

Dec. 16, 1958

STATE OF IOWA
STATE HIGHWAY COMMISSION
DESIGN FOR
PRE-STRESSED CONCRETE BEAM BRIDGES
AND CULVERT
SECONDARY ROAD
FARM TO MARKET SYSTEM PROJ. S-1096 (I)
CRAWFORD COUNTY
AUGUST 1958.

MILEAGE SUMMARIES:

DESIGN 2958 = 131'-9 1/4" = 0.0250 MILES
DESIGN 3058 = 57'-8 3/8" = 0.01093 MILES
DESIGN 2658 = 27'-0" = 0.00511 MILES

SPECIFICATIONS:

Design: A.A.S.H.O. Series of 1957 and U.S.B.R.R. Criteria for Prestressed Concrete Bridges, 1955.
Construction: Standard Specifications of the Iowa State Highway Commission, Series of 1956, plus current Special Provisions Applicable.

IN LETTING OF DEC. 16, 1958

DESIGN-2958 BOYER TWP. CRAWFORD COUNTY SEC. 12 STA. 261+80.0 OVER LOCAL CREEK				
130'x20' PRESTRESSED CONCRETE BEAM BRIDGE				
DESCRIPTION	ABUT'S	PIERS	SUPERSTRUCT.	TOTAL
CONCRETE CLASS "A"	33.40 c.y.	13.40 c.y.	68.90 c.y.	115.70 c.y.
REIN. STEEL	2520 lbs.	1560 lbs.	14,320 lbs.	18,400 lbs.
STRUCT. STEEL			2,489 lbs.	2,489 lbs.
TREATED PILING	14 @ 65' = 910 l.f.			14 @ 65' = 910 l.f.
PRECAST CONC. PILING		10 @ 52' = 520 l.f.		10 @ 52' = 520 l.f.
PRESTRESSED CONC. BEAMS			15 @ 42'-6"	15 @ 42'-6"
HANDRAIL			260 l.f.	260 l.f.
EXCAVATION CLASS "20"	68 c.y.			68 c.y.
" CLASS "10"	1680 c.y.			1680 c.y.
REMOVAL OF OLD STRUCTURE				LUMP SUM

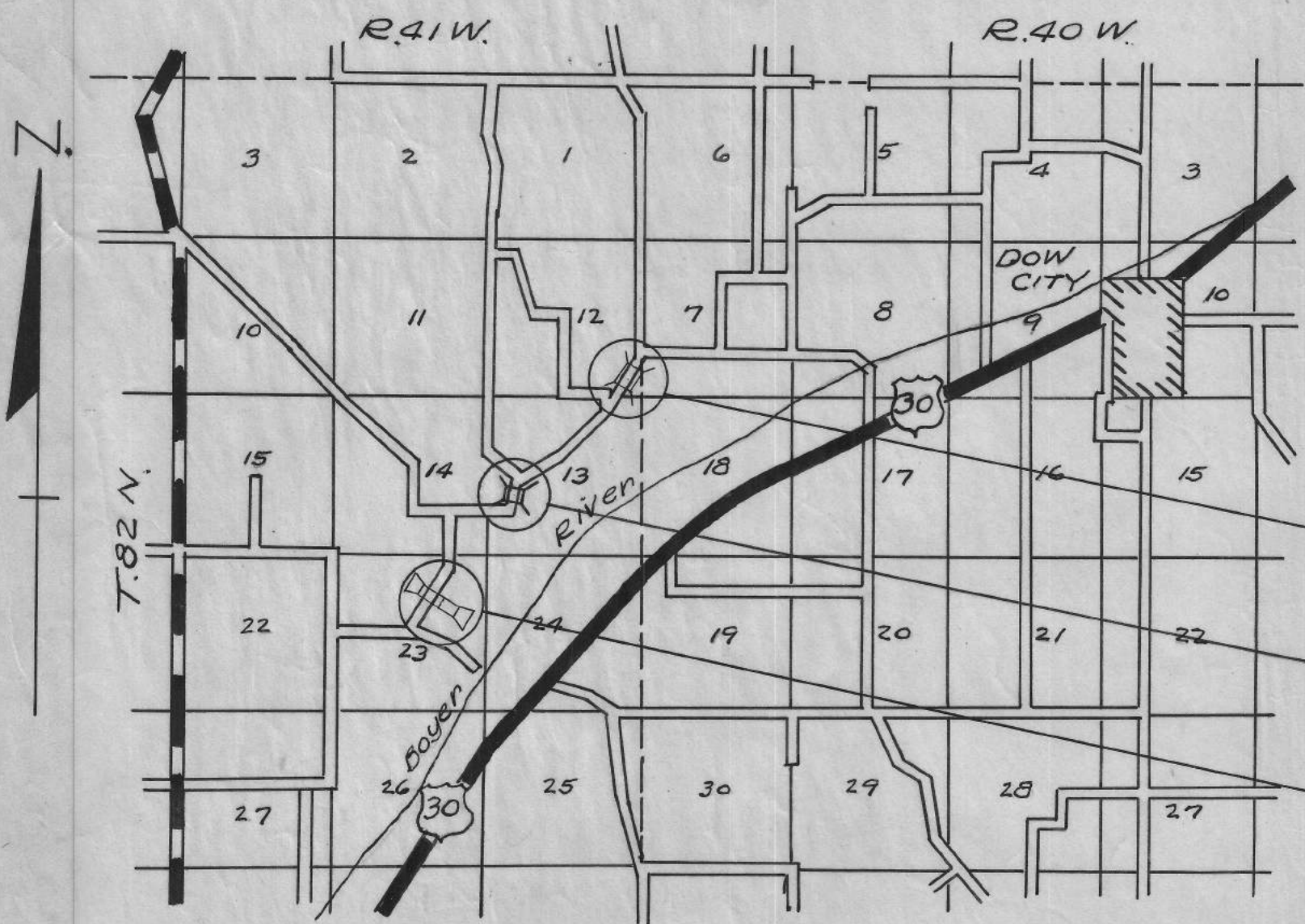
IN LETTING OF DEC. 16, 1958

DESIGN-3058 BOYER TWP. CRAWFORD COUNTY SEC. 13, STA. 198+40.5 OVER LOCAL CREEK			
55'x20' PRESTRESSED CONCRETE BEAM BRIDGE			
DESCRIPTION	ABUTMENTS	SUPERSTRUCT.	TOTAL
CONCRETE CLASS "A"	18.60 c.y.	32.40 c.y.	51.00 c.y.
REIN. STEEL	1770 lbs.	6576 lbs.	8346 lbs.
STRUCT. STEEL	4041 "	1078 "	5119 "
PRE-STRESSED CONC. BEAMS		5 @ 55'-0" (Q)	5 @ 55'-0" (Q)
HANDRAIL		130'-0" TYPE "B" L.F.	130'-0" TYPE "B" L.F.
WOOD RAIL POSTS 8'x6'		4	4
TREATED WOOD PILING	6 @ 50', 6 @ 45', 6 @ 40', 10 @ 30' L.F.		Bearing Piles - 570 Wing " = 540 L.F.
TREATED LUMBER	6730 F.B.M.		6730 F.B.M.
GALVANIZED HARDWARE	136 lbs.	32 lbs.	168 lbs.
EXCAVATION Class #20	461 c.y.		461 c.y.
" Class #10	236 c.y.		236 c.y.
" Class #21	15 c.y.		15
REMOVAL OF OLD STRUCTURE			LUMP SUM.

