

C. S. CHRISTIAN
HIGHWAY ENGINEER
N. B. GARVER
BRIDGE ENGINEER

PLANS

DWIGHT H. BLACKWOOD
CHAIRMAN

JUSTIN MATTHEWS
J. S. PARKS

J. LAN WILLIAMS
SAM J. WILSON

FOR

COMMISSIONERS

HIGHWAY BRIDGE OVER RED RIVER

AT

FULTON, ARKANSAS

IRA G. HEDRICK, INC.

CONSULTING ENGINEERS

SHREVEPORT, LOUISIANA

DECEMBER, 1927

JOB NO. 335 U.S.R.-67 MILLER COUNTY S-1
HEMPSTEAD COUNTY S-2

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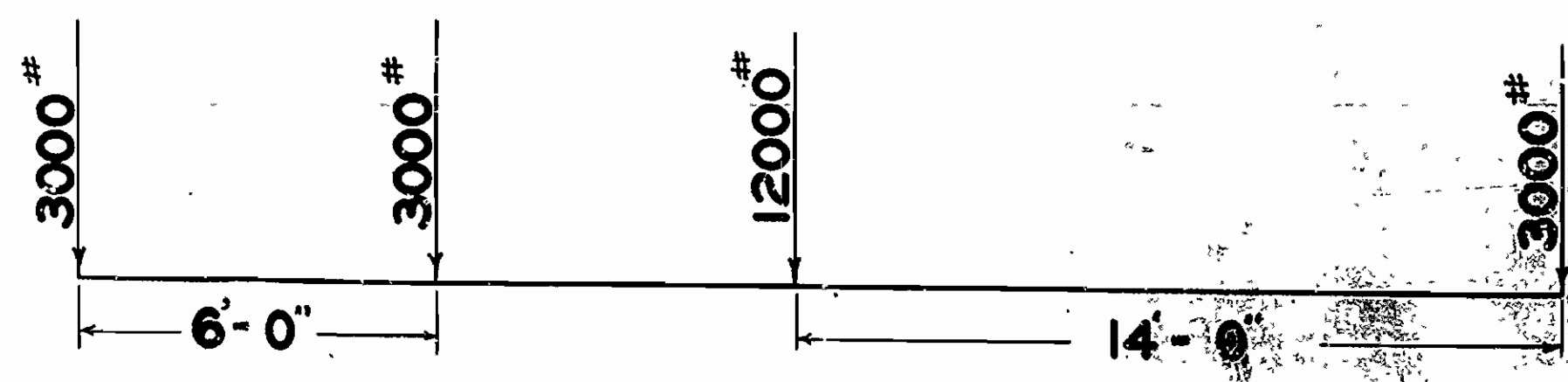
REVISED, Oct. 16, 1928.

CONSTANTS

| | CONCRETE 1-2 MIX | STEEL |
|---|------------------|--------------------|
| FLOORSLABS, CROSS GIRDERS, GIRDERS, ETC. | 975# PER SQ. IN. | |
| BEAMS CONTINUOUS OVER SUPPORTS (AT CENTER OF BEAMS) | 975# | |
| BOND FOR STEEL IN CONCRETE (OVER SUPPORTS) | 1125# | |
| FLEXURAL STRESS FOR ALL CONDITIONS NOT INCL. WIND & TEMP. | 900# | " " " LARCH RINGS |
| " " " " INCLUDING " " " | 1200# | " " " " |
| COLUMNS DIRECT COMPRESSION | 900-225L# | |
| NOTE: FOR 1-2-4 CONCRETE DECREASE ABOVE STRESSES 33 1/3% | | |
| TENSION NET SECTION | | 16000# PER SQ. IN. |
| COMP. IN COLS. & OTHER COMP. MEMBERS FIXED ENDS | 900-225L# | |
| MODULUS OF ELASTICITY, STEEL | | 30000000# |
| " " " CONCRETE 1-2-4 | 2000000# | |
| " " " " 1-1-2 | 3000000# | |
| VARIATION IN TEMPERATURE FOR ARCH RINGS | ± 40° | |
| COEFFICIENT OF EXPANSION | .0000055 | .0000067 |

GENERAL NOTES
All hooks on reinforcing bars to have a radius of 4d and a return of 120° where d is diameter of bar. Lengths of hooked bars are given to starting point of hook thus: $\overline{\quad}$. All bends such as on girders bars must have a radius of not less than 12d.
Centers of bars in floor slabs to be not less than 1/4" from face of concrete. Centers of bars to be 4" from face of concrete on piers, abutment shafts, and arch rings, and 3" on girders and columns unless otherwise noted.
Chamfers to be 2" throughout unless otherwise noted.

CLASS A LOADING



2-15 TON TRUCKS.

EQUIVALENT UNIFORM LIVE LOADS

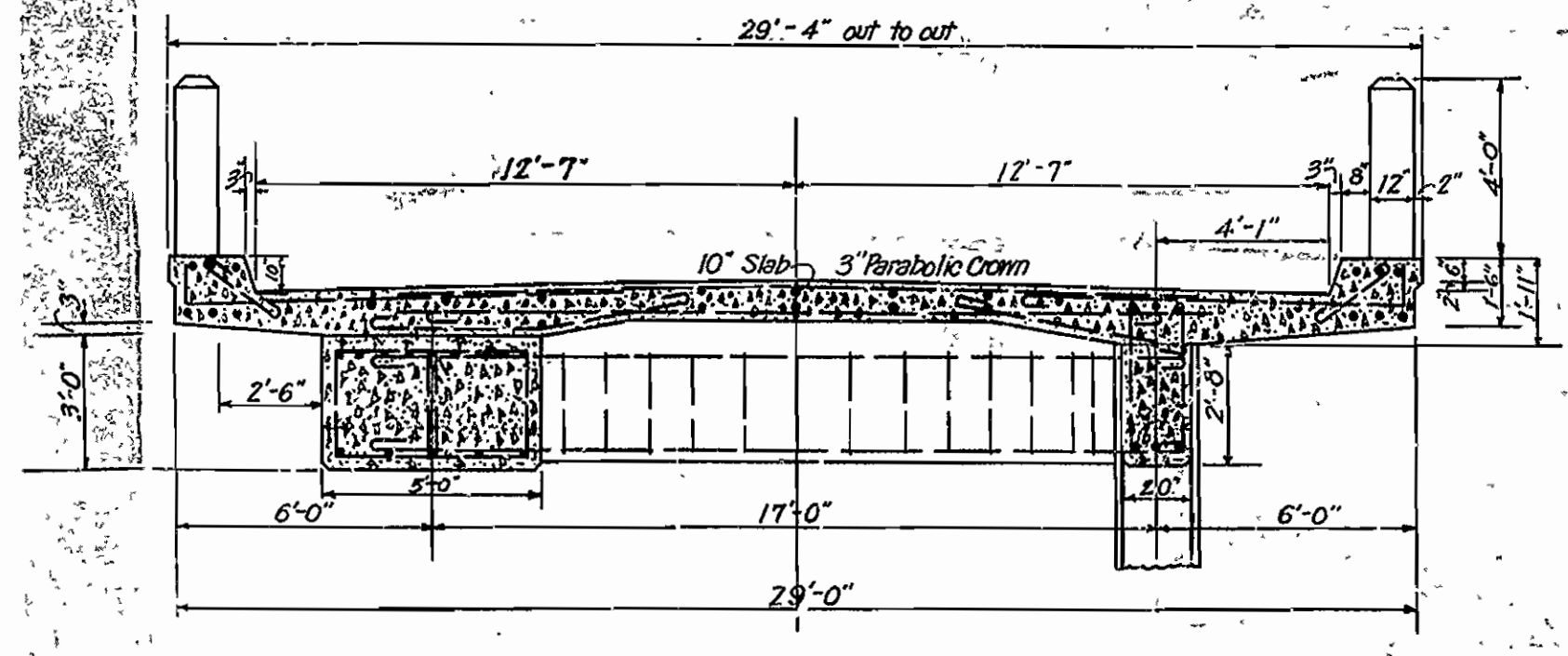
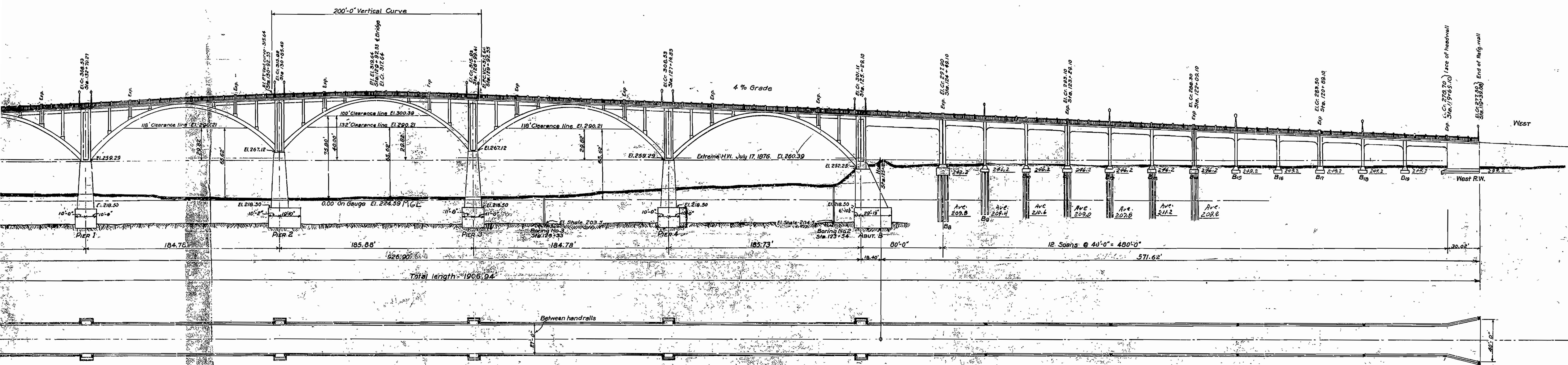
25% IMPACT

| SPAN LENGTH | LOAD PER SQ. FT. |
|---------------|------------------|
| 50'-0" | 130# |
| 100' | 80# |
| 200' AND OVER | 64# |

352

No. 9 3

| | | | | |
|---------------------|-------|-----------|-------------|-----------|
| FED. ROAD DIST. No. | STATE | PROJ. No. | FISCAL YEAR | SHEET NO. |
| 6 | ARK. | | 1929 | 4 |
| JOB No. | 335 | | | |



HALF SECTION AT CROWN HALF SECTION AT COLUMN
Scale 1/4"=1'-0"

Note: Profile of shale between borings is assumed.

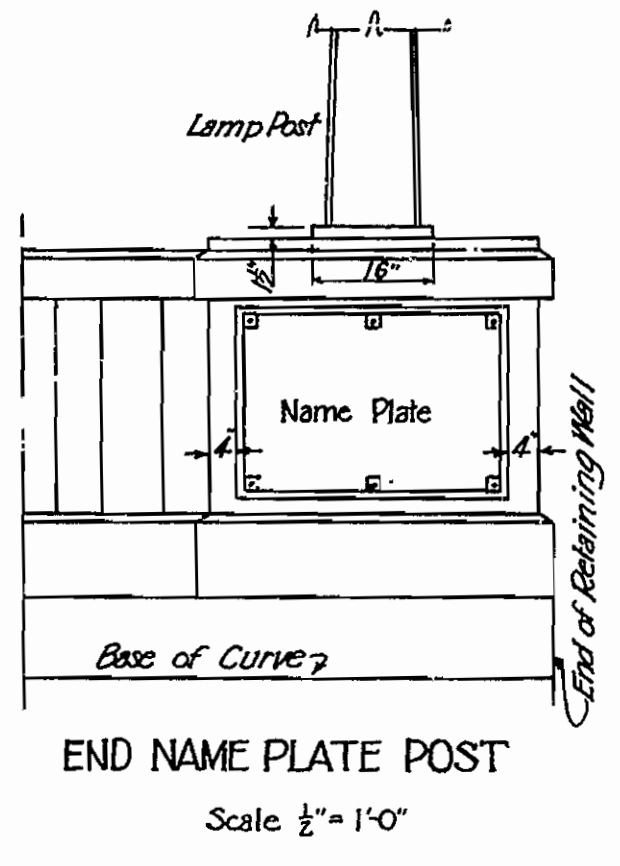
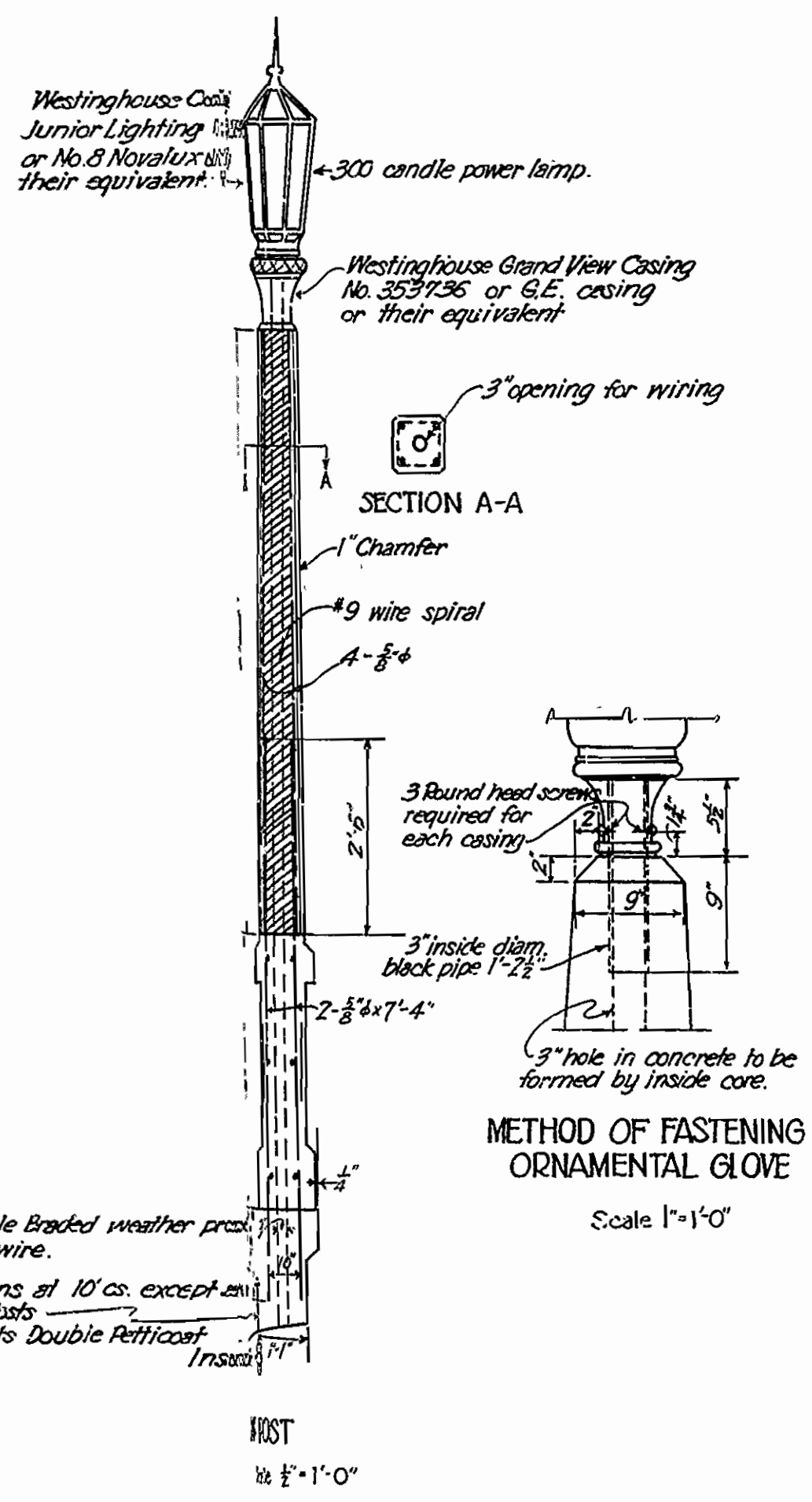
ARKANSAS STATE HIGHWAY COMMISSION
HIGHWAY BRIDGE
ACROSS THE RED RIVER AT FULTON, ARKANSAS
PLAN AND ELEVATION OF BRIDGE
ROUTE No. 67 SEC. 1
SCALE 1"=40'-0"

Made by S.O.L. ---
Checked by ---
Traced by S.O.L. ---
Checked by ---
Date Dec. 8, 1927 ---

IRA G. HEDRICK, INC.
Consulting Engineers
Shreveport, La.
FILE No. ---
SHEET No. 4

Dr. No. 398

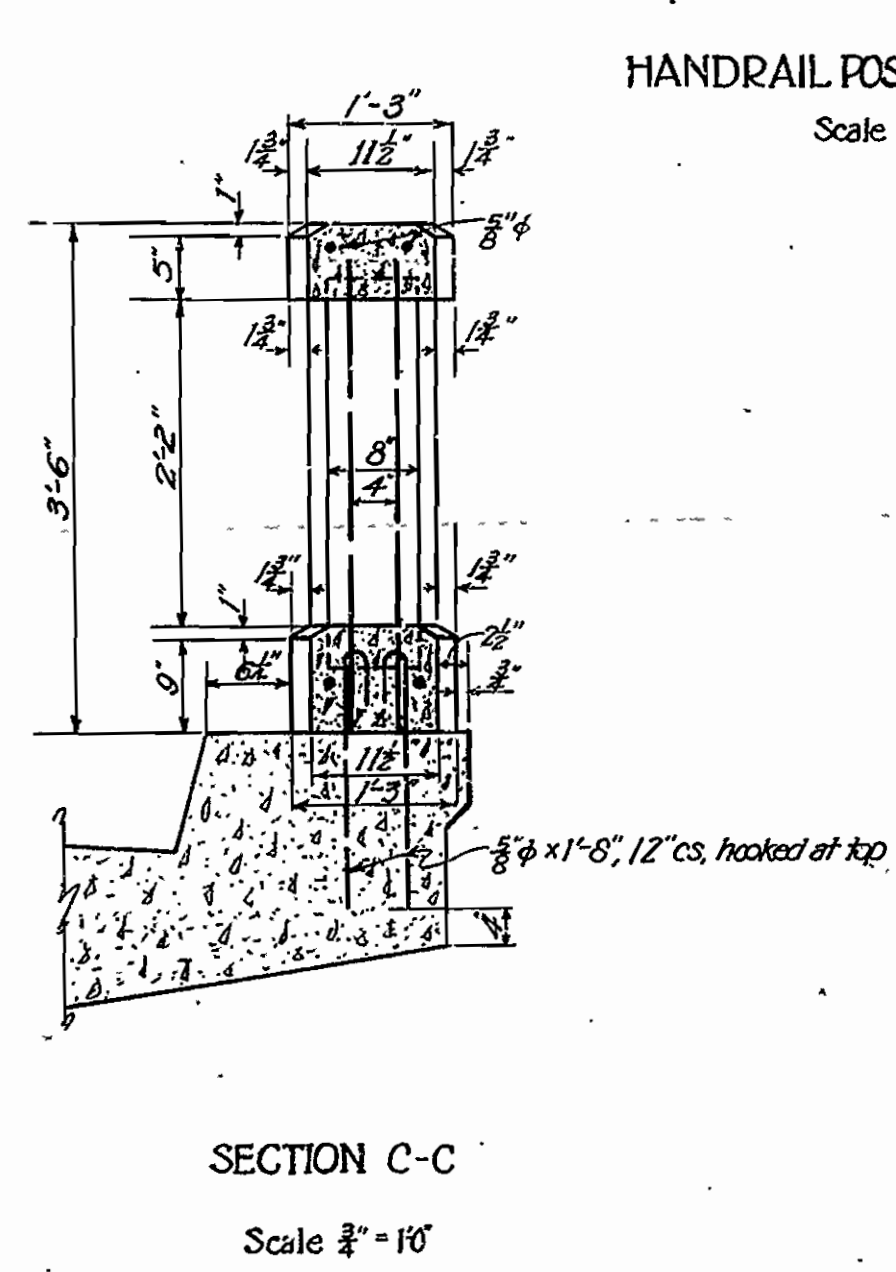
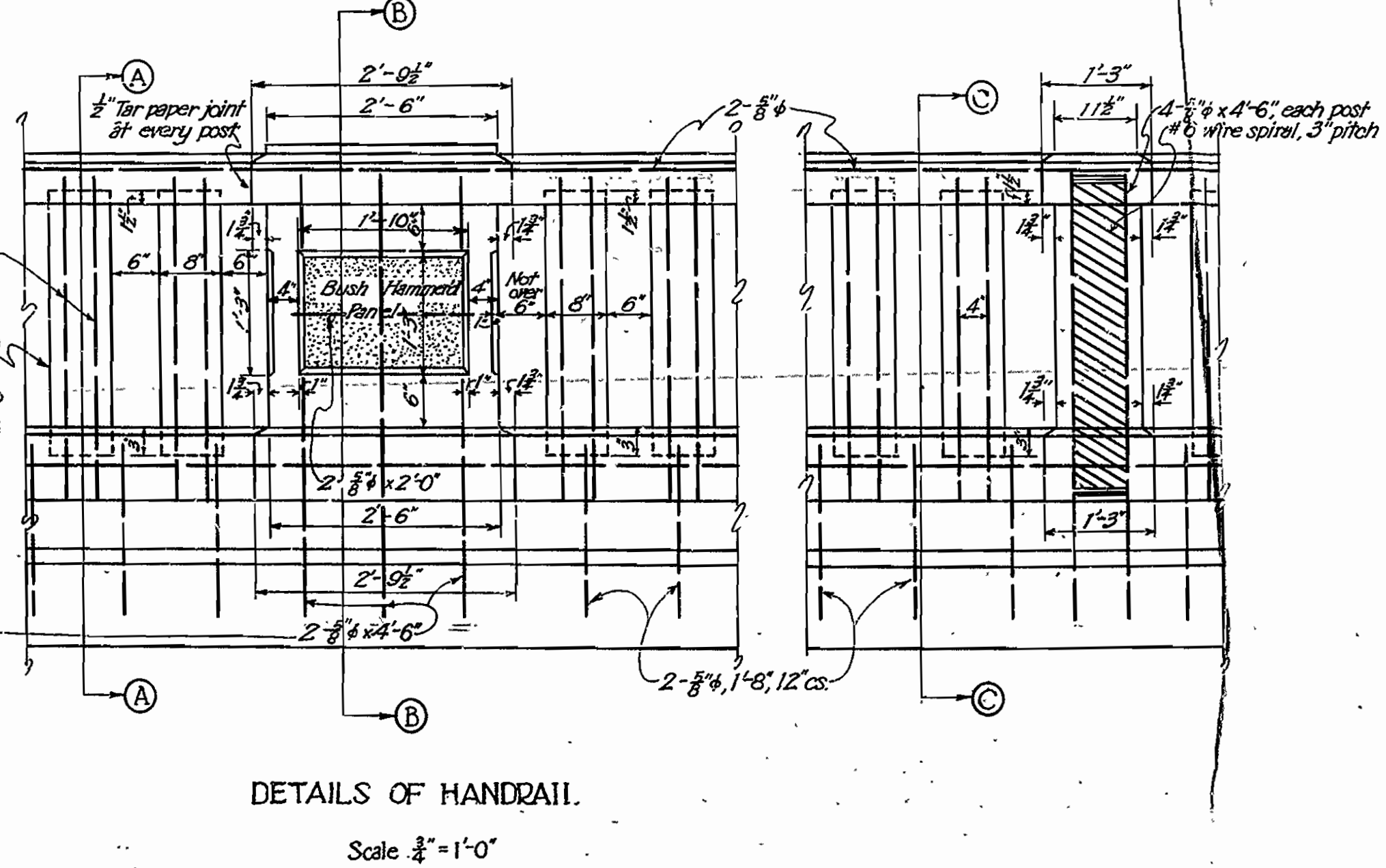
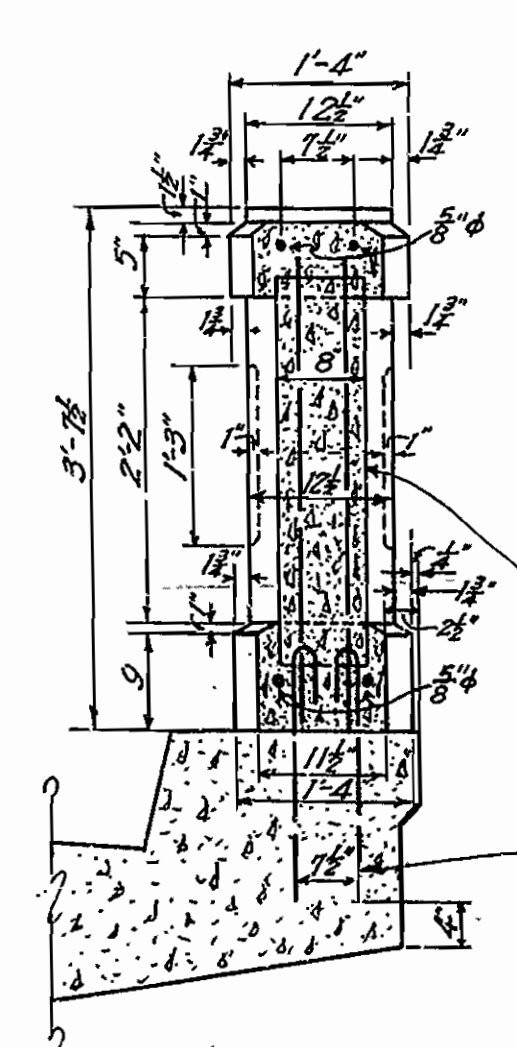
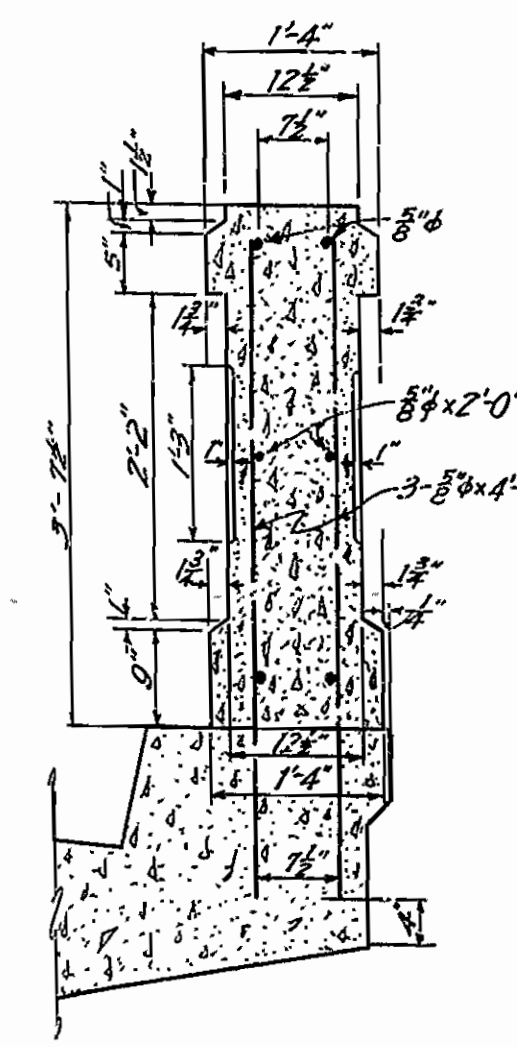
DRWG. 1



