

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BR-43-4	6	41
				① 4586	— QUANTITIES —			29031

SCHEDULE OF BRIDGE QUANTITIES — JOB NO. BR-43-4

BRIDGE NO. 4586	CODE NO. X020	NAME PLATE TITLE TWO PRAIRIE BAYOU	UNIT OF STRUCTURE	ITEM NO.	SP & 802	SP & 802	SP & 802	SP & 802	SP & 802	SP & 802	SP & 802	803	804	*SP & 805	*SP & 805	812	SP & 816	SP & 816	SP & 205
			UNIT	ITEM	CLASS S CONCRETE	25' PRECAST PARAPET RAIL UNITS	25' PRECAST CONCRETE CURB UNITS	25' PRECAST CONCRETE INTERIOR UNITS	31' PRECAST PARAPET RAIL UNITS	31' PRECAST CONCRETE CURB UNITS	31' PRECAST CONCRETE INTERIOR UNITS	BOILED LINSEED OIL	REINFORCING STEEL (GRADE 60)	PRECAST CONCRETE PILING (16" OCT. OR 16" SQ.)	TEST PILES (16" OCT. OR 16" SQ.)	BRIDGE NAME PLATES (TYPE C)	DUMPED RIPRAP	FILTER BLANKET	REMOVAL OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. 14923)
					CUBIC YARD	EACH	EACH	EACH	EACH	EACH	EACH	GALLON	POUND	LINEAR FOOT	LINEAR FOOT	EACH	CUBIC YARD	SQUARE YARD	LUMP SUM
			END BENT NOS. 1 & 6		28.8							0.3	2786	440		1	177	353	
			INT. BENT NOS. 2 - 5		48.9								4534	990	120				
			TWO 25' PRECAST CONCRETE SLAB SPANS			4	4	12				3.9							
			THREE 31' PRECAST CONCRETE SLAB SPANS						6	6	18	7.2							
			TOTALS FOR JOB NO. BR-43-4		77.7	4	4	12	6	6	18	11.4	7320	1436	120	1	177	353	1.00

*STD. SP'S FOR ITEM 802 ALSO APPLY TO CONCRETE PILING

JOHN SAGE
DESIGN SQ. AD. SUPERVISOR

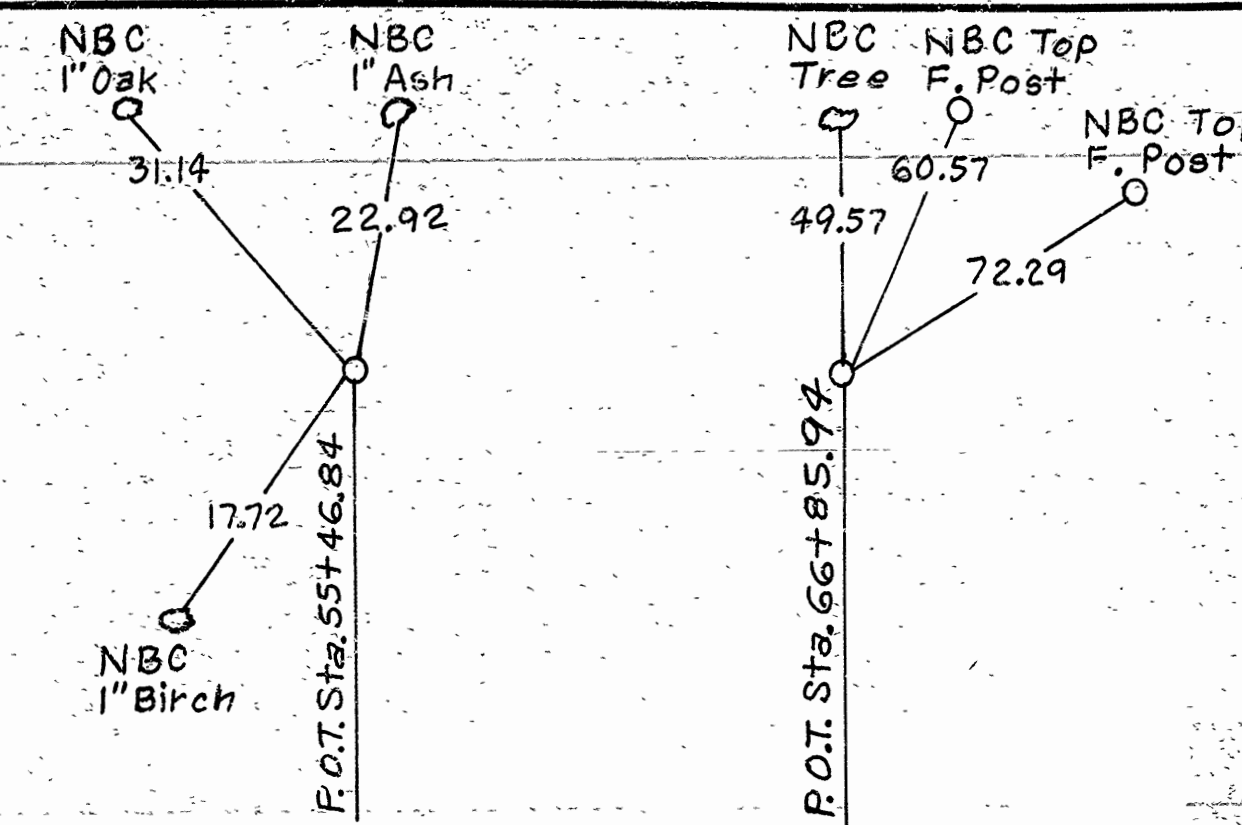
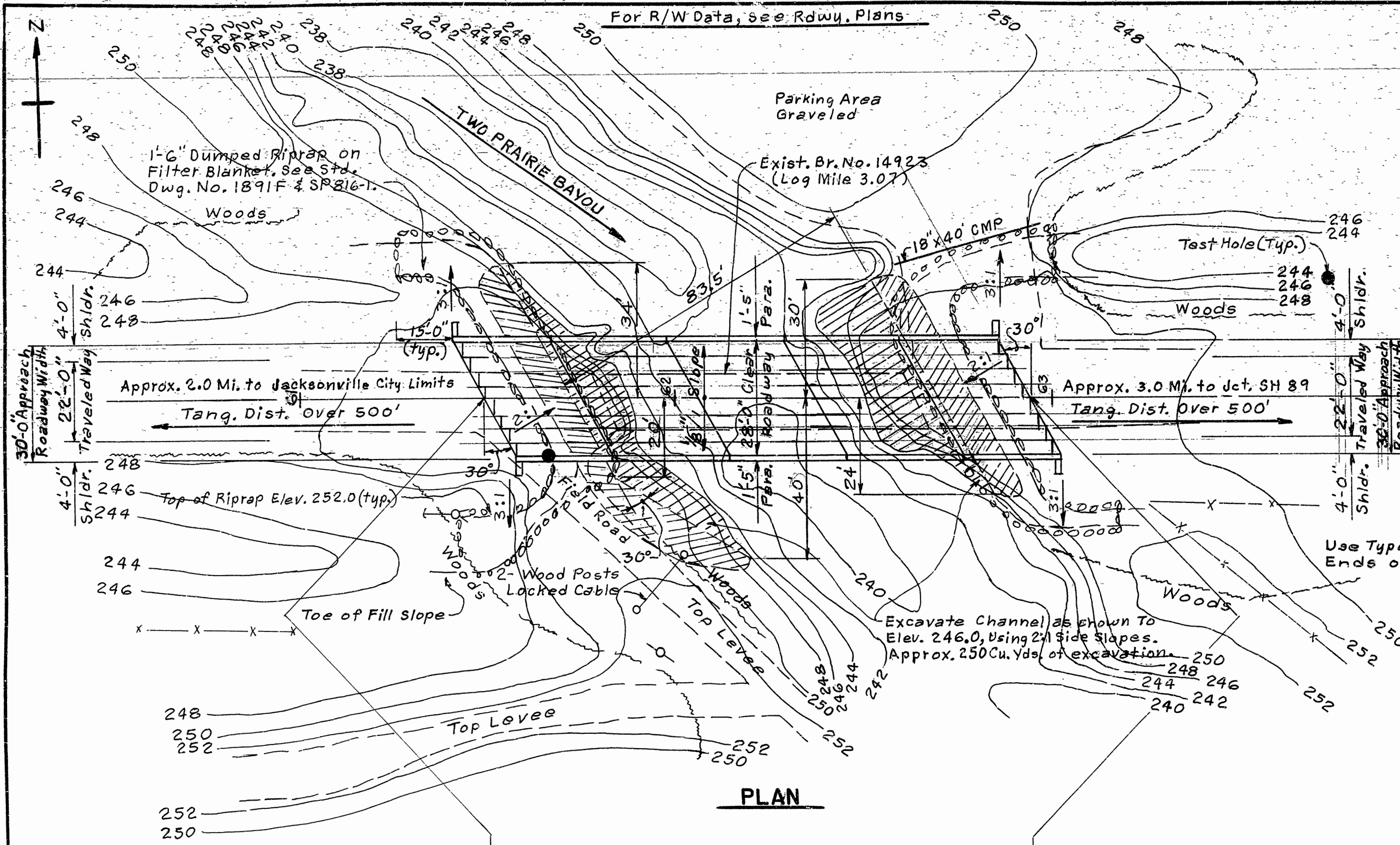
SCHEDULE OF BRIDGE QUANTITIES
OVER TWO PRAIRIE BAYOU
TWO PRAIRIE BAYOU & RELIEF STRS. & APPRS.

LONOKE COUNTY
CO. RD. 71 SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Barclay P. ...
BRIDGE ENGINEER

DRAWN BY: LDF DATE: 2-26-87
CHECKED BY: CSA DATE: 4-3-87 SCALE: NONE
DESIGNED BY: DATE:
BRIDGE NO. 4586 DRAWING NO. 29031

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	BR-43-4	10	41	
				4586	LAYOUT	29032		



GENERAL NOTES

BENCH MARK: C.P.S. IN SIDE OF POWER POLE, 64' RT. STA. 61+96, ELEV. 253.26.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1983 EDITION WITH CURRENT INTERIMS.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND APPLICABLE SPECIAL PROVISIONS.

DESIGN LIVE LOAD: HS 20-44

DESIGN METHOD: LOAD FACTOR

CONCRETE: CONCRETE IN THE SUBSTRUCTURE SHALL BE CLASS S. CONCRETE IN THE SUPERSTRUCTURE SHALL BE CLASS S. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH, $f'c = 3500$ PSI, AND SHALL BE POURED IN THE DRY. UNLESS OTHERWISE NOTED, ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 INCH.

DECK FINISH: THE ROADWAY SURFACE OF THE CONCRETE BRIDGE DECK SHALL BE GIVEN A FINE FINISH AS SPECIFIED FOR FINAL FINISHING IN SUBSECTION 802.23 FOR A CLASS 6, ROADWAY SURFACE FINISH.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR A617, GRADE 60 ($f_y = 60,000$ PSI), OR AS SPECIFIED ON THE DETAIL DRAWINGS.

ALL PILING IN BENTS 1 THRU 6 SHALL BE 16" OCTAGONAL OR SQUARE PRECAST CONCRETE AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE, AND TO A MINIMUM PENETRATION OF 20 FT. BELOW GROUND.

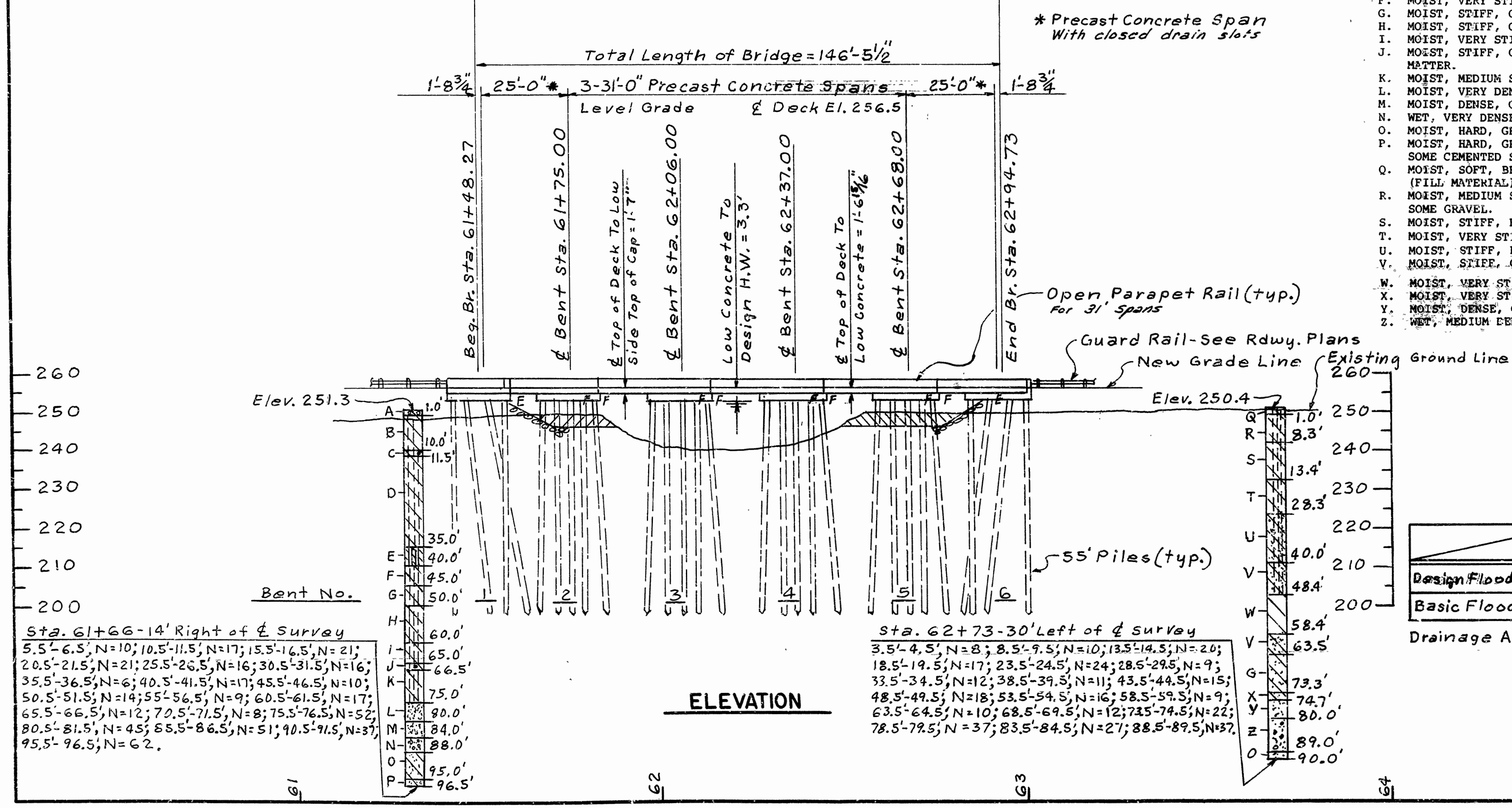
LENGTHS OF PILING SHOWN ARE ASSUMED FOR ESTIMATING PURPOSES ONLY. ACTUAL LENGTHS TO BE DETERMINED IN THE FIELD. DRIVE ONE 60 FT. TEST PILE IN BENT 2 AND ONE 60 FT. TEST PILE IN BENT 4. PILES IN END BENTS TO BE DRIVEN AFTER EMBANKMENT TO BOTTOM OF CAP IS IN PLACE. PILES SHAPES SHALL NOT BE MIXED.

FOR DETAILS OF PILING, SEE DWG. NO. 2383
FOR DETAILS OF BENTS, SEE DWG. NO. 15319
FOR DETAILS OF 25 FT. SPANS, SEE DWG. NO. 15210
FOR DETAILS OF 31 FT. SPANS, SEE DWG. NO. 15200

DISPOSITION OF EXISTING BRIDGE (NO. 14923): THE CONTRACTOR SHALL REMOVE THE EXISTING 86' LONG BRIDGE IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS. THE EXISTING BRIDGE CONSISTS OF TIMBER SPANS AND SUBSTRUCTURE. ALL SALVAGEABLE MATERIAL SHALL BECOME THE PROPERTY OF THE COUNTY. ALL OTHER MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

THE ROAD WILL BE CLOSED DURING CONSTRUCTION.