IN LETTING OF DEC. 16, 1958

DESIGN - 2658 BOYER TWP. CRAWFORD COUNTY SEC. 23, STA. 141+88.0 OVER LOCAL CREEK				
12'x10' REINFORCED CONC. BOX WITH TWIN OPENINGS				
FILL	CONCRETE	REIN. STEEL	EXCAVATION	REMOVAL OF OLD STRUCTURE
3'	255.30 c.y.	28,355 lbs.	1766 c.y.	LUMP SUM

* (Creosoted Bearing Piling Oversize, Min. Butt. diam. - 14")



LOCATION MAP
1" = 1-MILE

NOTE: Bridge Sign Assemblies will be furnished & placed by Crawford County to conform with S. & T. Instruction No. 11, revised March-1, 1956.

- PROJECT # S-1096 (I) DESIGN # 2958
- PROJECT # S-1096 (II) DESIGN # 3058 127070
- PROJECT # S-1096 (I) DESIGN # 2658 369115

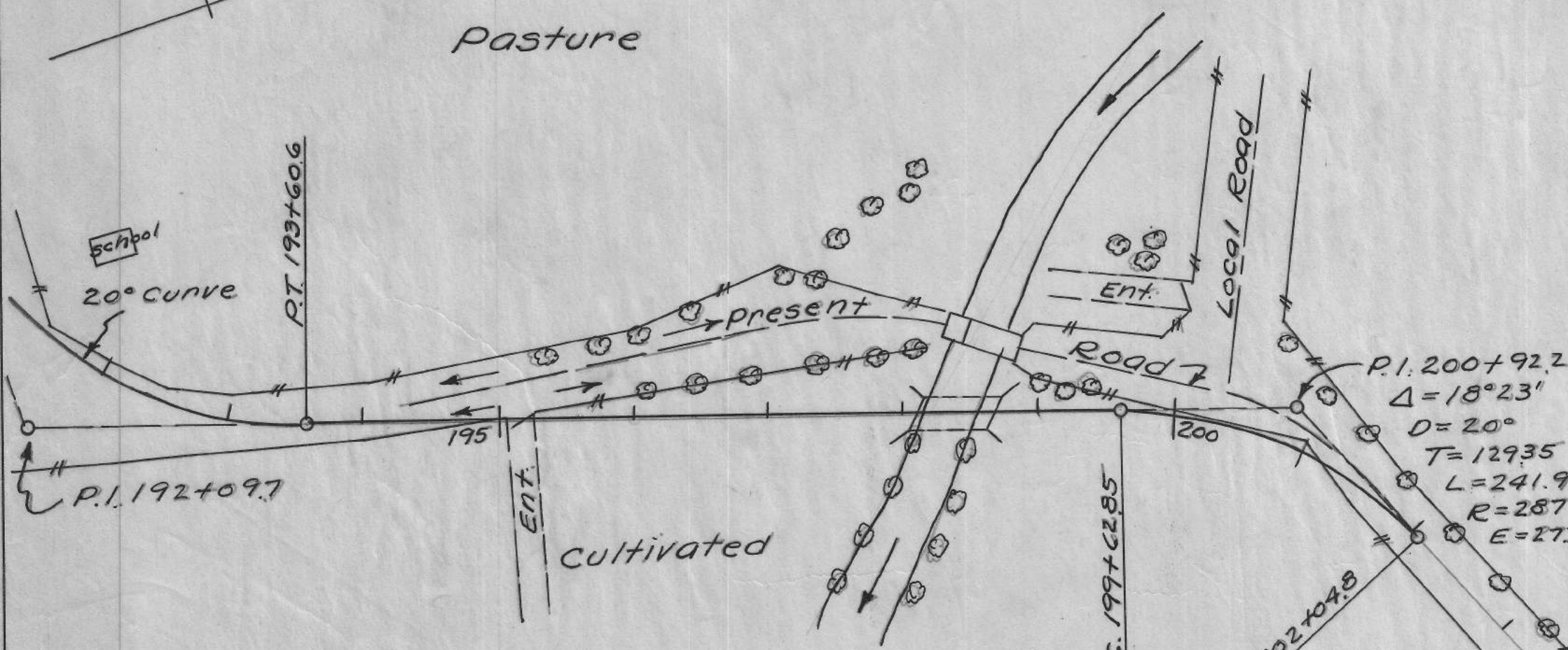
APPROVED

BOARD OF SUPERVISORS DATE

APPROVED

CHIEF ENGINEER	DATE
IOWA HIGHWAY COMMISSION	
DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS.	
RECOMMENDED FOR APPROVAL	
DISTRICT ENGINEER	DATE
APPROVED	
DIVISION ENGINEER	DATE

BOYER TOWNSHIP
T.82N. R.41W.
SEC. 13.