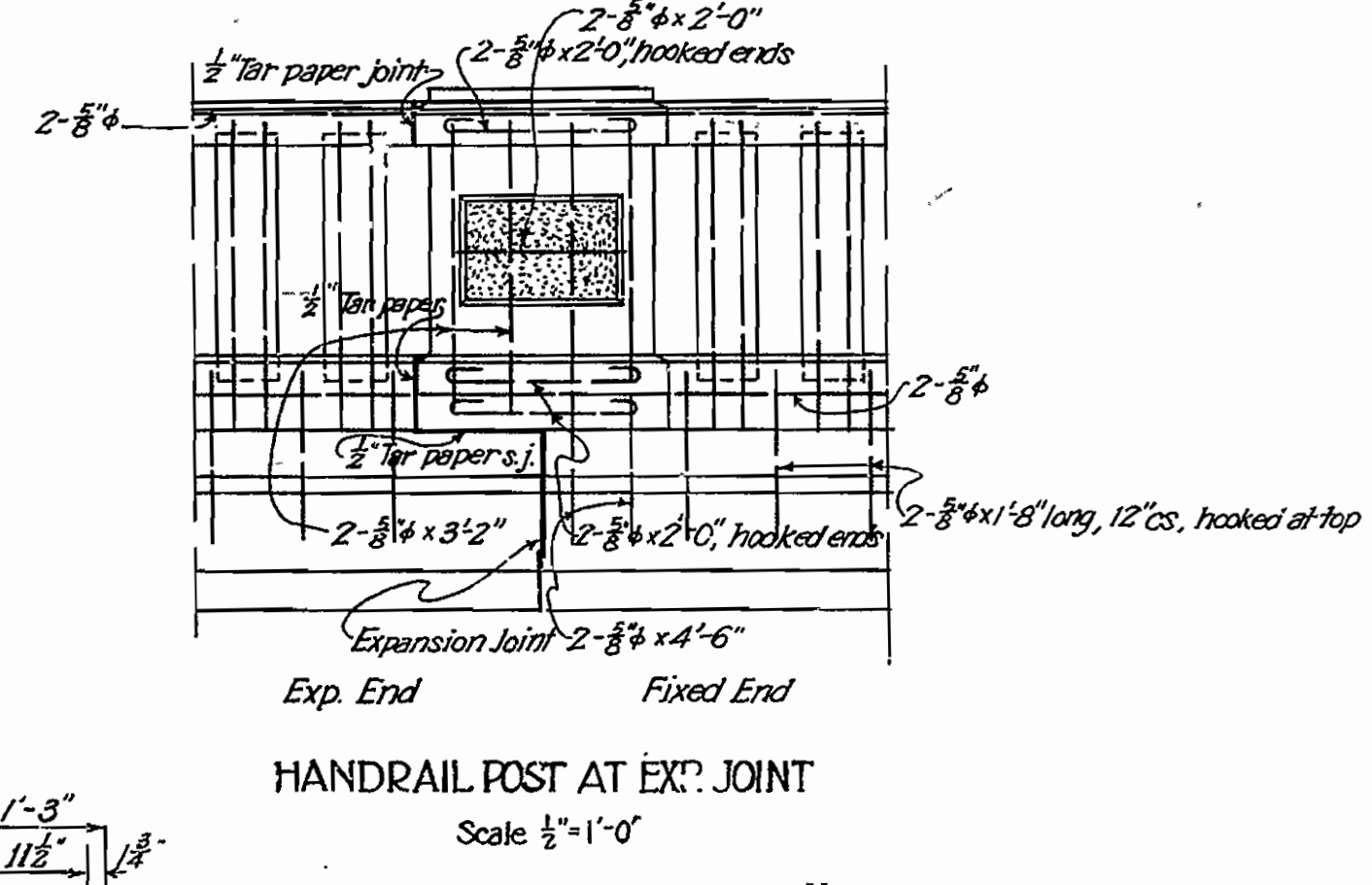
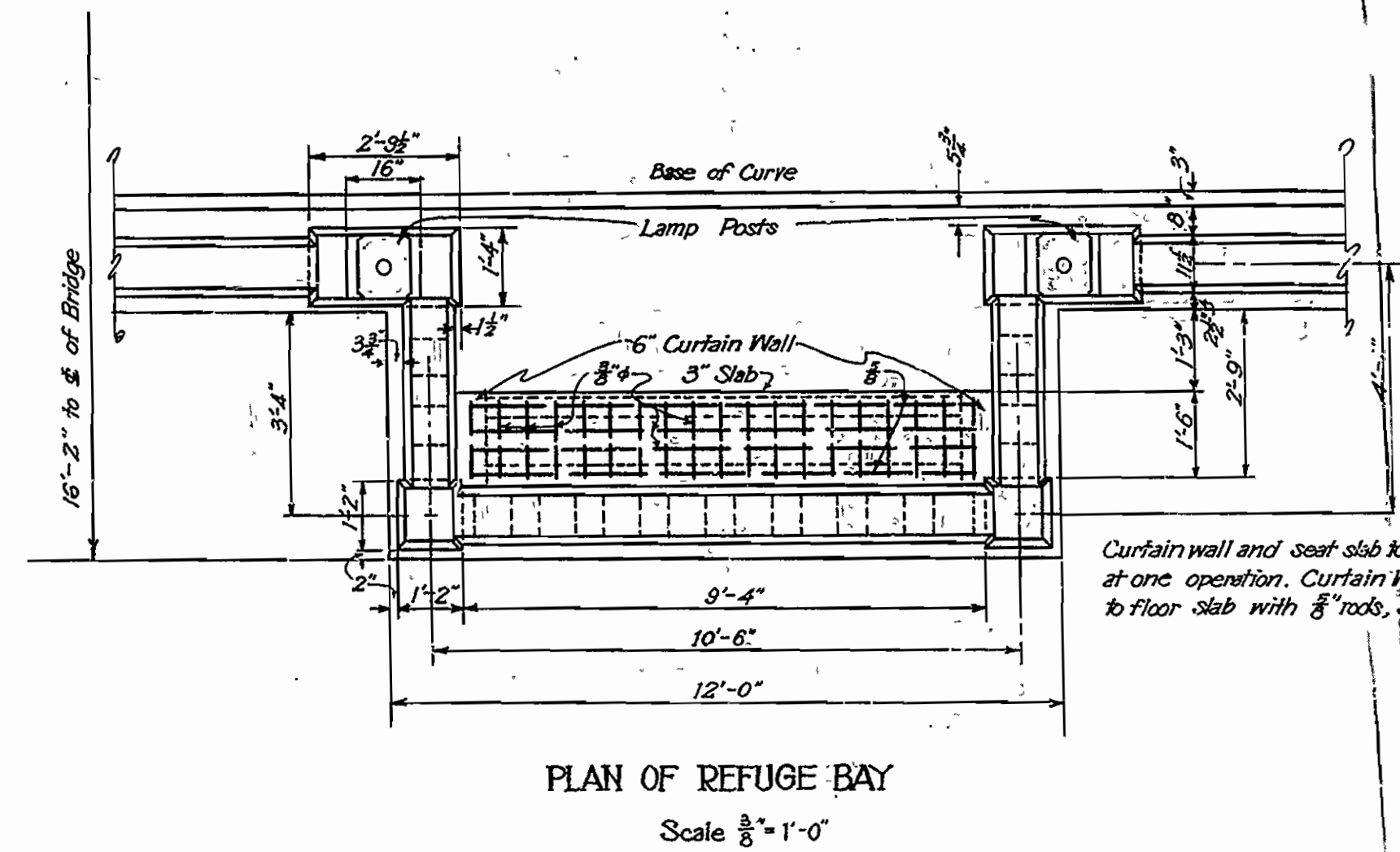
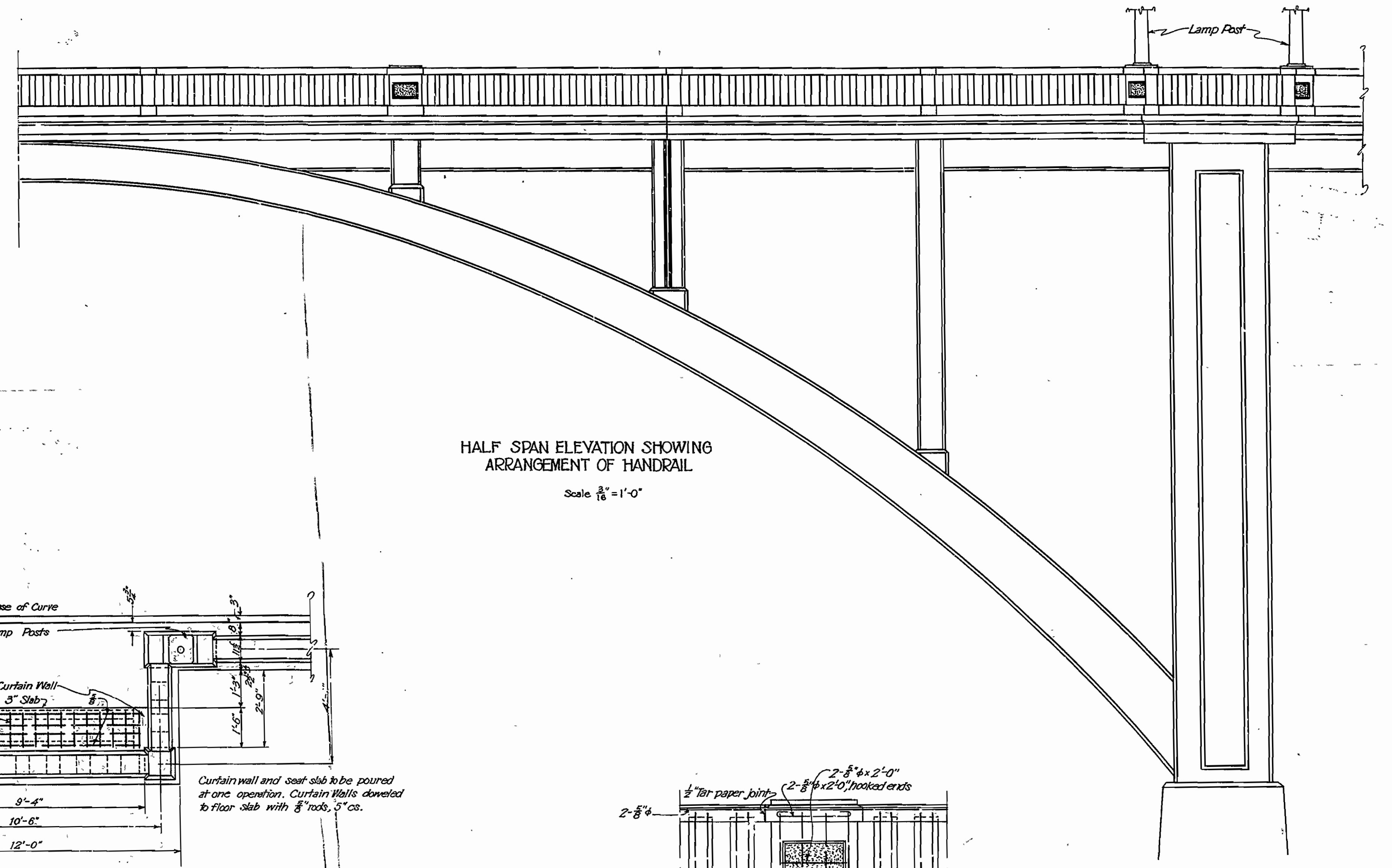
#6 Triple Braided weather proof copper wire.

Steel pins at 10' cs except at Lamp Posts

3000 volts Double Potticoat Insulated



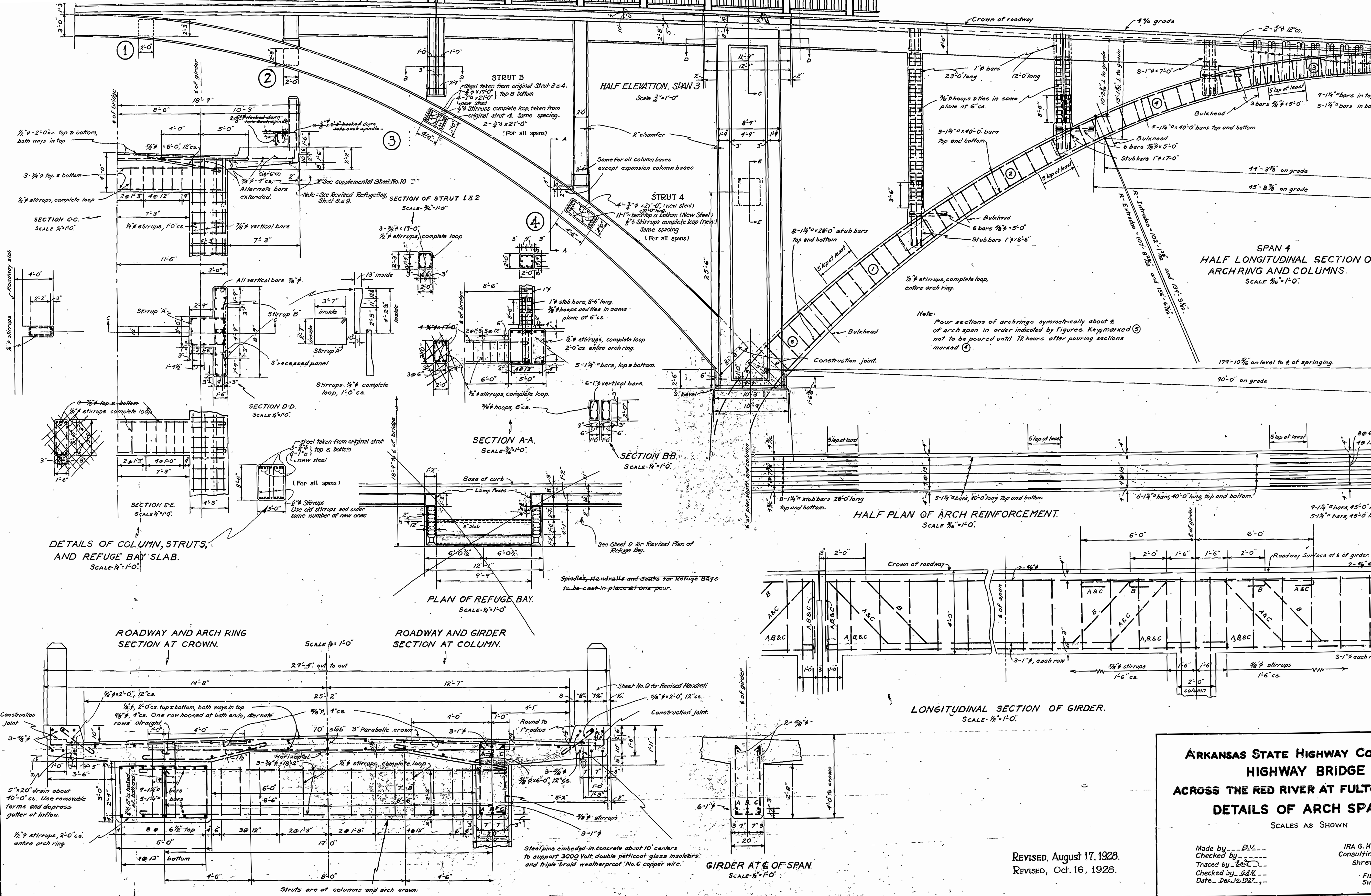
Note:
 Large handrail posts, 2'-6" x 12", are to be placed over Berths 1, 2, 3, & 4, and at mid-length of 80'-0" Girder Spans.
 The small handrail posts are to be placed mid-way between the large handrail posts, except that small handrail posts are to be placed at the expansion joints at each end Retaining Wall, and at mid-length of the side walls.
 The arrangement of handrail posts on Main Span is as shown above.



ARKANSAS STATE HIGHWAY COMMISSION
 HIGHWAY BRIDGE OVER OUACHITA RIVER
 GLENWOOD CROSSING NEAR HIGHWAY NO. 70
 HOT SPRINGS, ARKANSAS
 AND
 HIGHWAY BRIDGE OVER RED RIVER
 FULTON, ARKANSAS
 REVISED DETAILS OF HANDRAIL AND LAMP POST

Made by - K.F.
 Date Oct. 16, 1928.

IRA G. HEDRICK, INC.
 Consulting Engineers
 Shreveport, La.

