



**Bridge #03011(Routine)**  
**US79 S-7 LM 7.70 over SALINE RIVER**

**Location: 4.89 MI S JCT SH 35**

**Team Lead: Jimmy Reynolds Inspection Date: August 31, 2021**



Latitude:33.89443, Longitude:-92.23559

Route:79 Section:07 Log:7.7

Arnold Road ID:13x79x7xA, Arnold Log mile:7.771

District 07, Cleveland County

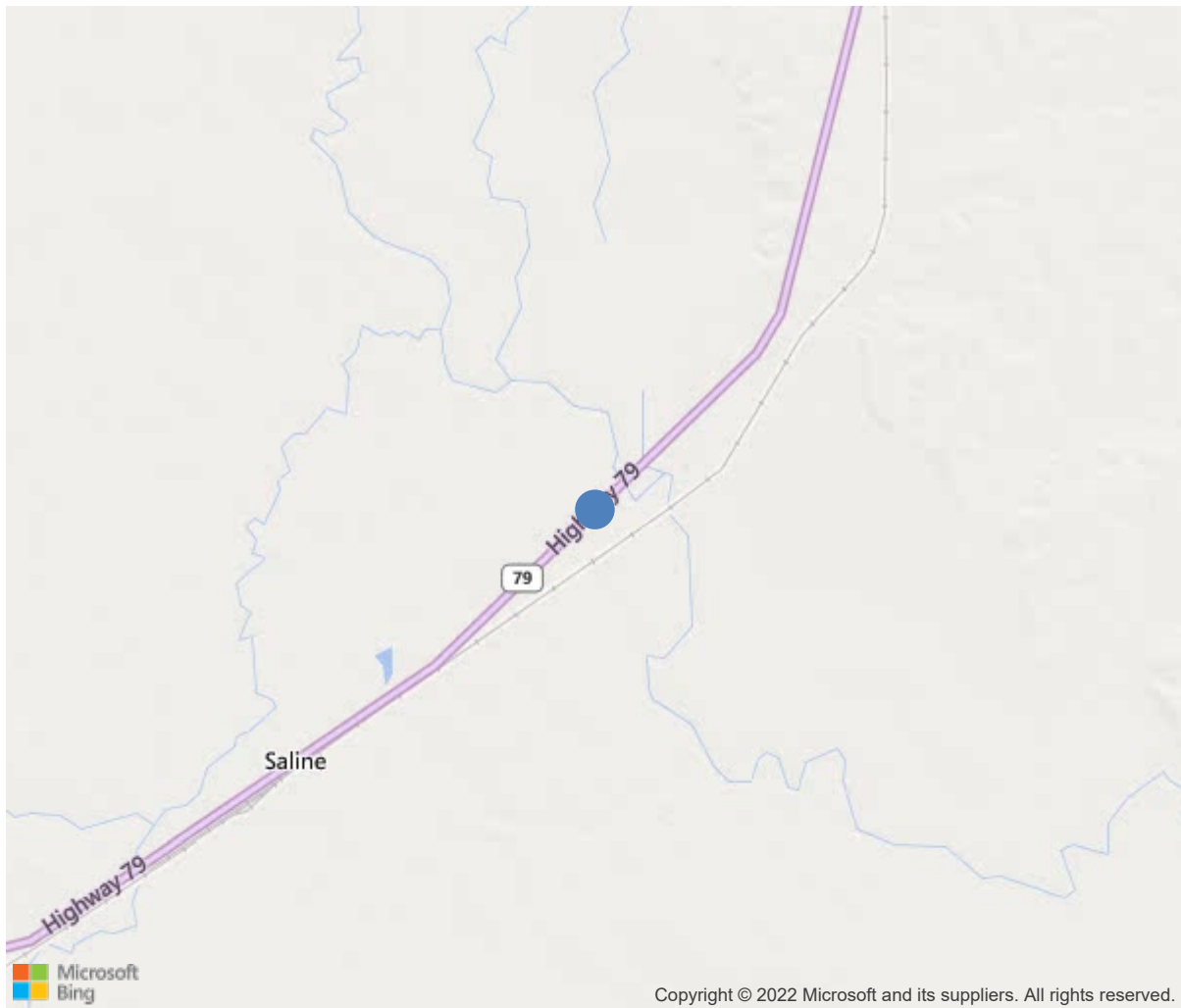
Owner: 1-State Highway Agency



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33.89443, -92.23559



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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	03011
(5) Inventory Route	79
(2) Highway Agency District	07
(3) County Code	25-Cleveland County, Arkansas
(4) Place Code	0
(6) Features Intersected	SALINE RIVER
(7) Facility Carried	US79 S-7 LM 7.70
(9) Location	4.89 MI S JCT SH 35
(11) Mile Point	7.7 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000079070
(16) Latitude	33.89443
(17) Longitude	-92.23559
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3-Steel
Type	2-Stringer/Multi-beam or girder
(44) Approach Structure Type	00
Material	0-Other
Type	0-Other
(45) No. of Spans in Main Unit	49
(46) No. of Approach Spans	0
(107) Deck Structure Type	1-Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	1-Monolithic Concrete (concurrently placed
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1956
(106) Year Reconstructed	0
(42) Type of Service	15
On	1-Highway
Under	5-Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	2700
(30) Year of ADT	2018
(109) Truck ADT	20 %
(19) Bypass, Detour Length	55 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	85 ft
(49) Structure Length	2013 ft
(50) Curb or Sidewalk Width	
Left	1.5 ft
Right	1.5 ft
(51) Bridge Roadway Width Curb to Curb	26 ft
(52) Deck Width Out to Out	31.6 ft
(32) Approach Roadway Width (W/Shoulders)	28.9 ft
(33) Bridge Median	0-No median
(34) Skew	0 Deg
(35) Structure Flared	No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	27.9 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	99.9 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0-No navigation control on water
(111) Pier Protection	1-Navigation protection not requ
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	1
(26) Functional Class	2-Rural Principal Arterial - Oth
(100) Defense Highway	0-The inventory route is not a S
(101) Parallel Structure	N-No parallel structure exists.
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0-N/A
(110) Designated National Network	1-The inventory route is part of the
(20) Toll	3-On free road. The structure is toll-
(21) Maintain	1-State Highway Agency
(22) Owner	1-State Highway Agency
(37) Historical Significance	5-Bridge is not eligible for the NRHP
CONDITION	
(58) Deck	5
(59) Superstructure	5
(60) Substructure	6
(61) Channel & Channel Protection	7
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	4-M 18 / H 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	41
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	49
Rating	25
(70) Bridge Posting	5-Equal to or above legal loads
(41) Structure Open/Posted/Closed	A-Open, no restriction
APPRAISAL	
(67) Structural Evaluation	5
(68) Deck Geometry	3
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0-Inspected feature does not meet cur
(36B) Transitions	0-Inspected feature does not meet cur
(36C) Approach Guardrail	0-Inspected feature does not meet cur
(36D) Approach Guardrail Ends	0-Inspected feature does not meet cur
(113) Scour Critical Bridges	5-Bridge foundations determined to be
PROPOSED IMPROVEMENTS	
(75) Type of Work	Replacement of bridge or other
(76) Length of Structure Improvement	2036 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 235
(96) Total Project Cost	\$ 4263
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	3535
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	08/2021		
(91) Frequency	24 Months		
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection	No		
* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.			