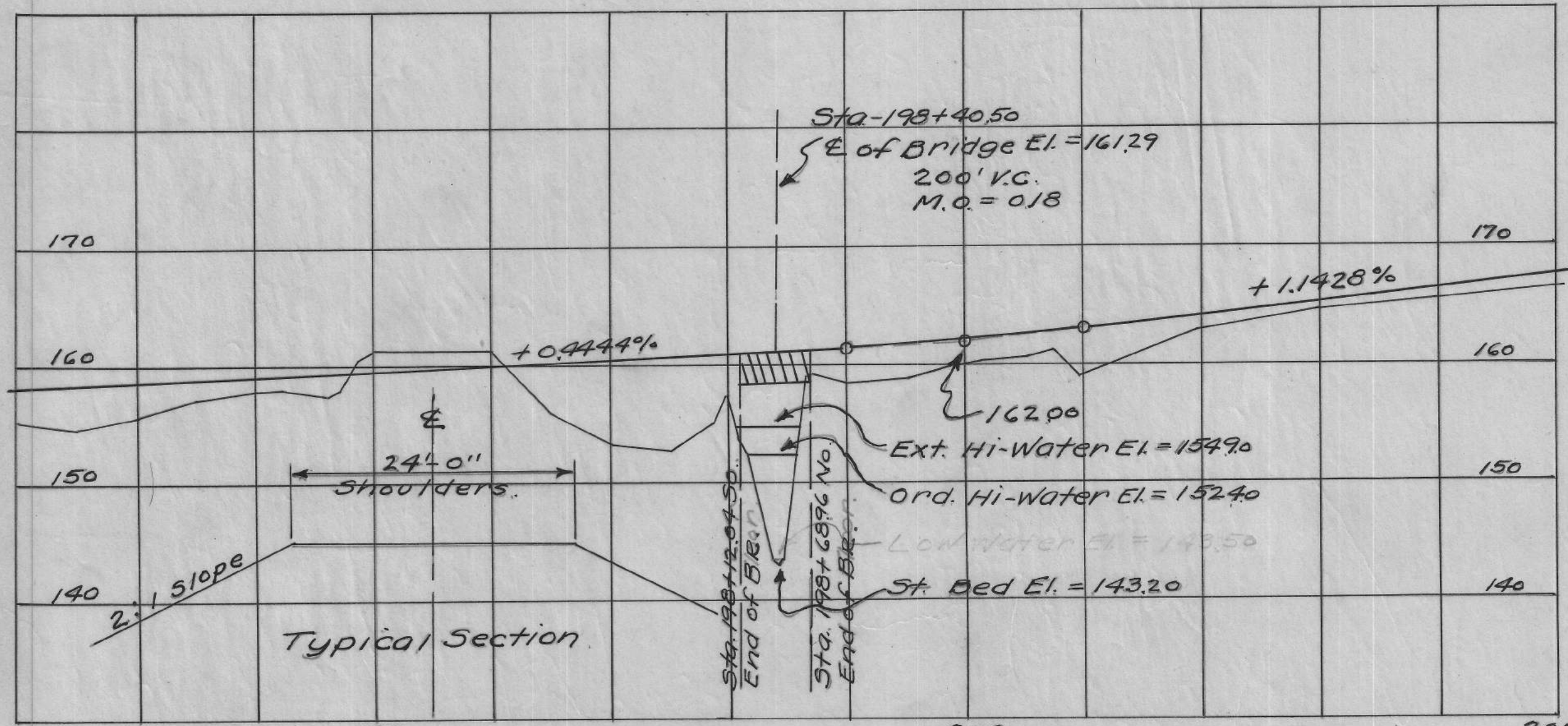


16' Wood-36' I-Beam x 16' Combination bridge 55' Lt. of Sta. 198+60. D.A. = 2750 Ac. Replace With 55'x20' Prestressed Concrete Beam Bridge on new \mathcal{E} at Sta. 198+40.50, Concrete Floor, Treated Wood Sub-Structure, Type "B" Steel Rail. Bridge Contractor to remove old bridge & pile within 300' of Bridge site as directed by the Engineer.

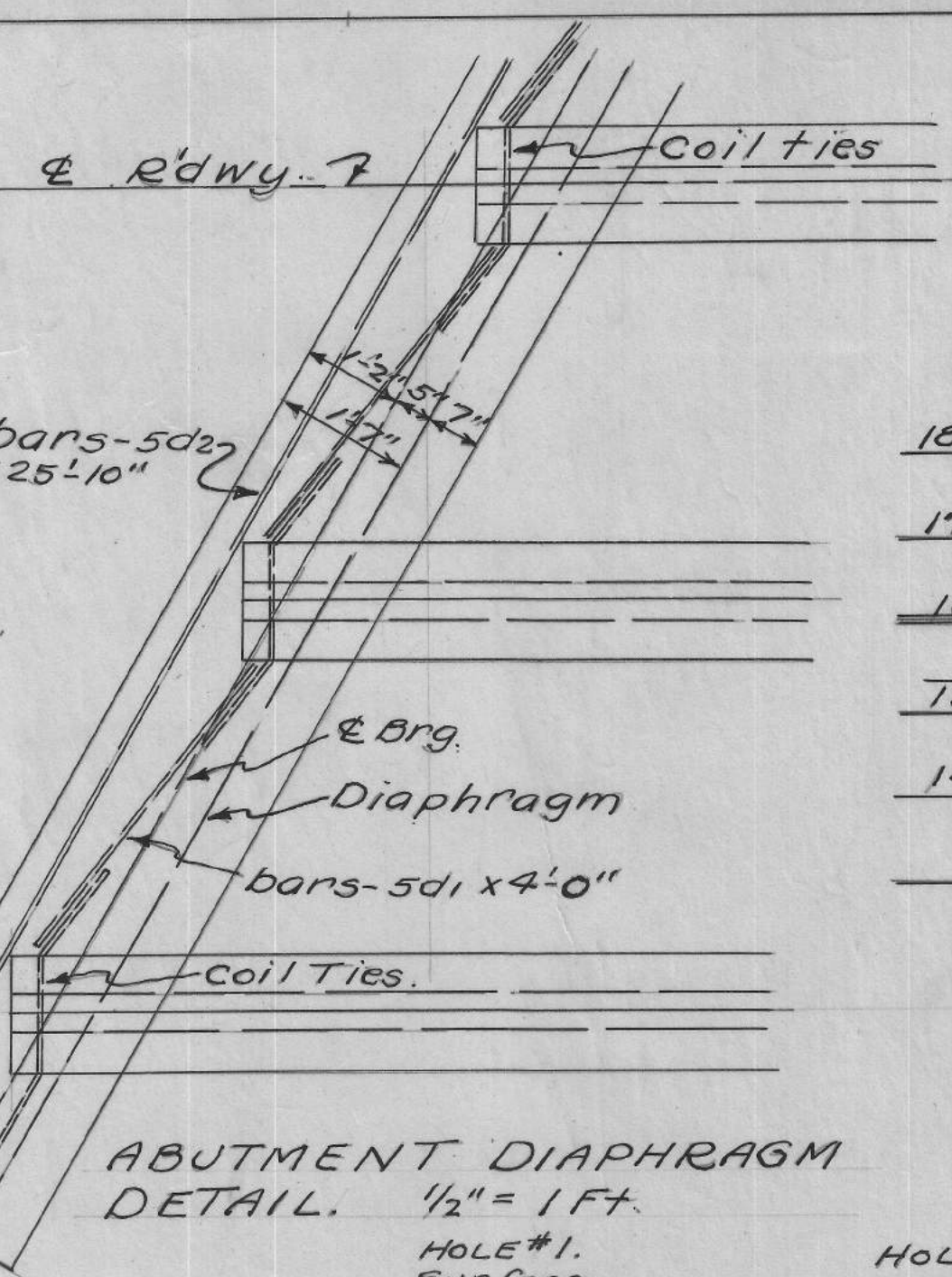
GENERAL PLAN
SCALE 1" = 100 Ft.

