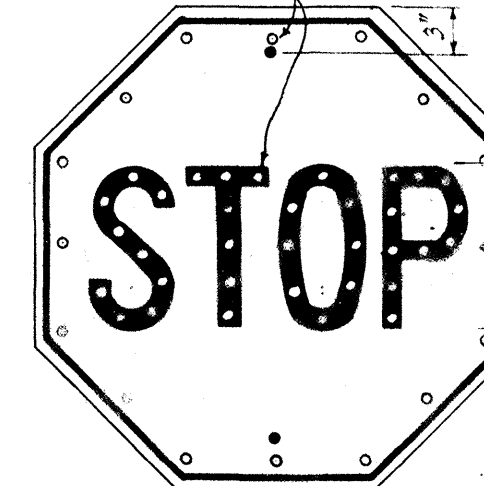
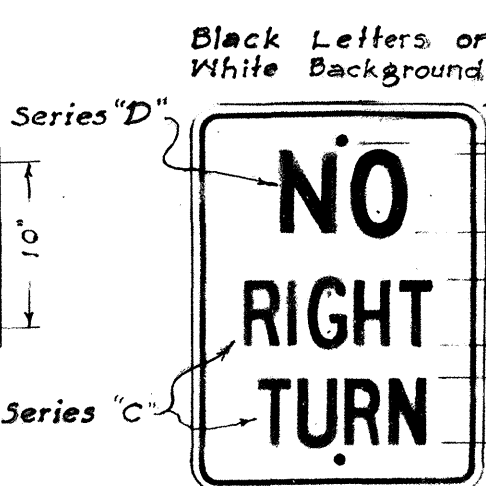


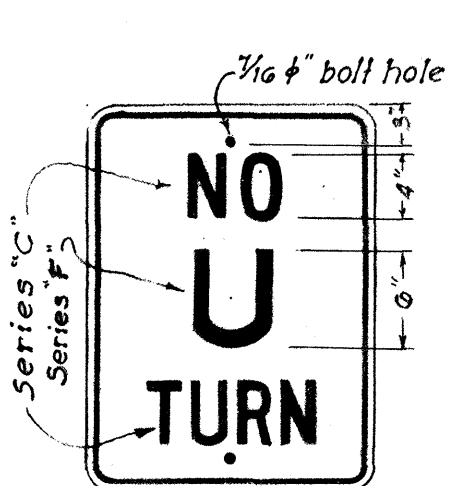
Black Letters on "Highway Yellow" Background White Reflectors



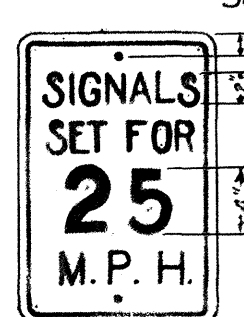
R-1
30" x 30"



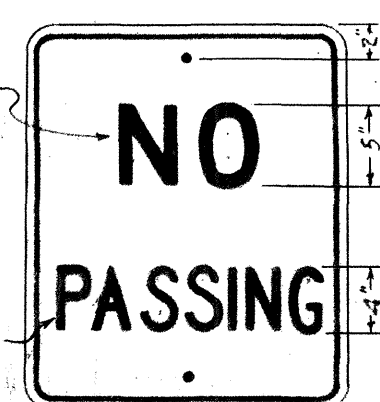
R-6
18" x 24"



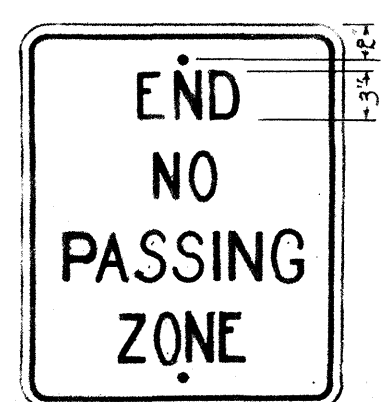
R-8
18" x 24"



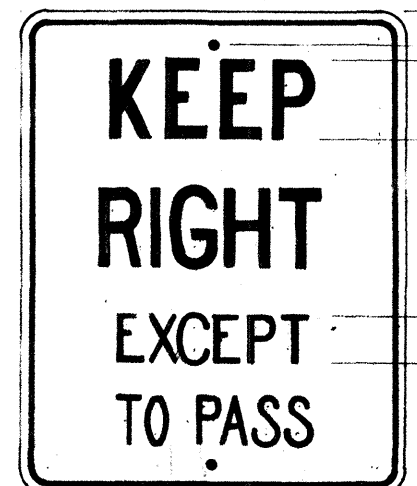
R-10
12" x 18"



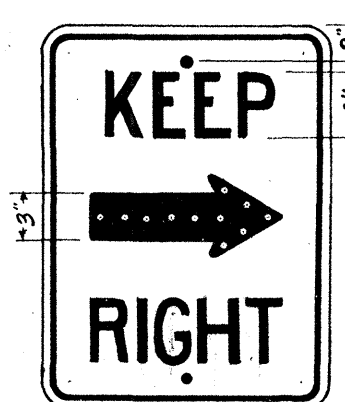
R-11
20" x 24"



R-12
20" x 24"



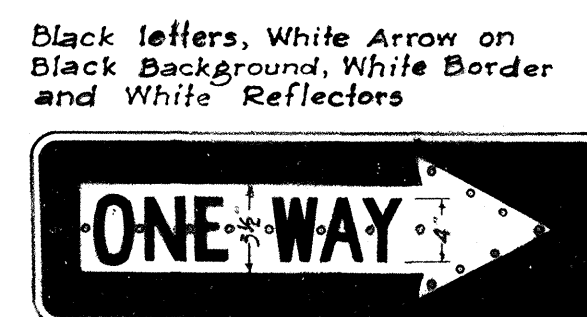
R-13
24" x 30"



R-14
18" x 24"



R-15
24" x 24"



R-16-R
*R-16-L
36" x 12"



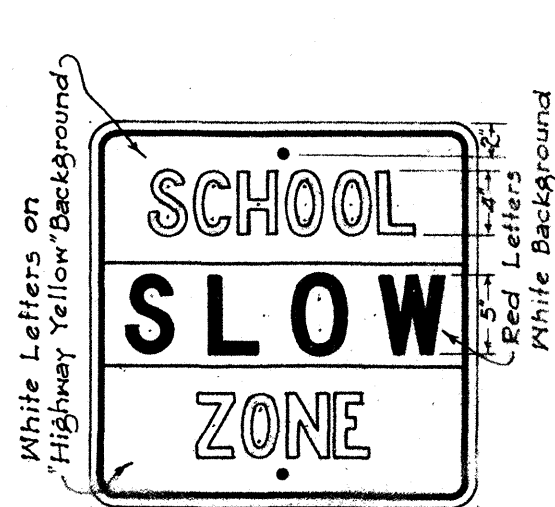
R-18
12" x 18"



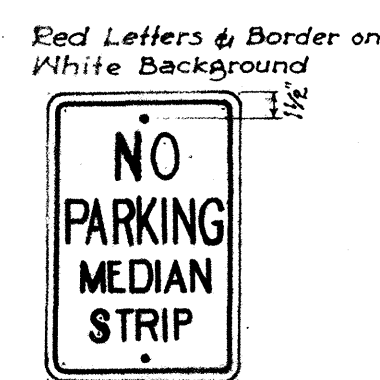
R-26
12" x 18"



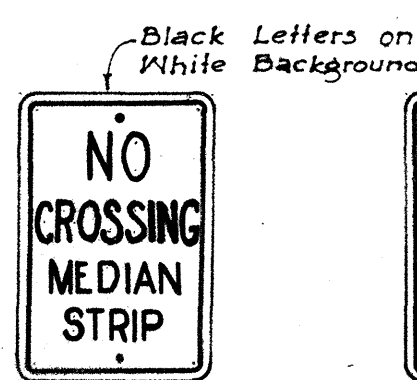
R-29
24" x 30"



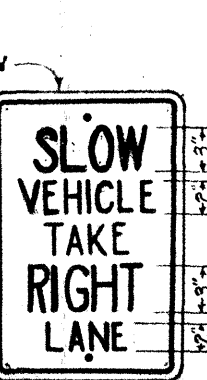
R-41-S
24" x 24"



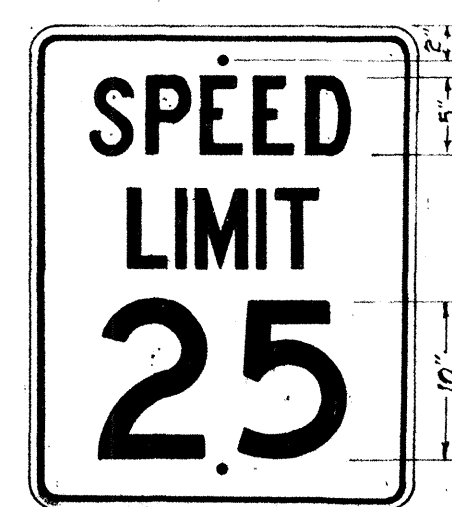
R-42-S
12" x 18"



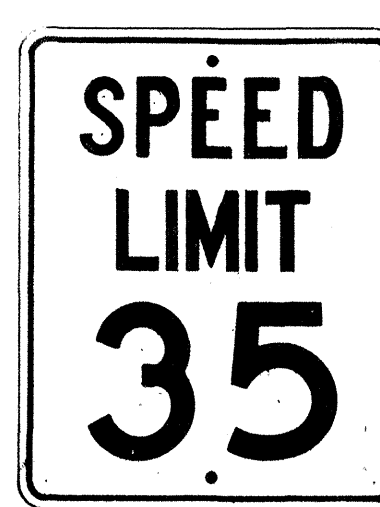
R-43-S
12" x 18"



R-44-S
12" x 18"



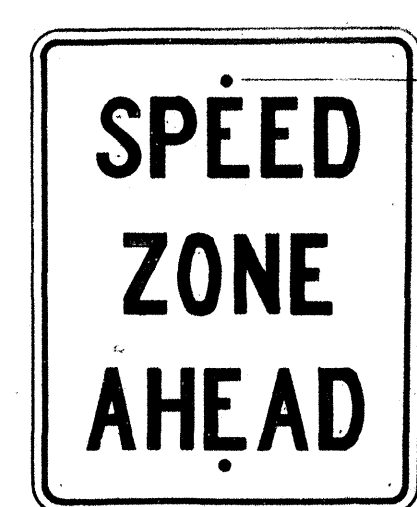
R-102-A
24" x 30"



R-102-B
24" x 30"



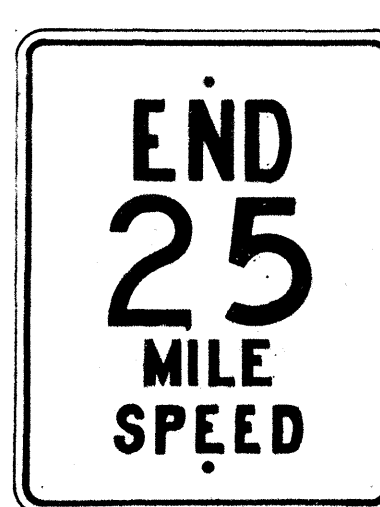
R-102-C
24" x 30"



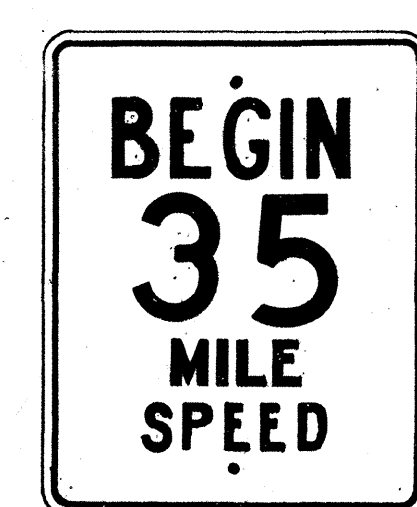
R-104
24" x 30"



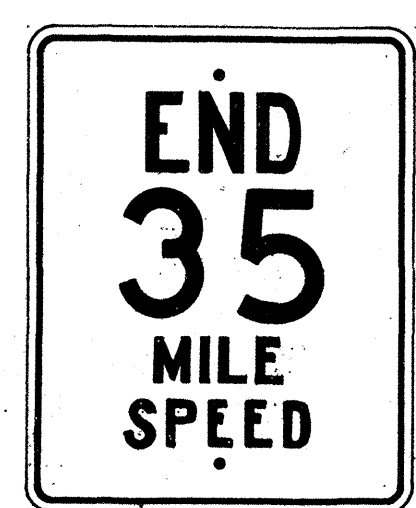
R-105-A
24" x 30"



R-105-B
24" x 30"



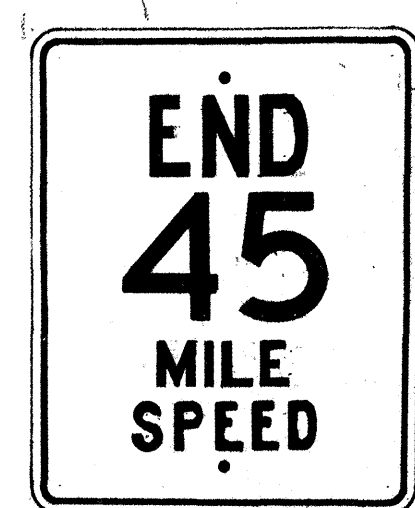
R-105-C
24" x 30"



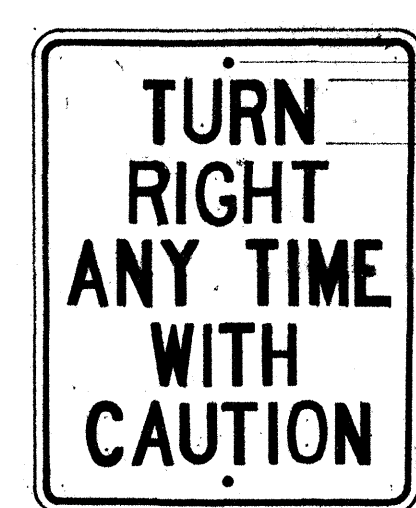
R-105-D
24" x 30"



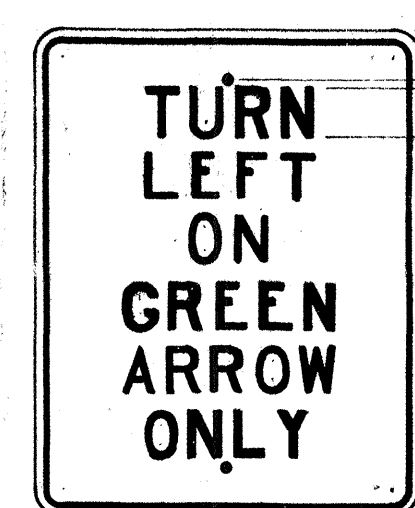
R-105-E
24" x 30"



R-105-F
24" x 30"



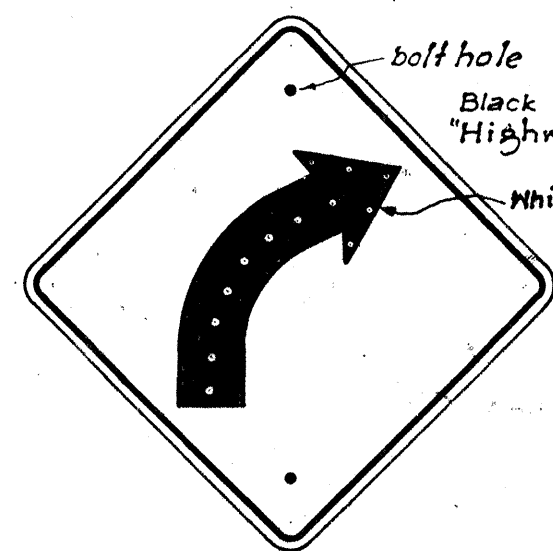
R-106
24" x 30"



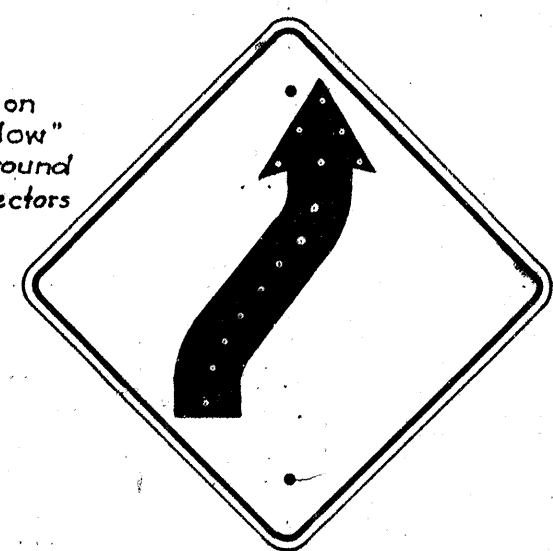
R-107-A
24" x 30"



R-107
14" x 9"