- BORING LEGEND
- A. MOIST, STIFF, BROWN CLAY WITH GRAVEL (FILL MATERIAL).
 - B. MOIST, STIFF, GRAY AND BROWN SILTY CLAY.
 - C. MOIST, VERY STIFF, BROWN SILTY CLAY WITH SOME ORGANIC MATTER.
 - D. MOIST, VERY STIFF, BROWN SILTY CLAY.
 - E. MOIST, LOOSE, BROWN CLAYEY SILT.
 - F. MOIST, VERY STIFF, GRAY AND BROWN SILTY CLAY.
 - G. MOIST, STIFF, GRAY SANDY, SILTY CLAY.
 - H. MOIST, STIFF, GRAY AND BROWN TO GRAY SILTY CLAY.
 - I. MOIST, VERY STIFF, GRAY SANDY, SILTY CLAY.
 - J. MOIST, STIFF, GRAY SANDY, SILTY CLAY WITH SOME ORGANIC MATTER.
 - K. MOIST, MEDIUM STIFF, GRAY SANDY, SILTY CLAY.
 - L. MOIST, VERY DENSE, GRAY SAND.
 - M. MOIST, DENSE, GRAY SAND.
 - N. WET, VERY DENSE, GRAY SAND AND GRAVEL.
 - O. MOIST, HARD, GRAY CLAY WITH SILT AND SAND LENSES.
 - P. MOIST, HARD, GRAY CLAY WITH SILT AND SAND LENSES AND SOME CEMENTED SILT SEAMS.
 - Q. MOIST, SOFT, BROWN AND GRAY SILTY CLAY WITH GRAVEL (FILL MATERIAL).
 - R. MOIST, MEDIUM STIFF, BROWN AND GRAY SILTY CLAY WITH SOME GRAVEL.
 - S. MOIST, STIFF, BROWN AND GRAY SILTY CLAY.
 - T. MOIST, VERY STIFF, BROWN AND GRAY SILTY CLAY.
 - U. MOIST, STIFF, BROWN SANDY, SILTY CLAY.
 - V. MOIST, STIFF, GRAY AND BROWN SANDY, SILTY CLAY.
 - W. MOIST, VERY STIFF, DARK BROWN TO GRAY CLAY.
 - X. MOIST, VERY STIFF, GRAY AND BROWN SANDY, SILTY CLAY.
 - Y. MOIST, DENSE, GRAY AND BROWN SAND.
 - Z. WET, MEDIUM DENSE, GRAY SAND AND GRAVEL.



HYDRAULIC DATA

	Discharge (CFS)	Normal Water Surface Elevation	N.W.S. Elevation With Backwater
Design Flood (Q25)	8,700	251.6	254.56
Basic Flood (Q100)	11,275	252.4	256.41

LAYOUT OF BRIDGE
OVER TWO PRAIRIE BAYOU

LONOKE COUNTY

CO. RD. 71 SEC.

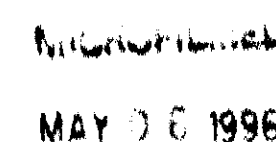
ARKANSAS STATE HIGHWAY COMMISSION

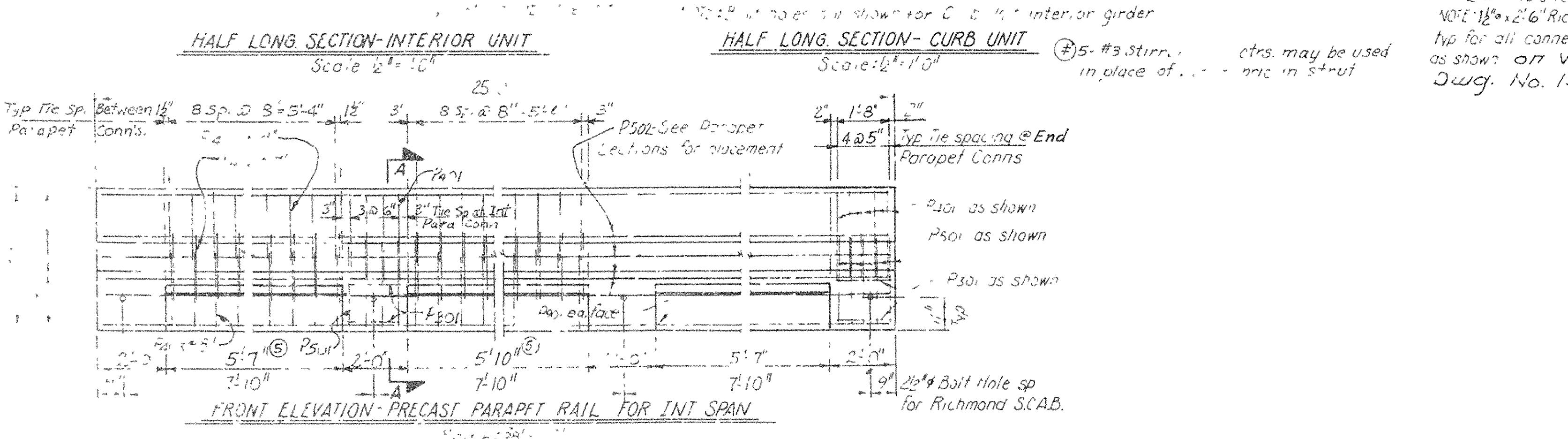
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 12-2-86
CHECKED BY: CRH DATE: 3-2-87
DESIGNED BY: VSB DATE: -

Ronal Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 4586 DRAWING NO. 29032



[illegible]

DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9-13-71-1487	9-2-87 5-22-91-1585		6	ARK.			
8-17-43-87	7-15-88 7-15-88						
5-7-5-487	5-12-89						
6-1-92			JOB NO.				

GENERAL NOTES

25 FT SLAB STD. 15210

REINFORCING STEEL SHALL BE ASTM A15, GRADE 40 OR 60 AS NOTED. WIRE FABRIC SHALL BE ASTM A15. REINFORCING STEEL AND WIRE FABRIC SHALL BE ACCURATELY LOCATED IN THE FORMS AND SECURELY HELD IN PLACE BY STEEL WIRE SUPPORTS.

CONCRETE FOR PRECAST UNITS SHALL BE CLASS (SAF) EXCEPT THAT THE COARSE AGGREGATE SIZE SHALL MEET AASHTO M43, SIZE 67 (3/4" MAX).

STANDARD WASHERS SHALL BE PROVIDED UNDER HEAD AND NUT OF ALL BOLTS IN CONNECTION WITH CONCRETE. BOLTS SHALL BE A307. ALL BOLTS, WASHERS AND NUTS SHALL BE GALVANIZED TO MEET ASTM A153 OR CADMIUM PLATED.

SCREW ANCHOR AND BOLT ASSEMBLY (SCAB) SHALL BE 1/2" Ø RICHMOND SCREW ANCHOR OR EQUAL AND HAVE A MINIMUM ULTIMATE STRENGTH OF 65,000 PSI. IN TENSION ASSEMBLY SHALL BE GALVANIZED TO MEET ASTM A153. WASHERS FOR SCAB SHALL BE A36 AND BE GALVANIZED TO MEET ASTM A153.

CAMBER REQUIRED FOR DEAD LOAD DEFLECTION IS 4" DEVIATION OF MORE THAN 1/4" IN DIMENSION OF GRADE OR LINE WILL BE CAUSE FOR REJECTION.

CONCRETE REINFORCING, WIRE MESH, PAR SUPPORTS, BOLTS, NUTS, WASHERS, THREADED ANCHORS, GROUT, POOFING FELT AND EXPANSION JOINT FILLER ARE CONSIDERED SUPPLEMENTARY TO "PRECAST UNITS".

ENDS OF ADJACENT UNITS SHALL BE COATED (1/16" ±) WITH ASPHALTIC PAINT. THE COATING SHALL ADHERE AND SET FIRM AND ITS SOFTENING POINT SHALL NOT BE LESS THAN 140°F.

ITEMS SHALL BE AS FOLLOWS:

- 25' PRECAST CONCRETE CURB UNITS
- 25' PRECAST CONCRETE INTERIOR UNITS
- 25' PRECAST PARAPET RAIL UNITS

DESIGN SPECIFICATIONS AASHTO 1029.

METHOD OF DESIGN: LOAD FACTOR

LIVE LOADING: HS20, 4 WHEEL PER UNIT.

MATERIALS:

- 28 DAY COMPRESSIVE STRENGTH OF CONCRETE = 4000 PSI
- YIELD STRENGTH OF GRADE 40 REINFORCING = 40,000 PSI
- YIELD STRENGTH OF GRADE 60 REINFORCING = 60,000 PSI
- YIELD STRENGTH OF WIRE FABRIC = 65,000 PSI

REVISIONS

- 1-2-85 Revised Notes
- 2-4-87 Revised Guard Rail Connection & Spacing
- 4-2-87 Revised Precast Parapet Rail for End Span by JRS.
- 5-12-89 Revised Concrete Type, Parapet Drain Width, Misc.
- 6-4-92 Revised end strut, bearing plate misc.

Note: For details & Bar List of Precast Parapet Rail at End Span see drawing 15230

SECTION AT FIXED BENT

DETAILS OF STANDARD 25'-0" PRECAST CONCRETE SPANS 28'-0" & 24'-6" CLEAR ROADWAYS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KMG DATE: OCT 5, 84

CHECKED BY: JH DATE: OCT 5, 84

DESIGNED BY: FH DATE: OCT 3, 84

SCALE: AS SHOWN

BRIDGE NO. DRAWING NO. 15210

This technical drawing illustrates the roof construction details at the approach cutters. It shows two layers of roofing felt, labeled W403 or W404, extending under the ends of all units above an additional layer. The drawing includes dimensions such as 6'-0" and 1'-3". A note specifies: "2 Layers of 45 # Roofing Felt 8' x 7' under ends of all of the Units (Above an addnl. layer extending to edge of Cap) - Do not place Felt below Approach Cutters."

[illegible][illegible]

Dimensions shown are at
near face of Cap. ELEVATION OF INTERMEDIATE BENT

B402 ϕ 5" (typ. over each Pile)
 Batt. $1\frac{1}{2}$: 12
 2-B602
 2-B403
 2 Layer Felt 8" of the layer of Cap
 2 equal spaces
 CL. Pile Spacing
 3'-0"
 10'-0"
 10'-0"
 2'-2 1/2"
 Finish smooth with Steel Frowel
 See Span Dwg. for Joint Details

Plan view of bridge structure showing dimensions and components:

- Overall width: 37'-0"
- Segment widths: 18'-6" (left), 18'-6" (right)
- Slope down: 0.073 ft./ft. (both sides)
- CL. Rdwy. & CL. Bridge
- CL. Bent
- CL. Cap & CL. Piles
- CL. Pile Spacing: 2'-6", 8'-0", 8'-0", 8'-0", 8'-0", 2'-6"
- Dimensions: 3'-6", 1'-9", 1'-9"
- Angle: 30°
- Int. Unit

2 Layers of 45 # Roofing Felt 8" x 7"
under ends of all of the Units (Above
an addn'l. layer covering full width of Cap)

PLAN OF INTERMEDIATE BENT

30'-
Curb Unit -
Parapet Rail Un
Int. Unit
30'-
Curb
Parapet R
(for End

The diagram is a plan view of an intermediate bent, showing a rectangular structure with various reinforcement and spacing details. The structure is divided into sections by vertical lines. Key details include:
- Reinforcement: 6-Bt03, 2-B410, 2-B604, 4-B604, B412 @ 5" (typ. over each pile), Batt. 1 1/2 : 12.
- Spacing: B411 tie spacing (3", 2 @ 5", 1'-8", 5" 9", 4 sp. @ 12", 9" 5", 1'-8", 5" 9", 4 sp. @ 12", 9" 5", 1'-8", 5" 9", 4 sp. @ 12", 9" 5", 1'-8", 5" 9", 1 sp. @ 12", 9" 5", 1'-8", 5" 9", 2'-6"), CL. Pile spacing (2'-6", 8'-0", 8'-0", 8'-0", 8'-0", 2'-6").
- Dimensions: 2'-6" 1/8", 2'-6" 1/8", 2'-6" 1/8", 2'-6" 1/8", 2'-6" 1/8", 2'-6" 1/8".
- Notes: 2 Layers of 45 # Roofing Felt 8" x 7" under ends of all of the Units (Above an addn'l. layer covering full width of Cap).
- Labels: Curb Unit, Parapet Rail Unit, Int. Unit, Curb, Parapet R (for End).

VIEW C-C
 Scale: $\frac{1}{2}" = 1'-0"$
 Callouts: D601, 1'-3", 2'-0", 2-W404, 2-W403, 3'-11", 4-W501, W501, W402, 2-W405, 2-W401

VIEW B-B
 Scale: $\frac{1}{2}" = 1'-0"$
 Callouts: W401 or W402, W403, 3'-11", 4-W501, W501, 2-W405, 2-W401

VIEW D-D
 Scale: $\frac{1}{2}" = 1'-0"$
 Callouts: 2-W405, 2-W401, 2" CL. (typ.), B405

VIEW E-E
 Scale: $\frac{1}{2}" = 1'-0"$
 Callouts: W405, W401, 2 sp. @ 12" 2 sp. @ 12" 2 sp. @ 12"

Scale : $\frac{1}{2}'' = 1'-0''$

Varies (2'-6" min.)

Exp.

B603

B410

B411

B604

1'-9" 1'-9"

3'-6"

1'-0" (typ.)

Oct. or Sq. Precast Conc. Piles (typ.)

SECTION F-F (AT EXP. BT.)

Varies (2'-6" min.)

Fix.

B603

B410

B411

B604

1'-9" 1'-9"

3'-6"

1'-0" (typ.)

S60' Dowels

Note: For dowel details see Section F-1'

SECTION F-F (AT FIX. BT.)

Technical drawing of a bridge deck cross-section. The drawing shows a series of precast concrete spans supported by a central pier. The spans are labeled with dimensions: 4'-10 1/8", 4'-6", 5'-0", 4'-3", 5'-0", 4'-6", and 2'-10 3/8". The central pier is labeled "3'-0" Precast Concrete Span". The rail units are labeled "Unit" and "Rail Unit". The drawing includes a note: "R.C.V. dimm by: 104: 5'-10 1/8\"".

Unit

30"

Curb Unit

Capet Rail Unit (End Span)

25'-0" Precast Concrete Span

DIAGRAMS FOR LOCATON OF BOLTS JOINT UNITS

BAR LIST PER BENT

Number Required		Length	P.D.	Bending Diagrams
End Rt.	Int. Rt.			

LINE NO.	DESCRIPTION	AMOUNT	UNIT
41	10'-0"	2"	
12	6'-0"	2"	
2	34'-0"	str.	
30	2'-10"	str.	
10	9'-3"	2"	
2	8'-6"	2"	
2	6'-1"	2"	
2	27'-4"	str.	
2	4'-5"	2"	
2	36'-8"	str.	
44	1'-0"	2"	
15	7'-4"	2"	
6	36'-2"	4 1/2"	
6	34'-10"	str.	
6	38'-0"	4 1/2"	
6	36'-8"	str.	
4	1'-6"	str.	
16	3'	str.	
4	2'-2"	str.	
8	2'-8"	str.	
6	5'-4"	str.	
4	7'-0"	str.	
4	8'-1"	str.	

Dimensions are cut to out of bars.

Reinforcement bar layouts for concrete slabs B401 through B409. Dimensions are given in feet and inches. Bar counts are indicated by numbers along the bar lines.

- B401:** 3'-2" x 3'-2"
- B402:** 3'-2" x 3'-2"
- B403:** 34'-10" x 6"
- B404:** 1'-6" x 3'-9"
- B405:** 1'-0" x 1'-8"
- B406:** 1'-8" x 1'-8"
- B407:** 1'-5 1/2" x 1'-8"
- B408:** 1'-9" x 1'-9"
- B409:** 1'-0 1/2" x 1'-0 1/2"

Design Specifications : AASHTO Standard Specifications for Highway Bridges,
1992 Edition and Interim Specifications.

Piling : For details of standard concrete piles, See uwg. No. 2383. All piling shall be 16" Oct. or Sq. precast concrete piles and shall be driven to a minimum ^{to} bearing capacity of 44 tons per pile. Oct. or Sq. pile shape ^{to be} mixed on any bridge.

Concrete : All concrete shall be Class "S" with a minimum 28 day compressive strength $F'_{c} = 3500$ PSI. All exposed corners shall be chamfered, unless otherwise noted.

Reinforcing Steel: Reinforcing steel shall conform to ASTM A615 or A617, Grade 60 (Yield Strength = 60,000 PSI).

