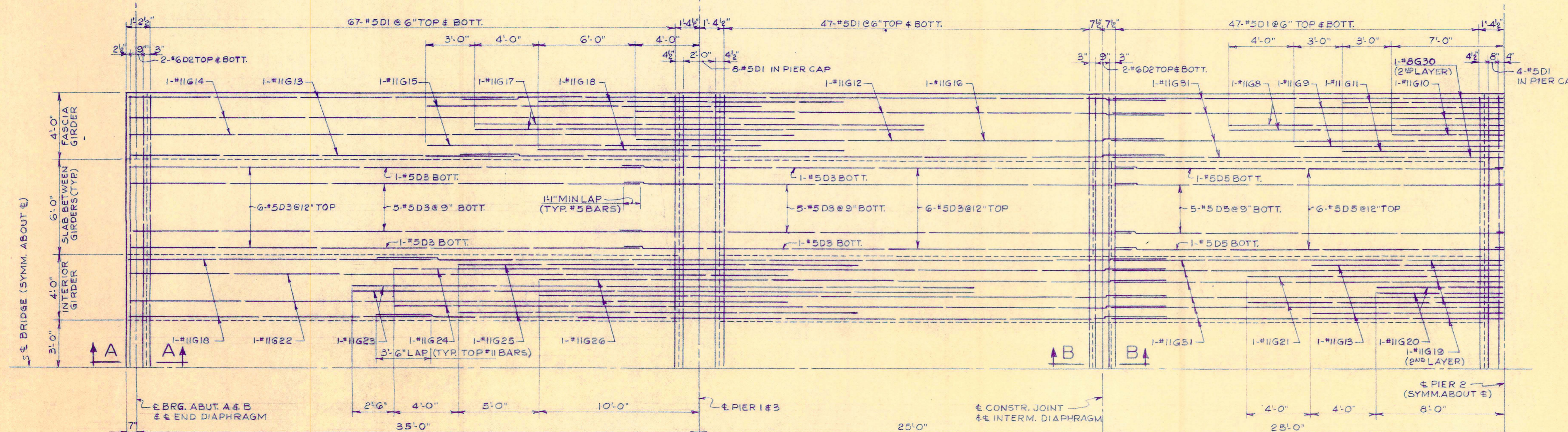
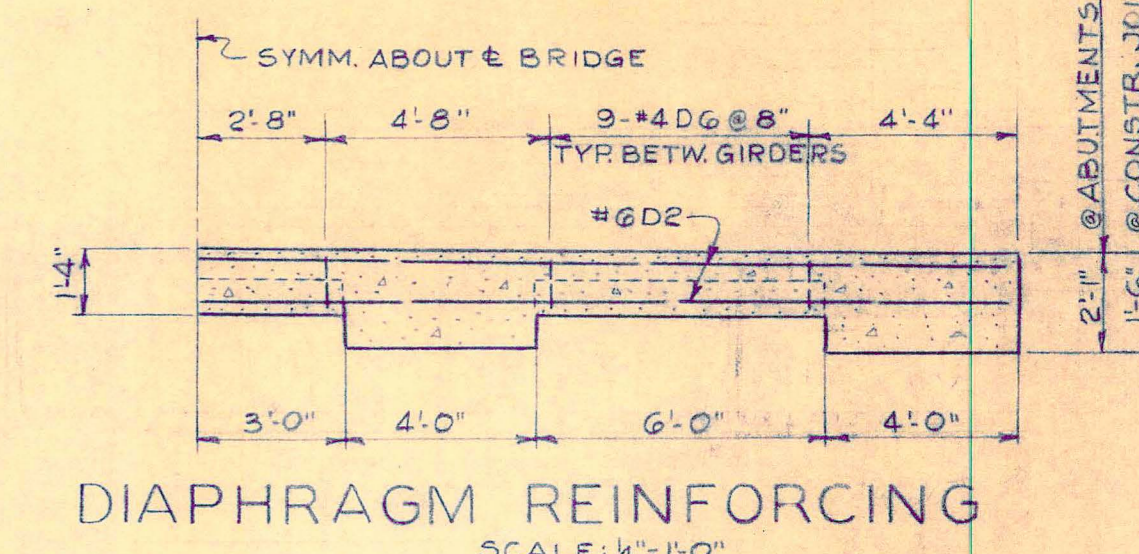
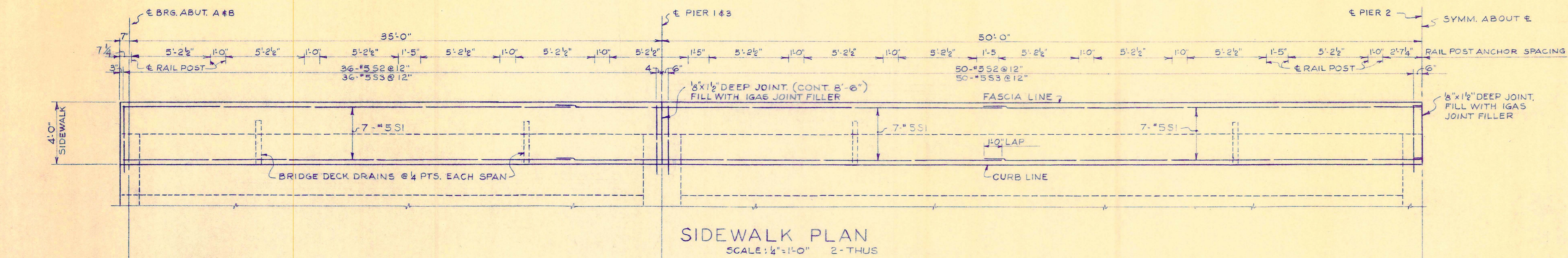
G25	16	#11	25'-0"	"	CLASS 'X' CONCRETE	343.1 CU. YDS.
G26	8	#11	39'-0"	"	REINFORCEMENT	92,733.23 LBS.
G27	24	#11	24'-6"	"	FURNISHING METAL PILE SHELLS 12" DIA.	630 L.F.
G28	8	#11	18'-0"	"	DRIVING AND FILLING METAL SHELLS 12" DIA.	630 L.F.
G30	4	#8	8'-0"	"	TEST PILES	3 EA.
G31	20	#11	49'-0"	"	CLASS 'X' CONCRETE ENCASUREMENT	14.8 CU. YDS.
G34	8	#11	16'-6"	"		