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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	55362	3225	35192	16945	0
1080	Delamination/Spall/Patched Area	SF	7821	0	0	7821	0
1130	Cracking (RC and Other)	SF	18247	0	9123	9124	0
1190	Abrasion/Wear (PSC/RC)	SF	26069	0	26069	0	0
(12)	Some chips, spalls, potholes, sealable cracks. The bulk of the chips and spalls are outside the white line, therefore it appears that the spalls are due to salt damage.						
107	Steel Open Girder/Beam	LF	8053	7813	200	40	0
1000	Corrosion	LF	240	0	200	40	0
515	Steel Protective Coating	SF	50289	50289	0	0	0
(107)	Minor rust and pitting at girder ends and haunches.						
205	Reinforced Concrete Column	EA	4	3	1	0	0
1090	Exposed Rebar	EA	1	0	1	0	0
210	Reinforced Concrete Pier Wall	LF	2	2	0	0	0
215	Reinforced Concrete Abutment	LF	72	72	0	0	0
227	Reinforced Concrete Pile	EA	160	154	5	1	0
1080	Delamination/Spall/Patched Area	EA	1	0	0	1	0
1090	Exposed Rebar	EA	2	0	2	0	0
1130	Cracking (RC and Other)	EA	3	0	3	0	0
234	Reinforced Concrete Pier Cap	LF	962	612	175	175	0
1080	Delamination/Spall/Patched Area	LF	175	0	0	175	0
1090	Exposed Rebar	LF	75	0	75	0	0
1130	Cracking (RC and Other)	LF	100	0	100	0	0
(234)	Delams and spalls bents 5-6. Minor spalls with on cap ends bents 9 & 15, spalls with exposed steel bents 23-24, general wear discoloration in areas exposed to drainage.						
304	Open Expansion Joint	LF	1088	1088	0	0	0
(304)	Water and roadway salts coming through joints.						
305	Assembly Joint without Seal	LF	207	104	0	103	0





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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
2360	Adjacent Deck or Header	LF	103	0	0	103	0
311	Movable Bearing	EA	196	0	196	0	0
1000	Corrosion	EA	98	0	98	0	0
2220	Alignment	EA	98	0	98	0	0
(311)							
	Rusty plates.						
313	Fixed Bearing	EA	196	0	196	0	0
1000	Corrosion	EA	196	0	196	0	0
330	Metal Bridge Railing	LF	4026	0	4026	0	0
1000	Corrosion	LF	4026	0	4026	0	0



Underside span 49 and abutment 2



Bent 41 pile 4 spalled





Underside span 40



Underside span 30





Bent 29 vegetation



Bent 21 pile 4 spalled





Underside span 15



Bent 15 cap spalled right side





Bent 9 cap spalled right side



Underside span 4





Span 48 looking ahead @ deck overview with some minor spalls.



Bent 44 looking across @ joint repair.





Span 40 looking ahead @ deck overview with some spalls in Lt. gutterline.



Span 36 looking ahead @ deck overview with some spalls mainly in Lt. Gutterline.





Span 34 looking ahead @ deck overview. There are some small spalls in Lt. gutterline.



Span 28 looking ahead @ span 28. There is some minor spalling on the back side of joint between 28 & 29. There is also some deck spalls in Lt. gutterline.





Bent 27 looking across @ joint between spans 27 & 28. There is some minor spalls on the ahead side of the joint.



Span 26 looking ahead @ numerous deck spalls on entire span.





Span 23 @ C/L & 10' back of Bent 24 there is a spall with exposed rebar.



Span 23 looking ahead at deck overview with numerous spalls. There are several fairly large patched spalls in Lt. Gutterline & several smaller spalls Lt. & Rt. Of C/L. There are also numerous scaling & light spalls in the Rt. gutterline.





Span 21 looking across from Rt. to Lt. @ deck cracking, this is typical of numerous spans.  
There is also significant wear & abrasion to the spans.



Bent 20 looking across @ joint repair, this joint is in good shape.





Span 17 looking ahead @ deck overview.



Bent 14 looking across from Rt. to Lt. @ joint material, there is some separation in the poured joint material from C/L Lt. in the SB lanes.





Span 12 looking ahead @ deck



Span 8 looking across from Rt. to Lt. @ deck cracking





Span 5 looking ahead @ deck.



Bent 5 joint material has been repaired, typical of all joints.





Span 2 Lt. Side from bent 2 ahead there is a patched spall in gutter line approx. (2 1/2' x 6').  
This is typical of spans 1 - 5.



Span 1 deck overview.





Roadway



Bent33 cap spall





Deck overview.



Elevation





Span 41 beam 4 top bolt missing from diaphragm



Span 26 overview.





Span 26, spall with exposed rebar.



Span 43, open and sealed cracks.





Span 8, moderate transverse cracks, max 0.040.



Deck overview span 23, spalls exposed rebar.





Bent 20 beam 3 bolt missing in bearing.



Span 23 drain hole





Bent 9, right end of cap spall with exposed rebar.



Span 25 spalls with exposed rebar in gutter line.





Bent 29 pile 4 back



Bent41 pile 4 spall with exposed rebar





Span 33 beam2 missing bolt



Span 48, spalls with transverse cracks.





Soffit span 10.



Beam2 bent27 bearing pack rust





Bent 8 spall with exposed rebar, between piles 3-4.



Bent 25 cap right side delam





Bent 19, beam 2, typical of minor rust , with pack rust to bearing.



Span 41, deck spalls and patch.





Soffit span 22



Span 27 beam 2 bent 28 flaking rust





Pier 2 spall with exposed rebar right side end



Pier 2 crack and delam with spall with exposed rebar





Spans 1-5, sb lane gutters have patches.



Bent 23 cap debris Also typical of bent 25





Span 28, sb lane spalled in gutter line.



Span 27 missing bolts





Bent 21 pile 4 spall with exposed rebar



### Maintenance Needs

**Date Reported:** 08/25/2011

**Priority:** D- Routine

**Type of Work:** None

**Status:** Monitor

**Component:**

---

### Deficiency Description

Deck

Minor spalls and potholes, some with exposed steel. Spans 25-26-27 are the worst

### Remarks

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Deck spall, Span 1 Lt. lane 4' long x 2' wide x 1" deep about midspan.



Span 2 spall 7' long





Deck spall, Span 1 2' ahead of BR begin, Lt. lane just outside the white line, is 7' long & 2' wide & about 2" deep at the deepest point.





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Date Reported: 08/25/2011

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

---

### Deficiency Description

Superstructure components

Rust and minor sec. loss to haunches and some bearings and plates. Span 28 missing diaphragm bolts missing between girders 1 & 2

### Remarks

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**Date Reported:** 08/25/2011

**Priority:** D- Routine

**Type of Work:** None

**Status:** Assigned

**Component:**

---

### Deficiency Description

#### Substructure components

Minor spalls with some exposed steel , no sec. loss, bents 9 rt., & 45.

Minor spalls with some exposed steel with some section loss, bents 3 Lt., 15 rt., 27 rt., 37 bottom of cap.