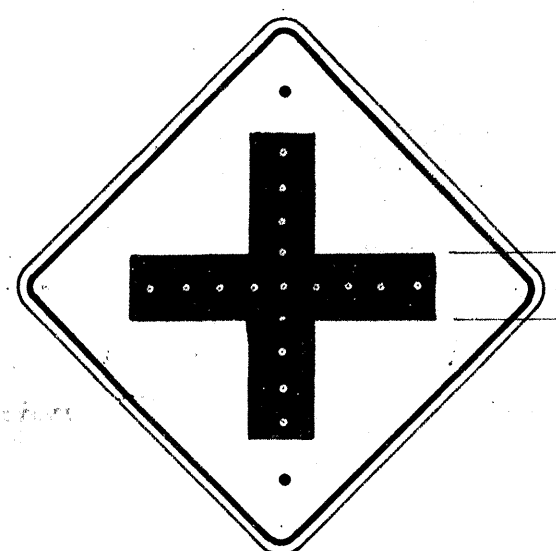
W-2-R
*W-2-L
24" x 24"



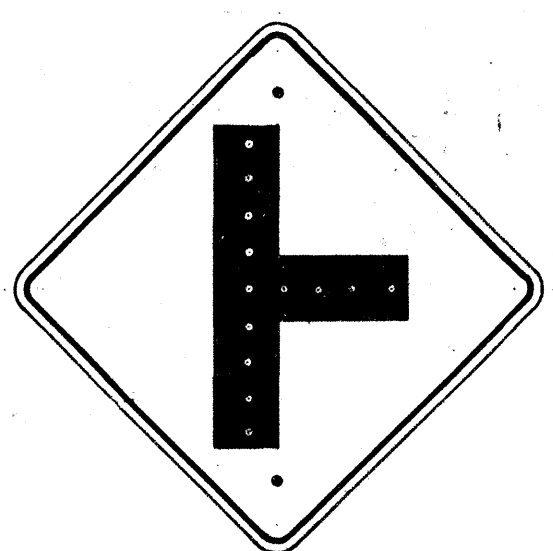
W-4-R
*W-4-L
24" x 24"



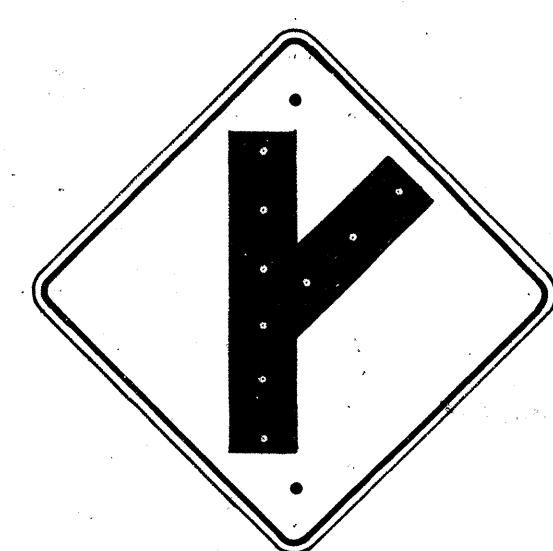
W-5-R
*W-5-L
24" x 24"



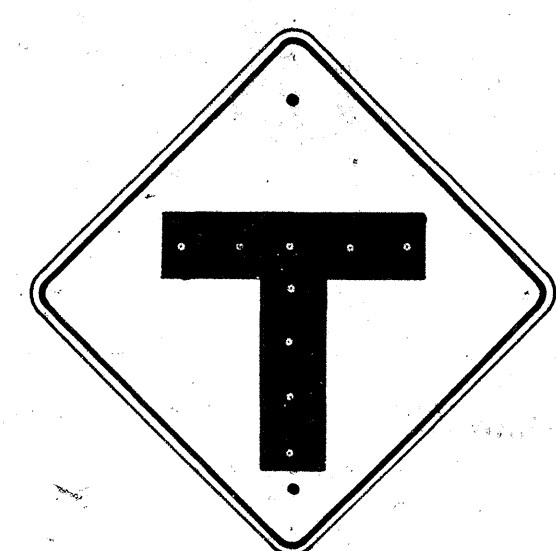
W-6
24" x 24"



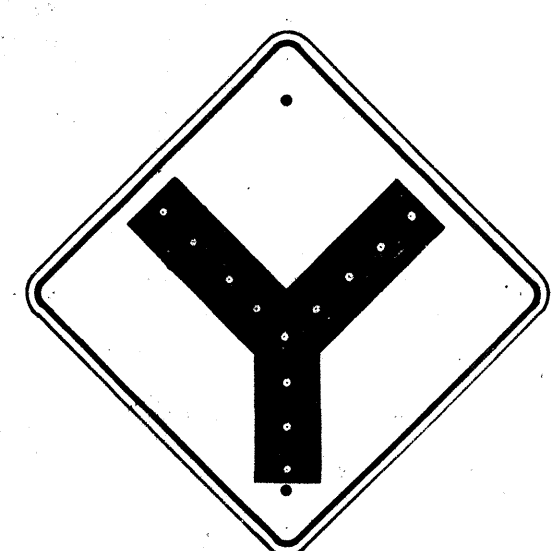
W-7
24" x 24"



W-8-R
*W-8-L
24" x 24"



W-9
24" x 24"



W-10
24" x 24"



W-13
24" x 24"



W-14
24" x 24"



W-14-A
24" x 24"



W-19
30" x 30"



W-20
30" x 30"



W-21
30" x 30"



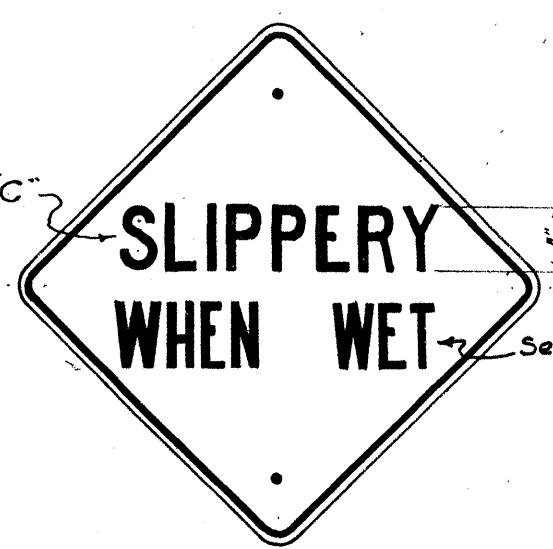
W-22
24" x 24"



W-24
30" x 30"



W-25
24" x 24"



W-29
24" x 24"



W-38
24" x 24"



W-39
24" x 24"

NOTE: All Warning Signs shall have two (2) 1/8" bolt holes drilled at 24" center unless otherwise noted.

All letters and figures shall be of size and design shown and shall conform with "Standard Alphabets for Highway Signs" as set forth by the Public Roads Administration, Federal Works Agency. Series "C" letters and Series "D" numerals shall be used except where noted.

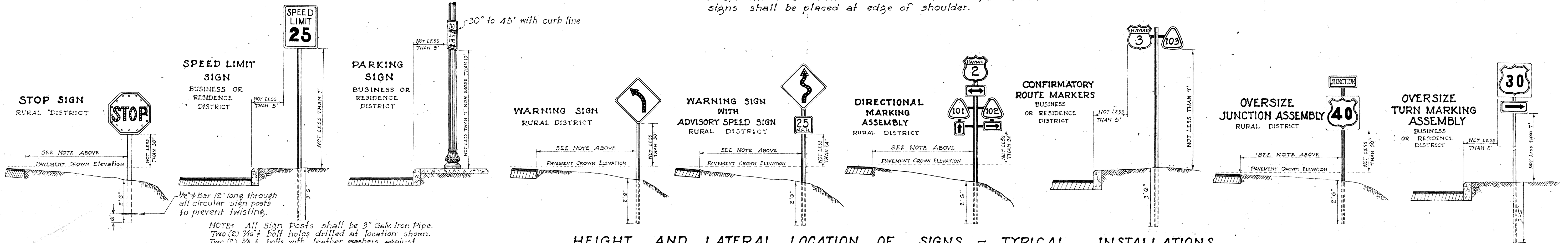
Note: All Regulatory (R) signs shall have black letters on a white background except where noted. All Warning (W) signs shall have black letters or figures on a "Highway Yellow" background. *Signs shall be similar but opposite in direction.

DATE _____
DESIGNED BY _____
DRAWN BY _____
CHECKED BY _____
NOTE BOOK _____
No. _____

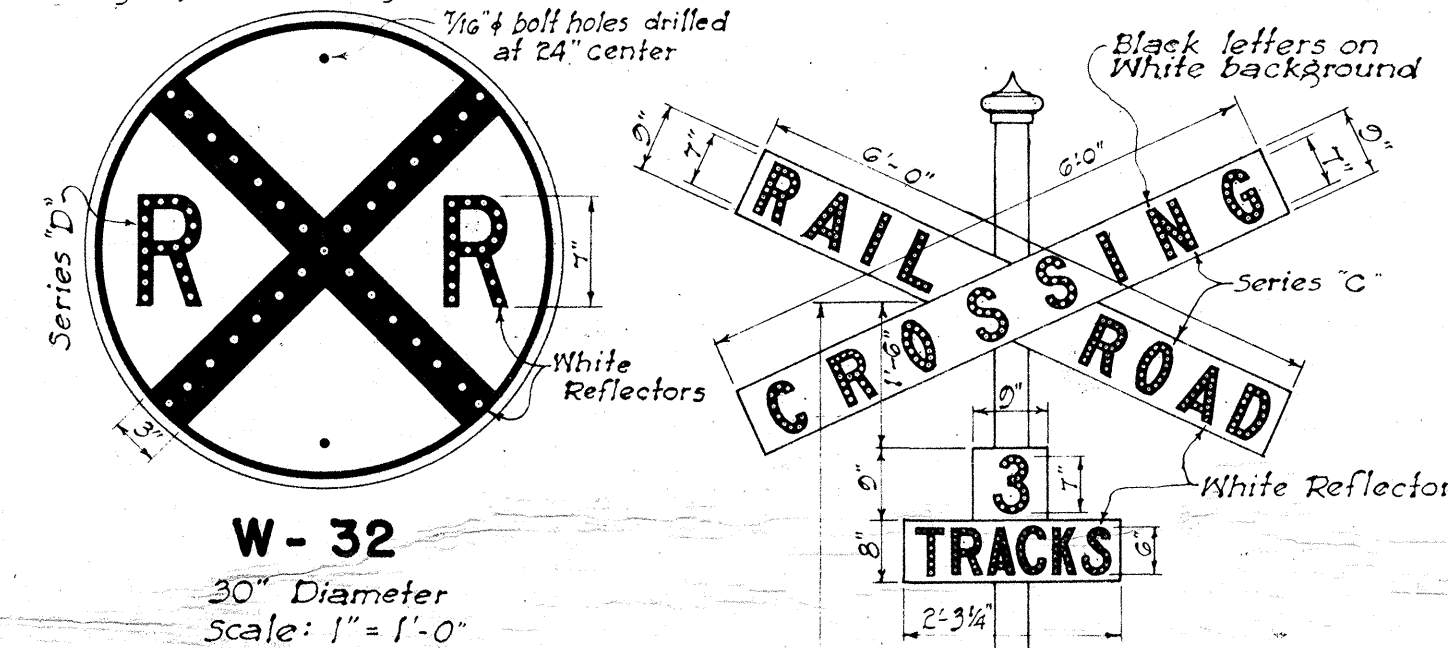
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'
APPROVED: _____ May 31, 1949
TERRITORIAL HIGHWAY ENGINEER

See Specifications for Materials & Finish.

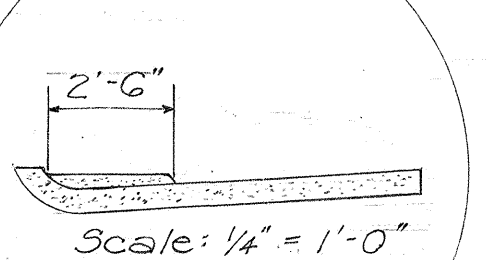
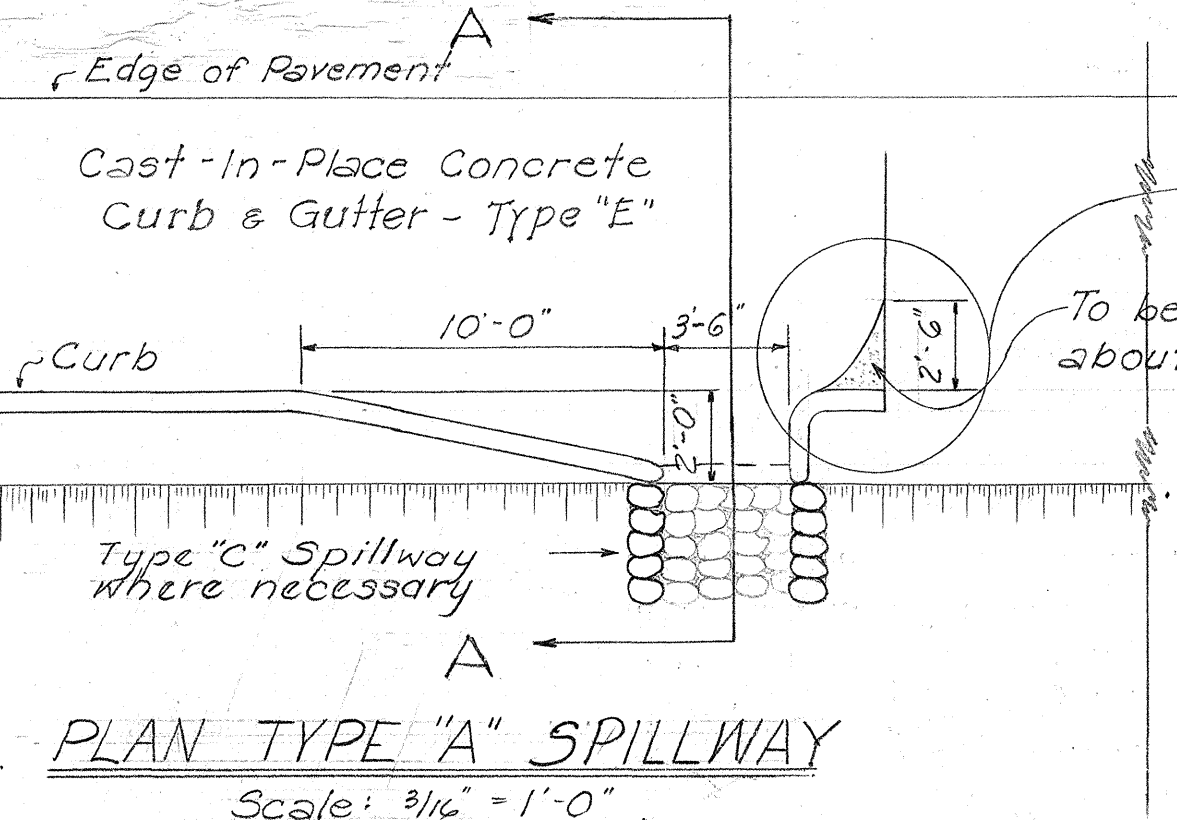
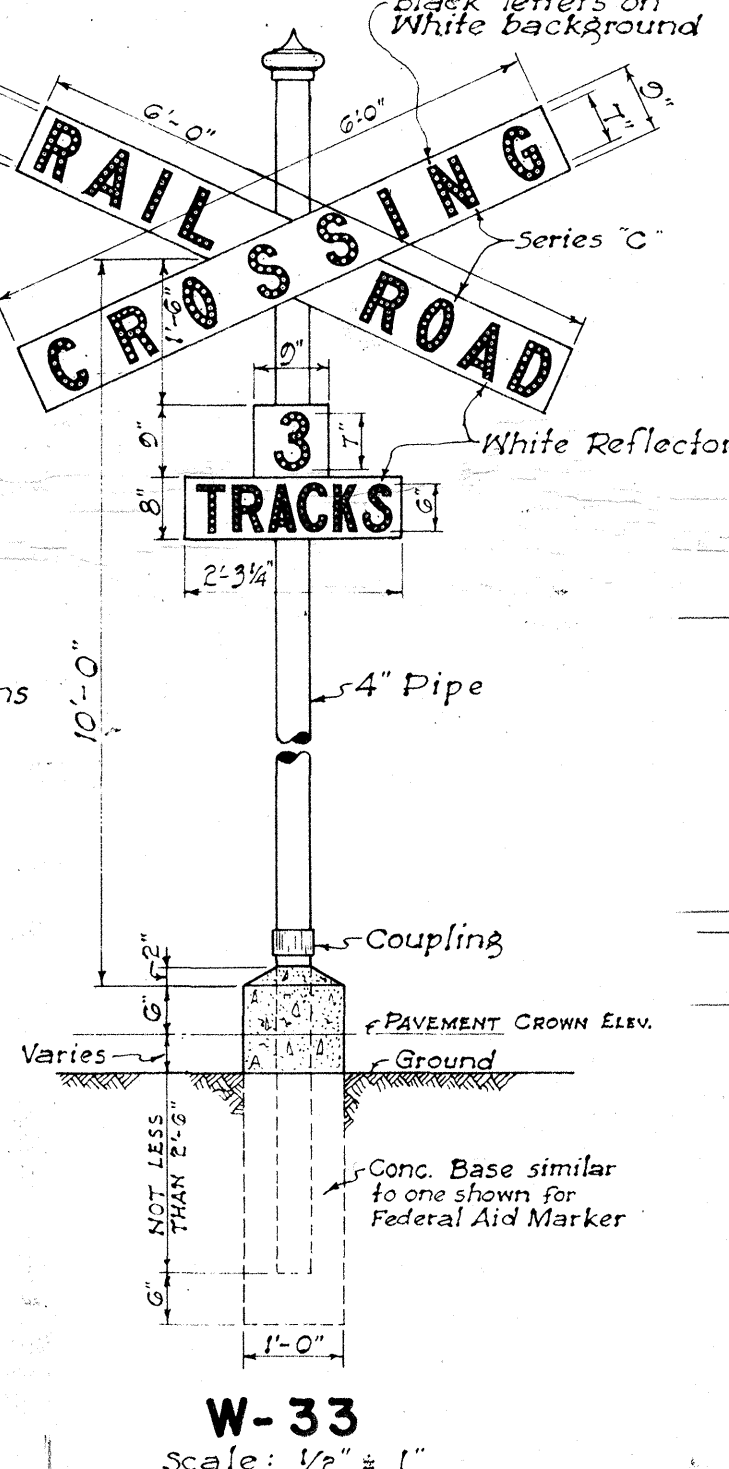
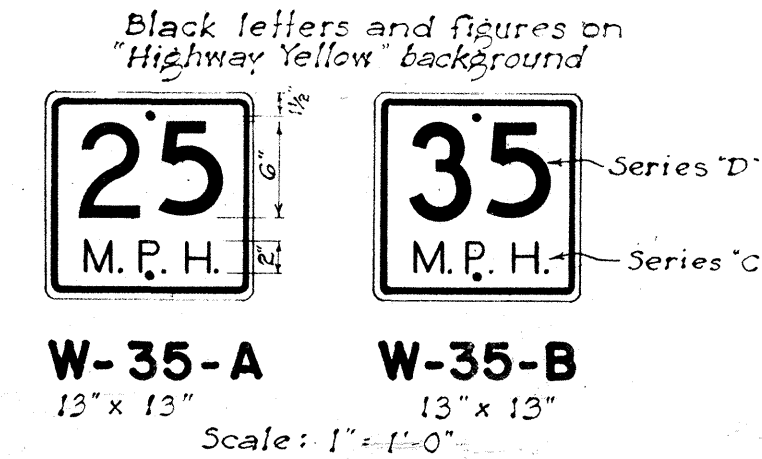
Note: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.