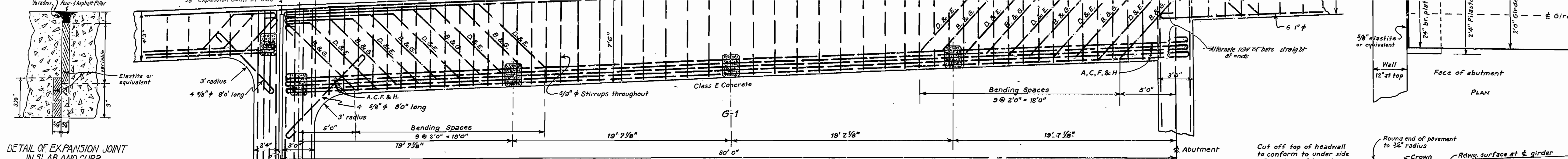


ARKANSAS STATE HIGHWAY COMMISSION
HIGHWAY BRIDGE
ACROSS THE RED RIVER AT FULTON
DETAILS OF ARCH SPAN
SCALES AS SHOWN

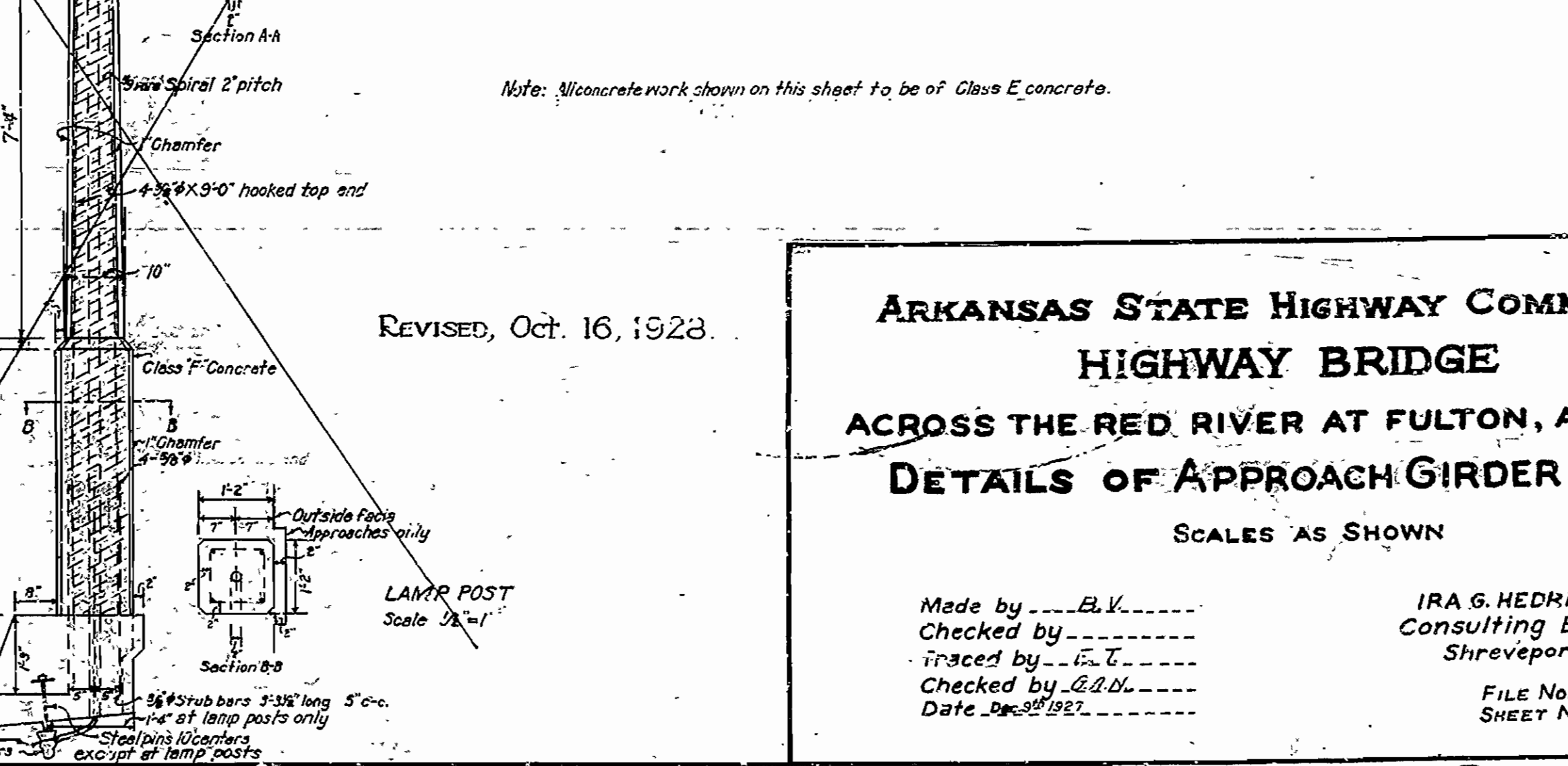
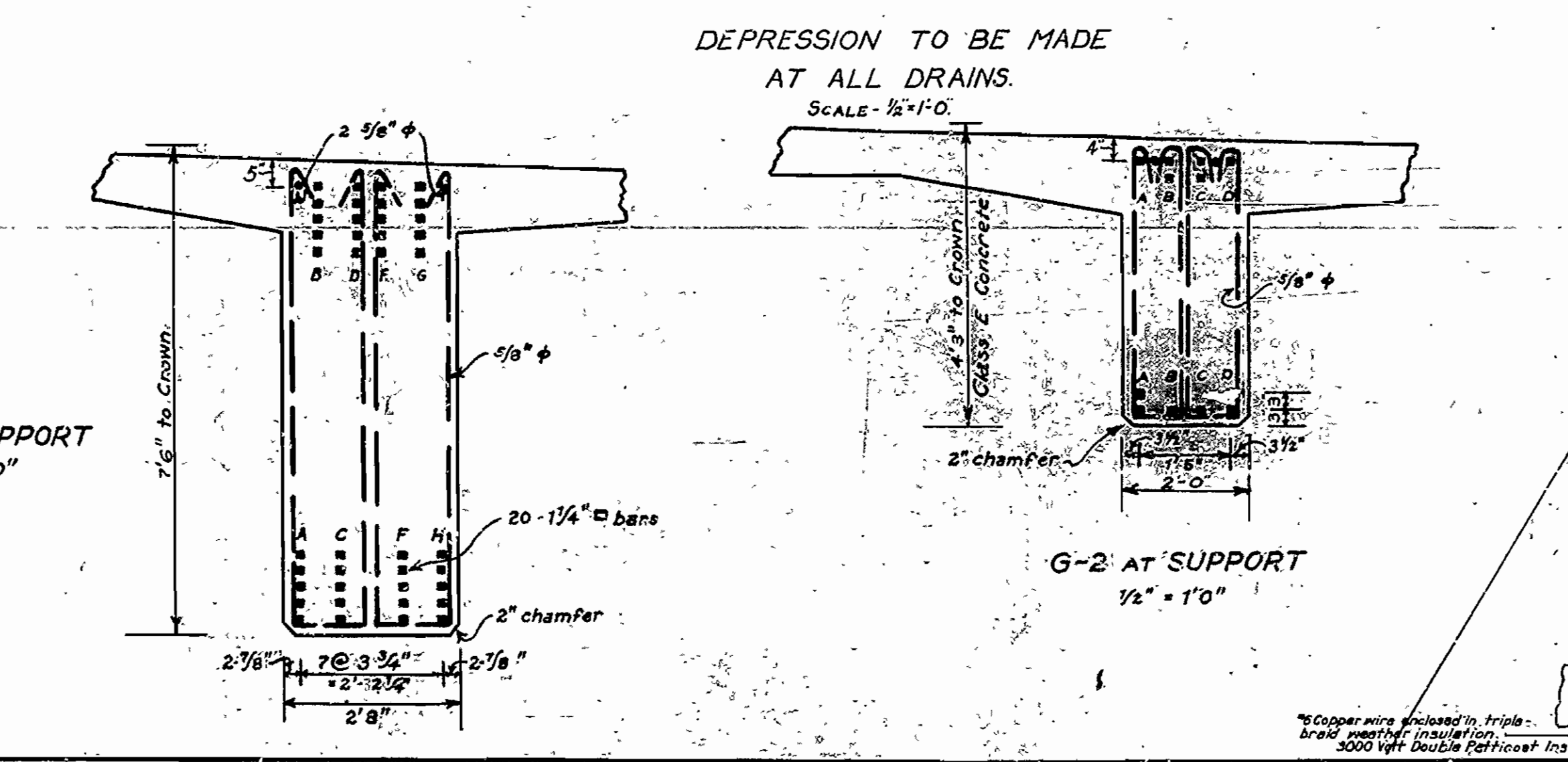
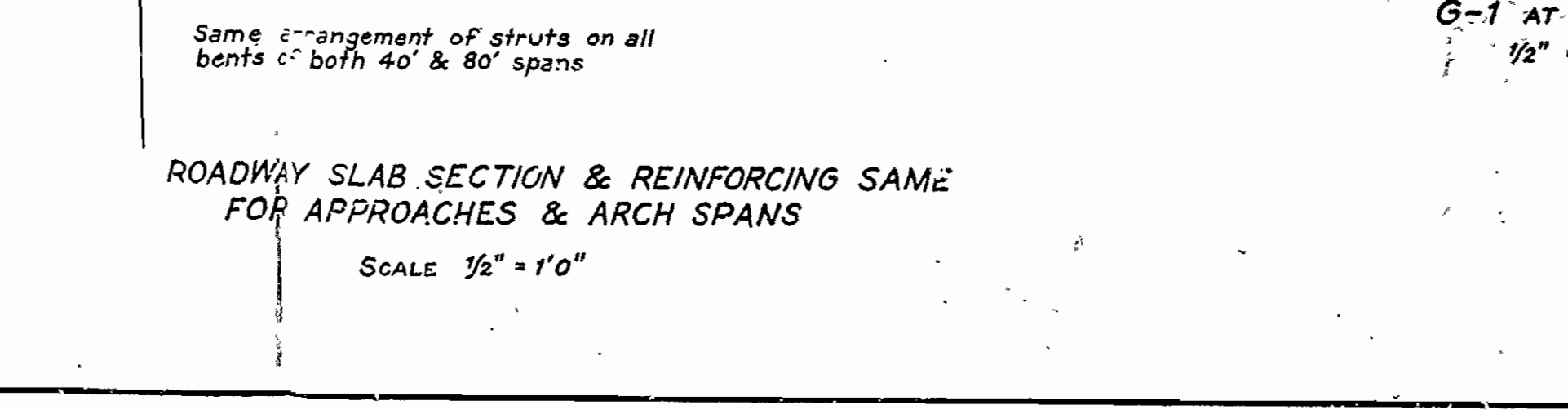
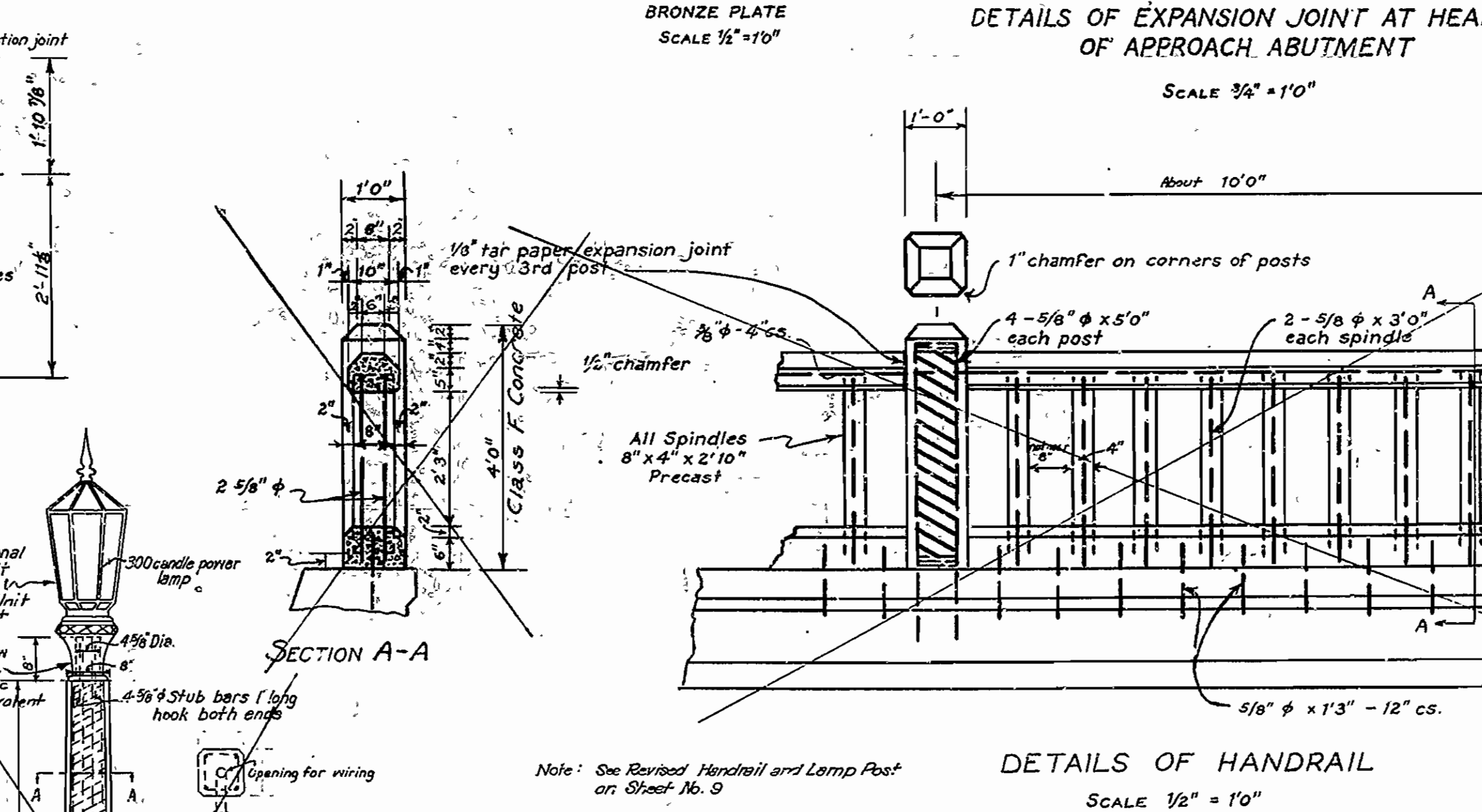
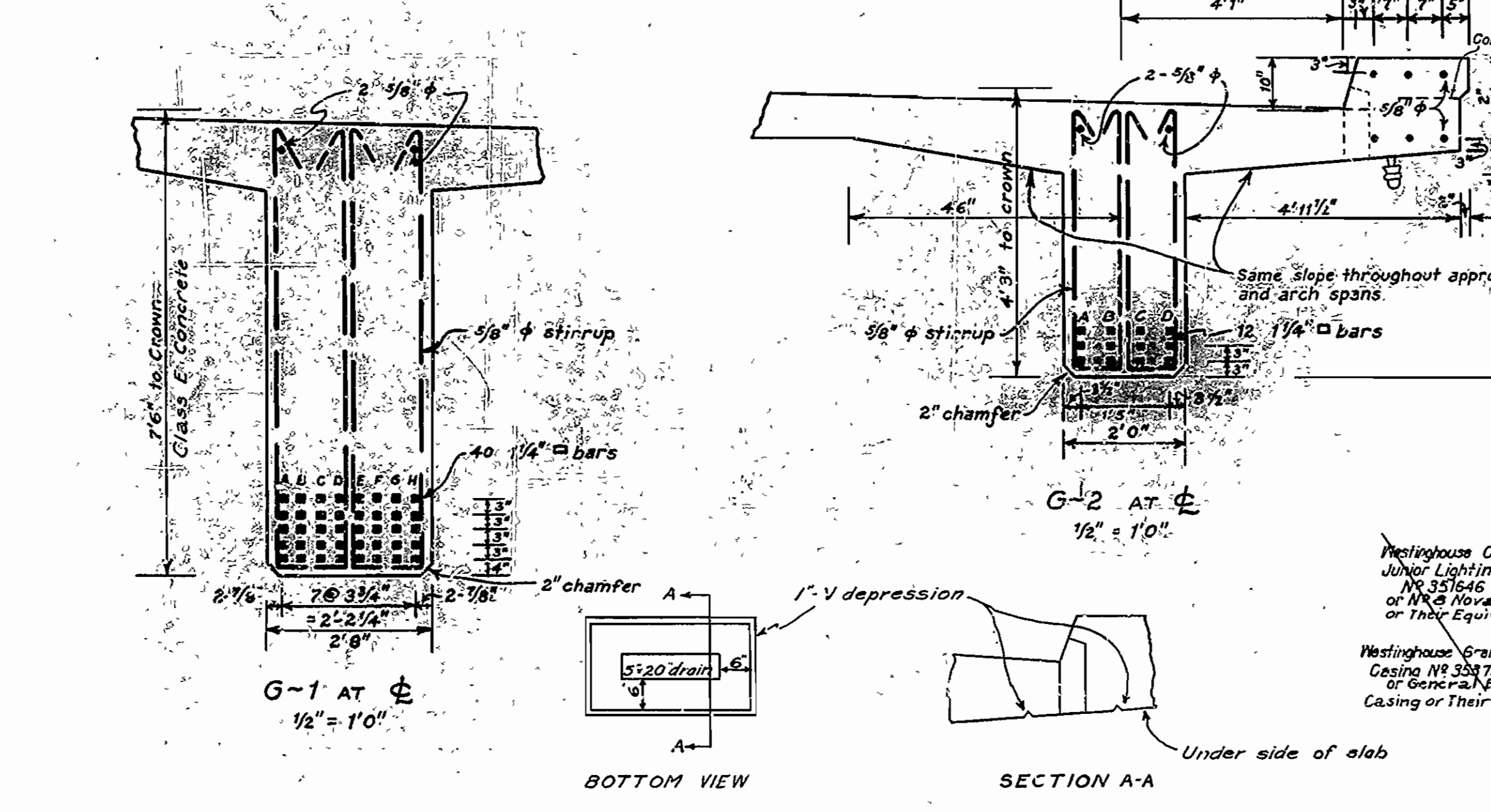
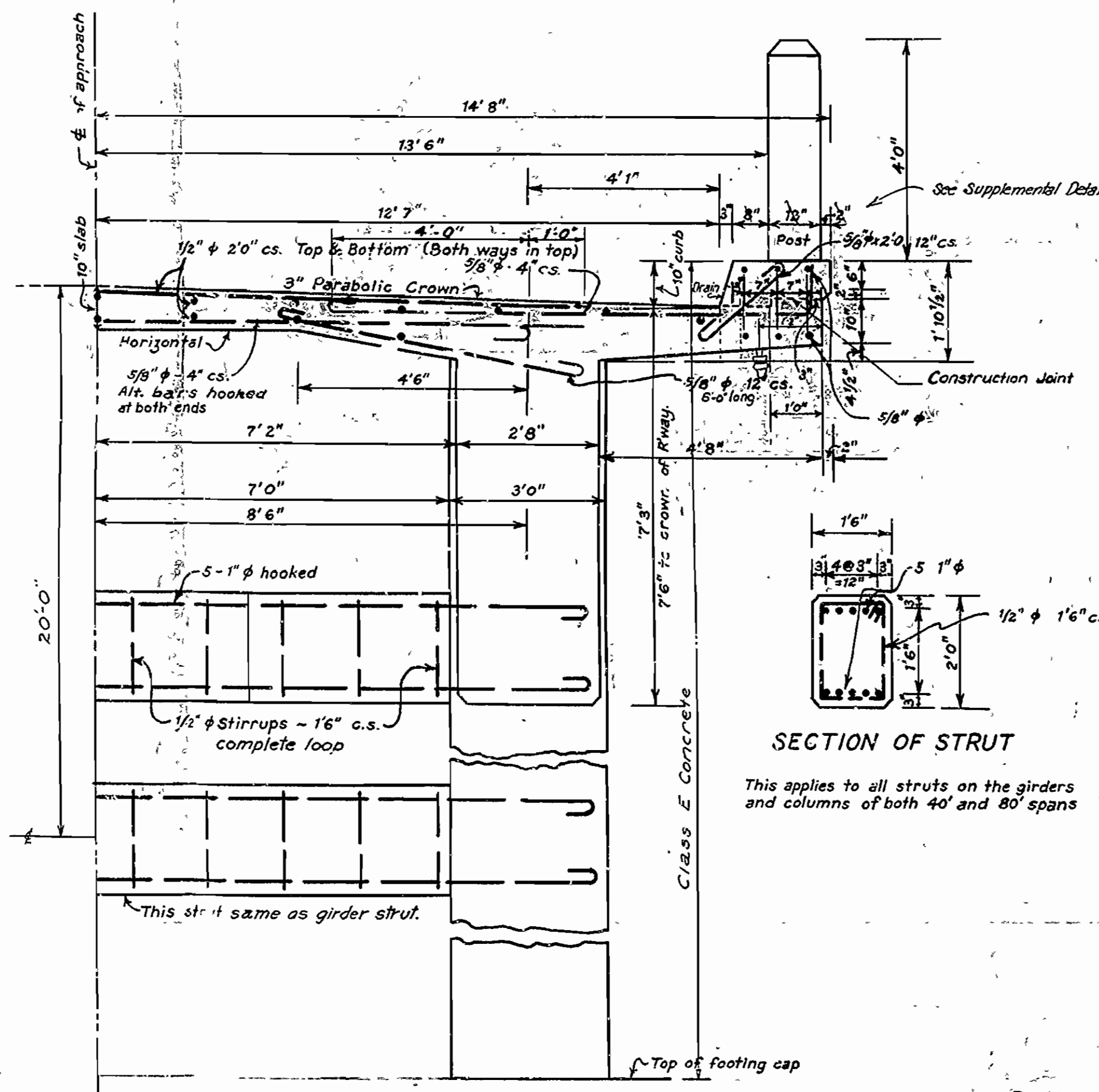
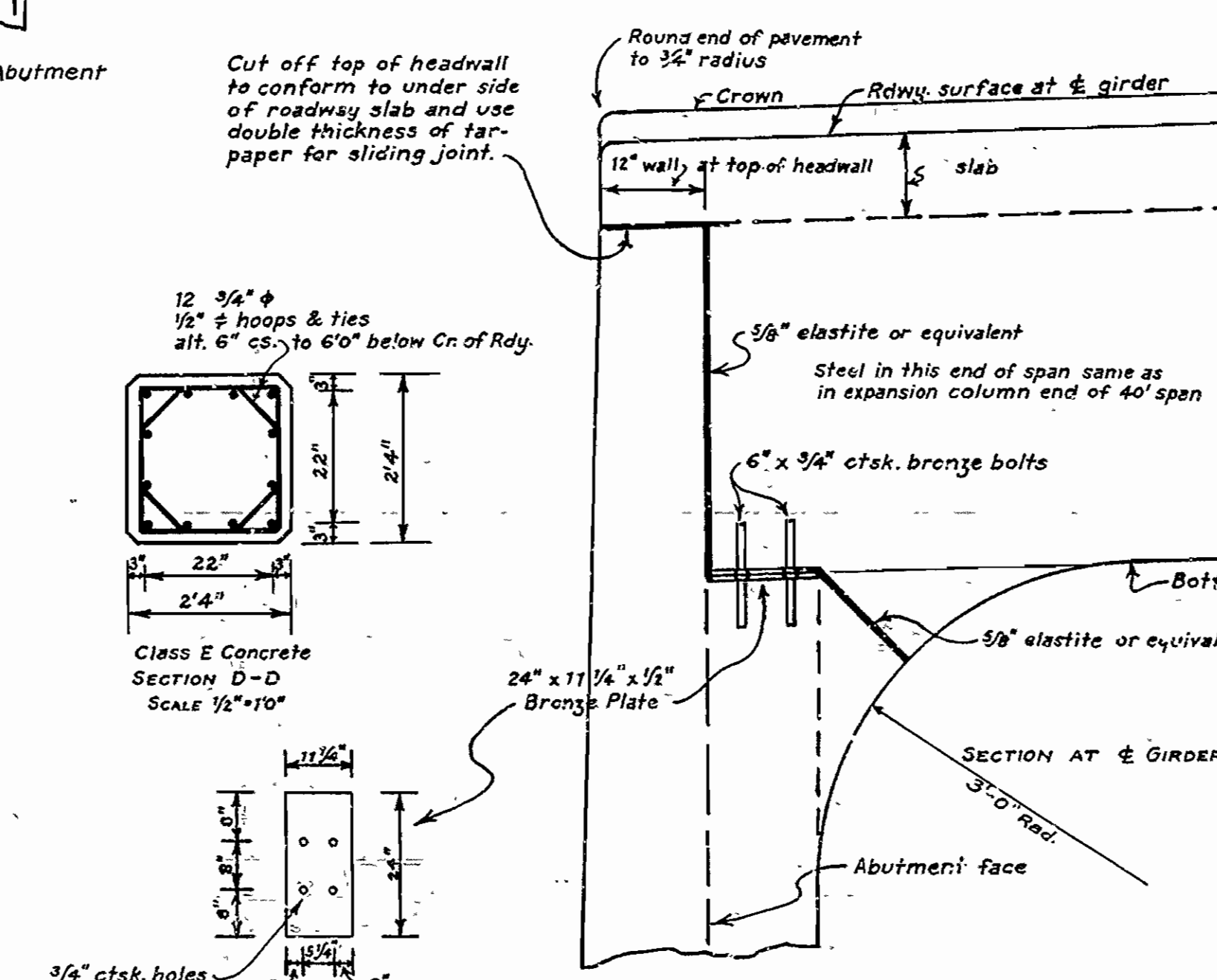
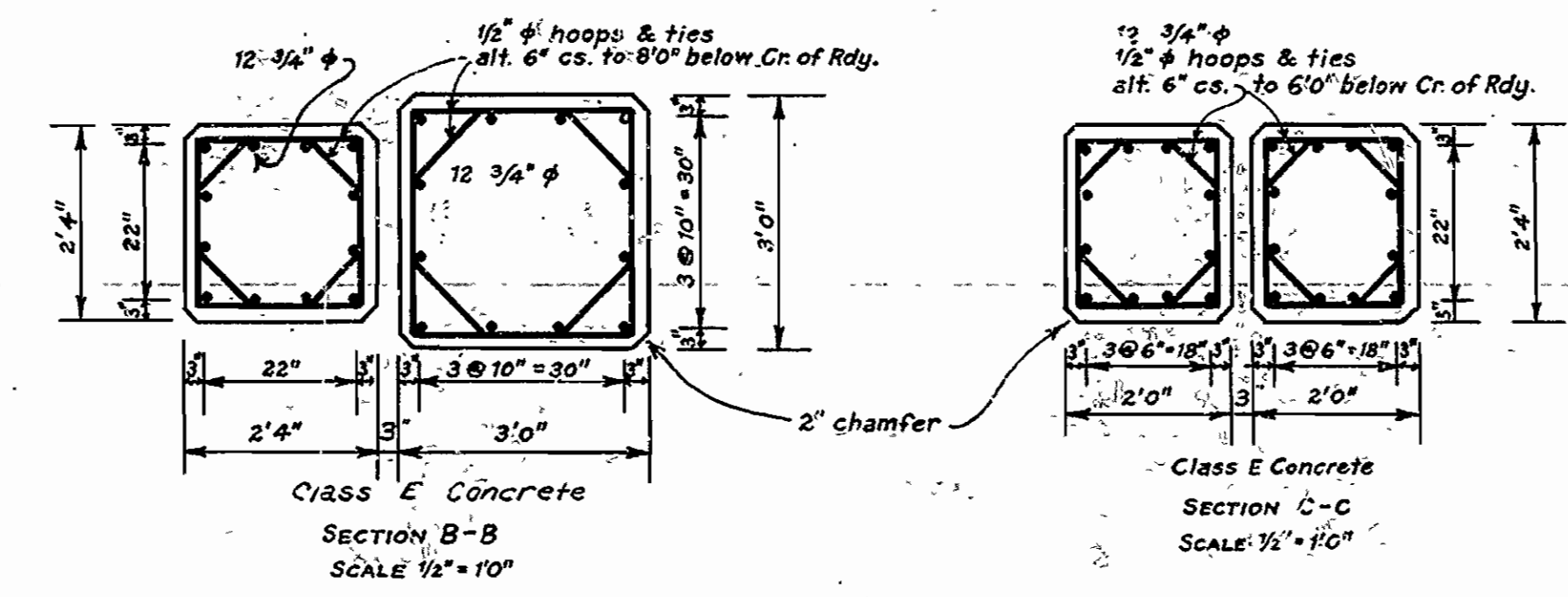
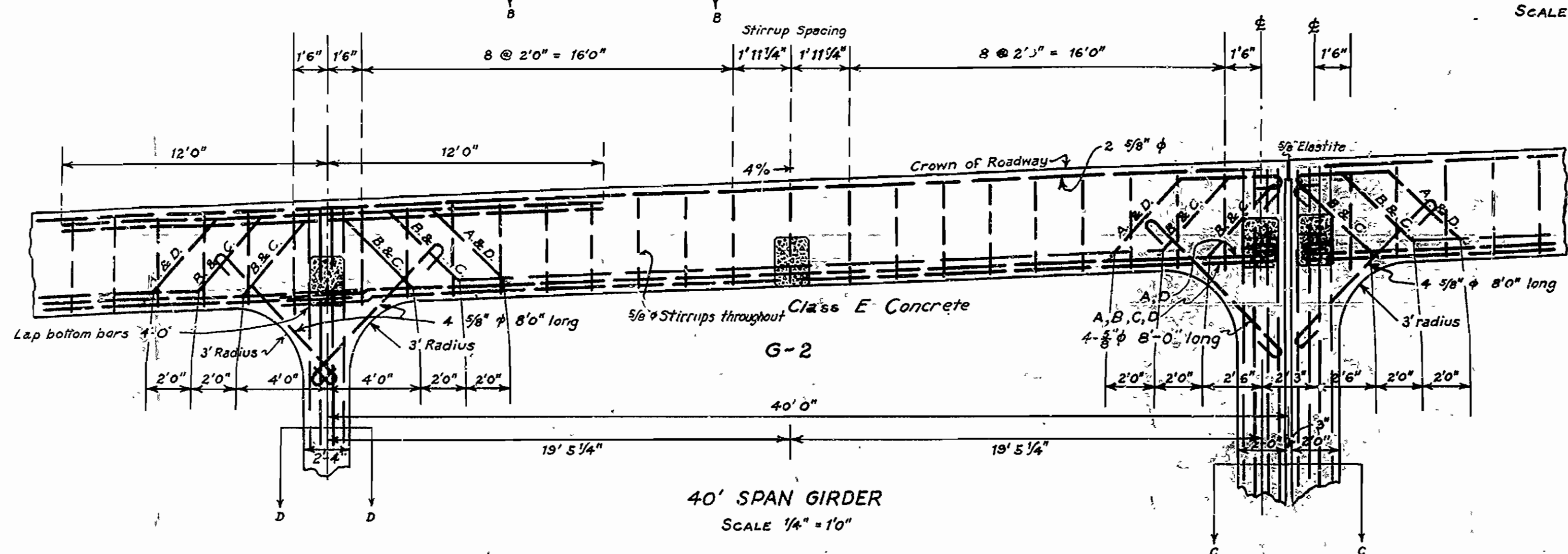
Made by B.V.
Checked by IRA G. HEDR
Traced by Shreveport
Checked by G.L.N.
Date Dec. 10, 1927

REVISED, August 17, 1928.
REVISED, Oct. 16, 1928.

IRA G. HEDR
Consulting Engineer
Shreveport
FILE NO. 10
SHEET 1



DETAIL OF EXPANSION JOINT IN SLAB AND CURB



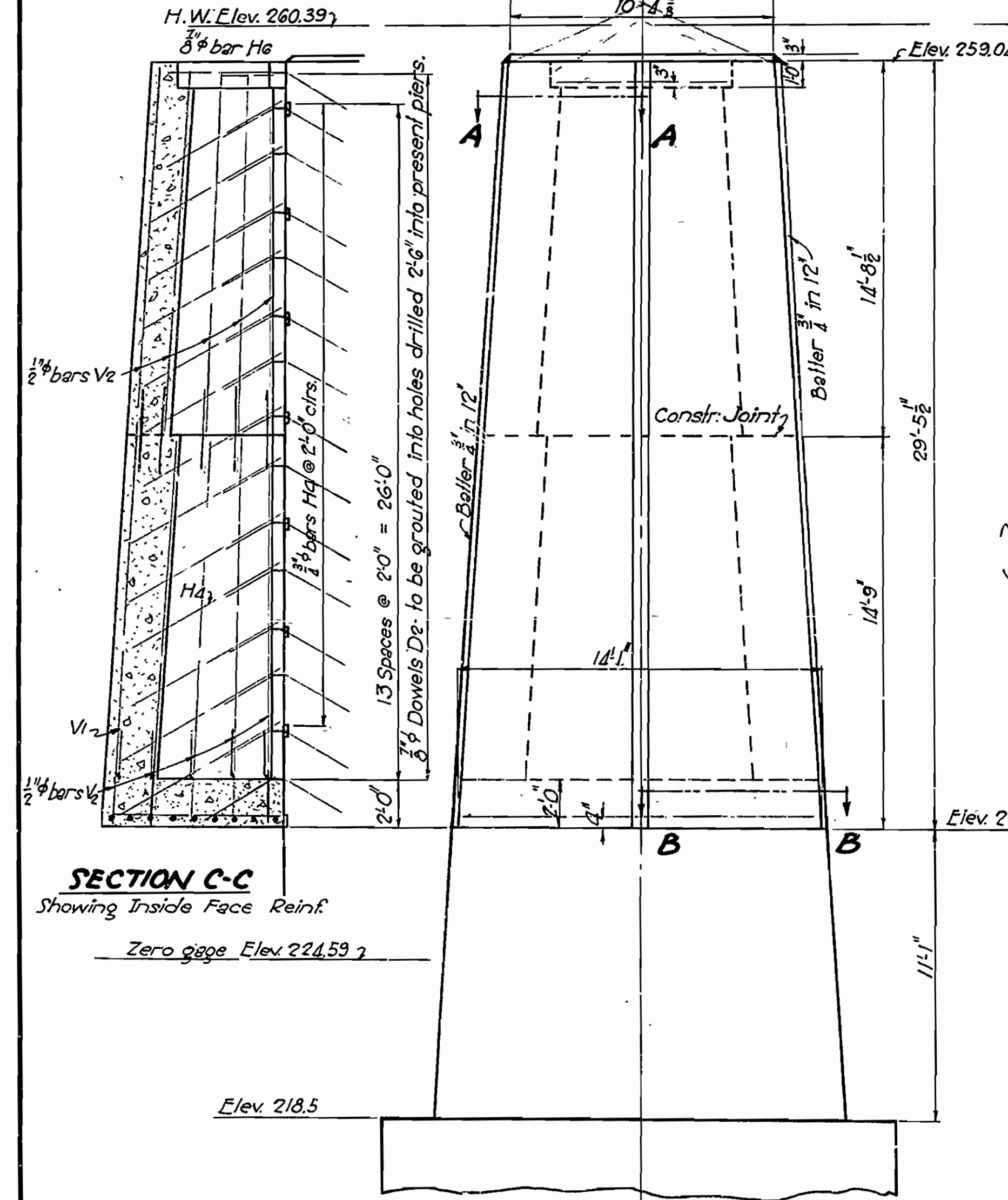
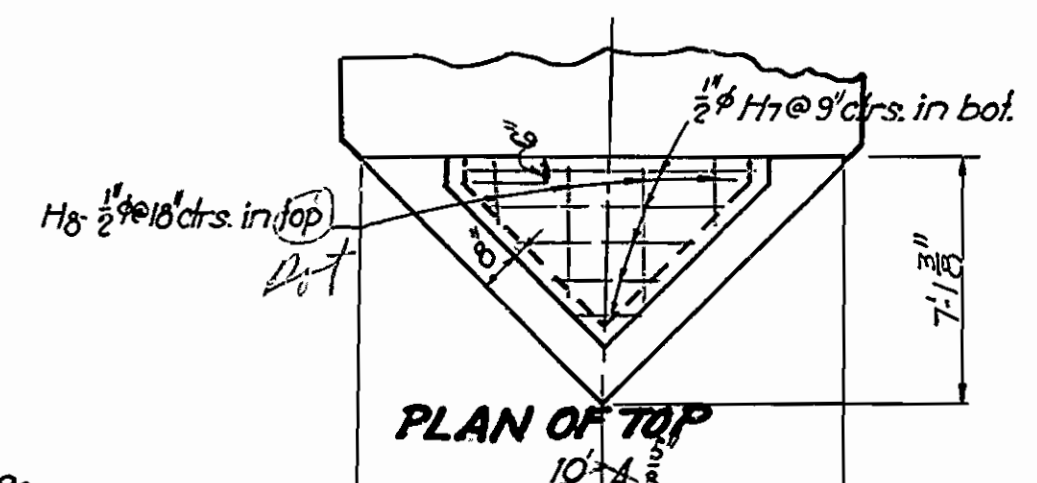
ARKANSAS STATE HIGHWAY COMM
HIGHWAY BRIDGE
ACROSS THE RED RIVER AT FULTON, A
DETAILS OF APPROACH GIRDER
SCALES AS SHOWN

Made by E.V.
Checked by E.T.
Checked by E.D.
Date Dec 30 1927

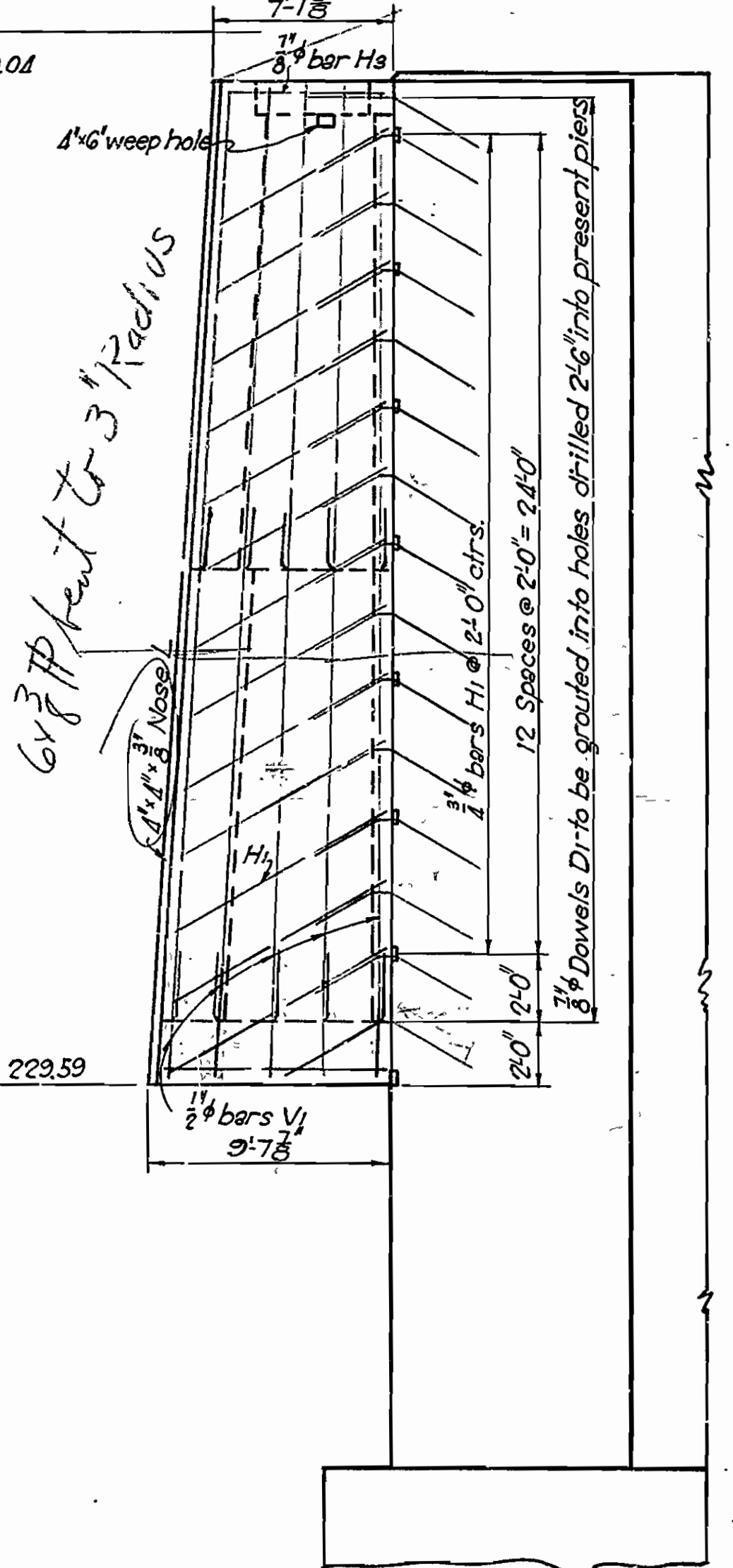
IRA G. HEDRICK
Consulting Engineer
Shreveport
FILE NO.
SHEET NO.

REVISED, OCT. 16, 1928.

