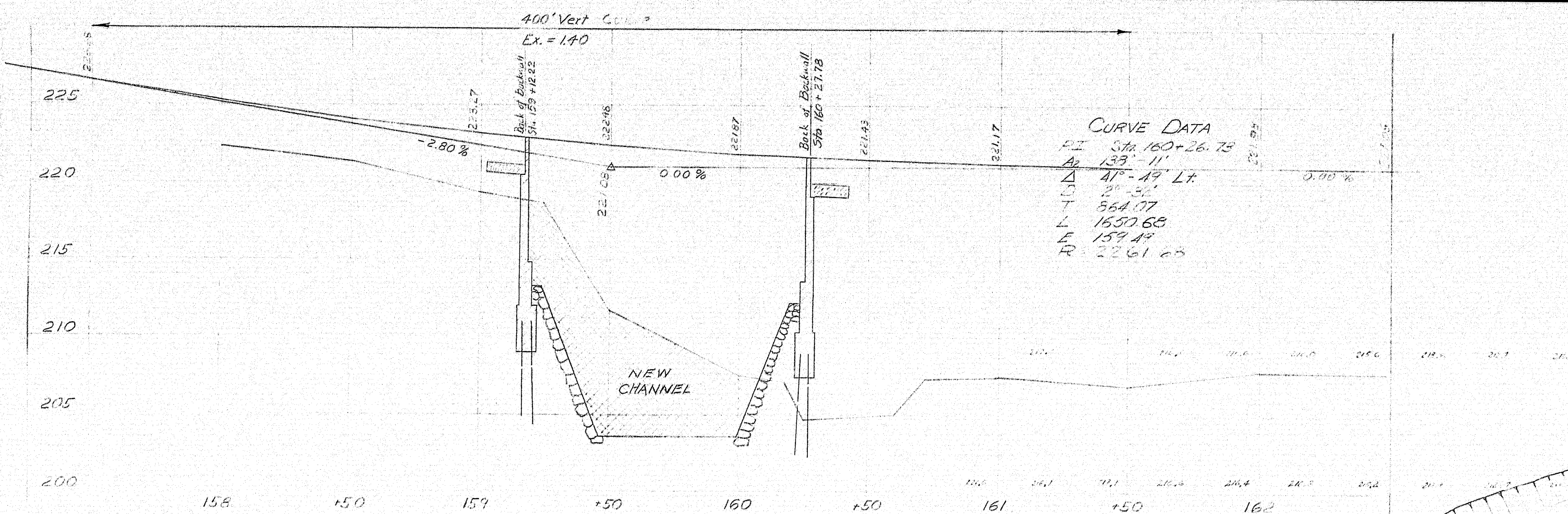




PROFILE

Scale: HORIZ. 1"=30', VERT. 1"=5'

### SPECIFICATIONS

Design: AASHTO Standard Specifications for Highway Bridges, 1961 with  
addendum specifications 1961, 1962, 1963, 1964.  
Contract: State of Maine, State Highway Commission, Standard Specifications  
for Bridges and Buildings, Revised 1965.

### LIVE LOADING

HS20-44

### ALLOWABLE STRESSES

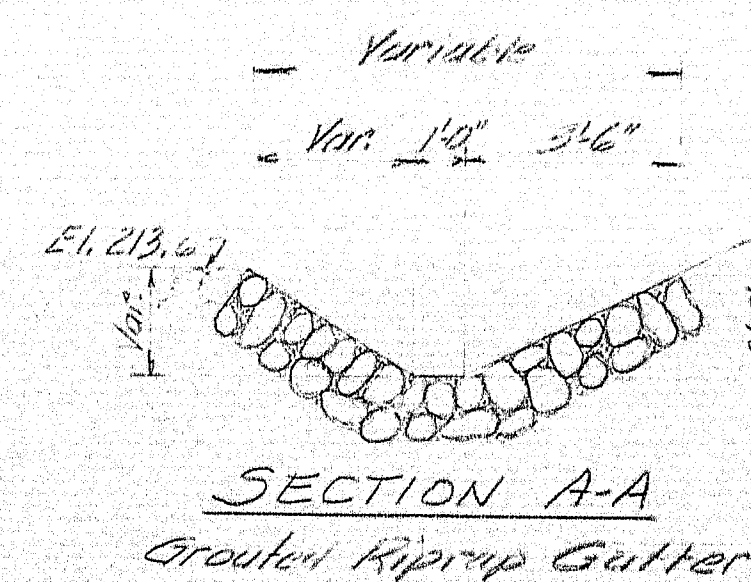
Concrete:  $f_c = 4000 \text{ p.s.i.}$   $n=10$   
Reinforcing Steel: Intermediate Grade  $f_s = 40,000 \text{ p.s.i.}$   
Structural Steel:  
A441  $f_s = 27,000 \text{ p.s.i.}$   $\frac{1}{4}"$  and under thickness  
A441  $f_s = 25,000 \text{ p.s.i.}$  over  $\frac{1}{4}"$  to  $1\frac{1}{2}"$  thickness  
A36  $f_s = 23,000 \text{ p.s.i.}$

### CONCRETE CLASSIFICATION

All Concrete: Class A

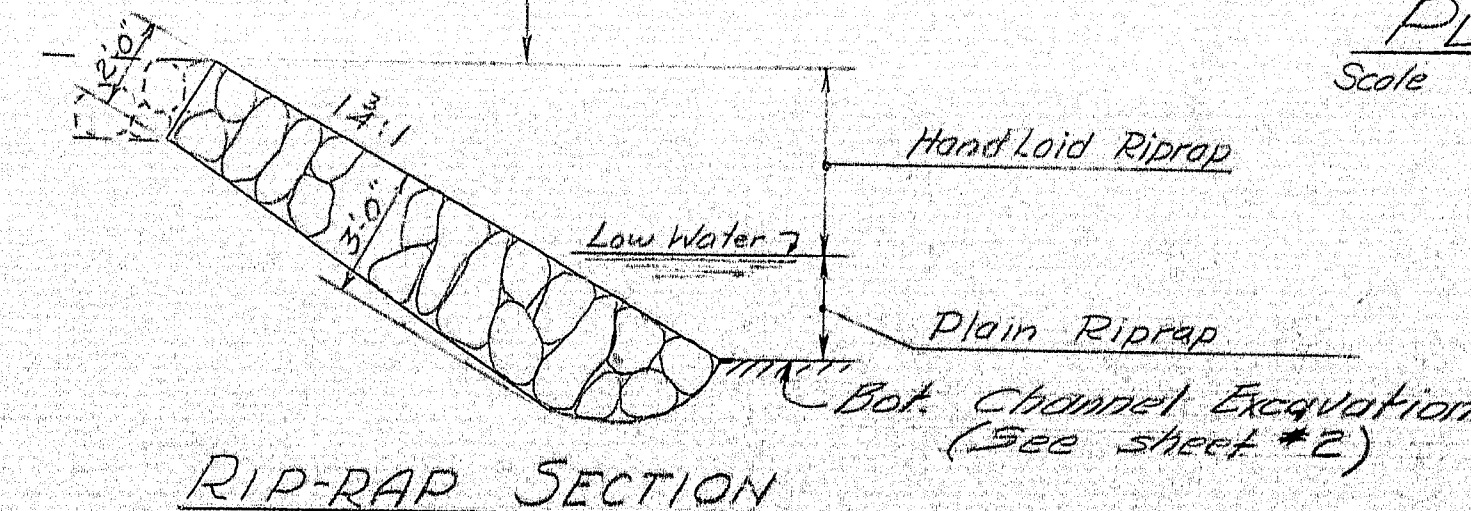
### STRUCTURAL STEEL CLASSIFICATION

Girder Web and Flanges A441  
Stiffeners A36  
Bearing Pedestals A36 or A307  
Anchor Bolts A36  
All other A36



SECTION A-A  
Grouted Rip-rap Gutter

El. 213.5 Abutment #1  
El. 212.9 Abutment #2



RIP-RAP SECTION

PLAN  
Scale 1"=30'

### CURVE DATA

PI Sta 160+26.73  
L 133.11'  
T 564.07'  
E 159.43'  
R 2261.65'

Sta 159+21 Limit Line for  
Payment for Excavation under  
Item 206.12 Structural Earth  
Excavation Channel.  
(For gutter and live slope)  
at upstream wing  
abutment No. 1.

Grout Riprap under drain in the  
location shown. Depress surface  
2" center about 6" to drain.

Construction #

### NOTE:

Structural Earth Excavation-Drainage  
and Riprap Structures for plan (rip-rap),  
Structural Earth Excavation, Abutments  
and Retaining Walls and Structural  
Earth Excavation Channel, shall be  
done in accordance with Section 206  
of the Standard Specifications.  
All of the above Excavation will  
be paid for under Item 206.12  
Structural Earth Excavation-Channel.

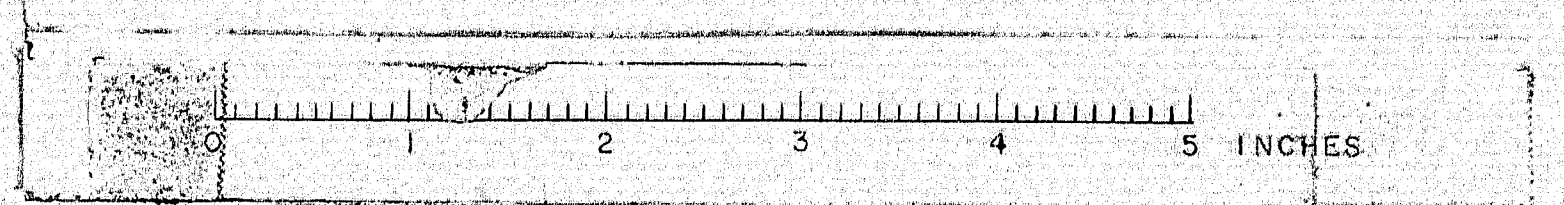
### NOTES

Foundation - Hand-laid rip-rap concrete  
and M.V. concrete or pile, El. 223.19  
Drain - 12" diameter 12' long. Water  
flowing to the 12" x 12" in 12" drain  
troughly from the bridge in  
spring. 12" diameter 12' long. Water  
flowing to the 12" x 12" in 12" drain  
troughly from the bridge in  
spring. 12" diameter 12' long.  
For shape in Channel Excavation  
see Cross-Sections, in # 2.

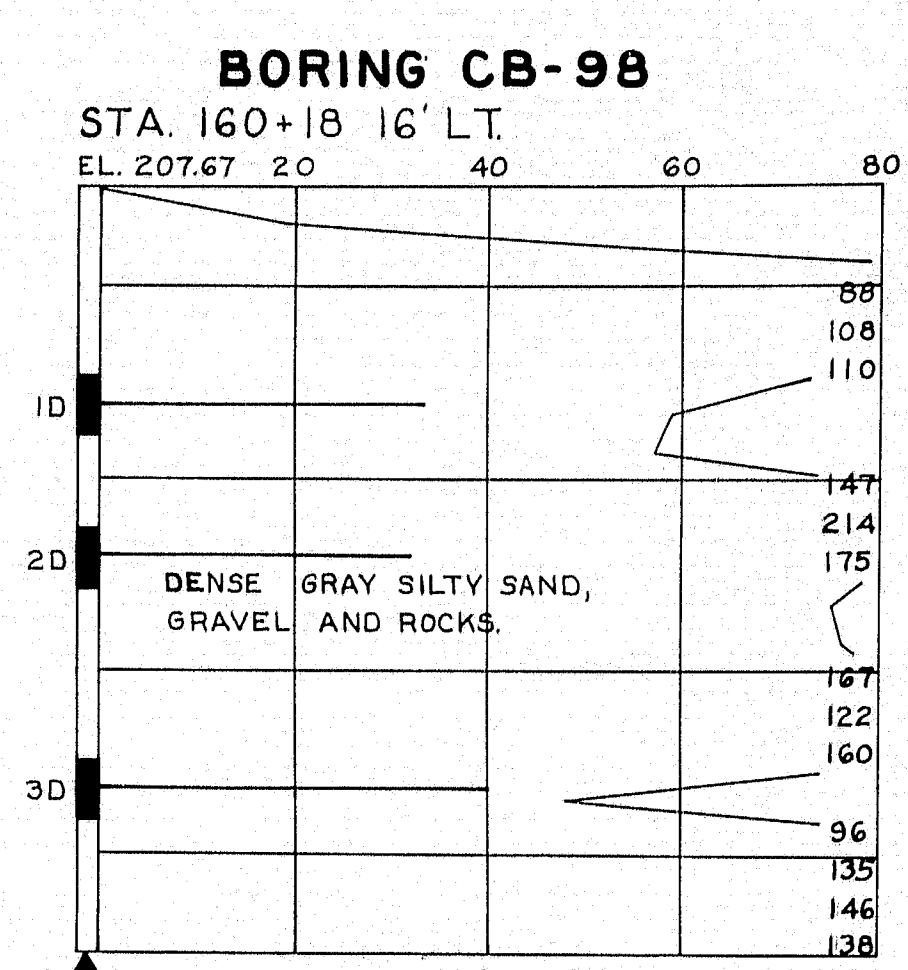
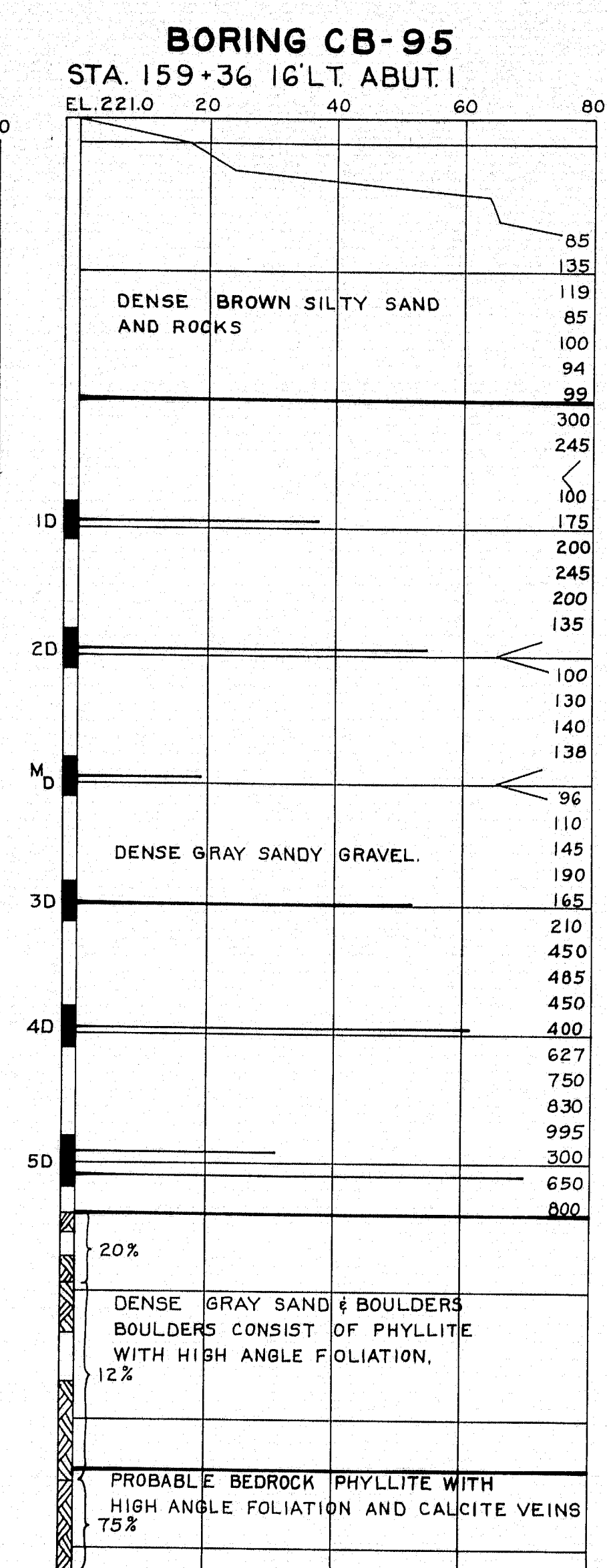
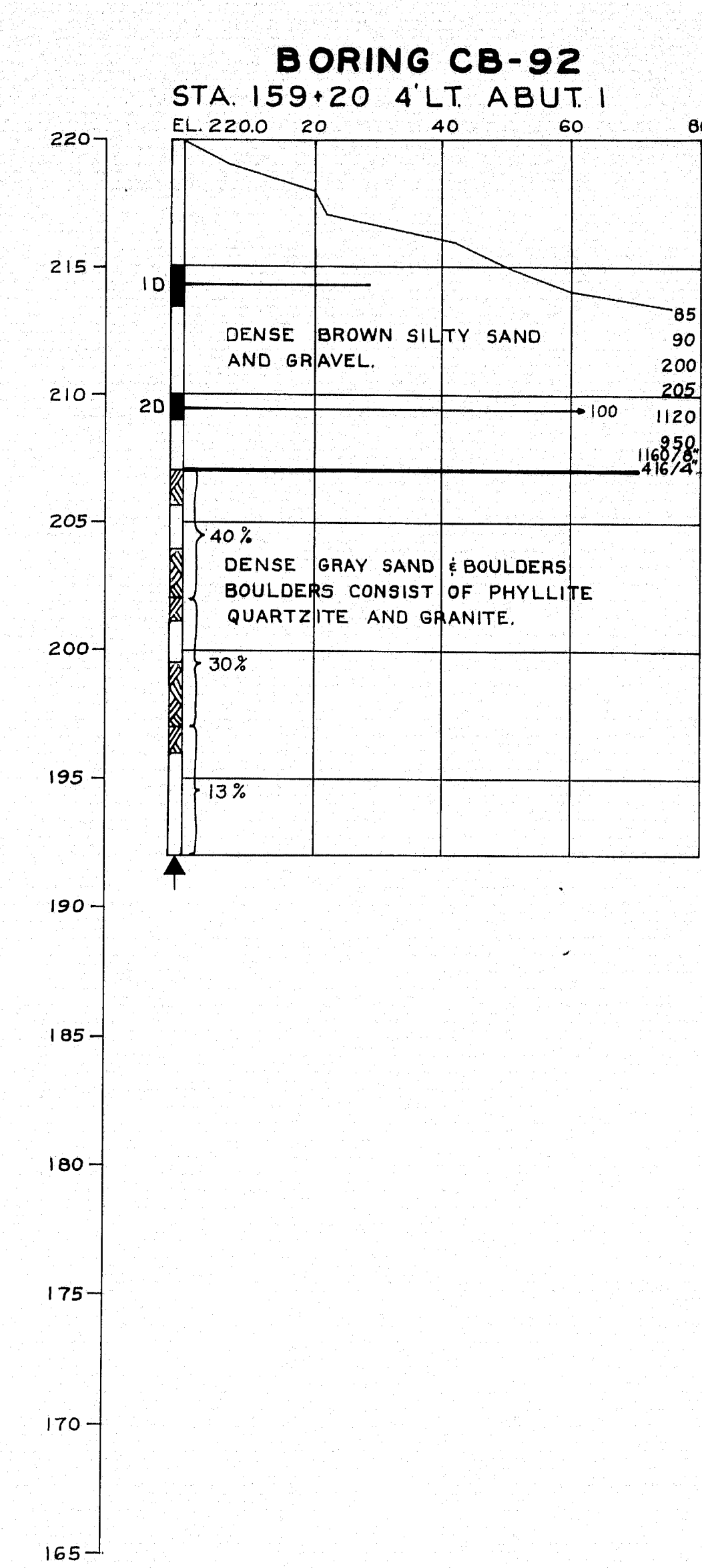
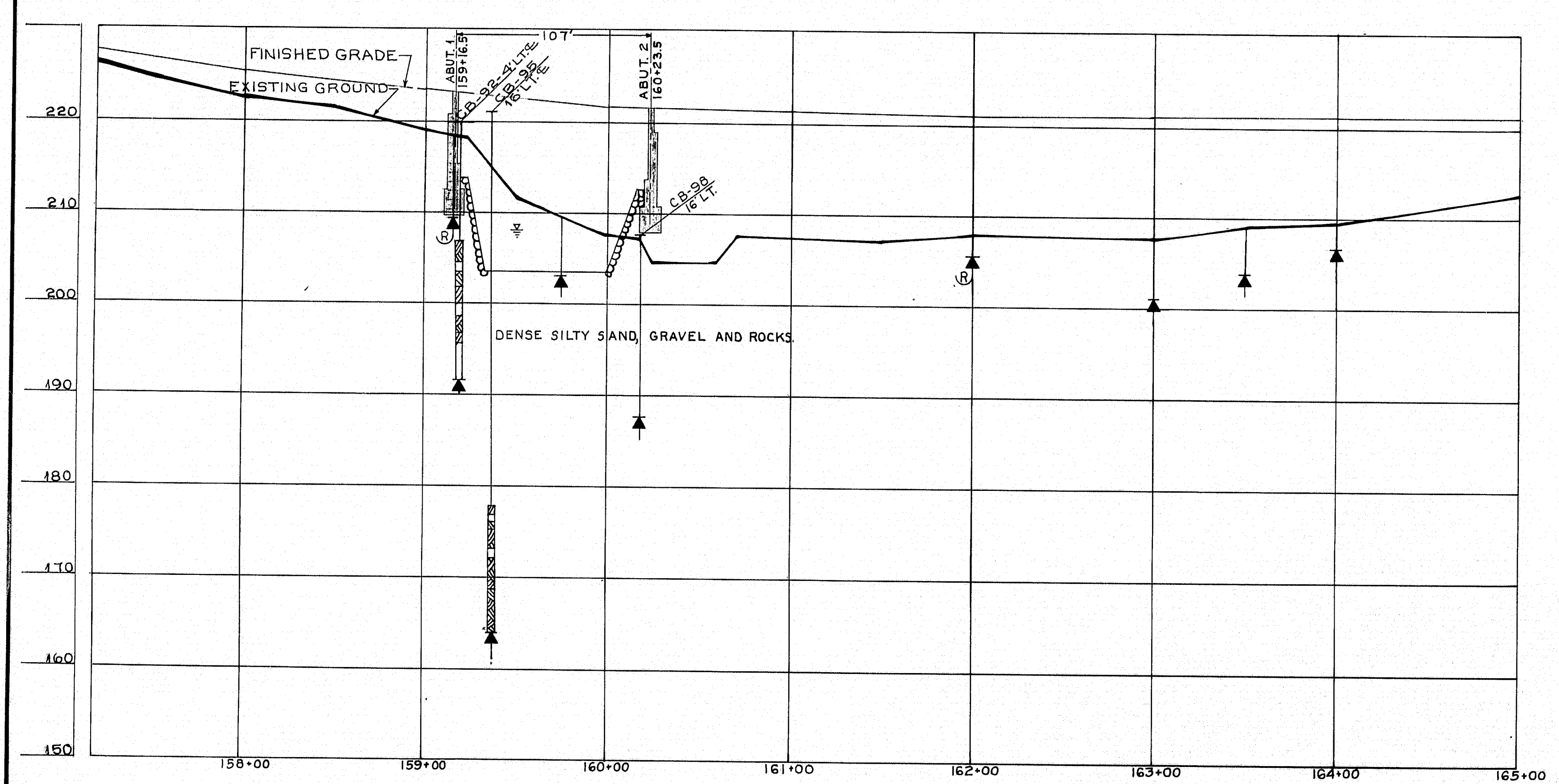
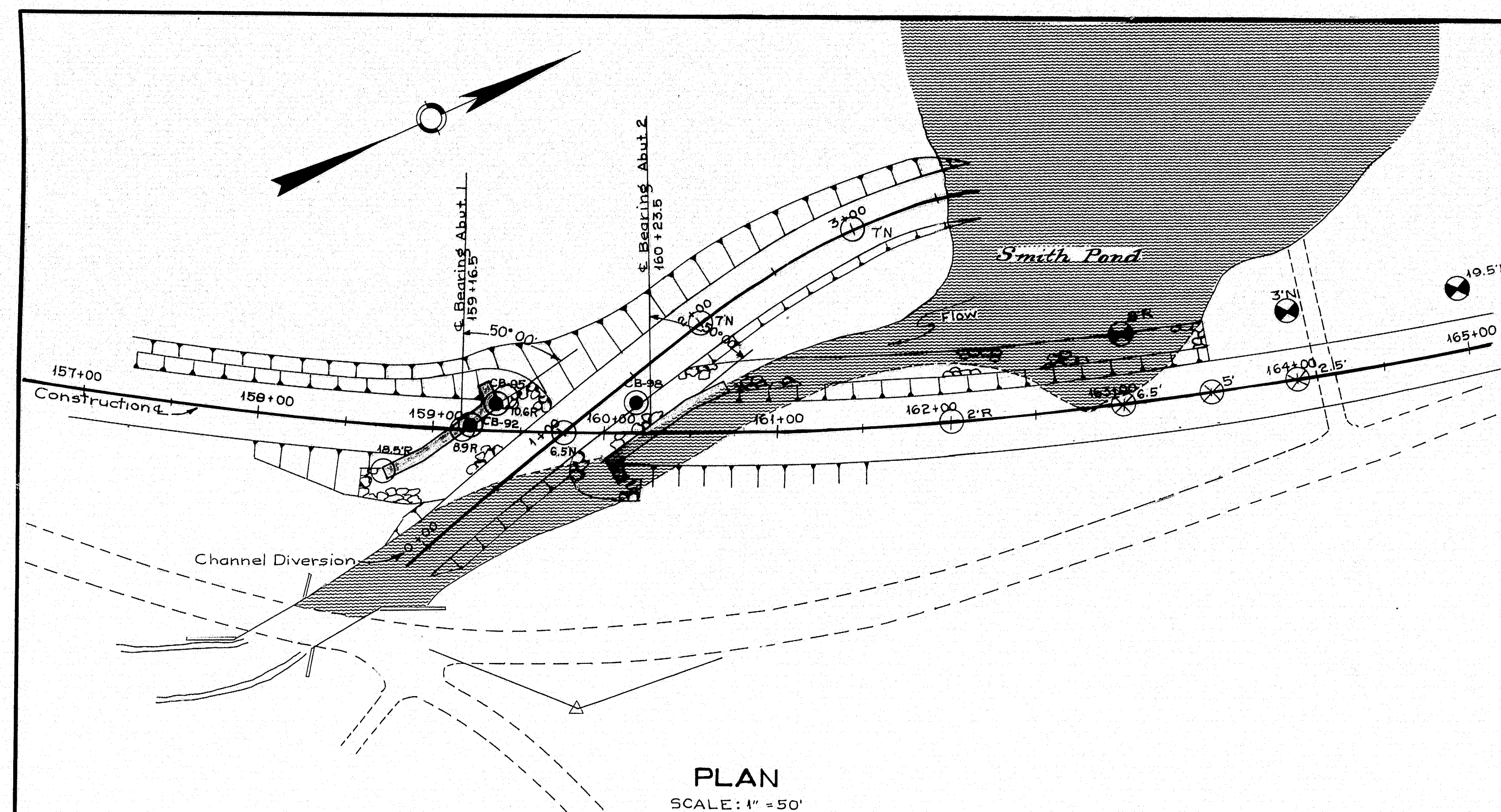
| INDEX OF SHEETS                    |                                    |
|------------------------------------|------------------------------------|
| SHEET                              | DESCRIPTION                        |
| 1                                  | SURVEY PLAN                        |
| 14                                 | FOUNDATION SURVEY                  |
| 2                                  | CROSS-SECTIONS, CHANNEL EXCAVATION |
| 3                                  | LAYOUT PLAN, QUANTITIES            |
| 4                                  | ABUTMENT NO. 1                     |
| 5                                  | ABUTMENT NO. 2                     |
| 6                                  | PILE PLAN, ABUTMENT DETAILS        |
| 7                                  | STRUCTURAL STEEL                   |
| 8                                  | STRUCTURAL STEEL                   |
| 9                                  | SUPERSTRUCTURE                     |
| 10                                 | REINFORCING STEEL & BLOCKING       |
| STANDARD DETAILS                   |                                    |
| BD-104-64                          | - Diaphragms, Armored Joint, Shown |
| BD-107-65                          | - Connectors, Drain                |
| BD-108-65                          | - Steel Rail                       |
| BD-108-65                          | - Aluminum Rail                    |
| - FIELD OFFICE, TYPE "C" Aug. 1965 |                                    |