Minor spall @ top of cap @ bearing area, under girder #2 @ bent 33. 09/07/2017 JPR -- Minor spalls Bent 7 cap spalls, Bent 8 cap spalled with exposed rebar, Bent 15, pier cap @ pile 4 has spalls both sides of the pile with significant section loss to exposed steel, Bent 13 between piles 3 & 4, spall on the bottom of the pier cap with exposed steel with section loss, Bent 21, Pile 4 back has spall with exposed steel.

### Remarks

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Bent 15, pier cap @ pile 4 has spalls both sides of the pile with significant section loss to exposed steel.



Bent 21, Pile 4 back has spall with exposed steel.





Bent 8 cap spalled with exposed rebar



Bent 13 between piles 3 & 4, spall on the bottom of the pier cap with exposed steel with section loss.





Bent 7 cap spall.





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### **Inspection Comments**

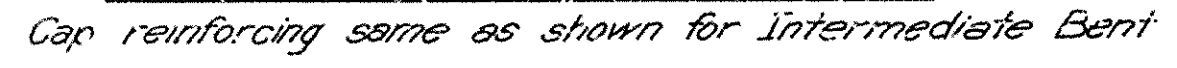
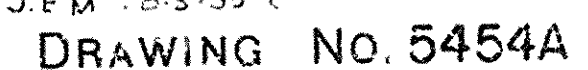
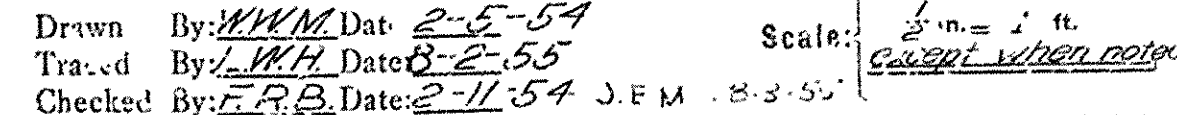
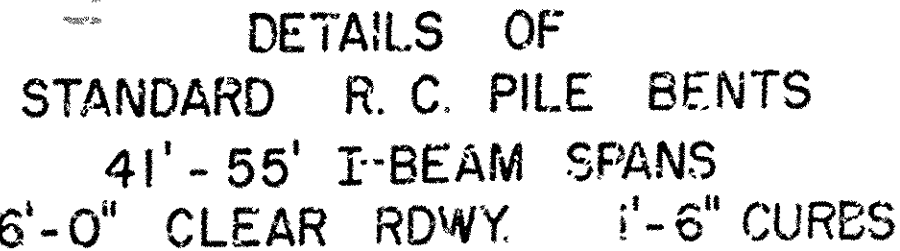
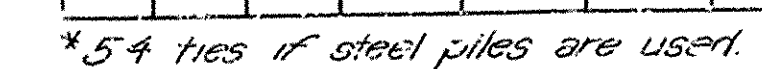
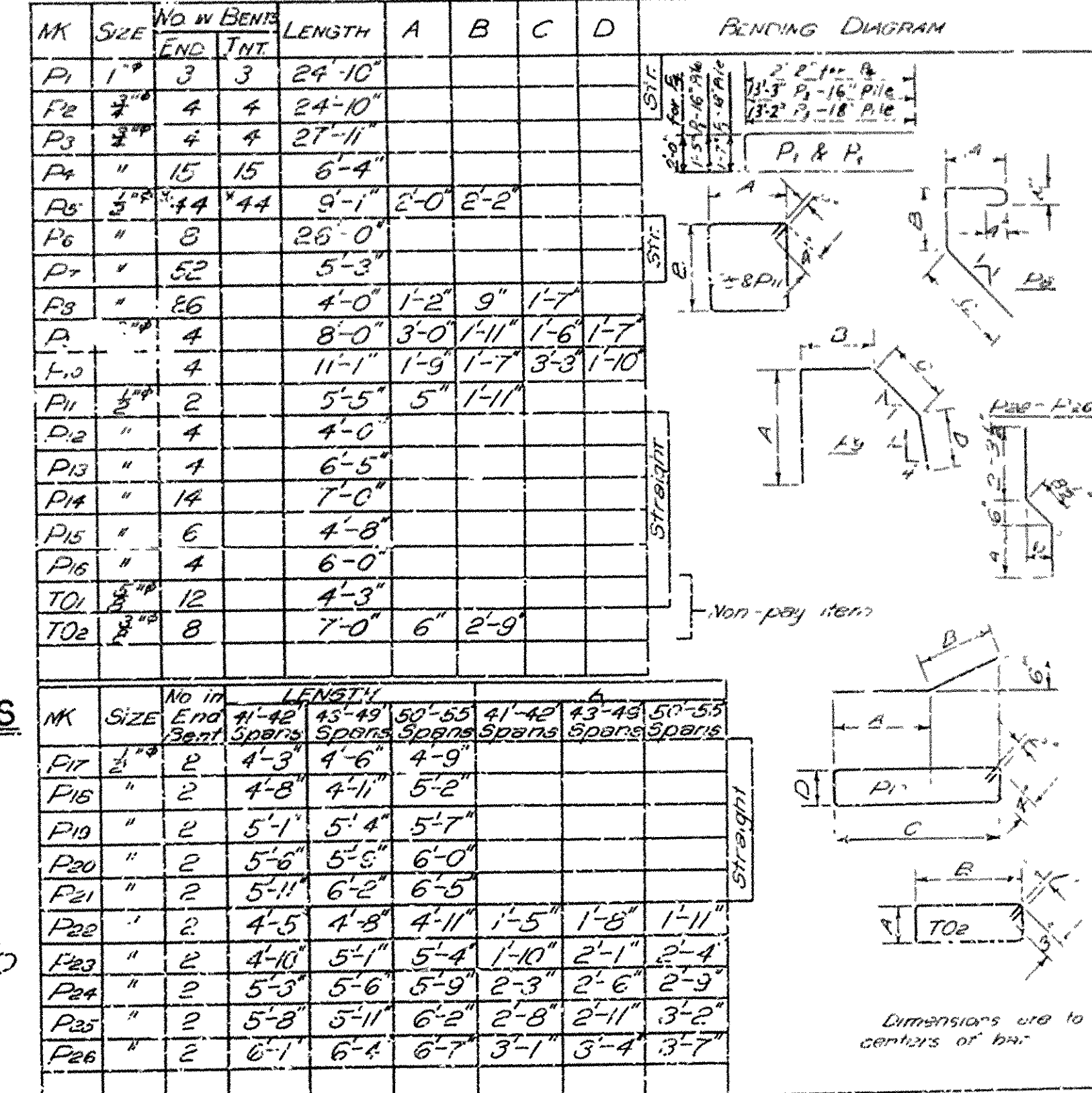
Logged south to north.

Concrete deck with steel superstructure , concrete substructure. Main span has two pier walls. Some sealable cracks in deck also small abrasions and some potholes. Steel has some rust and minor section loss. Paint condition is sound on most of structure with water and roadway salts mainly affecting girder ends @ open joints and below weep holes. Substructure is concrete and has some minor chips and spalls with some exposed steel. Main span was snooped this inspection (2015) UW pier 2 was completely out of the water and has silt and sand build up along both sides. Sounded pier 1 and measured to top of concrete curb, 46' left and 41' right.





