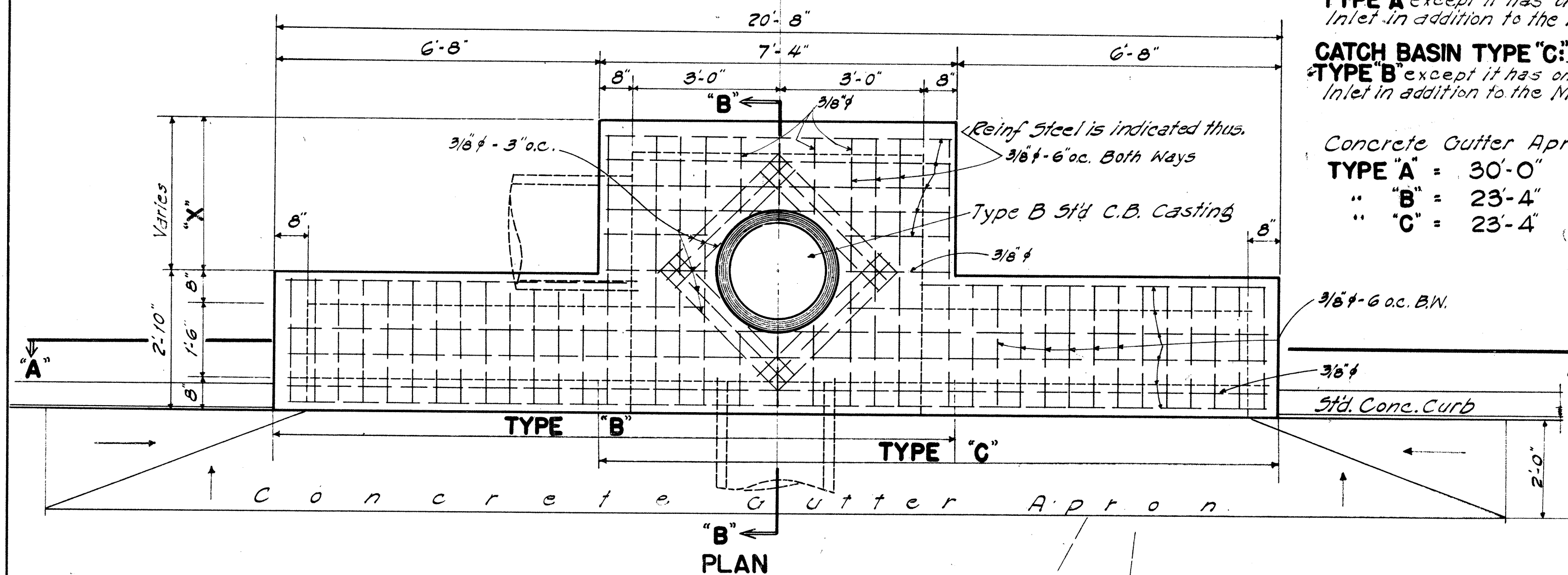
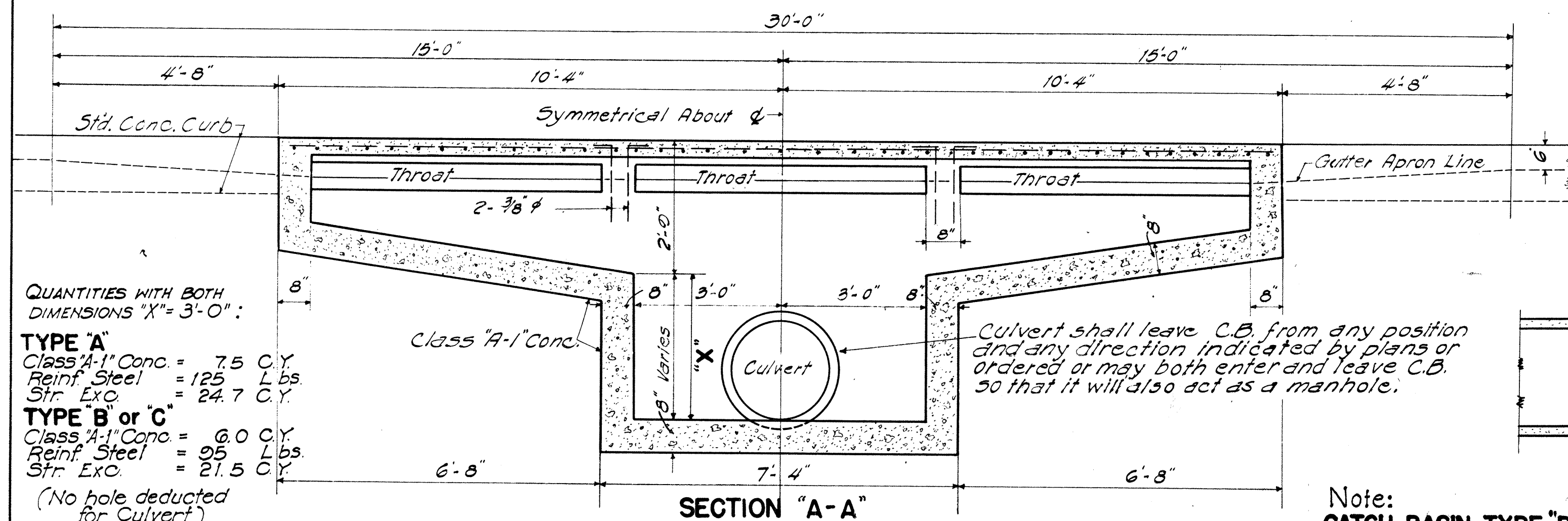