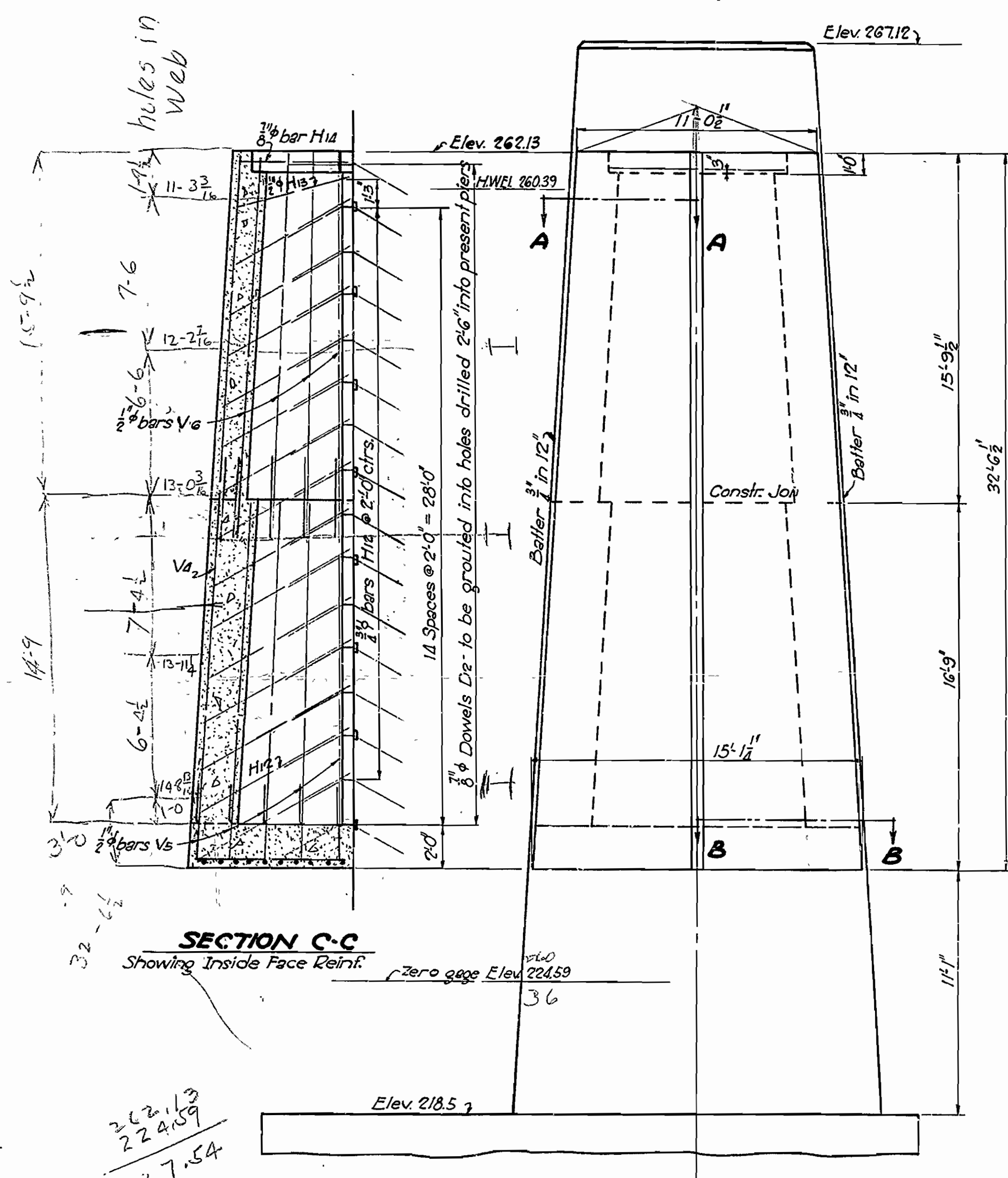
| | | | | | |
|---------------------|-------|-------------|-------------|-----------|--------------|
| FED. ROAD DIST. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| 6 | ARK. | | | | |
| STATE JOB NO. | | | | | |



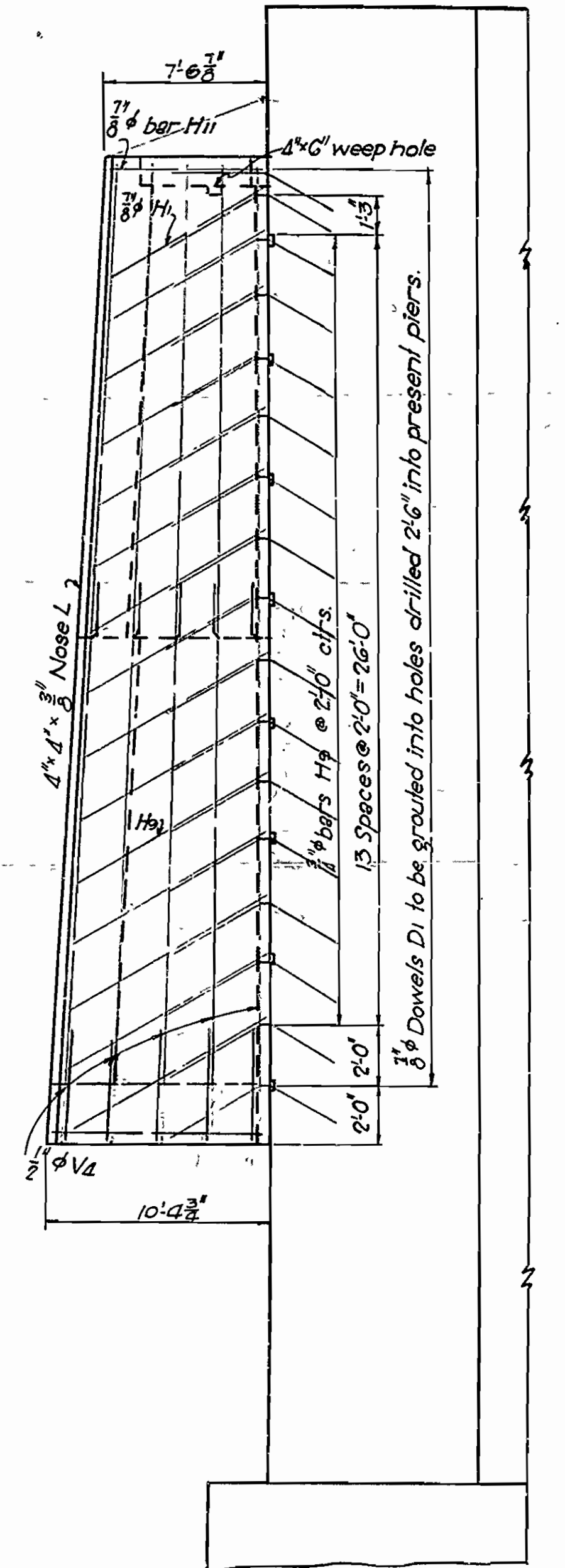
UPSTREAM ELEVATION - PIERS NOS. 1&4



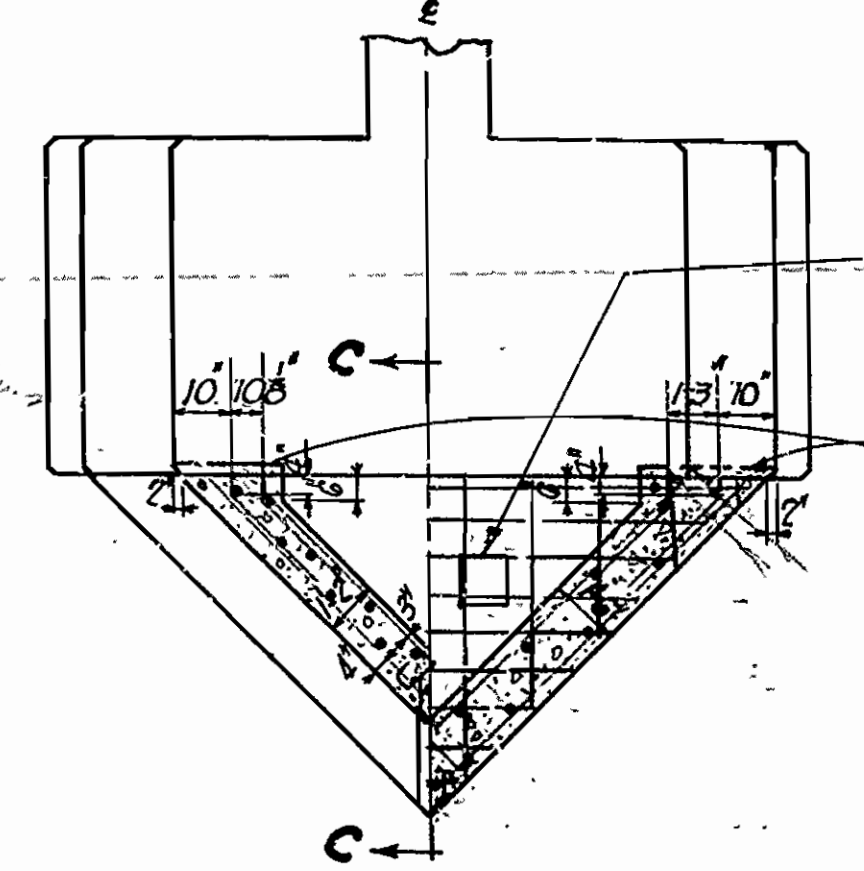
SIDE ELEV. PIERS NOS. 1&4



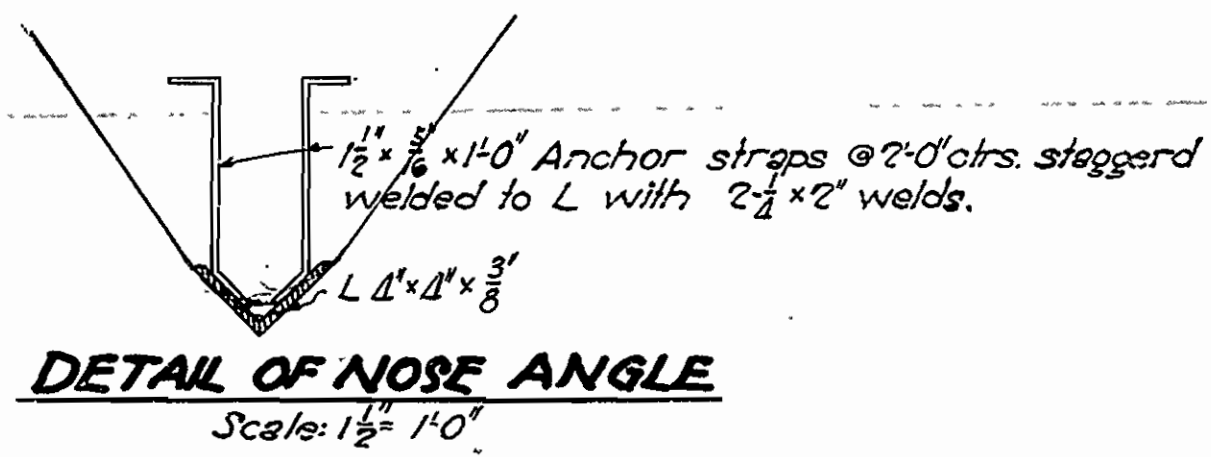
UPSTREAM ELEVATION PIERS NOS. 2&3



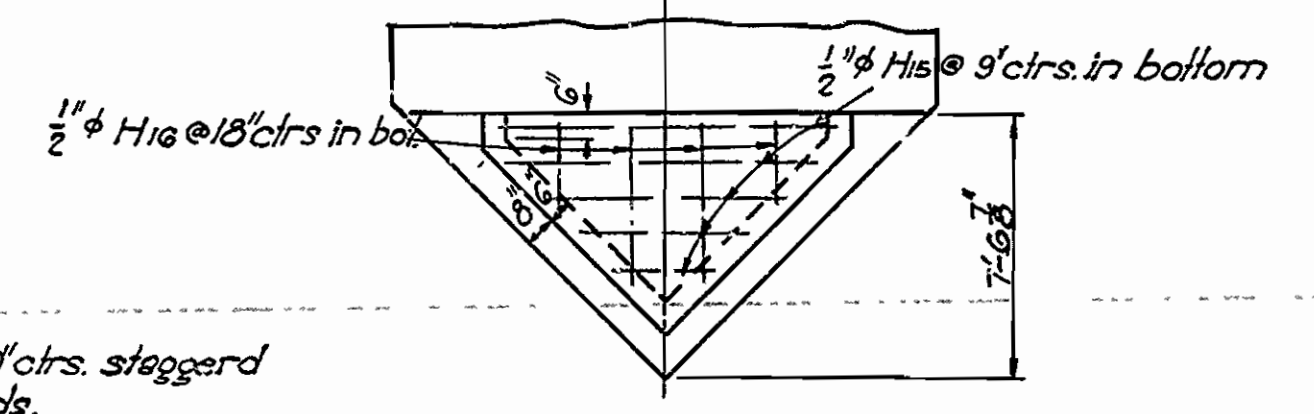
SIDE ELEV. PIERS NOS. 2&3



HALF SECTION A-A HALF SECTION B-B