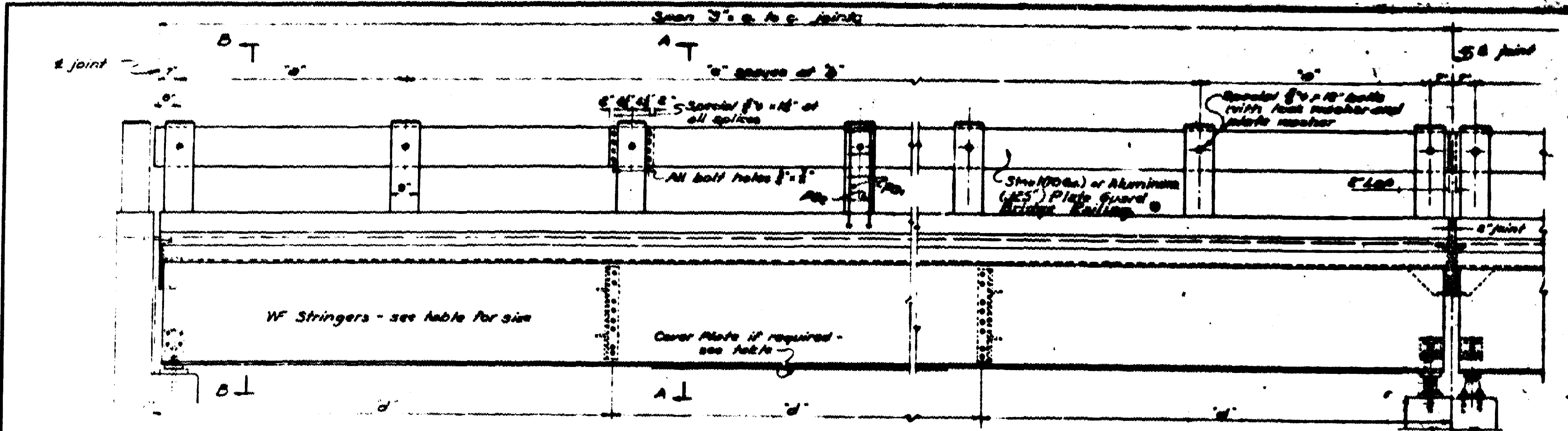
SPAN	VERTICAL DIMENSIONS				
	"a"	"b"	"c"	"d"	"e"
41'	1'-1 $\frac{1}{2}$ "	6'-1 $\frac{3}{4}$ "	4'-5 $\frac{1}{2}$ "	3'-1 $\frac{1}{2}$ "	3'-6 $\frac{3}{4}$ "
42'	"	"	"	"	"
43'	1'-4 $\frac{1}{4}$ "	6'-4 $\frac{1}{4}$ "	4'-9"	3'-5"	3'-9 $\frac{1}{2}$ "
44'	"	"	"	"	"
45'	"	"	"	"	"
46'	"	"	"	"	"
47'	1'-4 $\frac{3}{4}$ "	6'-4 $\frac{3}{4}$ "	4'-9 $\frac{1}{4}$ "	3'-5 $\frac{1}{4}$ "	3'-9 $\frac{1}{4}$ "
48'	"	"	"	"	"
49'	"	"	"	"	"
50'	1'-6 $\frac{3}{8}$ "	6'-6 $\frac{3}{8}$ "	4'-11 $\frac{3}{8}$ "	3'-7 $\frac{1}{4}$ "	3'-11 $\frac{3}{8}$ "
51'	"	"	"	"	"
52'	"	"	"	"	"
53'	"	"	"	"	"
54'	1'-7"	6'-7"	4'-11 $\frac{3}{4}$ "	3'-7 $\frac{3}{4}$ "	4'-0"
55'	"	"	"	"	"



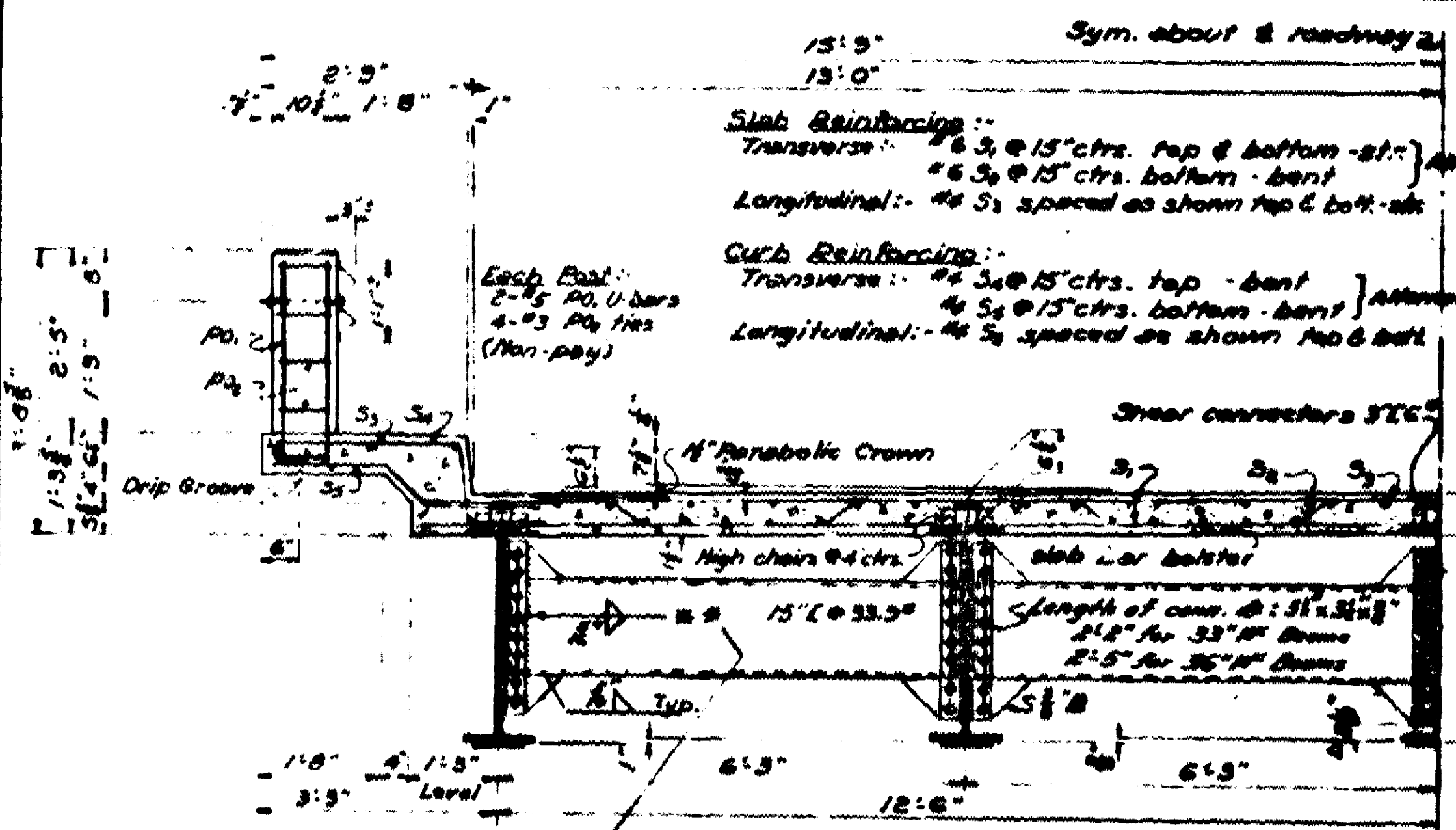
Steel piles are to be driven to refusal. Concrete piles to be driven to a minimum capacity of 34 tons. For additional details of Superstructure and for General Notes, see Dwg. No. 5454.  
Use type of pile called for on Bridge Layout.  
All concrete to be Class "S".  
\* Or as modified in general notes for the Job.