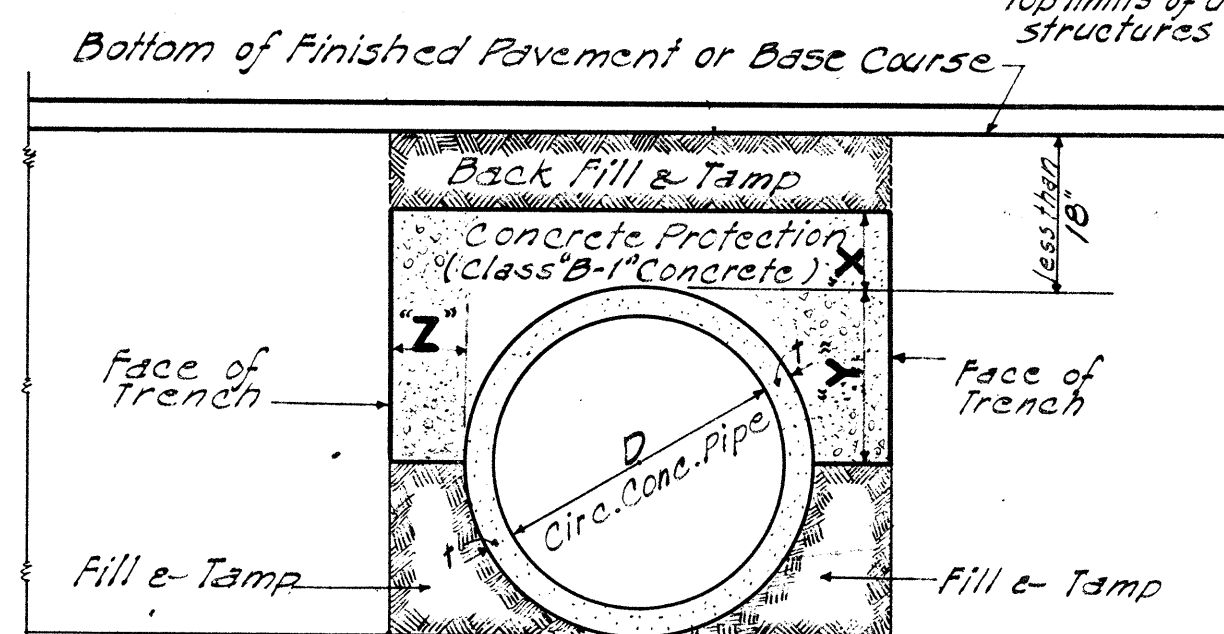


Note:
CATCH BASIN TYPE 'B' similar to **TYPE 'A'** except it has only Left Side Inlet in addition to the Main Box.
CATCH BASIN TYPE 'C' similar to **TYPE 'B'** except it has only Right Side Inlet in addition to the Main Box.