|                                                                                                                                                                                                                       |                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| DESIGN- GRAY<br>TRACE- GRAY<br>CHECK- GRAY                                                                                                                                                                            | BRIDGE NO. HARNES<br>SURVEY- HARNES<br>PLOT- GRAY |
| STATE HIGHWAY COMMISSION<br>BRIDGE DIVISION<br>SMITH POND BRIDGE<br>OVER<br>WEST BRANCH WESSERUNNSET RIVER<br>IN THE TOWN OF<br>SKOWHEGAN<br>SOMERSET COUNTY<br>SURVEY-PLAN<br>SHEET 1 OF 10 AUGUSTA, MAINE DEC. 1964 |                                                   |

M-2357







**BORING NOTES**

ALL SAMPLES AND VANES ARE MADE AHEAD OF CASING  
CASING SIZE 2 1/2"

NUMBER OF BLOWS REQUIRED TO DRIVE EXTRA HEAVY CASING ONE FOOT WITH 400 FT. LBS. OF ENERGY PER BLOW.

LOCATION OF SAMPLE OR SAMPLE ATTEMPT

NUMBER AND TYPE OF DRY SAMPLE

S & H SAMPLER #1290'S

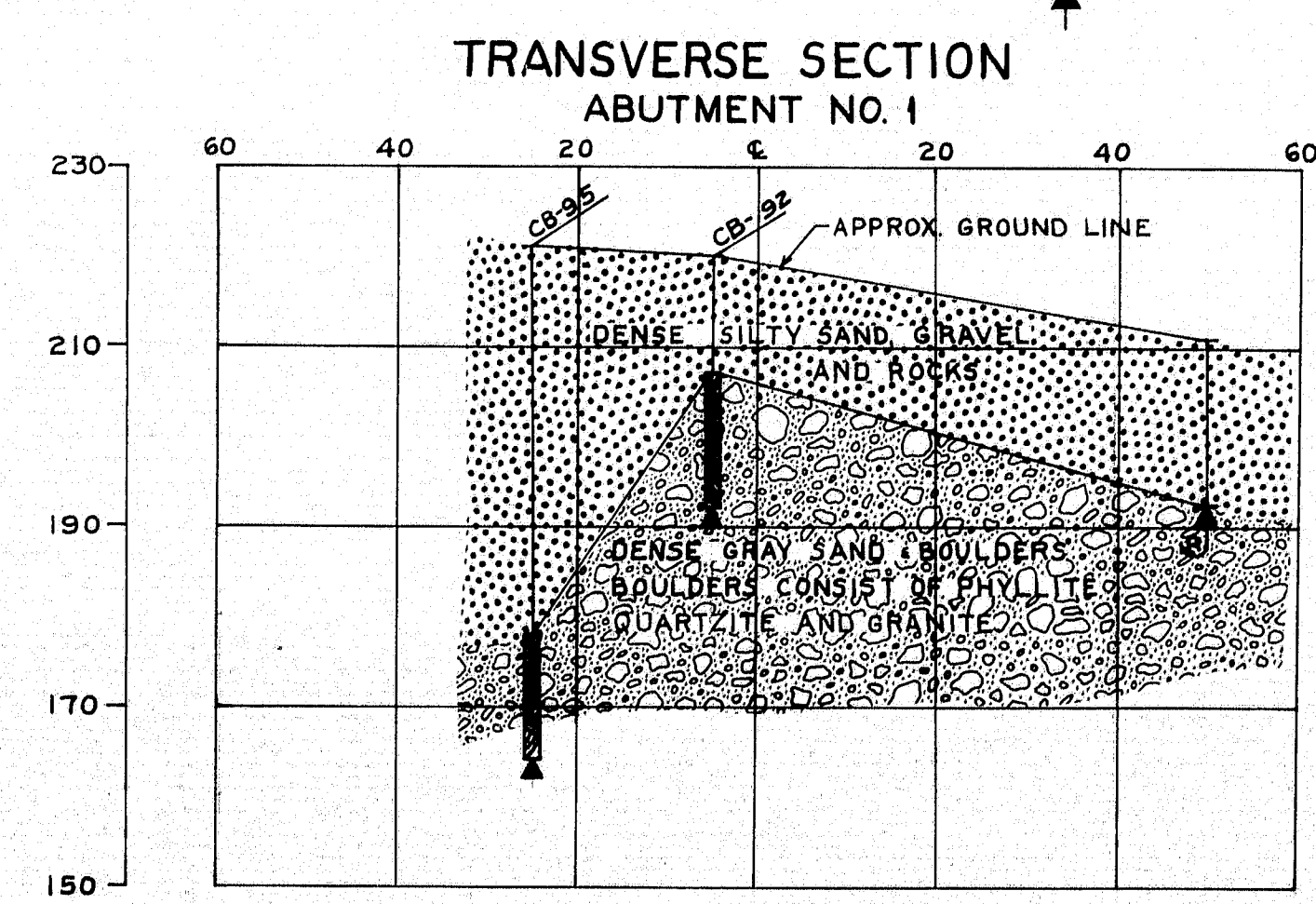
UNSUCCESSFUL SAMPLE ATTEMPT AND TYPE OF SAMPLER.

NUMBER OF BLOWS REQUIRED TO DRIVE SPOON ONE FOOT WITH 350 FT. LBS. OF ENERGY PER BLOW.

BOTTOM OF BORING (MAY NOT BE BOTTOM OF SOIL STRATA).

REFUSAL OF DRILL RODS OR CASING (MAY NOT BE LEDGE)

LOCATIONS CORED BY DIAMOND BIT AND PER CENT RECOVERY OF ROCK.



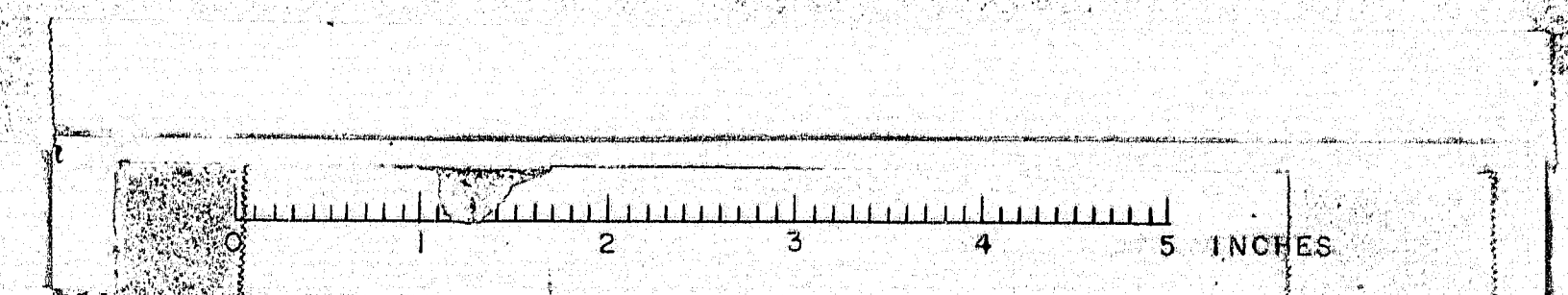
DESIGN—*Seely, Division*  
TRACE—  
CHECK—

BRIDGE NO.  
SURVEY—  
PLOT—

STATE HIGHWAY COMMISSION  
BRIDGE DIVISION

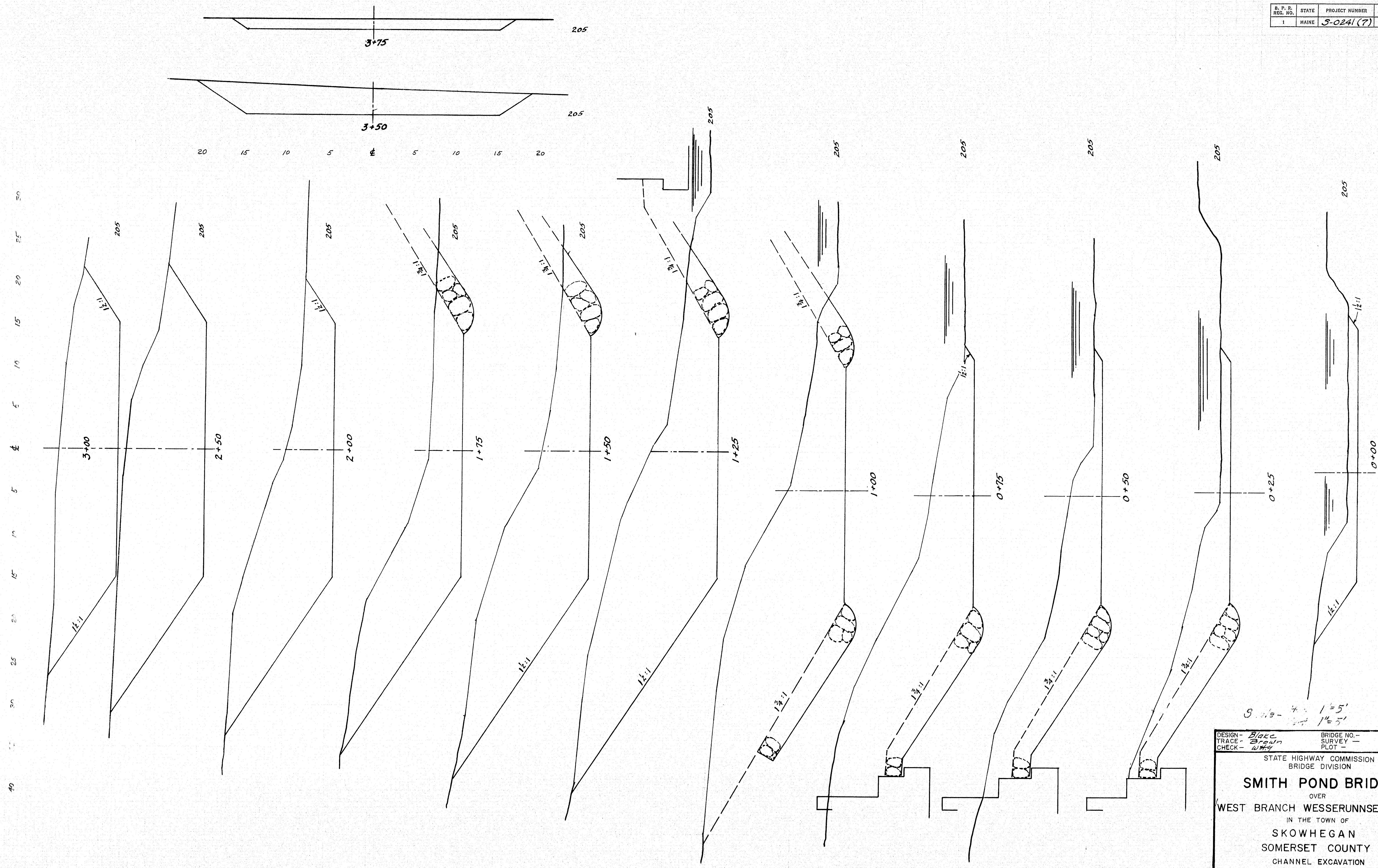
**SMITH POND BRIDGE**  
OVER  
WEST BRANCH WESSERUNNSET RIVER  
IN THE TOWN OF  
**SKOWHEGAN**  
SOMERSET COUNTY  
FOUNDATION SURVEY

M-2358





| B. P. D.<br>REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL<br>SHEETS |
|----------------------|-------|----------------|-----------|-----------------|
| 1                    | MAINE | 5-0241 (7)     | 14        | 58              |



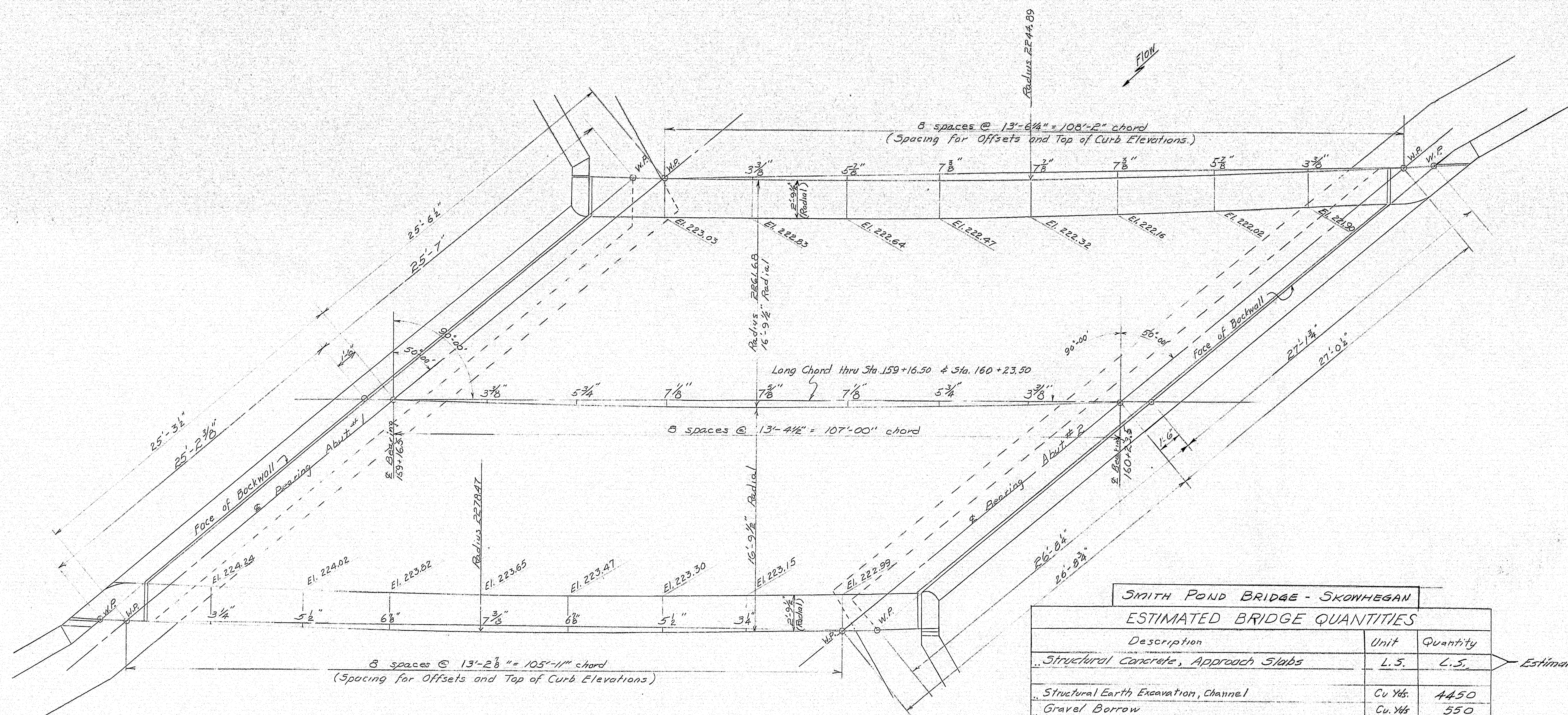
DESIGN - *Blanc*  
 TRACE - *Brown*  
 CHECK - *W.H.*

BRIDGE NO. -  
 SURVEY -  
 PLOT -

STATE HIGHWAY COMMISSION  
 BRIDGE DIVISION  
**SMITH POND BRIDGE**  
 OVER  
 WEST BRANCH WESSERUNNSET RIVER  
 IN THE TOWN OF  
 SKOWHEGAN  
 SOMERSET COUNTY  
 CHANNEL EXCAVATION  
 SHEET 2 OF 10 AUGUSTA, MAINE DEC. 1964

M-2359





### LAYOUT PLAN

Note - Top of curb Elevations are final finished grades.