BENT BAR DIAGRAM

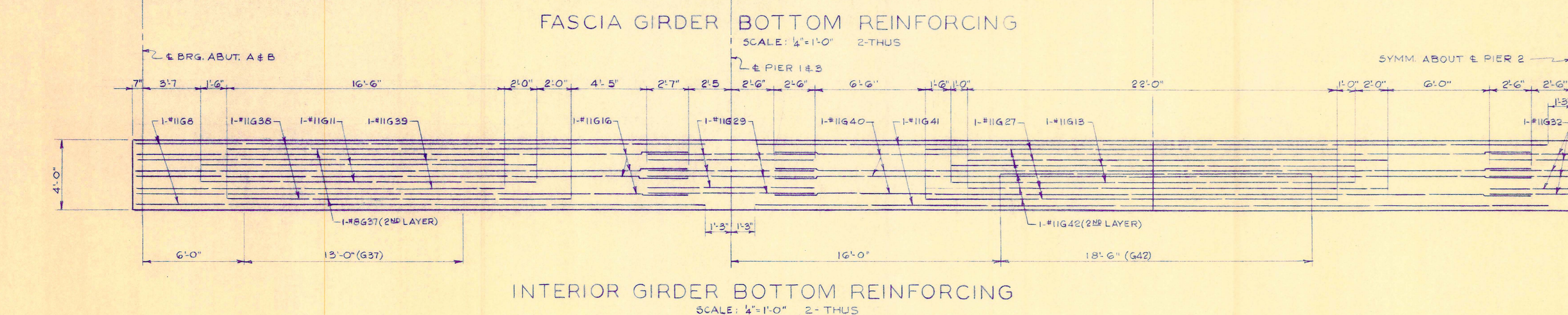
MARK	SIZE	LENGTH	A	B	C	D	E	F	G	J	O	K	H	DIAGRAM
D4	#4	10'-4"	2"	2'-8"	2'-2"									[Diagram showing bent bar layout for D4 and D6]
D6	#4	4'-0"	2"	1'-0"	0'-10"									
G1	#4	6'-3"		1'-3"	3'-9"	1'-3"								[Diagram showing bent bar layout for G1, G2, G3]
G2	#4	6'-9"		1'-6"	3'-9"	1'-6"								
G3	#4	7'-6"		1'-10 1/2"	3'-9"	1'-10 1/2"								
G29	#11	10'-1"		7 1/2"	2'-6"	5"			3'-9"	3'-9"				[Diagram showing bent bar layout for G29, G32]
G32	#11	10'-1"		5"	2'-6"	5"			3'-9"	3'-9"				
S2	#5	7'-2"	1'-2"	3'-7"					1'-8"	9"				[Diagram showing bent bar layout for S2, S3]
S3	#5	3'-9"		1'-6"	1'-6"	5"					2'			

REVISIONS					OAK SPRING ROAD BRIDGE	
NO.	DATE	ITEM	BY	APP	LAKE COUNTY HIGHWAY DEPARTMENT SECTION 44-11-2B-CA	
					DECK SLAB DETAILS-SHEET 2	
					DESIGN J. I. P.	DATE
					DRAWN J. I. P.	JOB NO. 65-11
					CHECKED D. G. W.	DRAWING NO. 105
					APPROVED	H.F. SOMMERSCHIELD CONSULTING ENGINEER 1725 NORTH LEWIS AVE. WAUKEGAN, ILLINOIS 711 DEVON AVENUE PARK RIDGE, ILLINOIS

ROUTE	SECTION	COUNTY	SHEET	SHEETS
OAK SPRING ROAD	44-11-2B-CA	OF LAKE	15	19
DECK SLAB DETAILS - SHEET 1				



NOTES:
GIRDER BOTTOM REINFORCING BARS, EXCEPT G29 & G32 MAY BE FIELD BENT.
ALL REINFORCEMENT BARS TO HAVE 2" MIN. COVER.
ALL REINFORCEMENT BAR LAPS TO BE 24 DIAMETERS MINIMUM.
SEE DECK SLAB DETAILS SHEET 2 DWG. NO. 105 FOR BAR DESIGN AND BILL OF MATERIAL.



REVISIONS					OAK SPRING ROAD BRIDGE		
NO.	DATE	ITEM	BY	APP.	LAKE COUNTY HIGHWAY DEPARTMENT SECTION 44-11-2B-CA		
					DECK SLAB DETAILS - SHEET 1		
DESIGN	J.L.P.	H.F. SOMMERSCHIELD		DATE			
DRAWN	J.L.P.	CONSULTING ENGINEER		JOB NO.	65-11		
CHECKED	D.G.W.	1725 NORTH LEWIS AVE. WAUKEGAN, ILLINOIS		DRAWING NO.	104		
APPROVED		711 DEVON AVENUE PARK RIDGE, ILLINOIS					