REVISION. Added 18" Pile to  
Int Bent. 9-19-55 HB  
Revised Roadway and Curb

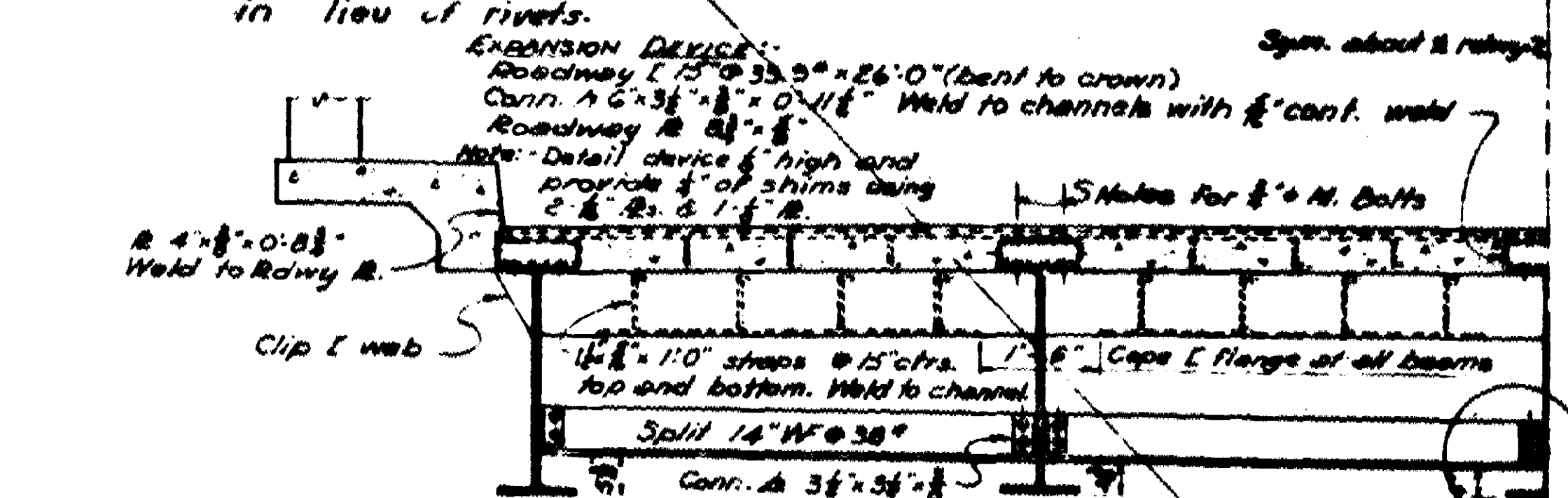




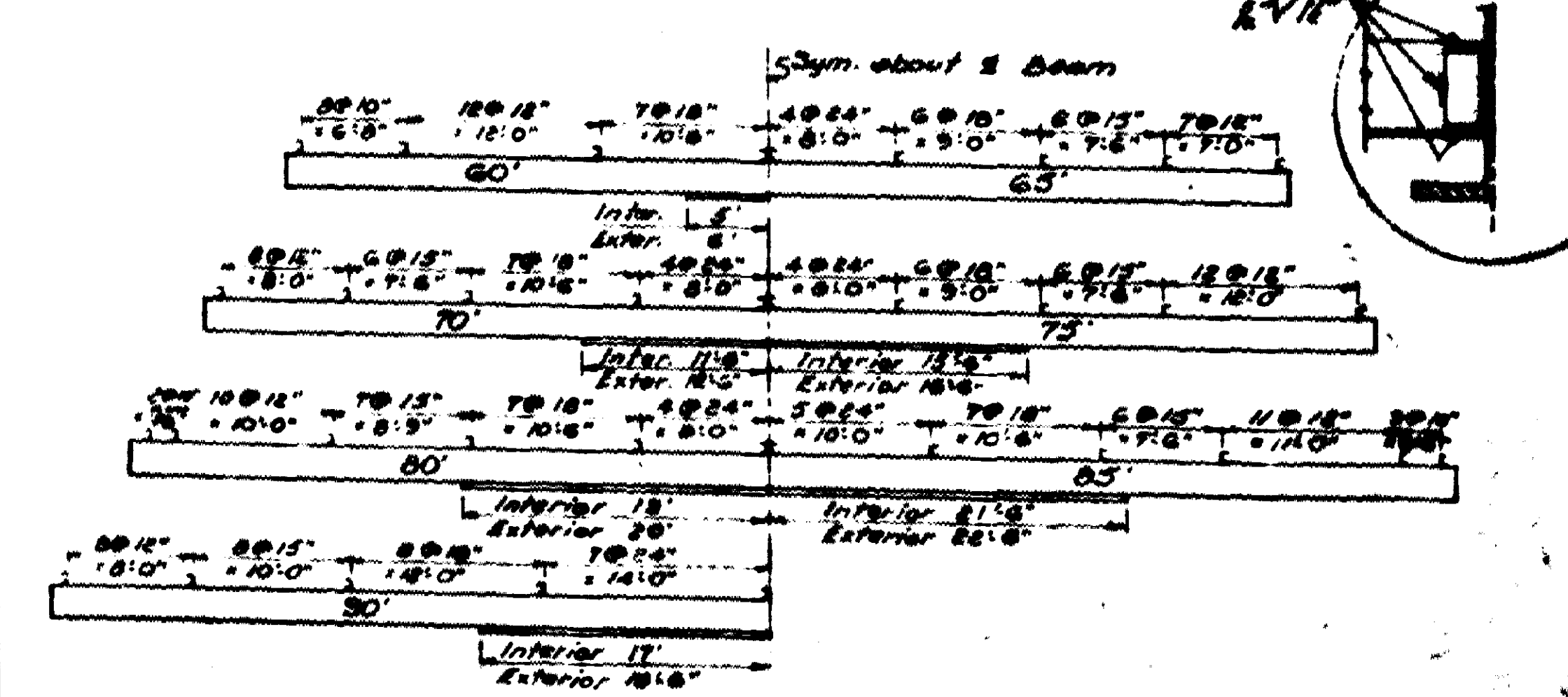
ELEVATION



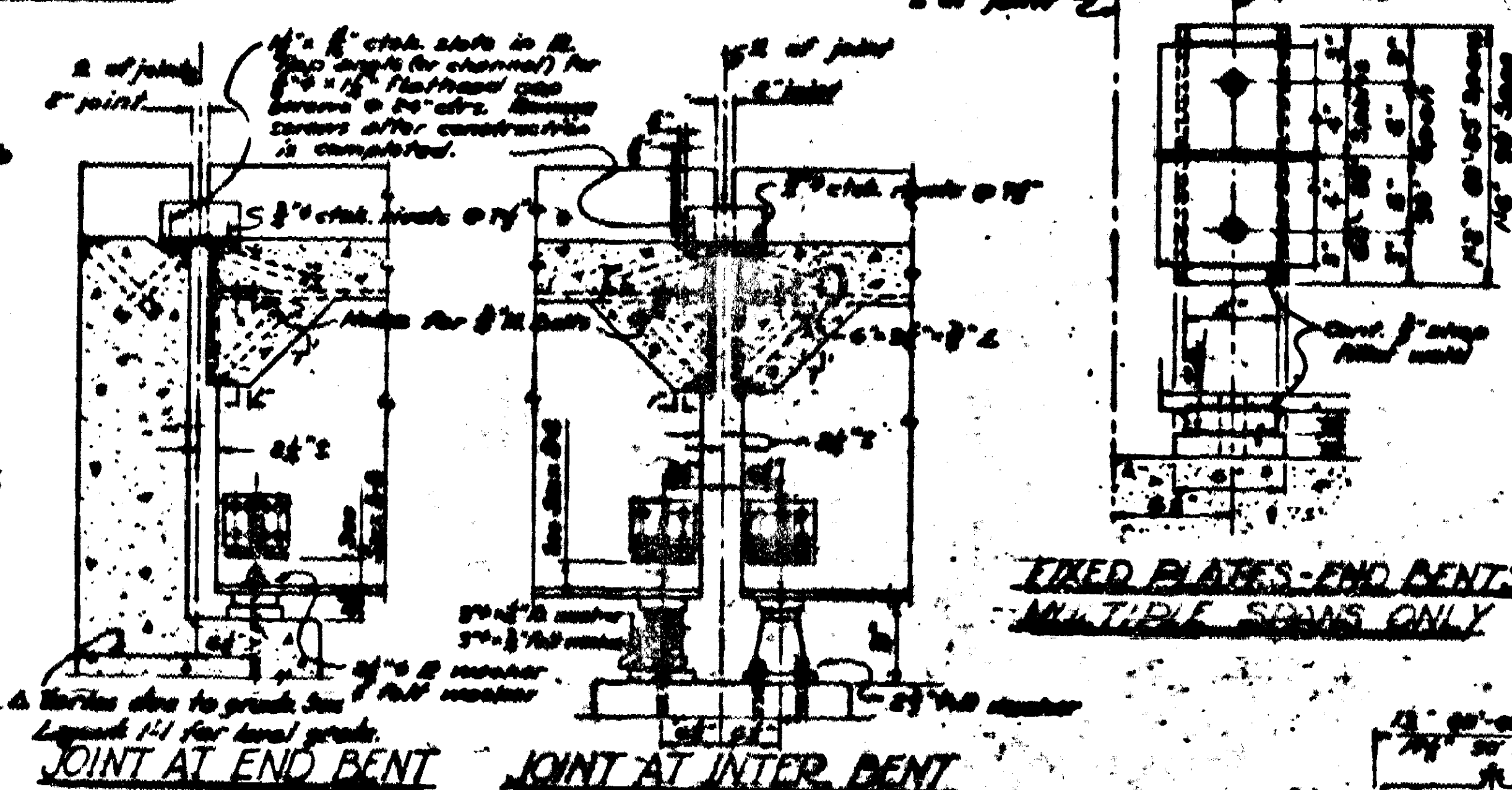
SECTION A-A



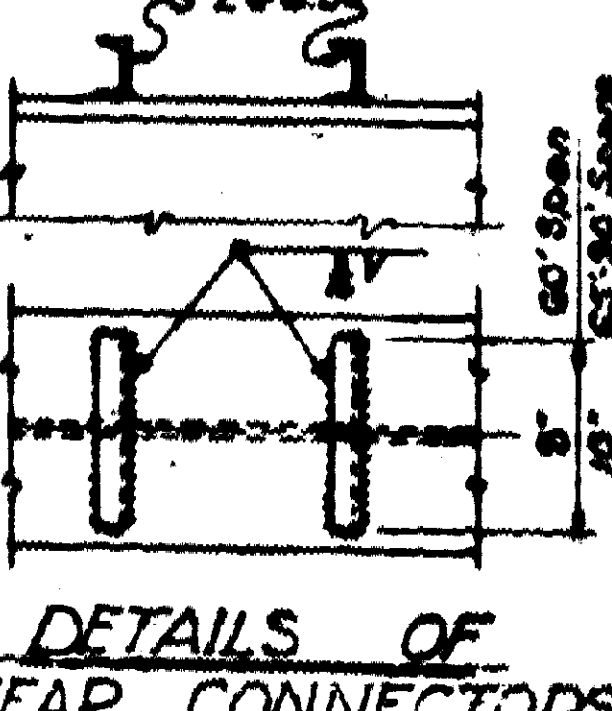
SECTION B-B



SPACING OF SHEAR CONNECTORS AND LENGTHS OF COVER PLATES



DETAILS OF SHEAR CONNECTORS



DETAILS OF COVER PLATES

VARIABLES FOR 60' TO 90' SPANS

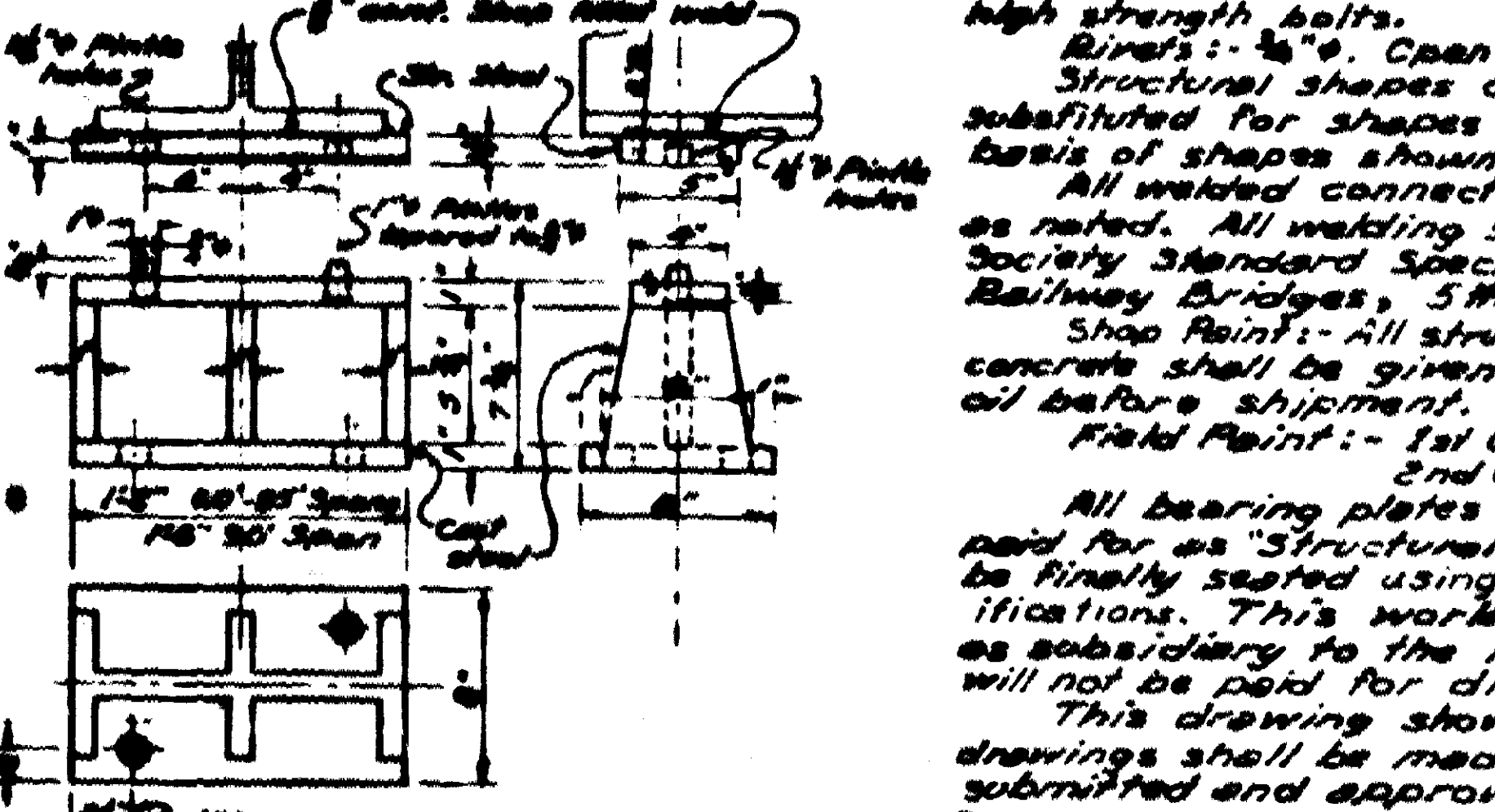