### SMITH POND BRIDGE - SKOWHEGAN

#### ESTIMATED BRIDGE QUANTITIES

| Description                                            | Unit     | Quantity |
|--------------------------------------------------------|----------|----------|
| Structural Concrete, Approach Slabs                    | L.S.     | L.S.     |
| Structural Earth Excavation, Channel                   | Cu Yds.  | 4450     |
| Gravel Borrow                                          | Cu Yds.  | 550      |
| Hot Bituminous Pavement (Grading C-1)                  | Tons     | 38       |
| Structural Concrete, Abutments and Ret. Walls          | Cu Yds.  | 275      |
| Structural Concrete, Ret. & Abut. Slabs on St. Bridges | L.S.     | L.S.     |
| Curing Box for Concrete Cylinders                      | Each     | 1        |
| Structural Steel, Fabricated and Delivered             | L.S.     | L.S.     |
| Structural Steel, Erection                             | L.S.     | L.S.     |
| Field Painting, Structural Steel                       | L.S.     | L.S.     |
| Reinforcing Steel, Fabricated & Delivered              | Lbs.     | 42,500   |
| Reinforcing Steel, Placing                             | Lbs.     | 42,500   |
| Shear Connectors                                       | L.S.     | L.S.     |
| Steel H-Beam Piles, 42 lbs/ft                          | Lin. Ft. | 720      |
| Bridge Railing                                         | Lin. Ft. | 216      |
| Membrane Waterproofing                                 | Sq. Yds. | 360      |
| Vertical Bridge Curb, Type I                           | Lin. Ft. | 242      |
| Plain Riprap                                           | Cu. Yds. | 200      |
| Hand Laid Riprap                                       | Cu. Yds. | 350      |
| Epoxy Resin Surface Sealant                            | Sq. Yds. | 152      |
| Portland Cement for Riprap Grout                       | Bbls.    | 35       |
| Field Office, Type C                                   | Each     | 1        |

Estimated Quantity = 20 Cu. Yds.

Estimated Quantity = 117 Cu. Yds.

Estimated Weight of Structural Steel, nominal sizes, (Does not include welding).

Est. Wt. = 102,100 lbs.

DESIGN - Blake  
TRACE - F.B.B.  
CHECK - W.H.V.

BRIDGE NO.  
SURVEY -  
PLOT -

STATE HIGHWAY COMMISSION  
BRIDGE DIVISION

SMITH POND BRIDGE

OVER

WEST BRANCH WESSERUNNSET RIVER

IN THE TOWN OF

SKOWHEGAN

SOMERSET COUNTY

LAYOUT PLAN & ESTIMATE OF QUANTITIES

SHEET 3 OF 10 AUGUSTA, MAINE DEC, 1964

M-2360

0 1 2 3 4 5 INCHES









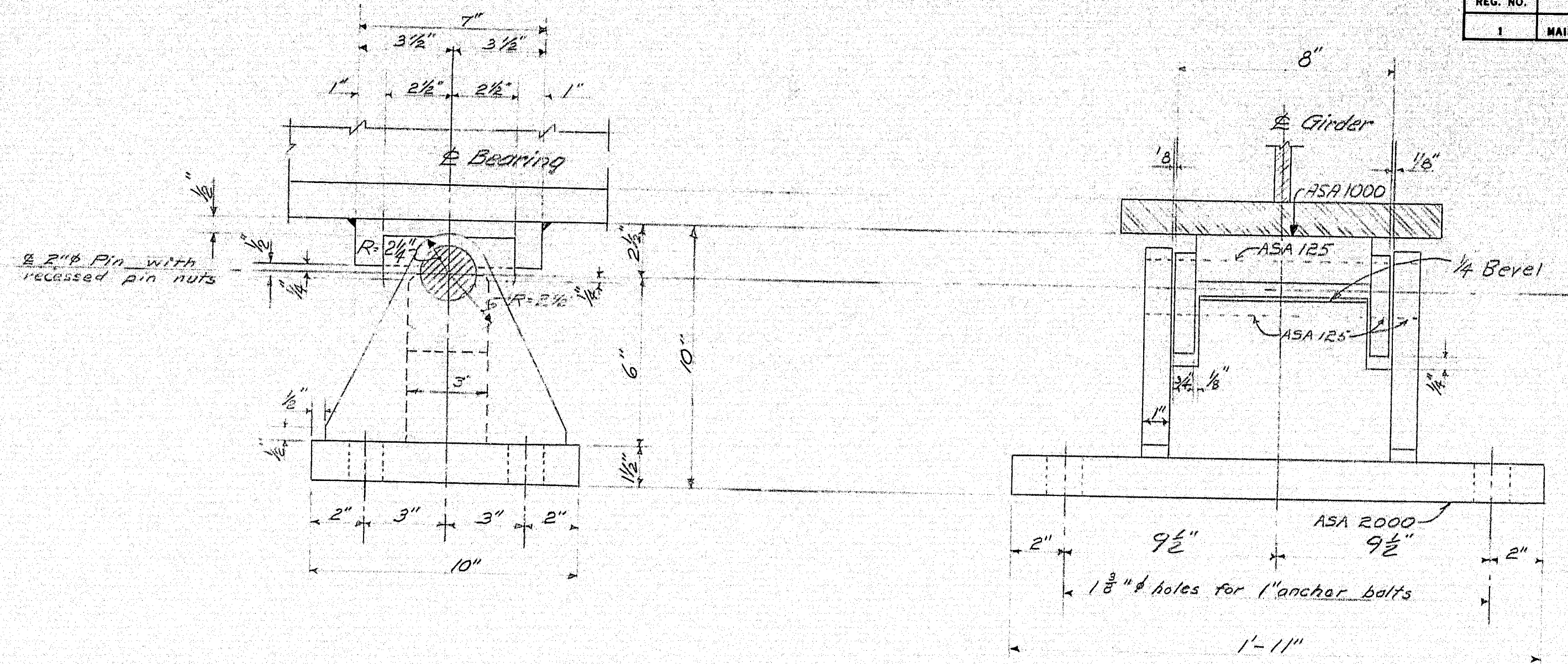
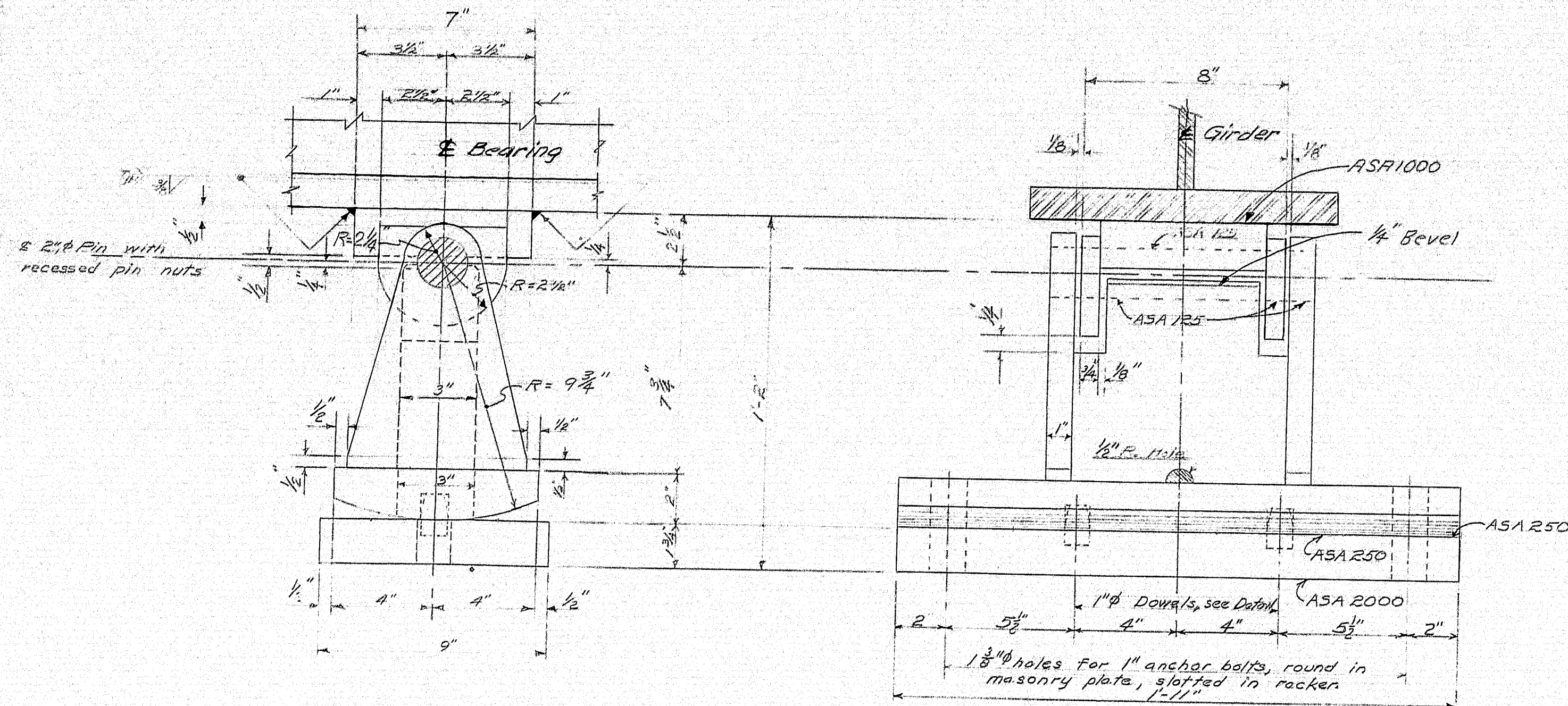






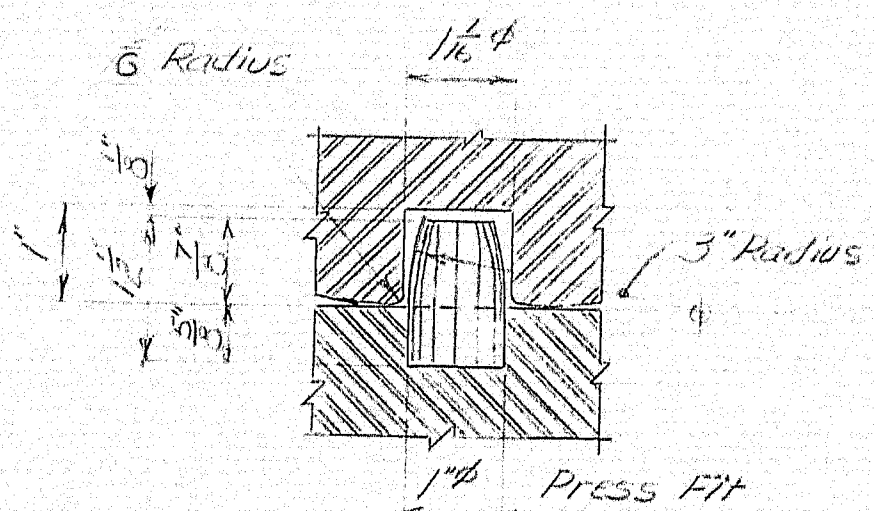






EXPANSION PEDESTAL - EPI  
A required

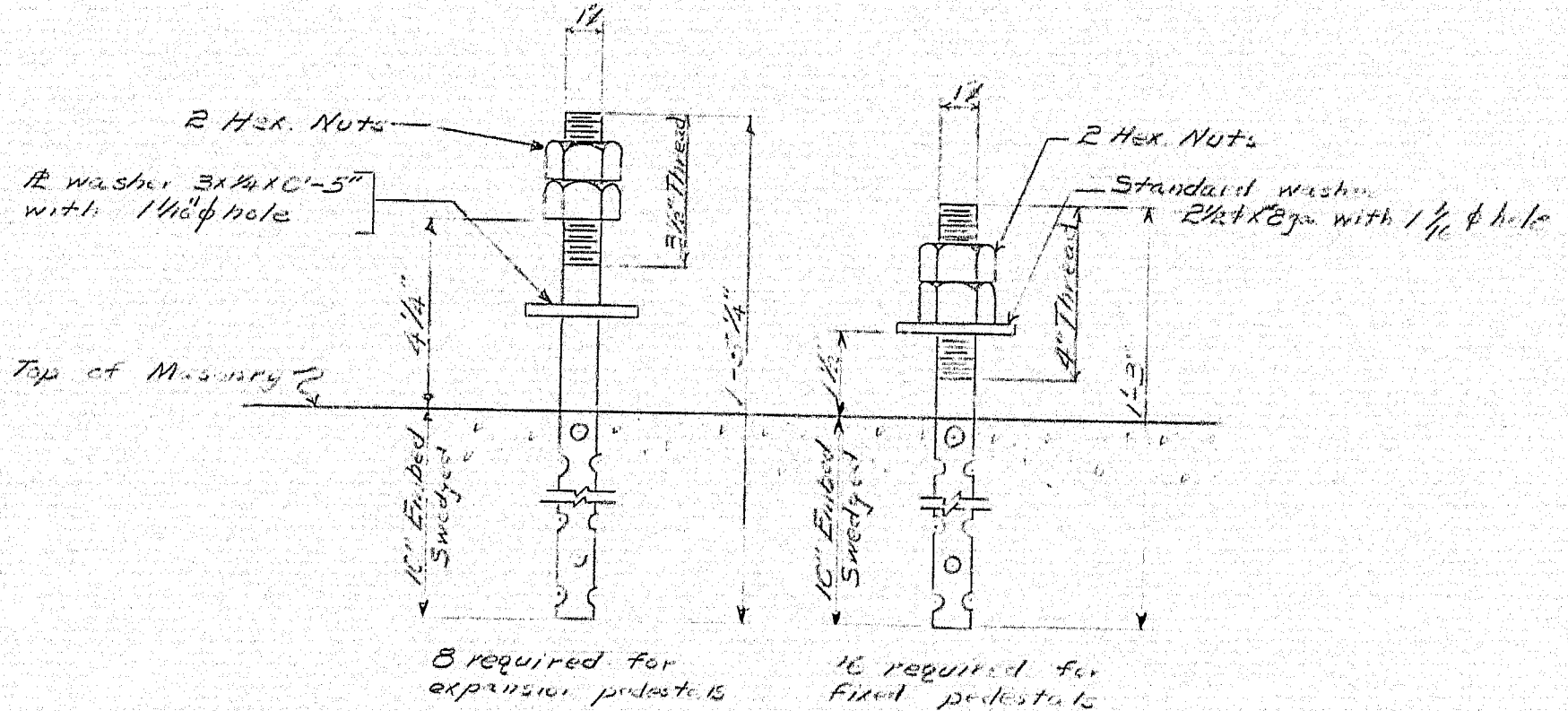
FIXED PEDESTAL - FPI  
A required



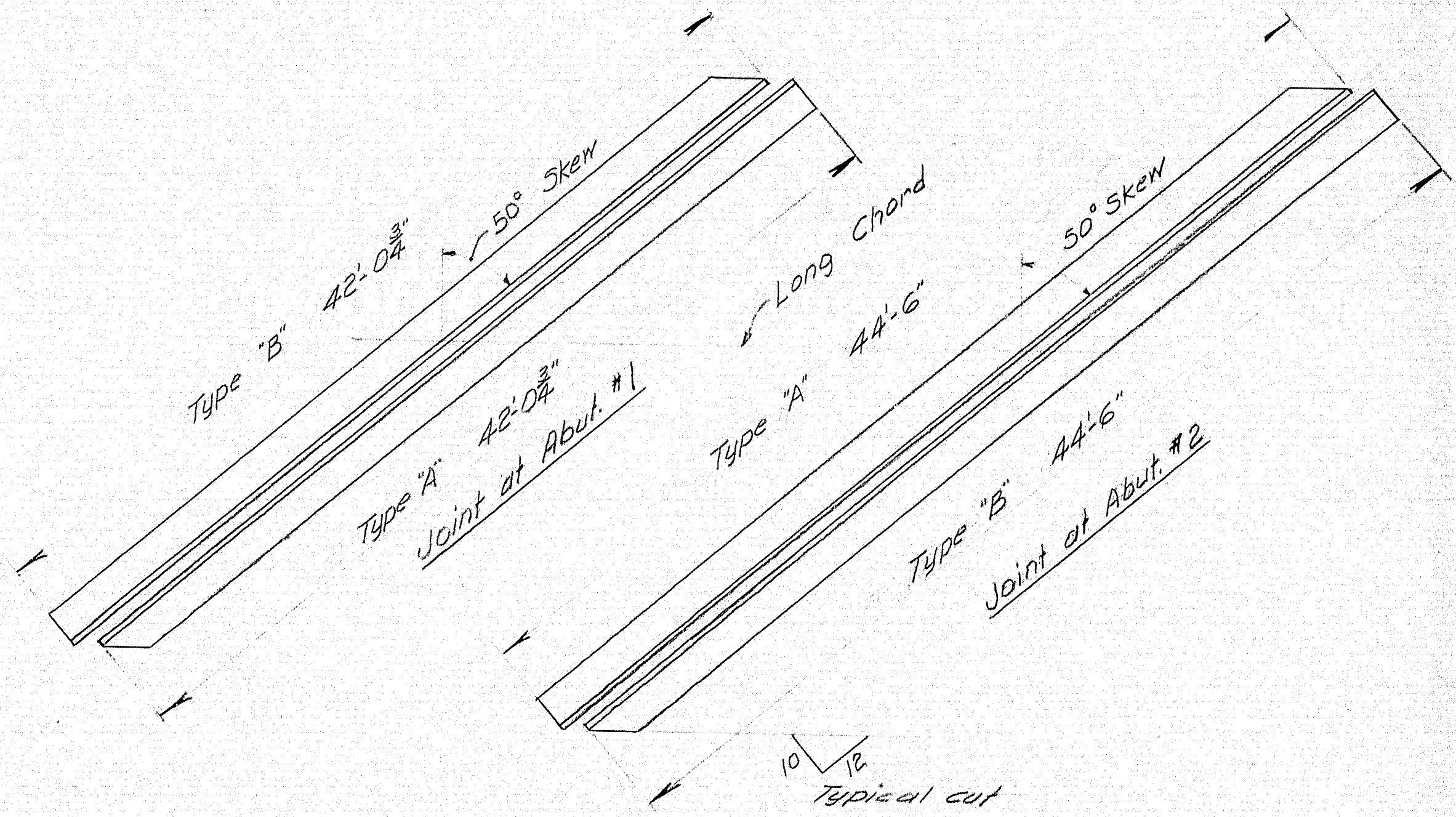
DOWEL DETAIL

GENERAL NOTES

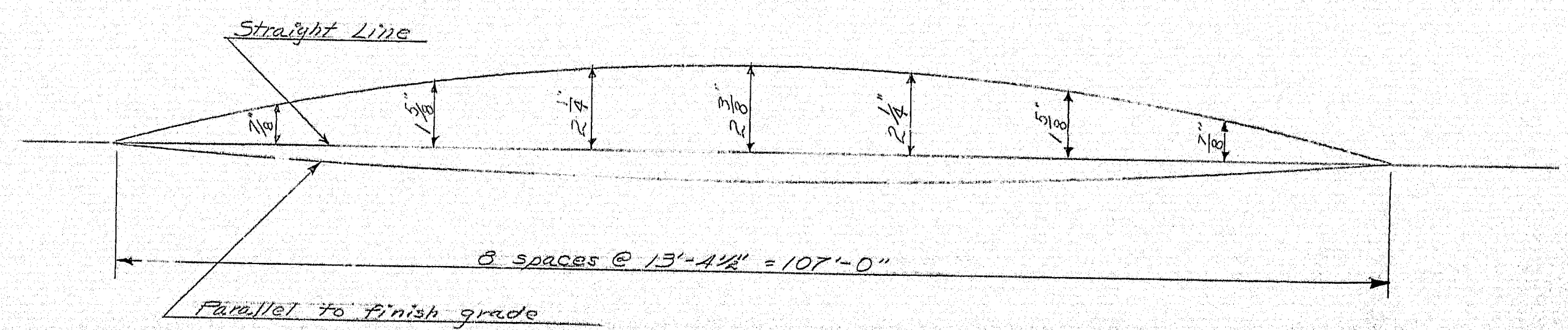
Fabricate pedestals with  $\frac{3}{16}$ " fillet shop welds.  
At the location of bearing pedestals the concrete bridge seats shall be dressed one inch larger all around than size of masonry plates and to exact elevations shown on the plans. If the dressed areas are below the surrounding bridge seat a small channel shall be cut to the edge of the bridge seat for drainage where required by the engineer. Channels shall have a minimum width of 2" and a minimum slope of one half inch per foot. No separate payment for this work will be made as it shall be considered incidental to contract items.