REDRAWN : 3-8-93

DETAILS OF STANDARD
 CONCRETE PILE BENTS FOR
 25'-0" & 31'-0" PRECAST CONCRETE SPANS
 28'-0" CL. RDWY. - 30° RT. FWD. SKEW
 ROUTE _____ SEC. _____
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 DRAWN BY: J.P.S. DATE: 3-8-93
 CHECKED BY: C.E.D. DATE: 1-8-93
 DESIGNED BY: _____ DATE: _____
 BRIDGE NO. _____ DRAWING NO. 15319
 SCALE: $\frac{3}{8}" = 1'-0"$
 or as noted

CHECKED BY: CEJ DATE: - 8-23 SCALE: 3/8" = 1'-0"
DESIGNED BY: _____ DATE: _____ or as noted
ENGINEER _____ BRIDGE NO. _____ DRAWING NO. 15319

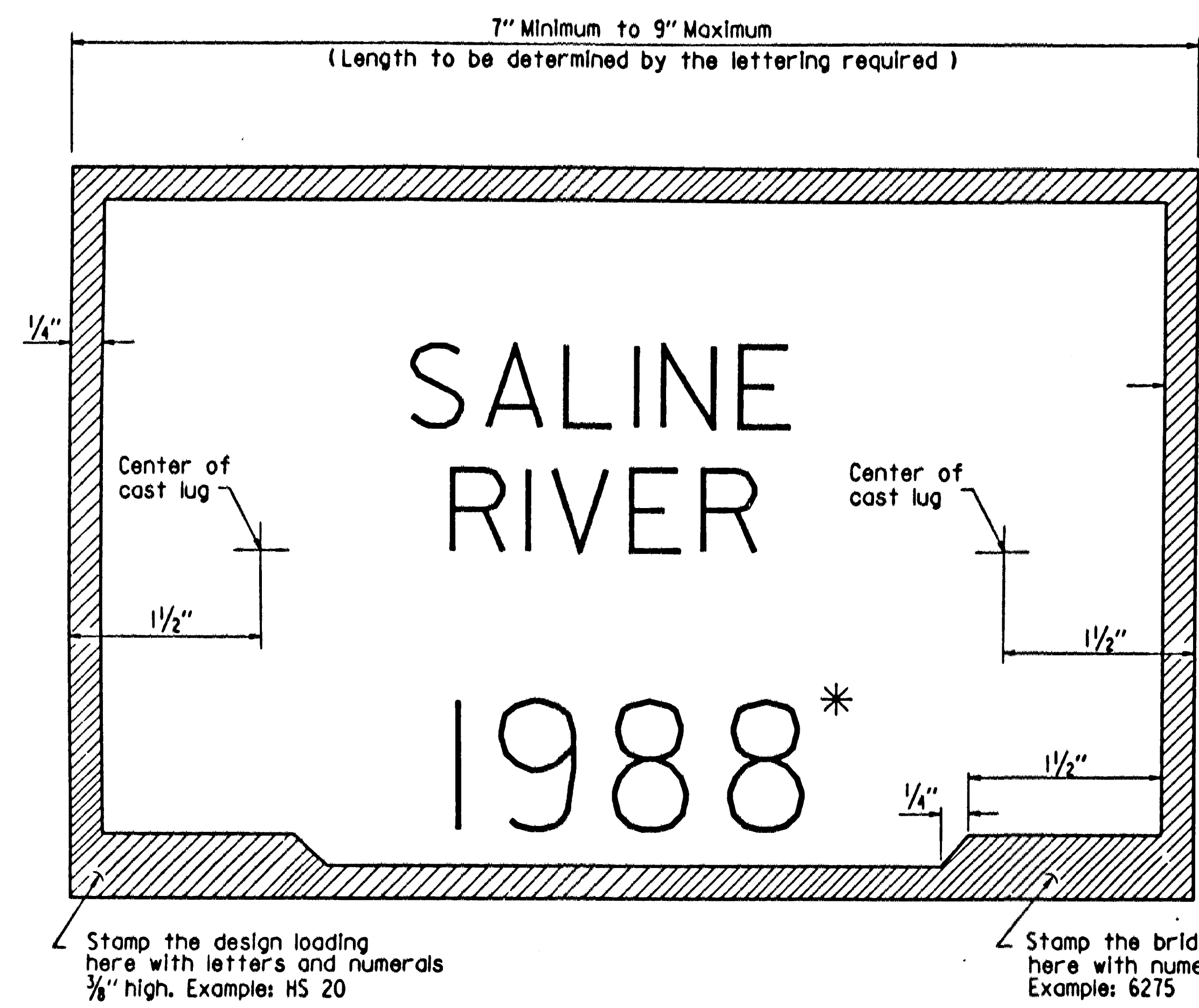
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ENGINEER BRIDGE NO. DRAWING NO. 15319

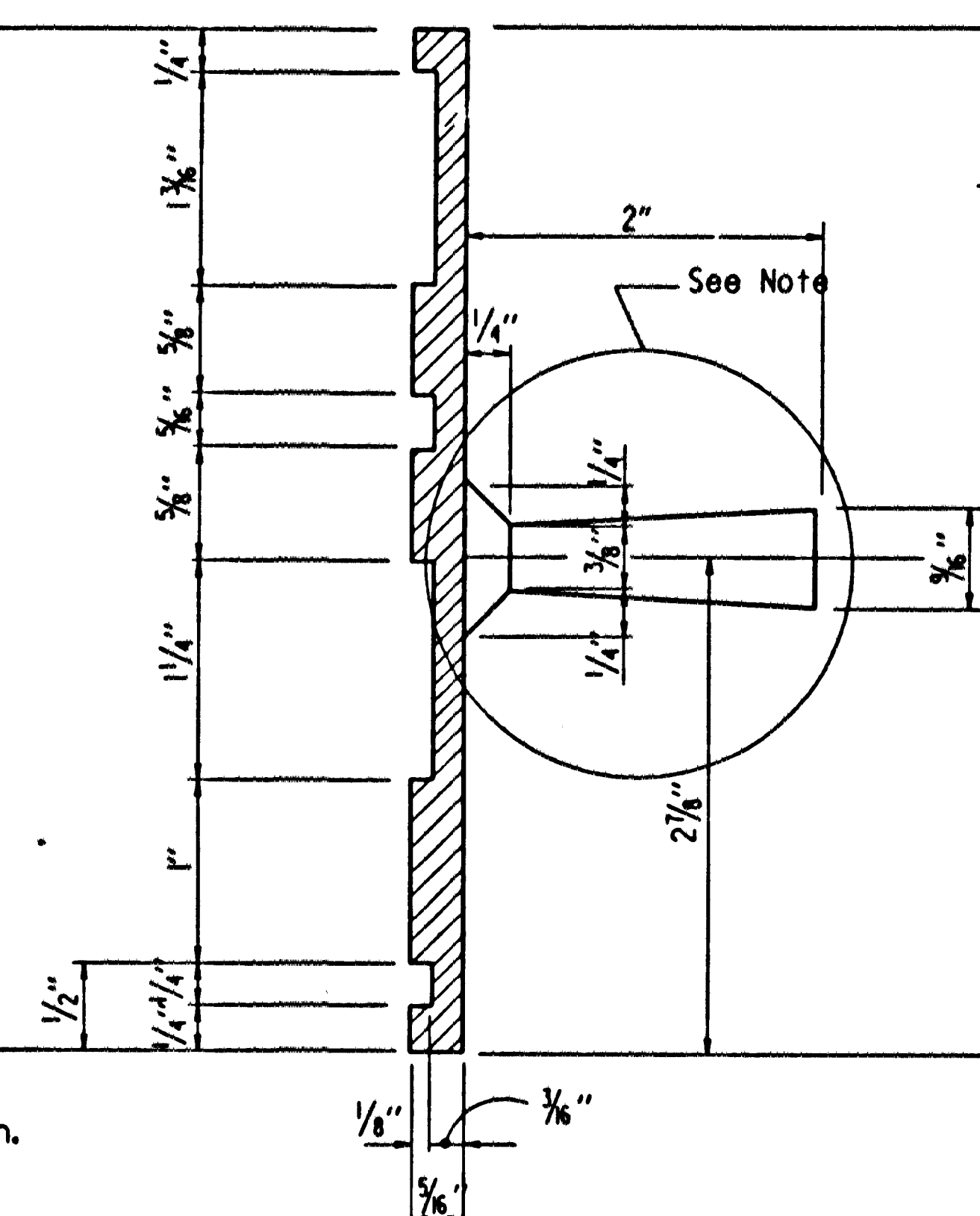
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
I-16-89	5-20-89	I-16-89	5-20-89	6	ARK.		10	
I-16-90	11-5-90							
I-16-92	11-11-92							

—NAME PLATES— 2389A

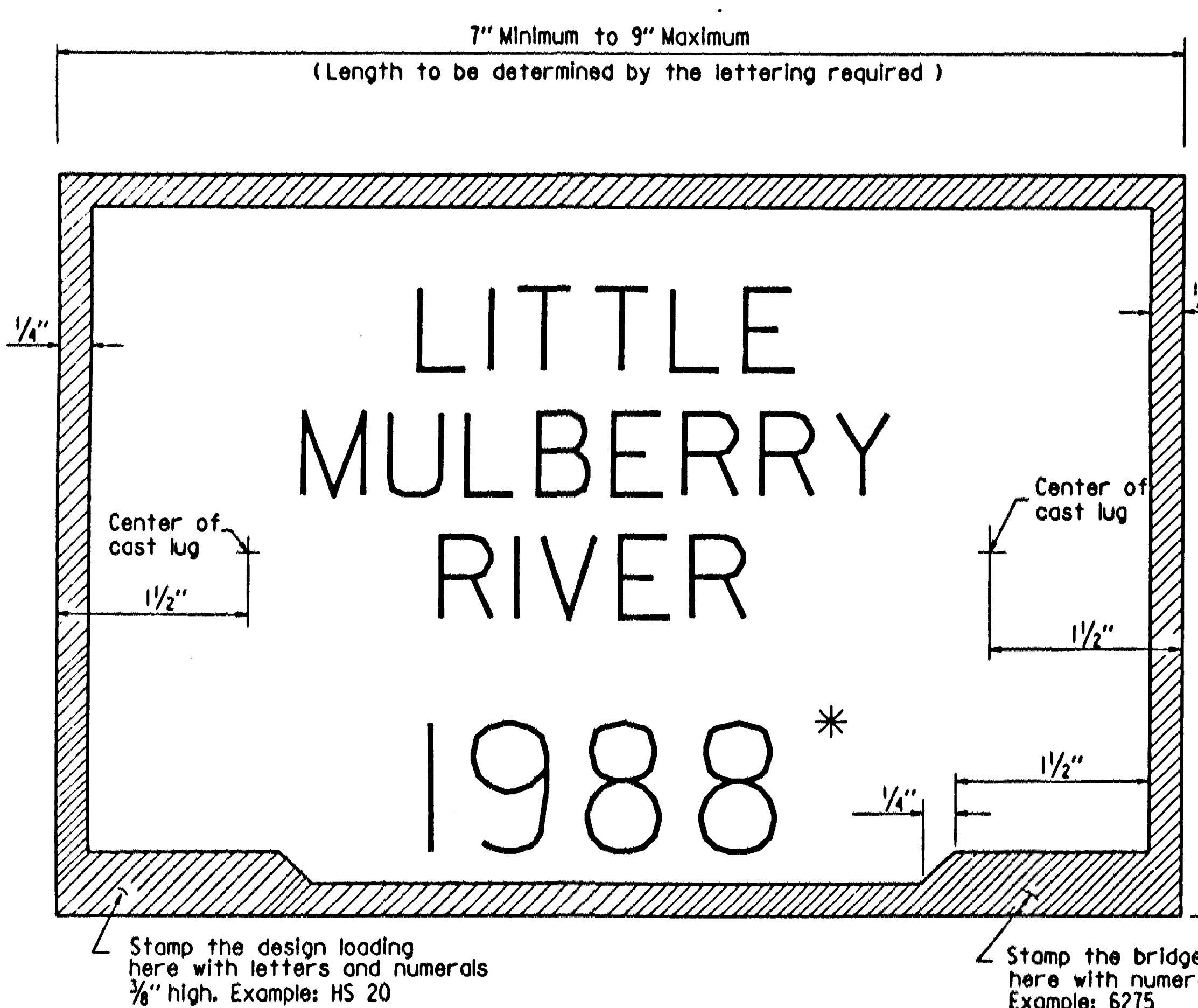


TYPICAL BRIDGE NAME PLATE-STYLE 1-FULL SIZE
STREAM CROSSINGS

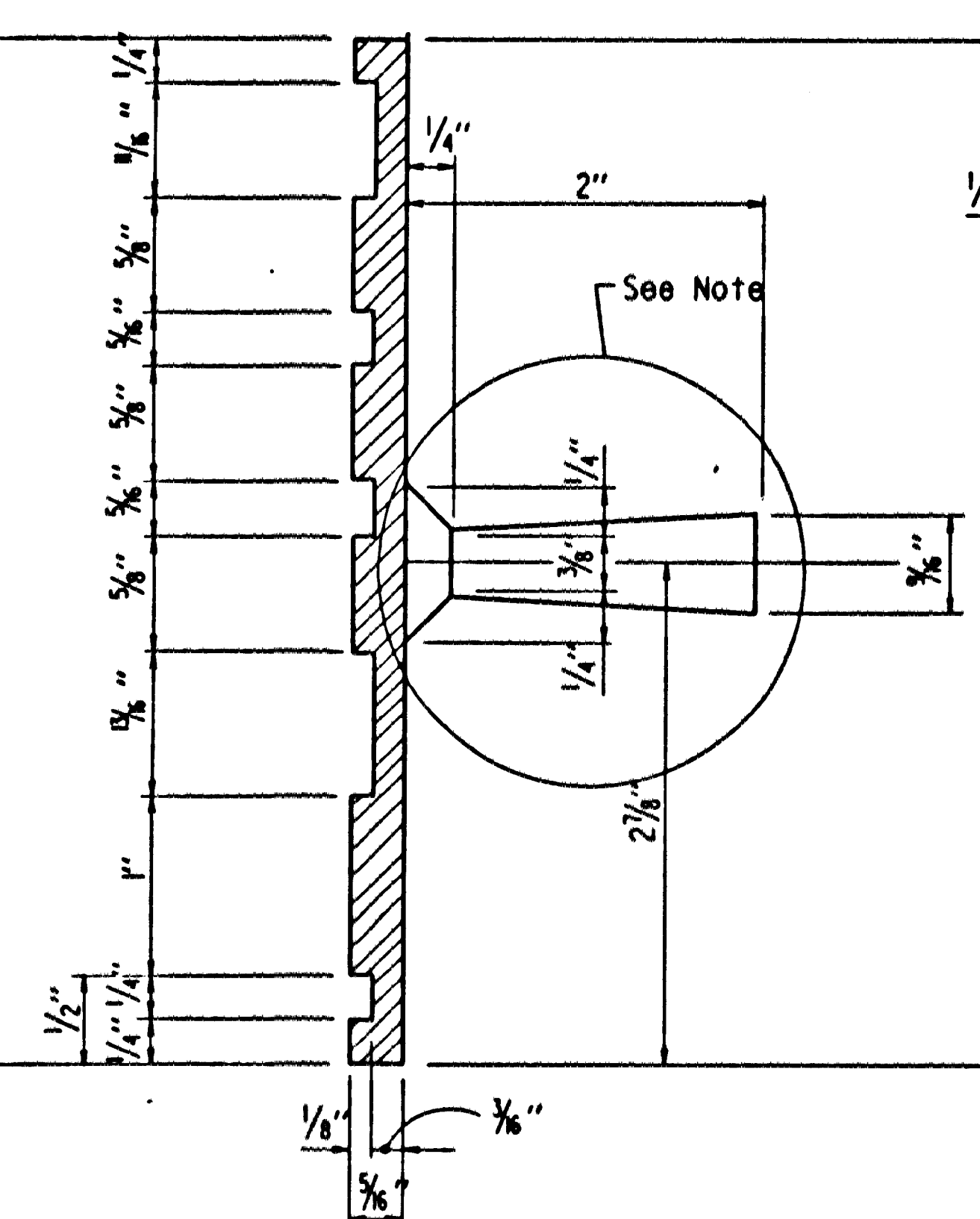


TYPICAL BRIDGE NAME PLATE-STYLE 3-FULL SIZE
GRADE SEPARATION STRUCTURES

- GENERAL NOTES**
- Name plates shall be either cast aluminum or bronze and shall meet the material requirements as specified in section 812 of the standard specifications.
 - Body of plate shall be 3/8 inch thick and shall include two tapering cone lugs 3/8 inch to 1/2 inch x 2 inch long. The border and all lettering shall be raised 1/8 inch above the face of plate and shall be polished.
 - All lettering shall be plain gothic, square cut and not tapered.
 - The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.
 - Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, Current Edition, with applicable Supplemental Specifications and Special Provisions.