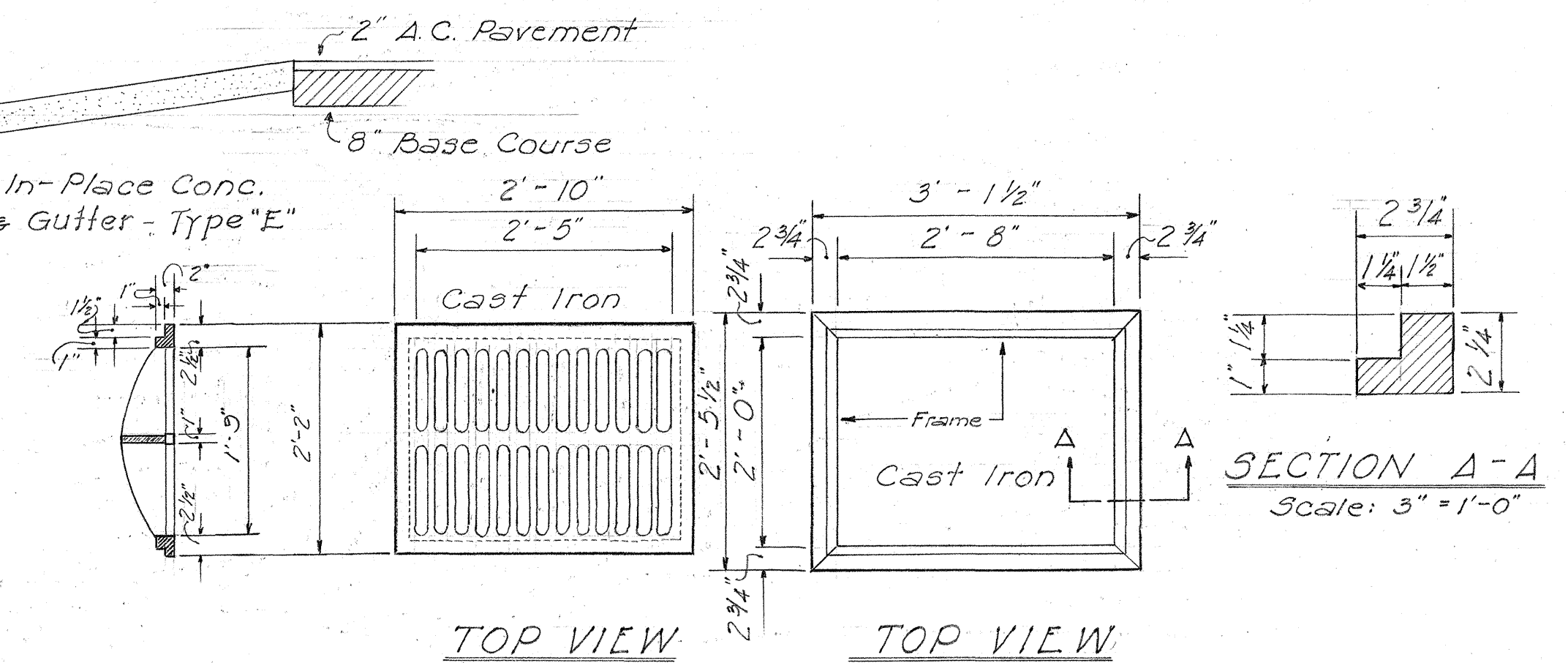
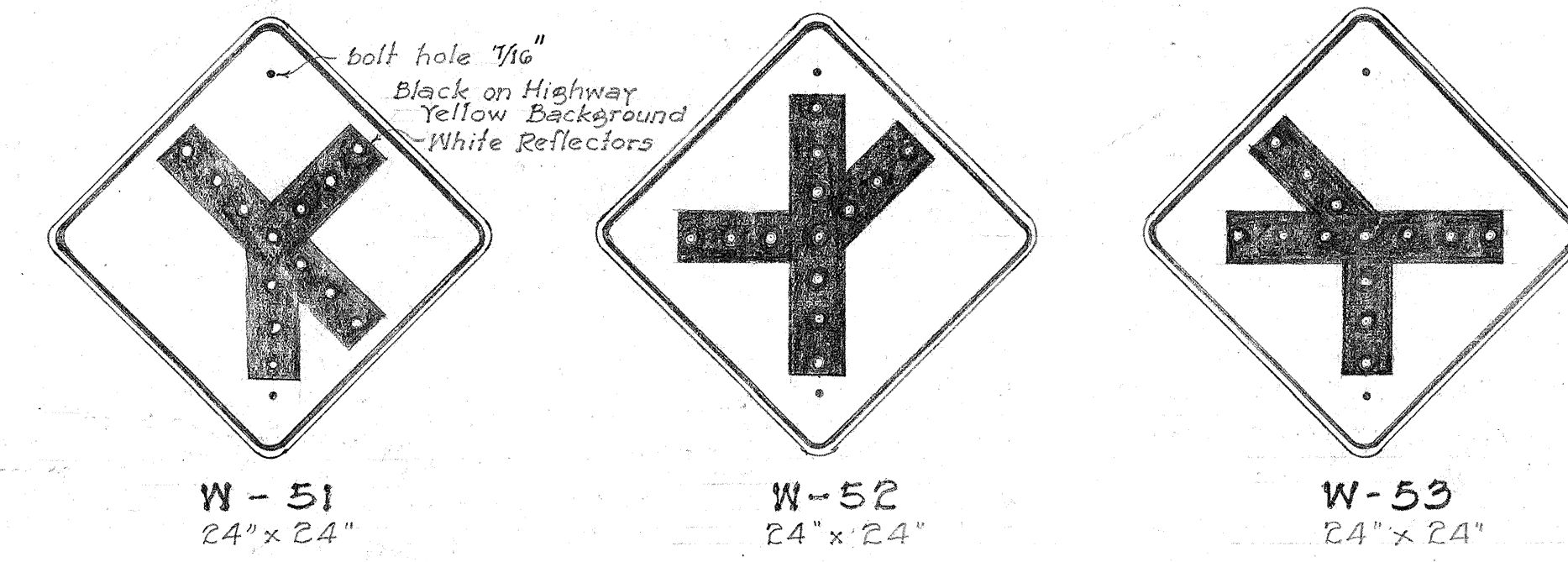
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



Note: This sign shall be placed from 300 to 500 feet from R.R. intersections in rural areas and a minimum distance of 100 feet from R.R. intersections in Residence or Business districts.

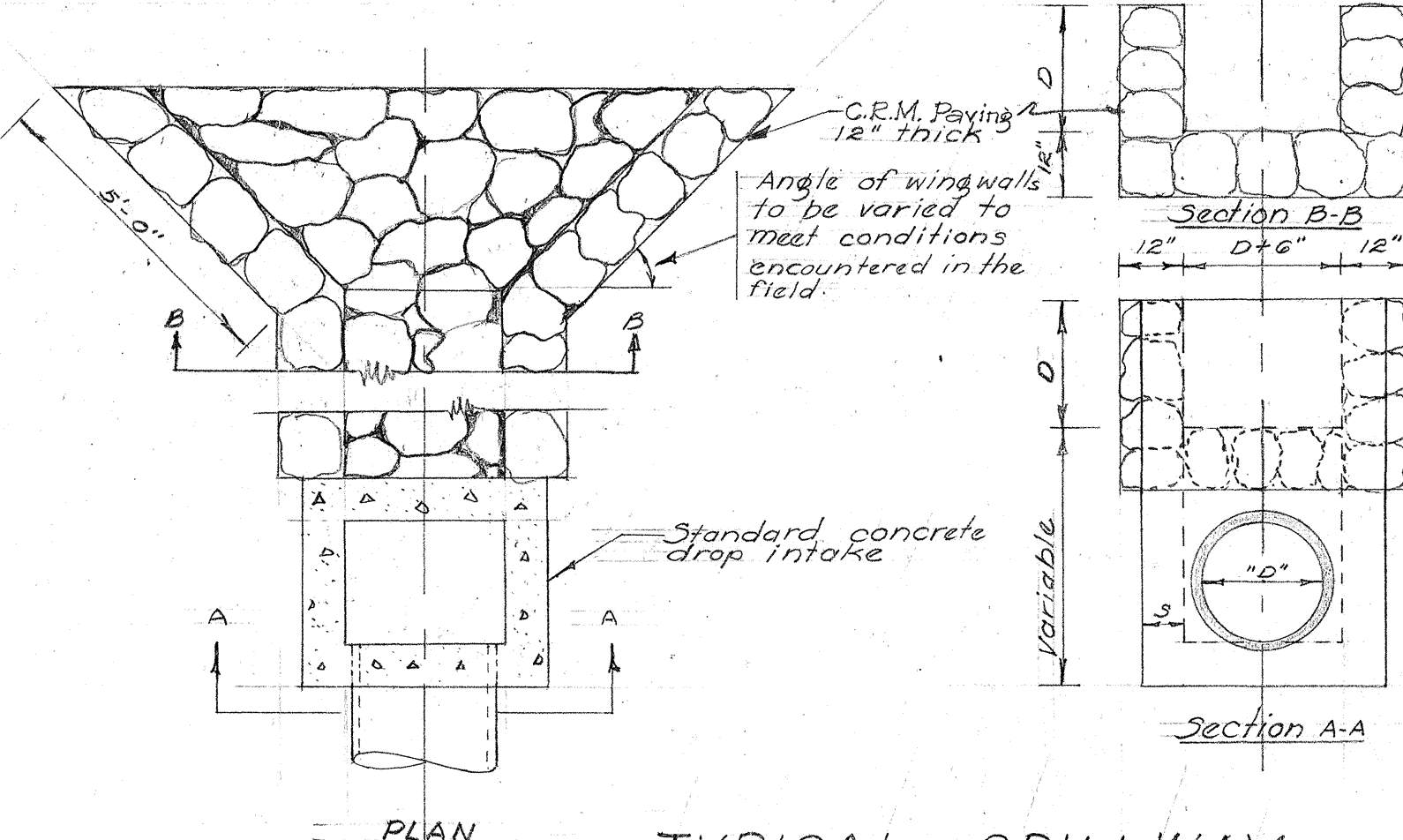
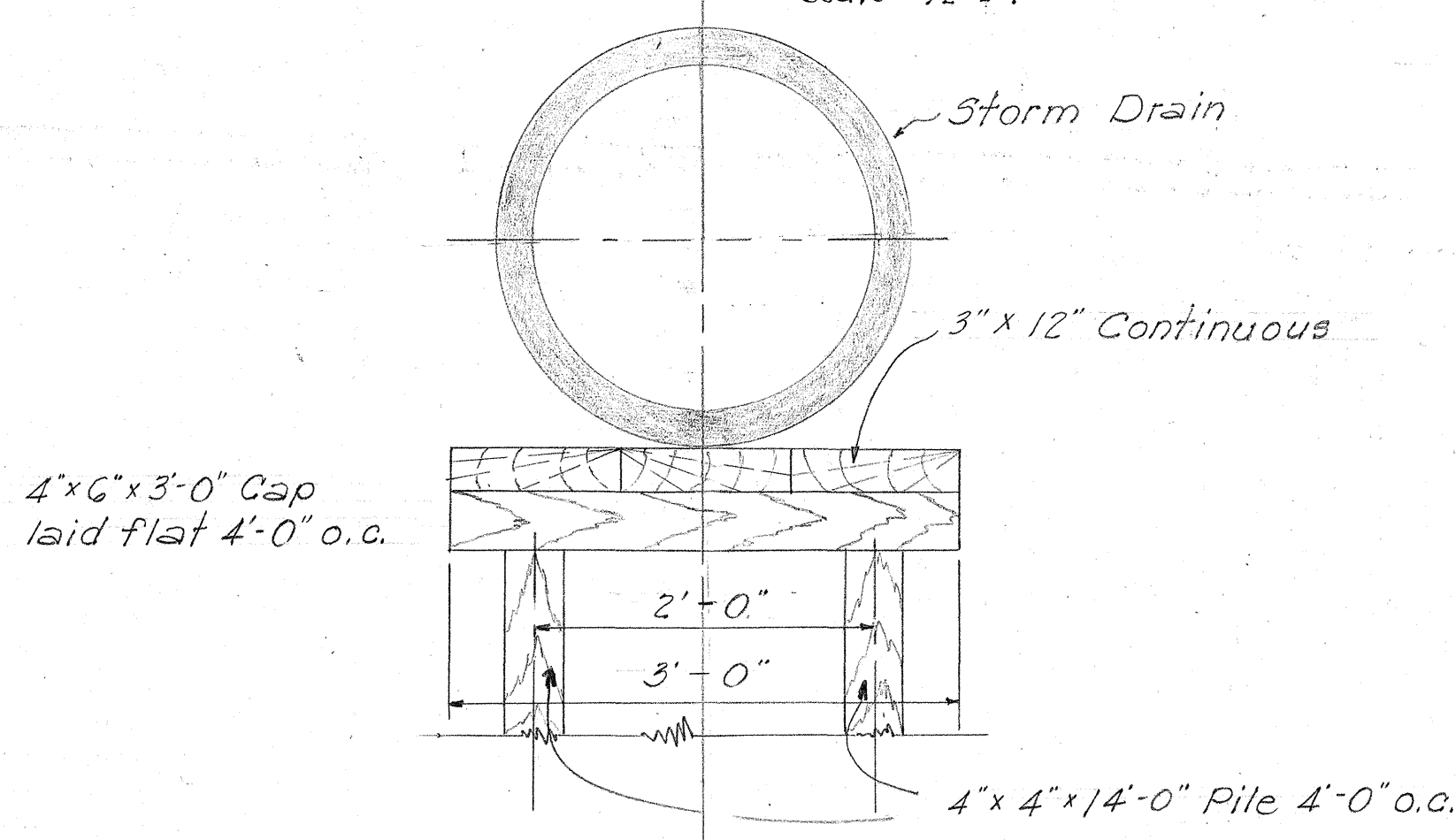


DETAILS OF TYPICAL SPILLWAY TYPE "A"
Scales As Noted

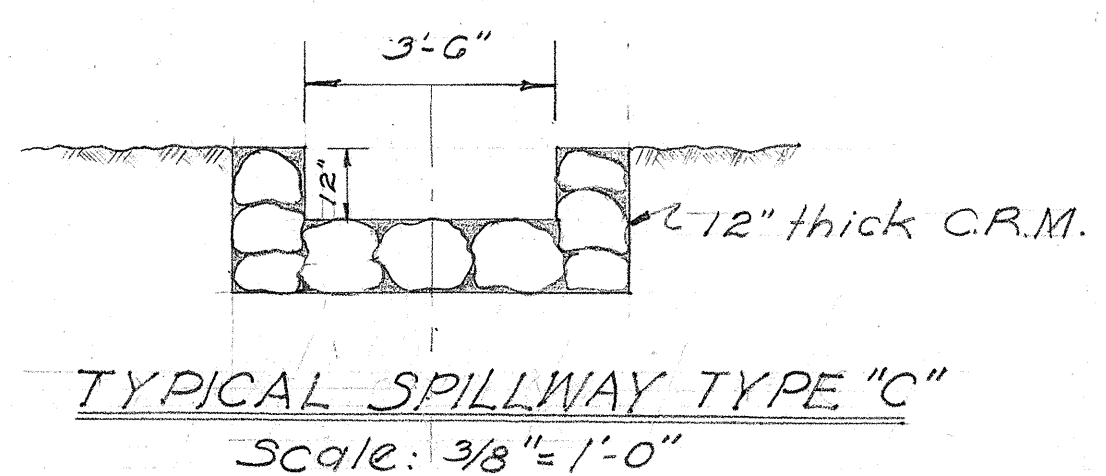


STANDARD C.I. FRAME AND GRATE TYPE "C"
Scale: 3/4" = 1'-0"