ANCHOR BOLT DETAIL



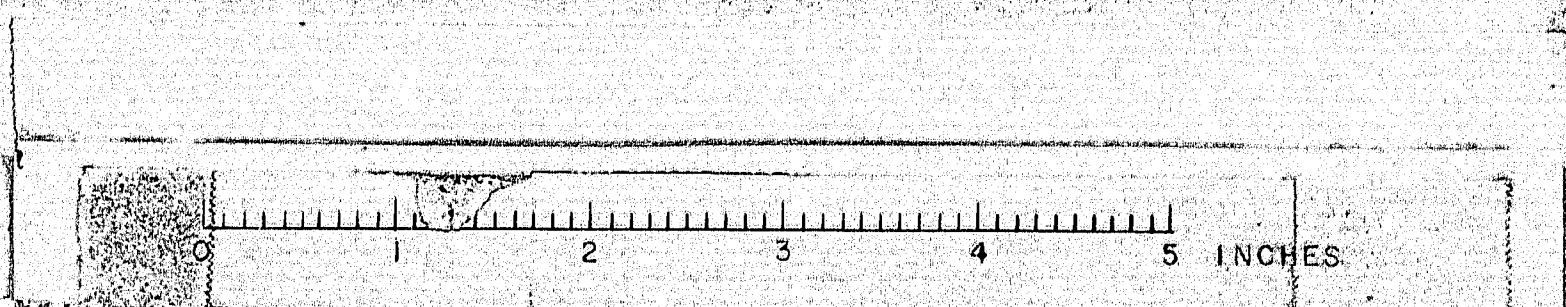
ARMORED JOINT  
5T 4 WF 24 (Typical)  
See Standard Details BD 104-64



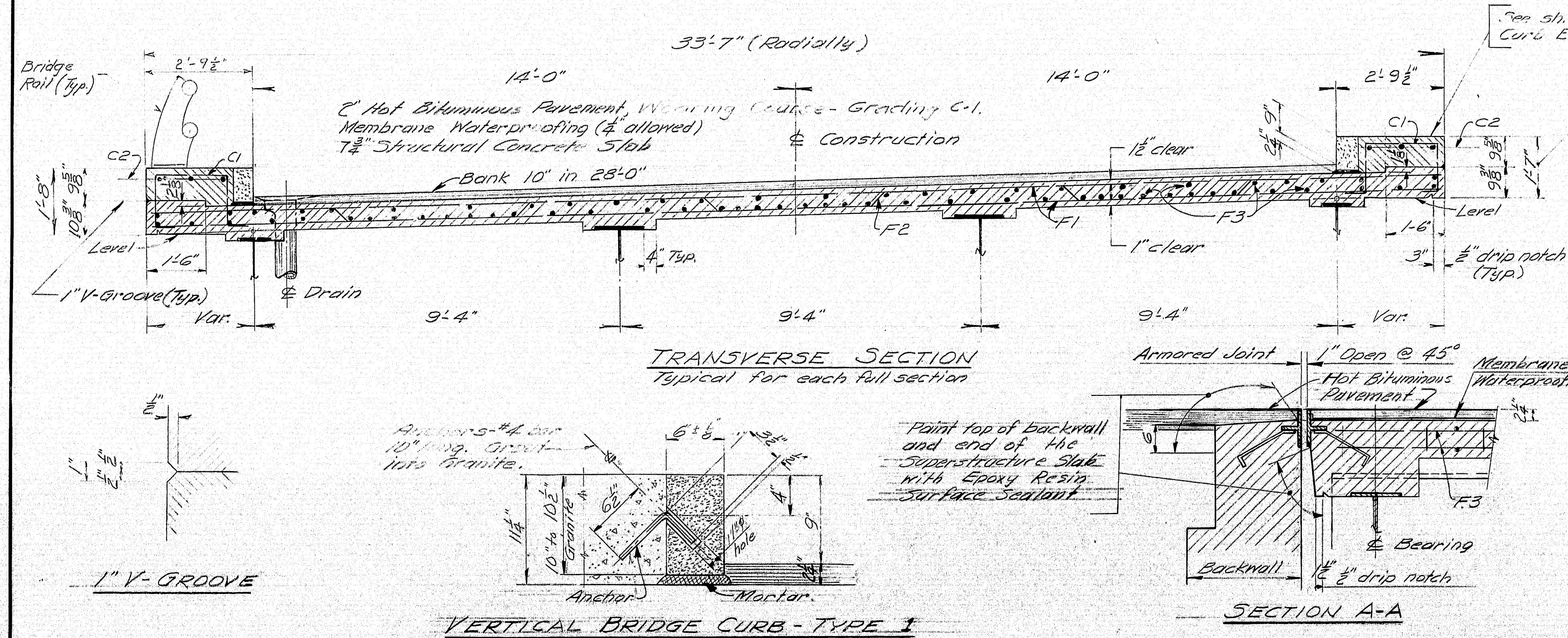
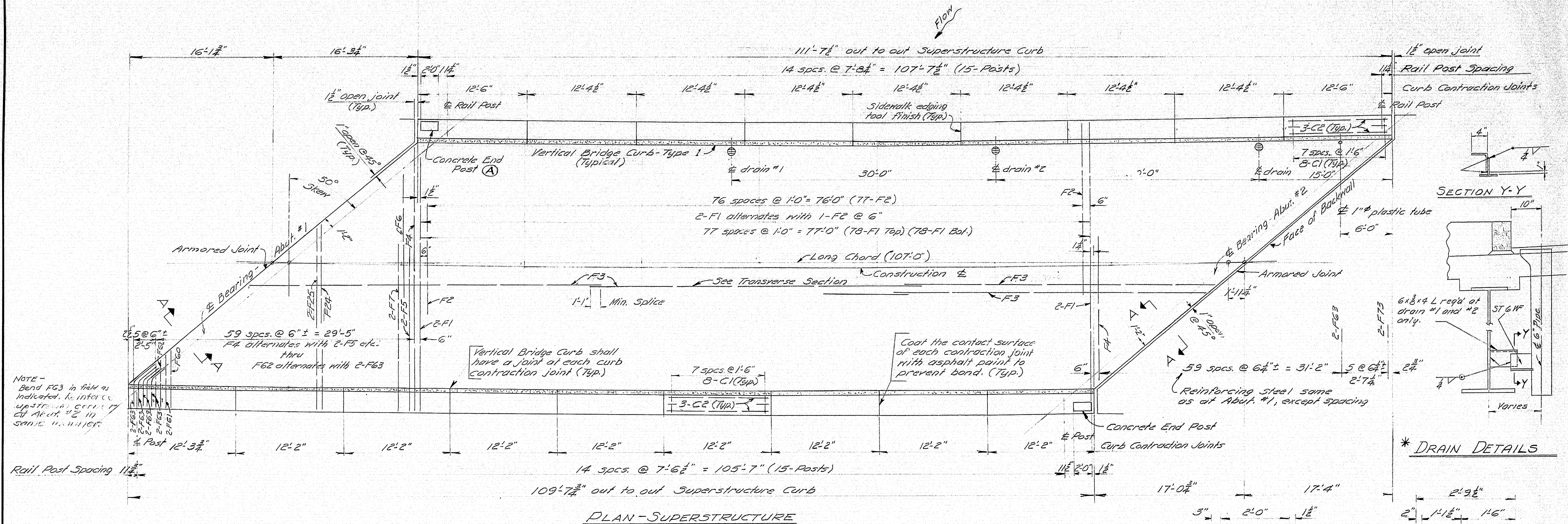
CAMBER DIAGRAM  
Typical all girders

|                                             |            |
|---------------------------------------------|------------|
| DESIGN - W. Blake                           | BRIDGE NO. |
| TRACE - R. G.                               | SURVEY -   |
| CHECK - W. B.                               | PLOT -     |
| STATE HIGHWAY COMMISSION<br>BRIDGE DIVISION |            |
| SMITH POND BRIDGE                           |            |
| OVER                                        |            |
| WEST BRANCH WESSERUNNSET RIVER              |            |
| IN THE TOWN OF                              |            |
| SKOWHEGAN                                   |            |
| SOMERSET COUNTY                             |            |
| STRUCTURAL STEEL                            |            |
| SHEET 8 OF 10, AUGUSTA, MAINE JAN. 1965     |            |

M-2365







## GENERAL NOTES

The 1<sup>st</sup> plastic tube at the low point of slab shall extend thru slab for 2'-0". Do not cover tube with waterproofing.

No direct payment will be made for this work. It shall be considered incidental to Item 502.26, Structural Concrete Roadway and Sidewalk Slabs on Steel Bridges.

Use "Top of Curb" elevations as shown on St. No. 3. for constructing elevations to final grade.

3 Compensators required at Concrete End Post (A).  
The compensators called for shall be (PAH/3) as  
manufactured by the Malleable Iron Fittings Company  
or equivalent. Payment for the compensators will be  
included under Item 606.14 Guard Rail Type 2c.

CONCRETE END POST (TYPICAL)

|                          |            |
|--------------------------|------------|
| DESIGN - <i>M. Blake</i> | BRIDGE NO. |
| TRACE - <i>G. W. C.</i>  | SURVEY -   |
| CHECK - <i>W. H. Y.</i>  | PLAN -     |

STATE HIGHWAY COMMISSION  
BRIDGE DIVISION

**SMITH POND BRIDGE**

OVER

**WEST BRANCH WESSERUNNSET RIVER**

IN THE TOWN OF

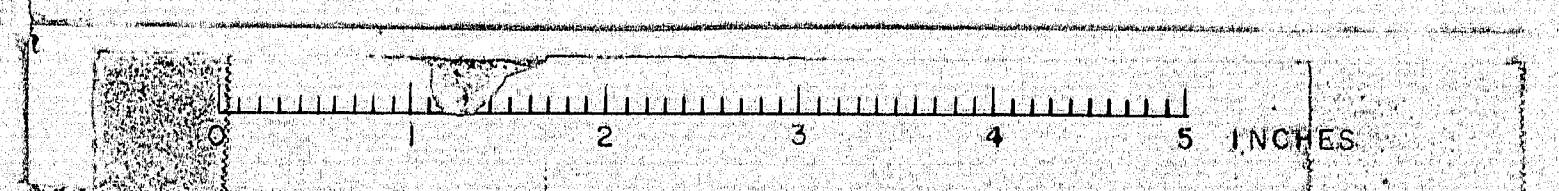
**SKOWHEGAN**

**SOMERSET COUNTY**

SUPERSTRUCTURE

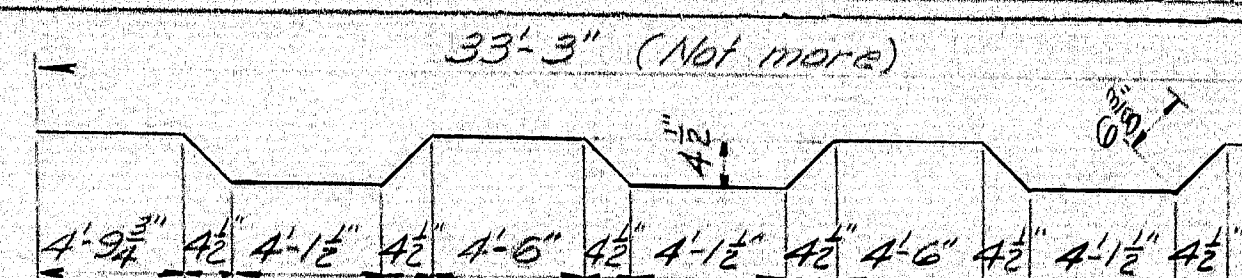
\* Revised July 5, 1966

M-2366





# SUPERSTRUCTURE



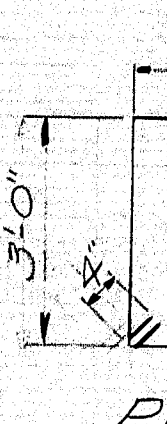
F4 = 6'-4 1/2"  
F6 = 5'-6"  
F8 = 4'-8"  
F10 = 3'-10 1/2"  
F12 = 3'-0"  
F14 = 2'-8"  
F16 = 1'-4"

F18 = 5'-4 1/2"  
F20 = 4'-6 1/2"  
F22 = 3'-8 1/2"  
F24 = 2'-10 1/2"  
F26 = 2'-0"

F28 = 5'-8"  
F30 = 4'-10"  
F32 = 4'-0"  
F34 = 3'-2"  
F36 = 2'-4"  
F38 = 1'-6"

F40 = 5'-6"  
F42 = 4'-8"  
F44 = 3'-10"  
F46 = 3'-0"  
F48 = 2'-2"

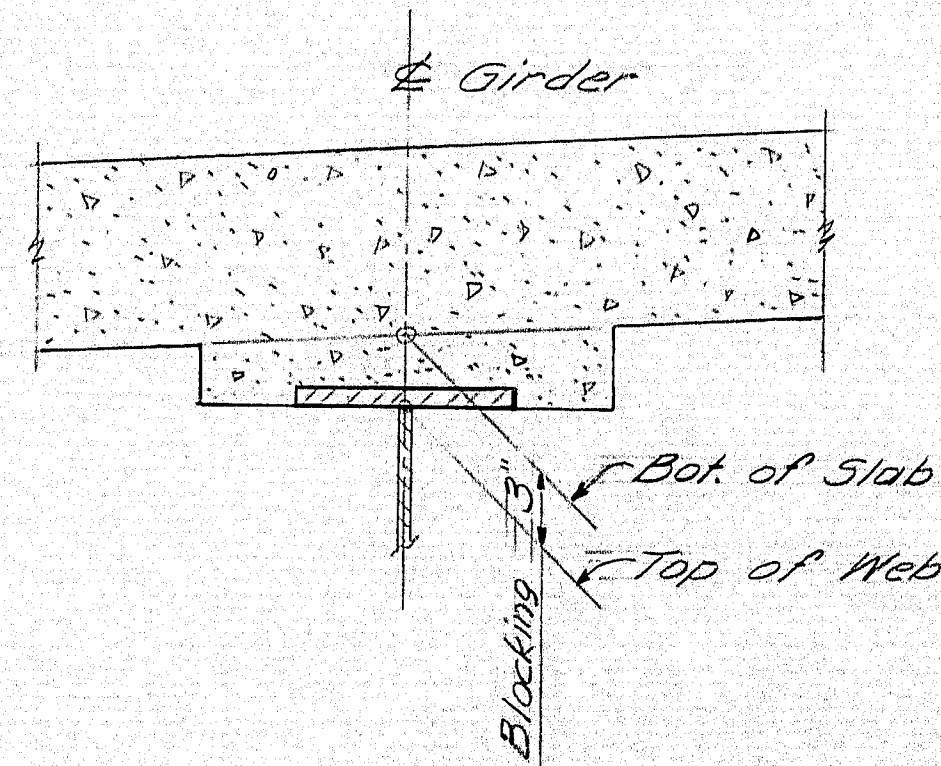
F50 = 5'-10 1/2"  
F52 = 5'-0"  
F54 = 4'-2"  
F56 = 3'-4 1/2"  
F58 = 2'-6 1/2"  
F60 = 1'-8 1/2"  
F62 = 0'-10 1/2"



C1

| MARK | SIZE | No. | LENGTH     | LOCATION           |
|------|------|-----|------------|--------------------|
| F2   | #6   | 77  | 3'-4 1/2"  | Slab               |
| F4   | #6   | 2   | 3'-1 1/2"  |                    |
| F6   | #6   | 1   | 3'-0 1/2"  |                    |
| F8   | #6   | 1   | 2'-9 1/4"  |                    |
| F10  | #6   | 1   | 2'-8 1/2"  |                    |
| F12  | #6   | 1   | 2'-7 1/8"  |                    |
| F14  | #6   | 1   | 2'-6 1/10" |                    |
| F16  | #6   | 1   | 2'-6 1/10" |                    |
| F18  | #6   | 1   | 2'-5 1/10" |                    |
| F20  | #6   | 1   | 2'-4 1/2"  |                    |
| F22  | #6   | 1   | 2'-3 1/4"  |                    |
| F24  | #6   | 1   | 2'-2 1/6"  |                    |
| F26  | #6   | 1   | 2'-1 1/8"  |                    |
| F28  | #6   | 1   | 2'-0 1/8"  |                    |
| F30  | #6   | 1   | 1'-9 1/10" |                    |
| F32  | #6   | 1   | 1'-9 1/10" |                    |
| F34  | #6   | 1   | 1'-8 1/2"  |                    |
| F36  | #6   | 1   | 1'-7 1/4"  |                    |
| F38  | #6   | 1   | 1'-6 1/6"  |                    |
| F40  | #6   | 1   | 1'-5 1/5"  |                    |
| F42  | #6   | 1   | 1'-4 1/7"  |                    |
| F44  | #6   | 1   | 1'-3 1/9"  |                    |
| F46  | #6   | 1   | 1'-2 1/11" |                    |
| F48  | #6   | 1   | 1'-2 1/11" |                    |
| F50  | #6   | 1   | 1'-2 1/11" |                    |
| F52  | #6   | 1   | 1'-2 1/11" |                    |
| F54  | #6   | 1   | 1'-2 1/11" |                    |
| F56  | #6   | 1   | 1'-2 1/11" |                    |
| F58  | #6   | 1   | 1'-2 1/11" |                    |
| F60  | #6   | 1   | 1'-2 1/11" |                    |
| F62  | #6   | 1   | 1'-2 1/11" |                    |
| P1   | #5   | 6   | 8'-2"      | Concrete End Posts |
| C1   | #5   | 144 | 5'-5"      | Curbs              |

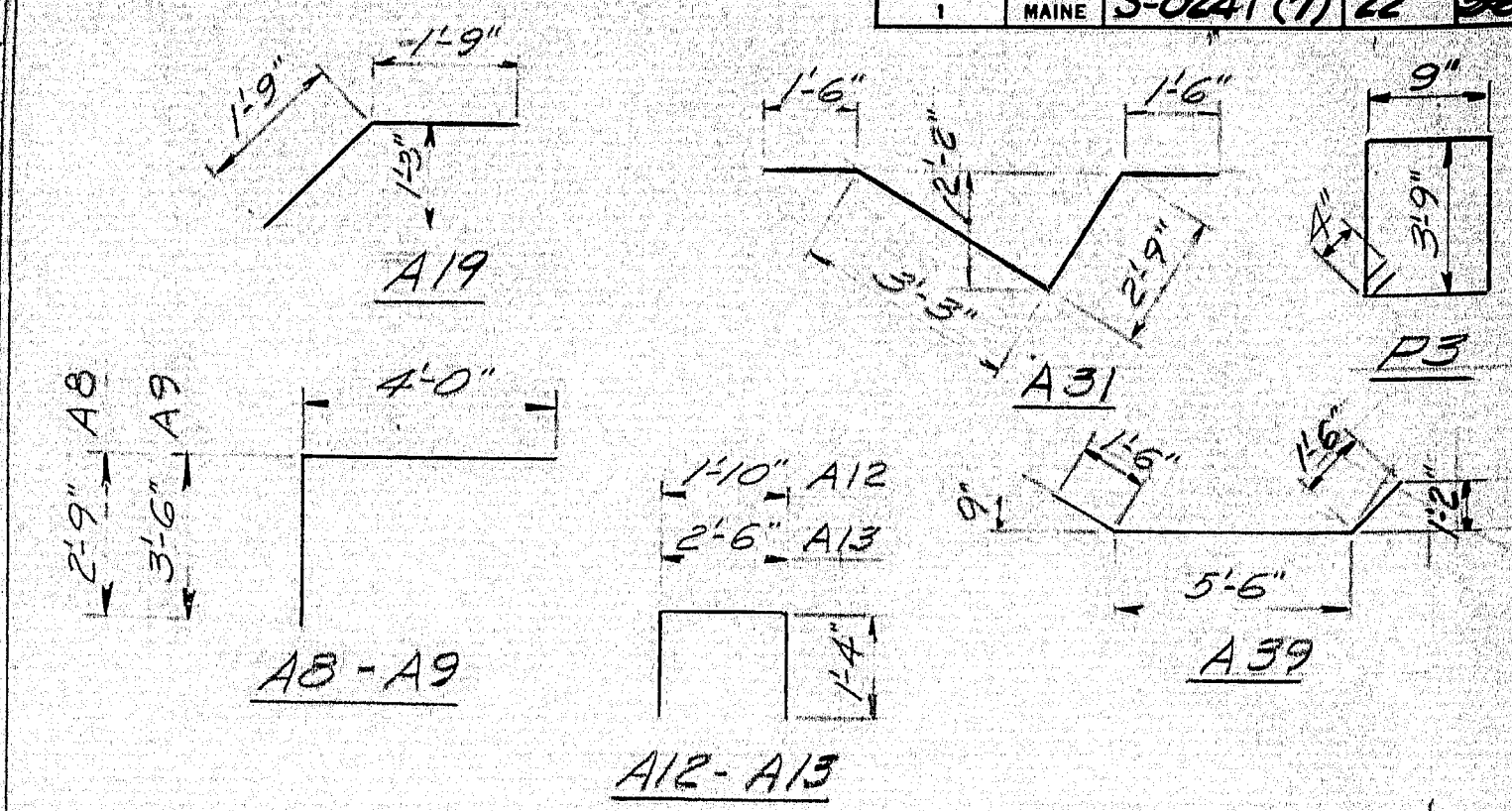
| MARK | SIZE | No. | LENGTH  | LOCATION           |
|------|------|-----|---------|--------------------|
| F1   | #5   | 156 | 33'-3"  | Slab               |
| F3   | #5   | 204 | 37'-6"  |                    |
| F5   | #5   | 4   | 29'-8"  |                    |
| F7   | #5   | 1   | 28'-10" |                    |
| F9   | #5   | 1   | 28'-0"  |                    |
| F11  | #5   | 1   | 27'-2"  |                    |
| F13  | #5   | 1   | 26'-4"  |                    |
| F15  | #5   | 1   | 25'-6"  |                    |
| F17  | #5   | 1   | 24'-8"  |                    |
| F19  | #5   | 1   | 23'-10" |                    |
| F21  | #5   | 1   | 23'-0"  |                    |
| F23  | #5   | 1   | 22'-1"  |                    |
| F25  | #5   | 1   | 21'-3"  |                    |
| F27  | #5   | 1   | 20'-5"  |                    |
| F29  | #5   | 1   | 19'-7"  |                    |
| F31  | #5   | 1   | 18'-9"  |                    |
| F33  | #5   | 1   | 17'-11" |                    |
| F35  | #5   | 1   | 17'-1"  |                    |
| F37  | #5   | 1   | 16'-3"  |                    |
| F39  | #5   | 1   | 15'-5"  |                    |
| F41  | #5   | 1   | 14'-7"  |                    |
| F43  | #5   | 1   | 13'-9"  |                    |
| F45  | #5   | 1   | 12'-11" |                    |
| F47  | #5   | 1   | 12'-1"  |                    |
| F49  | #5   | 1   | 11'-3"  |                    |
| F51  | #5   | 1   | 10'-5"  |                    |
| F53  | #5   | 1   | 9'-7"   |                    |
| F55  | #5   | 1   | 8'-9"   |                    |
| F57  | #5   | 1   | 7'-10"  |                    |
| F59  | #5   | 1   | 7'-0"   |                    |
| F61  | #5   | 4   | 6'-2"   |                    |
| F63  | #5   | 24  | 5'-4"   | Slab               |
| C2   | #4   | 54  | 11'-10" | Curbs              |
| P2   | #4   | 16  | 1'-8"   | Concrete End Posts |