PIERS NOS. 1&4
PIERS NOS. 2&3



DETAIL OF NOSE ANGLE
Scale: 1/2" = 1'-0"

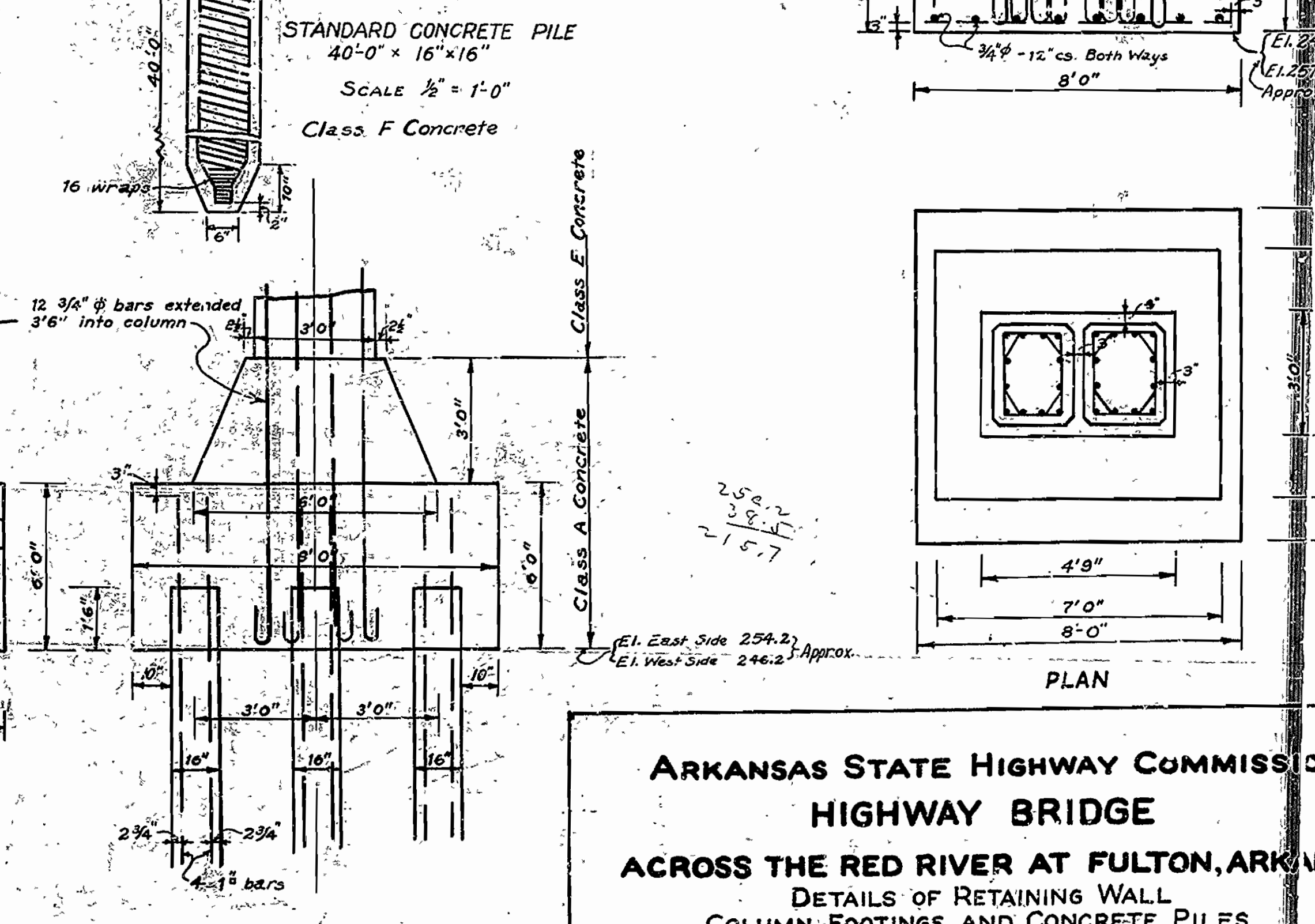
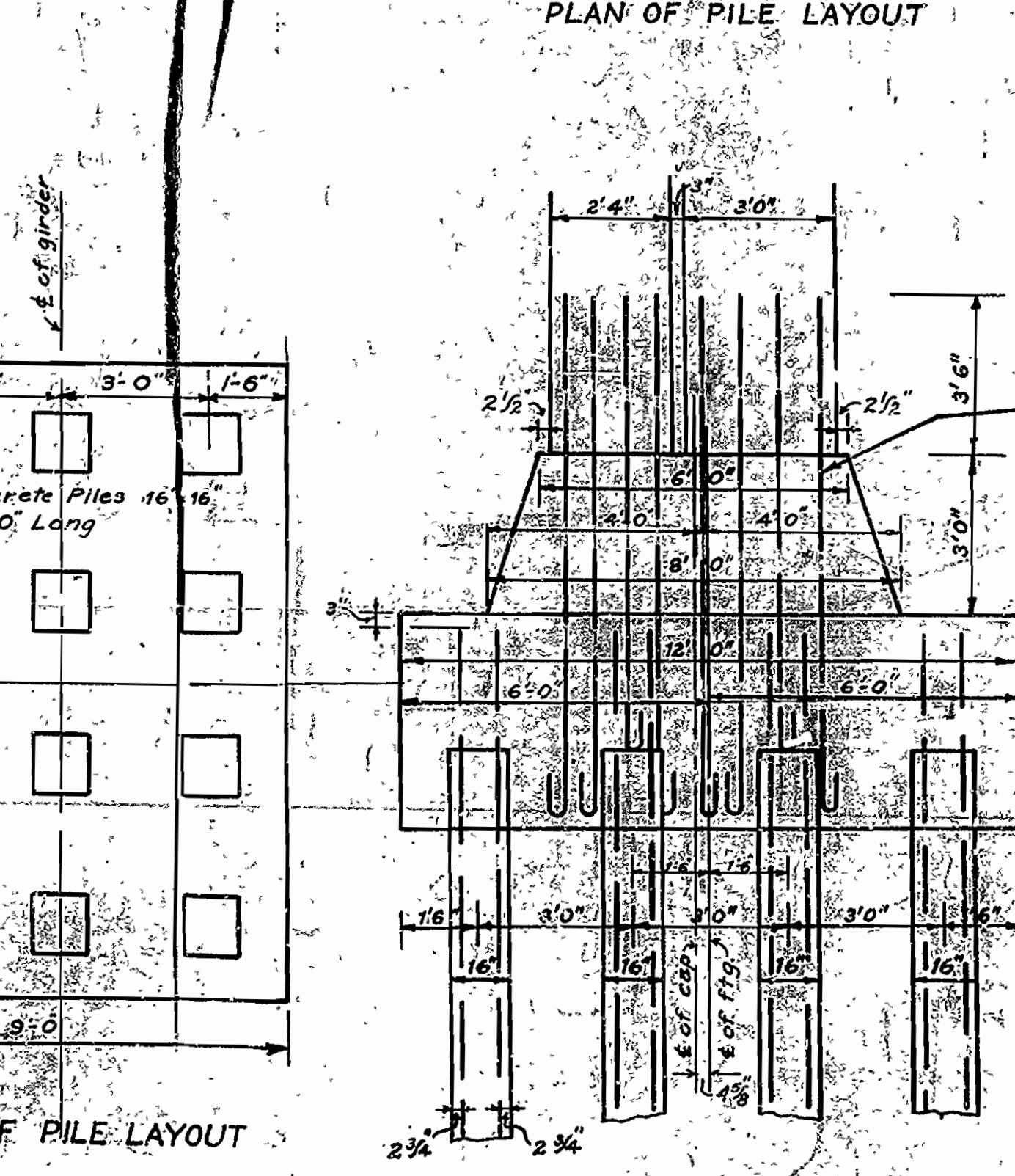
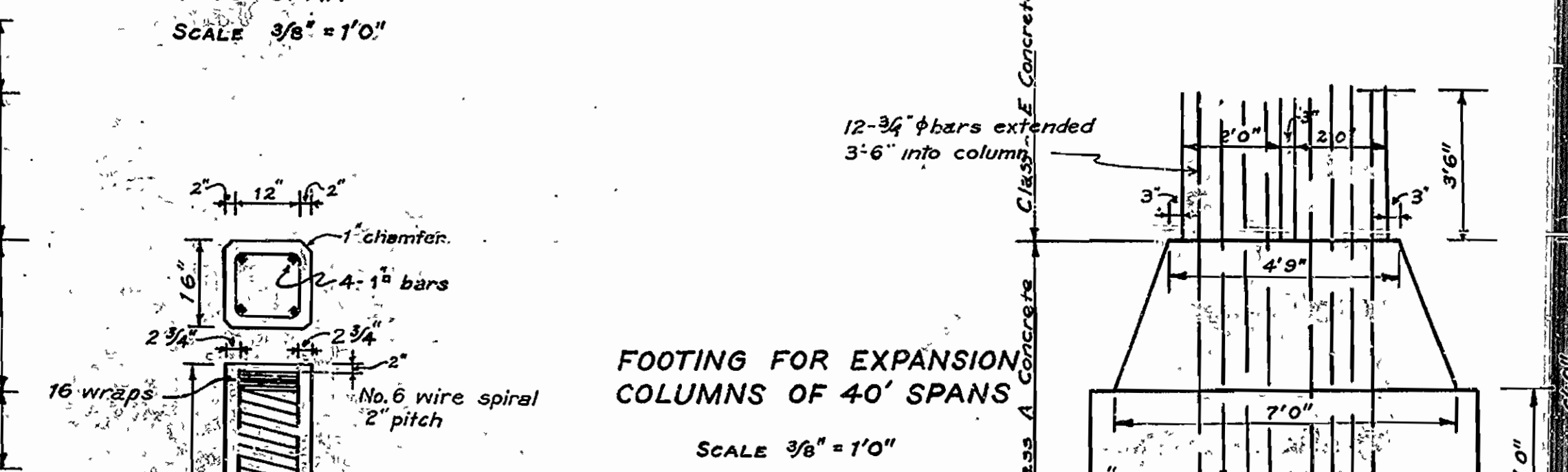
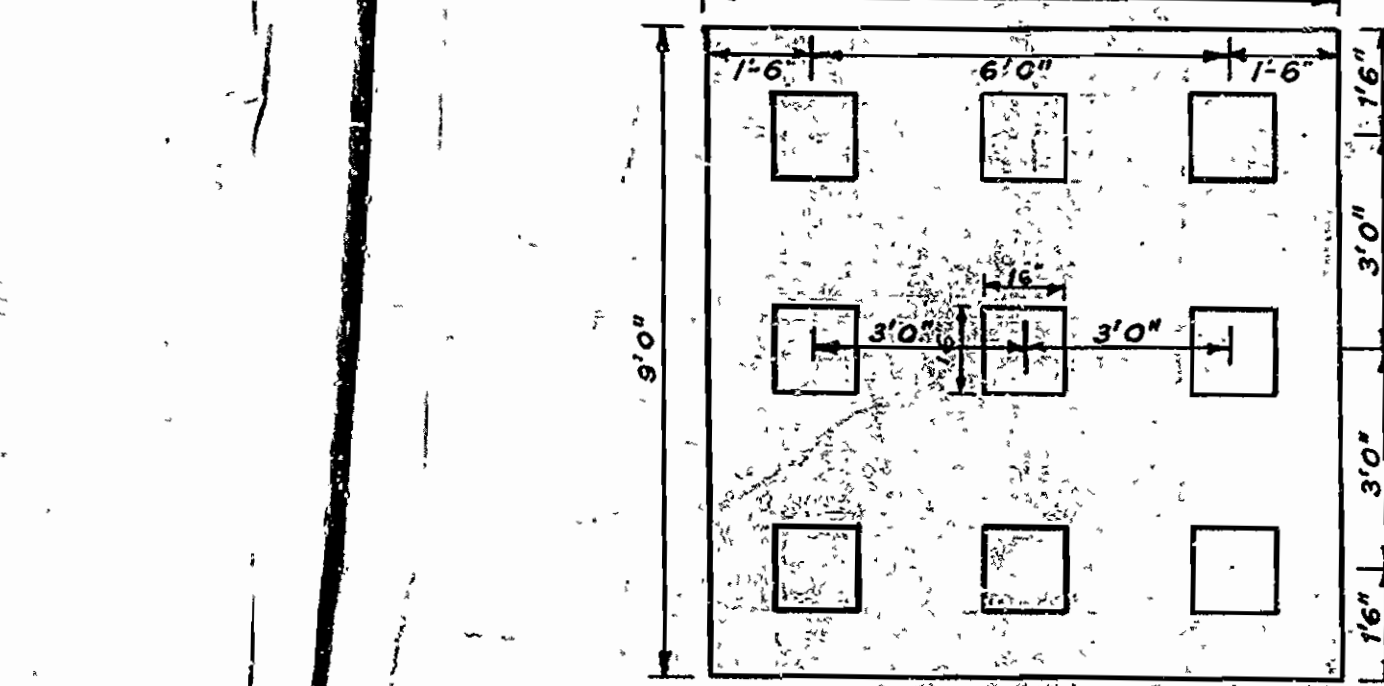
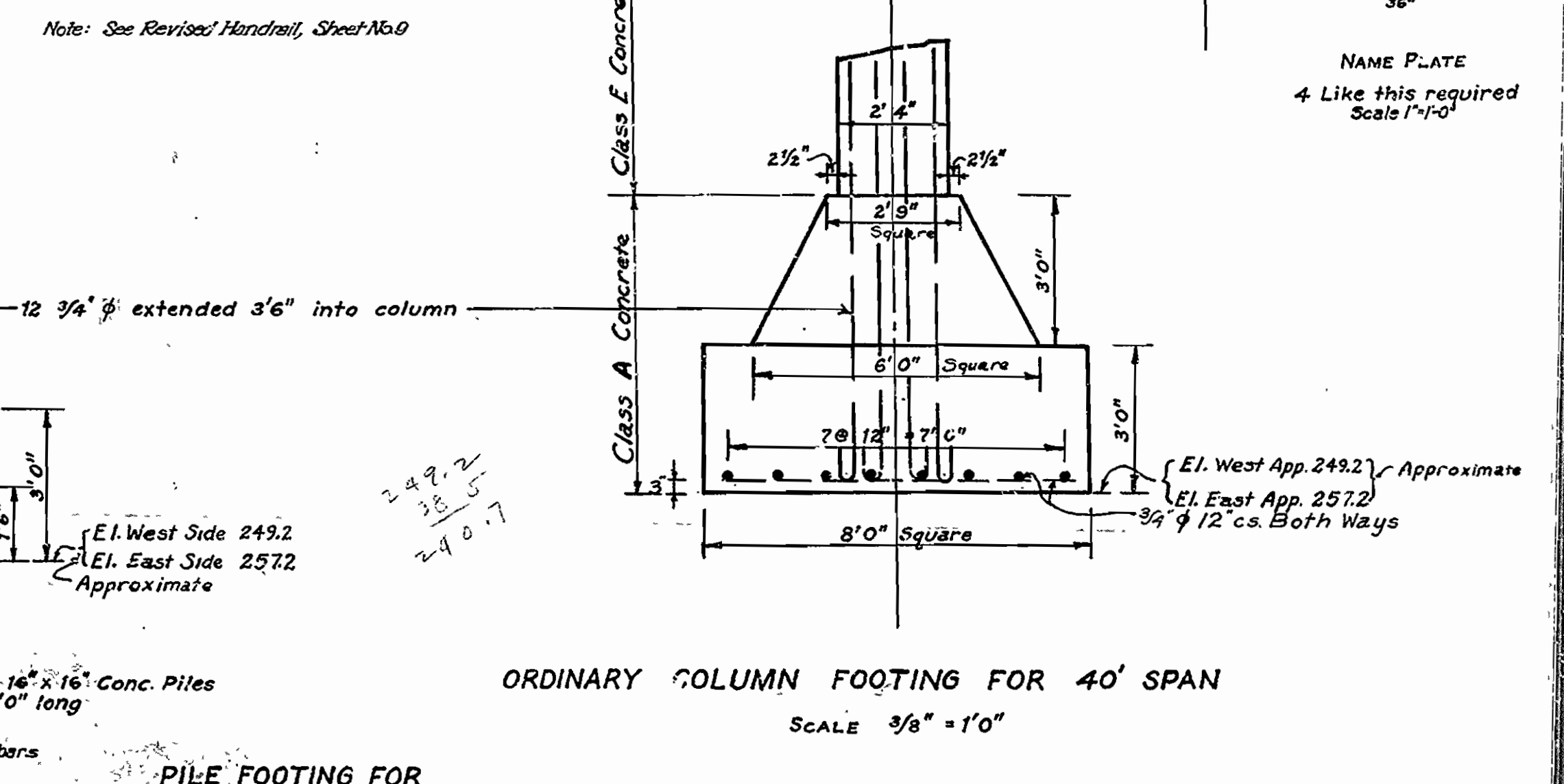
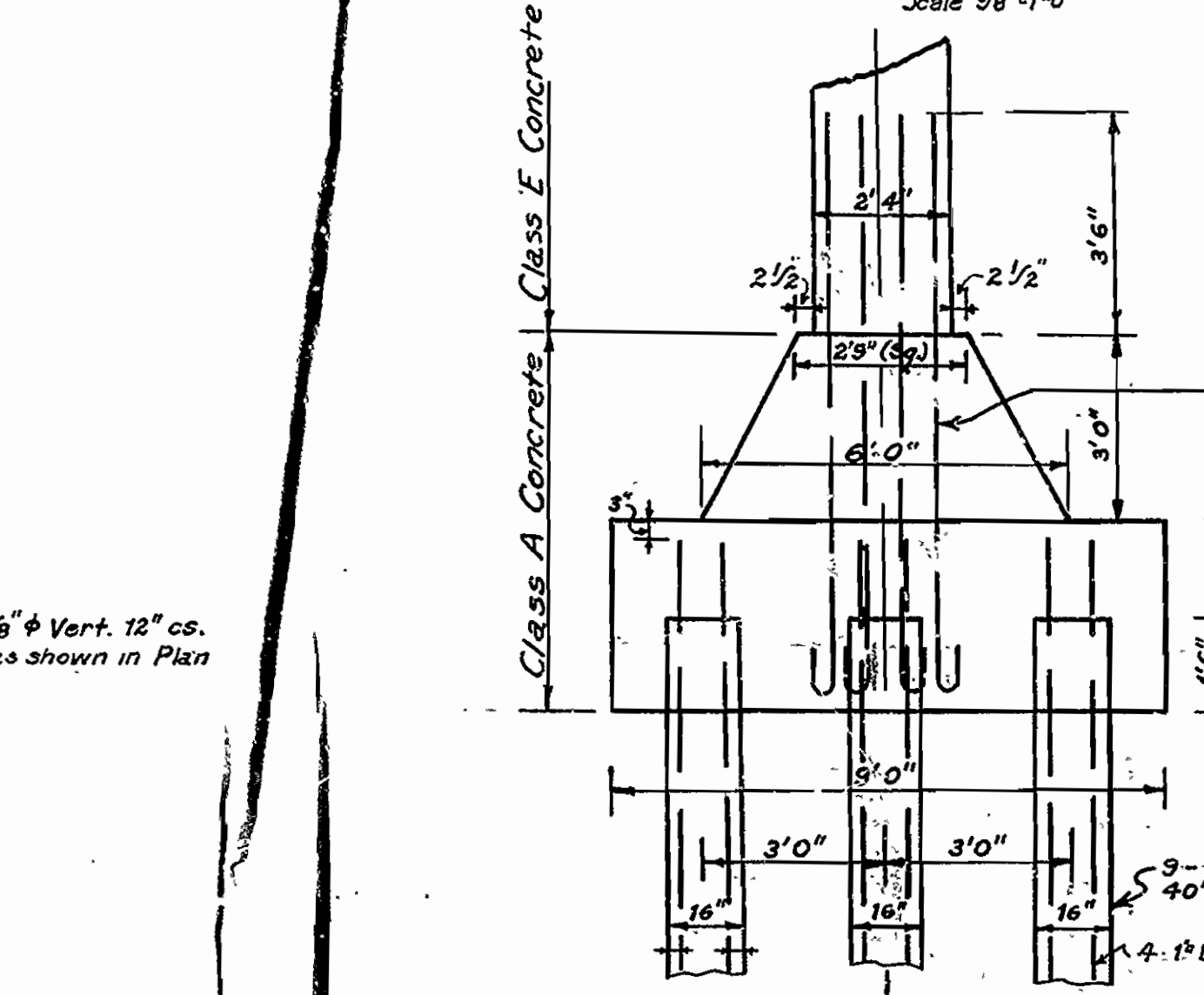
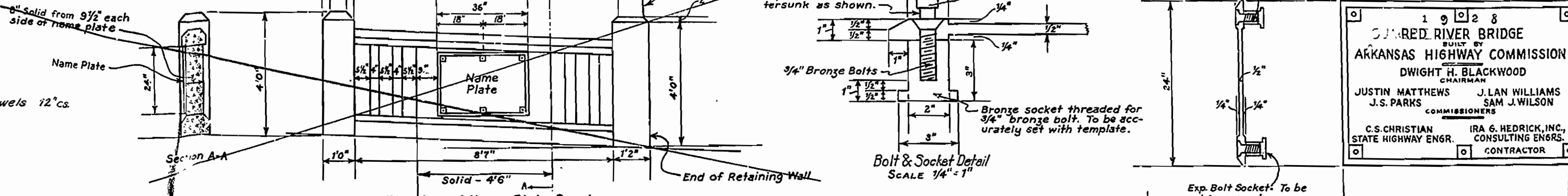
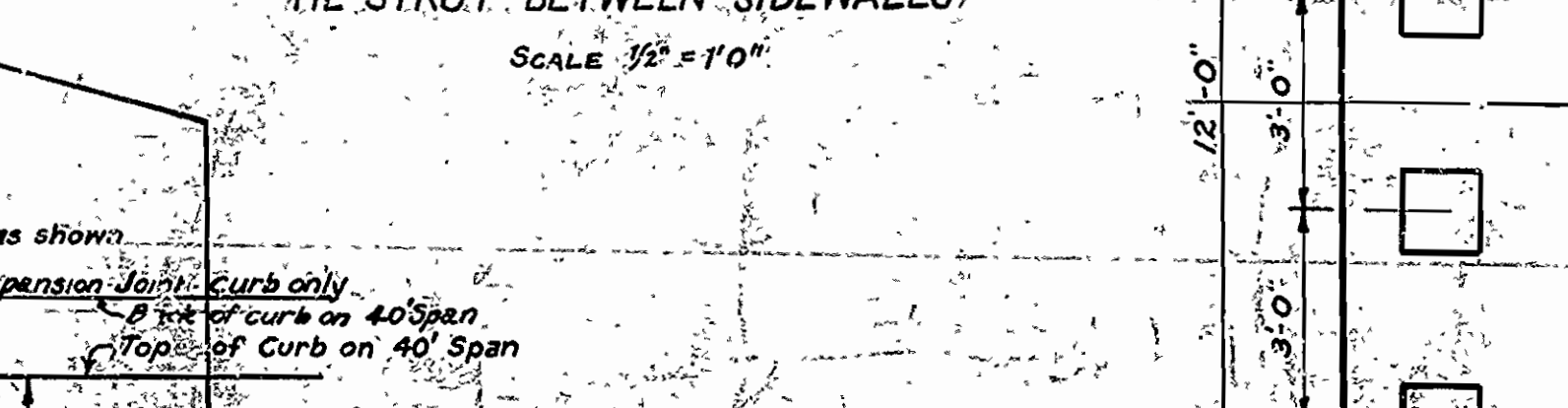
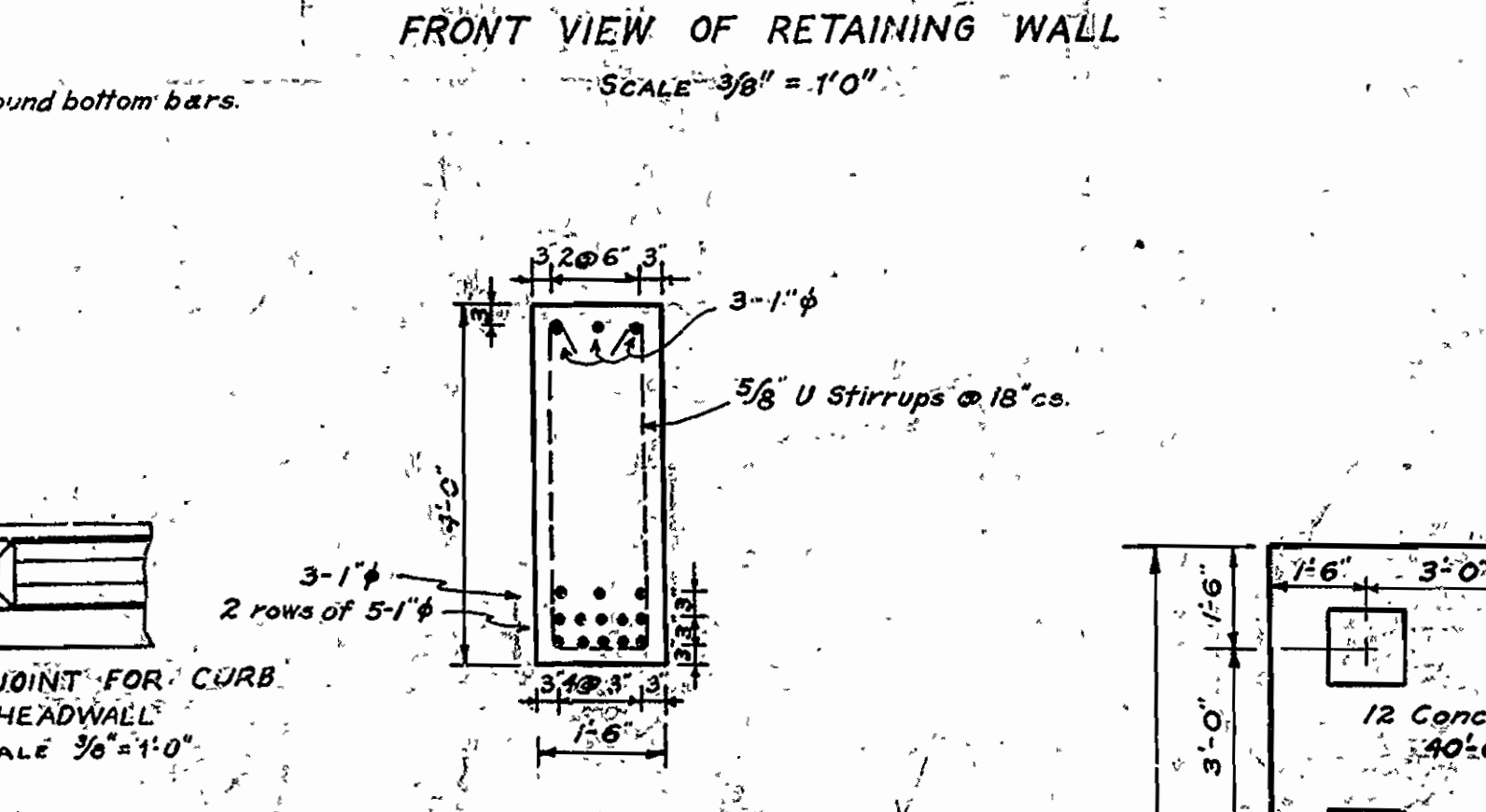
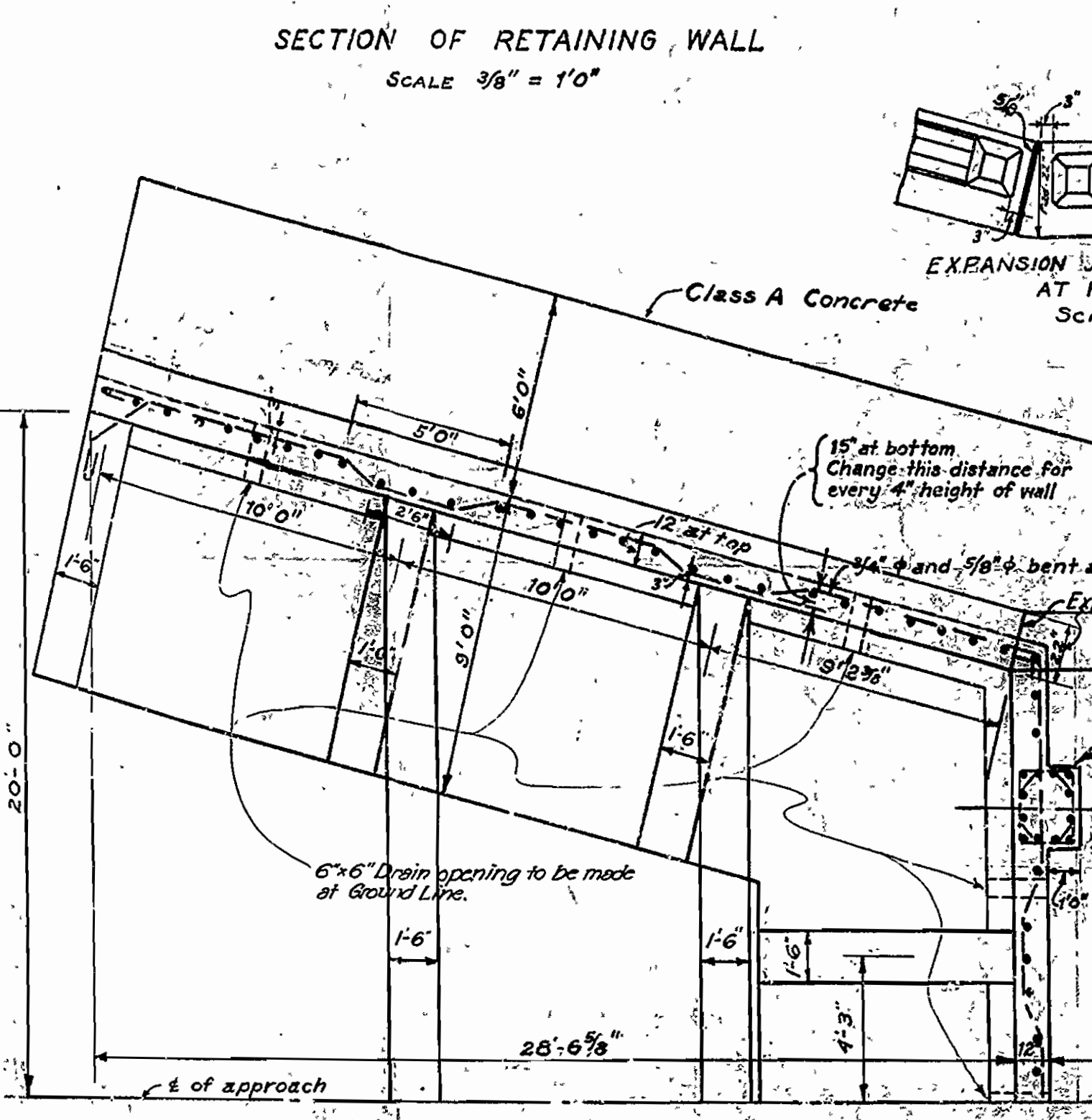
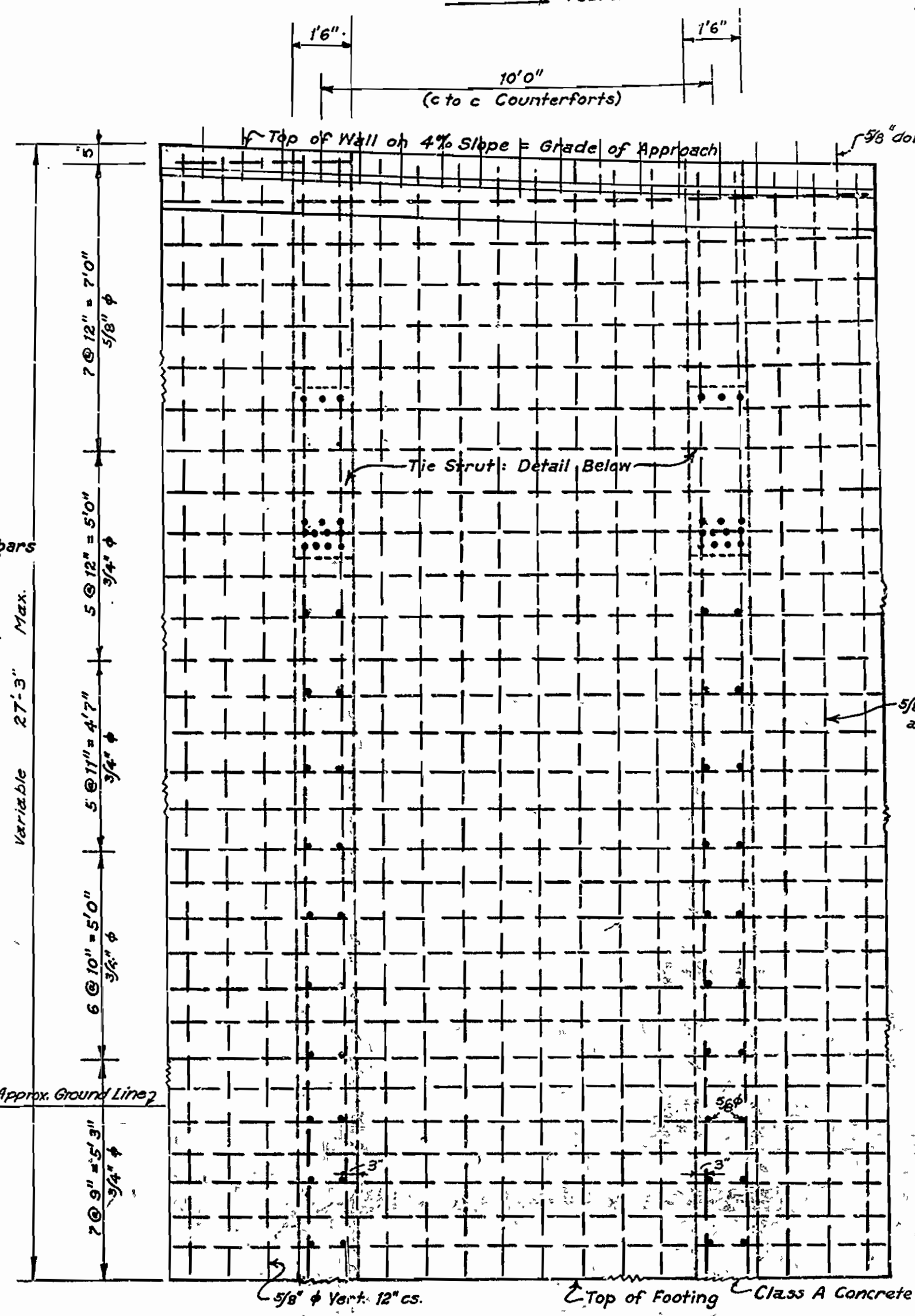
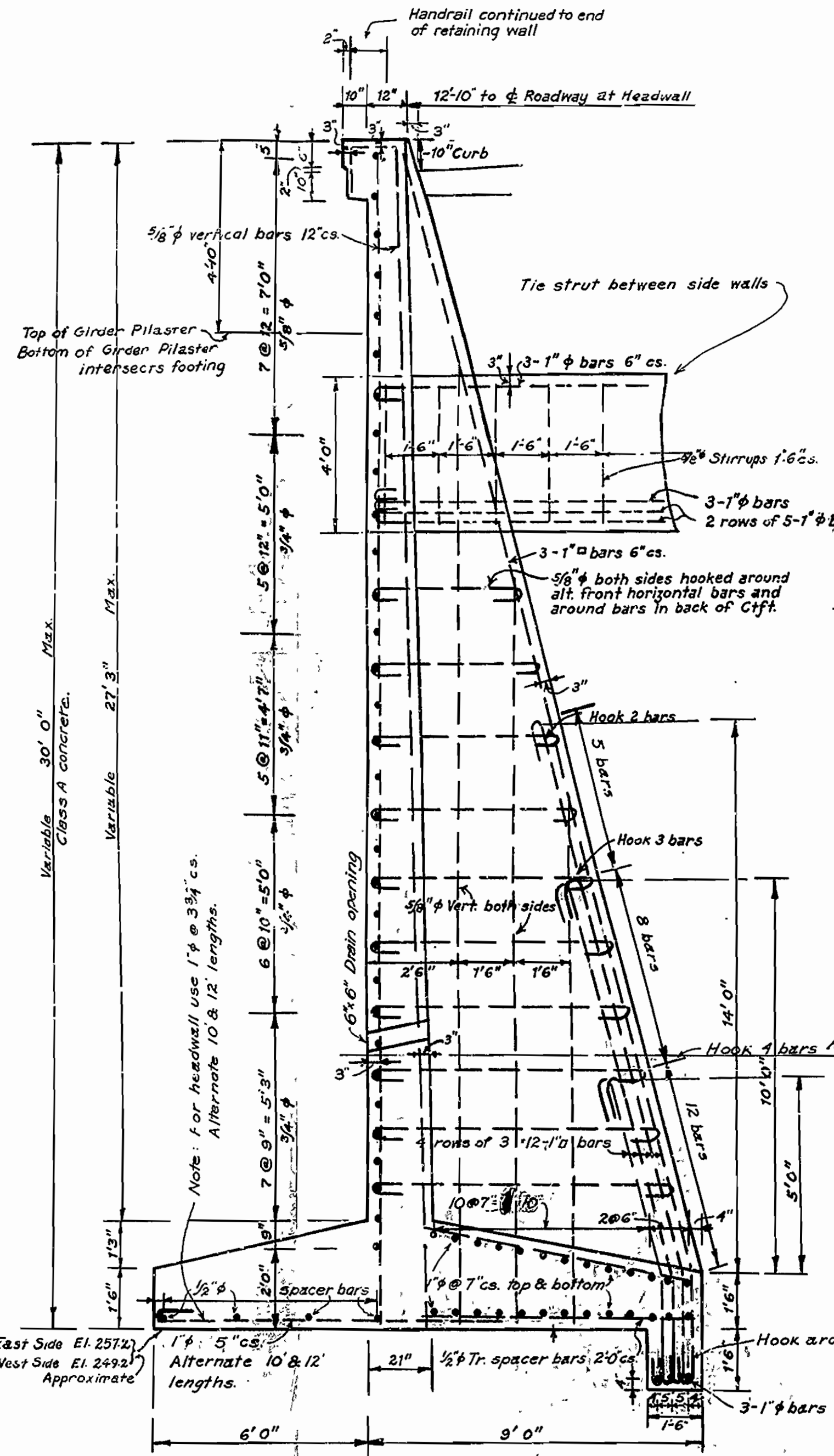