GENERAL NOTES:

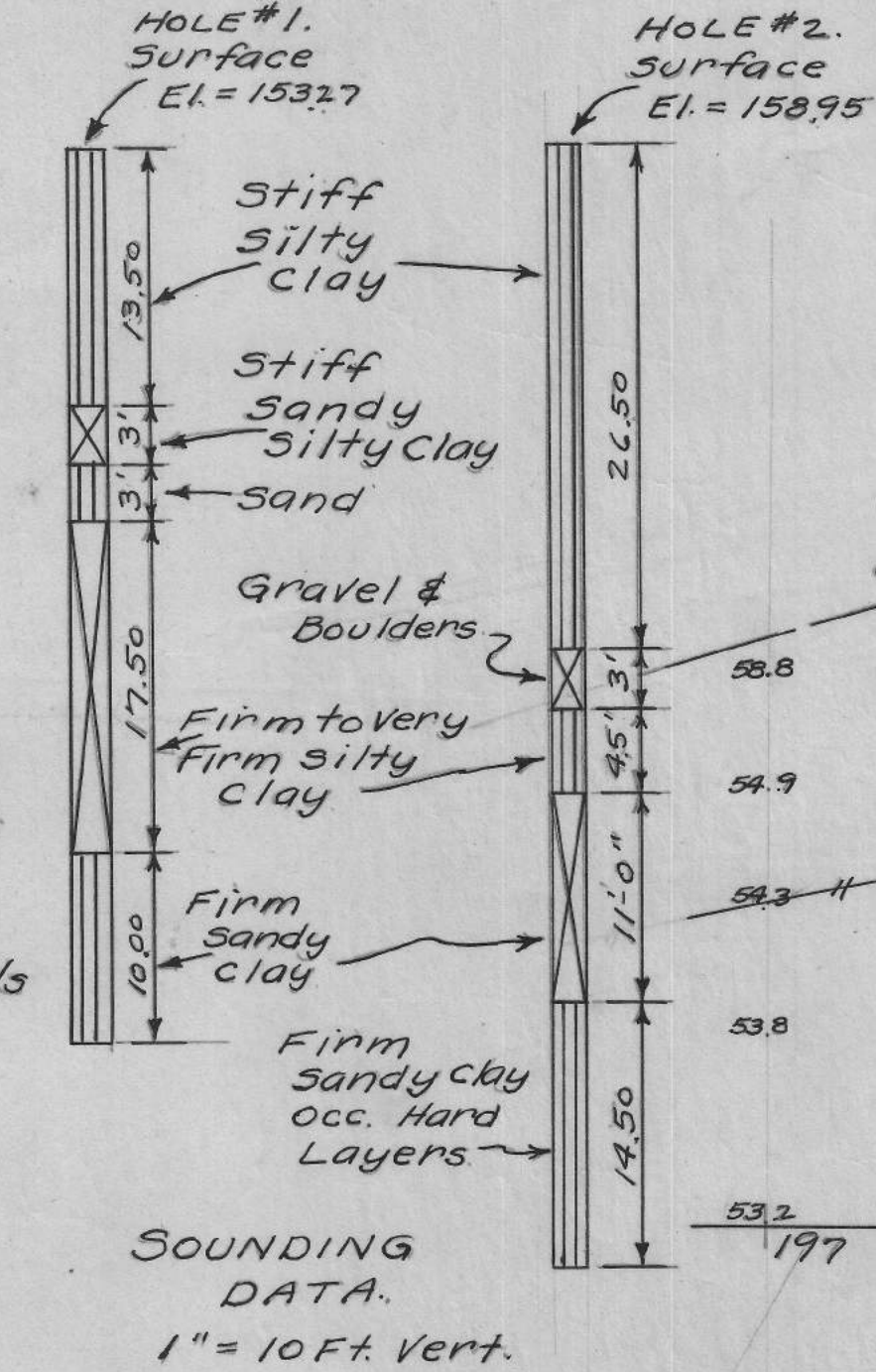
All Lumber is to be creosoted. Backing & wing plank in 10" & 12" widths may be substituted for 8" plank shown but payment will be made on basis of quantities shown. All piling are to be creosoted & are to comply with the specifications for Treated Timber Trestle piles. All hardware is to be galvanized. C.I. ogee or malleable Washers are to be used under all heads & nuts bearing on wood. All bolts to have square heads & nuts. For details of Super-Structure refer to Iowa Highway Commission Standard H11-1 With Type "B" Rail & Curb. For details of sub-structure refer to H11-4 With H of 18". All materials & construction to conform with the Iowa Highway Commission Standard Specifications, Series of 1956.