TYPICAL BRIDGE NAME PLATE-STYLE 2-FULL SIZE
STREAM CROSSINGS



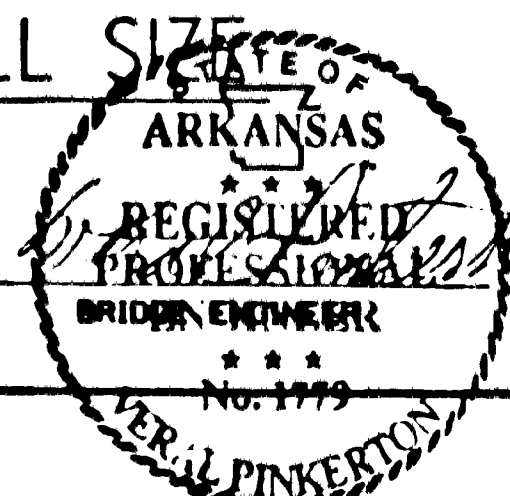
TYPICAL BRIDGE NAME PLATE-STYLE 4-FULL SIZE
GRADE SEPARATION STRUCTURES

* Year in which contract is awarded.

- Revised notes, I-16-89, LM
- Rev. General Notes, I-2-90, W.M.J.
- Rev. General Notes, I-11-92, CRHart

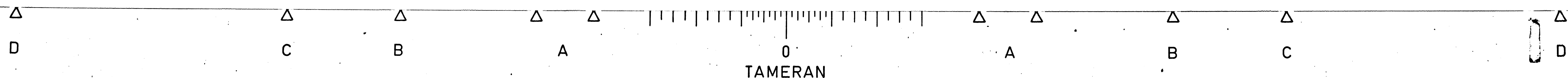
**DETAILS OF STANDARD
TYPE C BRIDGE NAME PLATES**

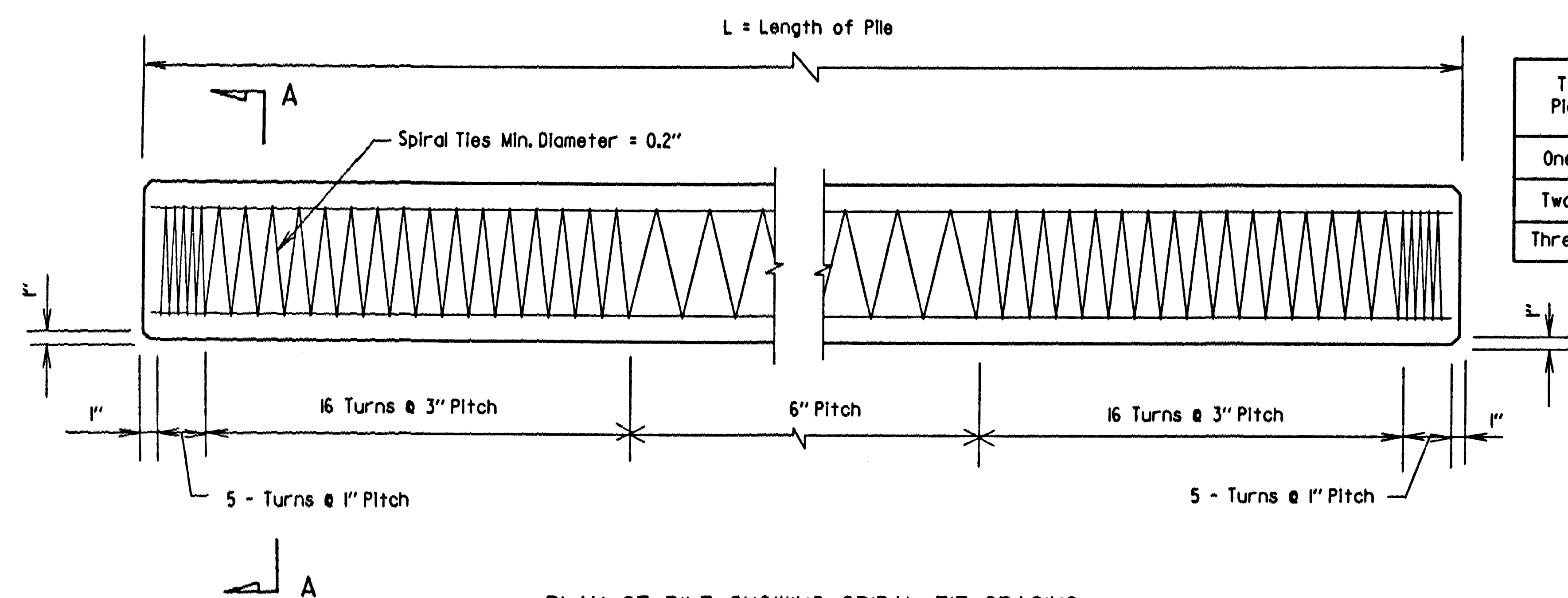
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: LDF DATE: 6-16-88
CHECKED BY: CPB DATE: 6-16-88
DESIGNED BY: DATE: 6-16-88
BRIDGE NO. DRAWING NO. 2389A



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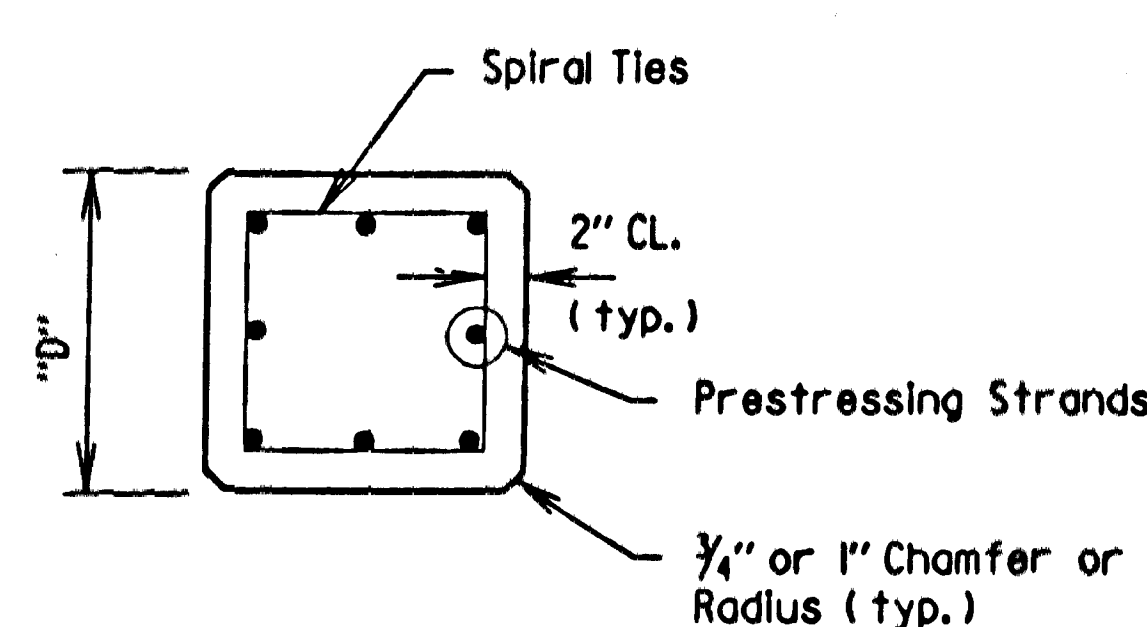
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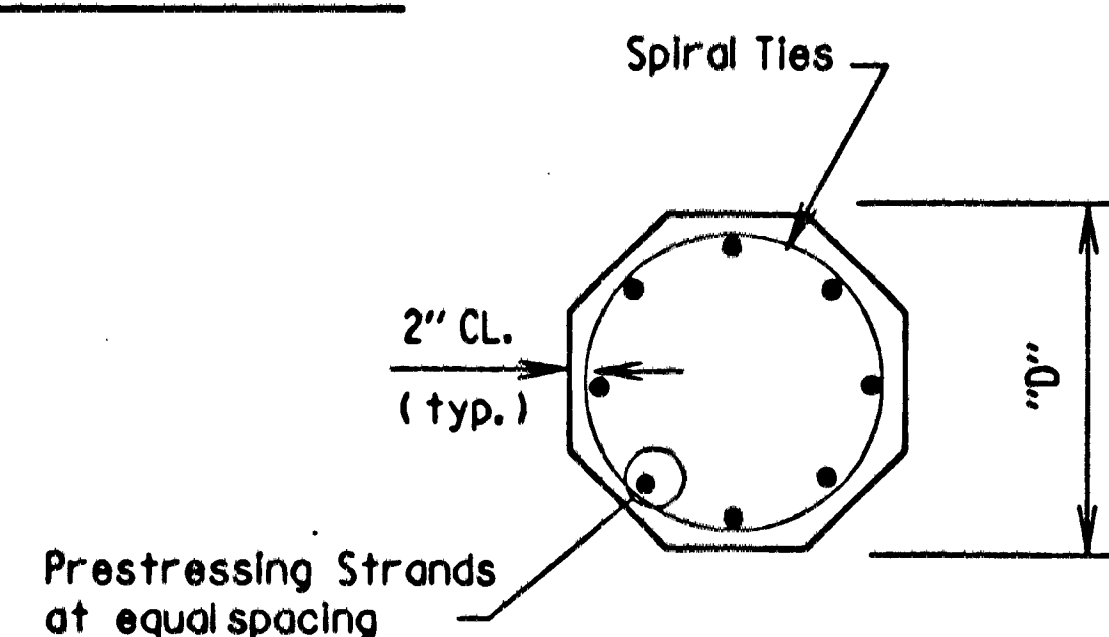


PLAN OF PILE SHOWING SPIRAL TIE SPACING

Note: Strand location shall be symmetrical about the axis of the pile with no more than one strand difference between any two adjacent sides. Circular spiral ties are required for odd number of strands.



SECTION A-A
SQUARE PILE



SECTION A-A
OCTAGONAL PILE

PRESTRESSED CONCRETE PILES

PRESTRESSED PILE PROPERTIES

	Grade	Strand Diameter	* Number of Strands per Size "D"					Minimum Ultimate Tensile Strength Per Strand (Lbs.)	Initial Prestressing Force Per Strand (Lbs.)
			16" Oct.	18" Oct.	14" Sq.	16" Sq.	18" Sq.		
Stress Relieved	250	1/4"	11	13	10	12	16	27,000	18,900
	270	1/2"	8	10	8	10	12	36,000	25,200
	270	3/4"	9	11	8	12	14	31,000	21,700
	270	1/2"	7	9	6	8	10	41,300	28,900
Low Relaxation	250	1/4"	9	11	8	11	13	27,000	20,200
	270	1/2"	7	8	6	8	10	36,000	27,000
	270	3/4"	8	10	7	9	11	31,000	23,300
	270	1/2"	6	7	5	7	9	41,300	31,000

GENERAL NOTES

Construction Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, current edition, with applicable Supplemental Specifications and Special Provisions.

Design Specification: AASHTO 1992 with Current Interims

Concrete: Concrete in the Precast Prestressed Piles shall be Class S (AE) and shall have a Minimum Compressive Strength (f'c) of 5000 psi at 28 days. Compressive Strength at transfer of the Prestressing Force shall be not less than 4000 psi. Concrete in Build - Ups shall have a minimum Compressive Strength (f'c) of 4000 psi.

Prestressing Reinforcement: Seven wire stress relieved or low relaxation strands shall conform to the general requirements of ASTM A416. Broken wires within individual strands will be permitted up to 2% of the total number of wires in each pile, providing that there is not more than one broken wire per strand. Two or more broken wires per strand will be cause for replacement of the strand, even though the two broken wires are within the 2% limitation.

Build-Ups: To provide for Build-Ups of Piles where authorized by the Engineer, concrete shall be cut back to expose the strands for a distance sufficient to provide a lap of 40 diameters of the reinforcing bars required for Build-Up. Reinforcing of Build-Ups shall have a minimum area equal to 1 1/2% of the gross section of pile. Placement of bars shall be in a symmetrical pattern of not less than four bars. See Section 805.2 of the Standard Specifications.

Forms: For forming exterior of piles, the use of steel forms on concrete founded casting beds is required, unless otherwise approved by the Engineer. Side forms may have a maximum drift on each side not exceeding 1/4" per foot. Tolerances: Pile ends shall be plane surfaces and perpendicular to axis of pile with a maximum tolerance of 1/8" per foot transversely.

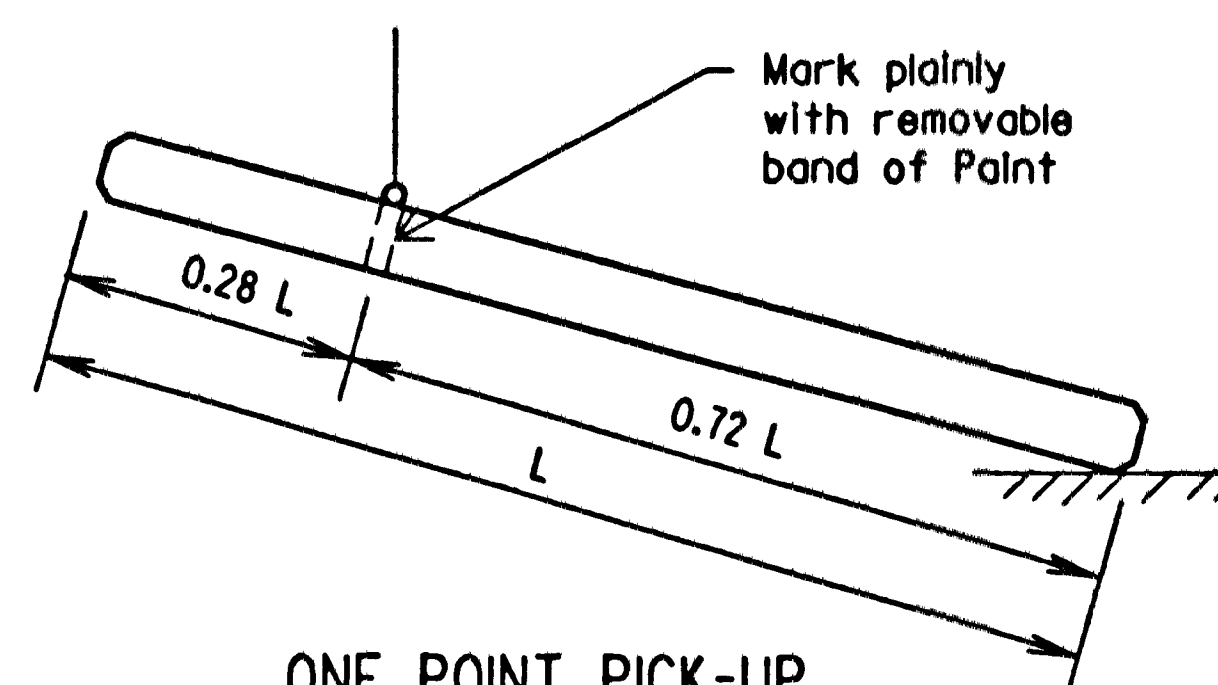
* Number based on initial prestress force of "B" x Ultimate Tensile Strength, Prestress Losses, and min. 100 psi Unit Prestress on concrete after Losses.

"B" 0.75 Low Relaxation
0.70 Stress - Relieved

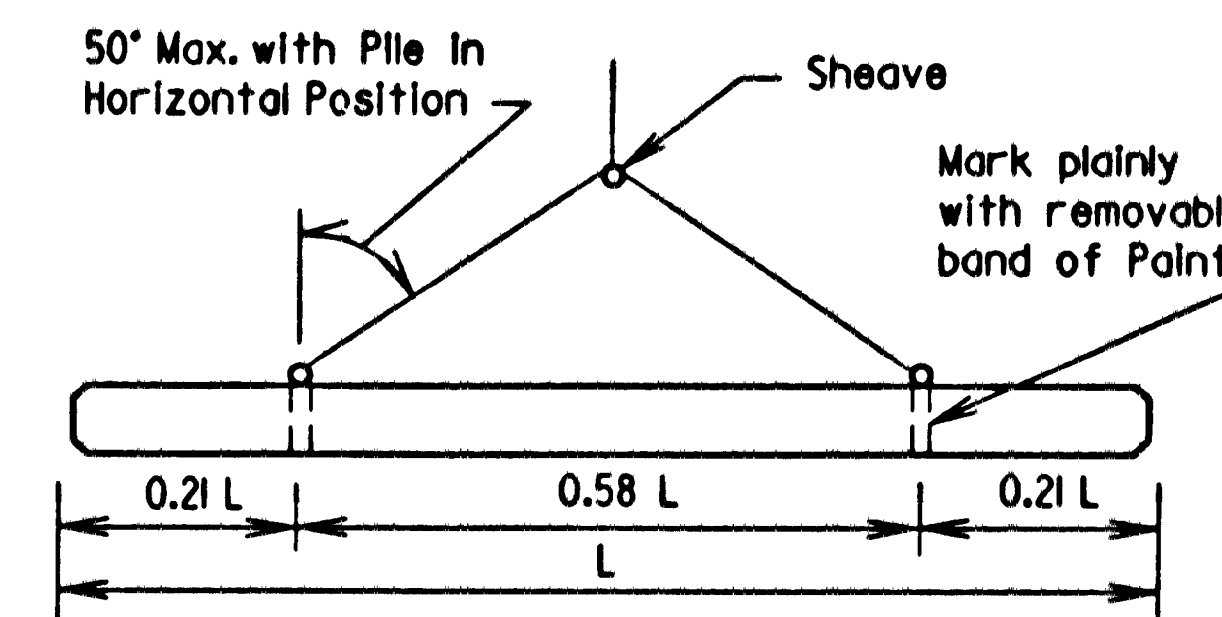
- Revised Notes: By J.P.S.; 7-15-88
Ck. By G.V.A.
- Revised all Notes: By J.P.S.; 11-16-89
- Revised Notes: By J.P.S.; 8-2-90
- Rev. General Notes: 11-2-90, W.M.J.
- Revised Notes: By J.P.S.; 11-11-92
Ck. By F.M.H.