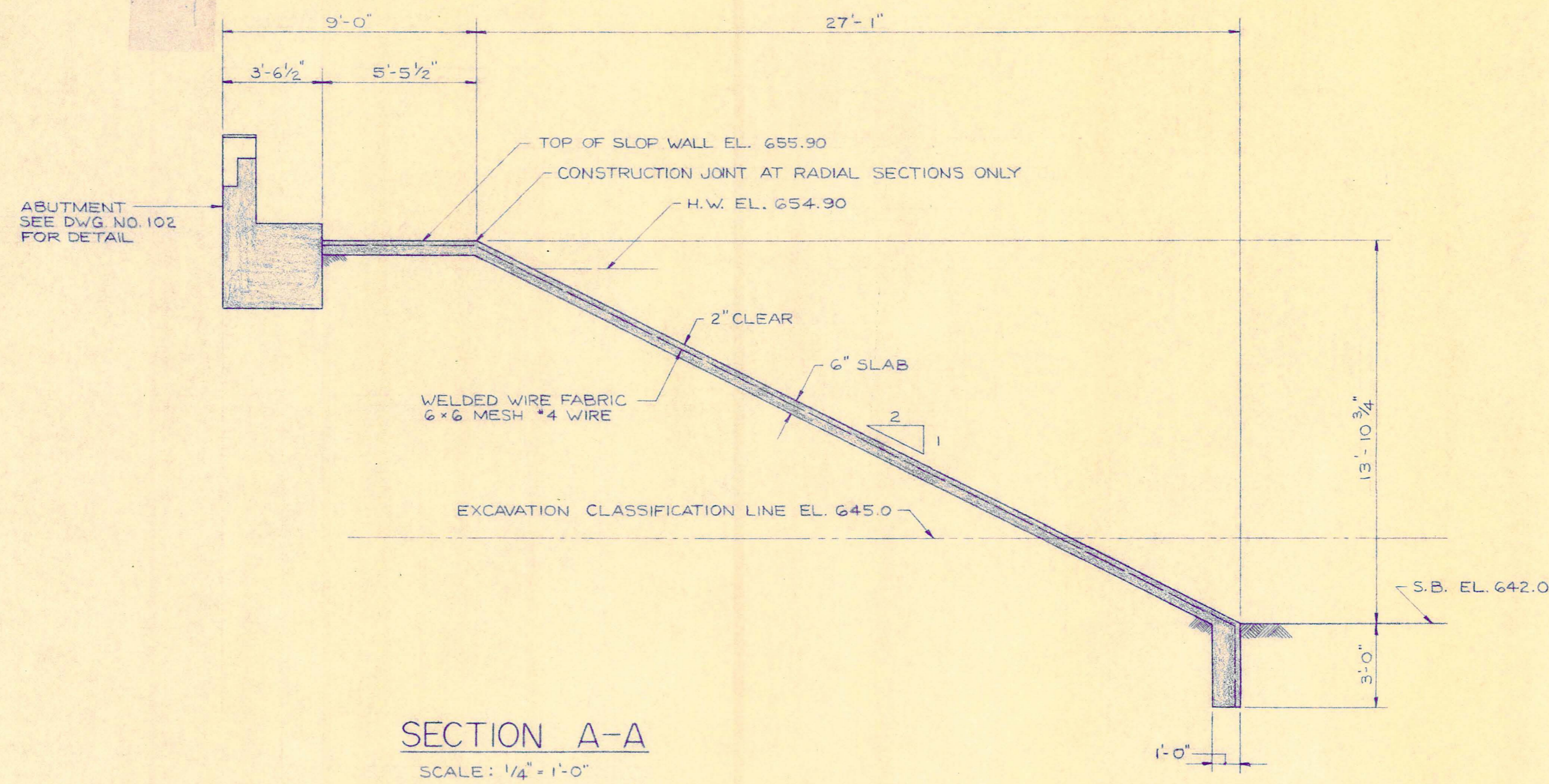
ROUTE	SECTION	COUNTY	SHEET	SHEETS
OAK SPRING ROAD	44-11-2B-CA	OF LAKE	14	19

SLOPE WALL DETAILS

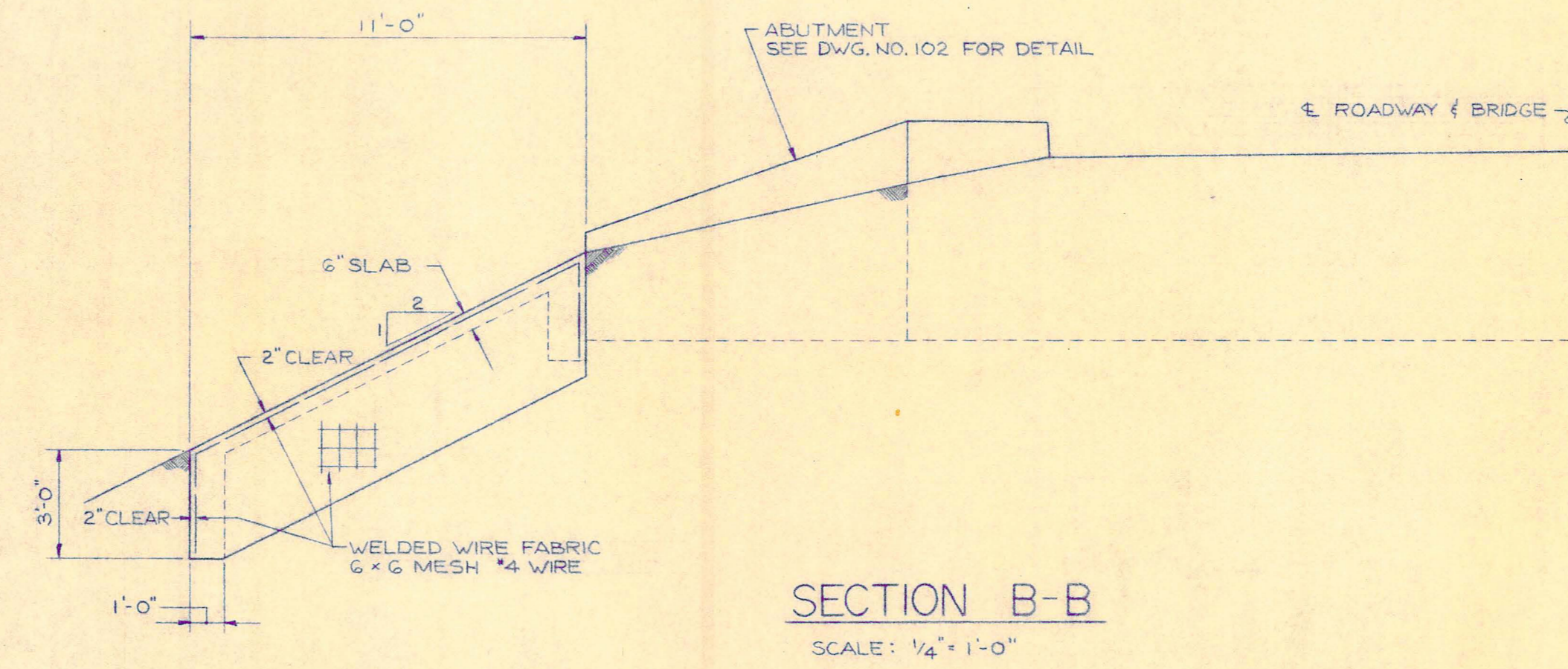
BILL OF MATERIAL

SLOPE WALL	673.4 SQ. YDS.
#CHANNEL EXCAVATION	309.4 CU. YDS.
CLASS "B" EXCAVATION FOR STRUCTURES	114 CU. YDS.