NOTE: Stock Pattern from Novelty Foundry - Honolulu



TYPICAL SPILLWAY TYPE "B"
Scale: 3/8" = 1'-0"

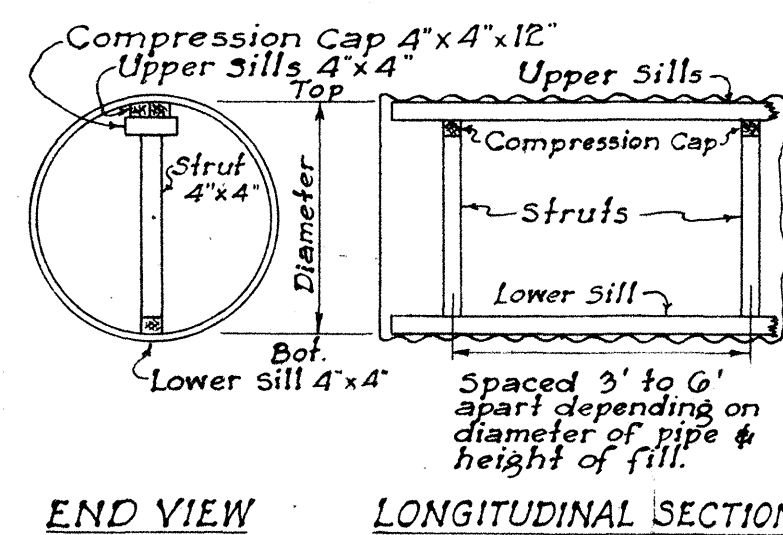
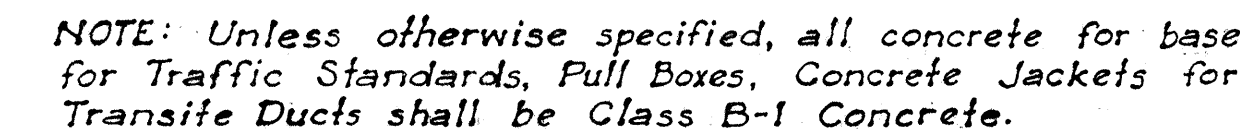
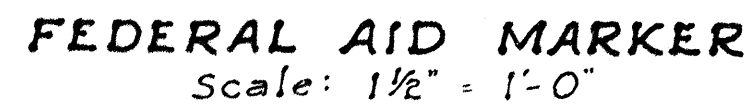


TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

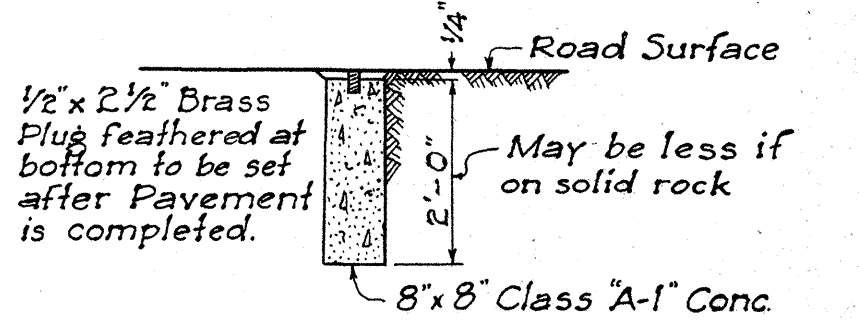
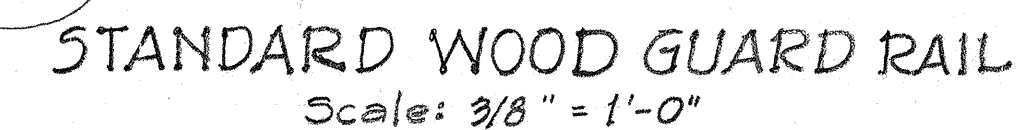
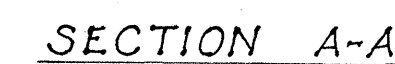
PROJECT NO. F15(3)
Scale: As Noted Sept. 1940

SHEET No 2 OF 6 SHEETS

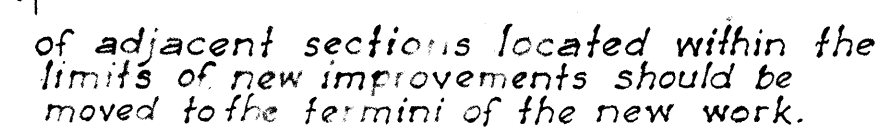
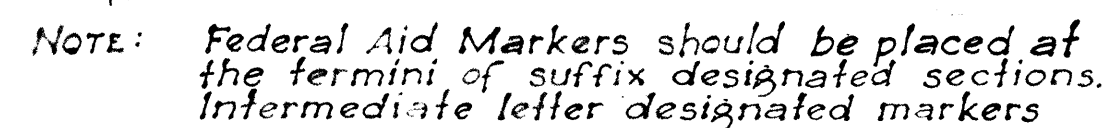


NOTE: Length of Struts are based on 4"x4" timbers which is the minimum size recommended. If larger sills or compression caps are used, length of struts should be changed accordingly.

Diagram showing the Plan view of the component. The dimensions are 25"± (width) and 15"± (height). A section line A-A is indicated on the left side.



CENTER LINE MONUMENT
Scale: $\frac{1}{2}" = 1' - 0"$



The same procedure would be followed on each successive improvement until all markers for letter designated sections are eventually eliminated.

Butt Joints to be left open approx.
1/2" and spaced every other post.
except on sharp curves.

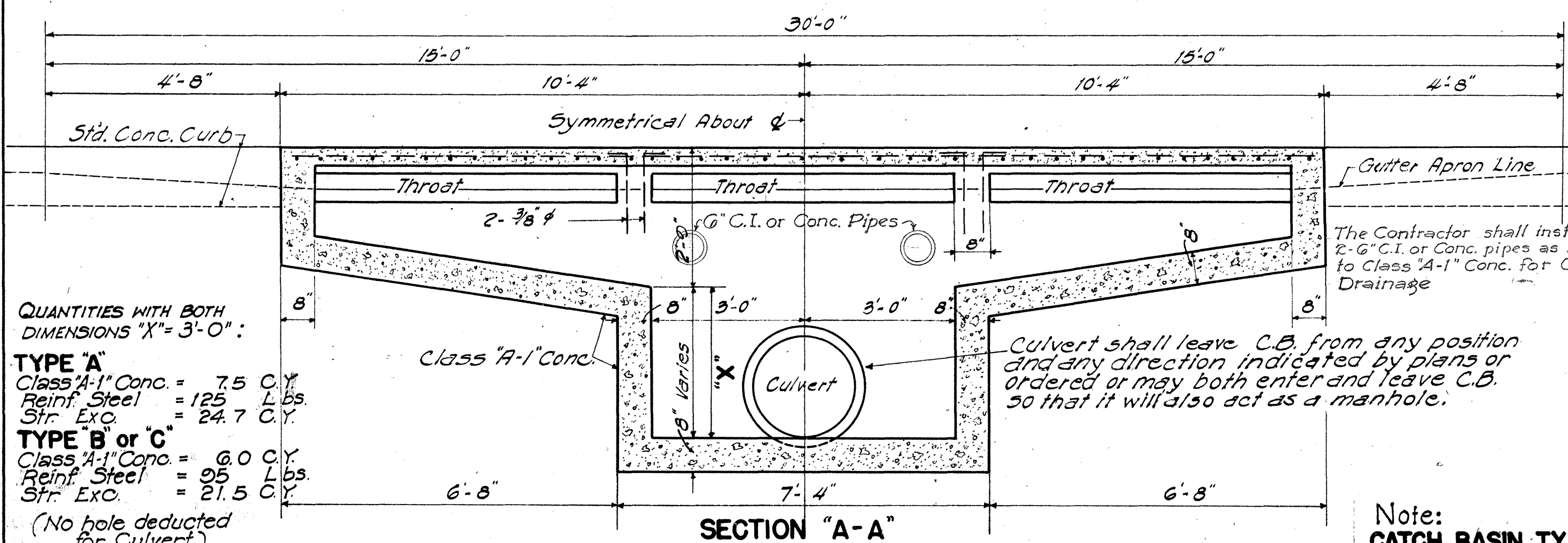
4"x8"x18'-0" S4S Railing painted 3 coats of white paint. Contact surfaces between posts and rails and all butt joints shall be painted 3 coats before assembly.

STANDARD DETAILS

SCALES: AS NOTED May 31, 1949

APPROVED: Wm. Selt
Territorial Highway Engineer

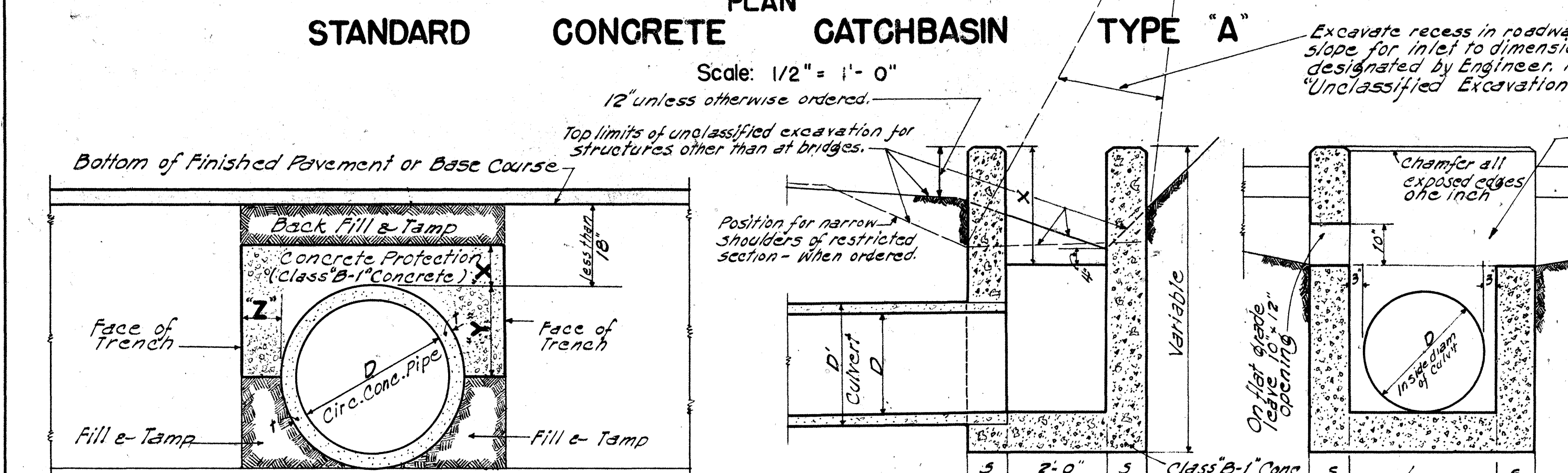
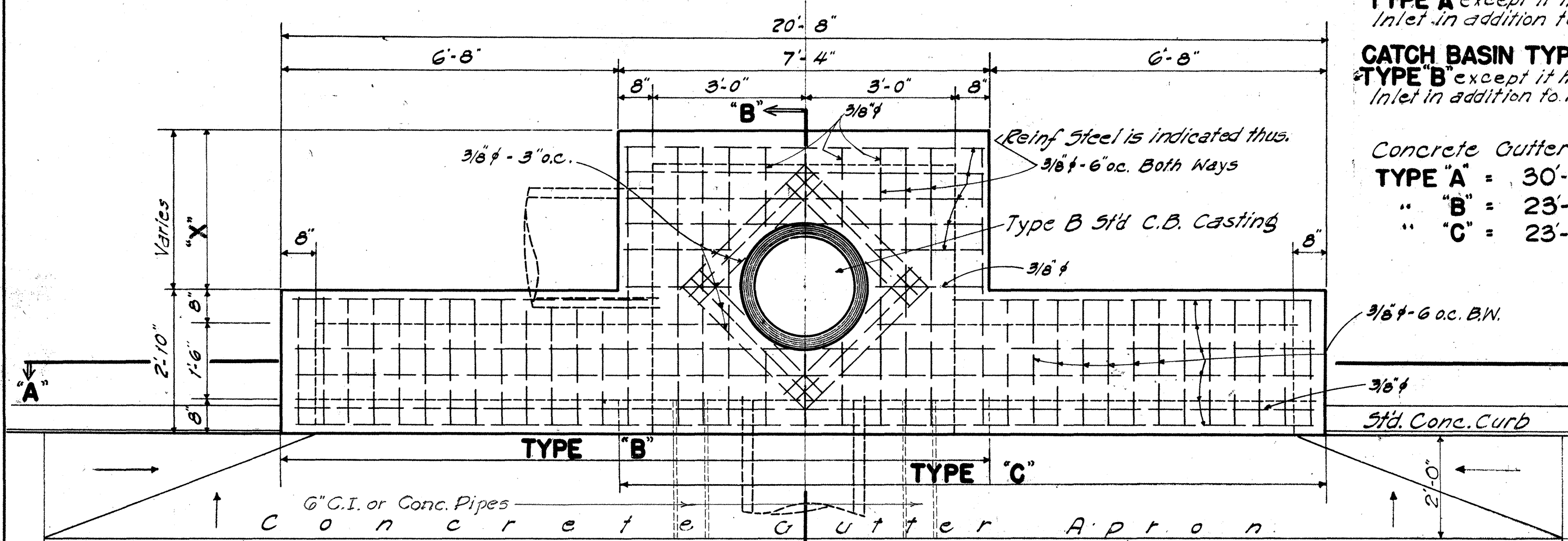
SHEET No 3 OF 6 SHEETS



Note:
CATCH BASIN TYPE "B" similar to **TYPE "A"** except it has only Left Side Inlet in addition to the Main Box.

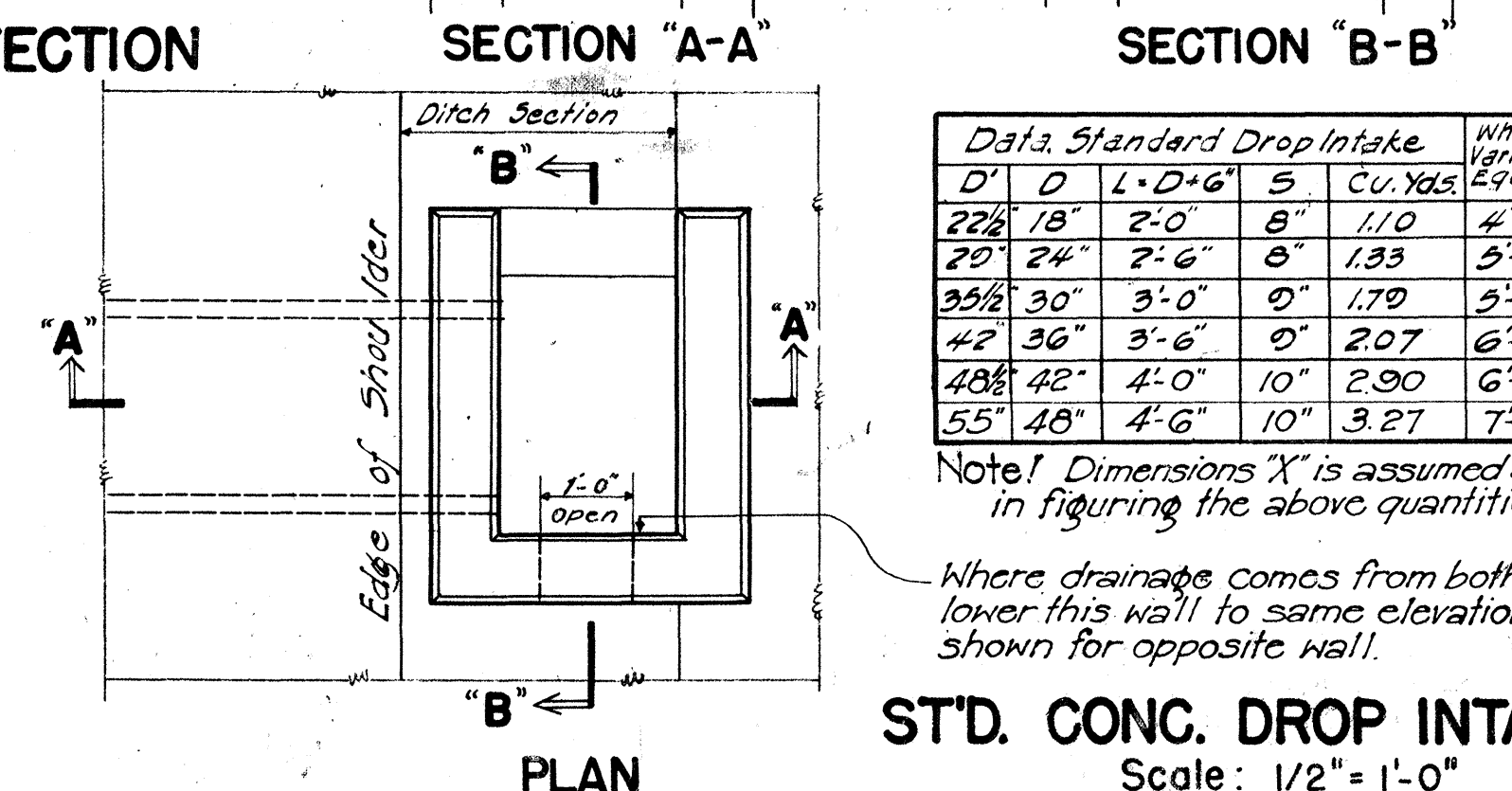
CATCH BASIN TYPE "C" similar to **TYPE "B"** except it has only Right Side Inlet in addition to the Main Box.