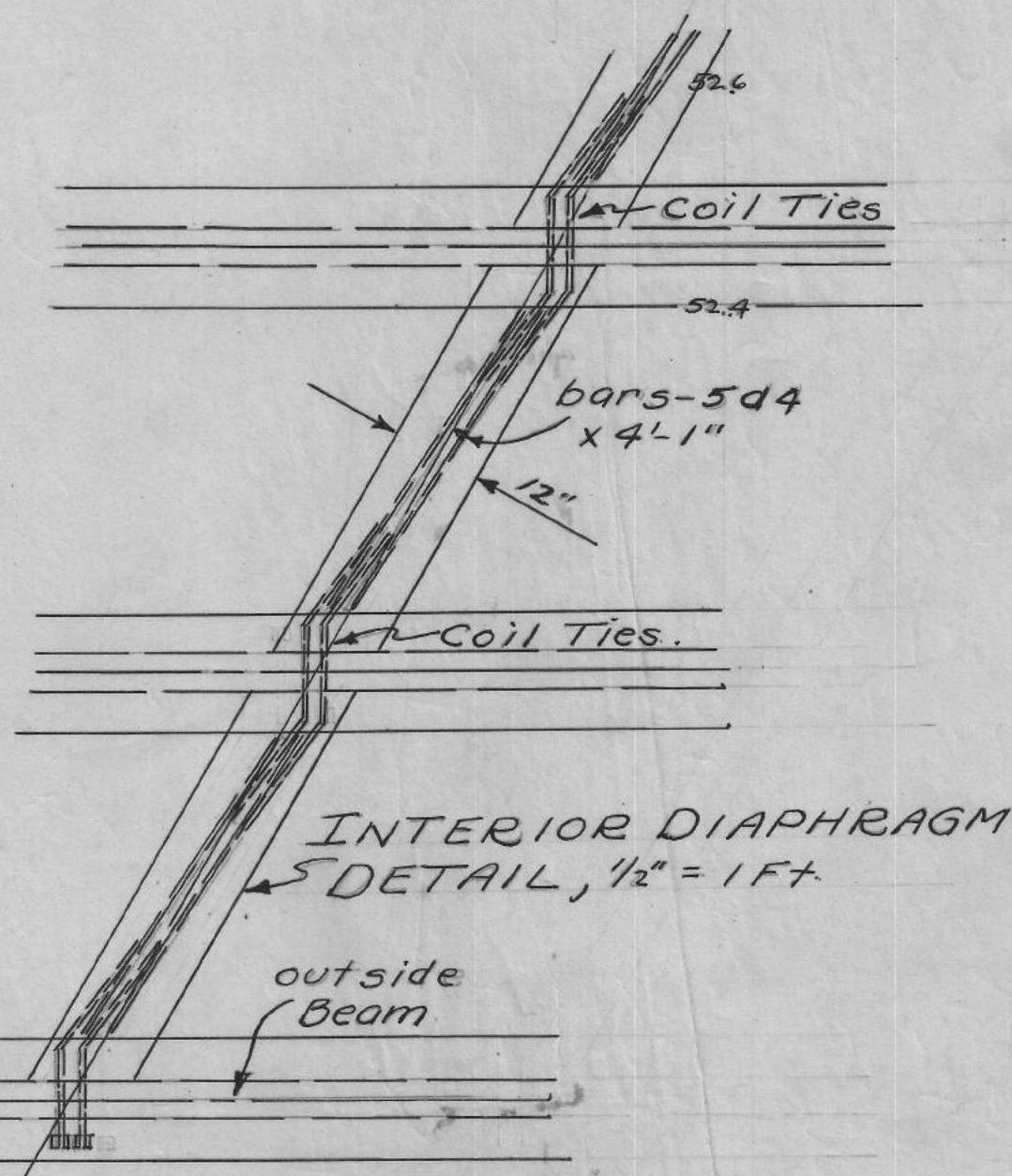
ROAD PROFILE
HORIZ. 1" = 100 Ft.
SCALE VERT. 1" = 10 Ft.



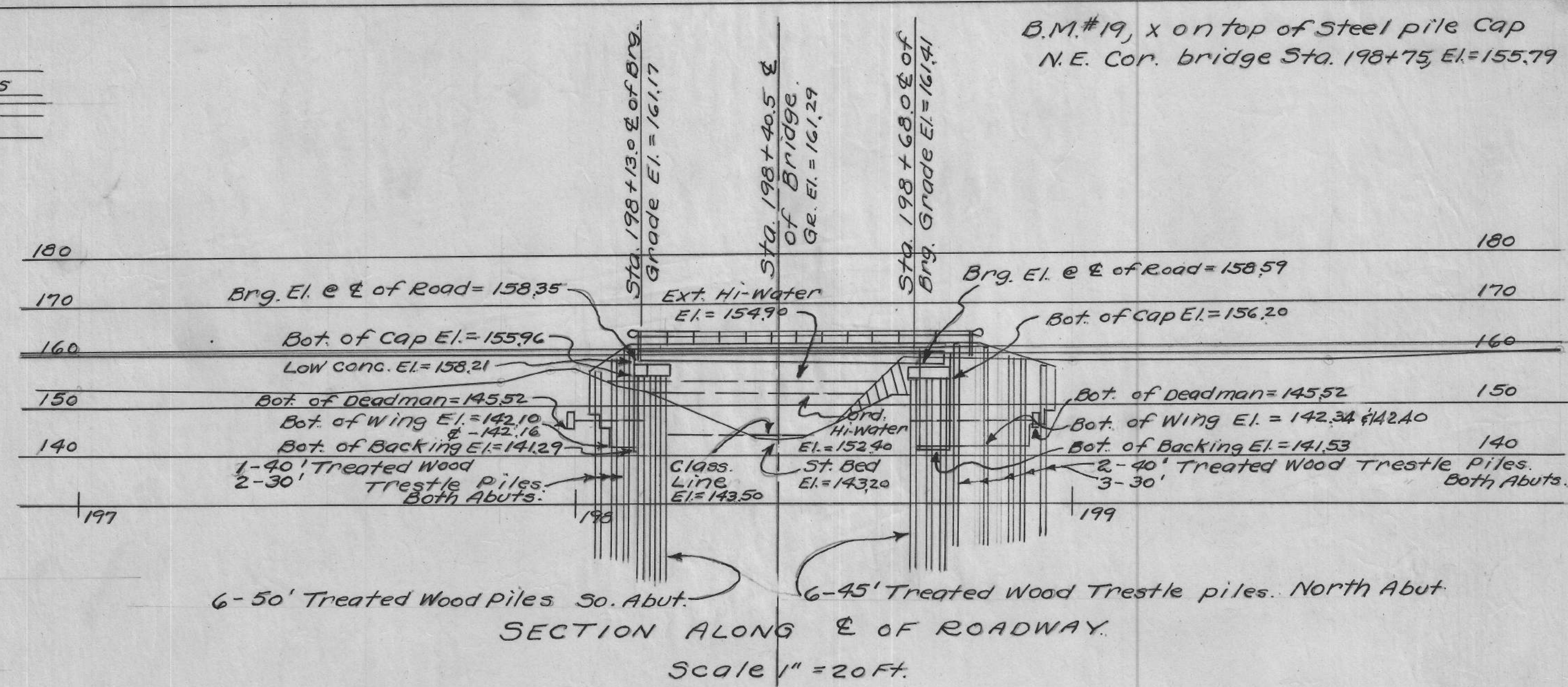
ABUTMENT DIAPHRAGM
DETAIL, 1/2" = 1 FT.