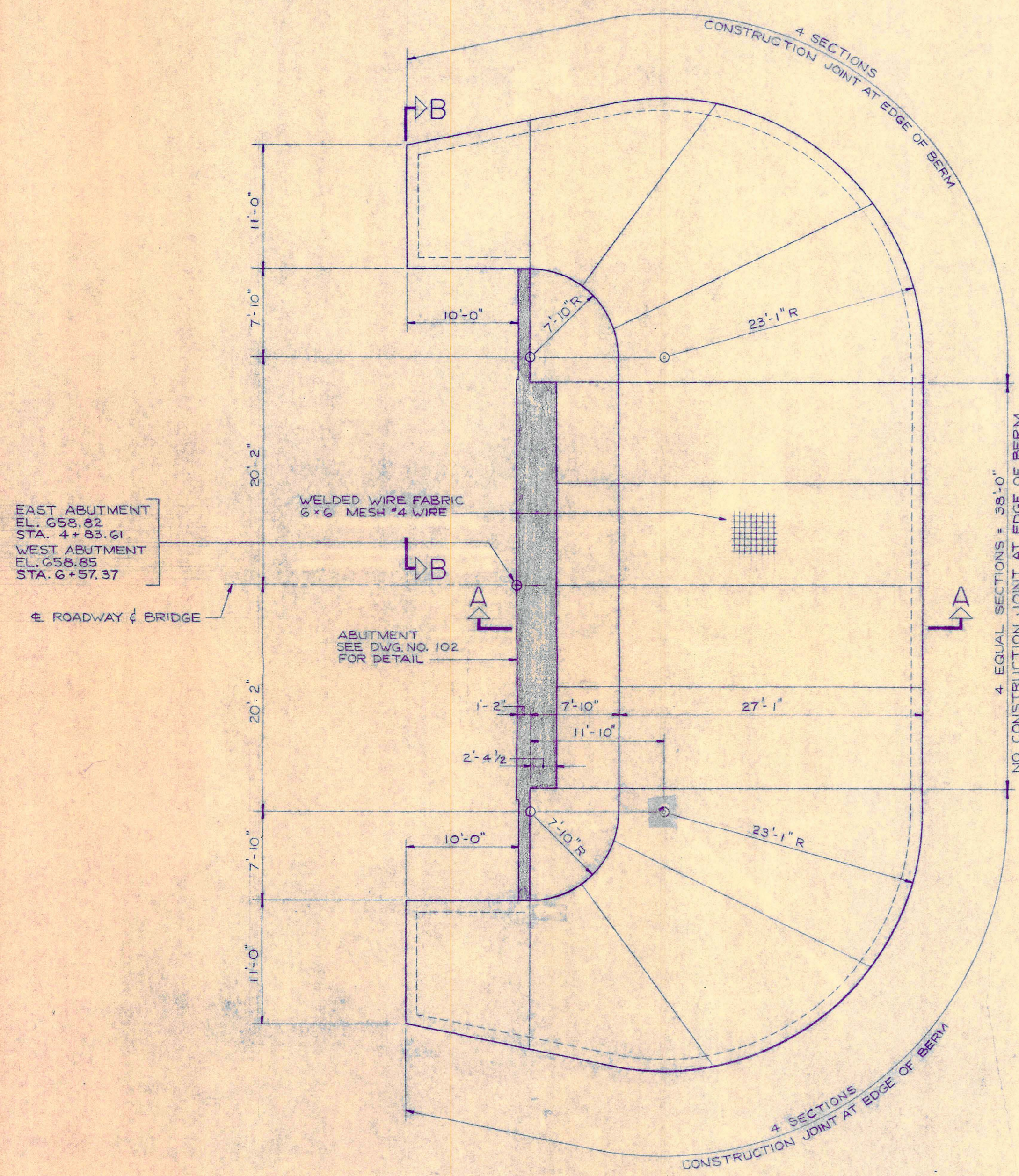
* 50' LT. TO 50' RT. 4+93 TO 6+48



SECTION A-A
SCALE: 1/4" = 1'-0"