Concrete Cutoff Apron Length:
TYPE "A" = 30'-0"
"B" = 23'-4"
"C" = 23'-4"

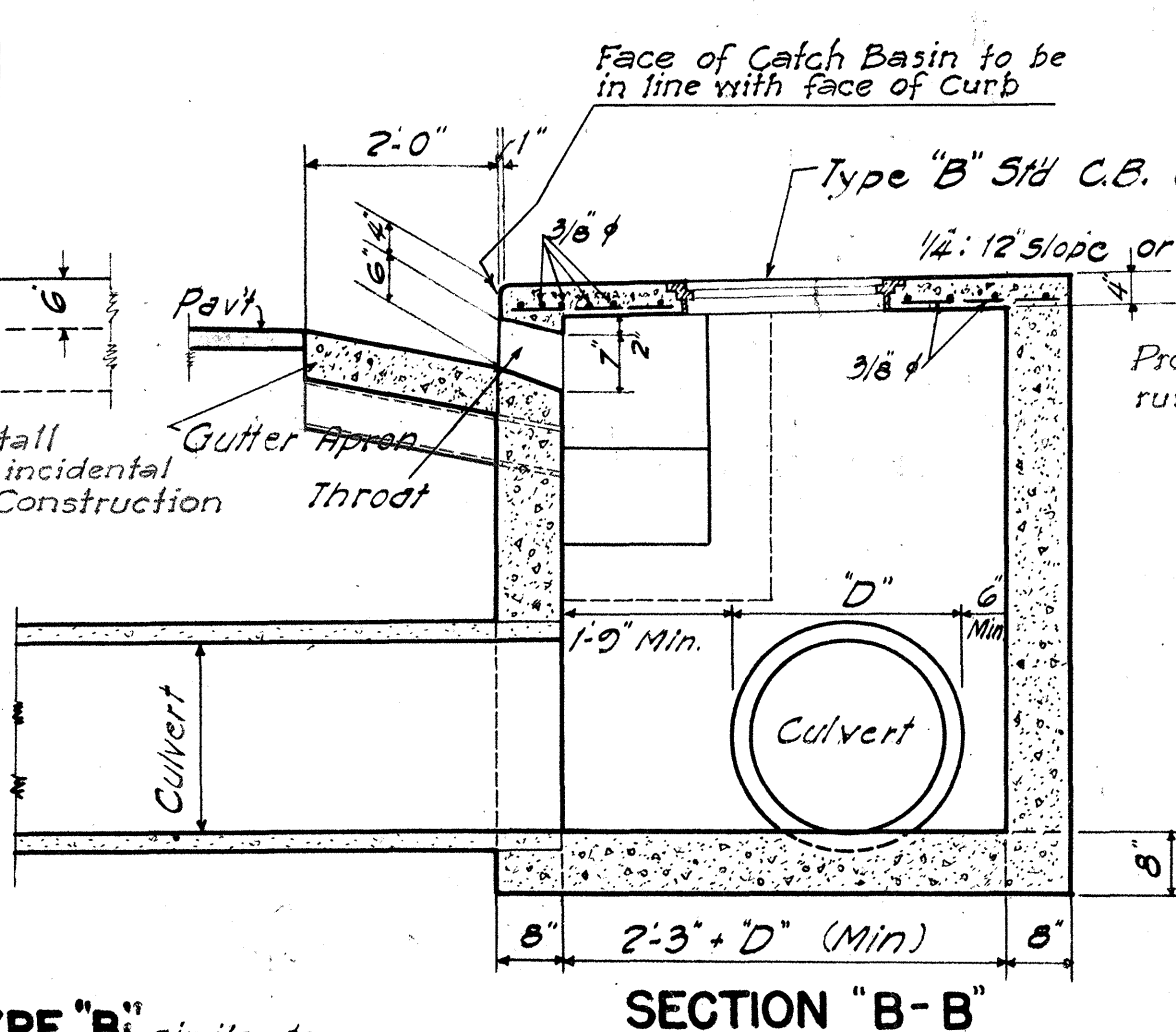


TYP. SECT. OF CULVERT WITH CONC PROTECTION
 (To be used when cover is less than 18")

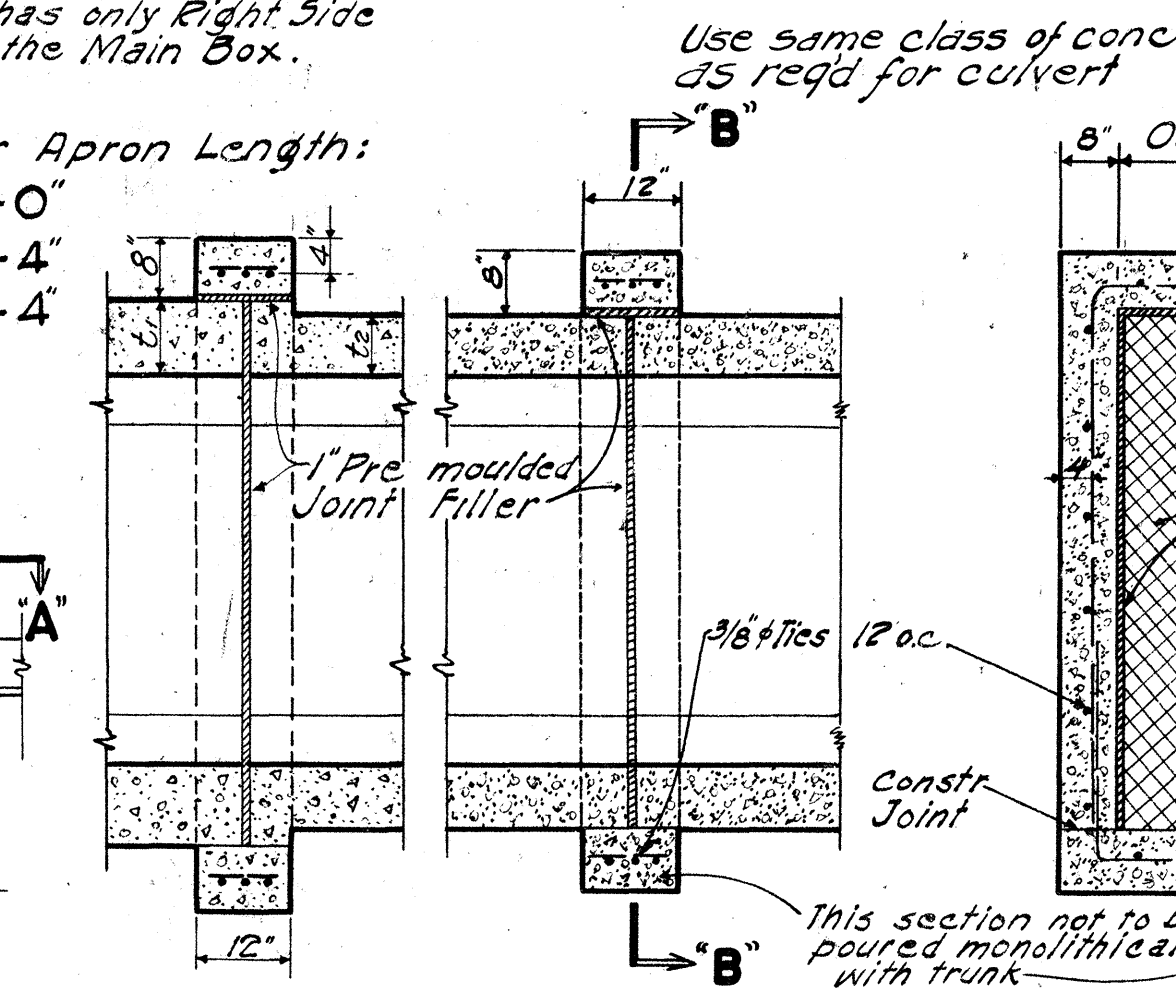
DATA: CONCRETE PROTECTION OVER CULVERTS		
X	Y	Z
6" for 18" D		Z must be from pipe to face of trench
7" " 24" D		
8" " 30" D		
9" " 36" D		
10" " 42" D		
11" " 48" D		Minimum = X
12" " 54" D		
		Maximum pay quantity will be Z = 12"



ST'D. CONC. DROP INTAKE
 Scale: 1/2" = 1'-0"



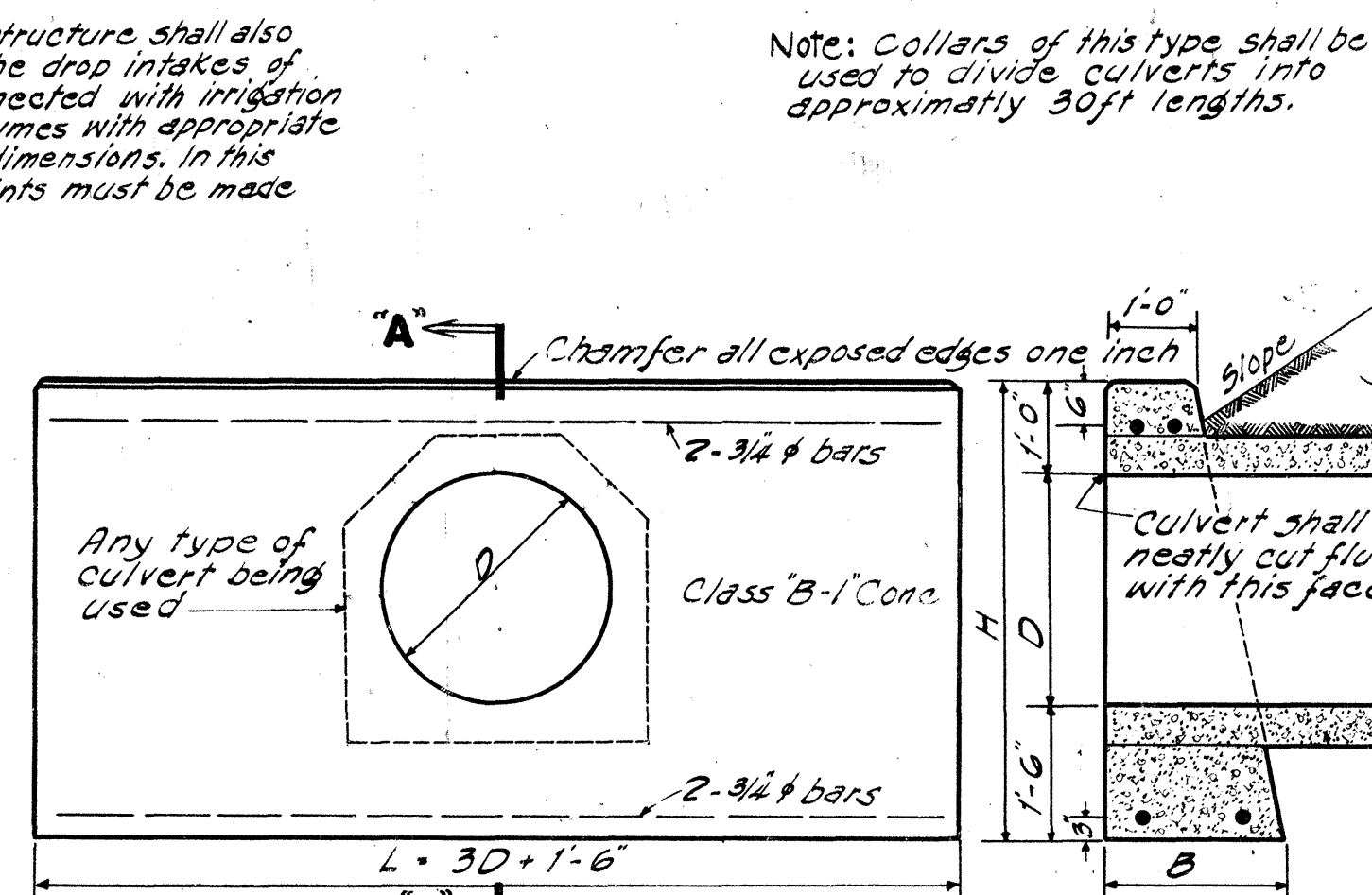
SECTION "B-B"



SECTION "B-B"

CONC. COLLAR FOR CONC. BOX CULVERT

Scale: 1/2" = 1'-0"



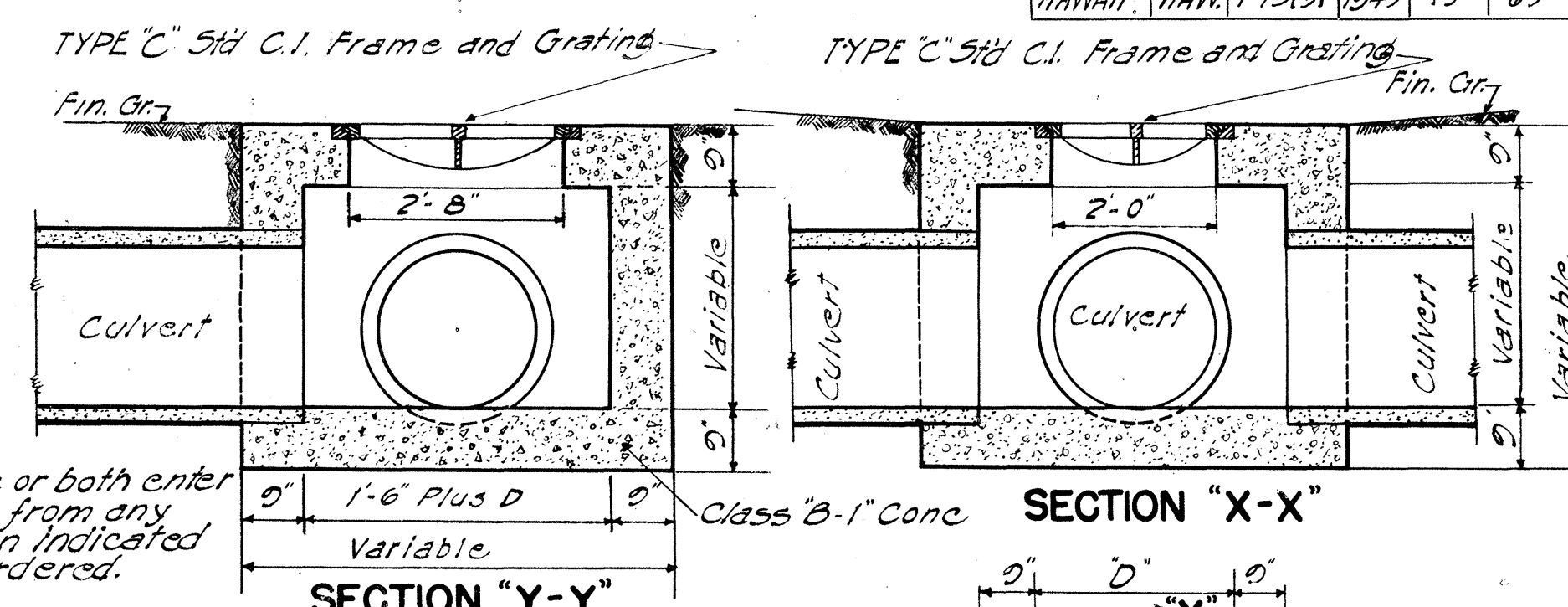
FRONT ELEVATION

SECTION "A-A"