SPAN	STAINLESS	COVER PLATE	FAST SPACING	STAY	STAY	STAY	STAY	STAY	STAY
60'	33 1/2" x 10"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"
65'	36 1/2" x 10"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"
70'	39 1/2" x 10"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"
75'	42 1/2" x 10"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"
80'	45 1/2" x 10"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"
85'	48 1/2" x 10"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"
90'	51 1/2" x 10"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"	5' x 1/2"

BAR LIST

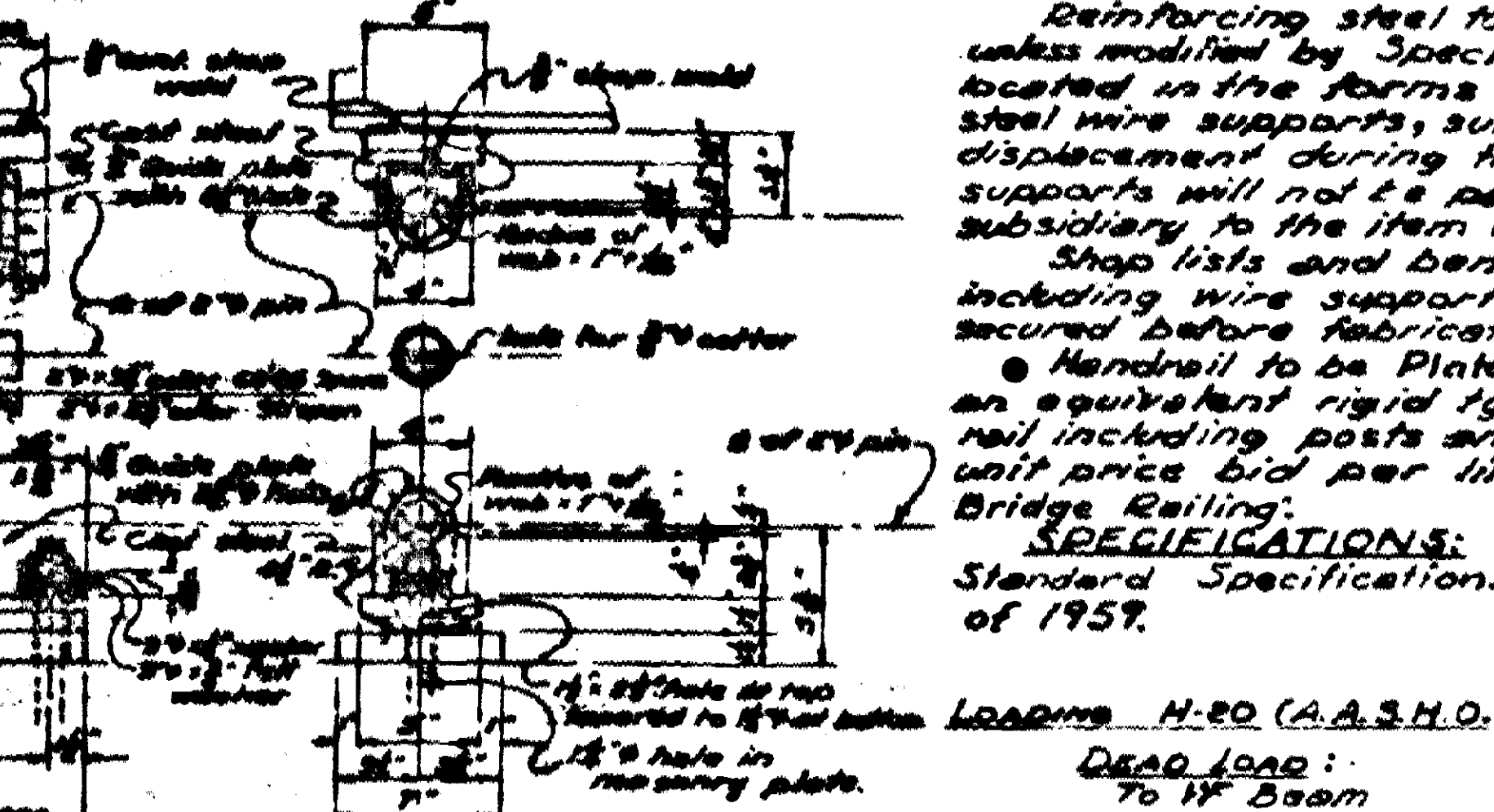
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2	4" x 1/2" Bars	100	ft	
3	4" x 1/2" Bars	100	ft	
4	4" x 1/2" Bars	100	ft	
5	4" x 1/2" Bars	100	ft	
6	4" x 1/2" Bars	100	ft	
7	4" x 1/2" Bars	100	ft	
8	4" x 1/2" Bars	100	ft	
9	4" x 1/2" Bars	100	ft	
10	4" x 1/2" Bars	100	ft	