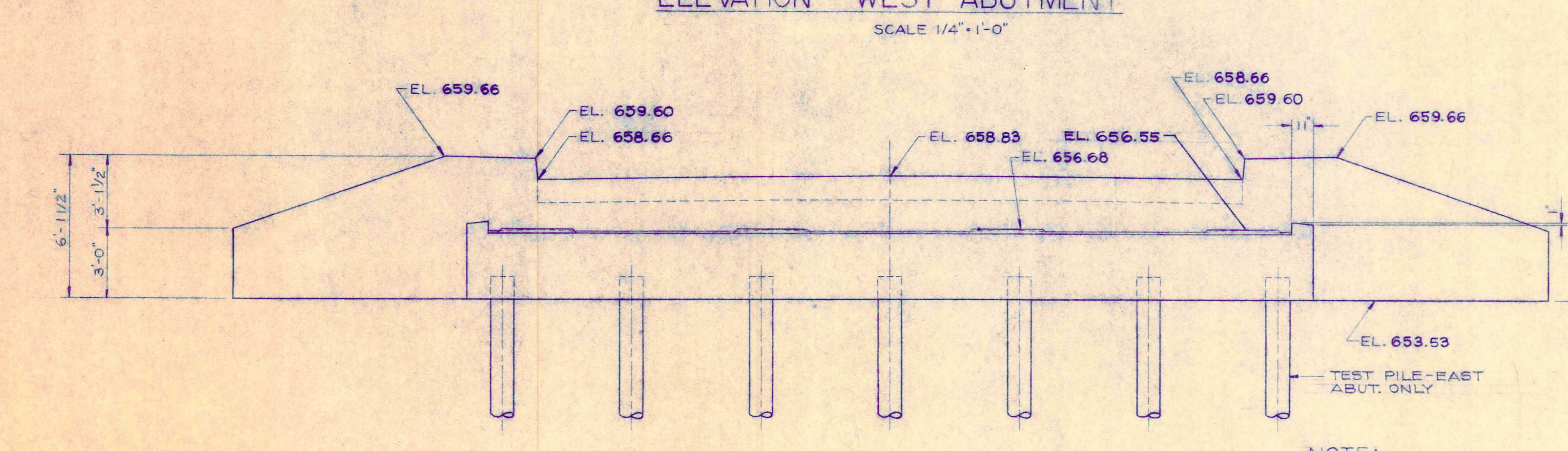
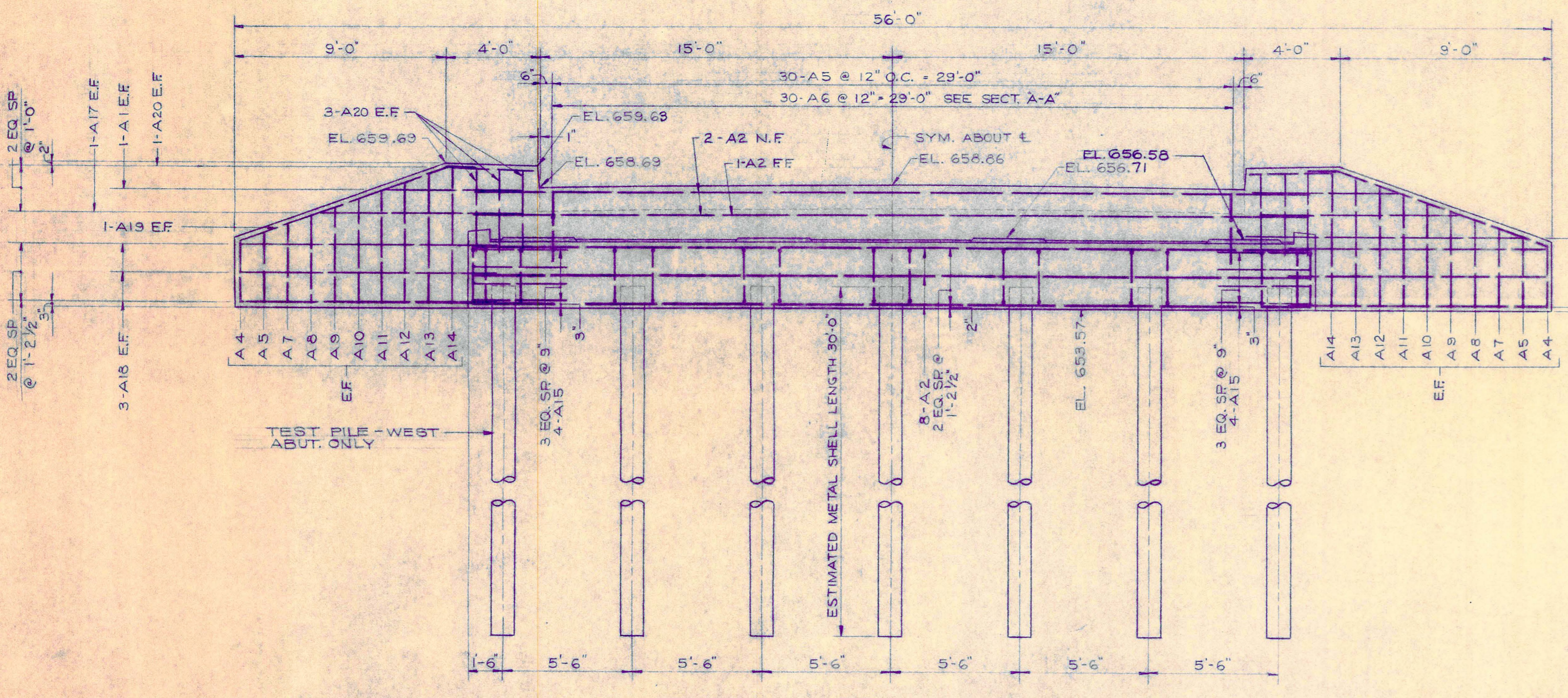
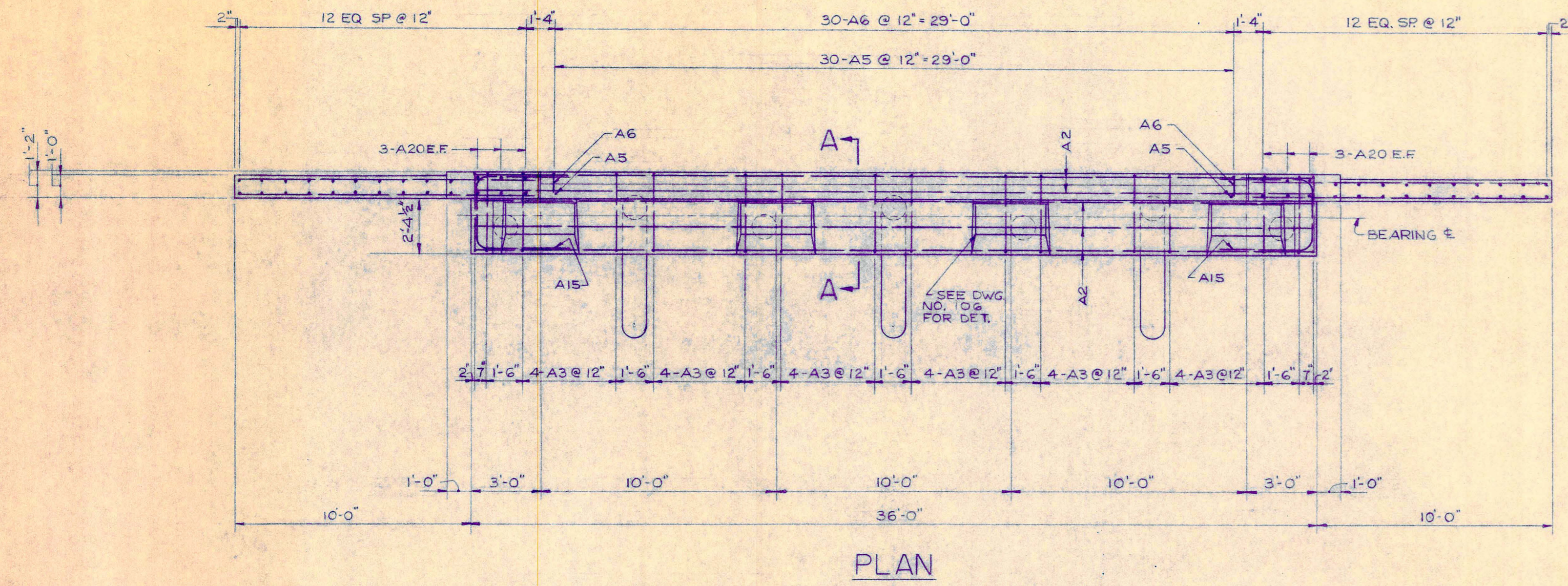
SECTION B-B
SCALE: 1/4" = 1'-0"



PLAN
2-THUS SCALE: 1/8" = 1'-0"