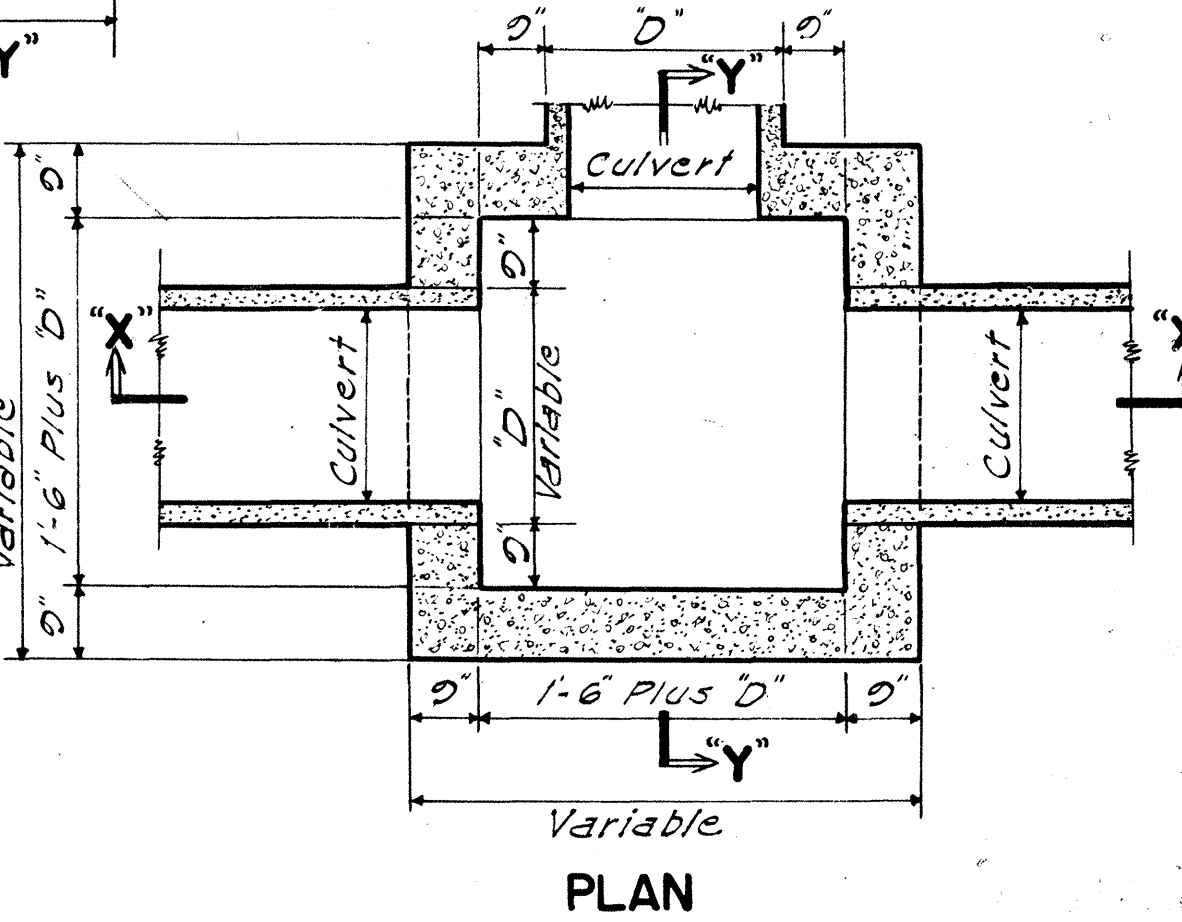
Cast-in-Place	Data: Standard Concrete Headwall				Steel One Headwall			
Cu. Yds.	D	B	L	H	Conc. one H.W.	No. of Bars	Size	Length
0.92 Cu. Yds.	18"	1'-6"	6'-0"	4'-0"	1.00 Cu. Yds.	4	3/4"	5'-6"
1.25 "	24"	1'-6"	7'-6"	4'-6"	1.38 "	4	"	7'-0"
1.93 "	30"	2'-0"	9'-0"	5'-0"	2.17 "	4	"	8'-6"
2.45 "	36"	2'-0"	10'-6"	5'-6"	2.74 "	4	"	10'-0"

STANDARD CONCRETE HEADWALL

Scale: 1/2" = 1'-0"

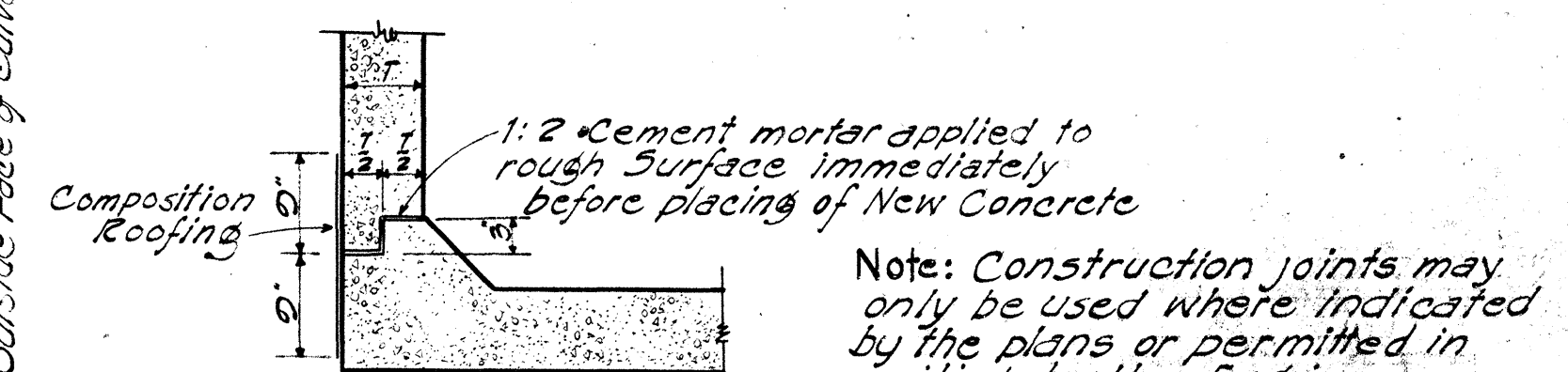


SECTION "Y-Y"



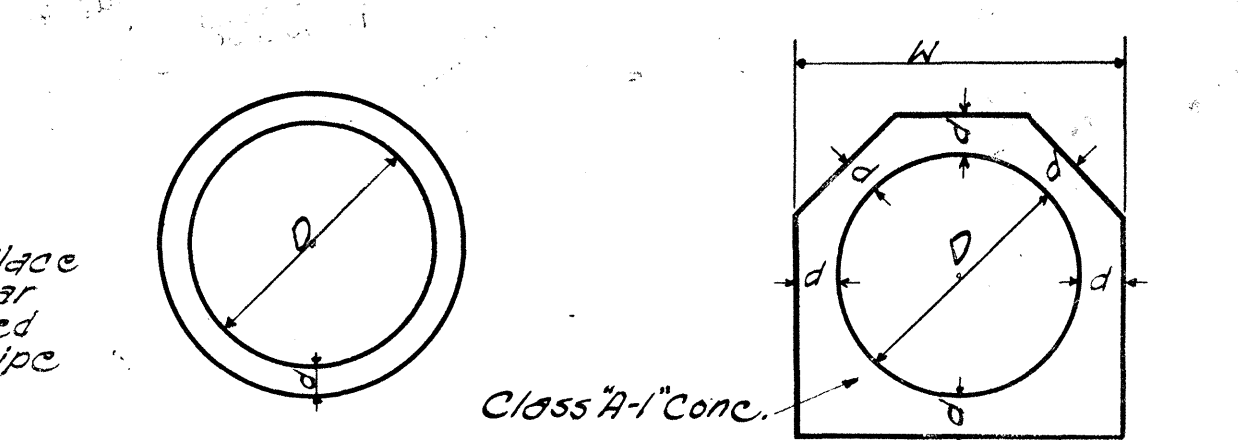
SECTION "X-X"

PLAN



CONSTR. JOINT DETAILS

- METHOD OF APPLYING CONSTR. JOINT WATERPROOFING**
- Map surface either side of joint as required with asphalt 85-100 penetration applied at 200°F.
 - Apply one layer of 55-lb composition roofing to hot asphalt.
 - Map surface of composition roofing and 3" beyond all around with thick coat of asphalt as specified under (1)



CONC. PIPE CULVERT

Data: Cast-in-Place Conc. Culvert			
D	d	W	Cu. Yd. per ft.
18"	4"	2'-2"	0.11
24"	4 1/2"	2'-0"	0.14
30"	5"	3'-4"	0.10
36"	5 1/2"	3'-11"	0.26

Note: Thickness of reinforcing and concrete used shall conform with the approved design as provided by the Specifications.

CAST-IN-PLACE CONC. CULVERT

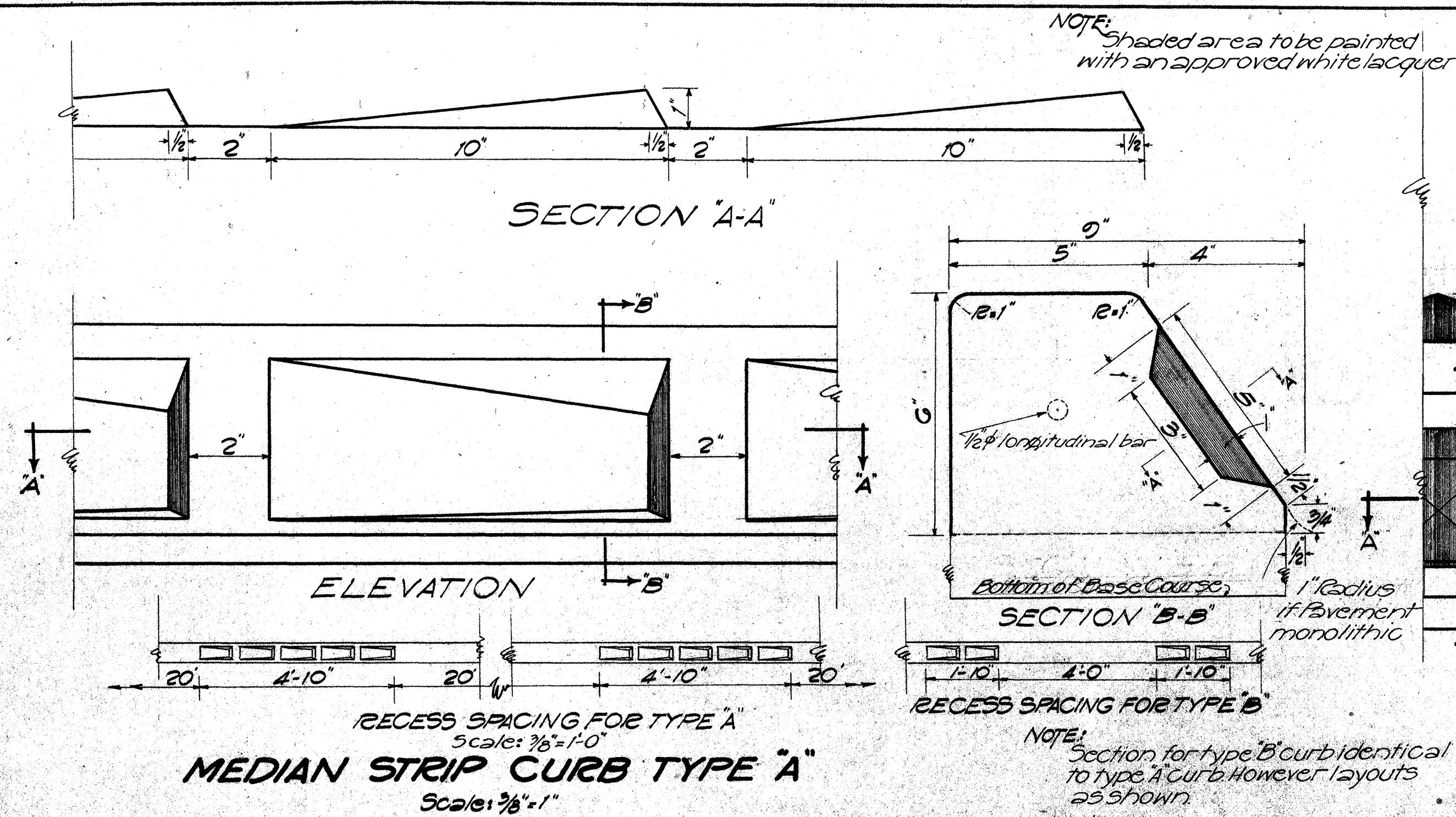
TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII

STANDARD DETAILS

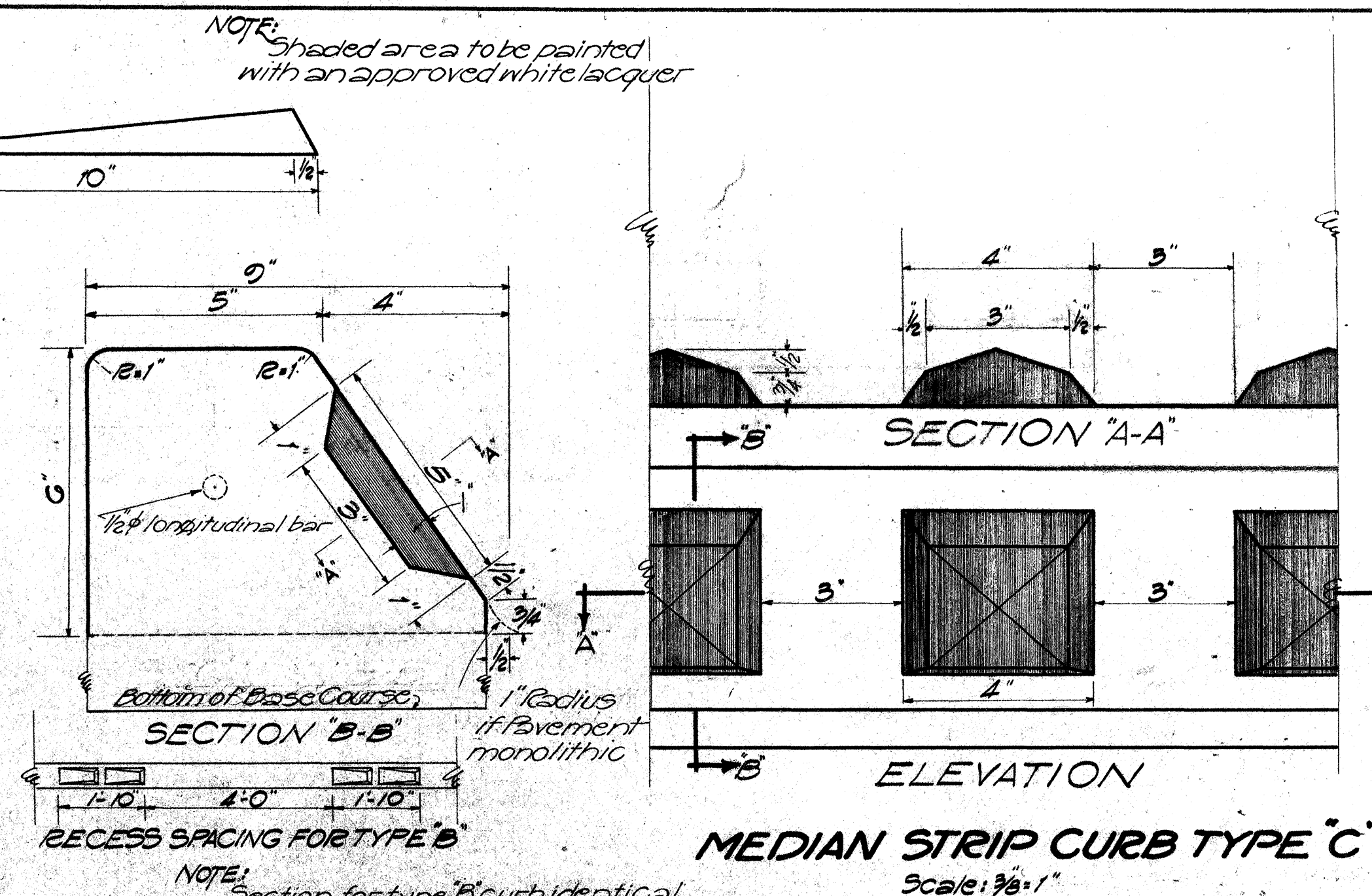
SCALES AS NOTED
 Apr. 15, 1948

APPROVED: *[Signature]*
 Territorial Highway Engineer

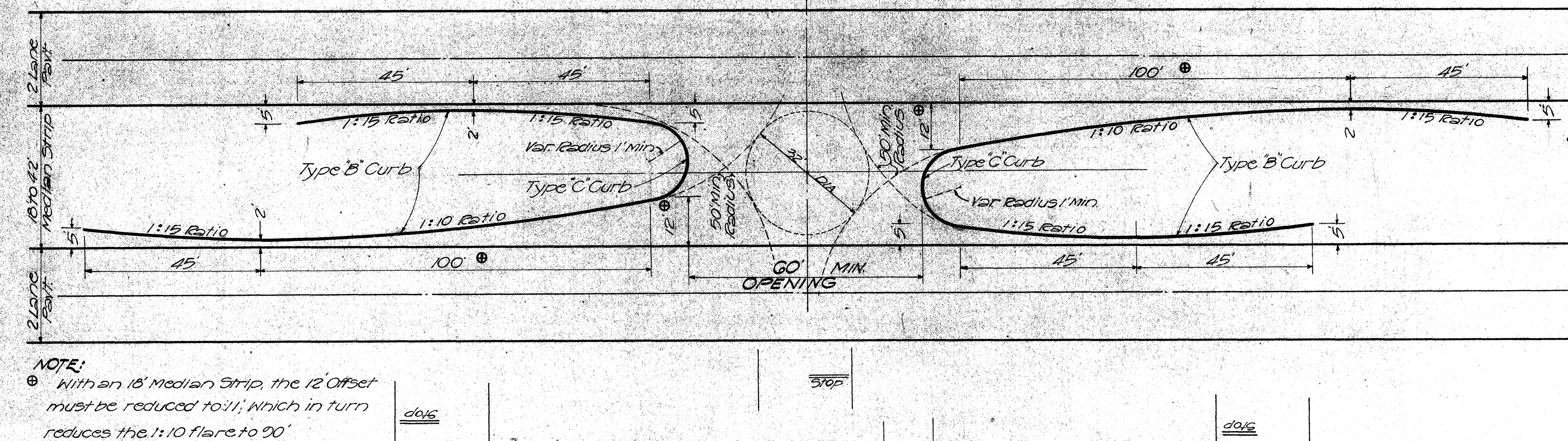
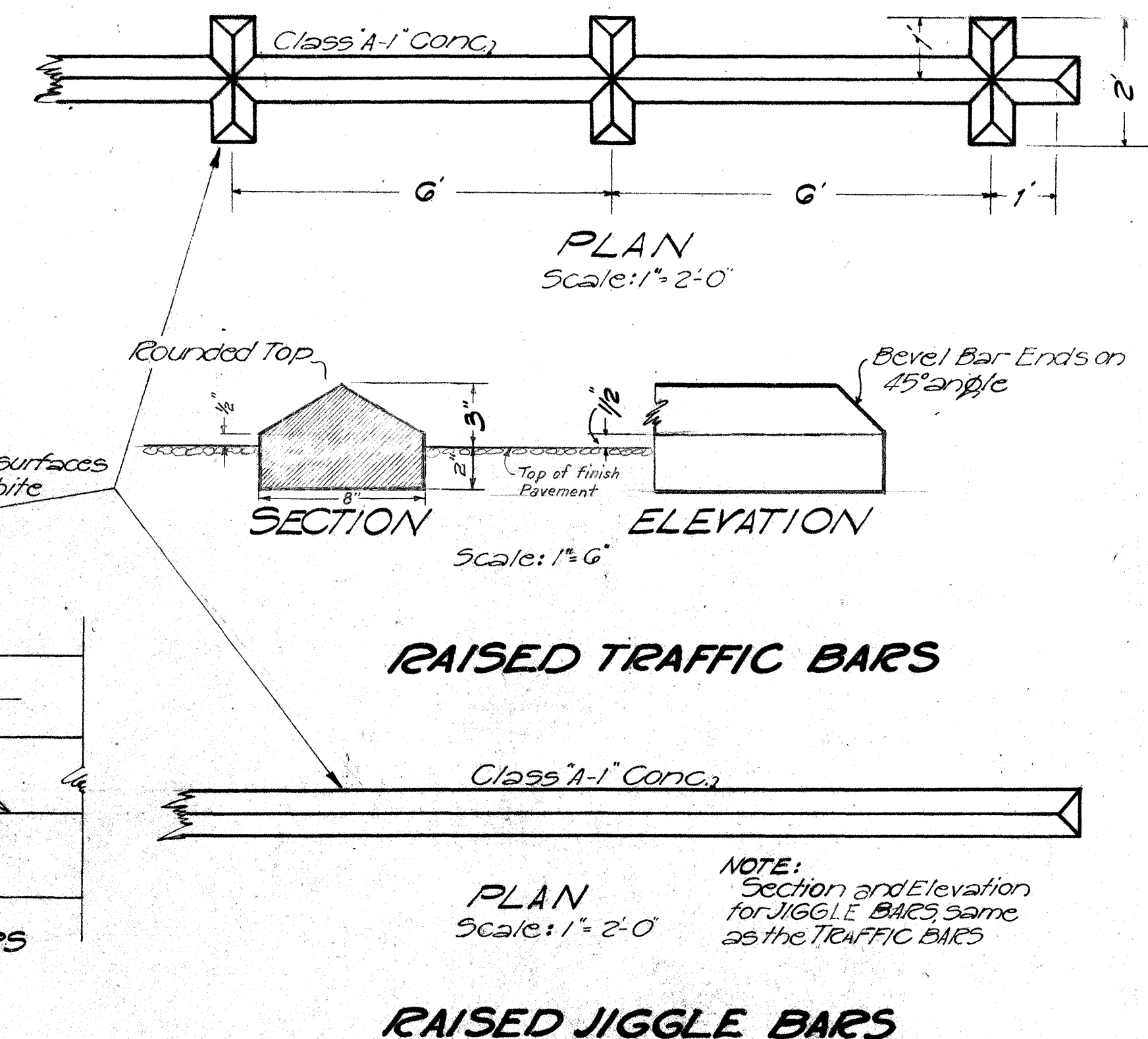
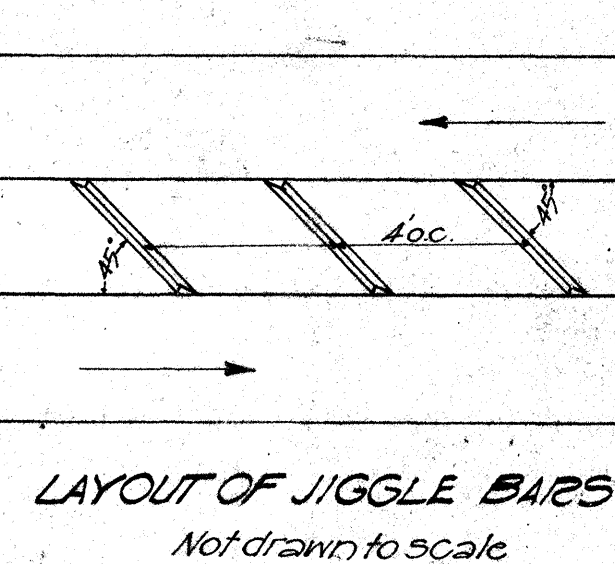
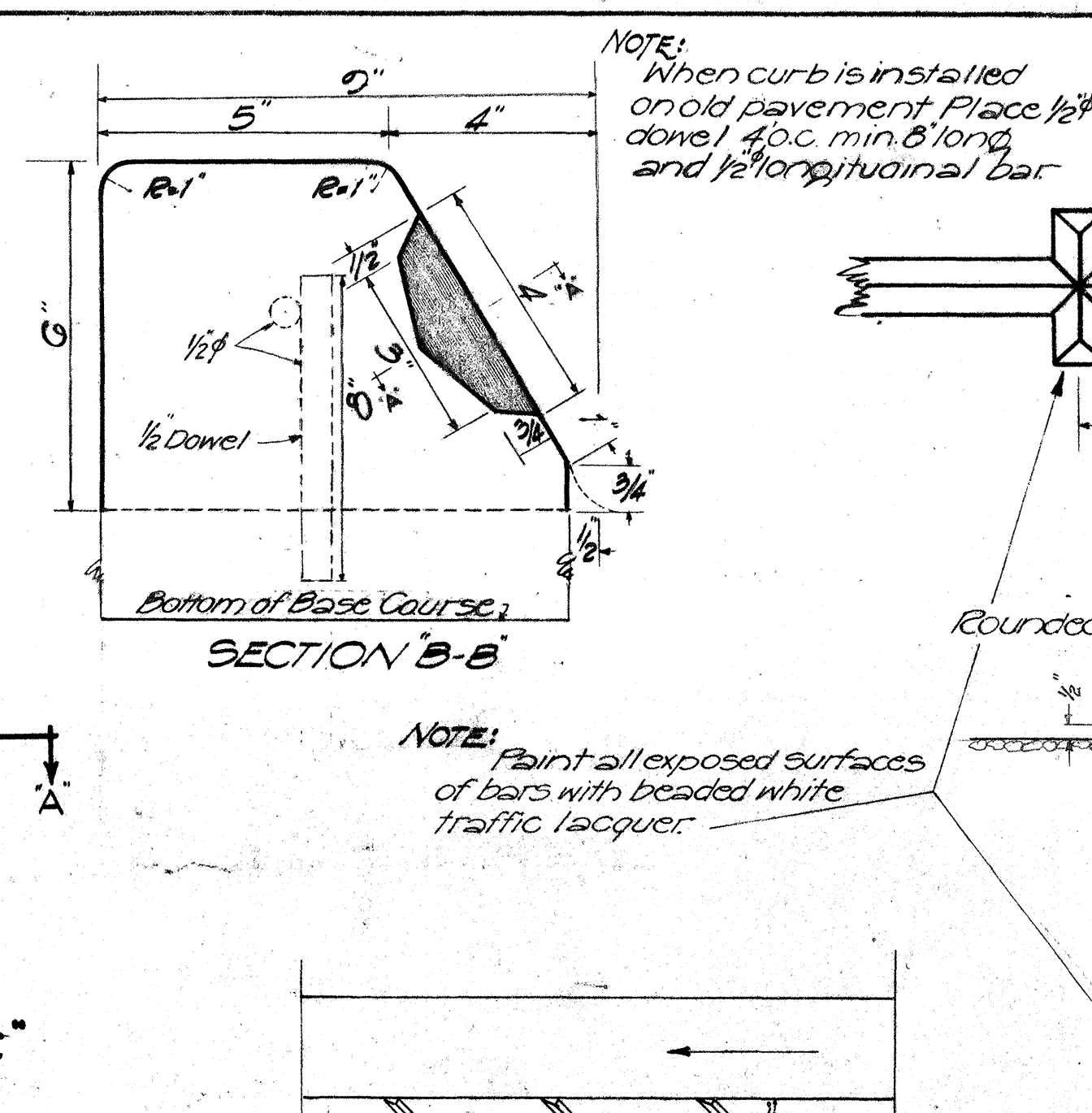
SHEET NO 4 OF 6 SHEETS



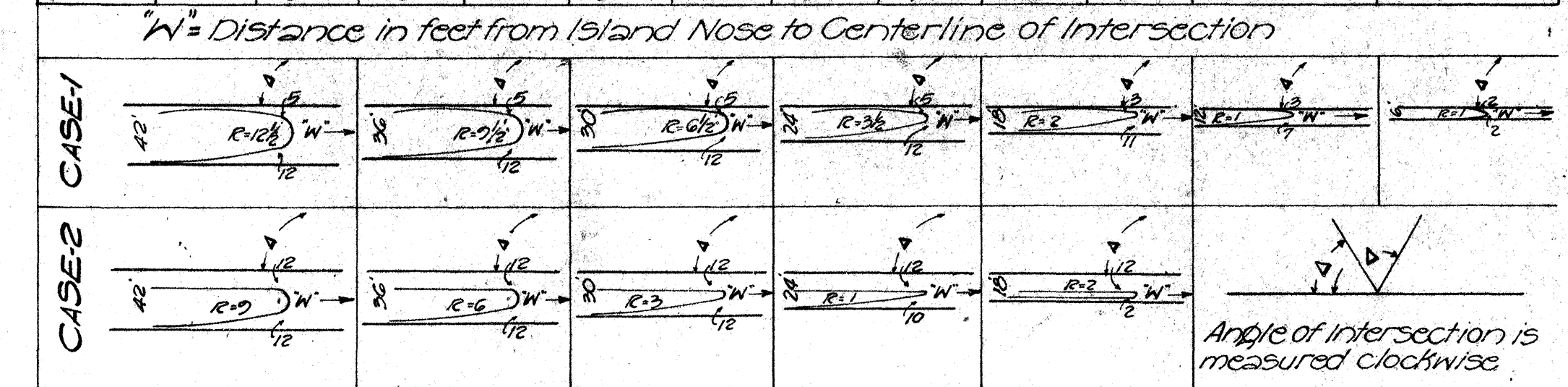
TYPE A: This type and spacing of recesses to be used where medians are curbed continuously.



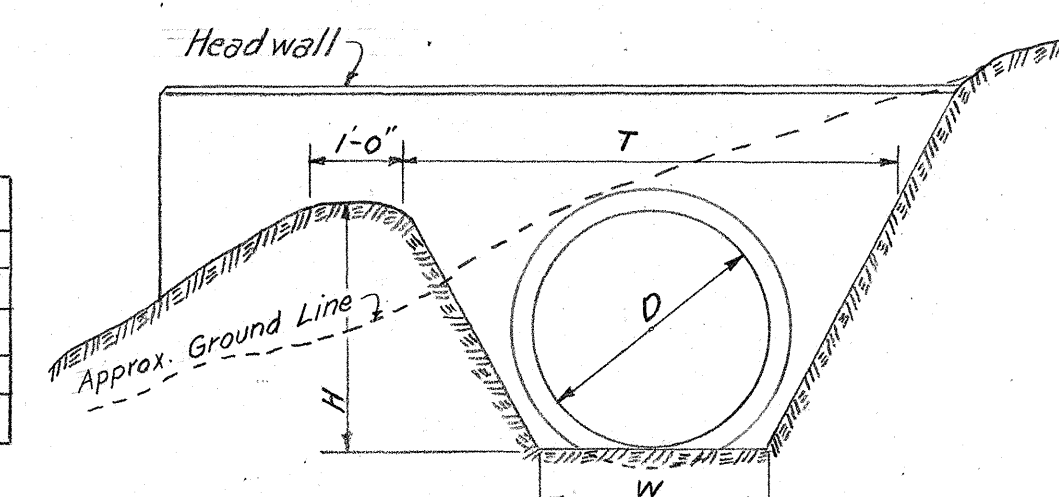
TYPE B: This type and spacing of recesses to be used on islands at intersections.



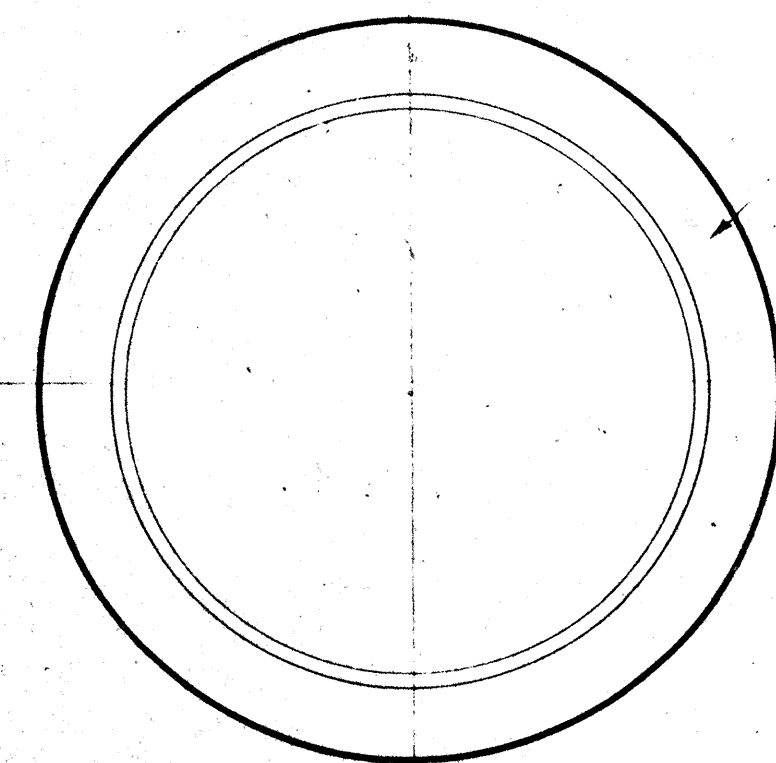
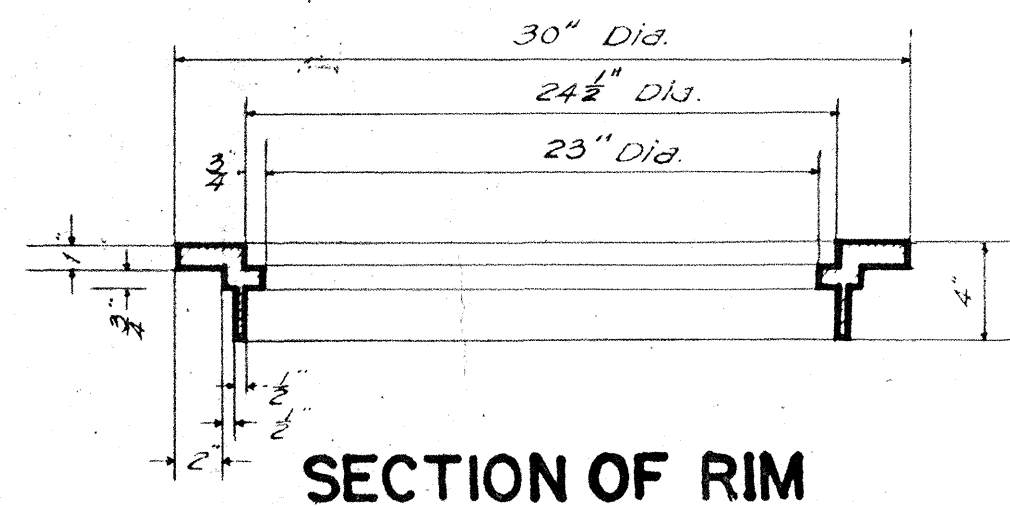
Angle of Inters.	WIDTH OF MEDIAN STRIP											
	42'	42'	36'	36'	30'	30'	24'	24'	18'	18'	12'	6'
60°	54	58	58	62	64	66	68	70	70	66	64	62
65°	48	52	52	56	56	60	60	62	62	58	56	52
70°	42	46	46	50	50	54	54	56	54	52	52	50
75°	36	40	40	44	44	48	48	50	48	46	46	50
80°	32	36	36	38	38	42	42	44	42	42	40	44
85°	30	32	32	34	34	36	36	38	36	36	36	38
90°	30	30	30	30	30	30	30	30	30	30	30	30
95°	30	32	30	34	30	36	30	36	32	36	36	38
100°	30	36	30	38	30	42	34	44	36	44	40	44
105°	30	40	32	44	34	48	36	50	40	50	46	50
110°	32	46	36	50	36	54	42	56	46	56	52	56
115°	36	52	42	56	44	60	48	62	52	62	58	62
120°	44	58	48	62	52	66	56	70	60	70	64	68