Type of Pick - Up	Prestressed		Precast		Prestressed		Precast	
	16" Oct.	18" Oct.	16" or 18" Oct.	14" Sq.	16" Sq.	18" Sq.	14" Sq.	16" Sq.
One - Point	52'	55'	46'	55'	59'	63'	52'	51'
Two - Point	75'	80'	67'	79'	84'	90'	75'	74'
Three - Point	105'	112'	93'	110'	117'	126'	103'	111'

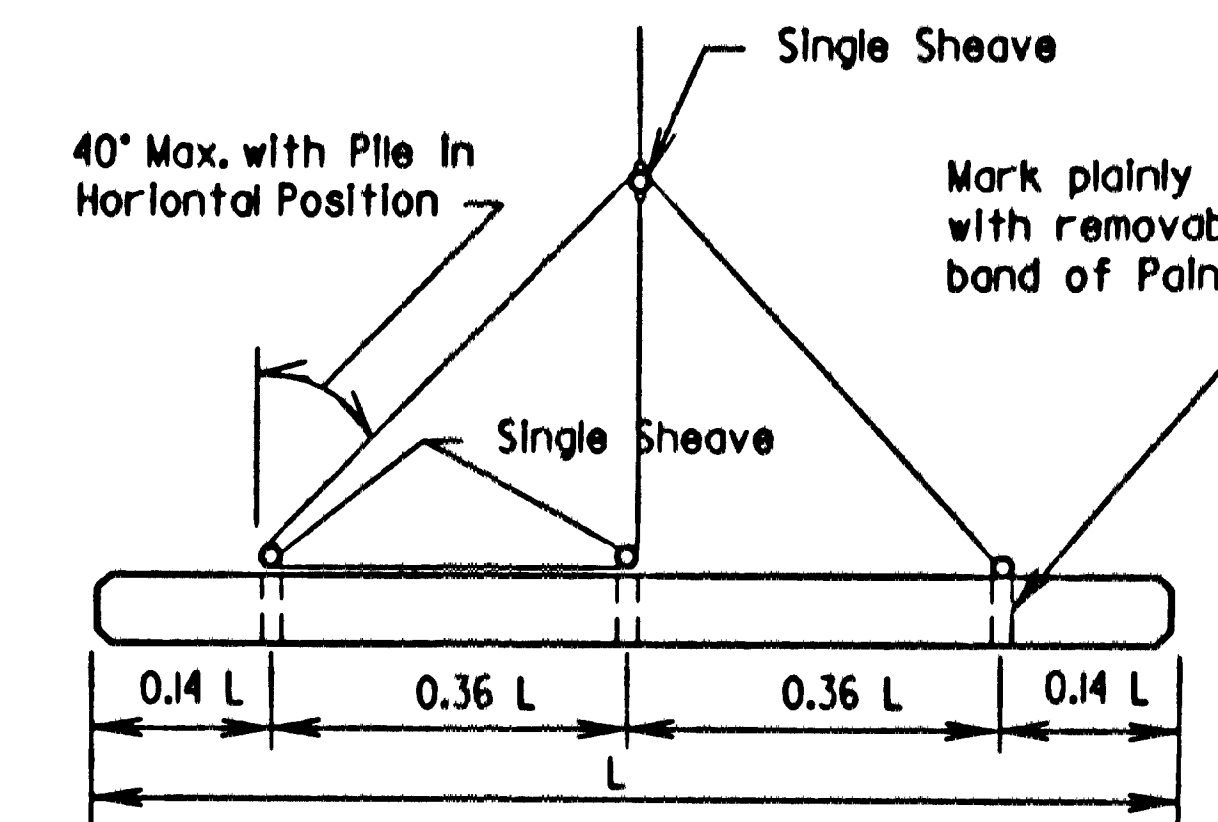
MAXIMUM PICKUP LENGTHS L



ONE POINT PICK-UP



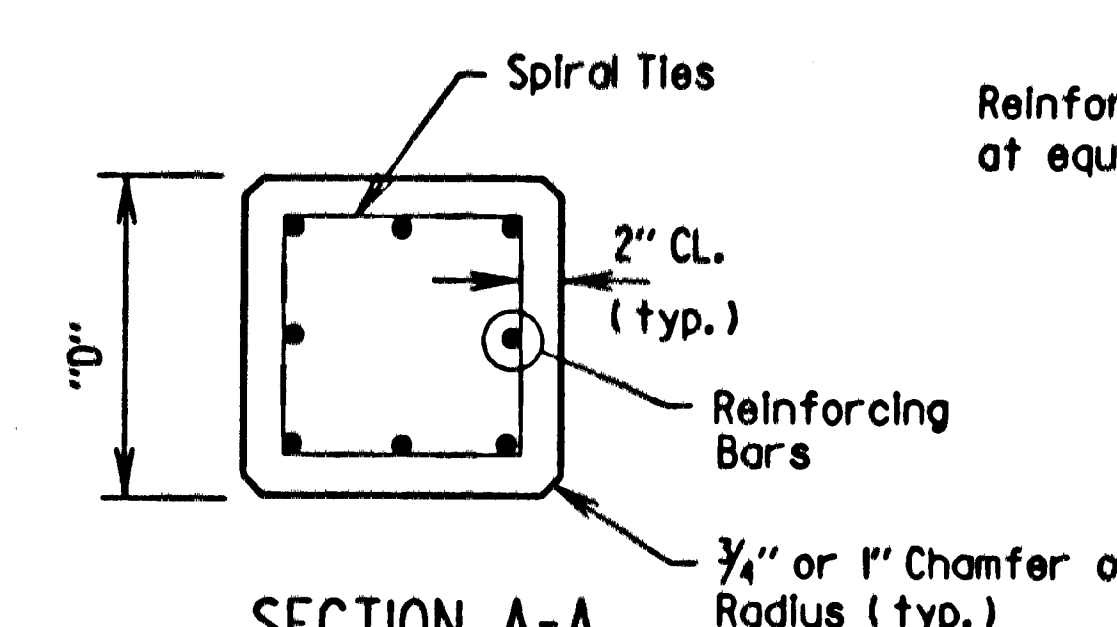
TWO POINT PICK-UP



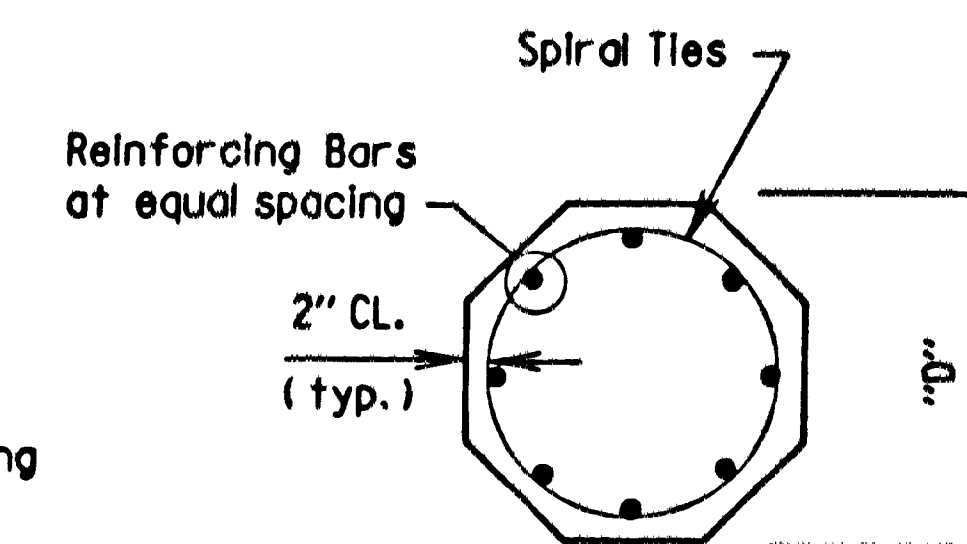
THREE POINT PICK-UP

PRECAST PILE REINFORCING

Pile Size	No. Req'd.	Bar Size
16" Oct.	8	# 7
18" Oct.	8	# 7
14" Sq.	8	# 7
16" Sq.	8	# 7
18" Sq.	8	# 8



SECTION A-A
SQUARE PILE



SECTION A-A
OCTAGONAL PILE

PRECAST CONCRETE PILES

GENERAL NOTES

The maximum sweep (deviation from straightness measured along two perpendicular faces of the pile, while not subject to bending forces) shall not exceed 1/8" in 10 ft. of its length.

General: Shipment of piles from the plant site or pile driving will not be permitted until the required minimum compressive strength is reached, and in no case less than 10 days after pouring the concrete. Piles may be removed from casting bed to a nearby storage any time after transfer of stress.

Spiral Reinforcing: Spiral reinforcing shall be steel wire meeting the requirements of ASTM A 82 with a minimum diameter of 0.2" or shall be plain round steel bars meeting the requirements of ASTM A65 or A617, Grade 60, with a minimum diameter of 0.25".

Manufacture, Transportation and Storage: See Section 802 "Concrete for Structures" of the Standard Specifications.

Installation, Measurement and Payment: See Section 805 "Piling" of the Standard Specifications. Precast Prestressed Concrete Piling will be paid for at the contract unit price per Linear Foot bid for "Concrete Piling".

The Contractor may elect to use a Precast Concrete Pile in lieu of the Prestressed Concrete Pile. The following notes apply to Precast Concrete Piles:

All concrete shall be Class S (AE) and shall have a minimum compressive strength (f'c) of 4000 psi at 28 days.

All longitudinal reinforcing bars shall be deformed bars of ASTM A615 or A617, Grade 60.

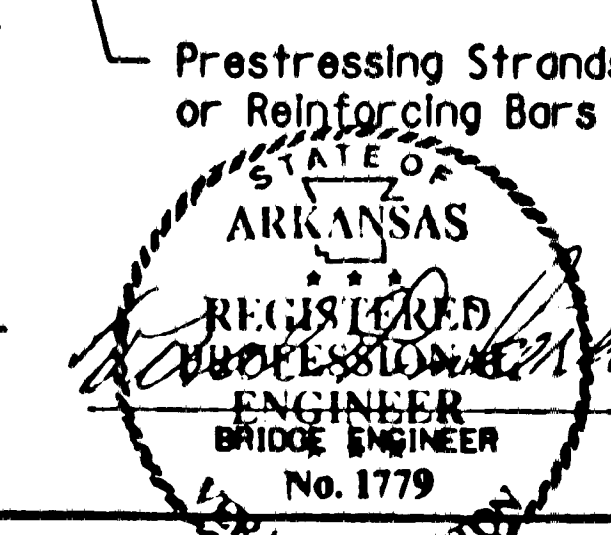
All spiral reinforcing shall be the same as that shown for prestressed concrete.