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

STANDARD CONCRETE CATCHBASIN

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



DATA: CONCRETE PROTECTION OVER CULVERTS		
X	Y	Z
6" for 18" D		
7" " 24" D		
8" " 30" D		
9" " 36" D		
10" " 42" D		
11" " 48" D		
12" " 54" D		

Y = D + T

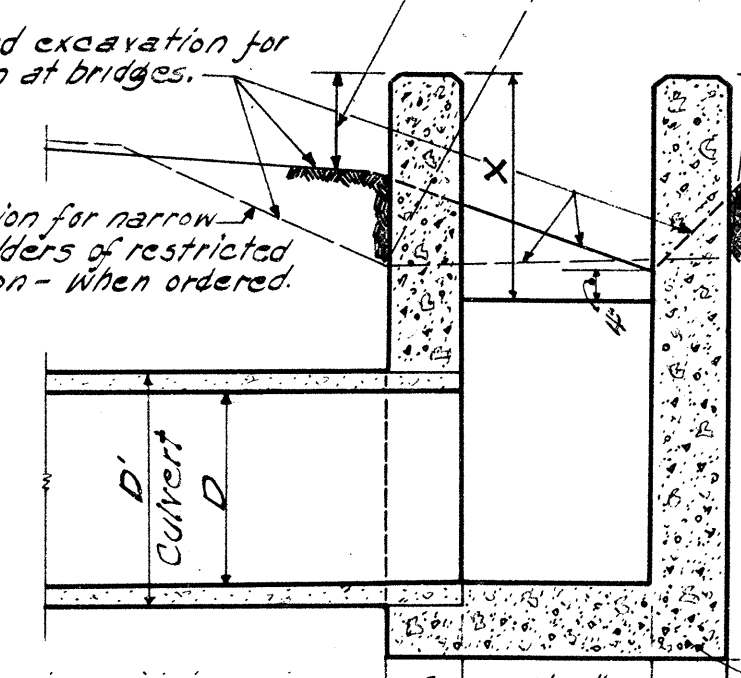
Z must be from pipe to face of trench

Minimum = X

Maximum pay quantity will be Z = 12"

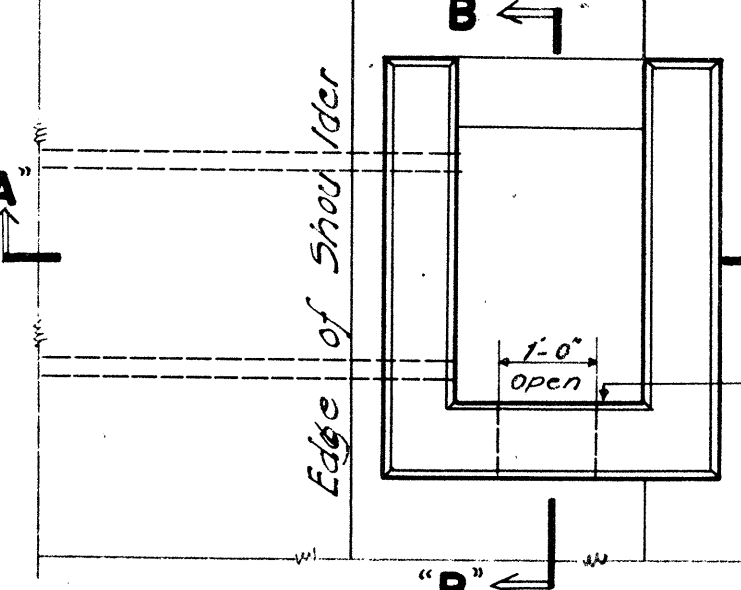
SECTION 'A-A'

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



SECTION 'B-B'