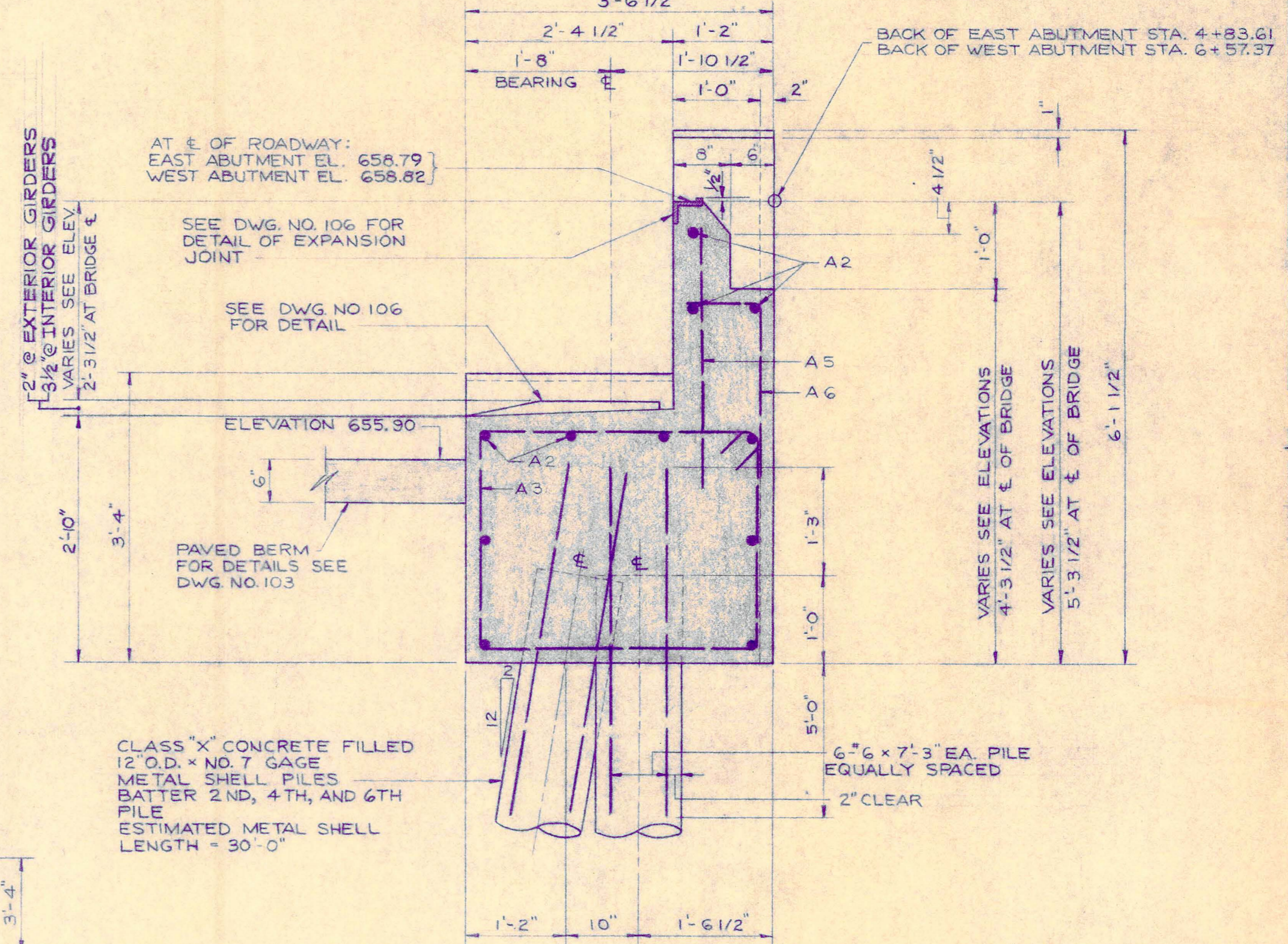
NOTES:
BILL OF MATERIAL IS TOTAL FOR EAST & WEST SLOPE WALLS.
THE REQUIRED WELDED WIRE FABRIC REINFORCEMENT SHALL BE CONSIDERED INCIDENTAL TO THE SLOPE WALL.
ALL ADJACENT SECTIONS OF FABRIC REINFORCEMENT SHALL BE LAPPED 6" MINIMUM.
THE SLOPE WALL SHALL BE CONSTRUCTED IN ALTERNATE SECTIONS. CONSTRUCTION JOINTS SHOWN ON PLAN.
ALL FABRIC REINFORCEMENT SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS AND SHALL EXTEND 6" MINIMUM INTO ADJACENT SLOPE WALL SECTION.
CUT 1/2 OF WELDED WIRE FABRIC AT CONSTRUCTION JOINTS.
LAYOUT OF SLOPE WALLS MAY BE VARIED TO SUIT GROUND CONDITIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.

REVISIONS					OAK SPRING ROAD BRIDGE	
NO	DATE	ITEM	BY	APP	LAKE COUNTY HIGHWAY DEPARTMENT SECTION 44-11-2B-CA	
					SLOPE WALL DETAILS	
					DESIGN J.L.R.	DATE
					DRAWN R.A.	JOB NO 65-11
					CHECKED	DRAWING NO
					APPROVED	103



NOTE:
EAST ABUTMENT SAME AS WEST ABUTMENT EXCEPT FOR ELEVATIONS SHOWN

BENT BAR DIAGRAM													BILL OF MATERIAL						
MARK	SIZE	LENGTH	A	B	C	D	E	F	G	J	O	K	H	DIAGRAM	MARK	NO	SIZE	LENGTH	TYPE
A 6	#4	2'-10"	0'-10"	2'-0"											A1	8	#8	6'-6"	STRAIGHT
															A2	22	#5	35'-8"	"
															A4	8	#4	2'-8"	"
															A5	63	#4	3'-0"	"
A 3	#4	11'-11"	4 1/2'	3'-2"	2'-5"										A7	8	#4	3'-5"	"
															A8	8	#4	3'-9"	"
															A9	8	#4	4'-1"	"
															A10	8	#4	4'-5"	"
															A11	8	#4	4'-10"	"
															A12	8	#4	5'-2"	"
															A13	8	#4	5'-6"	"
															A14	8	#4	5'-10"	"
															A16	24	#6	12'-0"	"
															A17	8	#4	9'-0"	"
															A18	24	#4	11'-0"	"
															A20	32	#4	3'-6"	"
															A3	80	#4	11'-11"	BENT
															A6	60	#4	2'-10"	"
															A15	16	#6	11'-1"	"
															A19	8	#4	11'-0"	"