DETAILS OF STANDARD CONCRETE PILES

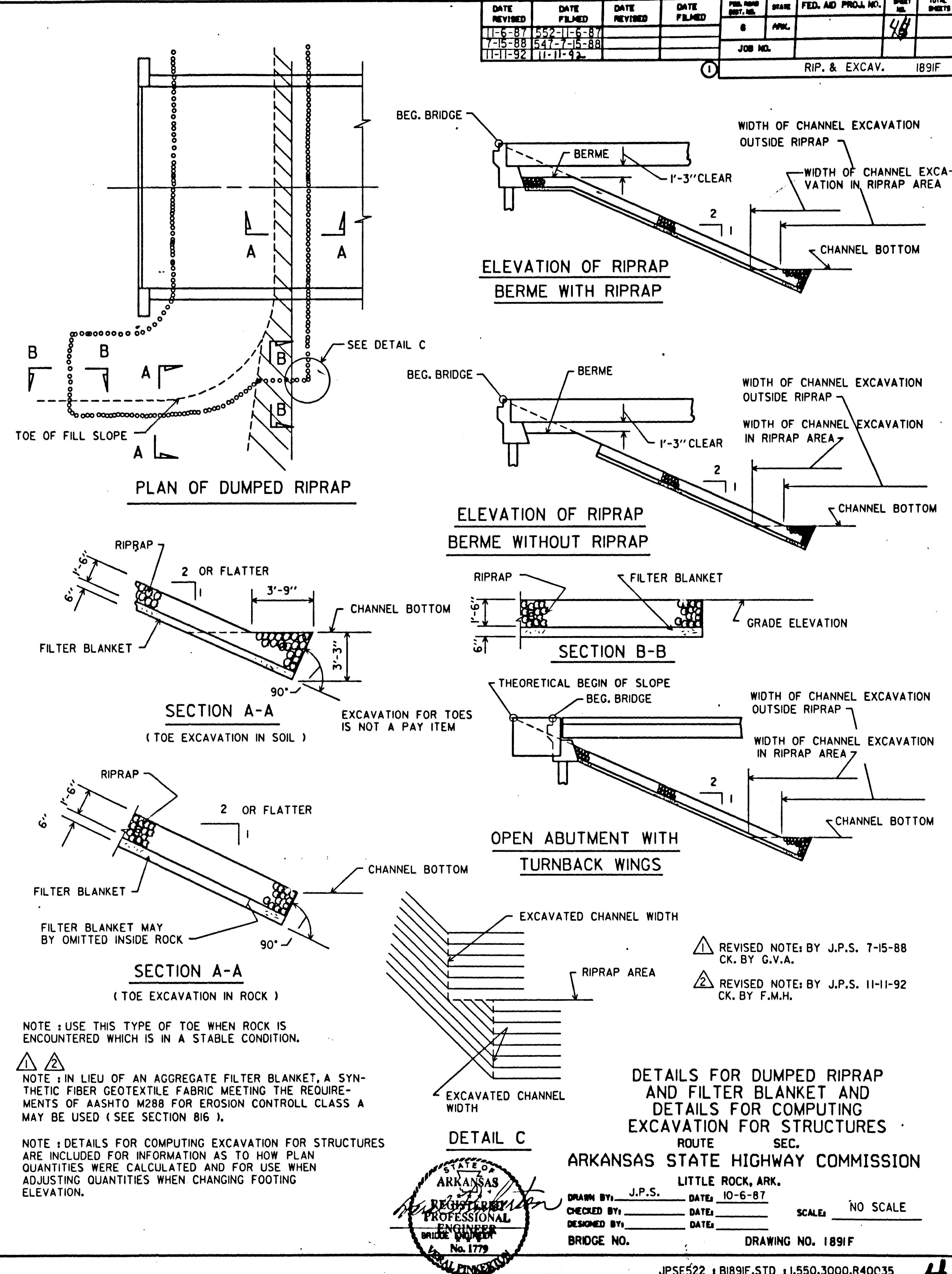
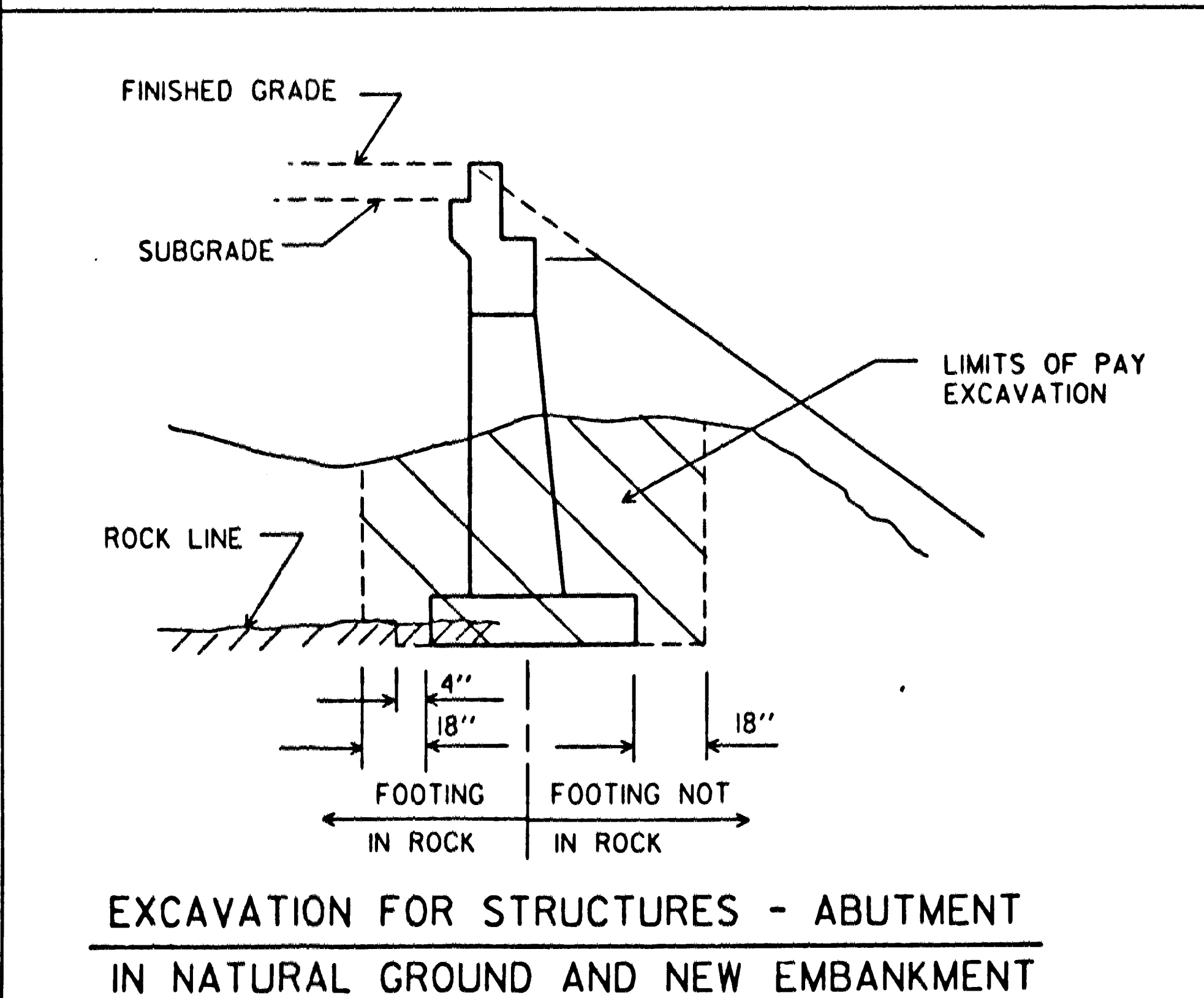
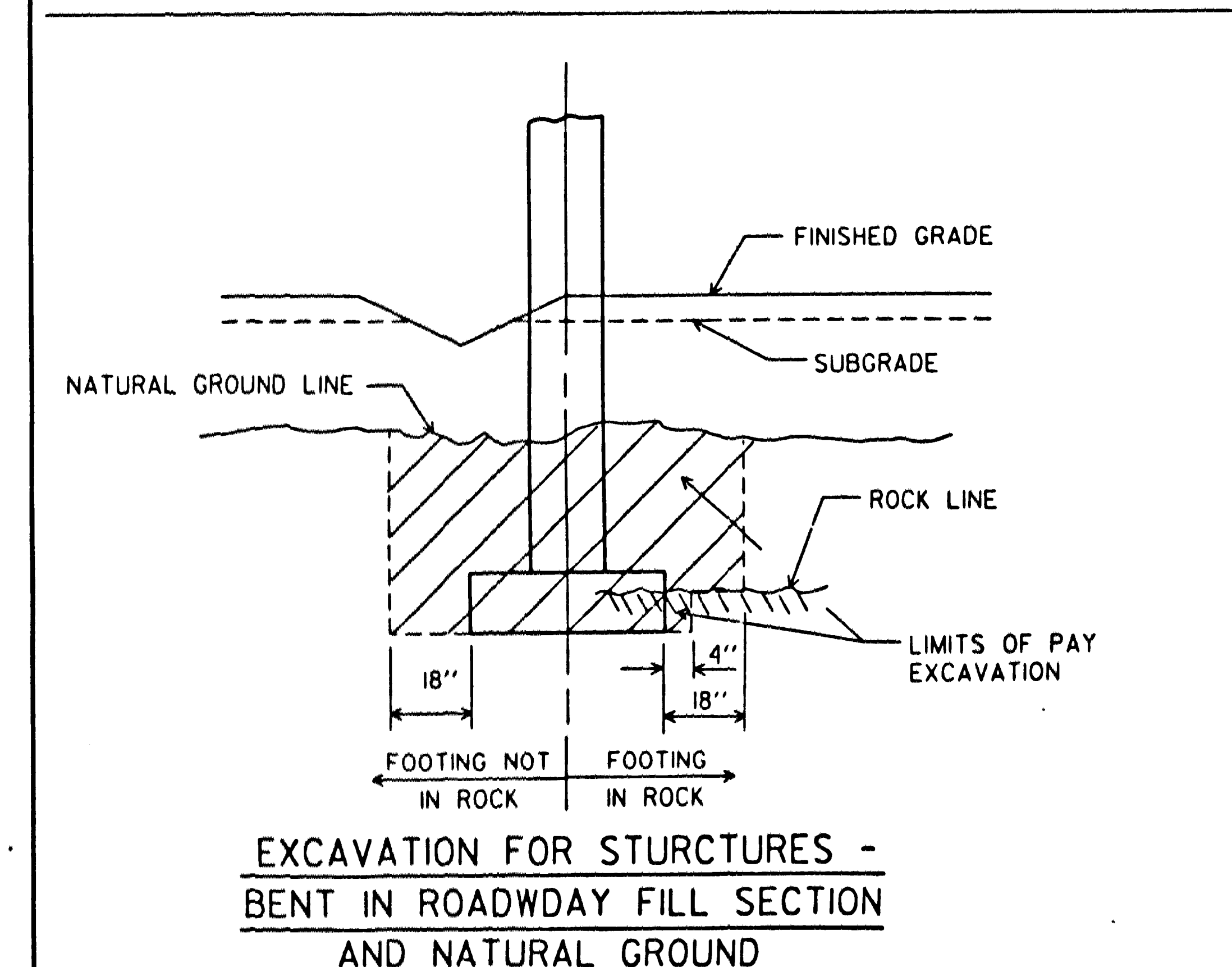
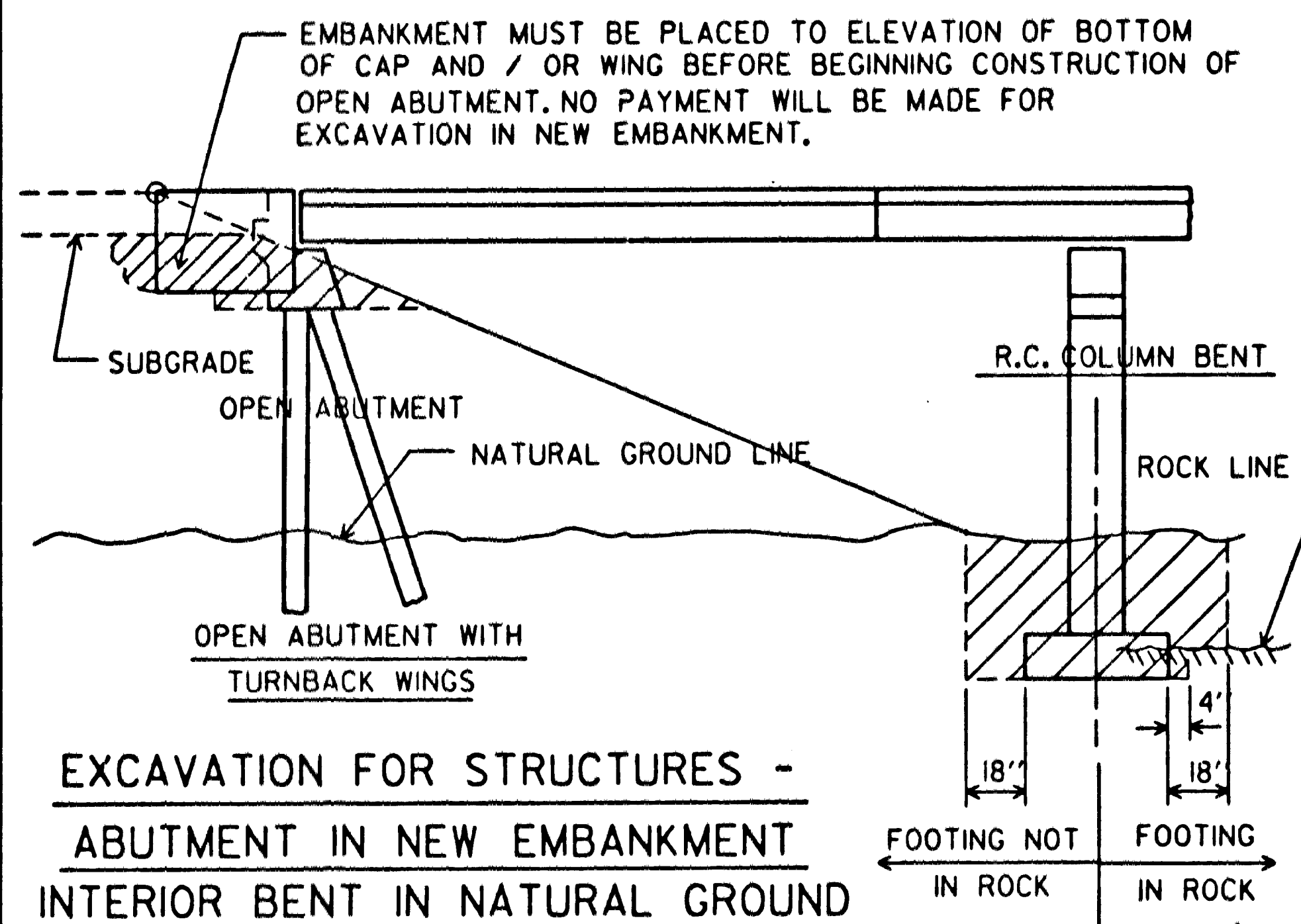
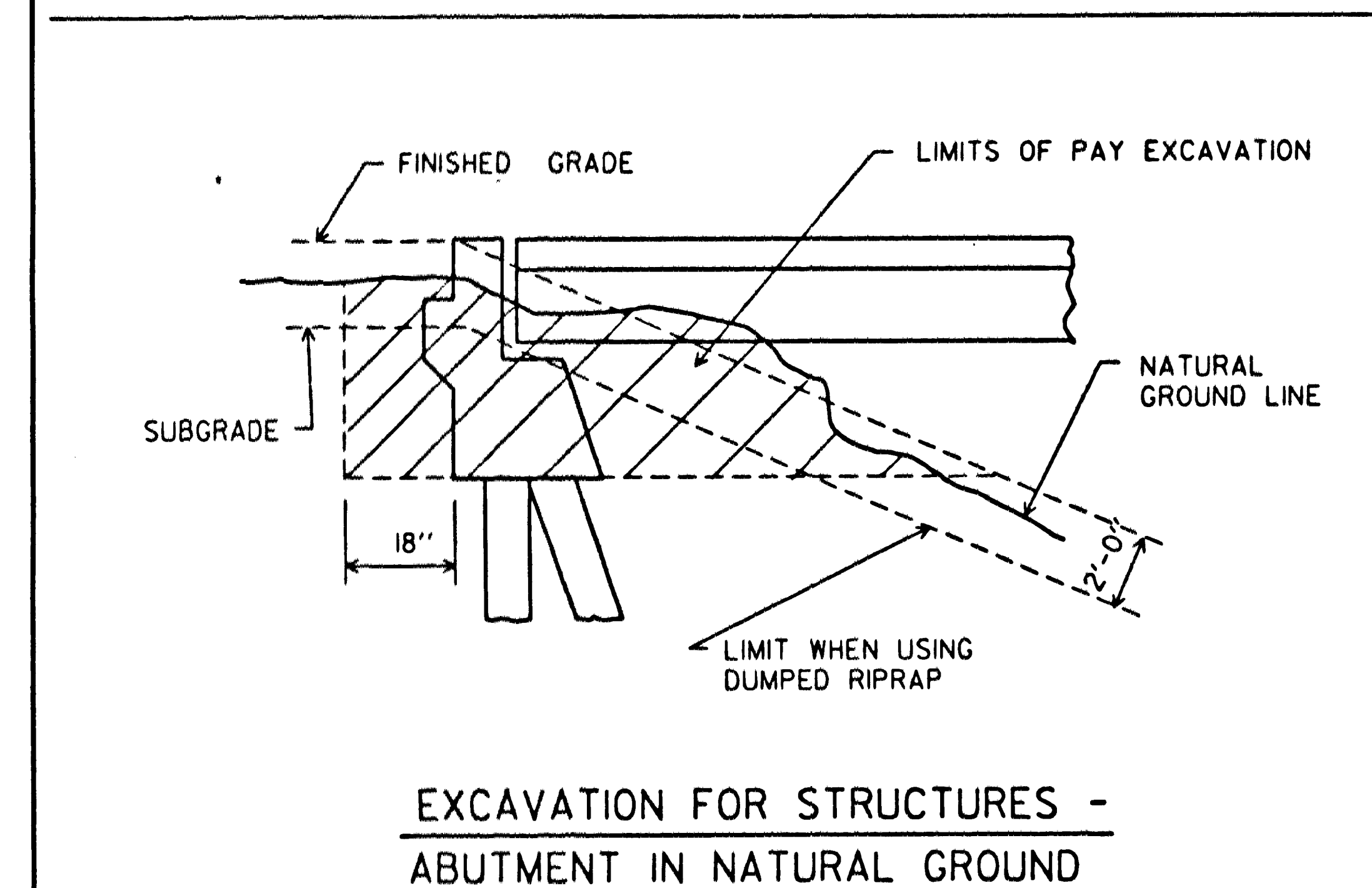
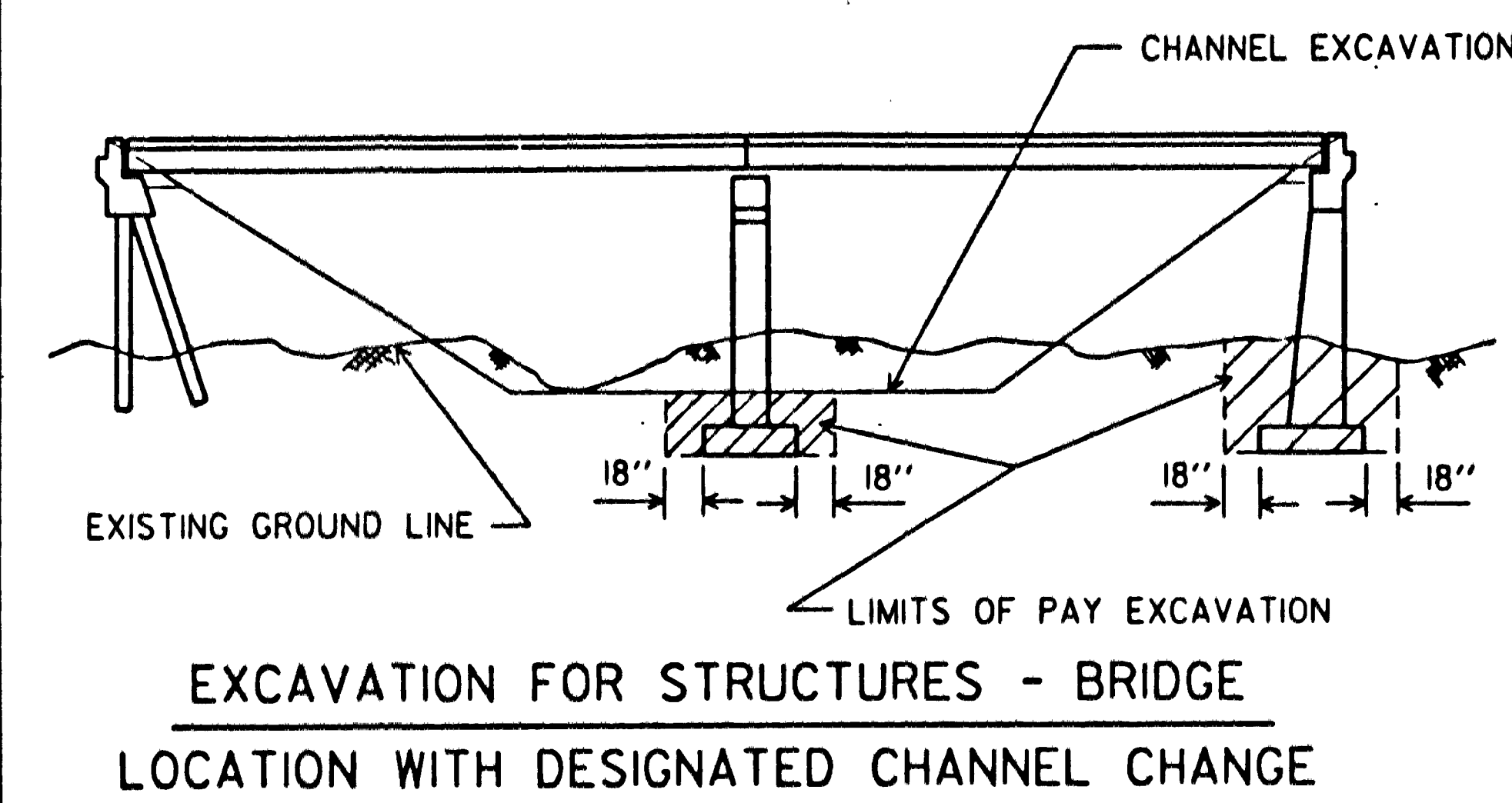
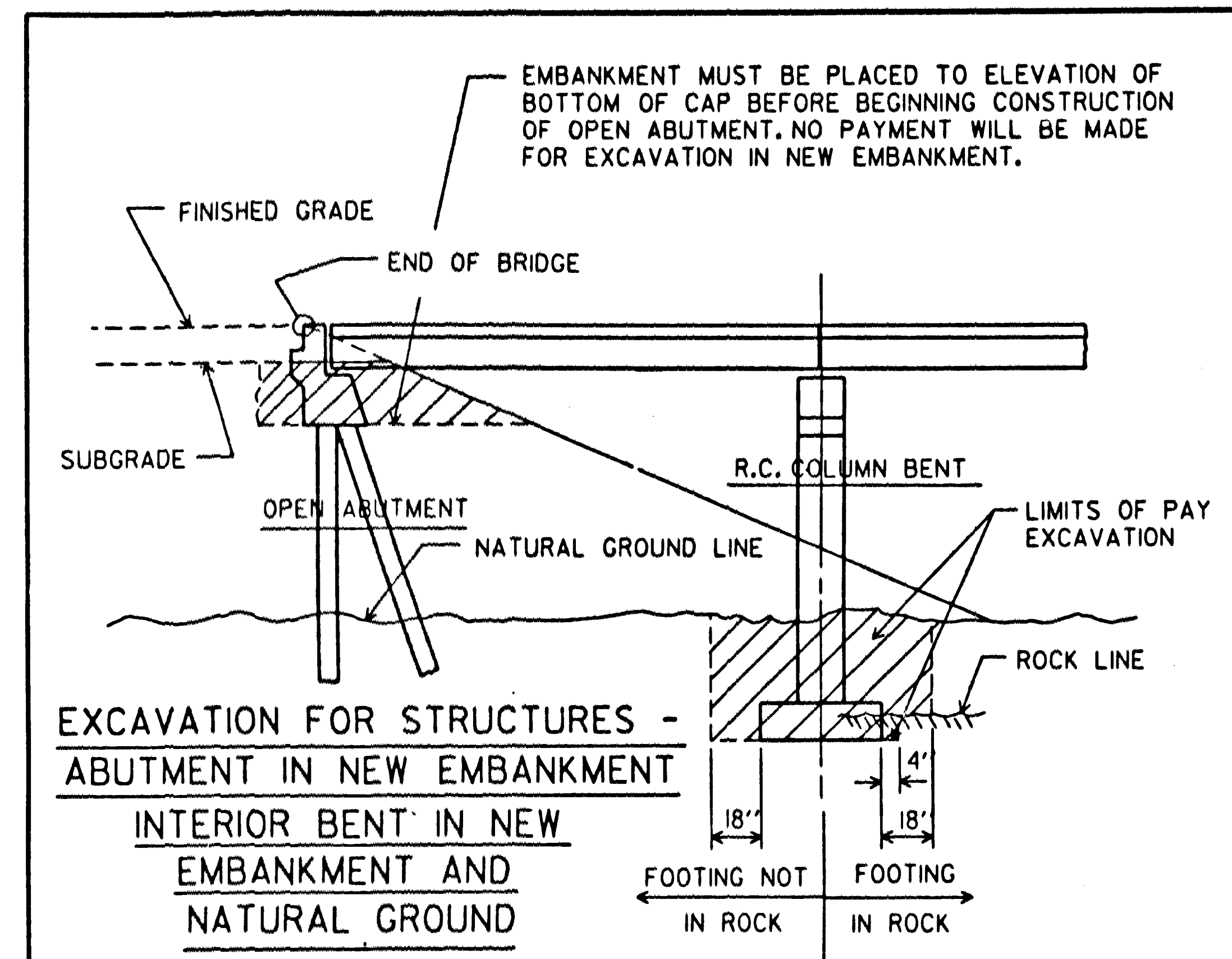
ROUTE SEC. ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