PLAN OF TOP - PIERS NOS. 2&3

PIER NOSE DETAILS
FOR BRIDGE OVER RED RIVER
AT FULTON, ARK
MILLER & HEMPSTEAD CO.
ROUTE 67 SEC. 1&2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
Drawn By: HFB Date: 8-27-37
Traced By: BWD Date: 9-3-37
Checked By: Date:
BRIDGE NO. DRAWING NO. 4923A

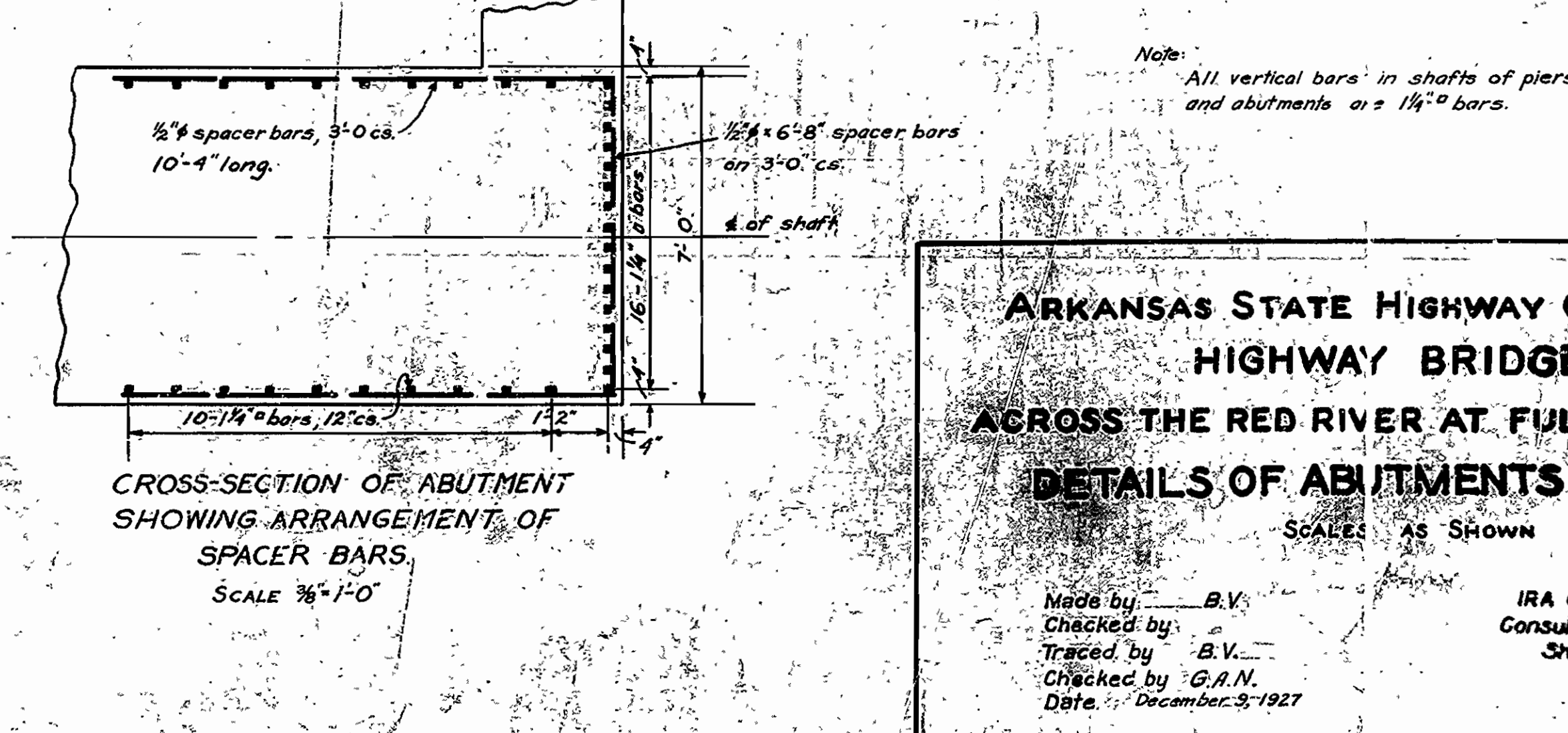
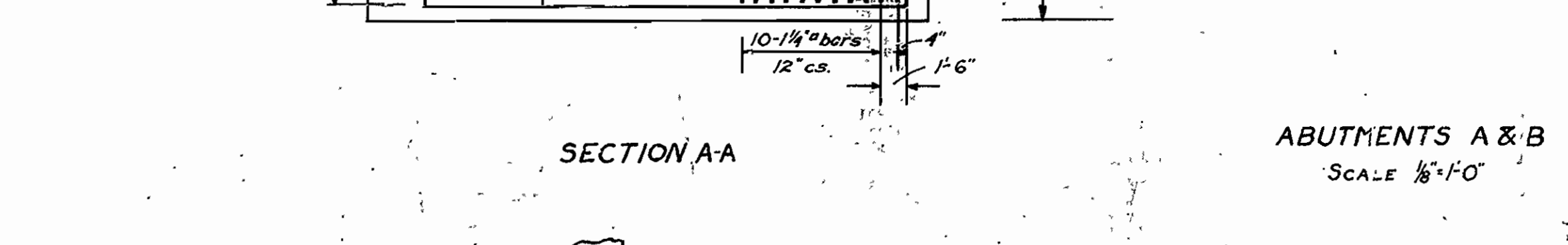
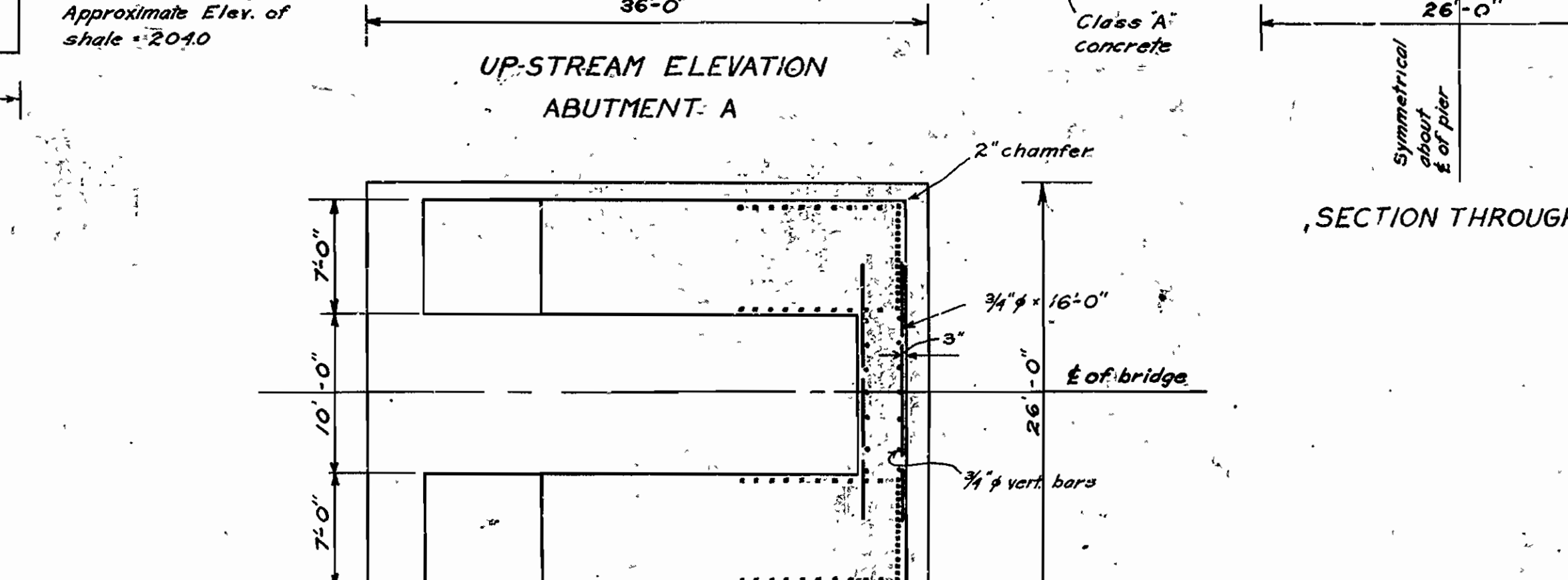
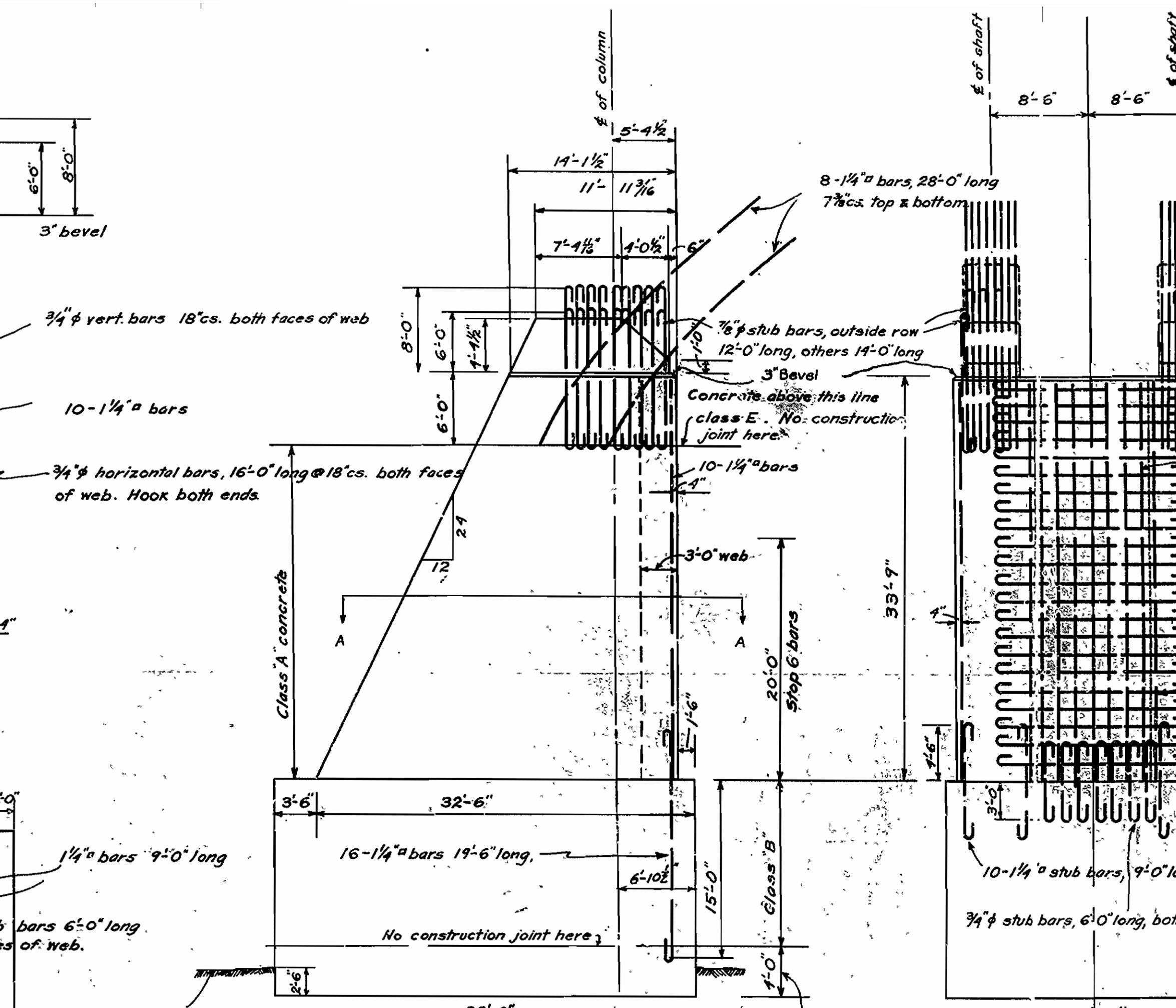
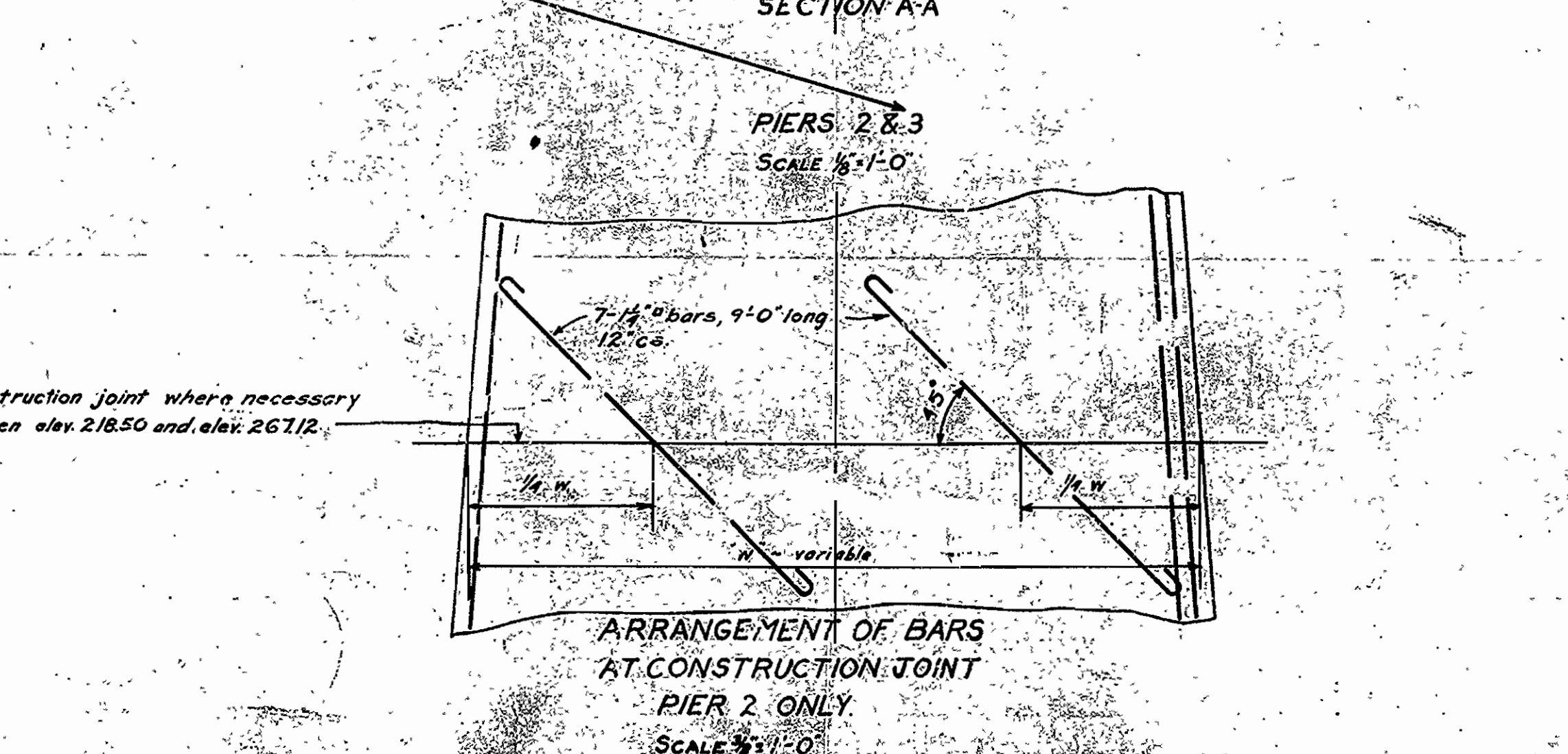
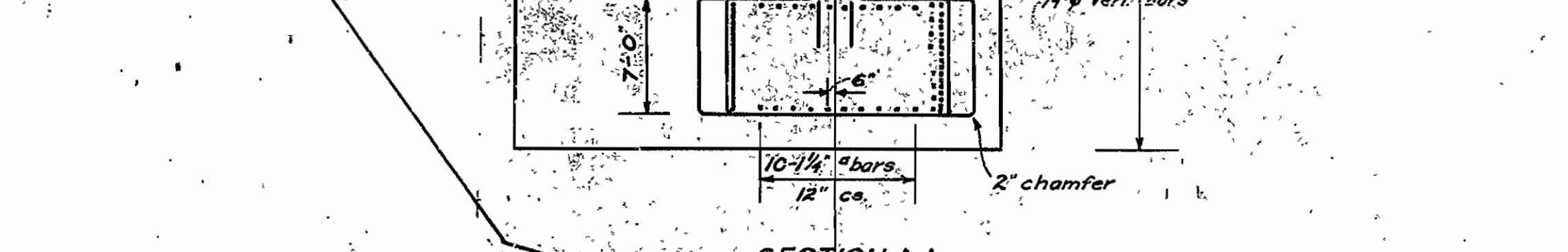
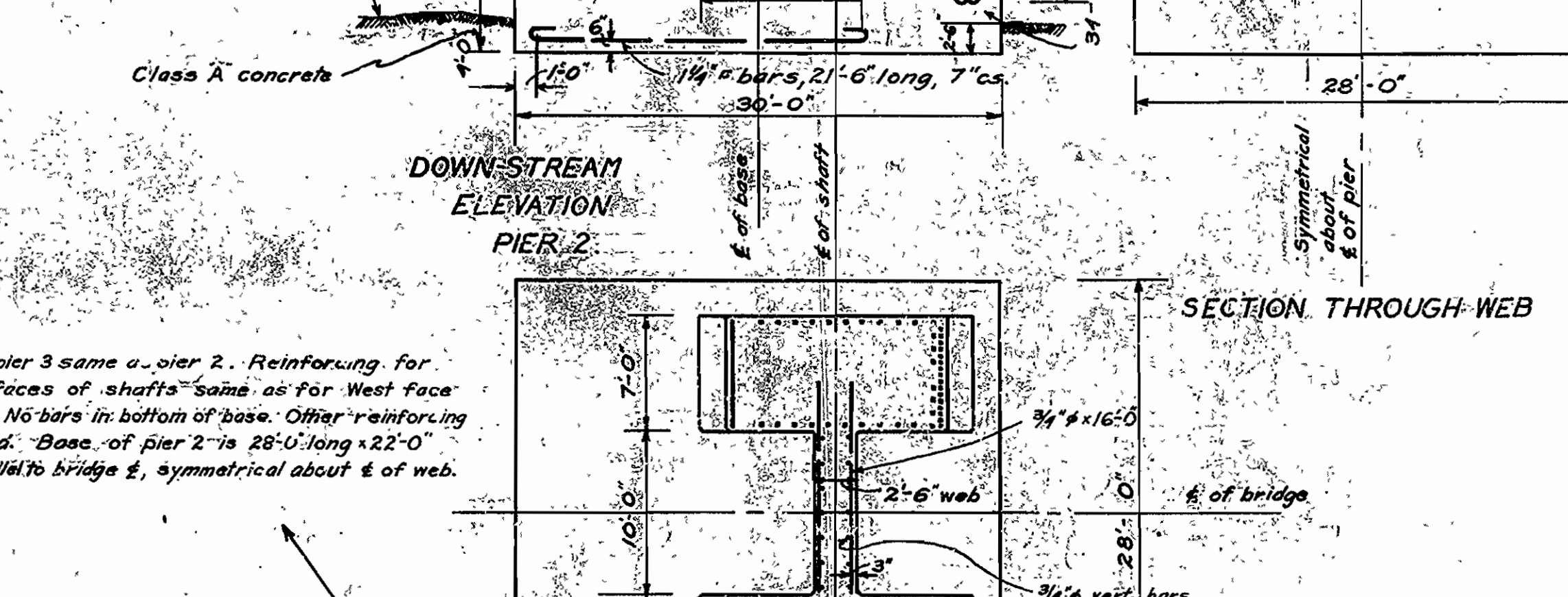
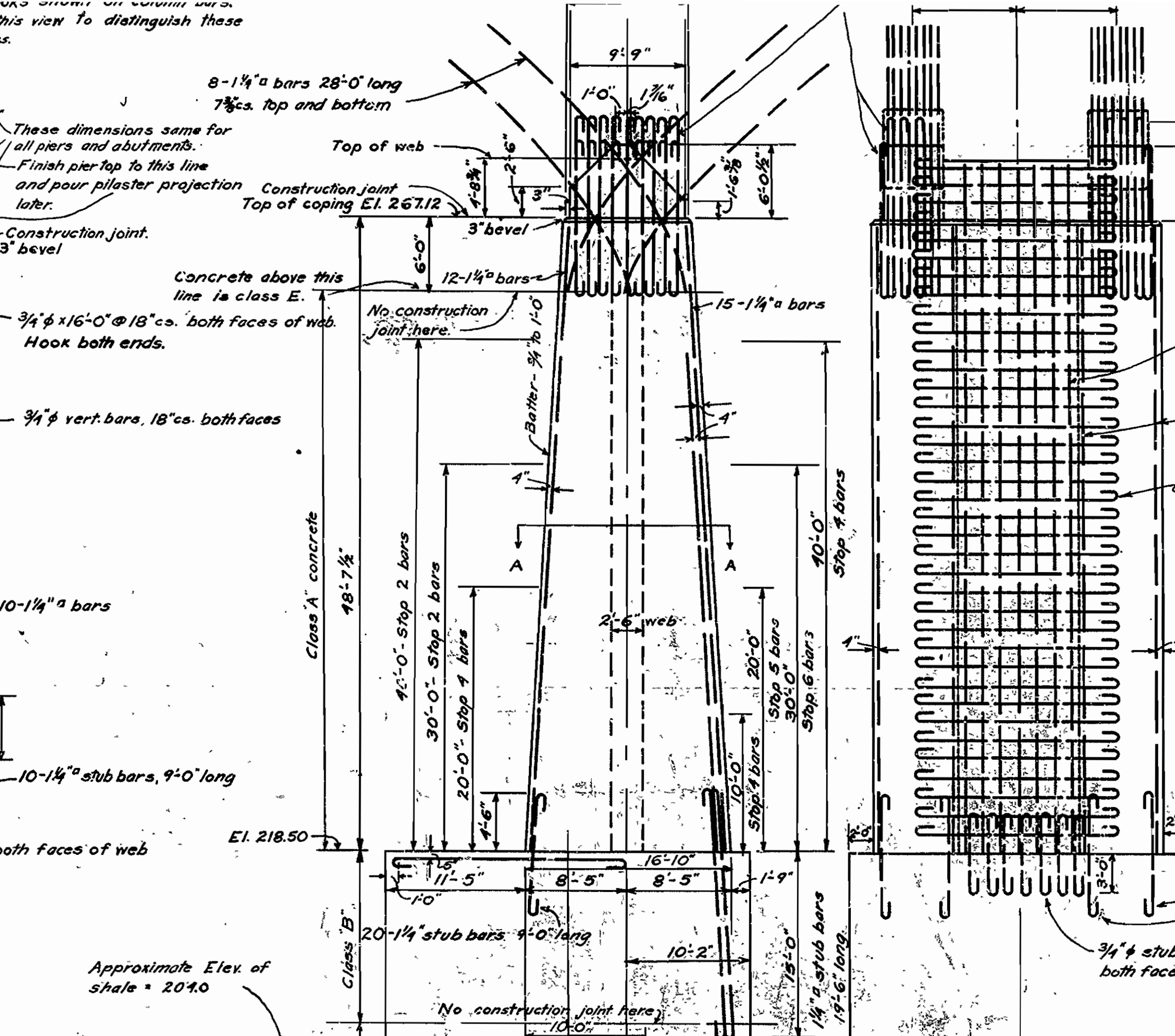
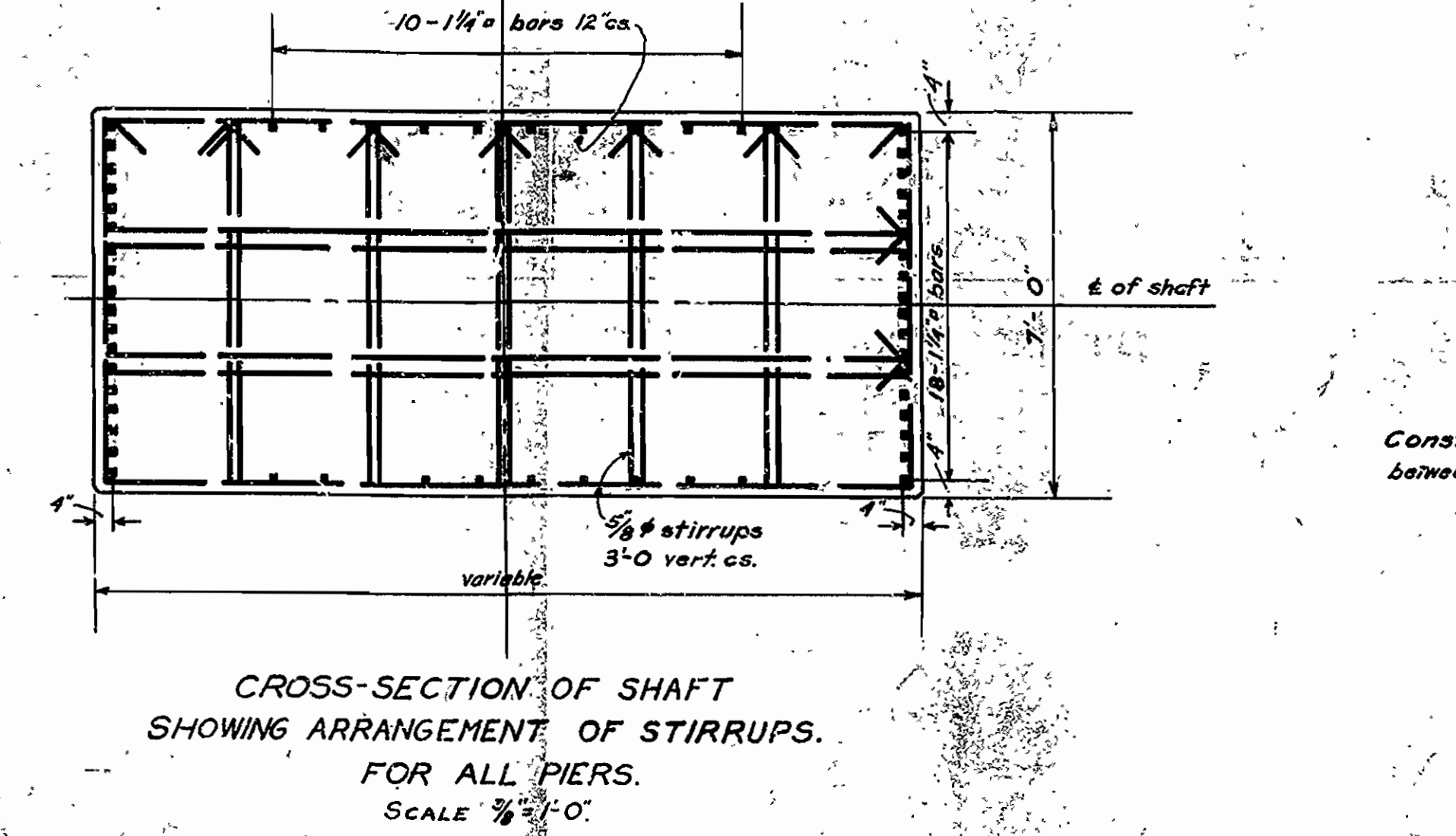
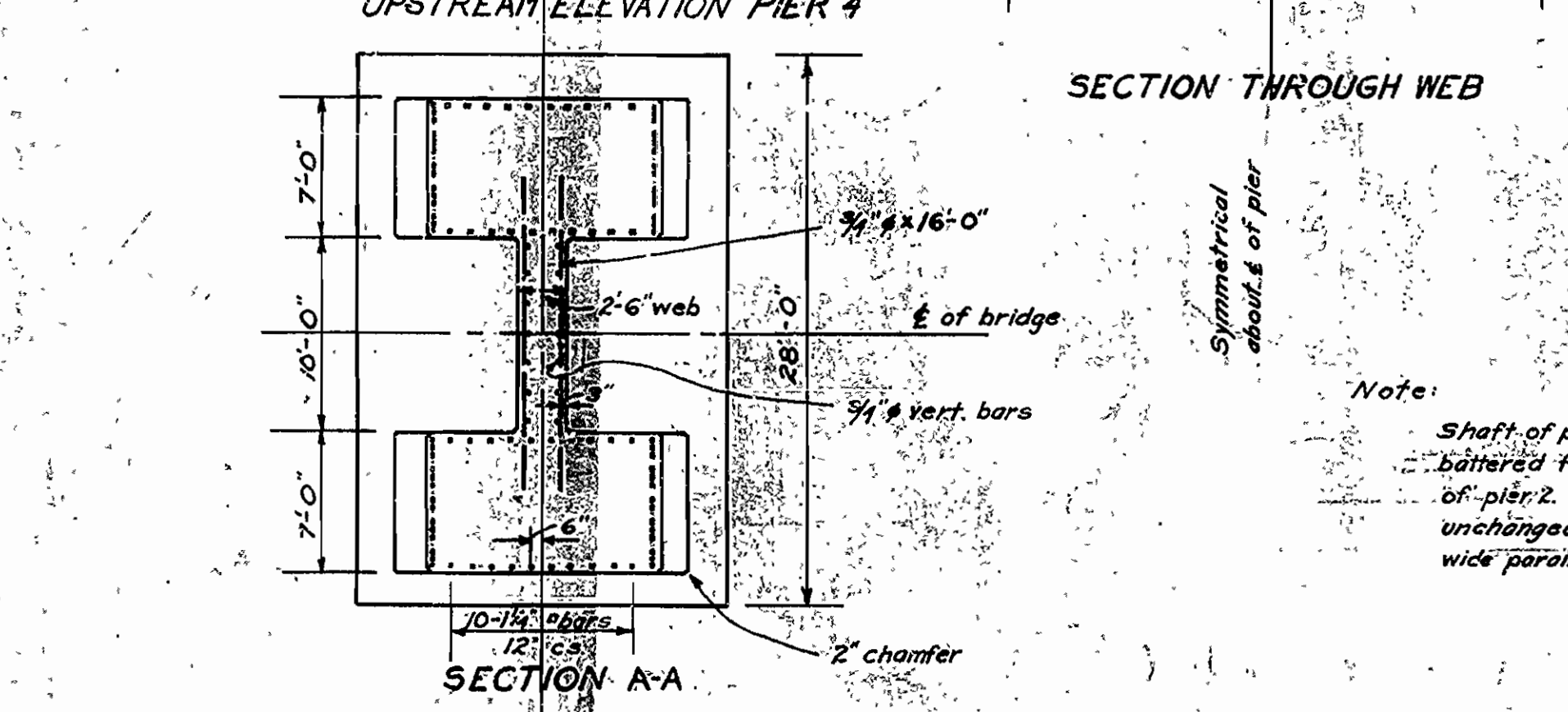
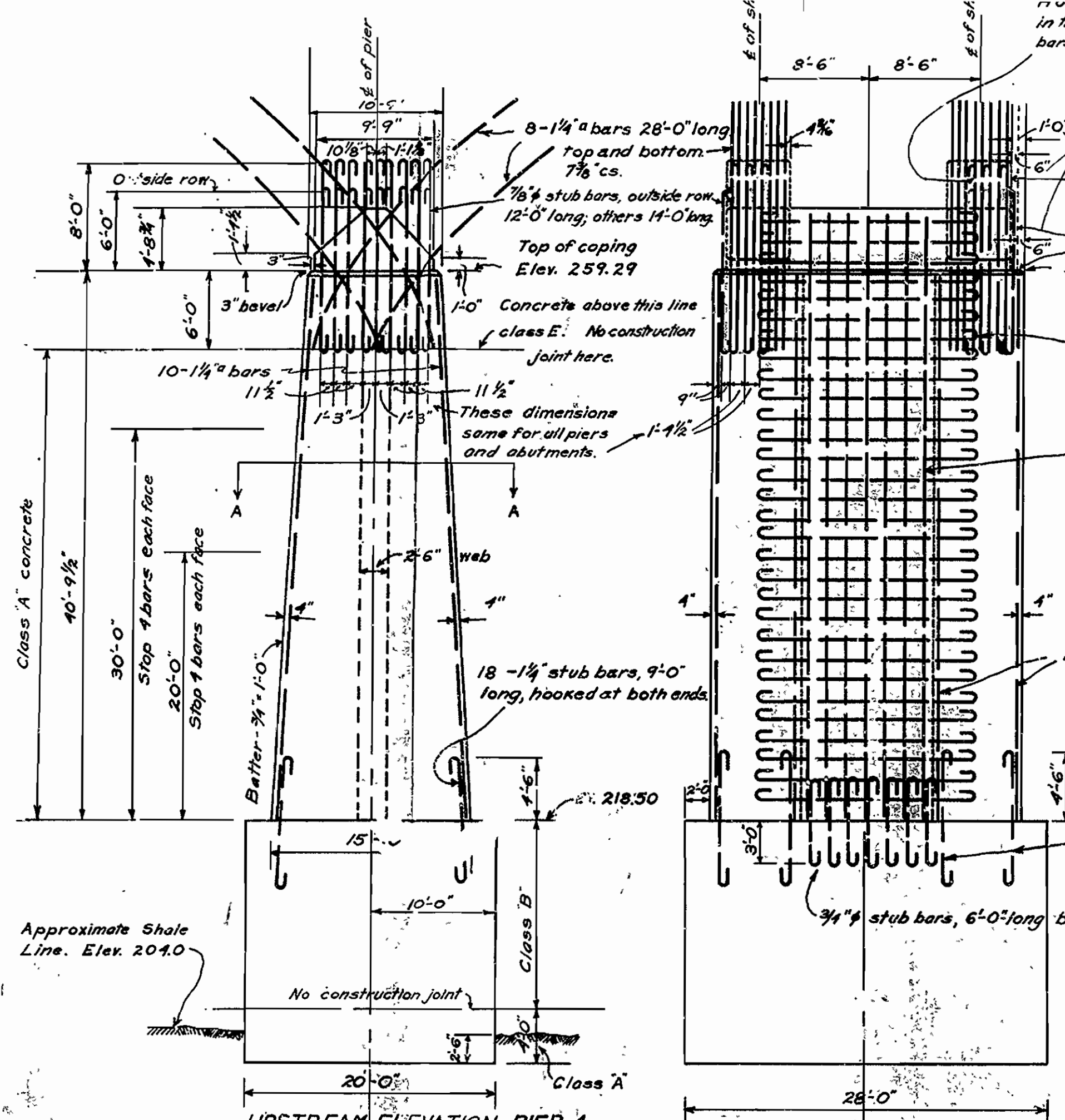
BRIDGE ENGINEER



**ARKANSAS STATE HIGHWAY COMMISSION
 HIGHWAY BRIDGE
 ACROSS THE RED RIVER AT FULTON, ARK.**
 DETAILS OF RETAINING WALL
 COLUMN FOOTINGS AND CONCRETE PILES
 SCALES AS SHOWN

REVISED, Oct. 16, 1928.
 Made by J.S.M.
 Checked by J.S.M.
 Traced by J.S.M.
 Checked by G.H.N.
 Date Dec. 29, 1928.