DETAIL

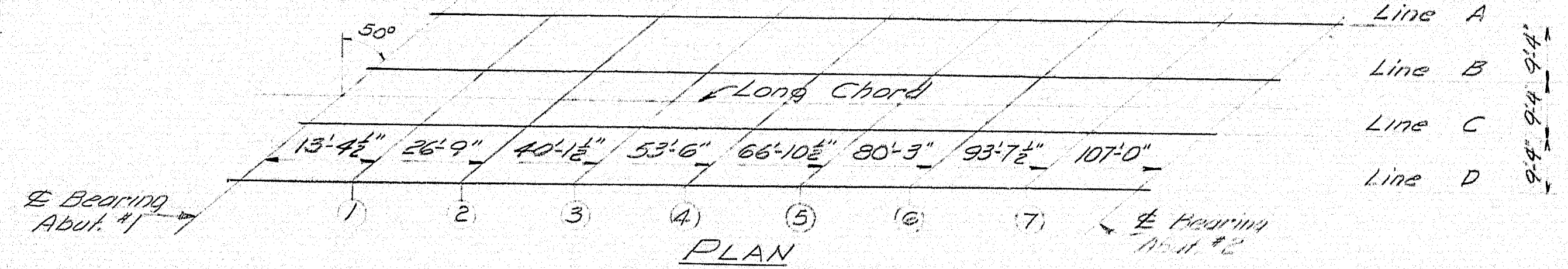
# SUBSTRUCTURE

| MARK | SIZE | No. | LENGTH | LOCATION                   |
|------|------|-----|--------|----------------------------|
| A1   | #6   | 28  | 40'-0" | Footings - Abut. #1 & #2   |
| A2   | #6   | 14  | 36'-6" | " - Abut. #1               |
| A3   | #6   | 14  | 39'-6" | " - Abut. #2               |
| A4   | #6   | 28  | 16'-0" | " - Abut. #1 & #2          |
| A5   | #6   | 326 | 5'-9"  | "                          |
| A6   | #5   | 72  | 2'-6"  | "                          |
| A7   | #5   | 132 | 7'-1"  | Breastwalls to Backwalls   |
| A10  | #5   | 6   | 29'-4" | Breastwalls                |
| A11  | #5   | 8   | 22'-1" | "                          |
| A14  | #5   | 58  | 3'-2"  | Breastwalls to Backwalls   |
| A15  | #5   | 58  | 7'-4"  | Backwall - Abut. #1        |
| A16  | #5   | 62  | 6'-10" | " - Abut. #2               |
| A17  | #5   | 26  | 29'-0" | Backwalls & Breastwalls    |
| A18  | #5   | 26  | 26'-6" | "                          |
| A20  | #5   | 38  | 8'-0"  | Long Wing - Abut. #1       |
| A21  | #5   | 6   | 3'-4"  | "                          |
| A22  | #5   | 6   | 4'-7"  | "                          |
| A23  | #5   | 6   | 5'-0"  | "                          |
| A24  | #5   | 6   | 7'-0"  | "                          |
| A25  | #5   | 6   | 8'-3"  | "                          |
| A26  | #5   | 4   | 7'-1"  | "                          |
| A27  | #5   | 7   | 8'-1"  | "                          |
| A28  | #5   | 20  | 22'-0" | " - Abut. #1 & #2          |
| A29  | #5   | 2   | 17'-0" | " - Abut. #1               |
| A30  | #5   | 2   | 11'-6" | "                          |
| A32  | #5   | 12  | 2'-10" | Short Wing - Abut. #1 & #2 |
| A33  | #5   | 12  | 5'-0"  | "                          |
| A34  | #5   | 8   | 7'-1"  | "                          |
| A35  | #5   | 8   | 7'-3"  | "                          |
| A36  | #5   | 20  | 13'-6" | "                          |
| A37  | #5   | 4   | 11'-6" | "                          |
| A38  | #5   | 4   | 8'-0"  | "                          |
| A40  | #5   | 26  | 1'-0"  | Backwall to Granite Curb   |
| A41  | #5   | 6   | 1'-11" | Long Wing - Abut. #2       |
| A42  | #5   | 6   | 3'-2"  | "                          |
| A43  | #5   | 6   | 4'-5"  | "                          |
| A44  | #5   | 6   | 5'-7"  | "                          |
| A45  | #5   | 6   | 6'-10" | "                          |
| A46  | #5   | 4   | 7'-10" | "                          |
| A47  | #5   | 7   | 7'-0"  | "                          |
| A48  | #5   | 2   | 13'-6" | "                          |
| A49  | #5   | 2   | 12'-8" | "                          |
| A50  | #5   | 2   | 9'-0"  | "                          |
| A51  | #5   | 20  | 2'-0"  | Backwall to Curb           |
| A52  | #5   | 51  | 3'-1"  | Wings                      |



| MARK | SIZE | No. | LENGTH | LOCATION                    |
|------|------|-----|--------|-----------------------------|
| A8   | #5   | 36  | 6'-9"  | Breastwalls                 |
| A9   | #5   | 36  | 7'-6"  | "                           |
| A12  | #4   | 16  | 4'-6"  | Bearing Pads                |
| A13  | #4   | 16  | 5'-2"  | "                           |
| A19  | #5   | 60  | 3'-6"  | Backwalls - App. Slab       |
| A31  | #5   | 10  | 9'-0"  | Long Wings - Abut. #1 & #2  |
| A39  | #5   | 5   | 8'-6"  | Short Wings - Abut. #1 & #2 |
| P3   | #5   | 6   | 9'-8"  | Concrete End Posts          |

| MARK | SIZE | No. | LENGTH  | LOCATION    |
|------|------|-----|---------|-------------|
| A31  | #6   | 224 | 14'-5"  | Slab        |
| A32  | #4   | 56  | 22'-10" | " (Spliced) |



| Point  | Bearing | ①      | ②      | ③      | ④      | ⑤      | ⑥      | ⑦      | Bearing |
|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| Line A | 221.47  | 221.37 | 221.27 | 221.15 | 221.01 | 220.85 | 220.67 | 220.47 | 220.27  |
| Line B | 221.93  | 221.81 | 221.70 | 221.57 | 221.42 | 221.24 | 221.05 | 220.84 | 220.63  |
| Line C | 222.39  | 222.27 | 222.14 | 222.00 | 221.84 | 221.65 | 221.44 | 221.22 | 221.00  |
| Line D | 222.86  | 222.73 | 222.59 | 222.44 | 222.26 | 222.07 | 221.85 | 221.61 | 221.38  |

# BLOCKING

NOTE: In order that the roadway slab may conform to the profile and cross sections shown on these plans, the accompanying table of elevations is given.

Elevations for the bottom of slab, which are computed to compensate for dead load deflections, must be established before slab forms are started. The normal 3" blocking shown, shall not be used in construction.

Shear Connectors shall be welded to the top flange of the girders before bottom of slab grades for blocking are set.

NOTE: All reinforcing steel shall be of Intermediate Grade. Dimensions are to the E. of steel bars.

DESIGN - M. Blake

TRACE - G.M.C.

CHECK - W.H.V.

BRIDGE NO. 10

SURVEY - 10

PLOT - 10

STATE HIGHWAY COMMISSION

BRIDGE DIVISION

**SMITH POND BRIDGE**

OVER

**WEST BRANCH WESSERUNNSET RIVER**

IN THE TOWN OF

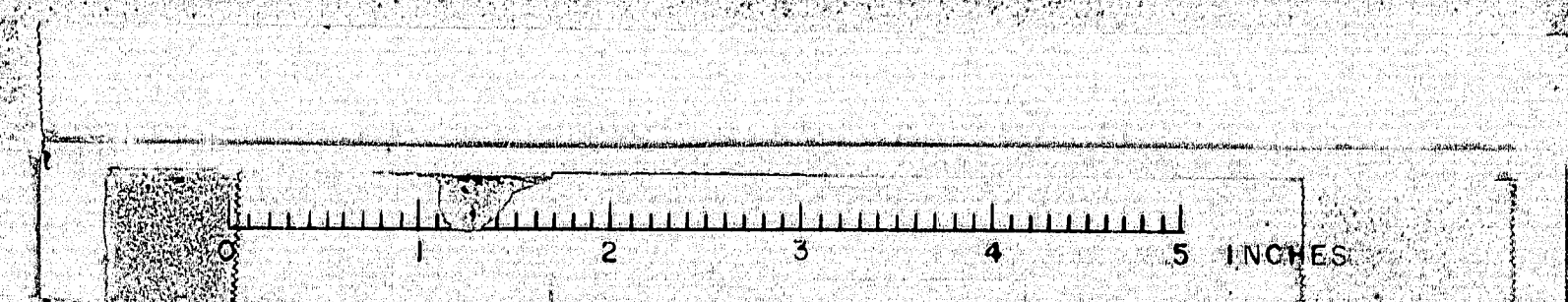
**SKOWHEGAN**

**SOMERSET COUNTY**

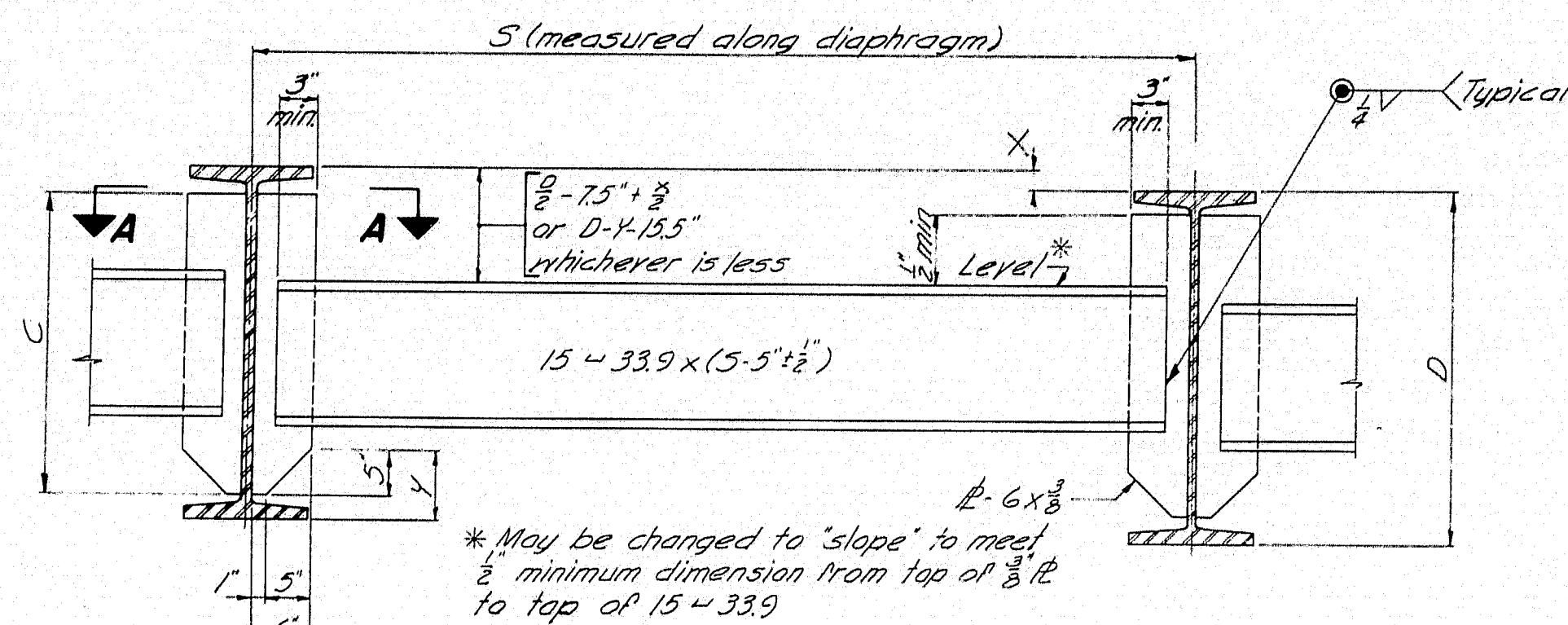
REINFORCING STEEL SCHEDULE - BLOCKING

SHEET 10 OF 10 AUGUSTA, MAINE JAN. 1965

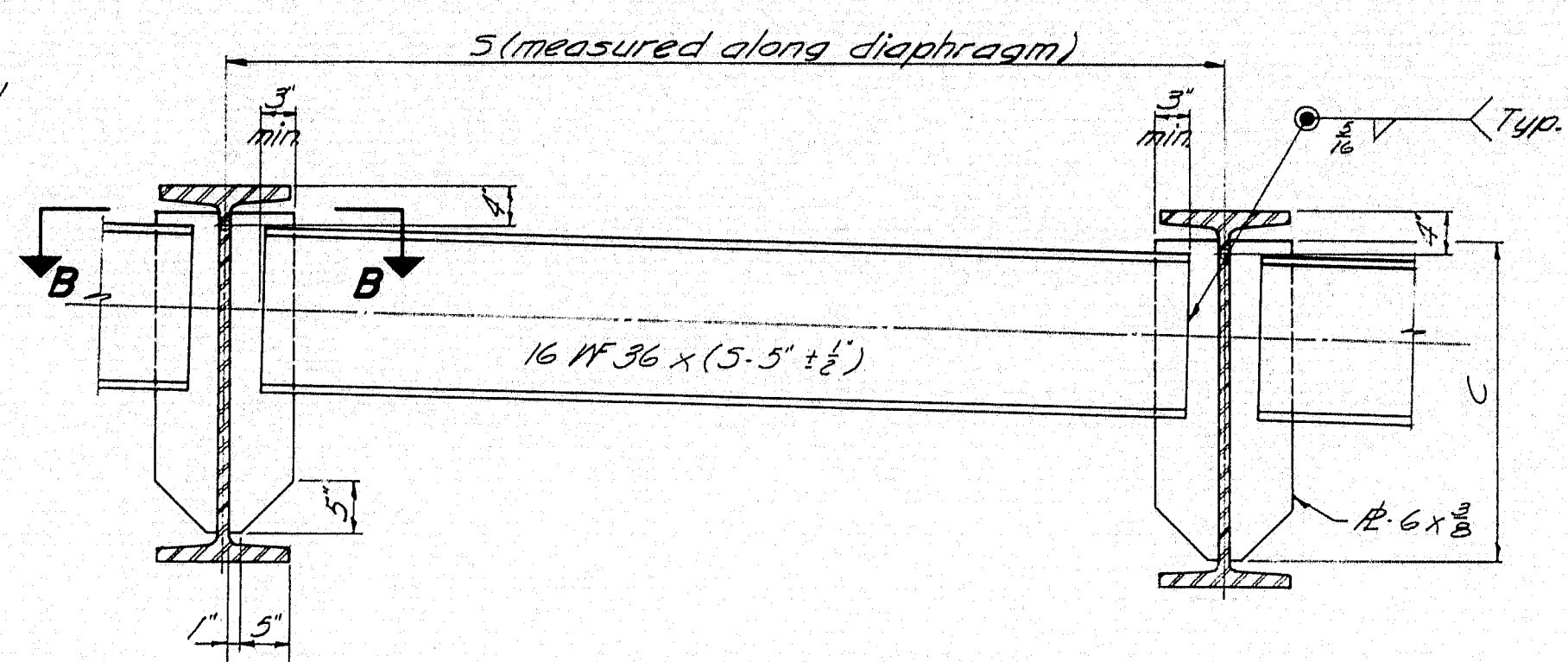
M-2367







TYPE A DIAPHRAGM



TYPE B DIAPHRAGM

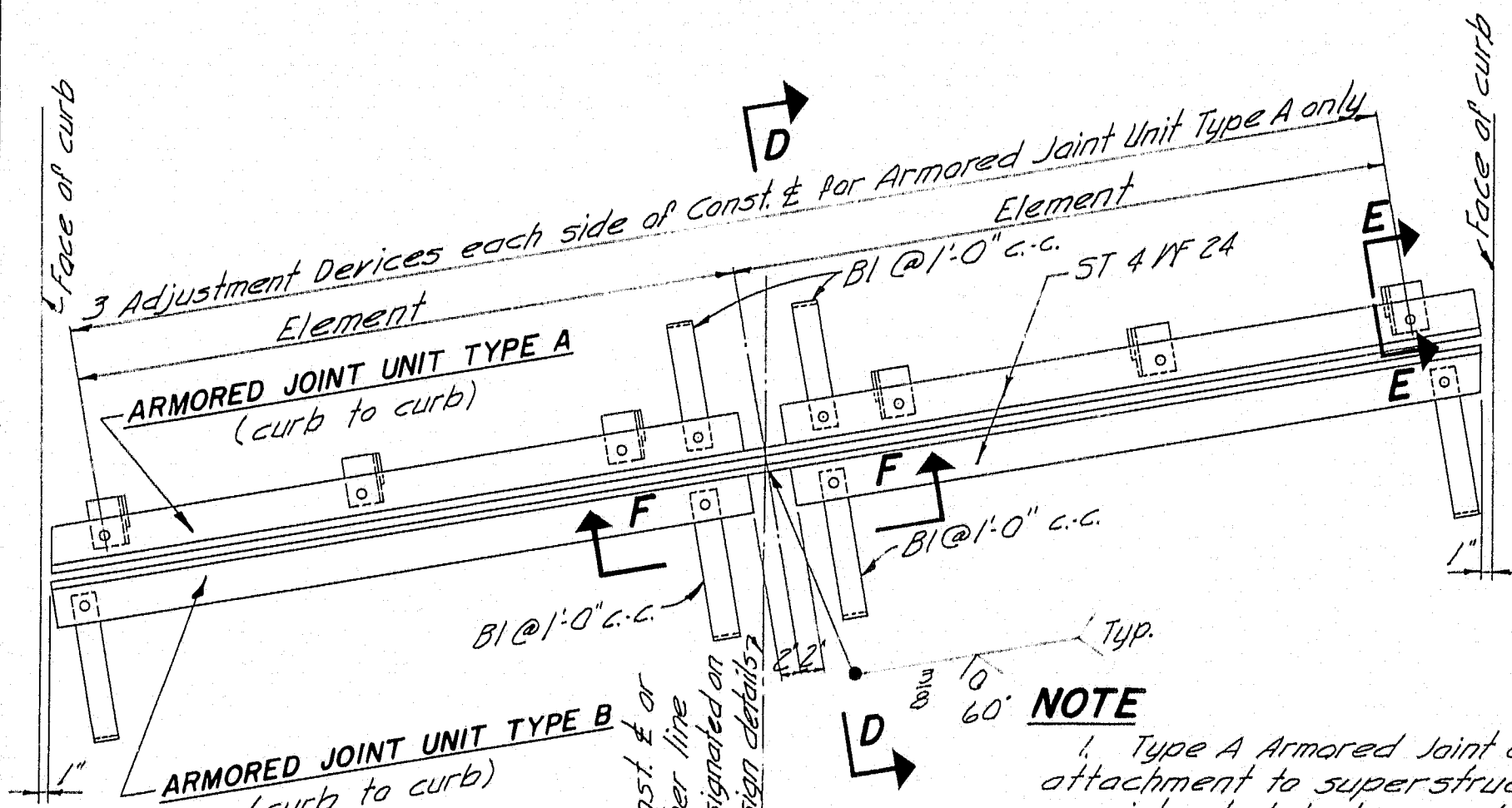
SECTION A-A  
Skew Angle 0° to 18° 30'

SECTION A-A  
Skew Angle over 18° 30' to 30° 00'

SECTION A-A  
Skew Angle over 30° 00'

| BEAM                    | C     | N    |
|-------------------------|-------|------|
| 21" WF 84 to 114 incl.  | 1-11" | 1/2" |
| 30" WF 99 to 132 incl.  | 2-2"  | 1/2" |
| 33" WF 118 to 152 incl. | 2-5"  | 1/2" |
| 36" WF 135 to 194 incl. | 2-1"  | 1/2" |
| 36" WF 230 to 300 incl. | 2-6"  | 1/2" |

DIAPHRAGMS



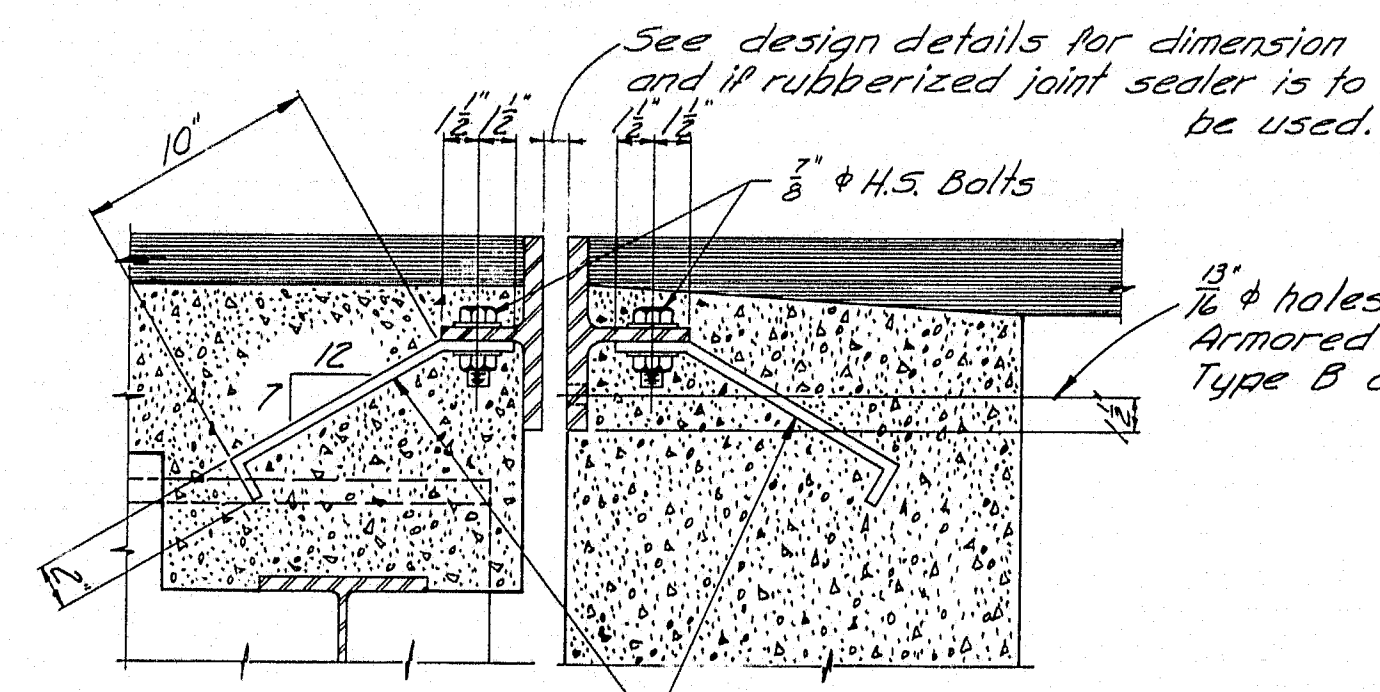
PLAN

NOTE

- Type A Armored Joint Units are intended to be used for attachment to superstructures. Type B Armored Joint Units are intended to be used for attachment to abutments. At armored joints over piers, two Type A Armored Joint Units shall be used.
- If rubberized joint sealer is called for on the design details the area to which it is to be bonded shall not be painted and it shall be supported on non-bituminous material. At the Contractor's option the supporting material may be left in place or be removed. If the supporting material is left in place, it shall be compressible in accordance with specification AASHTO M 153-54. In either case bond between the supporting material and the rubberized joint sealer shall be prevented by a 1" minimum thickness of Poly-urethane foam.
- If more elements than the two shown in the "Plan" are required by the design details, there shall be three adjustment devices for each element for Armored Joint Unit Type A and the elements of both units shall be field welded together in the same manner as shown in the "Plan".
- Armored Joints to be paid for as Structural Steel.