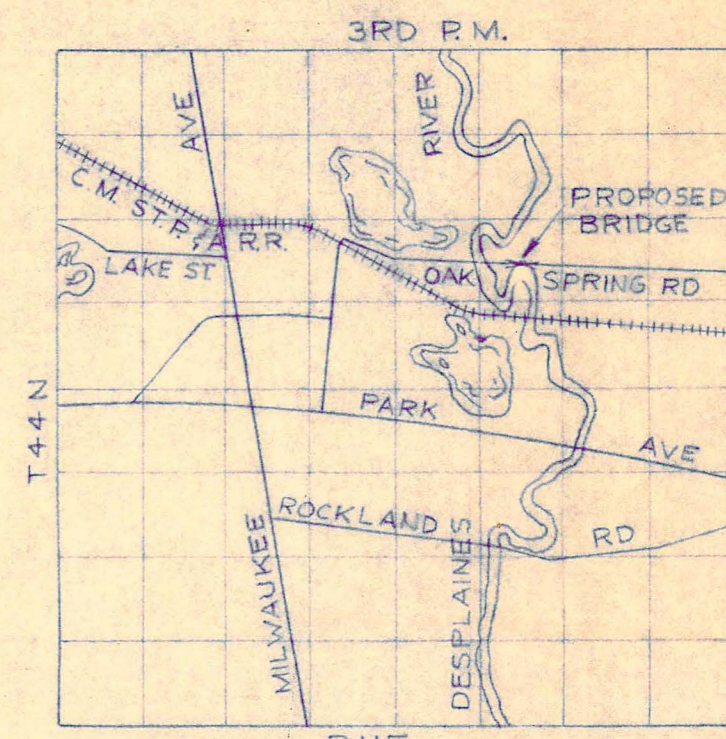


QUANTITIES		
CLASS "X" CONCRETE	41.6	CU. YDS.
REINFORCEMENT	778.40	LBS.
FURNISHING METAL PILE SHELLS 12" DIA	360 L.F.	
DRIVING AND FILLING METAL SHELLS 12" DIA 360 L.F.		
TEST PILES	2 EA.	

NOTES:
BILL OF MATERIAL IS FOR 2 ABUTMENTS.
PILE REINFORCEMENT TO BE CONSIDERED INCIDENTAL TO DRIVING AND FILLING METAL SHELLS AND TEST PILE.
REINFORCEMENT REQUIRED IN SHELL ENCAGEMENT TO BE CONSIDERED INCIDENTAL TO CLASS "X" CONCRETE ENCAGEMENT.
ALL REINFORCEMENT BARS TO HAVE 2" MIN. COVER.
ALL REINFORCEMENT BAR LAPS TO BE 24 DIAMETERS MINIMUM.
REQUIRED BEARING CAPACITY = 40 T/PILE IN ABUTMENTS.

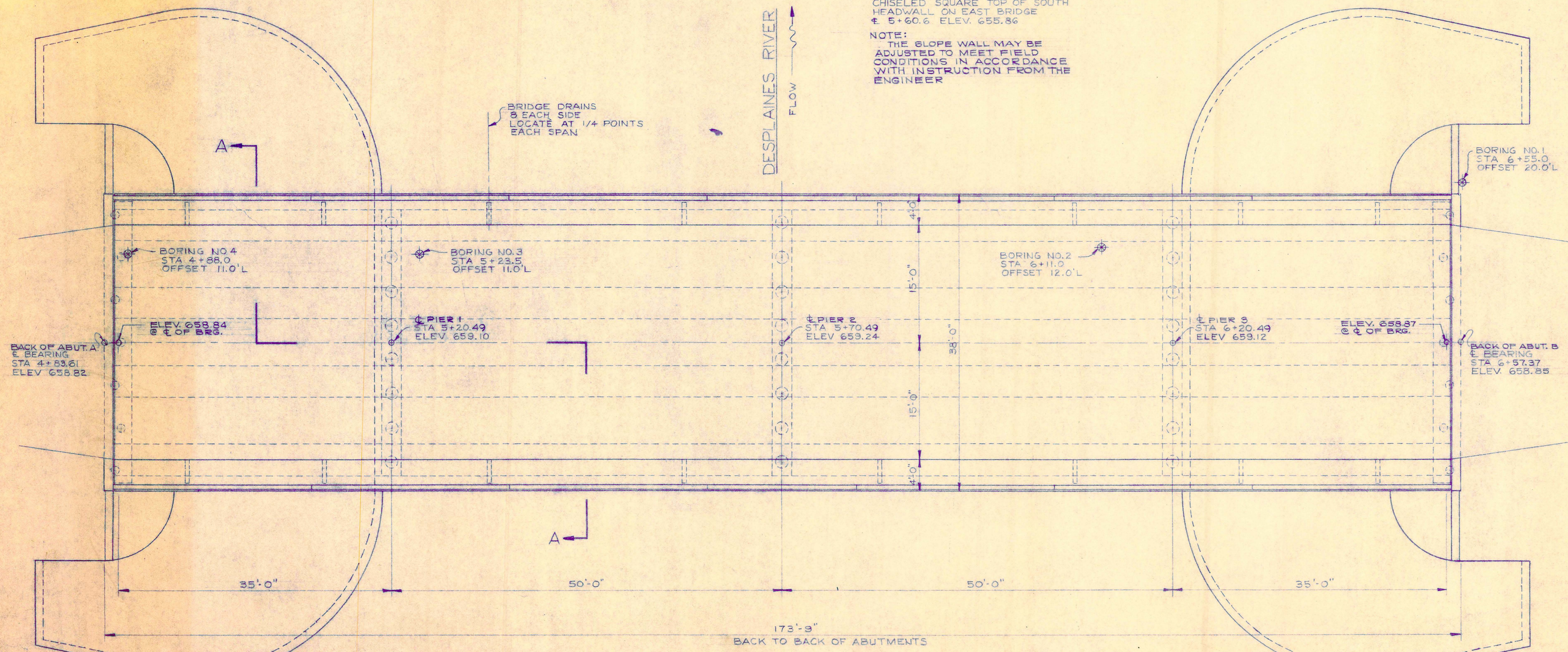
REVISIONS				OAK SPRING ROAD BRIDGE	
NO	DATE	ITEM	BY	APP	

LAKE COUNTY HIGHWAY DEPARTMENT SECTION 44-11-2B-CA	
ABUTMENT DETAILS	
DESIGN J. I. P.	DATE
DRAWN R. A.	JOB NO 65-11
CHECKED	DRAWING NO 102
APPROVED	