IRA G. HEDRICK, INC.
 Consulting Engineers,
 Shreveport, La.
 FILE No. _____
 SHEET No. 3



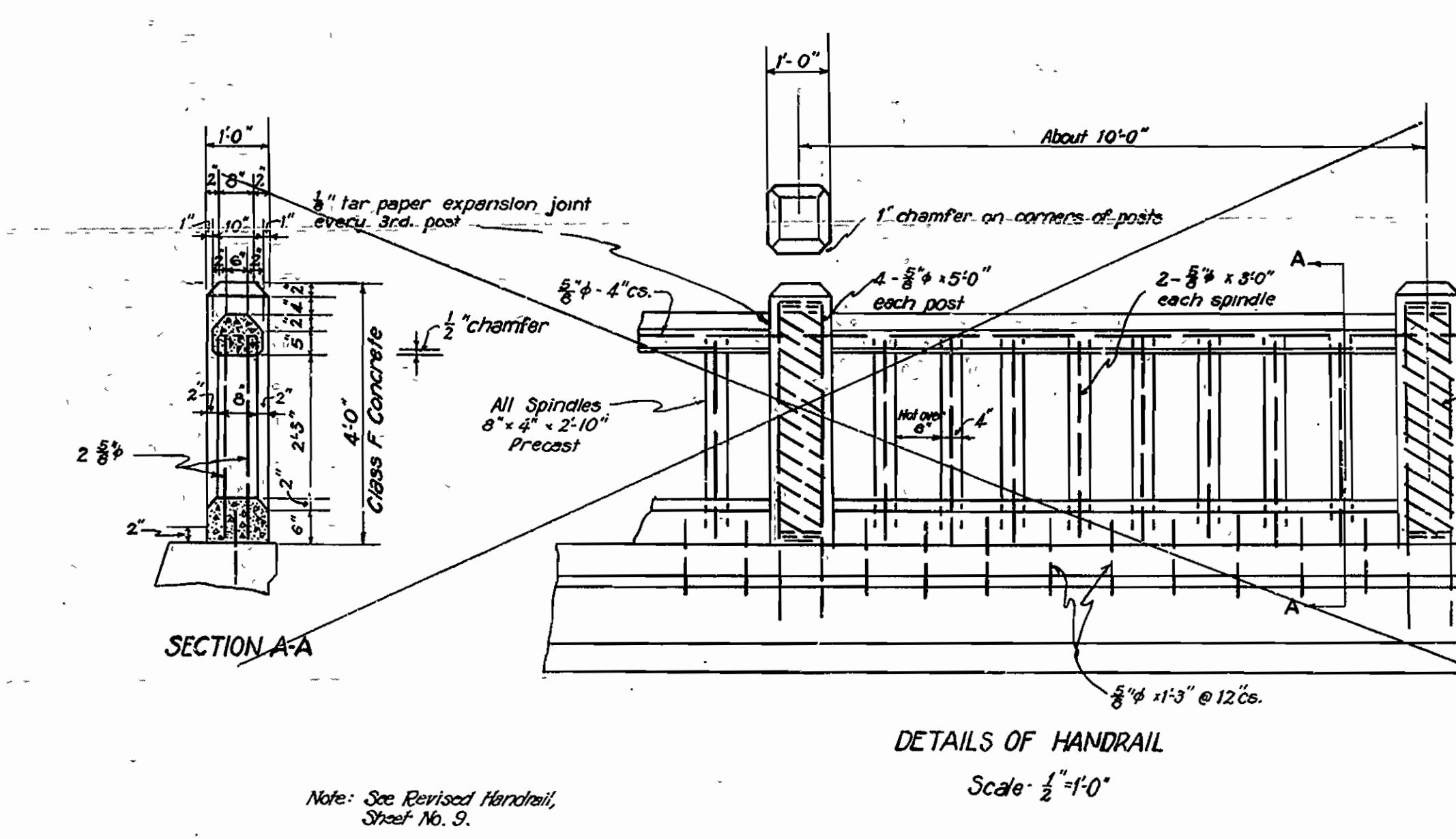
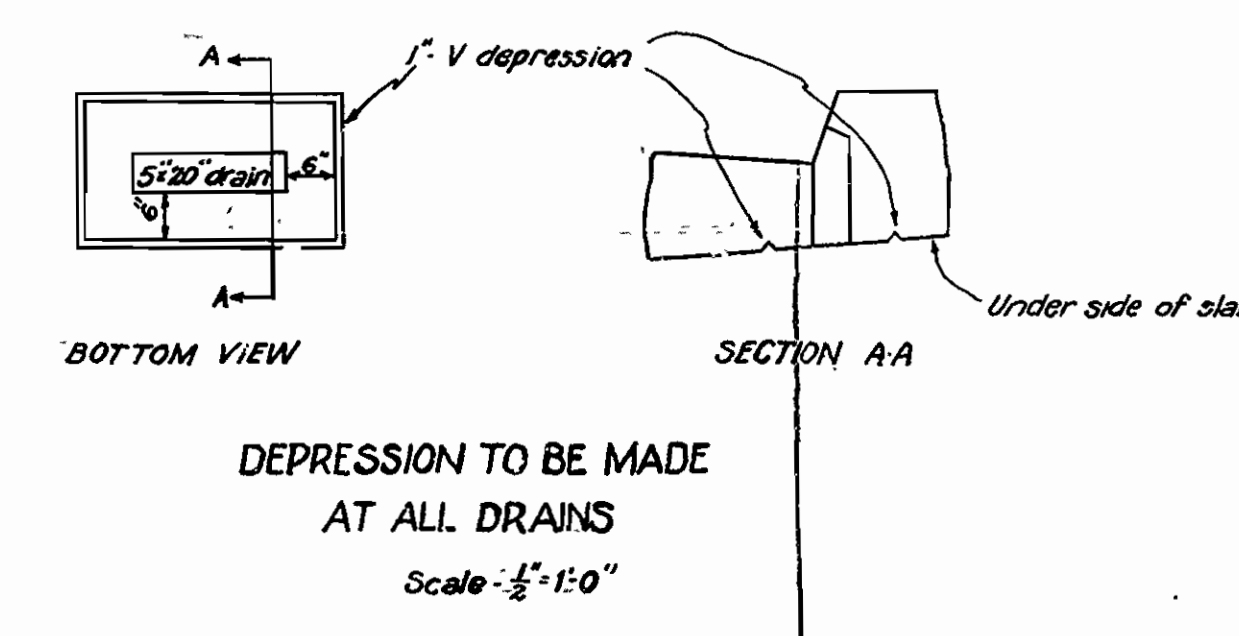
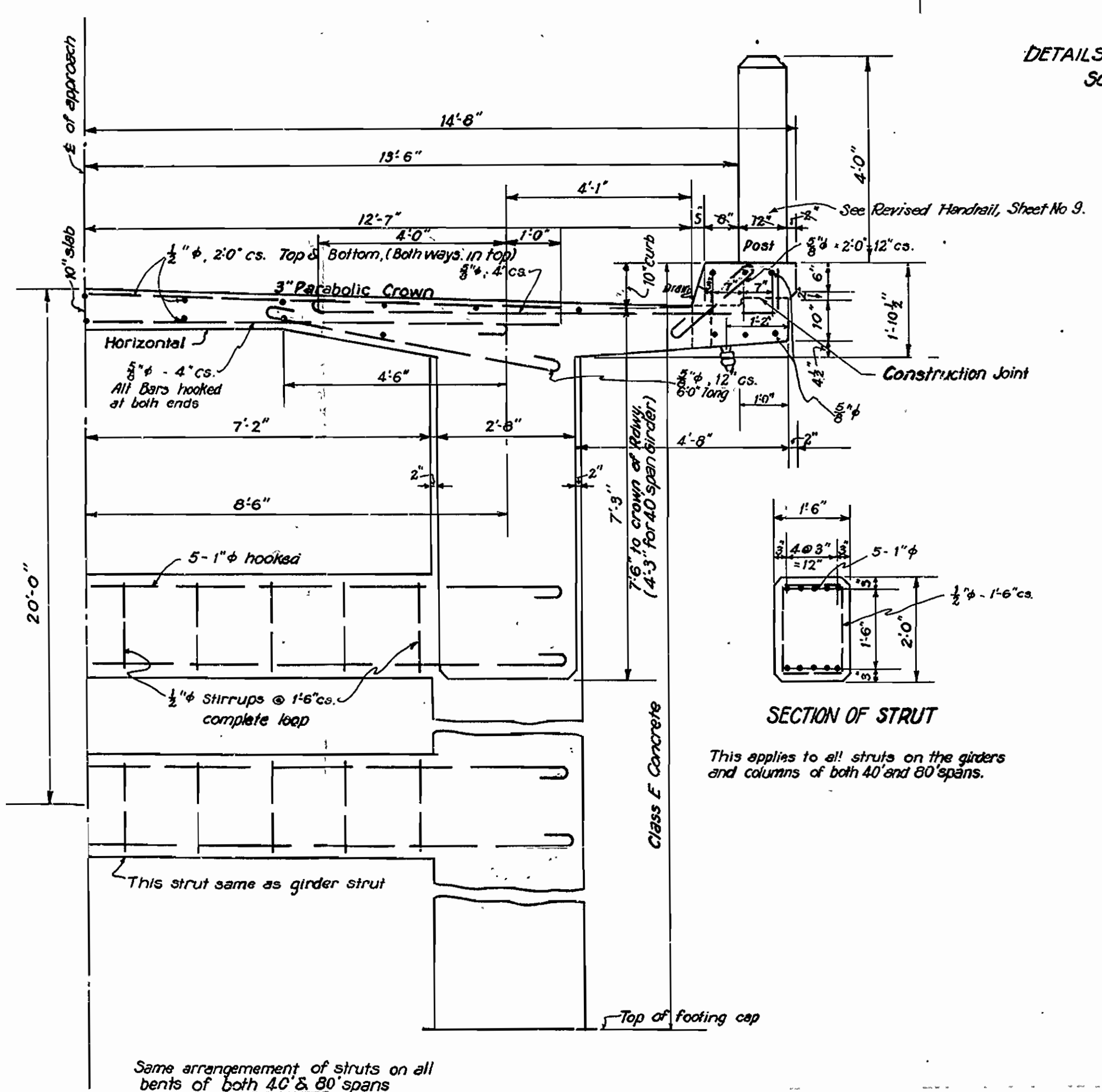
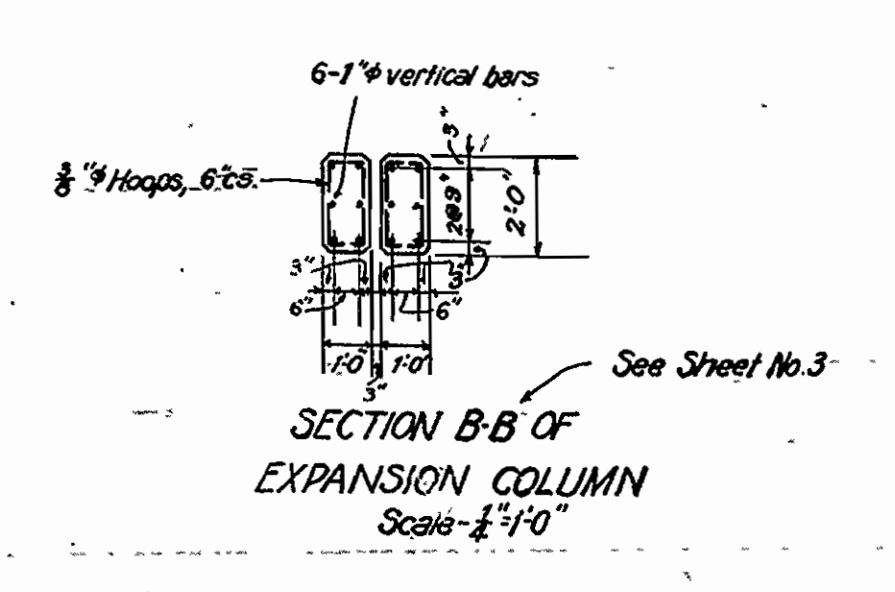
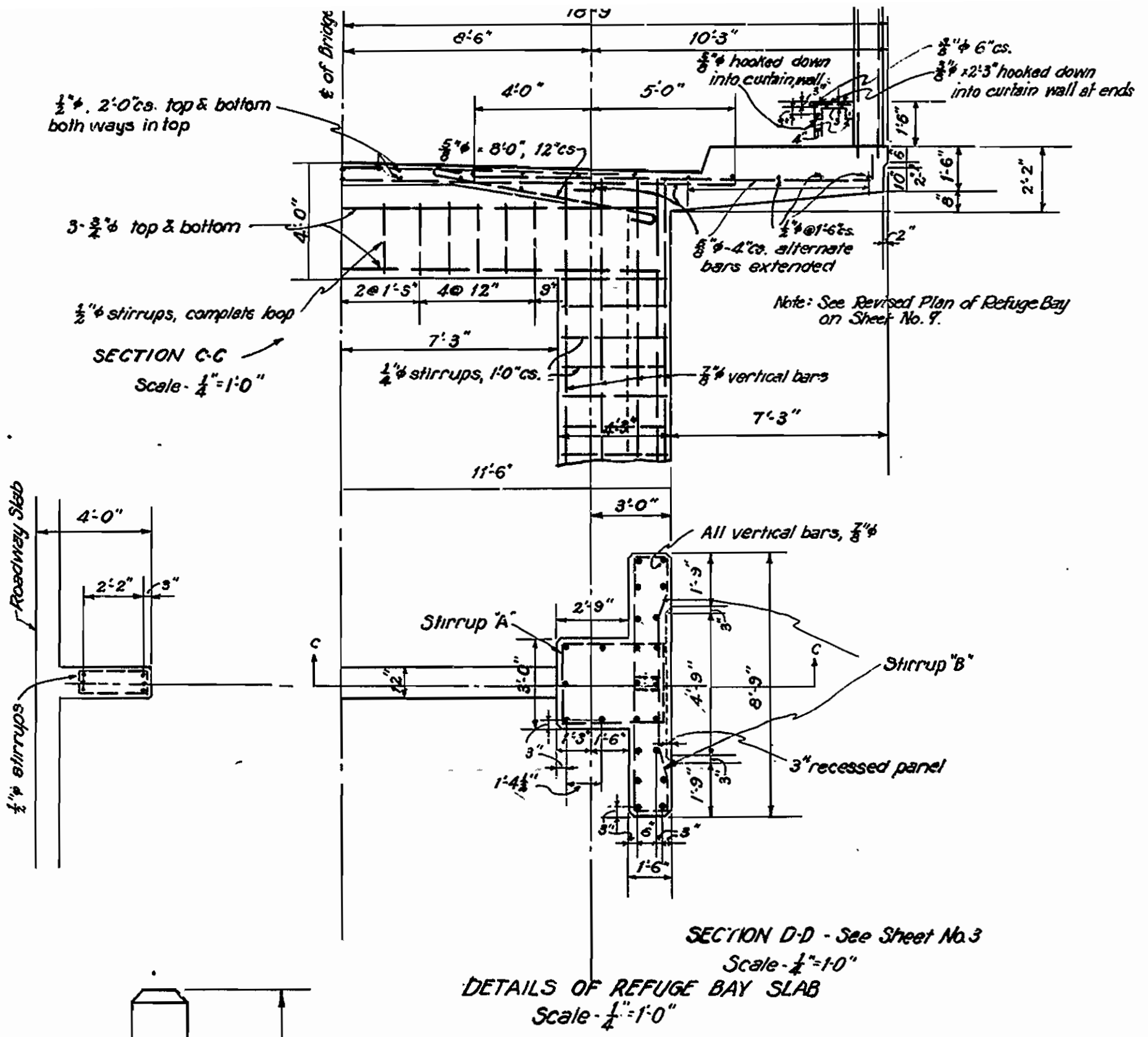
Note: Shaft of pier 3 same as pier 2. Reinforcing for battered faces of shafts same as for West face of pier 2. No bars in bottom of base. Other reinforcing unchanged. Base of pier 2 is 28'-0" long x 22'-0" wide parallel to bridge centerline, symmetrical about centerline of web.

Note: All vertical bars in shafts of piers and abutments are 1/4" bars.

ARKANSAS STATE HIGHWAY COMMISSION
HIGHWAY BRIDGE
ACROSS THE RED RIVER AT FULTON
DETAILS OF ABUTMENTS & PIERS
 SCALES AS SHOWN

Made by: B.V.
 Checked by: B.V.
 Traced by: B.V.
 Checked by: G.A.N.
 Date: December 9, 1927

IRA G. MEDA
 Consulting Engineer
 Shreveport, La.
 FILE NO. 10
 SHEET 1



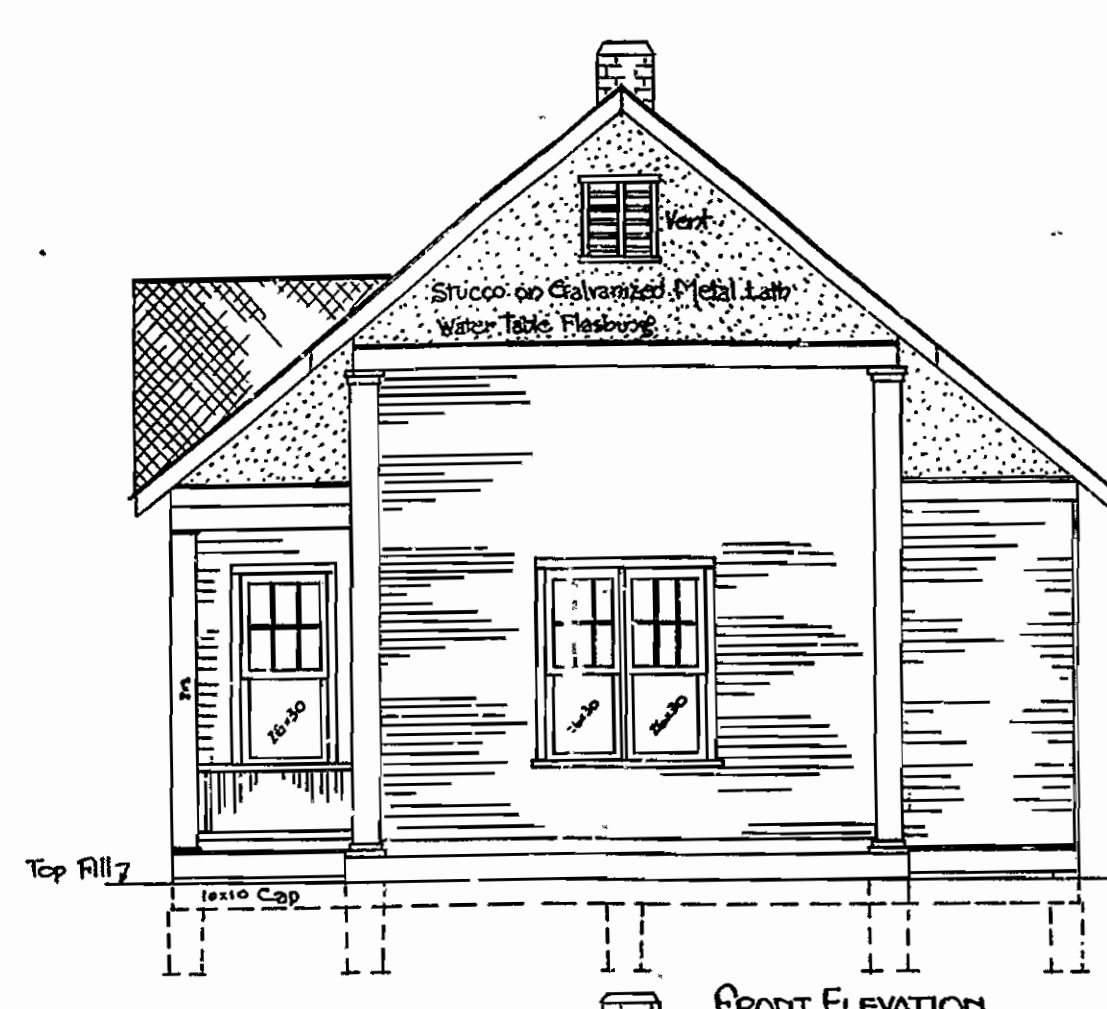
ROADWAY SLAB SECTION & REINFORCING SAME
FOR APPROACHES AND ARCH SPANS
Scale 1/2" = 1'-0"

REVISED, Oct. 16, 1928

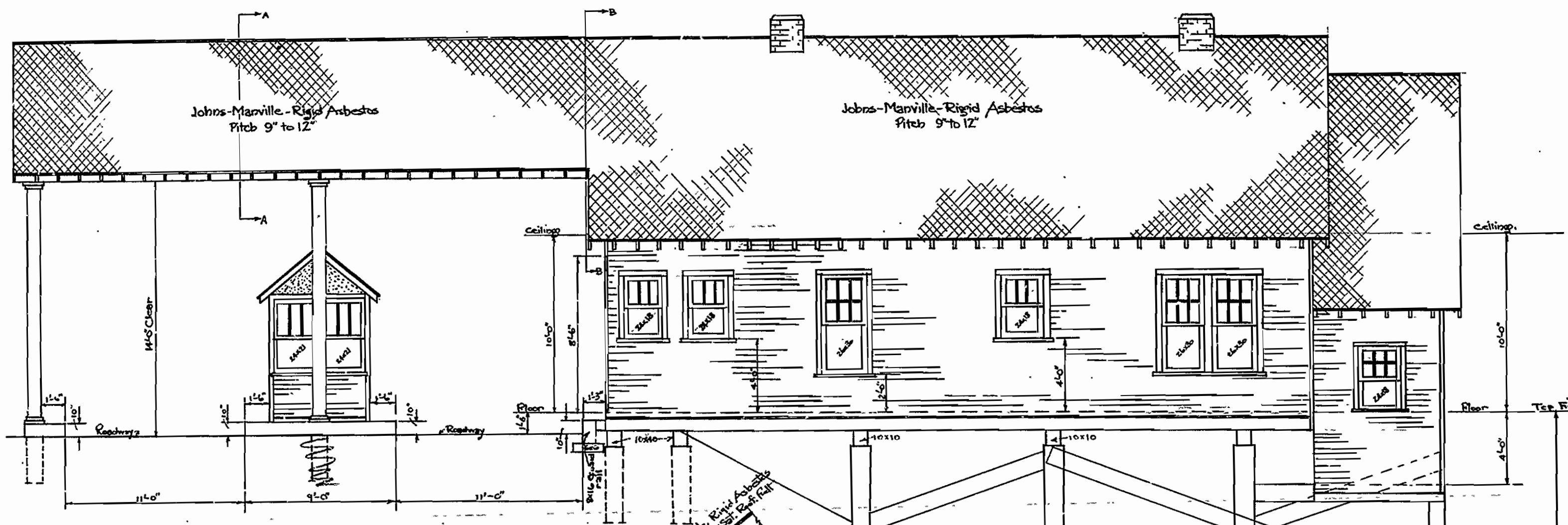
ARKANSAS STATE HIGHWAY COMMISSION
HIGHWAY BRIDGE
ACROSS THE RED RIVER AT FULTON, ARKANSAS
SUPPLEMENTARY DETAILS
SCALES AS SHOWN

Made by J.S.W.
Checked by J.S.W.
Traced by J.S.W.
Checked by J.S.W.
Date May 17, 1928

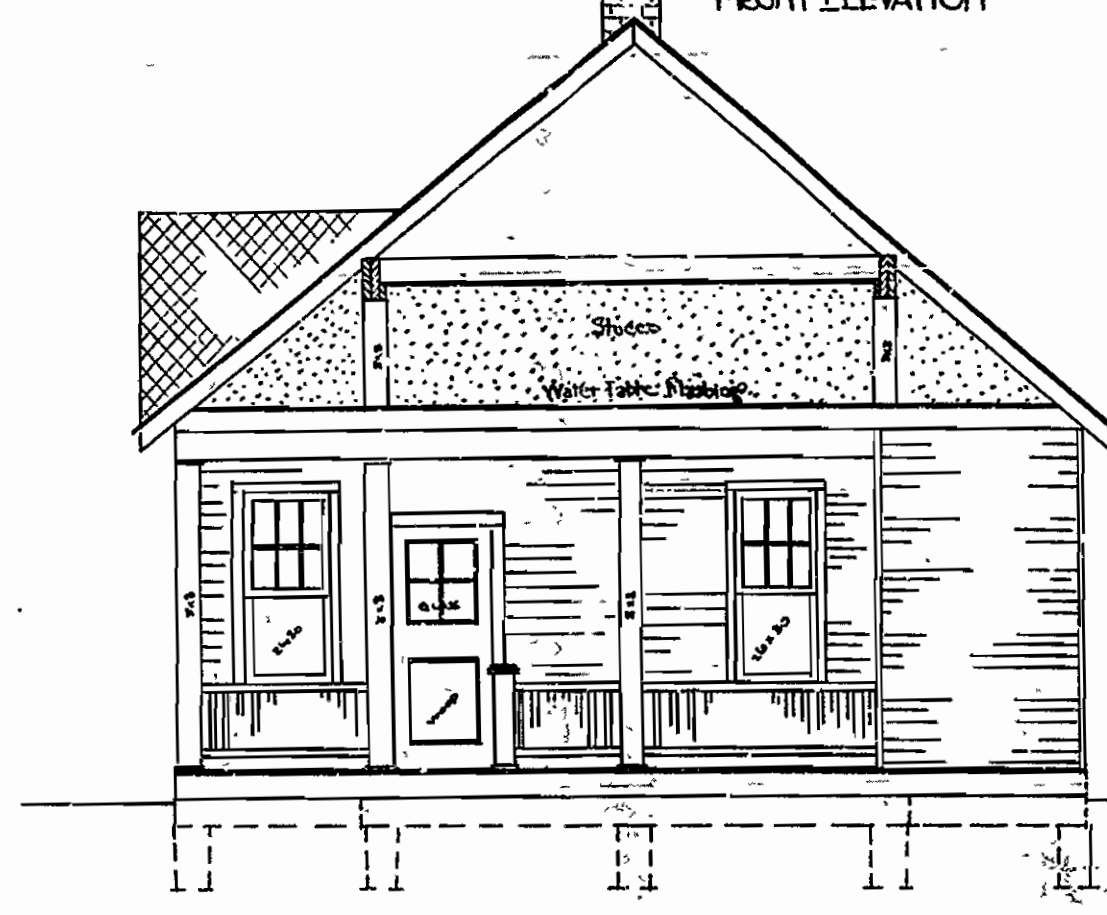
IRAG HEDRICK, INC.
Consulting Engineers
Shreveport, La.
File No. SHEET No. 11