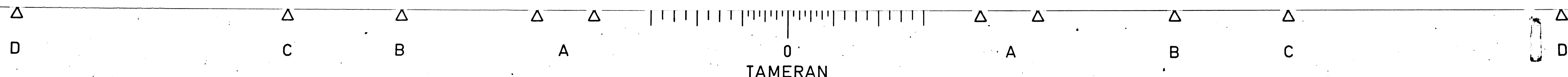
DRAWN BY: J.P.S. DATE: 10-13-87
CHECKED BY: M.E.C. DATE: 1-6-89
DESIGNED BY: D.E.L. DATE: 7-24-92
BRIDGE NO. DRAWING NO. 2383

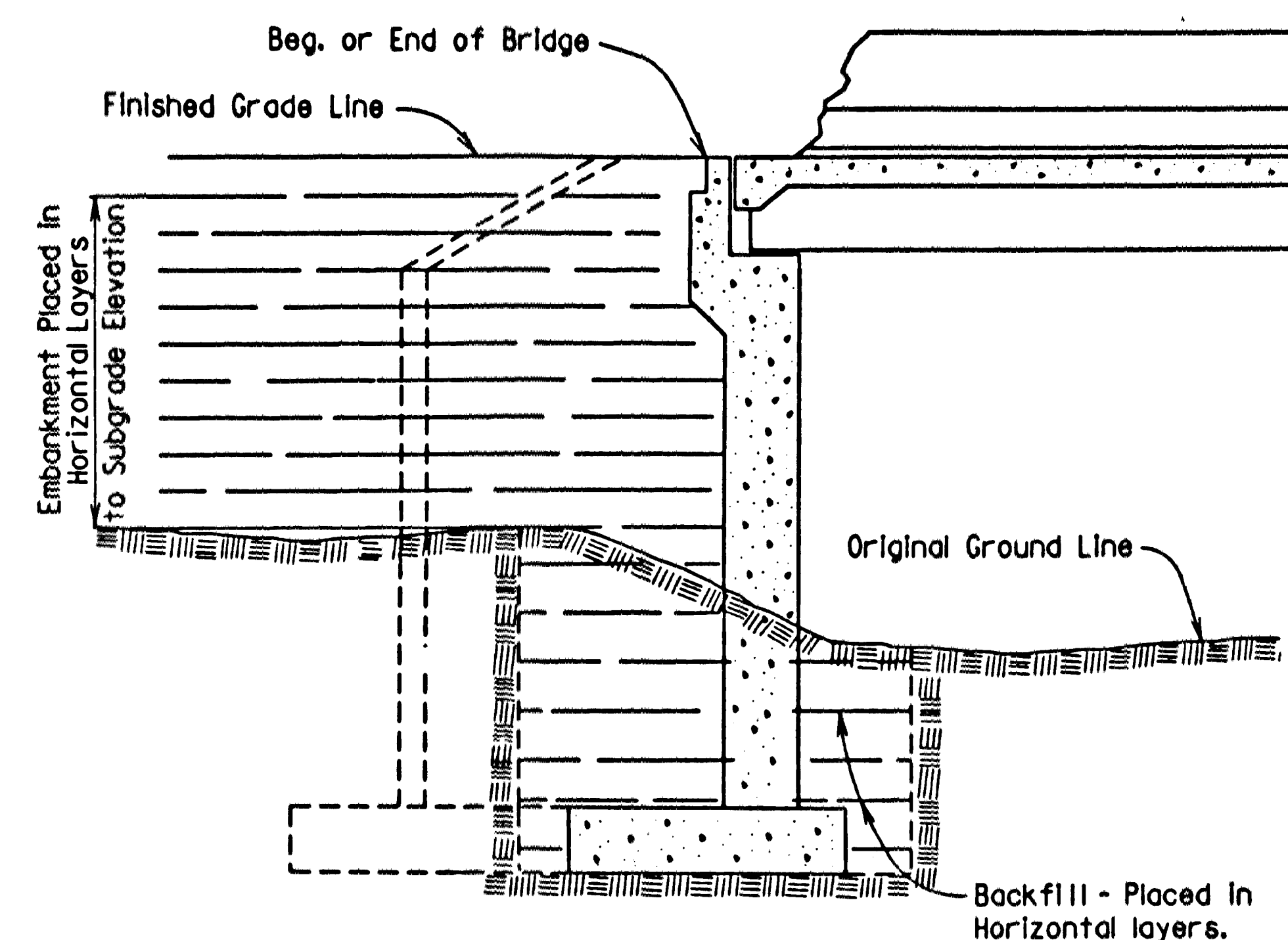


JPSE522 + B2383.STD + 1,550,3000,R40035 12A

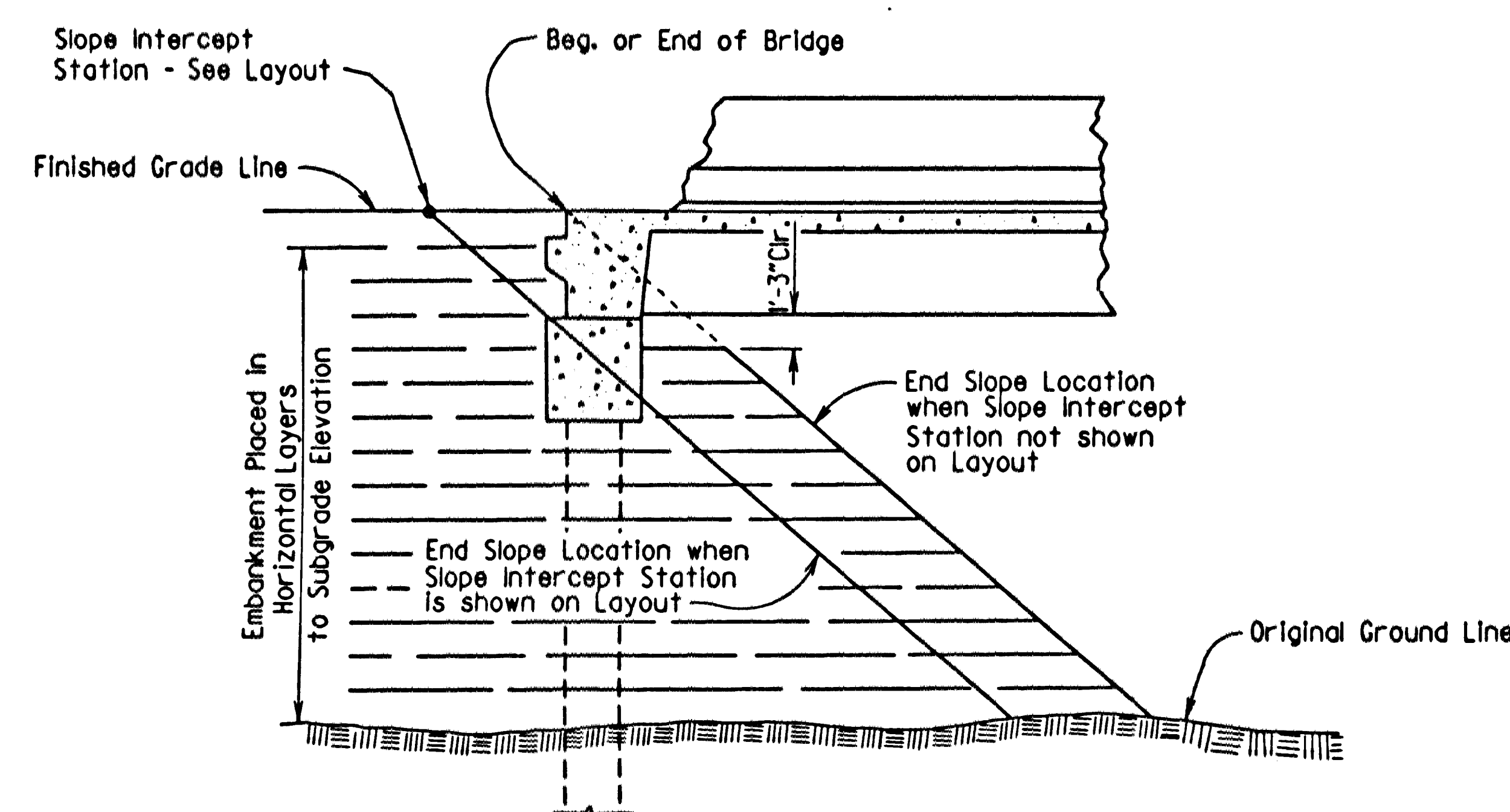


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OCT 24 1955

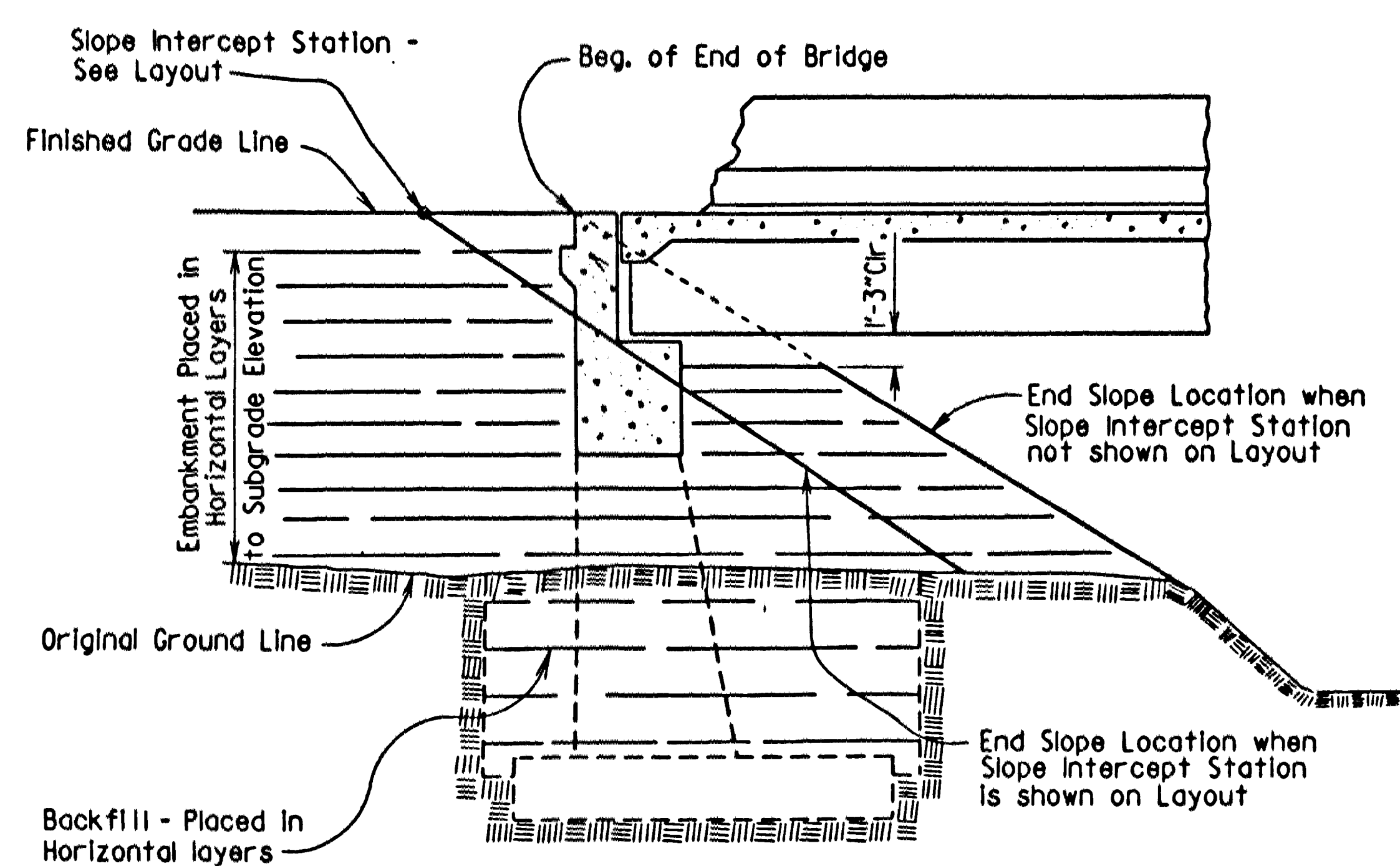




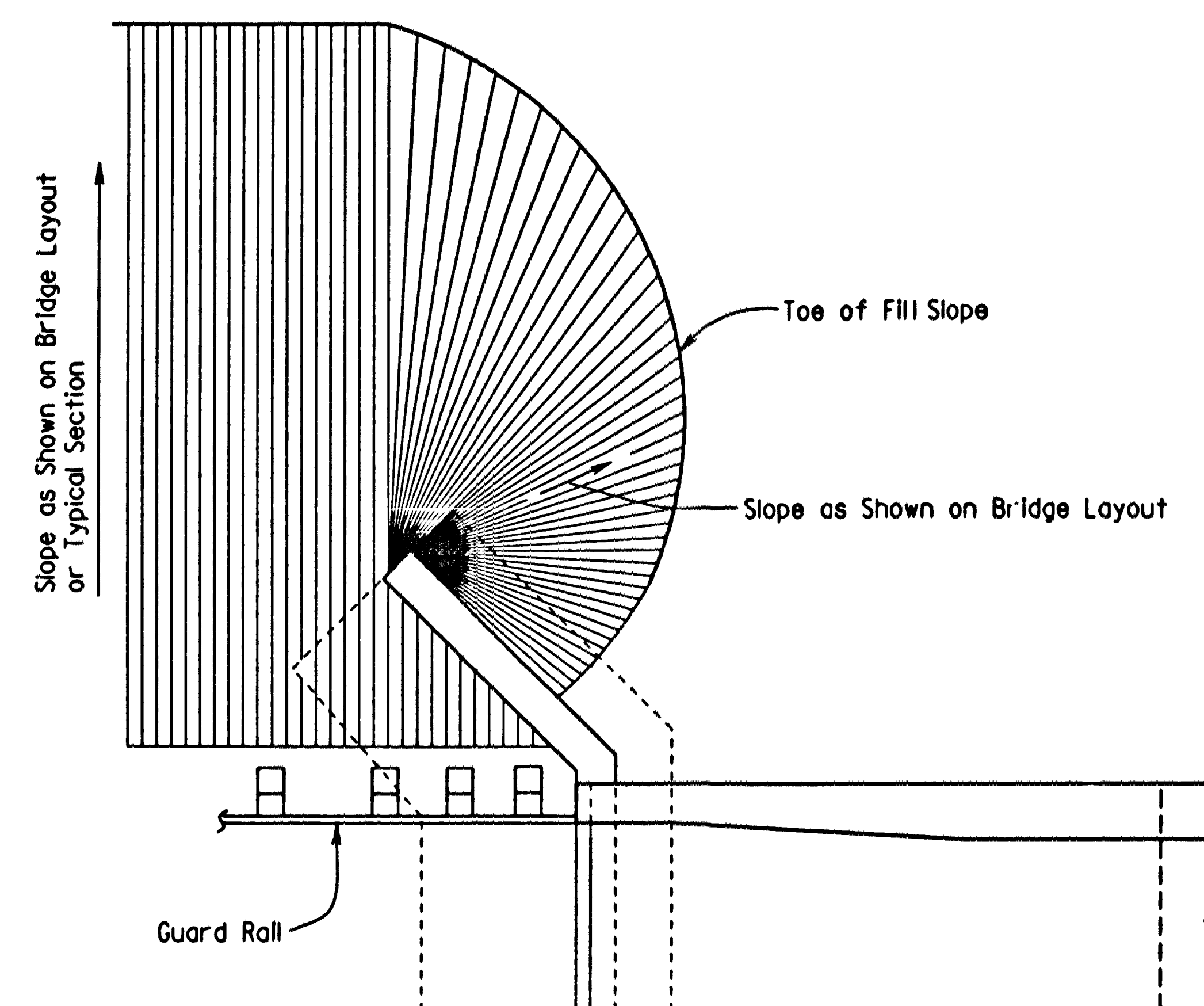
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



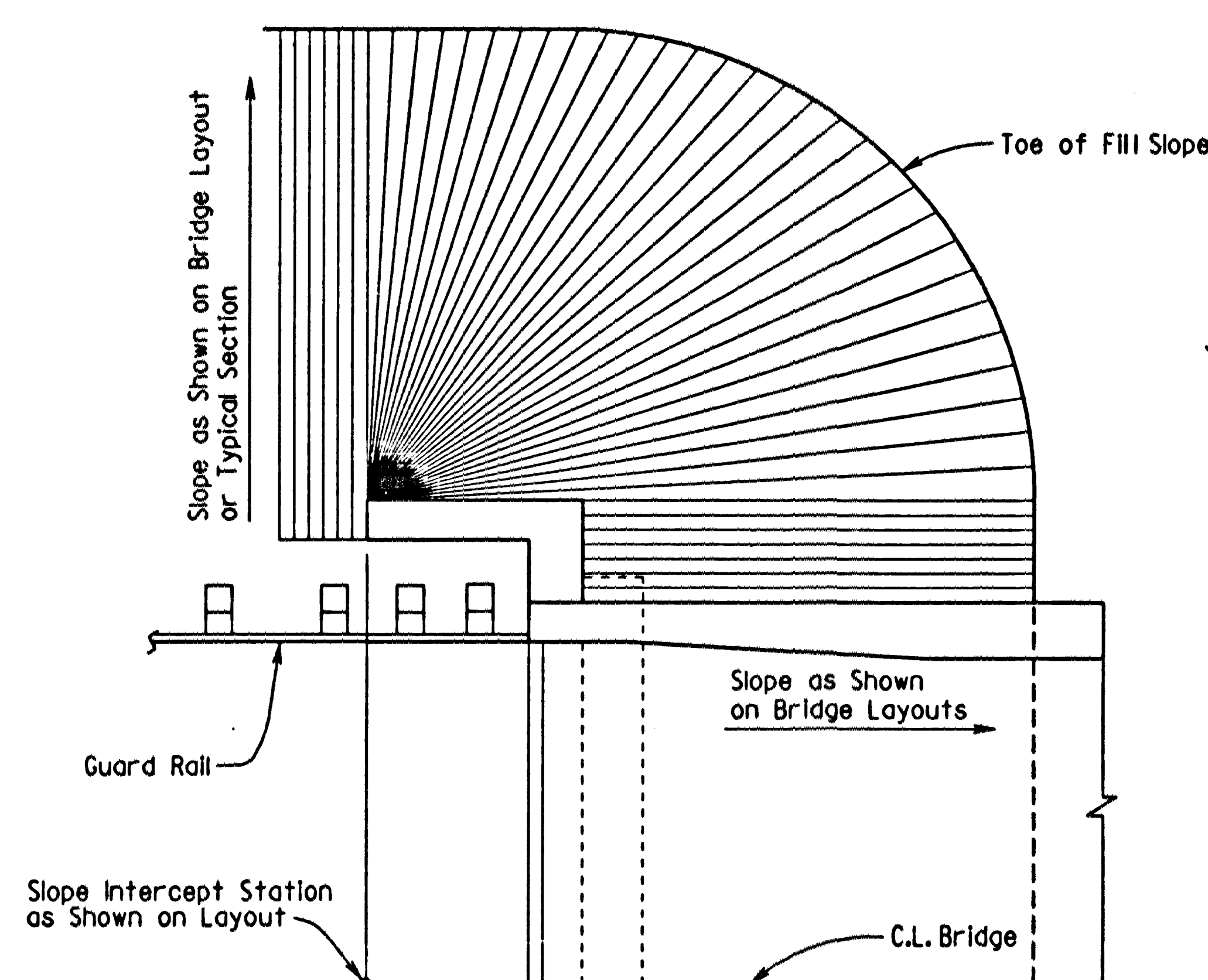
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



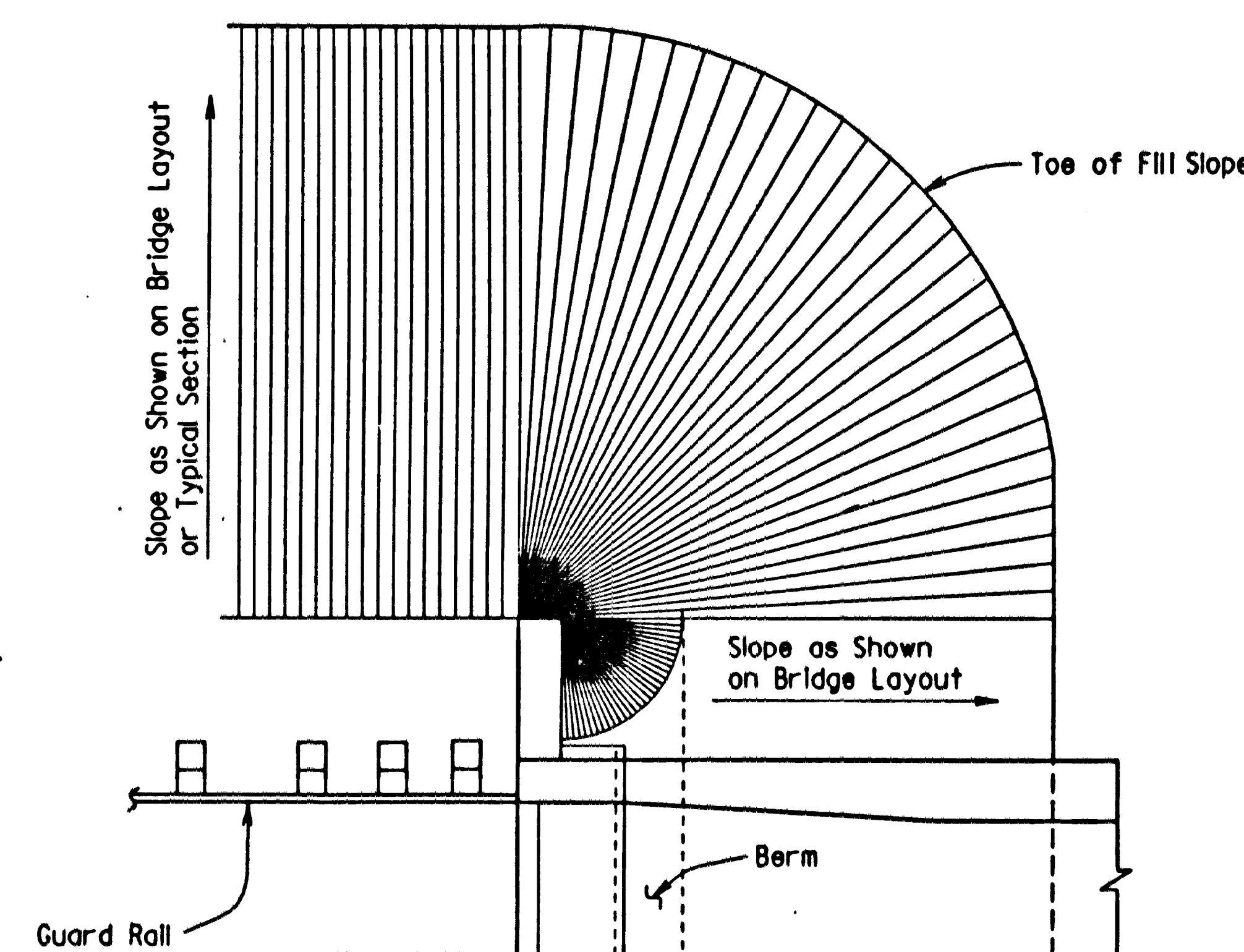