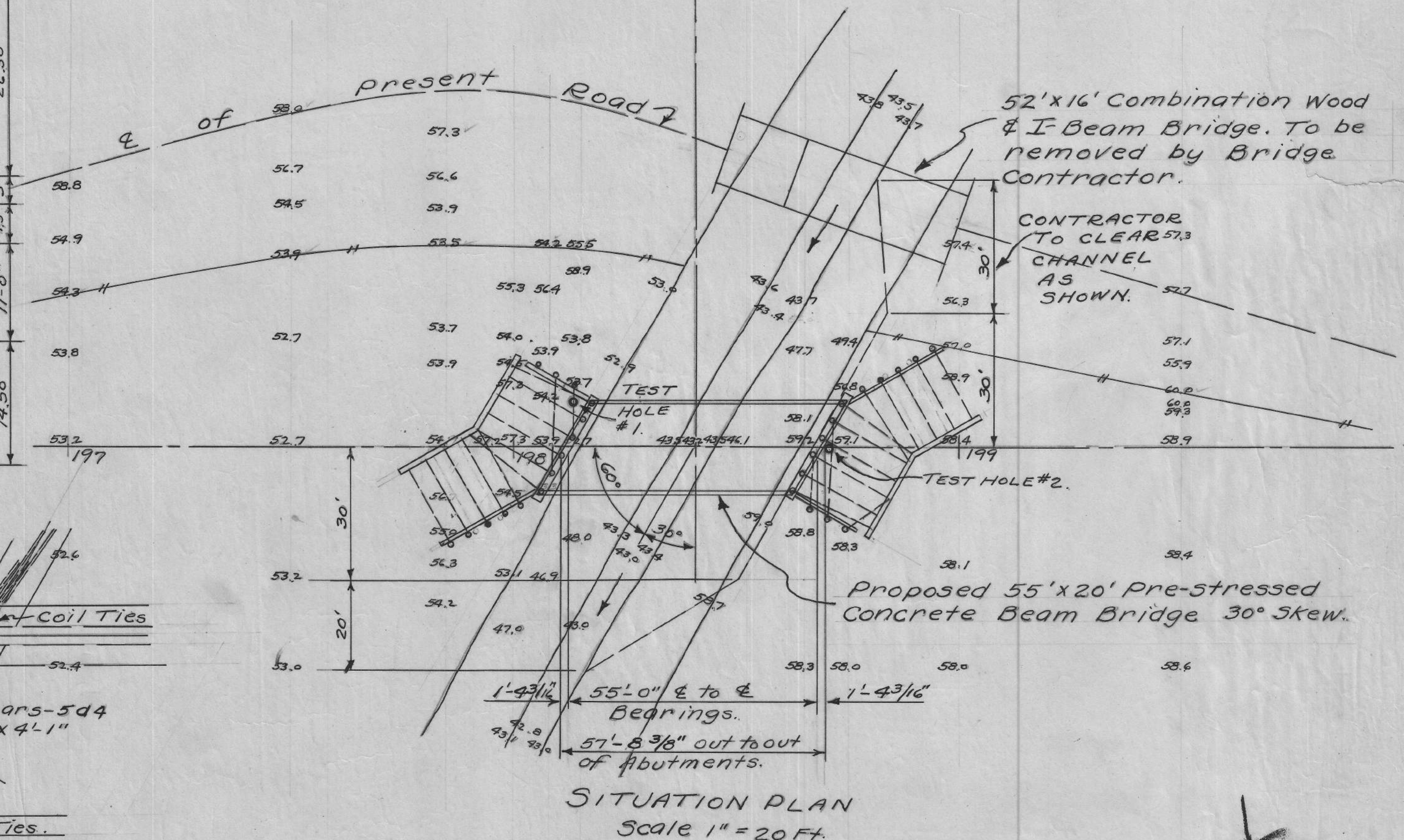
SOUNDING DATA.
1" = 10 Ft. Vert.



INTERIOR DIAPHRAGM
DETAIL, 1/2" = 1 FT.



SECTION ALONG \mathcal{E} OF ROADWAY.
Scale 1" = 20 Ft.

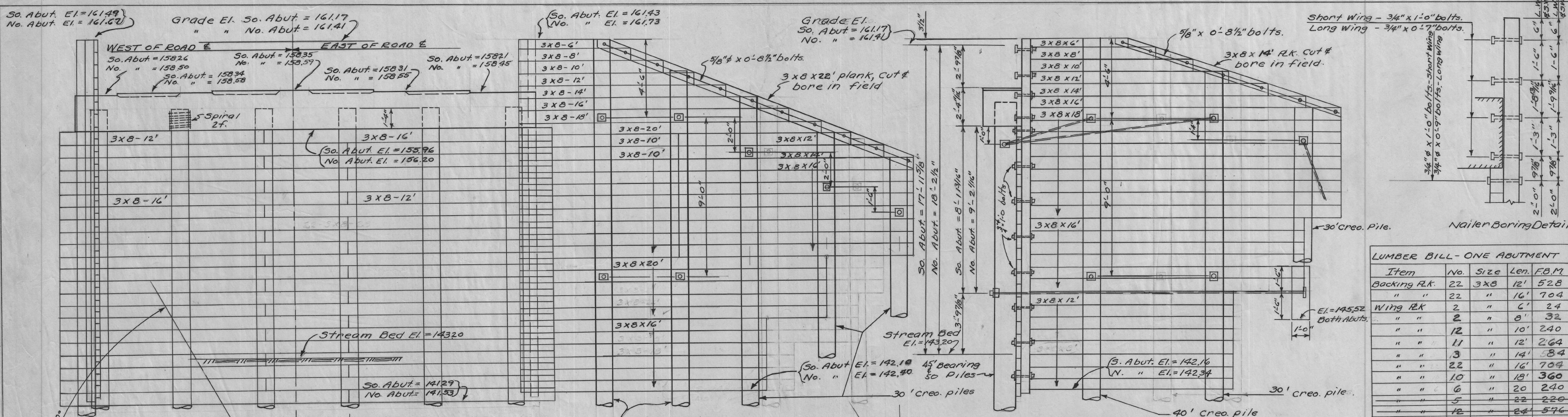


SITUATION PLAN
Scale 1" = 20 Ft.

DESIGN FOR 30° SKEW
55' x 20' PRE-STRESSED CONCRETE BEAM BRIDGE
CONCRETE FLOOR - TYPE "B" STEEL RAIL.
STA. 198+40.50 PROJECT No. 5-1096(1)
CRAWFORD COUNTY, IOWA.

Location:
Section-13
Boyer Twp.
T.82N. R.41W.