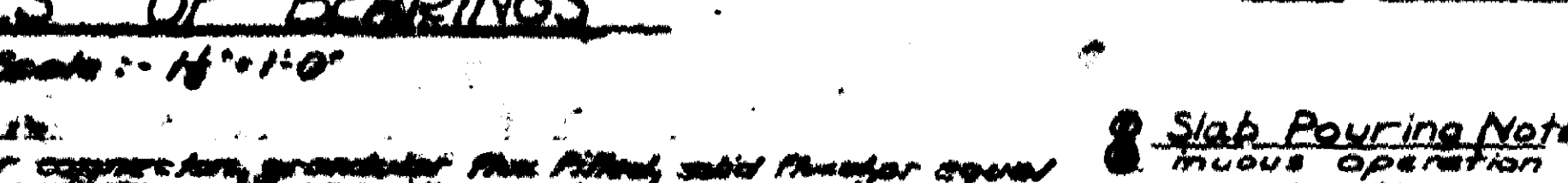
DETAIL OF ANCHOR BOLT



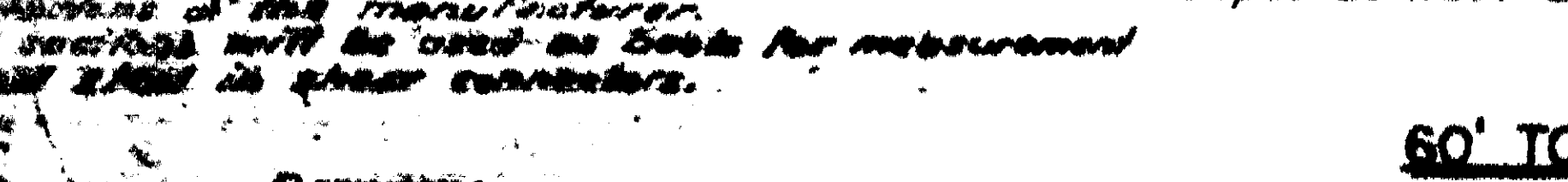
FIXED PLATES- END BENTS



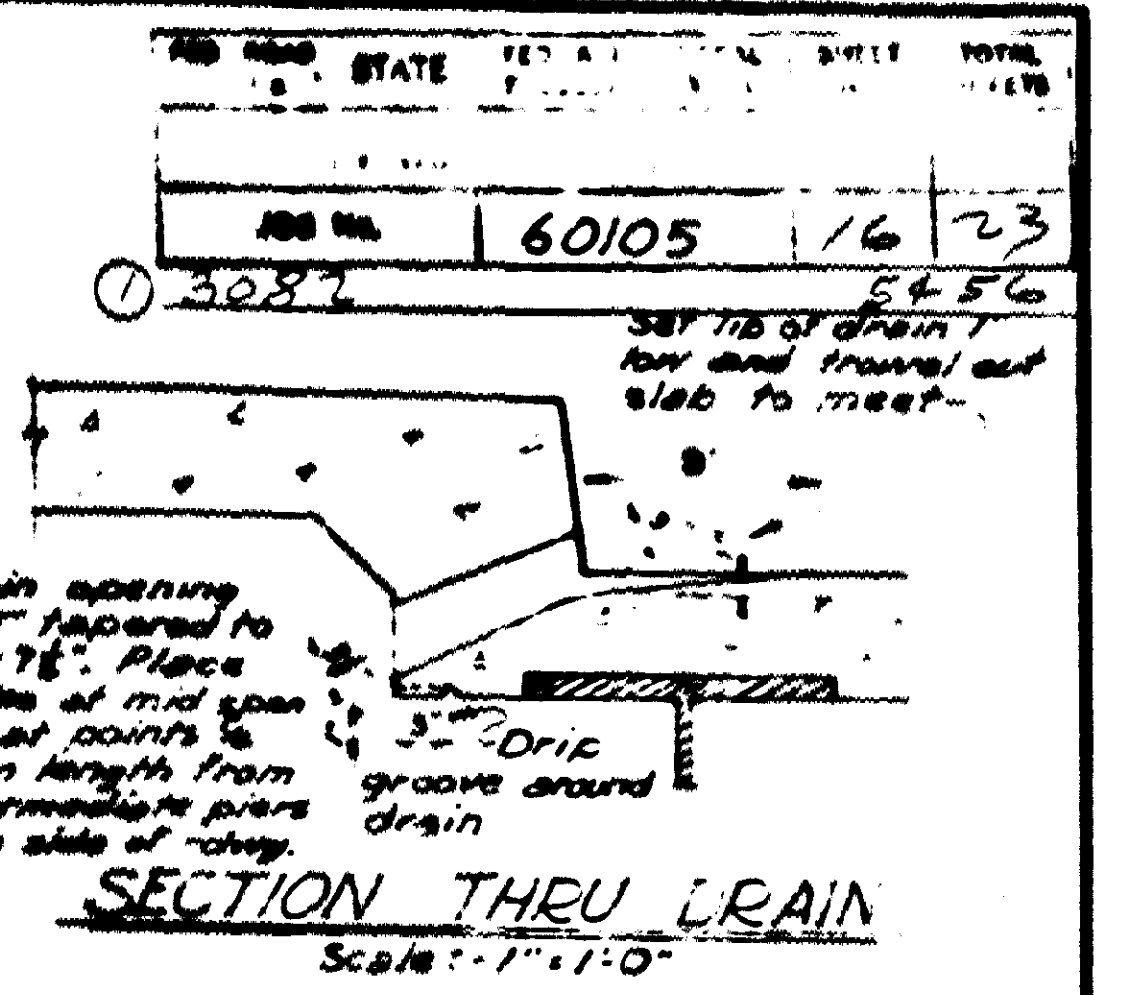
FIXED SHOES- INTERMEDIATE BENTS



EXPANSION SHOES



DETAILS OF BEARINGS



SECTION THRU DRAIN

**GENERAL NOTES**

All concrete to be Class "C". All exposed corners to be chamfered 1/4".

Field connections for diaphragms to be riveted or bolted with high strength bolts.

Reinforcing steel to be deformed bars of intermediate grade unless modified by Special Provisions. Steel to be accurately located in the forms and firmly held in place by means of steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Reinforcing Steel".

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approved before fabrication is begun.

Handrail to be Plate Guard Rail of the type shown, or an equivalent rigid type as approved by the Engineer. The rail including posts and fastenings shall be paid for at the unit price per linear foot for "Steel or Aluminum Plate Guard Bridge Railings".

**SPECIFICATIONS:** Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1957.

**LOADING:** H-20 (A.A.S.H.O. 1957)

**DEAD LOAD:** To 1st Beam 20% (11 kips/ft of WF) 55 k/ft To Composite Beam 11% wheels + impact or 0.55 kips/ft + impact

**LIVE LOAD:** To 1st Comp. Beam 11% wheels + impact or 0.55 kips/ft + impact

**UNIT STRENGTHS:** Class "C" Concrete (f'c=10) 1200 psi Structural Steel 36,000 psi Reinforcing Steel 20,000 psi

**Slab Pouring Notes:** Floor slabs may be poured in one continuous operation with a strikeoff extending over the whole span length, or may be poured in increments with no center one-third to one-half span length poured first. After the center section is poured not less than 12 hours shall elapse before pouring the end sections. The end sections may be poured simultaneously, if not poured simultaneously, 48 hours shall elapse between end section pours.

**DETAILS OF STANDARD**

60' TO 90' COMPOSITE I-BEAM SPANS

26'-0" CLEAR ROWY 1'-6" CURBS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DESIGNED BY: J.E.H. DATE: 2-15-55

CHECKED BY: J.E.H. DATE: 2-15-55

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