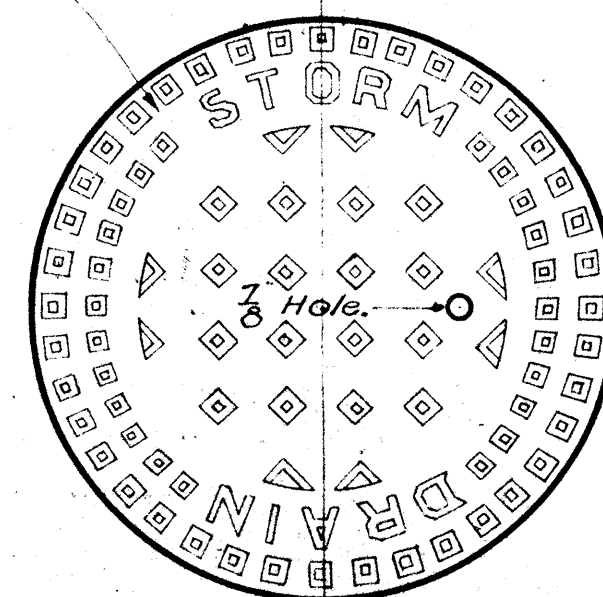
Data - Standard Outlet Ditch			
D	W	H	T=W+H
18"	24"	2'-0"	4'-0"
24"	24"	2'-0"	4'-0"
30"	30"	2'-0"	5'-0"
36"	36"	3'-0"	6'-0"



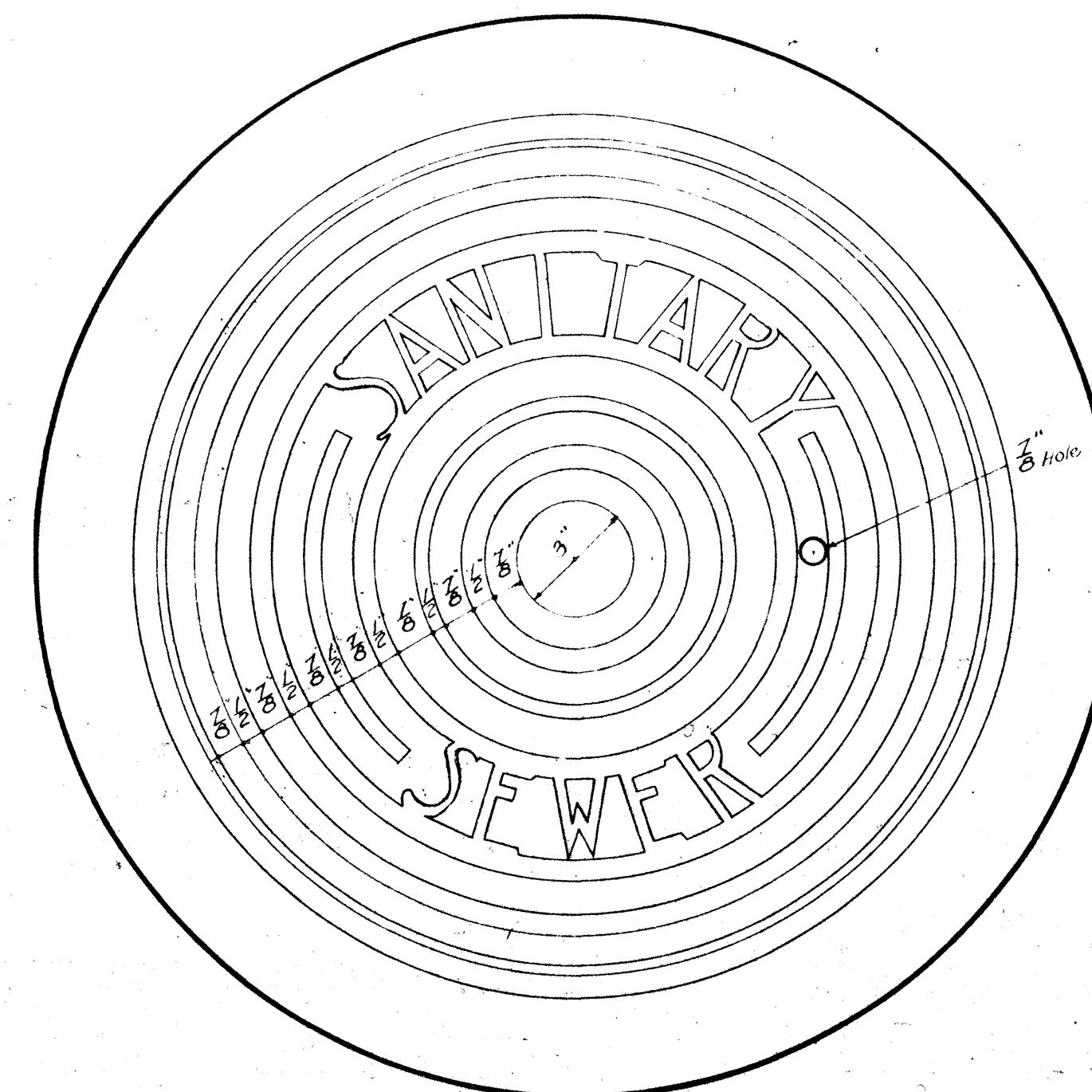
NOTE: The pattern for water manhole covers shall be the same as for sanitary sewer except that the word "Water" shall be substituted for "Sanitary Sewer."



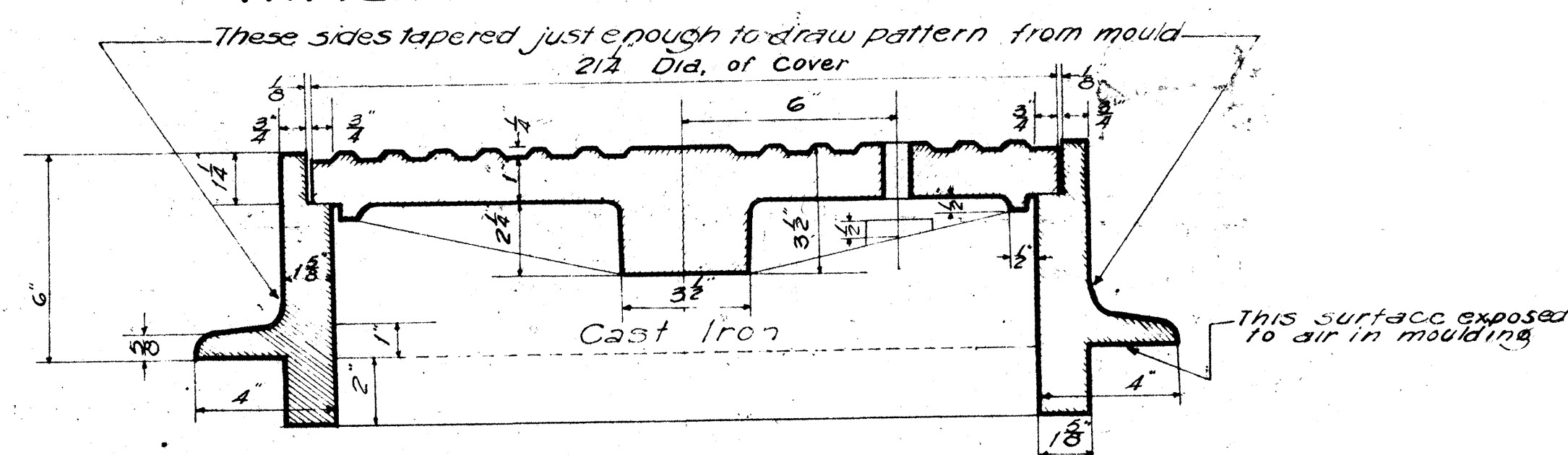
Cast Iron



PATTERN FOR STORM DRAIN MANHOLE COVER

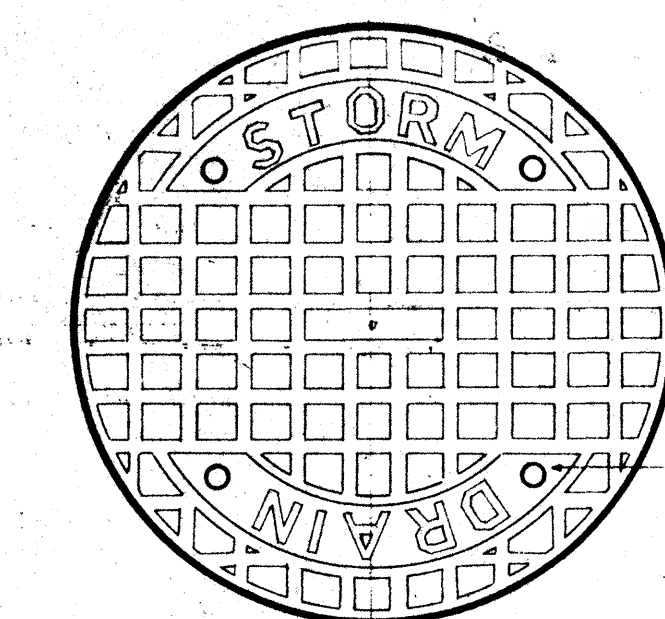


PATTERN FOR SEWER MANHOLE COVER

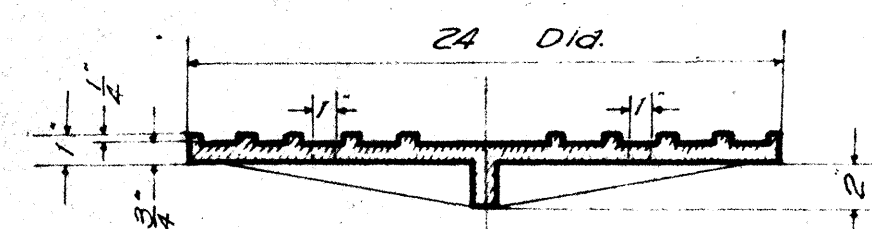


SECTION

NOTE: A unit includes both Frame and Cover

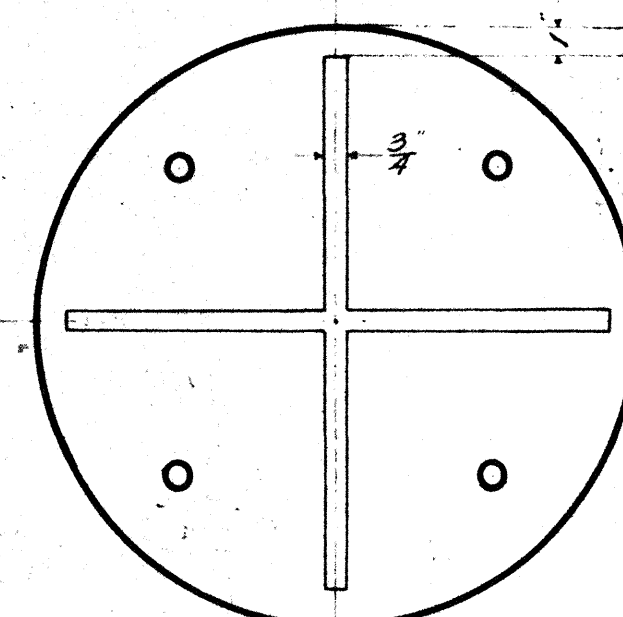


PLAN OF COVER TOP

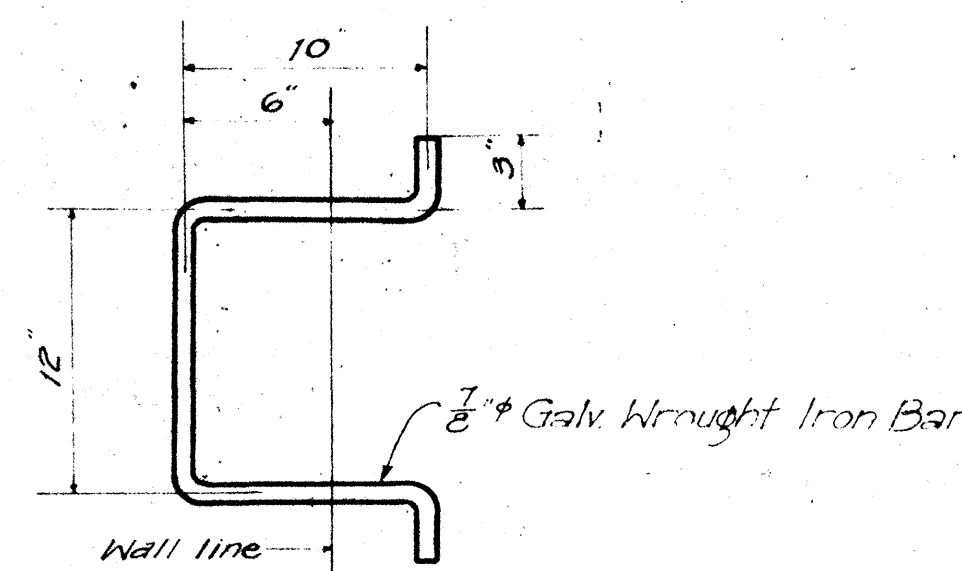


SECTION OF COVER

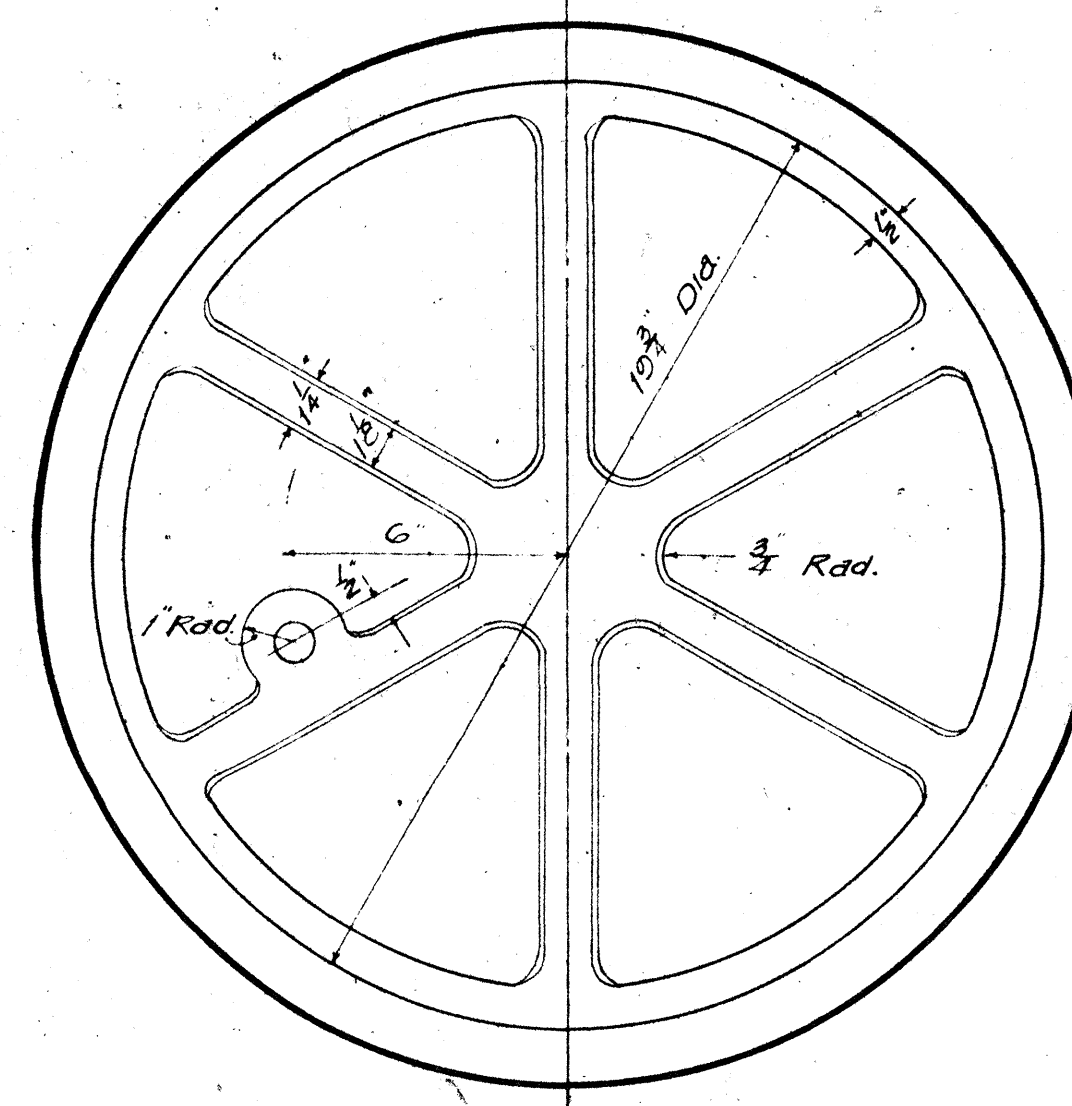
NOTE: A unit includes both Rim and Cover



BOTTOM VIEW OF COVER
TYPE "B"
STANDARD CATCH BASIN CASTINGS
Scale: 1-1/2" = 1'-0"



DETAIL OF MANHOLE RUNG
Scale: 1-1/2" = 1'-0"



BOTTOM VIEW OF COVER
TYPE "A"
STANDARD MANHOLE CASTINGS
Scale: 3" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

SCALES AS NOTED Apr. 15, 1948

APPROVED: *[Signature]*
Territorial Highway Engineer

SHEET NO. 6 OF 6 SHEETS

5436.15