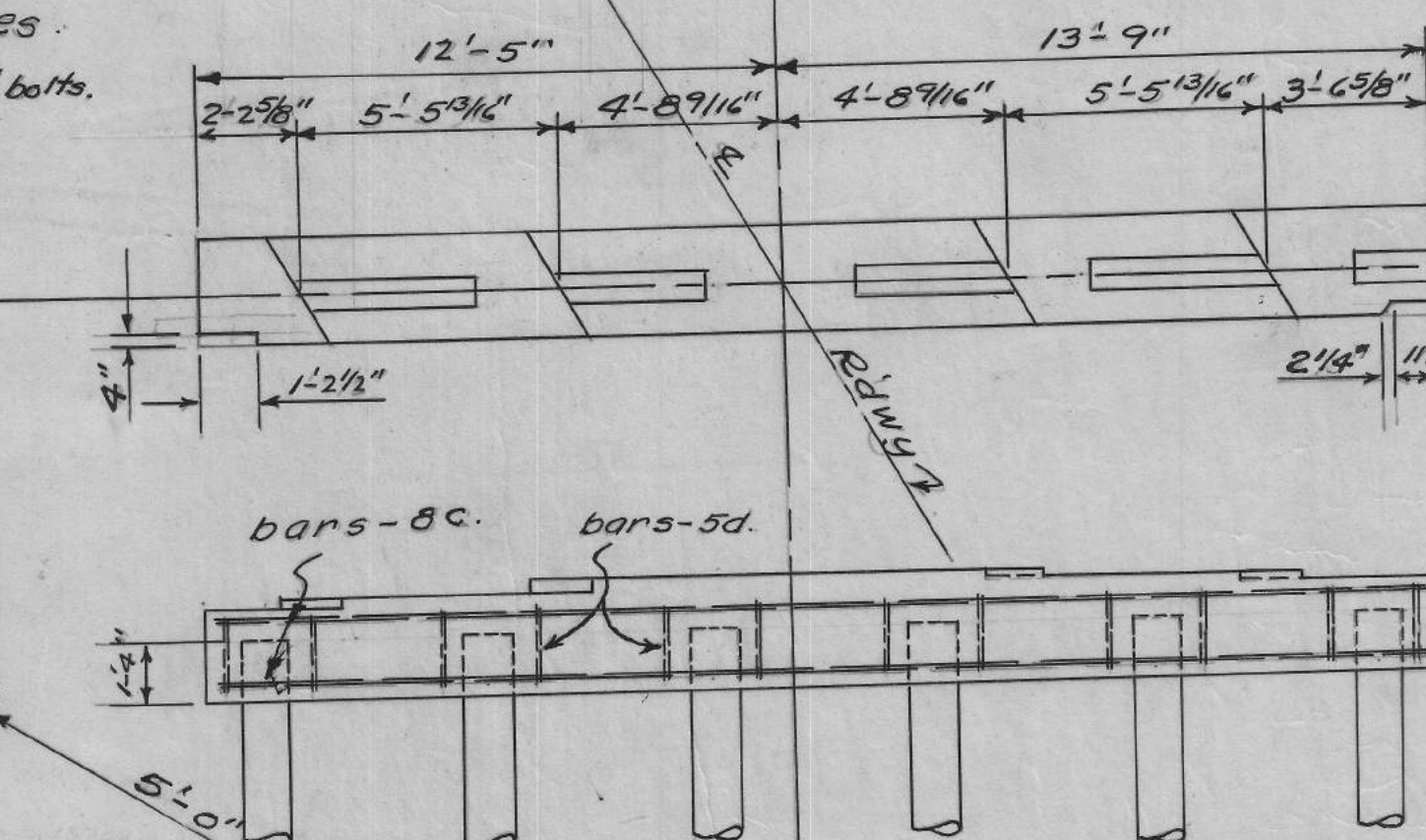
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LUMBER BILL - ONE ABUTMENT

Item	No.	Size	Len.	F.B.M.
Backing R.K.	22	3x8	12'	528
"	22	"	16'	704
Wing R.K.	2	"	6'	24
"	2	"	8'	32
"	12	"	10'	240
"	11	"	12'	264
"	3	"	14'	84
"	22	"	16'	704
"	10	"	18'	360
"	6	"	20'	240
"	5	"	22'	220
"	12	"	24'	576
Wing Slope	1	3x8	22'	44
"	1	3x8	14'	28
Nailers	1	6x6	20'	60
"	1	1/2"x8x8	20'	53
TOTAL =				3365

SHORT WING ELEVATION.



REINFORCING BAR LIST - ONE ABUT.

Bar Location	Shape	Size	Length	No.	WT.
6a D.M. Long.	—	3/4"	18'-8"	6	168
6a " "	—	"	22'-8"	6	204
4b D.M. Hoops.	□	1/2"	7'-8"	18	92
8c Cap Long.	—	1"	25'-10"	4	276
5d Cap Hoops	□	5/8"	8'-8"	12	108
2f Spiral spacer	—	1/4"	14"	6	37
Total =					885