ARMORED JOINT

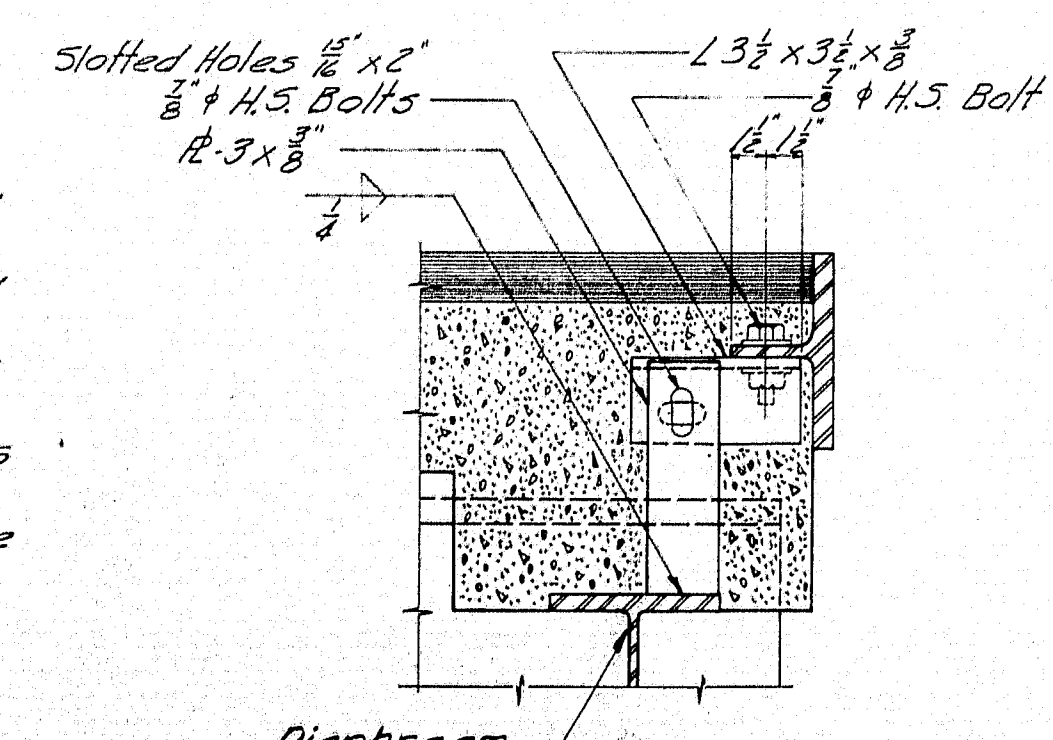
An armored joint consists of two armored joint units. See note 1.



ARMORED JOINT UNIT TYPE A

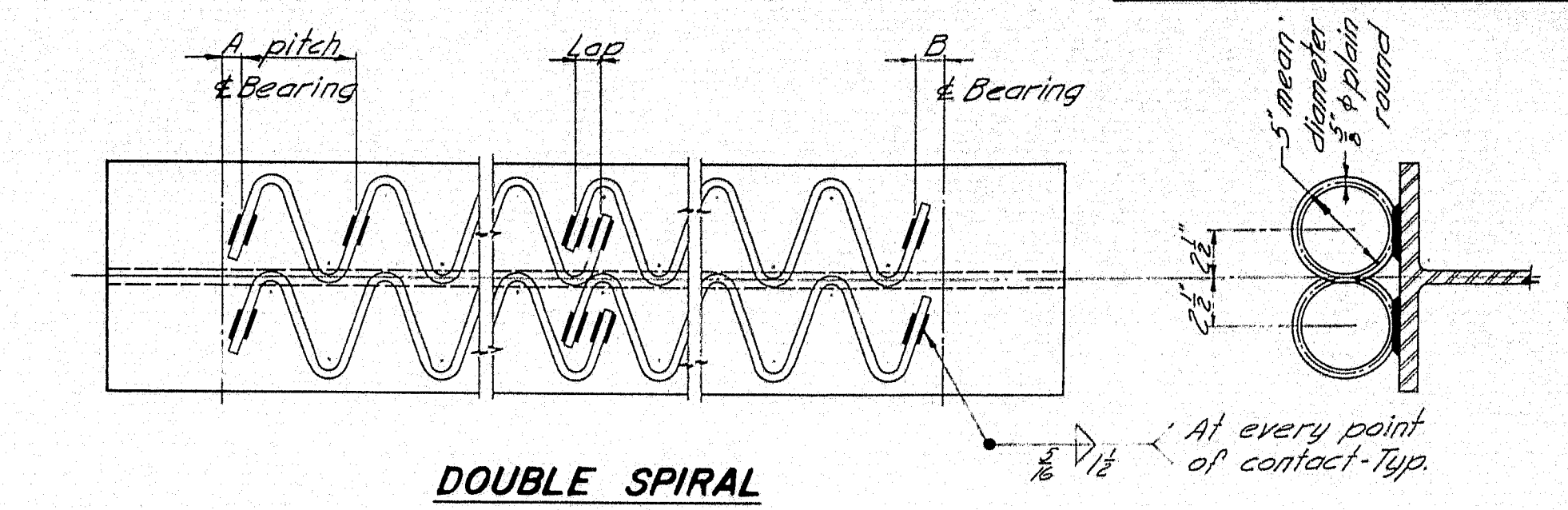
ARMORED JOINT UNIT TYPE B

SECTION D-D

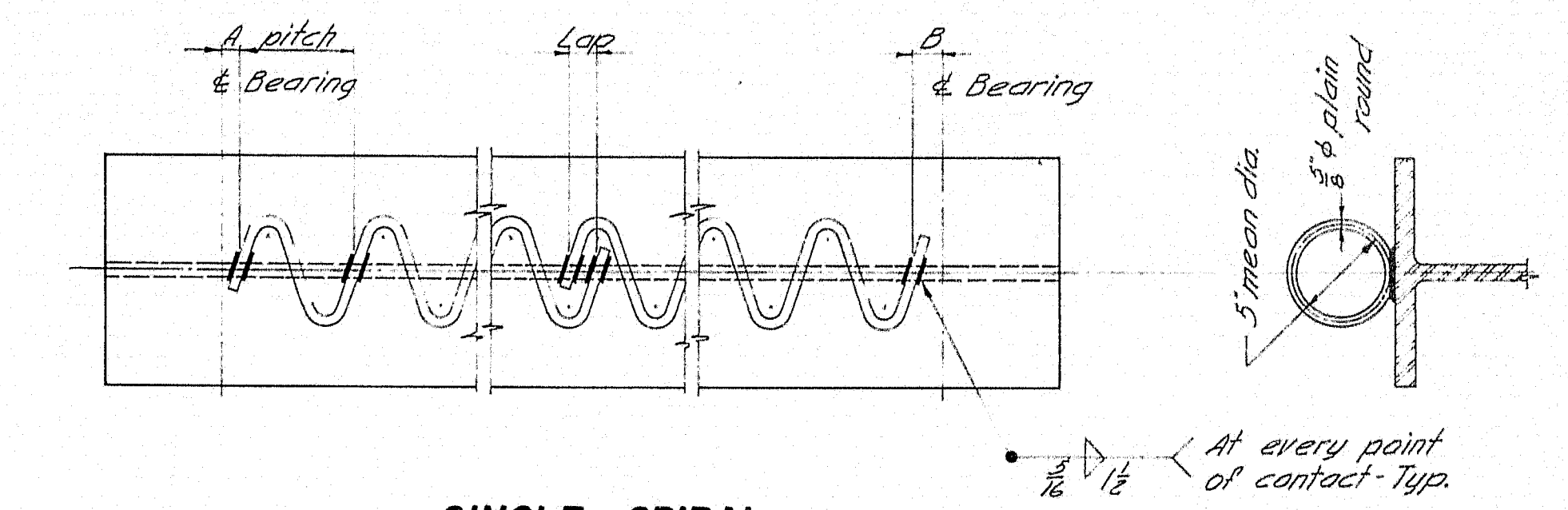


SECTION E-E

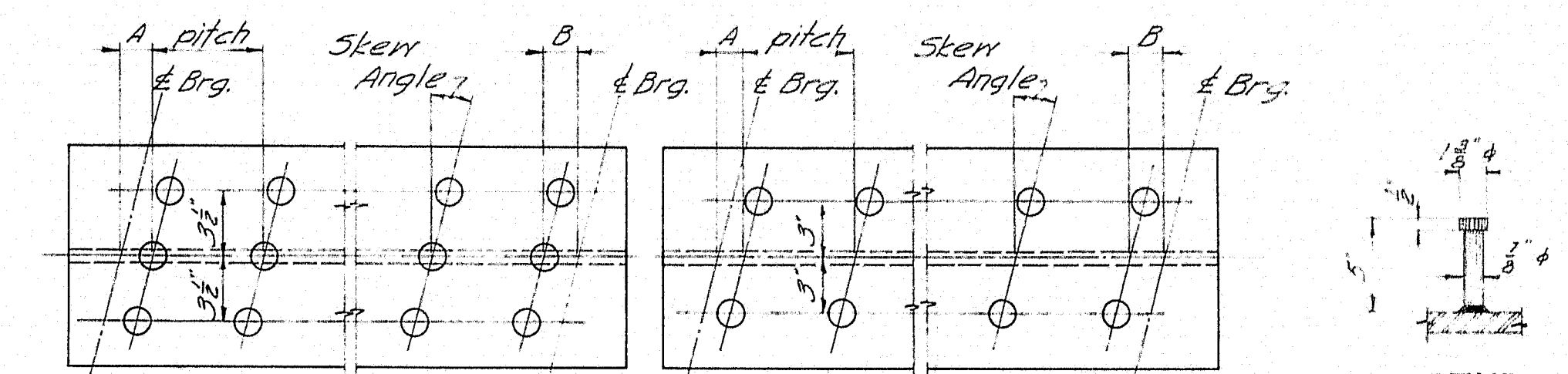
Showing Adjustment Device Armored Joint Unit Type A only. After Unit is in final position weld 1/2" R to angle with 1/2" fillet



DOUBLE SPIRAL



SINGLE SPIRAL



TRIPLE STUDS

DOUBLE STUDS

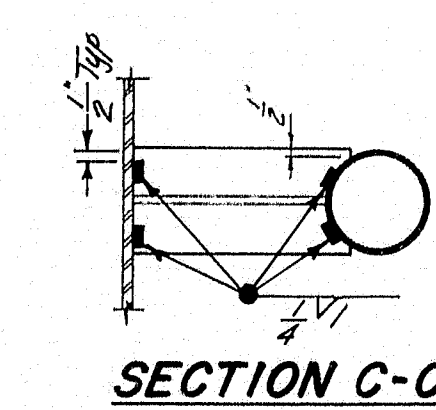
STUD DETAIL

NOTE

- Spiral reinforcing or studs may be used at the option of the Contractor.
- If studs are used they shall be granular or solid flux filled and automatically end welded to the top flange in the shop or field.
- Studs are a patented product. If the Contractor elects to use them, he shall pay the royalty and payment to the contractor will be included in the lump sum price for Shear Connectors.
- See the design details for Dimensions "A" and "B", spiral and stud pitch and Skew Angle for Studs.

SHEAR CONNECTORS

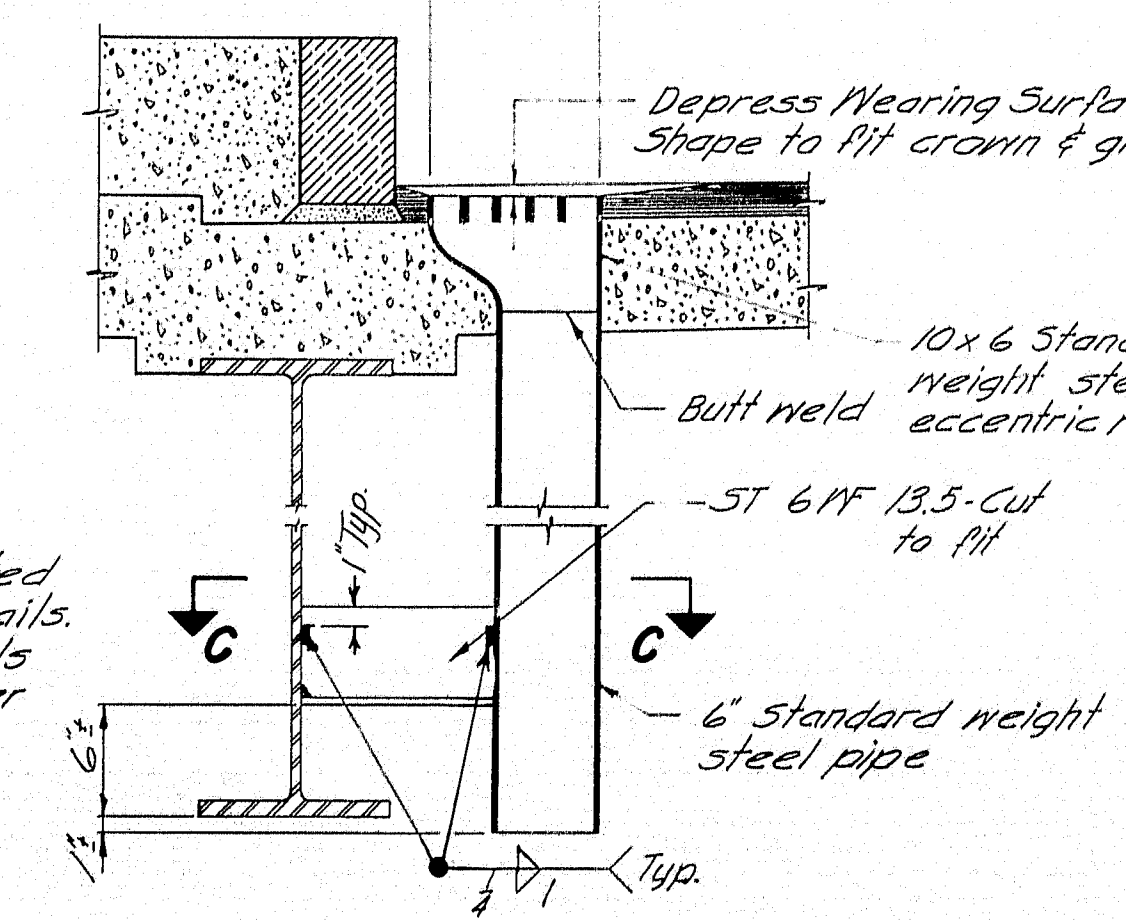
Cut 4 holes 1/2" x 2", 1/4" from top. Do not cover with concrete or waterproofing.



SECTION C-C

NOTE

- Drain may be rotated 180°. See design details.
- See design details for location and number of drains and beam size to which it is connected.



DRAIN

GENERAL NOTE

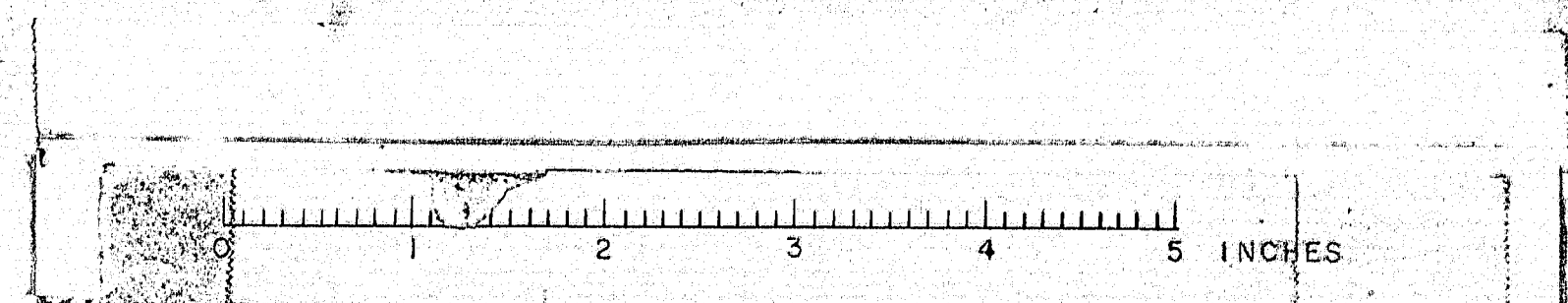
Use only those items called for on design details. In case of conflict between these Standard Details and the design details, the requirements of the design details shall be followed.

MAINE STATE HIGHWAY COMMISSION  
AUGUSTA, MAINE

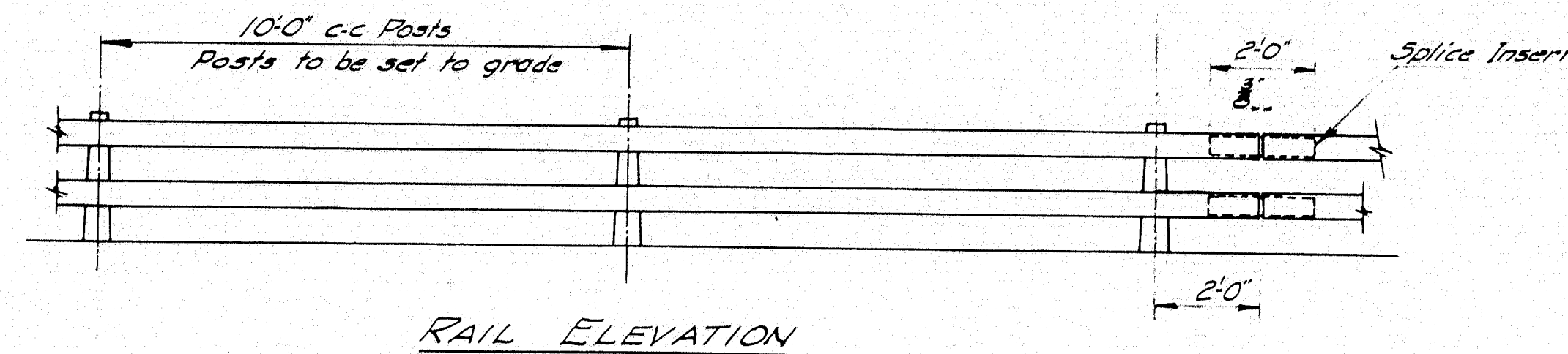
STANDARD DETAILS  
(BD 104-64)  
DIAPHRAGMS, ARMORED JOINT,  
SHEAR CONNECTORS, DRAIN

Revised Nov 1964, Welding Drain Support

JANUARY 1964

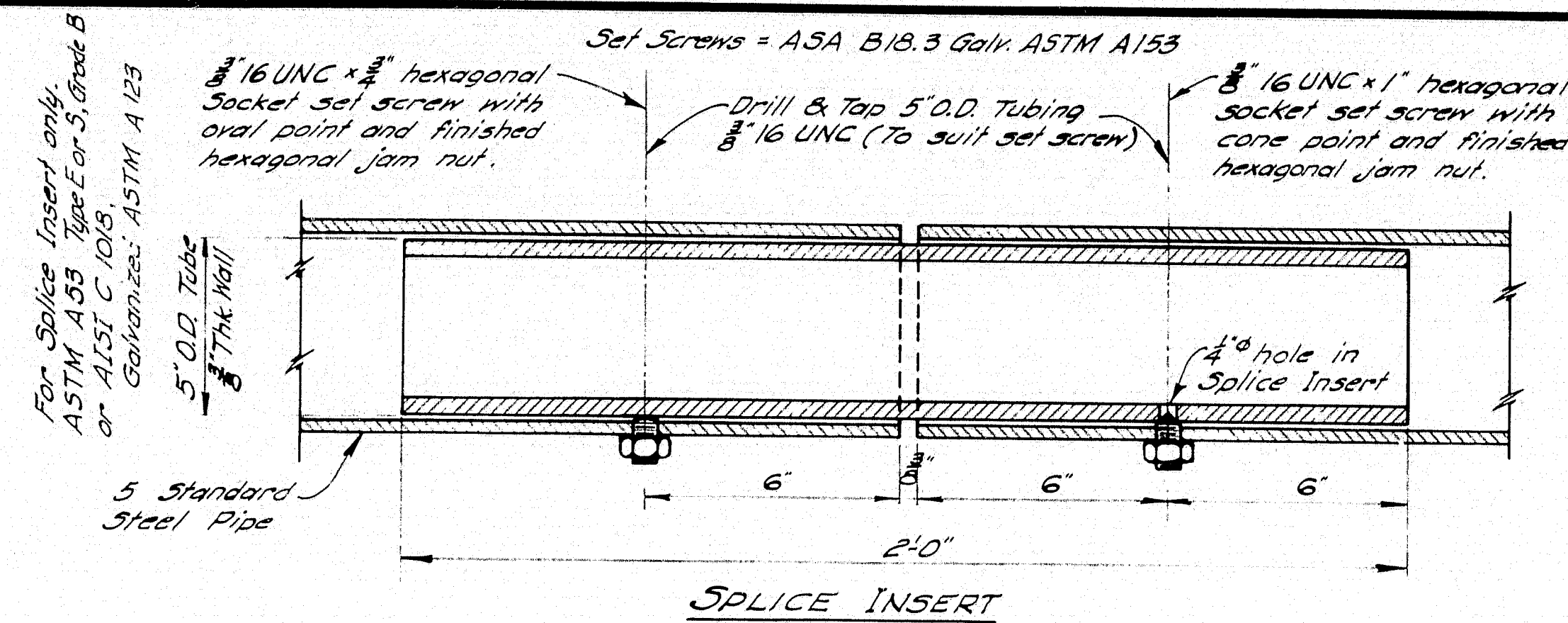




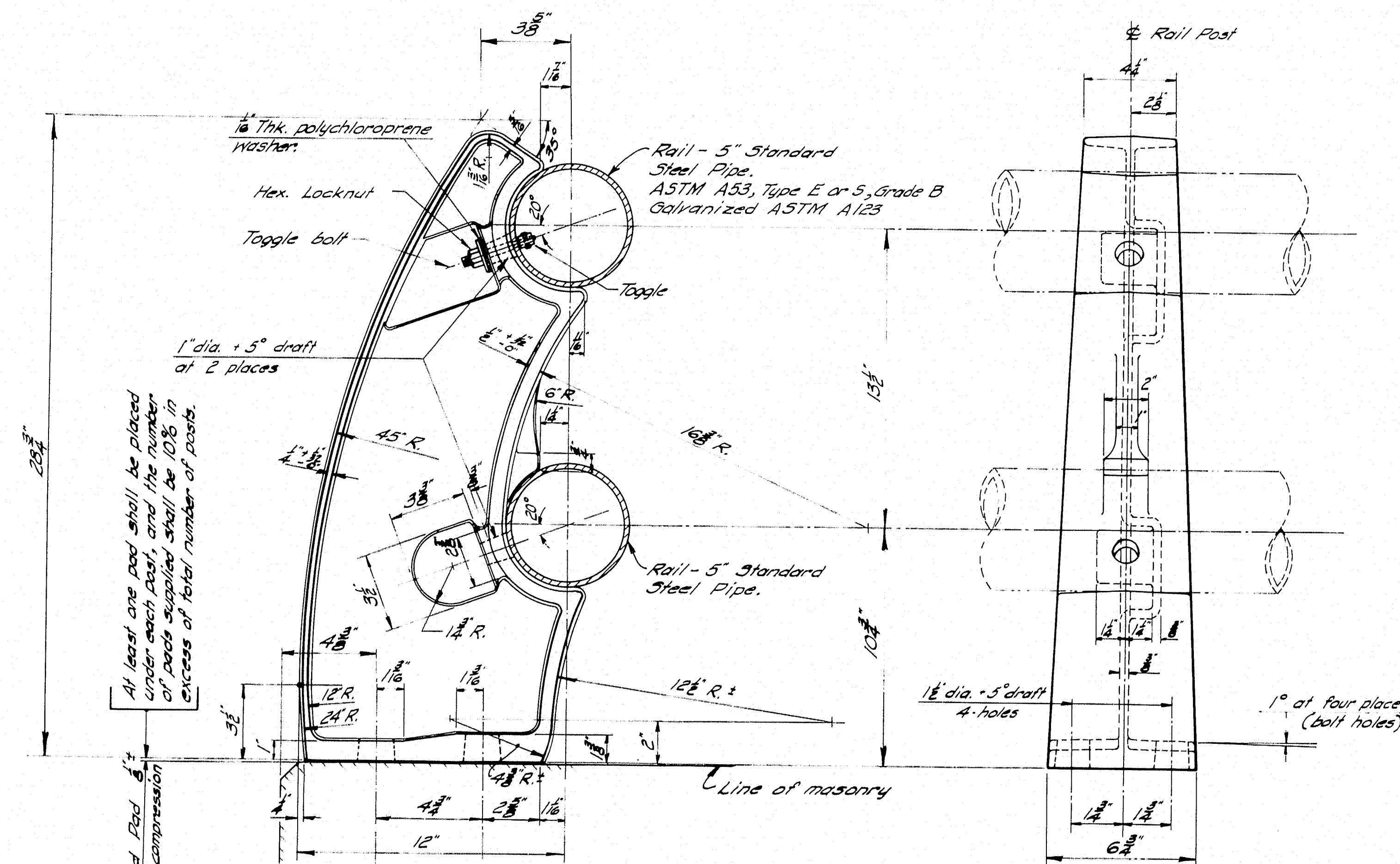


RAIL ELEVATION

Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.