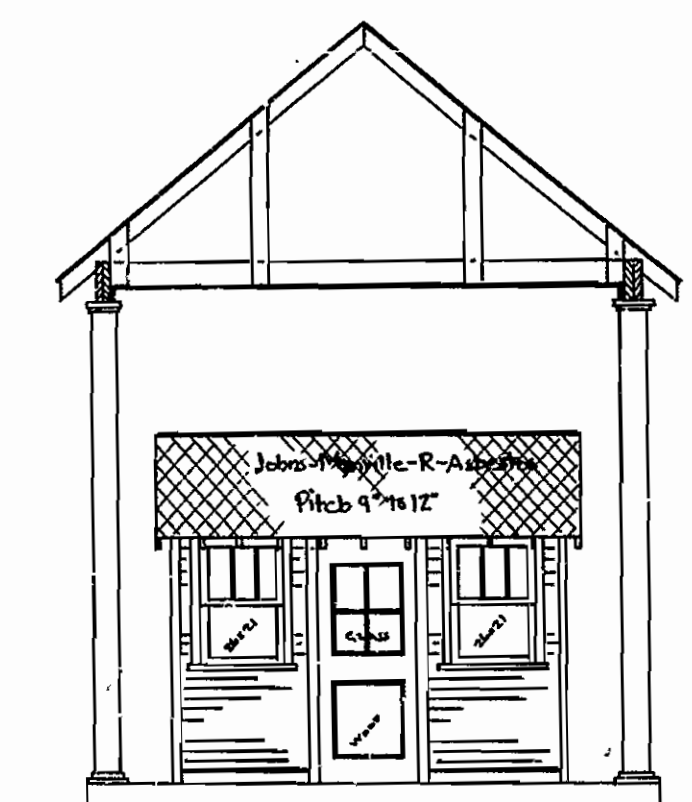
FRONT ELEVATION



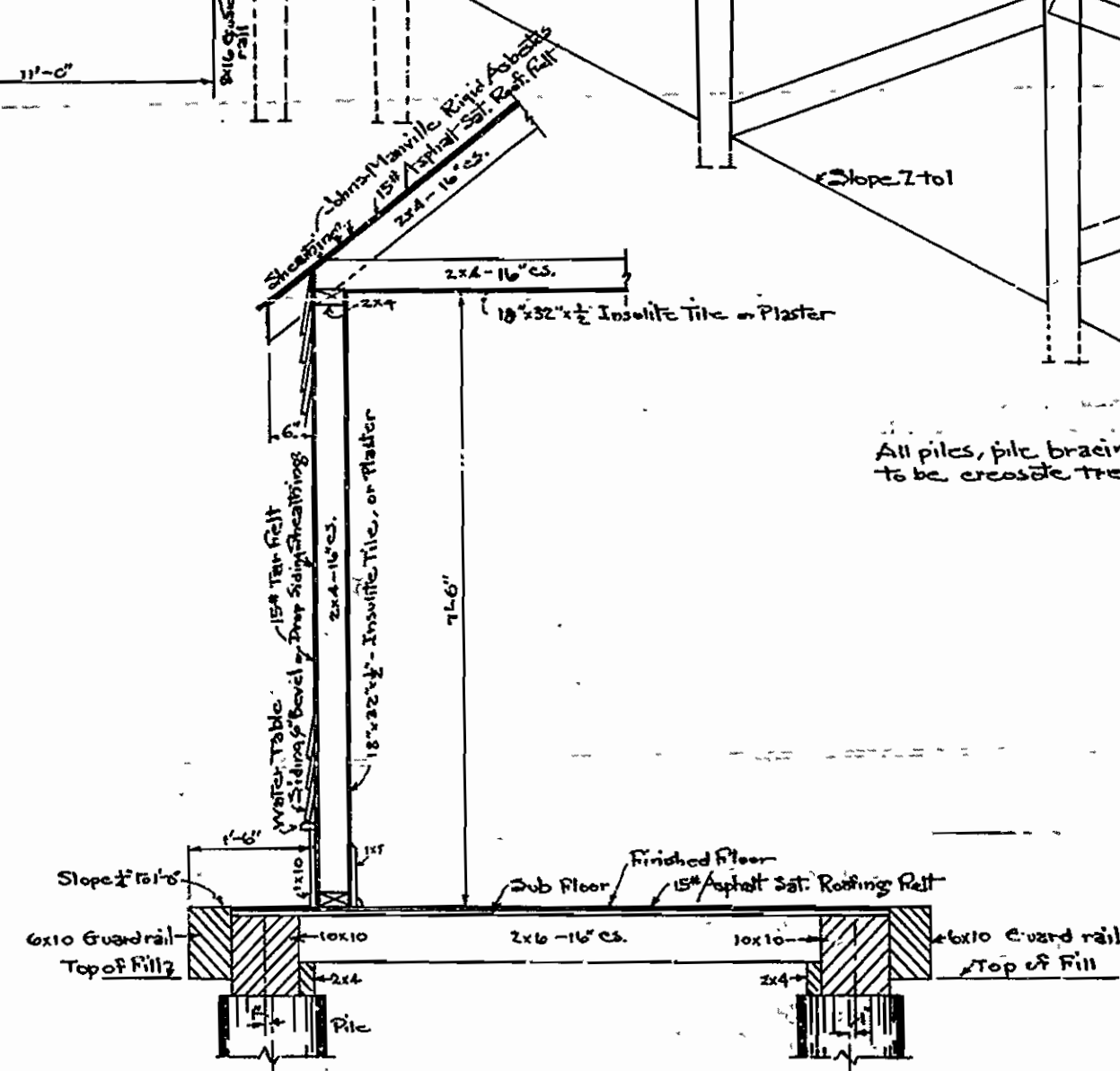
RIGHT ELEVATION



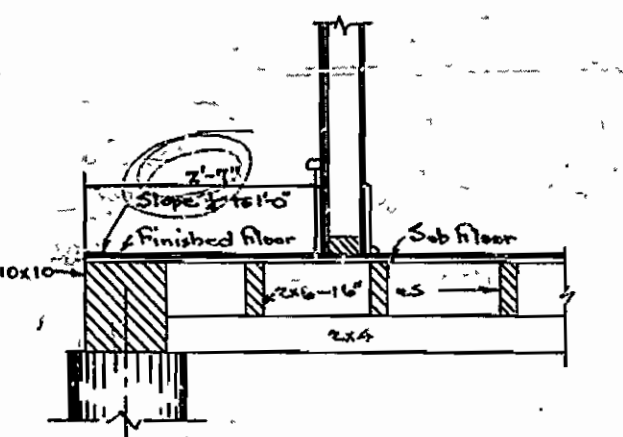
SECTION B-B



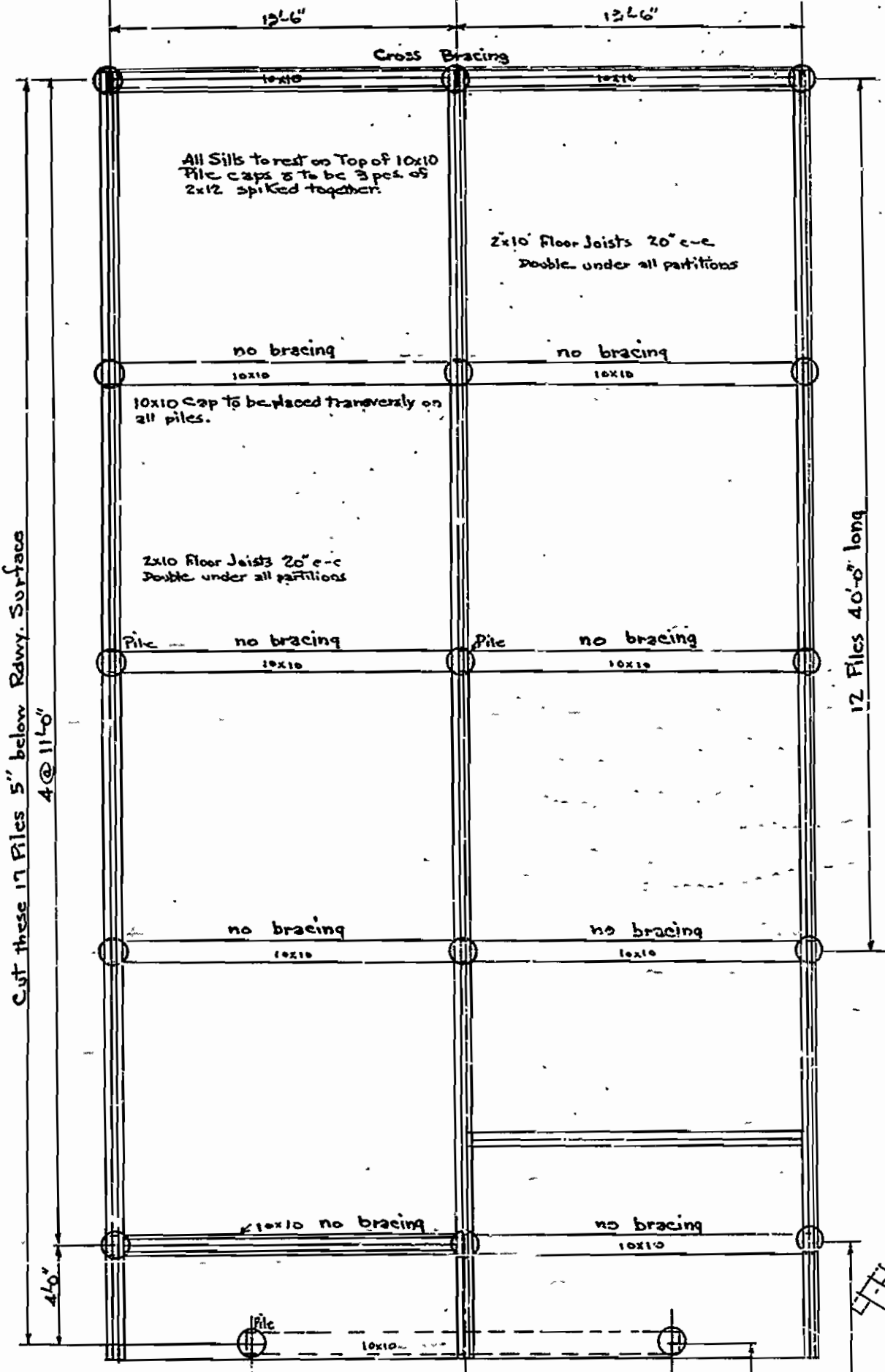
SECTION A-A



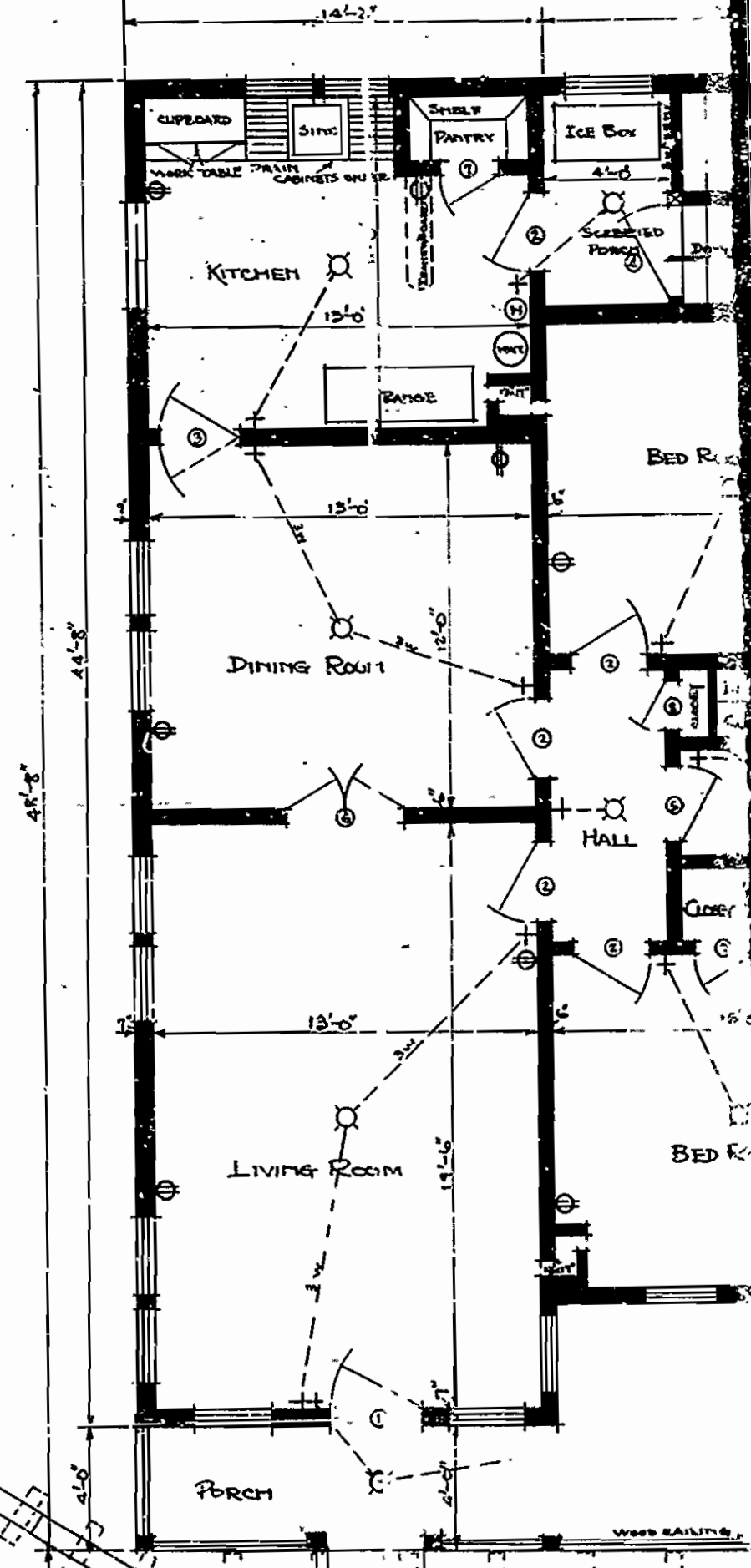
TRANSVERSE SECTION, TOLL TAKER'S OFFICE & PLATFORM



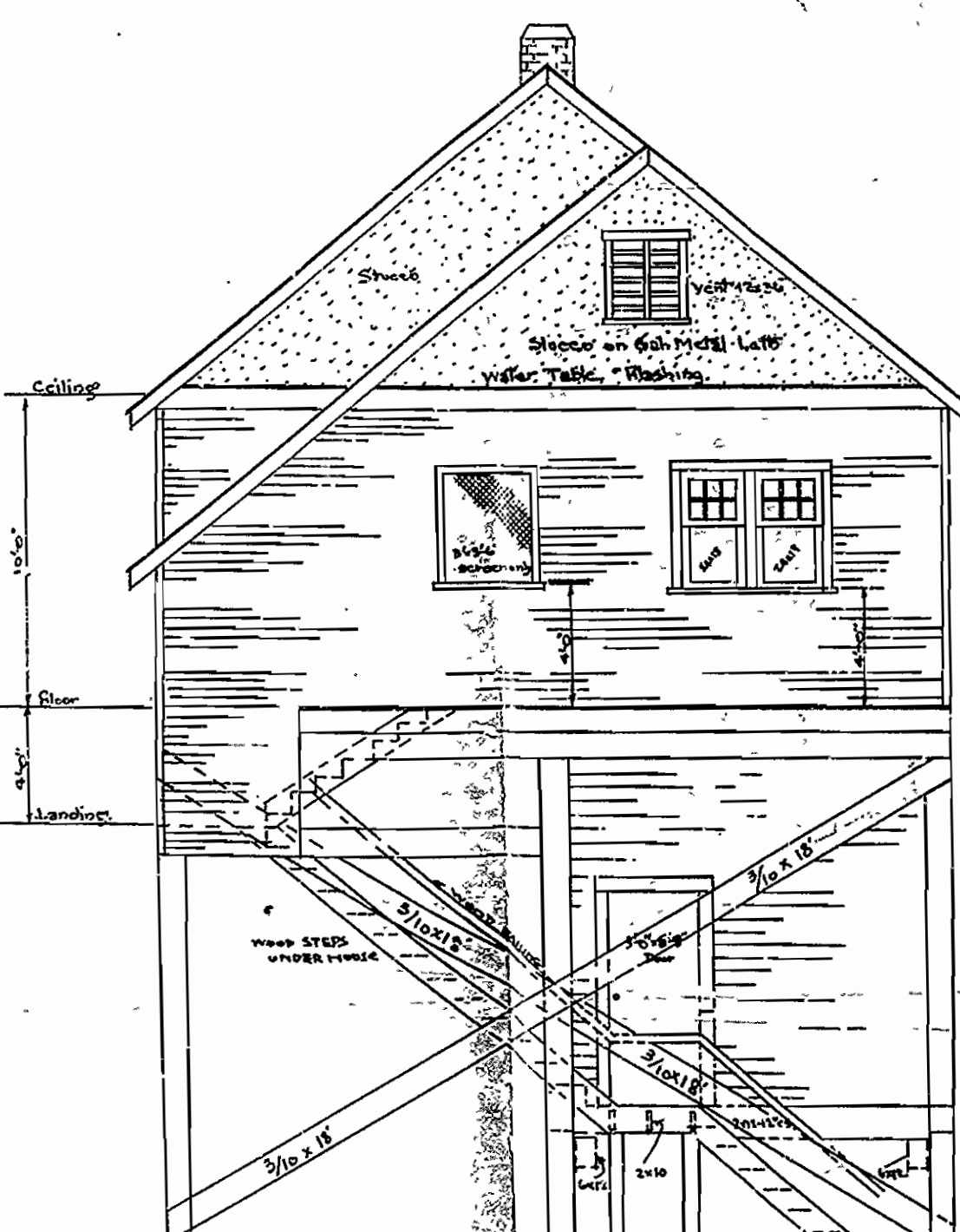
LONGITUDINAL SECTION OF PLATFORM



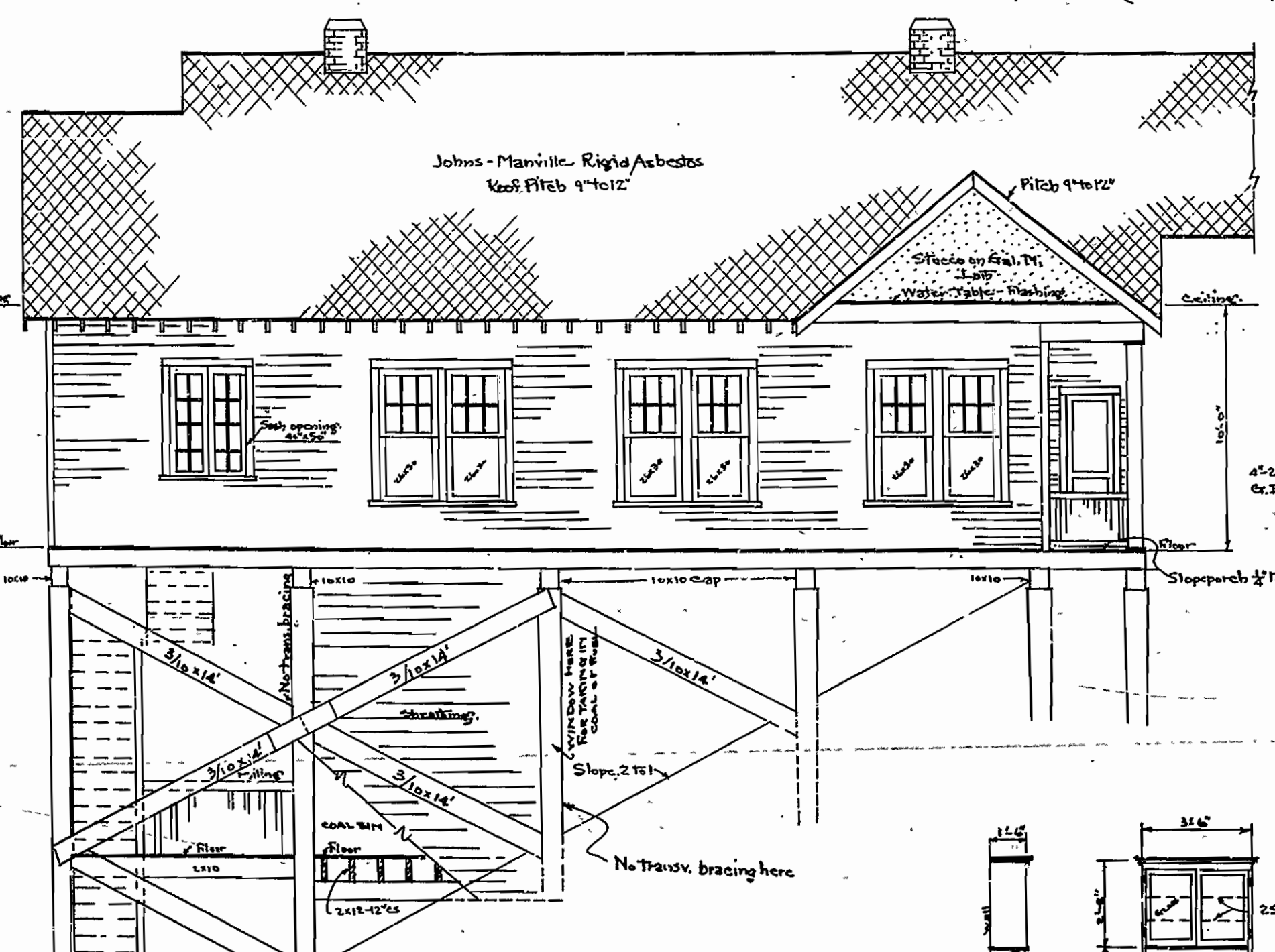
PILING AND FOUNDATION PLAN



FLOOR PLAN



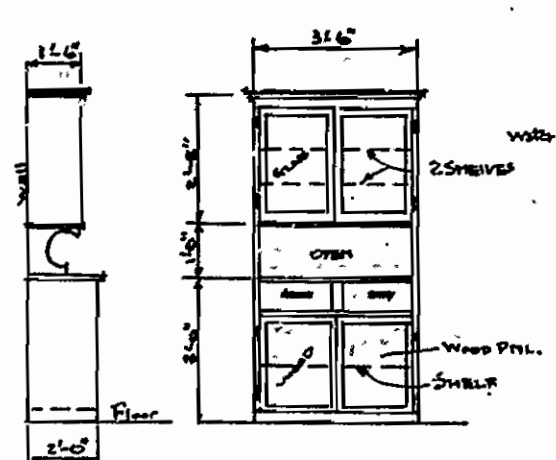
REAR ELEVATION



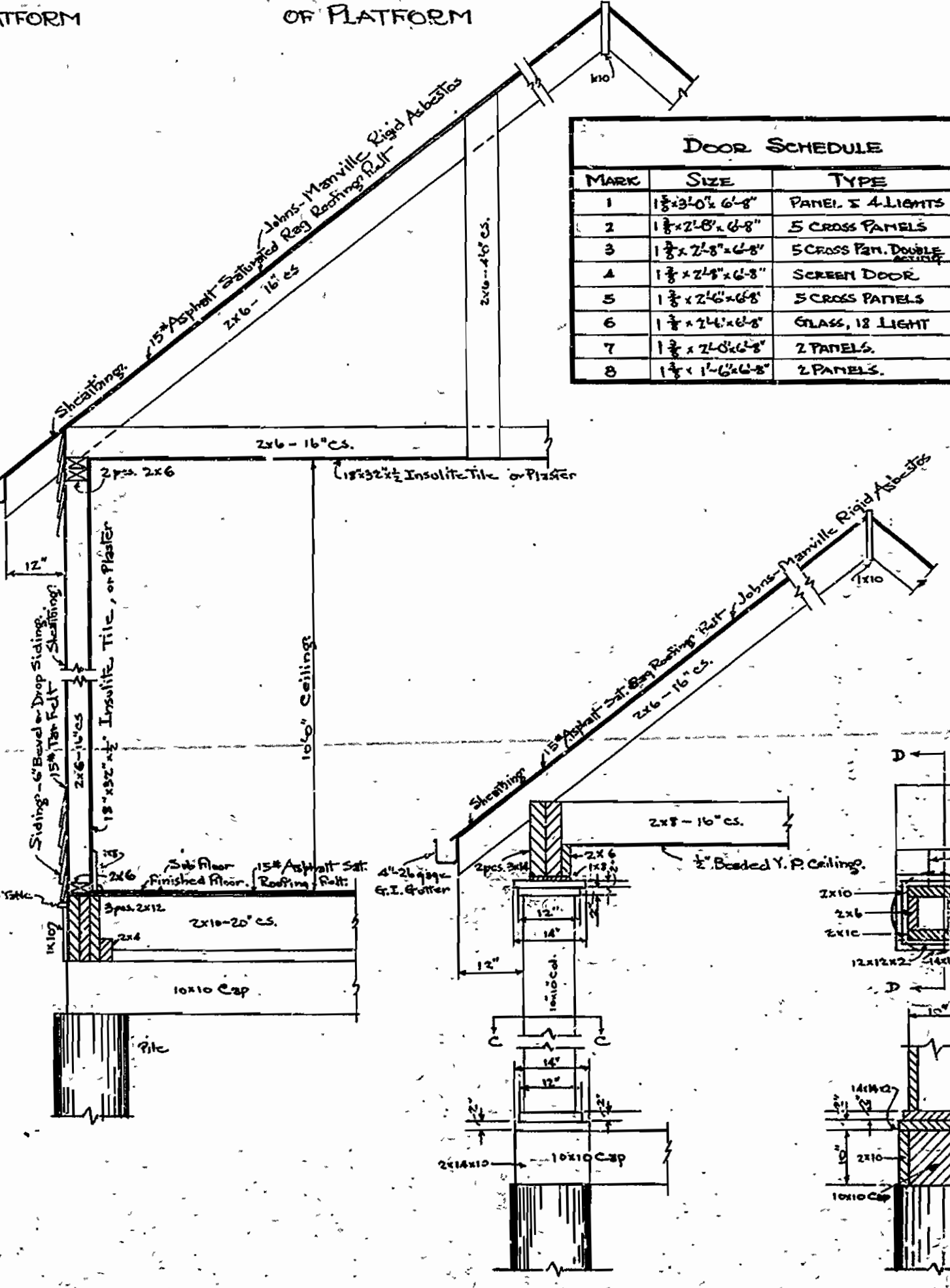
LEFT ELEVATION 1

| MARK | SIZE | TYPE |
|------|-----------------------|---------------------|
| 1 | 1 1/2 x 2 1/2 x 6'-8" | PANEL, 4 LIGHTS |
| 2 | 1 1/2 x 2 1/2 x 4'-8" | 5 CROSS PANELS |
| 3 | 1 1/2 x 2 1/2 x 4'-8" | 5 CROSS PAN. DOUBLE |
| 4 | 1 1/2 x 2 1/2 x 4'-8" | SCREEN DOOR |
| 5 | 1 1/2 x 2 1/2 x 4'-8" | 5 CROSS PANELS |
| 6 | 1 1/2 x 2 1/2 x 4'-8" | GLASS, 12 LIGHT |
| 7 | 1 1/2 x 2 1/2 x 4'-8" | 2 PANELS |
| 8 | 1 1/2 x 1 1/2 x 4'-8" | 2 PANELS |

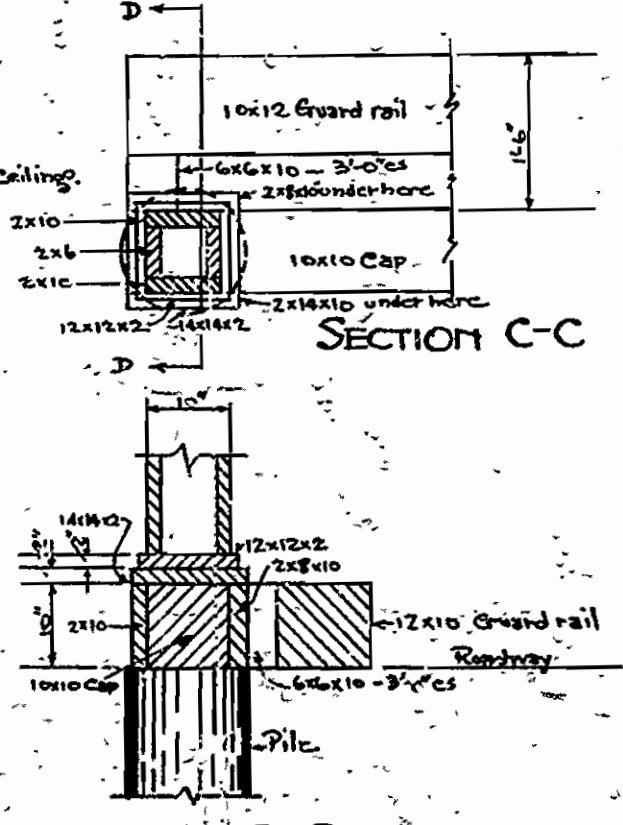
DOOR SCHEDULE



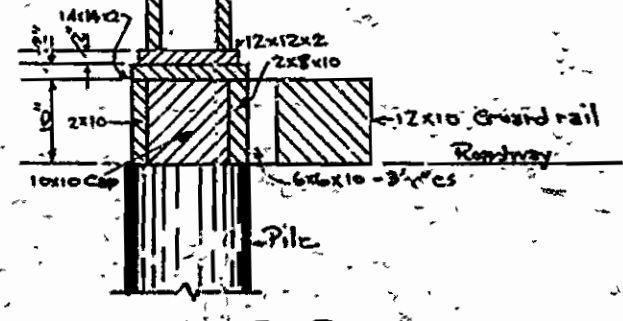
DETAIL OF KITCHEN CUPB'D Scale 1/4"=1'-0"



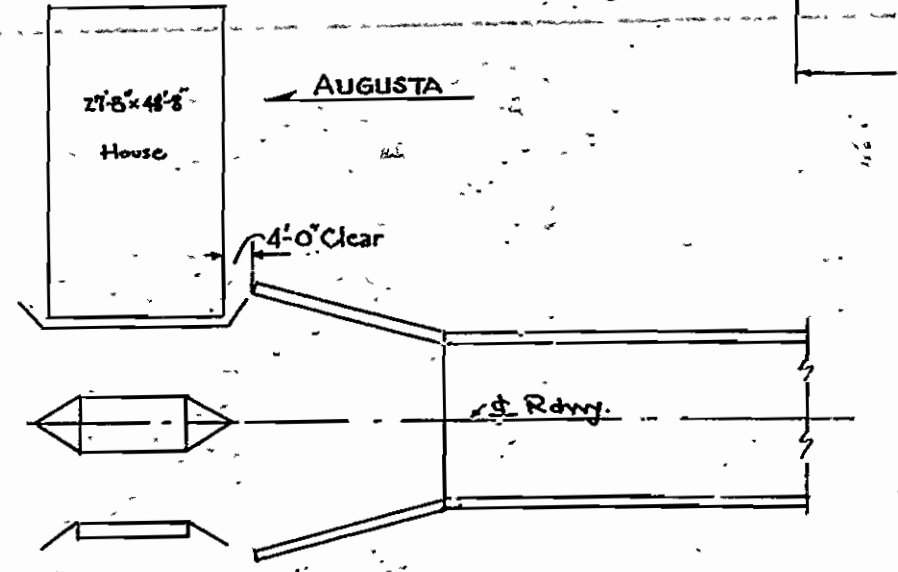
DETAILS OF ROOF & COL. & FOOTING, AT END



SECTION C-C



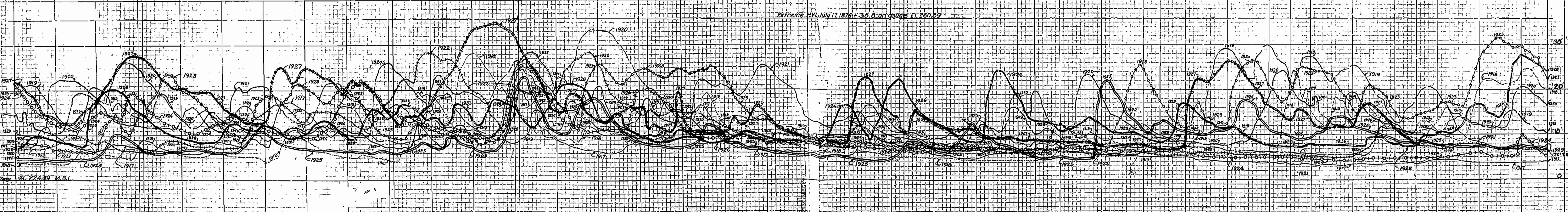
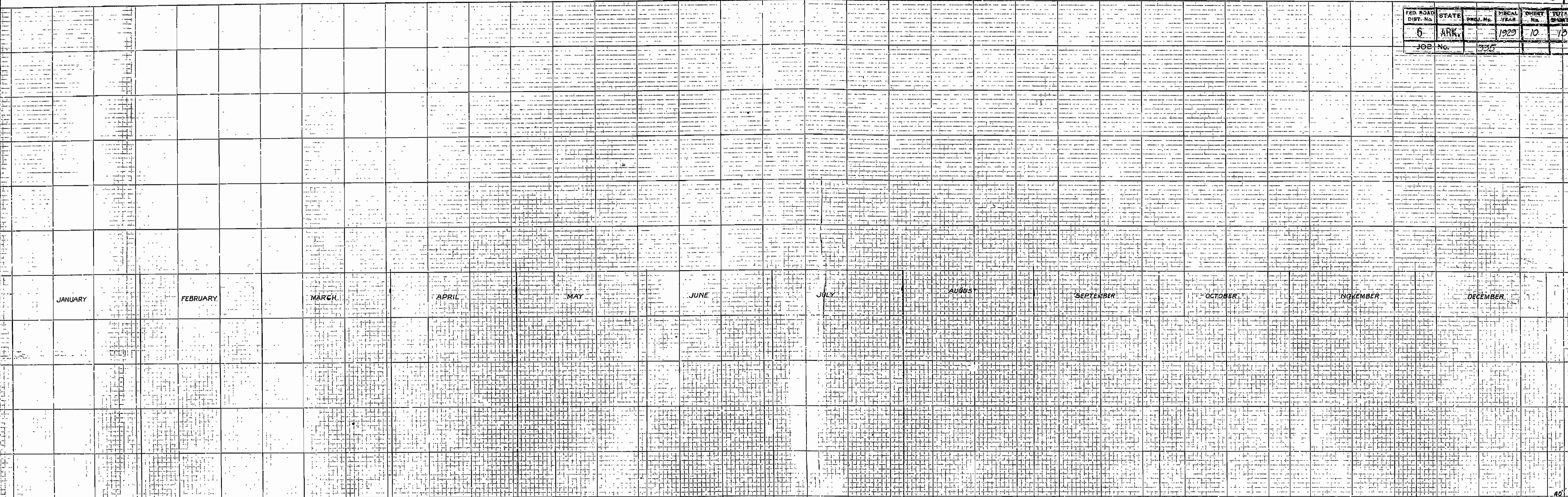
SECTION D-D



LOCATION, TOLL TAKER'S HOME Scale 1"=300'

ARKANSAS STATE
TOLL TAKER'S HOME
STATE TOLLS
AUGUSTA
MADE BY: K.P.
CHECKED BY: L.D.

| | | | | | |
|---------------------|-------|-----------|-------------|-----------|--------------|
| FED. ROAD DIST. No. | STATE | PROJ. No. | FISCAL YEAR | SHEET No. | TOTAL SHEETS |
| 6 | ARK. | | 1929 | 10 | 15 |
| JOB No. | | 335 | | | |



Extreme HW July 11, 1876 - 35.6 on gauge El. 260.39

Horizontal Scale - 1/4" = 1 day
Vertical Scale - 1/4" = 1'-0"

LEGEND

- 1917
- 1918
- 1919
- 1920
- 1921
- 1922
- 1923
- 1924
- 1925
- 1926
- 1927

ARKANSAS STATE HIGHWAY COMMISSION
HIGHWAY BRIDGE
ACROSS THE RED RIVER AT FULTON, ARKANSAS
HYDROGRAPH RIVER STAGES 1917 TO 1927 INCLUSIVE

Made by U.S.W.
Checked by G.O.T.
Traced by G.O.T.
Date Dec 9, 1927

IRA G. HEDRICK, INC.
Consulting Engineers
Shreveport, La.

DR. No. 395

FILE NO. 10
SHEET No. 10
DRWG. No. 4926