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



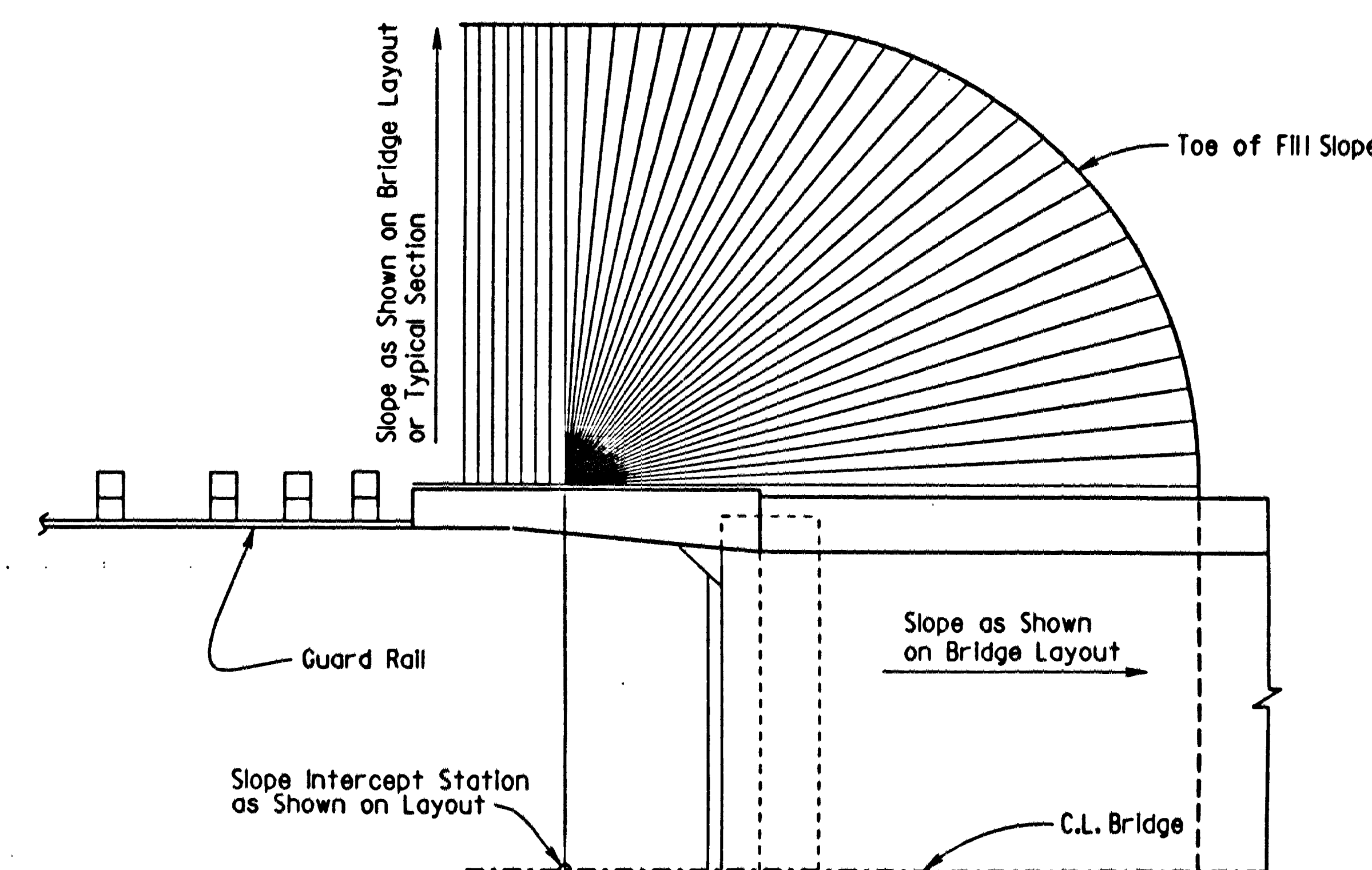
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 4 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to subsections 210.09, 210.10 and 801.08 of the Specifications for construction requirements.

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: LDF DATE: 10-12-95
CHECKED BY: DHP DATE: 10-12-95 SCALE: NO SCALE
DESIGNED BY: STD DATE: BRIDGE NO. DRAWING NO. 1888A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-12-95	10-12-95			6	ARK.		42	
JOB NO.								
EMBANKMENT & BACKFILL								1888A

B1888A.STD