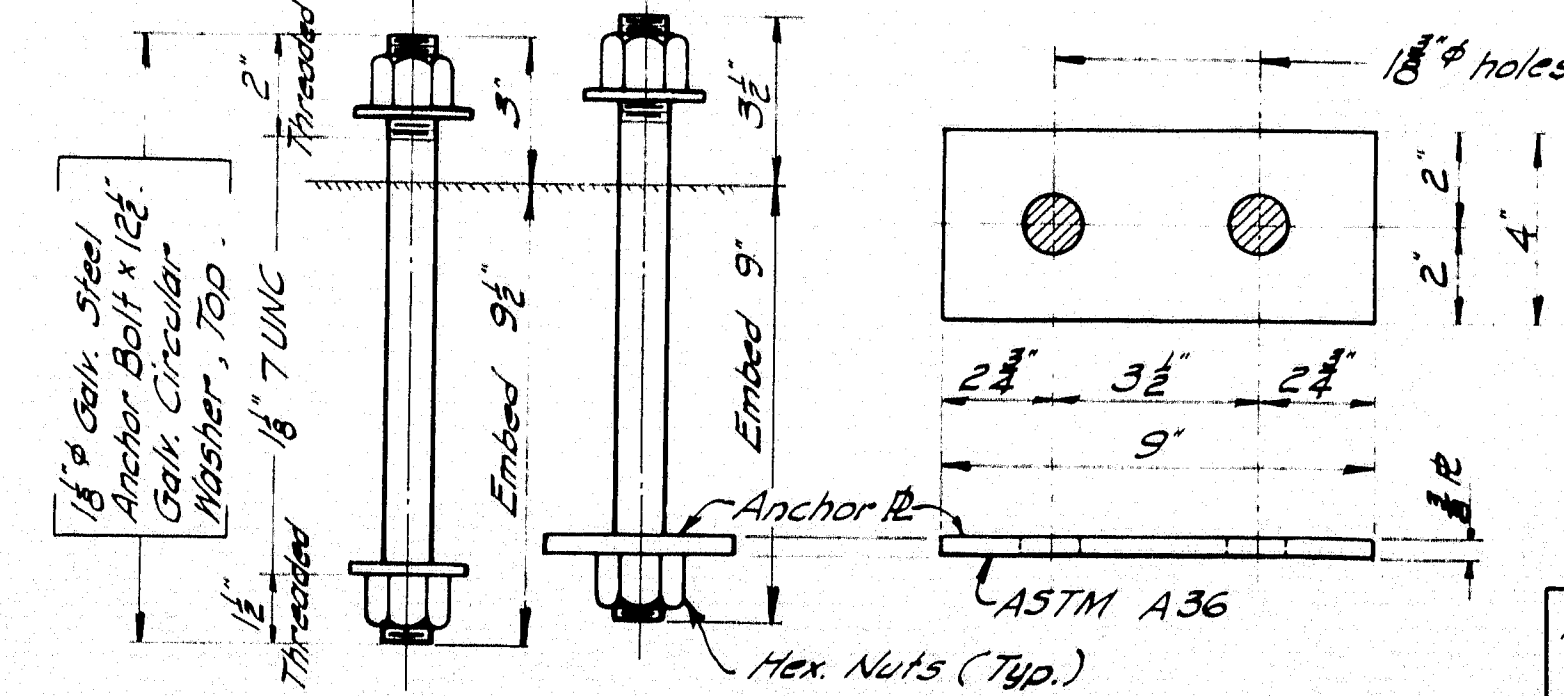
SPICE INSERT



RAIL POST

ASTM A27, Grade 65-35, Galvanized ASTM A153

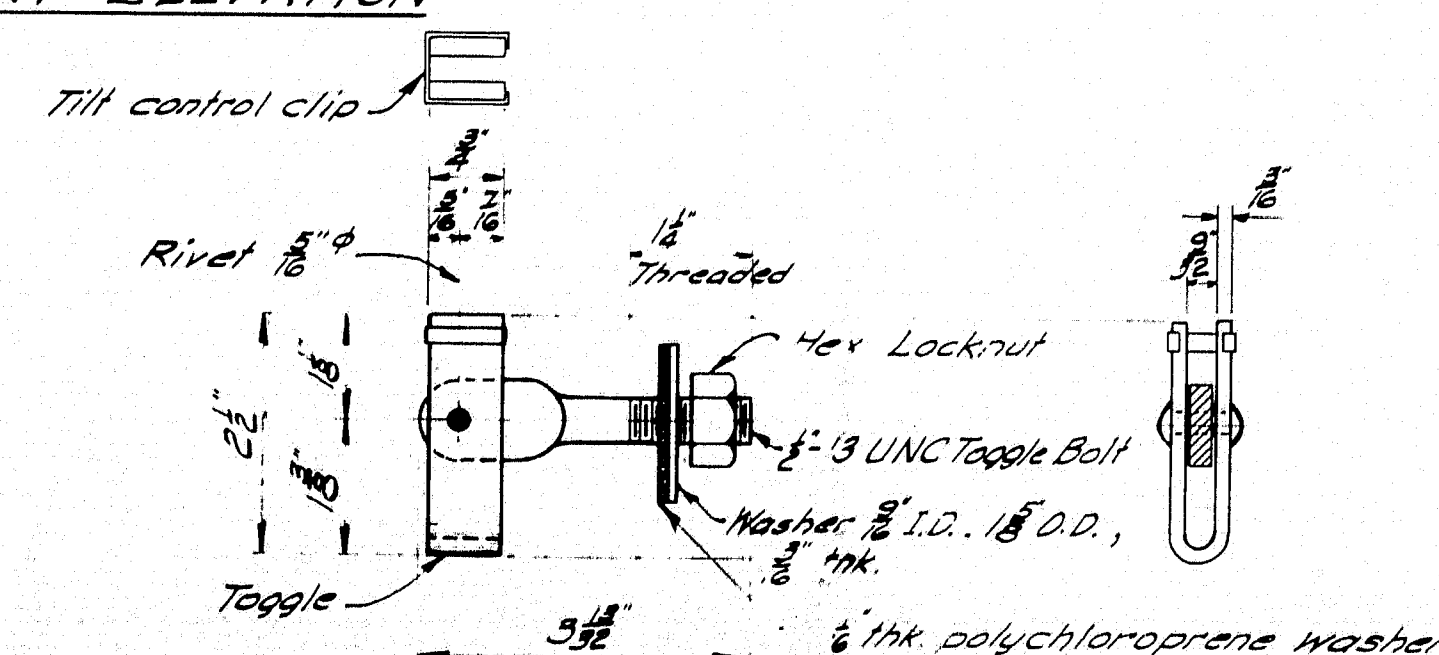
FRONT ELEVATION



RAIL POST ANCHORAGE

Anchor Bolts, Nuts, & Circular Washers - ASTM A325  
Anchor Bolts, Nuts & Circular Washers at Top (Galv) ASTM A153

REQUIRED PER ANCHORAGE  
4 - Anchor Bolts  
6 - Circular Washers  
1 - Anchor R



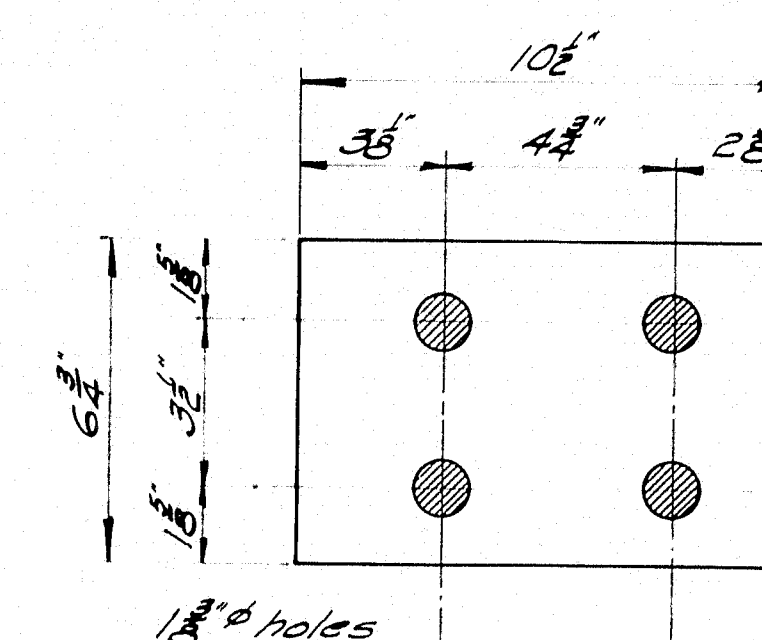
TOGGLE BOLT ASSEMBLY

Cadmium Plate - metal parts ASTM A165-55, Type NS, .0005" thick  
Required 2 - per post

Toggle = ASTM A303, 1015 H.R. Steel.  
Rivet = ASTM A195, 1035 C.R. Steel, Heat Treated  
Toggle Bolt = ASTM A354, 1335 C.R. Steel, Heat Treated RC 32-38.  
Washer = ASTM A36 Steel  
Hex. Locknut = Finished Hexagonal Locknut Prevailing Torque Type Steel Grade Cor D, Industrial Fasteners Institute.

RAIL CAP

ASTM A27, Grade 65-35, Galv. ASTM A153



PREFORMED PAD

See Subsection 713.03 Standard Specifications  
Revision of June 1965 for pad and fabric washers.

Required 1-Pad per post

DESIGN SPECIFICATIONS

A.A.S.H.O. Interim Specifications  
Int. I (64)

MAINE STATE HIGHWAY COMMISSION  
AUGUSTA, MAINE

## STANDARD DETAILS

(BD 107 - 65)

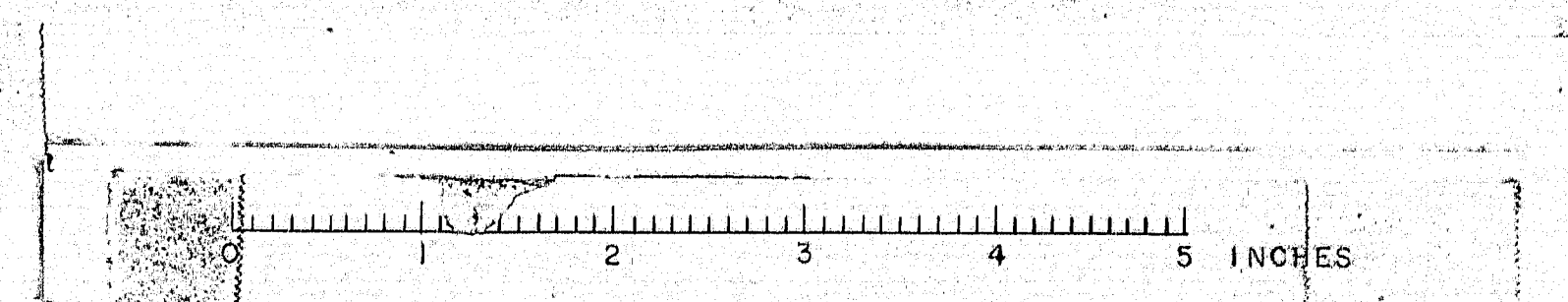
### STEEL RAILING

(2-BAR PIPE RAIL)

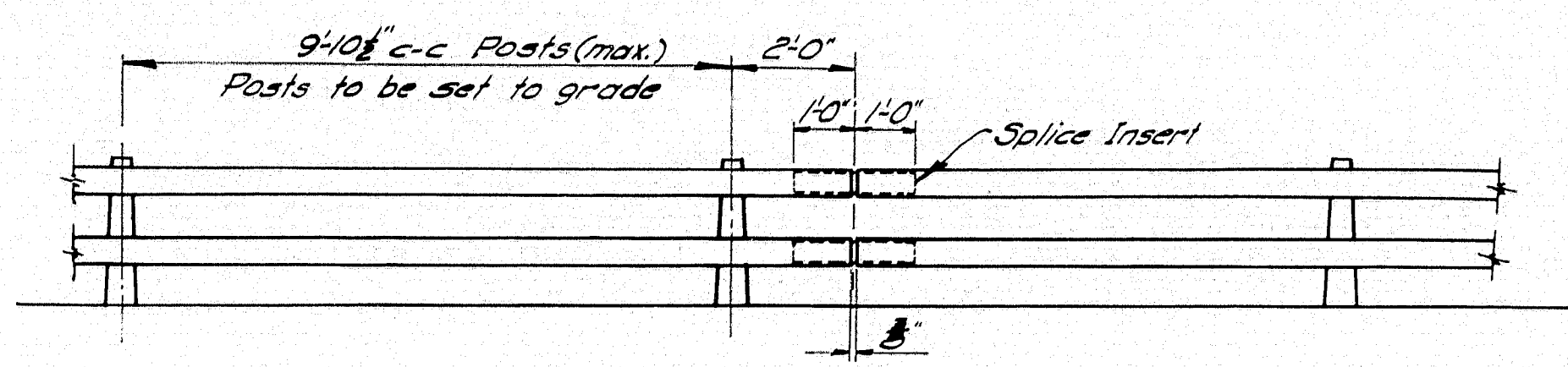
CAST POST

OCTOBER 1965

M-2369 Smith, Perini Bridge, Shennecossett





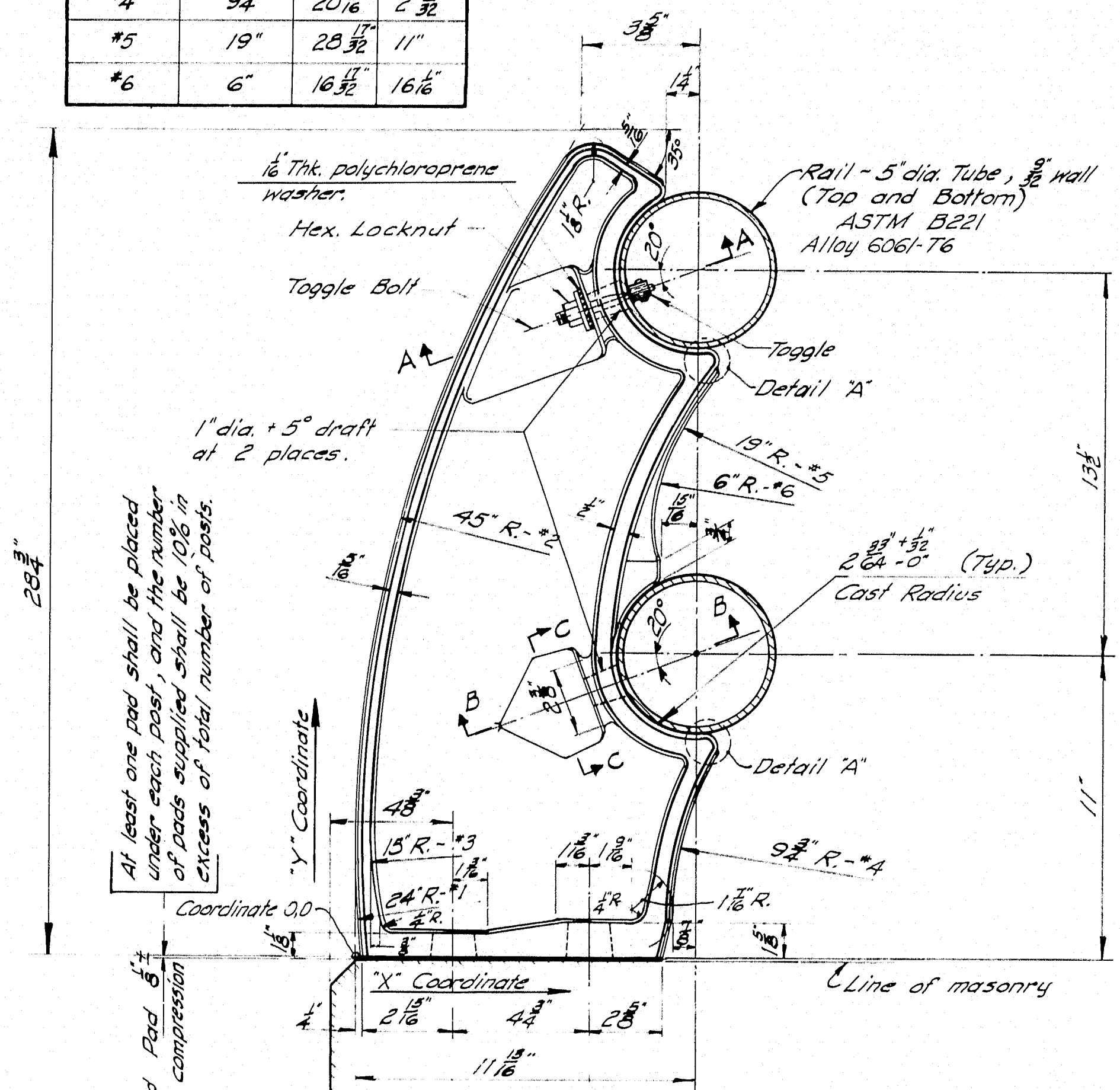


**RAIL ELEVATION**

**ORIGIN LOCATION-PRINCIPAL CURVES**

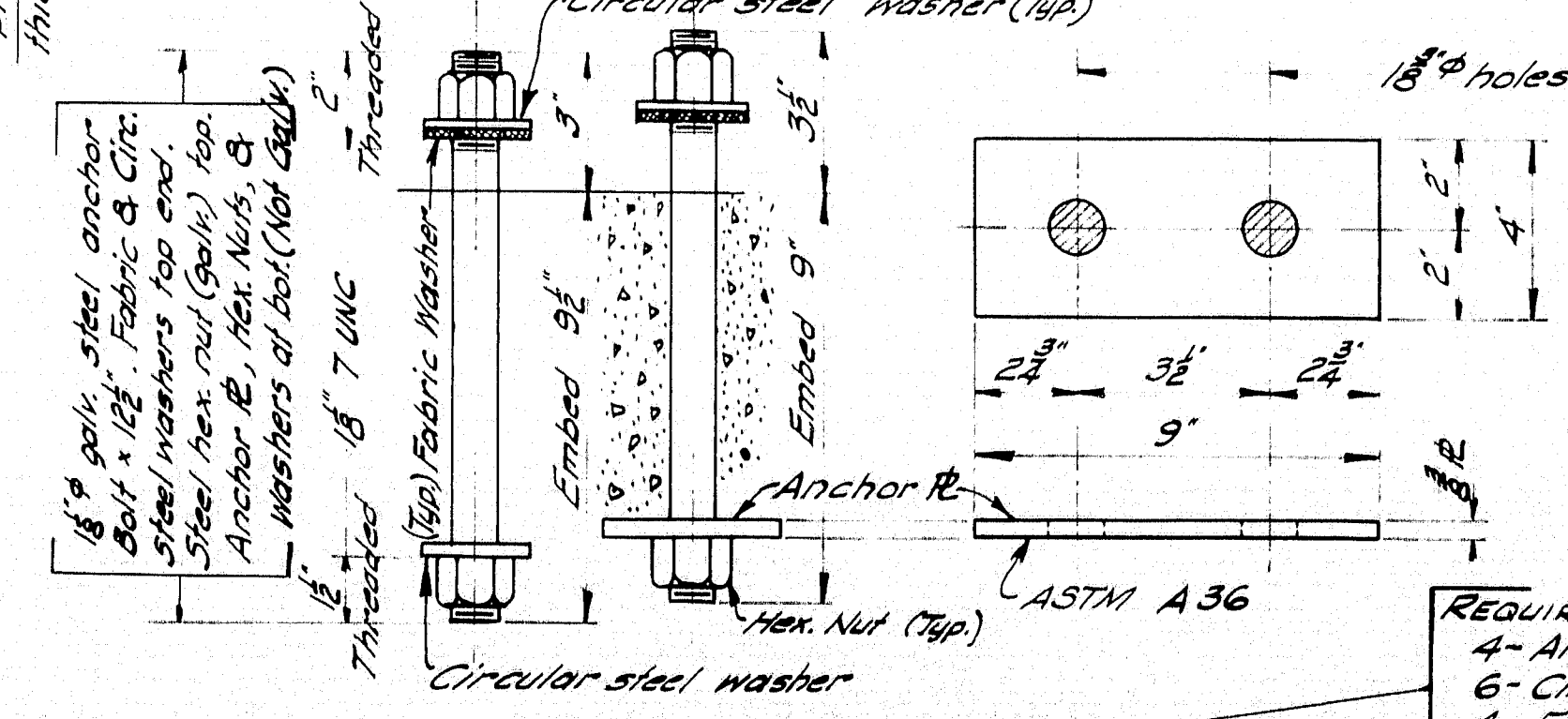
| Curve | Radius | "X"     | "Y"     |
|-------|--------|---------|---------|
| *1    | 24"    | 24"     | 3 1/2"  |
| *2    | 45"    | 45"     | 2 5/8"  |
| *3    | 15"    | 15 1/2" | 4 3/8"  |
| *4    | 9 1/2" | 20 1/2" | 2 3/8"  |
| *5    | 19"    | 28 3/8" | 11"     |
| *6    | 6"     | 16 3/8" | 16 1/8" |

Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.