STATION 5+70.0
 BUILT IN 1967 BY
 COUNTY OF LAKE AND
 LIBERTYVILLE ROAD DISTRICT
 OAK SPRING ROAD
 SECTION 44-11-2B-CA
 LOADING HS20-44

B.M. NO.2
 CHISELED SQUARE TOP OF SOUTH
 HEADWALL ON EAST BRIDGE
 ± 5+60.6 ELEV. 655.86
 NOTE:
 THE SLOPE WALL MAY BE
 ADJUSTED TO MEET FIELD
 CONDITIONS IN ACCORDANCE
 WITH INSTRUCTION FROM THE
 ENGINEER

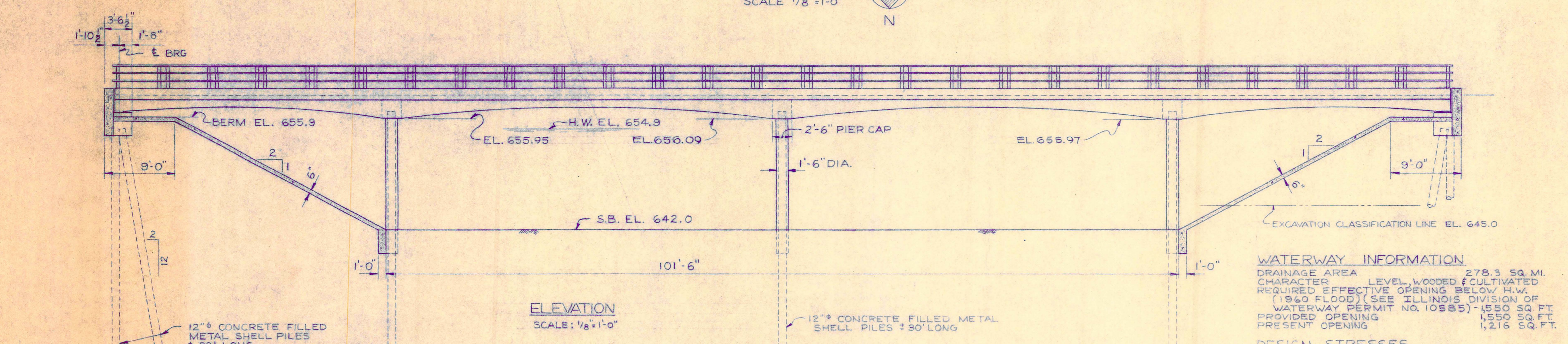


PLAN
 SCALE 1/8"=1'-0"

BORING NO:1		BORING NO:2	
N	Qu	N	Qu
650	2	650	18 3.50P
645	10 1.75P	645	7 0.75P
640	4 78.5	640	13
635	11	635	8 2.50P
630	25 2.68B	630	42
625	16 11.0P	625	24
620	18 3.57B	620	18
615	32 4.25B	615	33 6.01B
610	16 4.23B	610	29 4.00B
605	21 4.95B	605	23 3.61B
	40 6.28S	605	70
	65 100 W/8P	605	31
	66	605	27
	100 W/4P	605	38 NR
		605	18 3.00P
		605	35 3.50E

BORING NO:3		BORING NO:4	
N	Qu	N	Qu
650	8 N.R.	650	4 1.50P
645	6 N.R.	645	3 1.00P
640	6 N.R.	640	2 2.7B
635	15 N.R.	635	7
630	34 4.00E	630	6 1.09B
625	38 6.21	625	11 1.71B
620	22 N.R.	620	19
615	75	620	35 6.4B
610	39 5/8	620	42 4.5P
605	31 3.3	620	30
		620	100 W/10
		615	36
		615	25
		610	16
		610	26 2.79
		605	38 4.33
		605	38 4.33

BORING DATA
 N- STANDARD PENETRATION TEST
 BLOWS PER FOOT TO DRIVE 2" O.D.
 SPLIT SPON SANDS 12" WITH
 140# HAMMER FALLING 30"
 QU- UNCONFINED COMPRESSIVE STRENGTH TEST - T/S.F

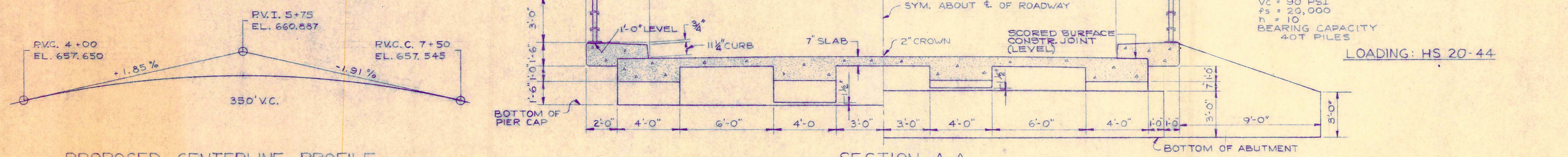


ELEVATION
 SCALE: 1/8"=1'-0"

WATERWAY INFORMATION
 DRAINAGE AREA 278.3 SQ. MI.
 CHARACTER LEVEL, WOODED & CULTIVATED
 REQUIRED EFFECTIVE OPENING BELOW H.W.
 (1960 FLOOD) (SEE ILLINOIS DIVISION OF
 WATERWAY PERMIT NO. 10585) - 1530 SQ. FT.
 PROVIDED OPENING 1550 SQ. FT.
 PRESENT OPENING 1,216 SQ. FT.

DESIGN STRESSES
 fc = 1,400 PSI (SUPER)
 fc = 1,400 PSI (SUB)
 vc = 90 PSI
 fs = 20,000
 n = 10
 BEARING CAPACITY
 40T PILES

LOADING: HS 20-44



SECTION A-A
 SCALE 1/4"=1'-0"

PROPOSED CENTERLINE PROFILE

REVISIONS				OAK SPRING ROAD BRIDGE	
NO	DATE	ITEM	BY	APP	
					LAKE COUNTY HIGHWAY DEPARTMENT LIBERTY ROAD DISTRICT SECTION 44-11-2B-4C
					PLAN, ELEVATION AND SECTIONS
					DESIGN J.H.R. DRAWN R.A. CHECKED APPROVED
					DATE JOB NO. DRAWING NO.
					H.F. SOMMERSCHIED CONSULTING ENGINEER 1725 NORTH LEWIS AVE WAUKEGAN, ILLINOIS 711 DEVON AVENUE PARK RIDGE ILLINOIS
					101