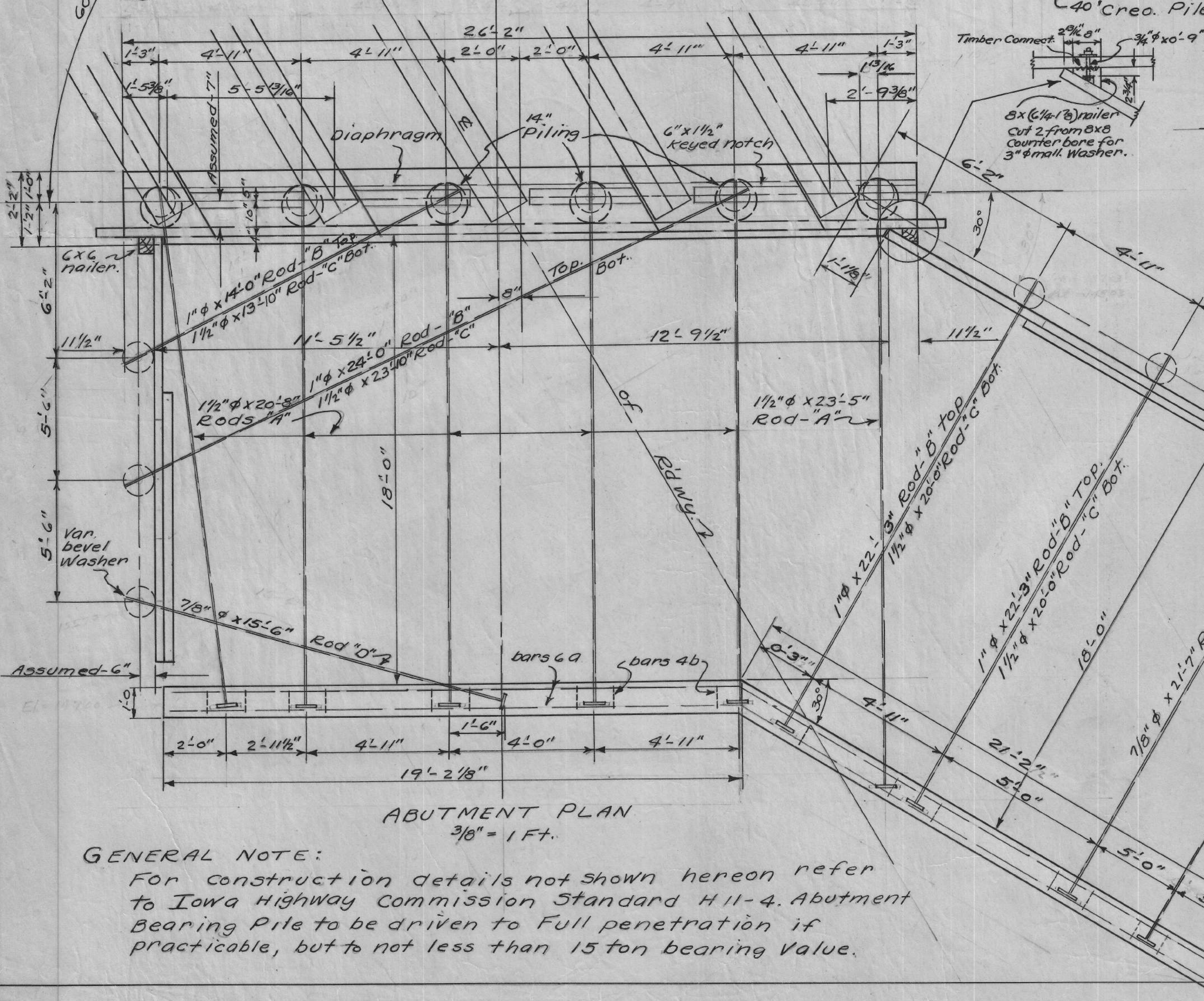
BAR DETAIL

ESTIMATED QUANTITIES - TWO ABUTS.

Creosoted Lumber	6730 F.B.M.
Concrete (Class "A")	18.60 C.Y.
Rein. Steel	1770 LBS.
Struct. Steel	4041 "
Hardware	136 "
*Creo. Bearing Piling (Trestle)	6 @ 45' @ 50' = 570'
" " " "	6 @ 40' = 240'
" " " "	10 @ 30' = 300'

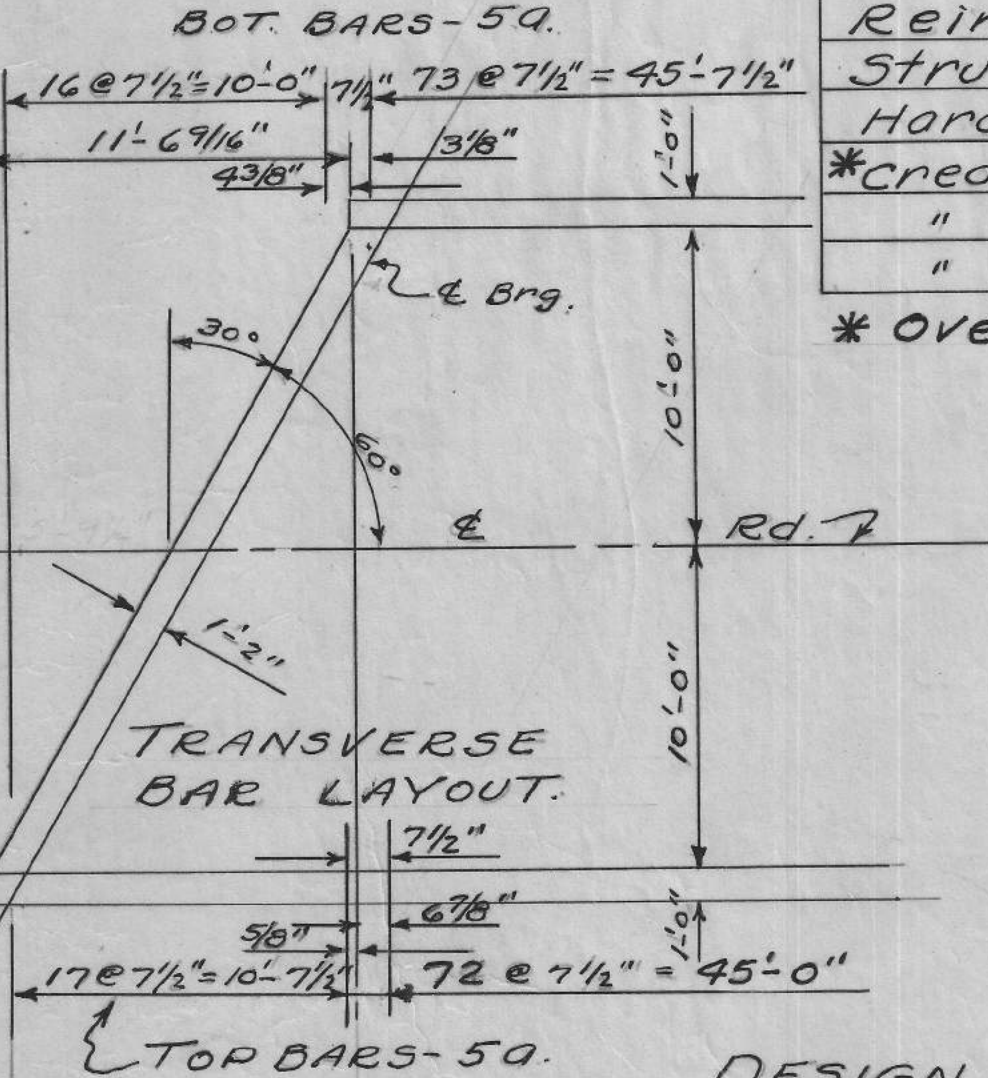
* Oversize Min. butt. diameter = 14"

NOTE: For Details of Abutment & Interior Diaphragms see Sheet No. 2.



ABUTMENT PLAN

GENERAL NOTE:
For construction details not shown hereon refer to Iowa Highway Commission Standard H-11-4. Abutment Bearing Pile to be driven to Full penetration if practicable, but to not less than 15 ton bearing Value.



TRANSVERSE BAR LAYOUT.

DESIGN FOR 30° SKEW
55' x 20' PRE-STRESSED CONCRETE BEAM BRIDGE
CONCRETE FLOOR-TYPE "B" STEEL RAIL
Location: Section-13, Boyer TWP., T.82N. R.41W.
STA-198+40.50 PROJECT No. S-1096(1)
CRAWFORD COUNTY, IOWA.

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