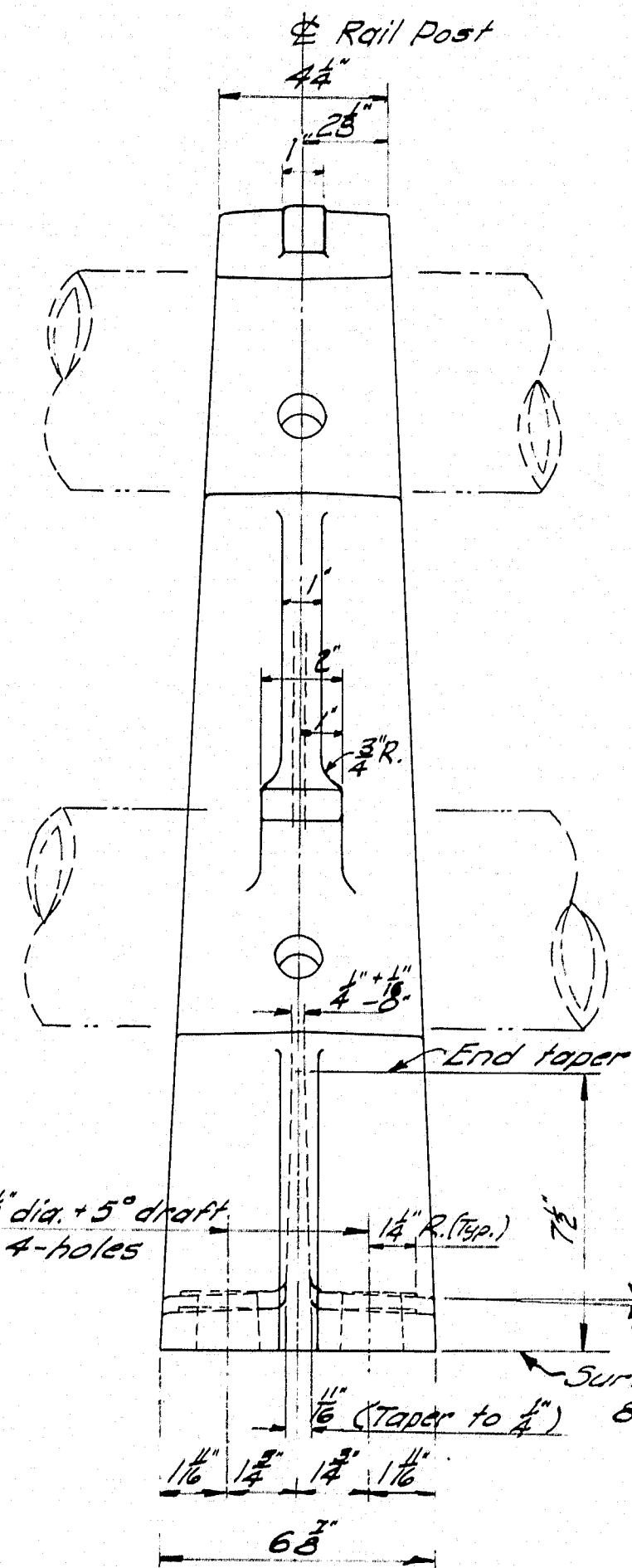
**RAIL POST**

ASTM B 108, Aluminum Assoc. Alloy A344-T4

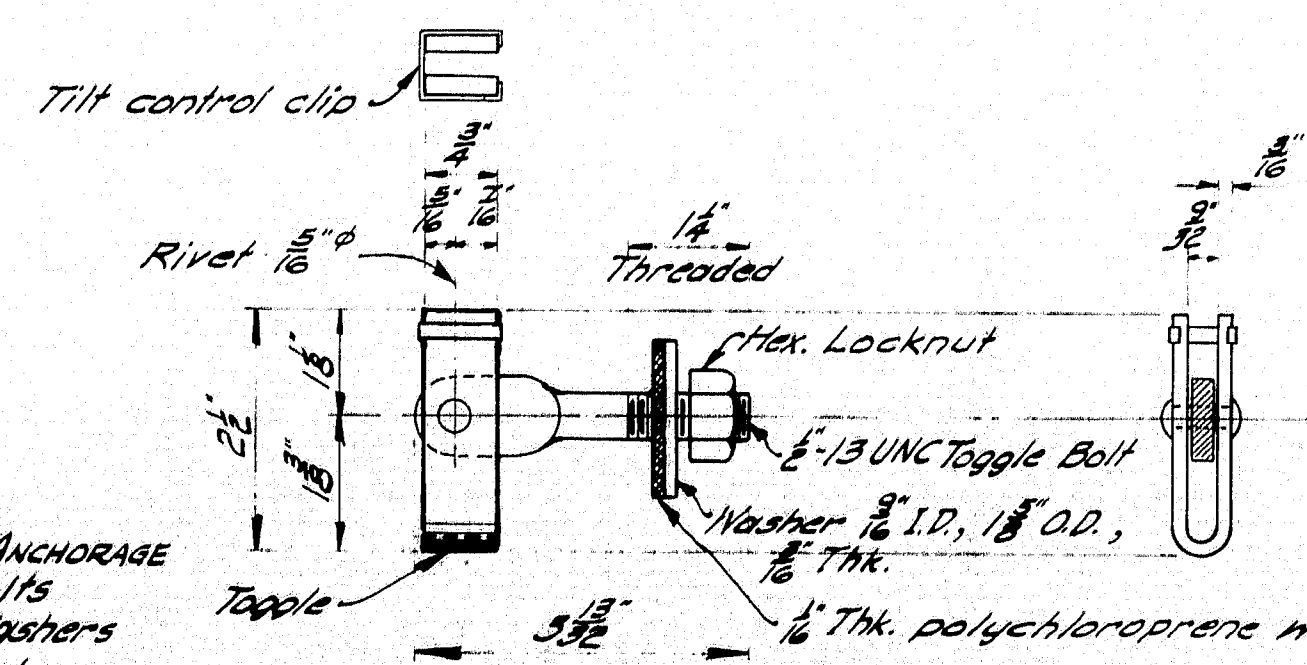


**RAIL POST ANCHORAGE**

Anchor Bolts, Nuts, & Circular steel washers = ASTM A325  
Anchor Bolts, Nuts and Circular steel washers at Top, (Galv.) ASTM A153



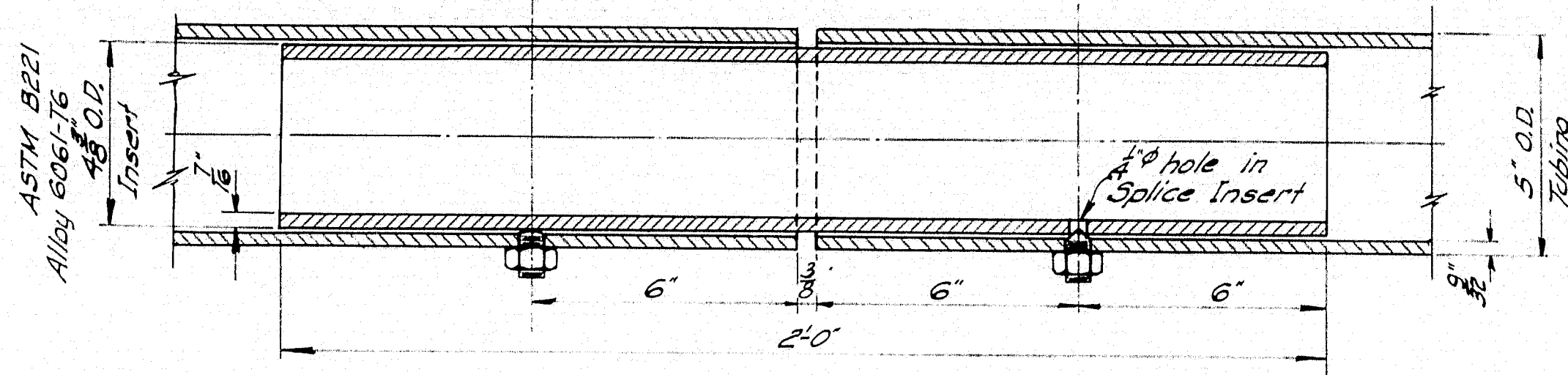
**FRONT ELEVATION**



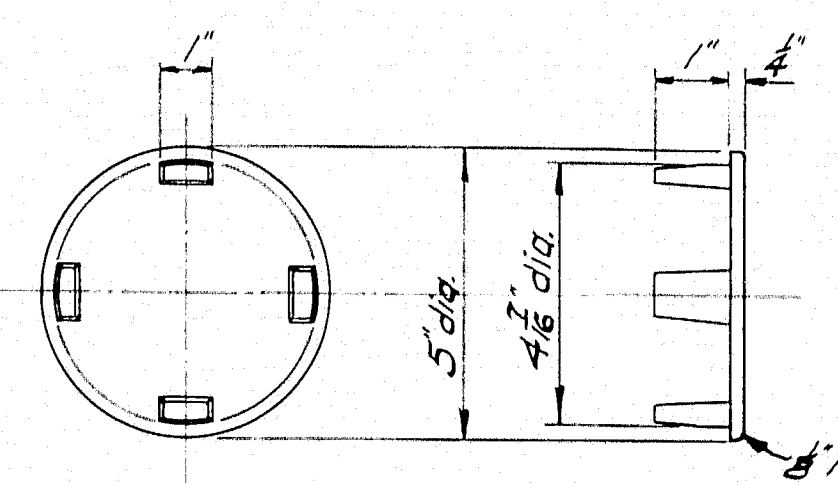
**TOGGLE BOLT ASSEMBLY**

Required 2-per post  
Cadmium Plate metal parts ASTM A165-55, Type N3, .0005" thick

Set Screws and Jam Nuts shall have an anodic coating, .0002" min. thickness, with a dichromate or boiling water seal.  
ASTM B211 Alloy 2024-T4  
5/16 UNC x 1/2" hexagonal socket set screw with oval point. Finished hexagonal jam nut, ASTM B211 Alloy 2017-T4  
Drill & Tap 5" O.D. Tubing 5/16 UNC (To suit set screw)



**SPLICE**

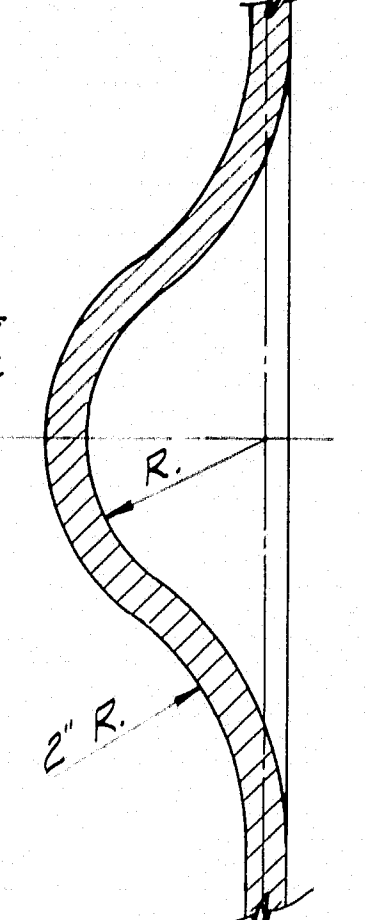


**RAIL CAP**

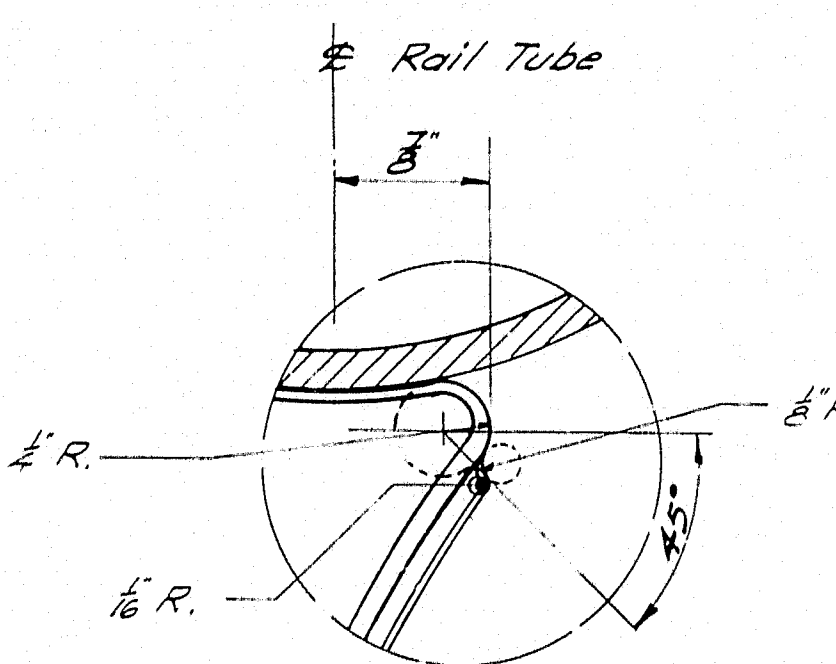
ASTM B26  
Aluminum Assoc. Alloy 43-F or 356-F

**PREFORMED PAD**

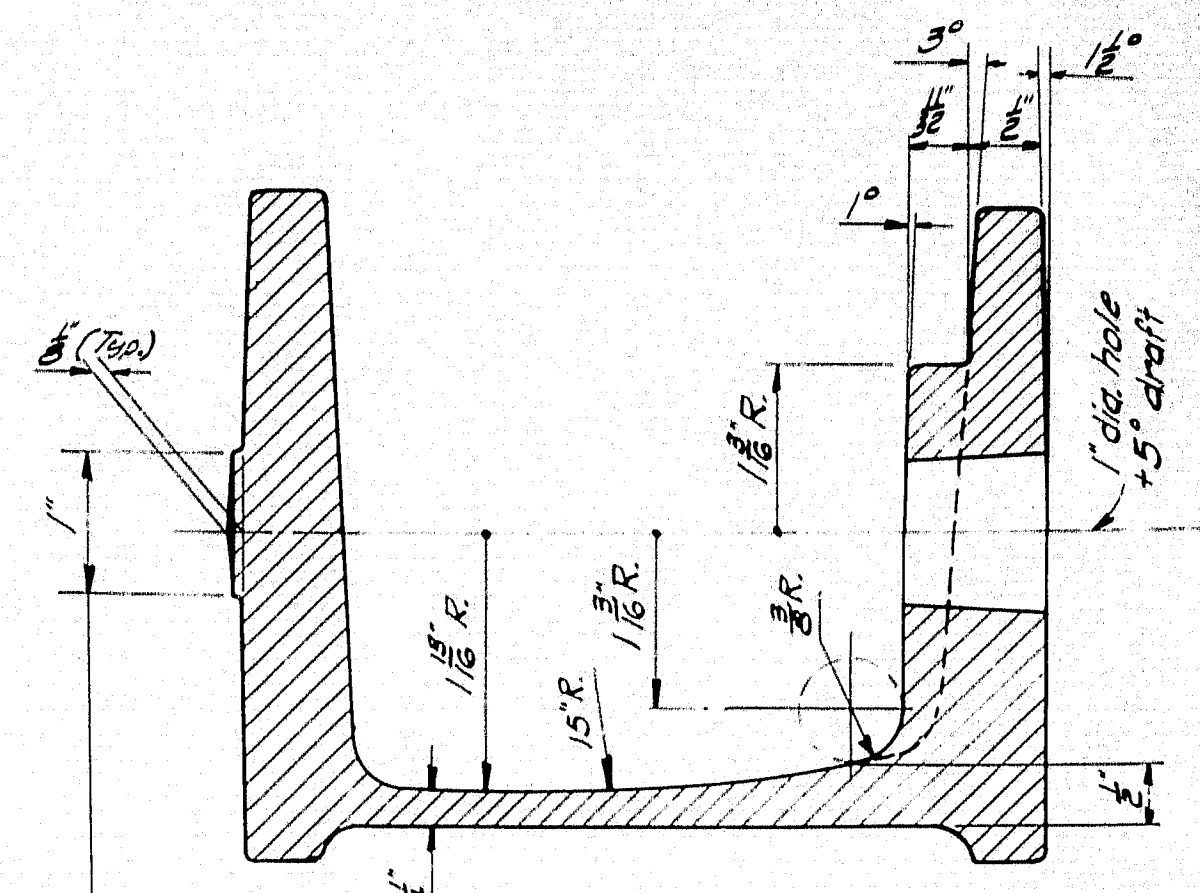
See Subsection 713.03 Standard Specifications  
Revision of June 1965 for pad and fabric washers.  
Required 1-Pad per post



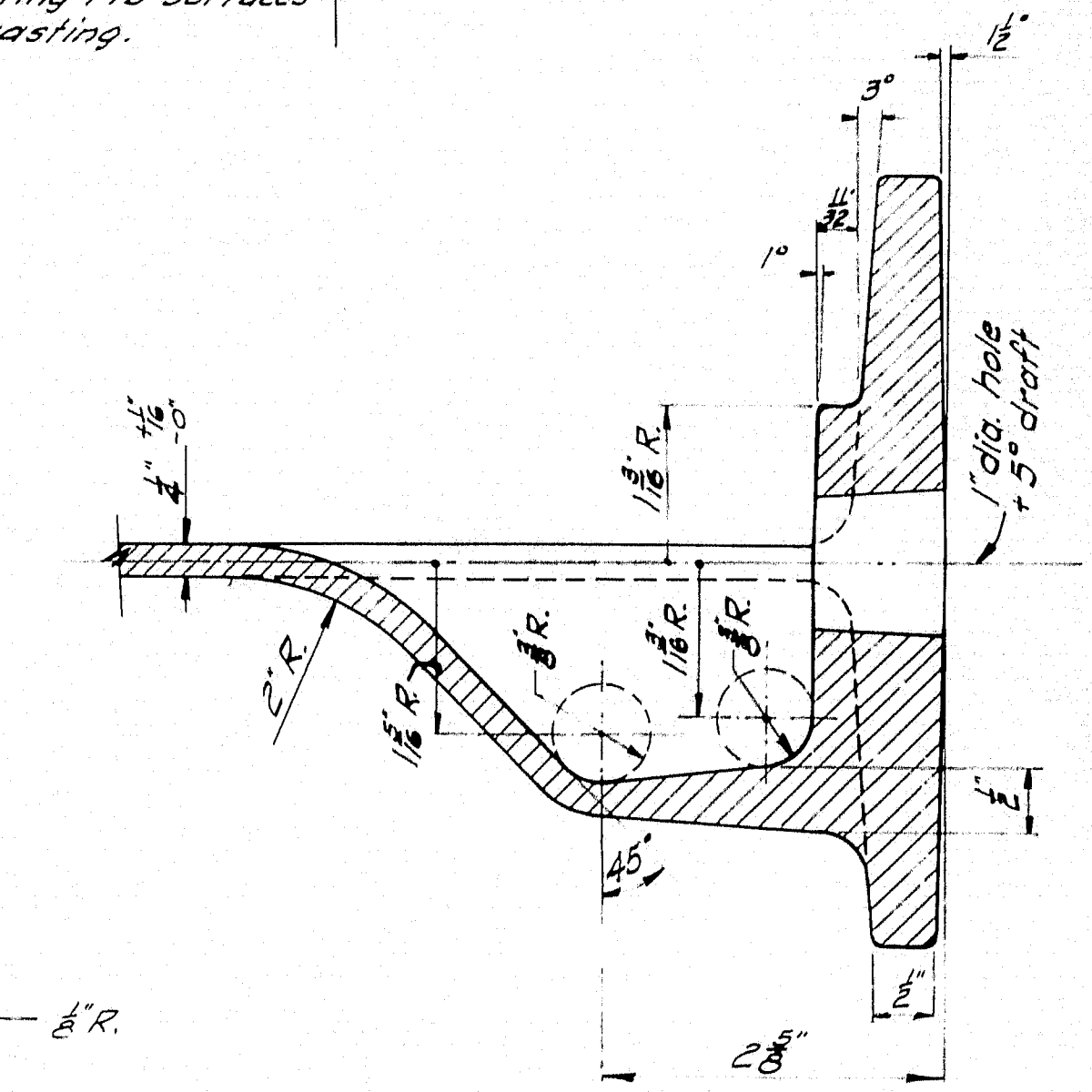
**SECTION C-C**



**DETAIL 'A'**



**SECTION A-A**



**SECTION B-B**

**DESIGN SPECIFICATIONS**

A.A.S.H.O. Interim Specifications  
Int. I (64).

MAINE STATE HIGHWAY COMMISSION  
AUGUSTA, MAINE

**STANDARD DETAILS**  
(BD 108-65)  
**ALUMINUM RAILING**  
2-BAR (TUBE RAIL)  
CAST POST  
OCTOBER 1965

M-2300 Smith Pond Bridge, Skowhegan