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



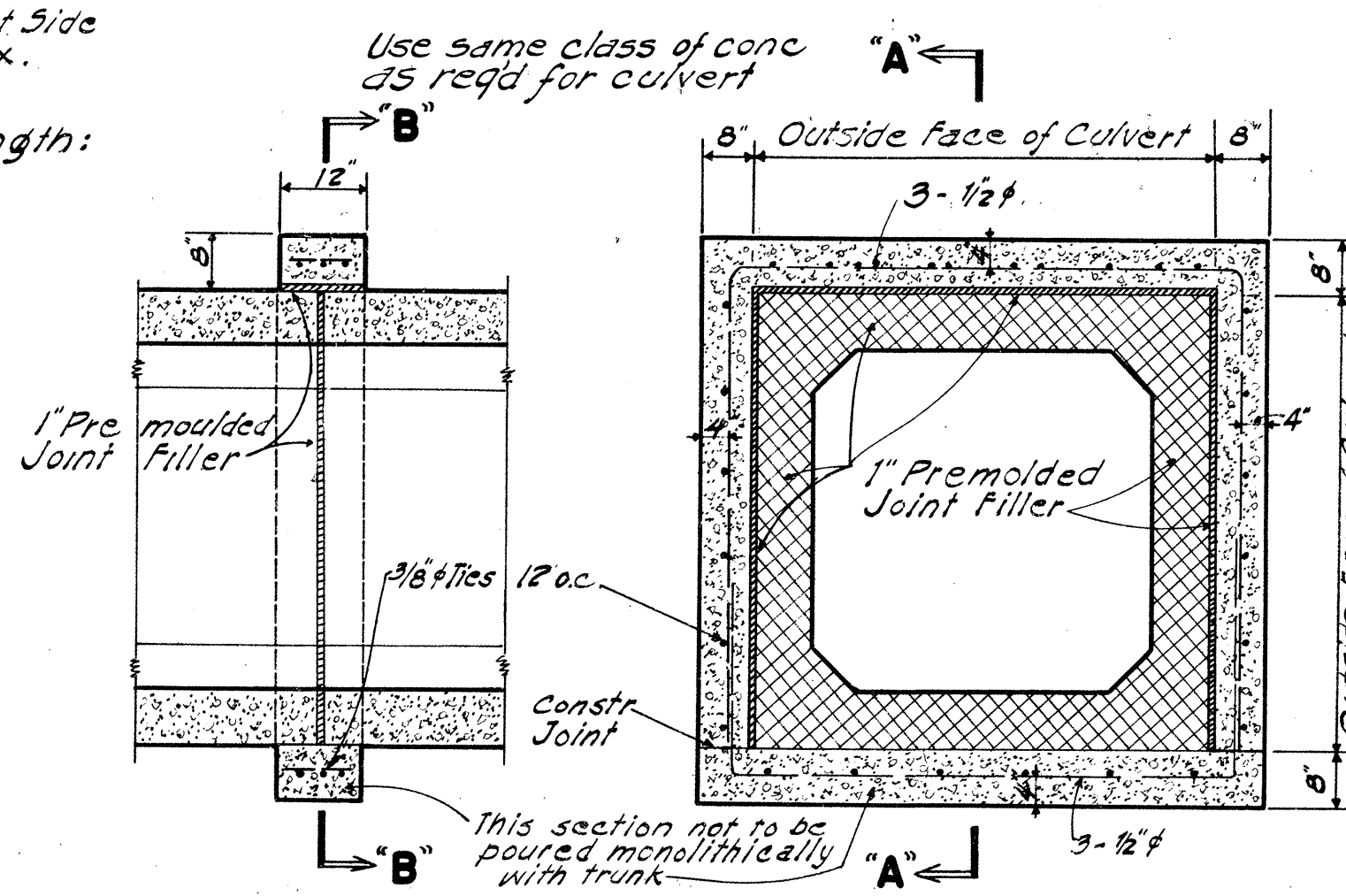
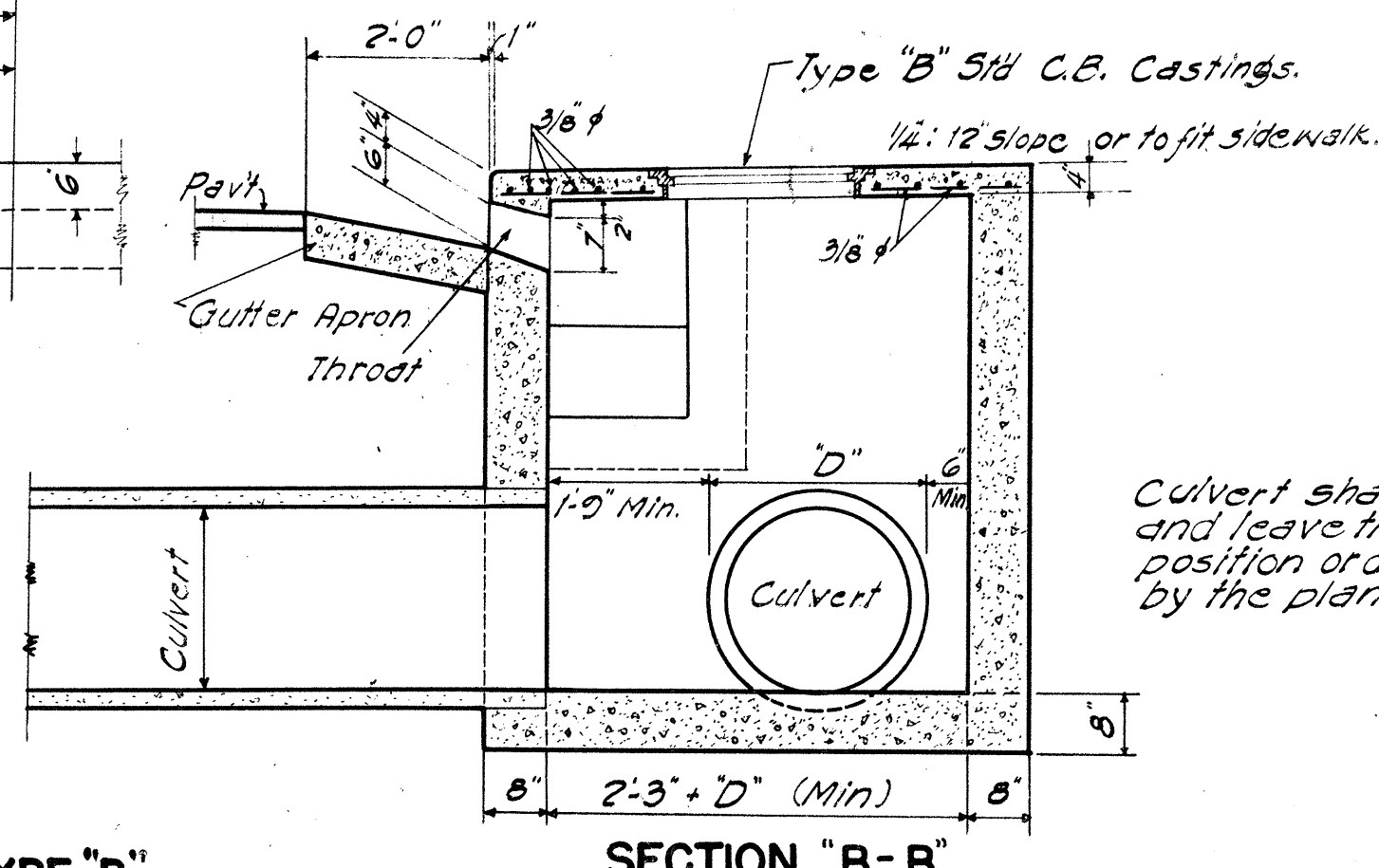
Data: Standard Drop Intake			
D	L	W	Where Verifiable Equals
22 1/2	18	2'-0"	8"
29	24	2'-6"	8"
35 1/2	30	3'-0"	8"
42	36	3'-6"	8"
48 1/2	42	4'-0"	10"
55	48	4'-6"	10"

Note: Dimensions "X" is assumed as 2'-4" in figuring the above quantities.

Where drainage comes from both sides lower this wall to same elevation as shown for opposite wall.

ST'D. CONG. DROP INTAKE

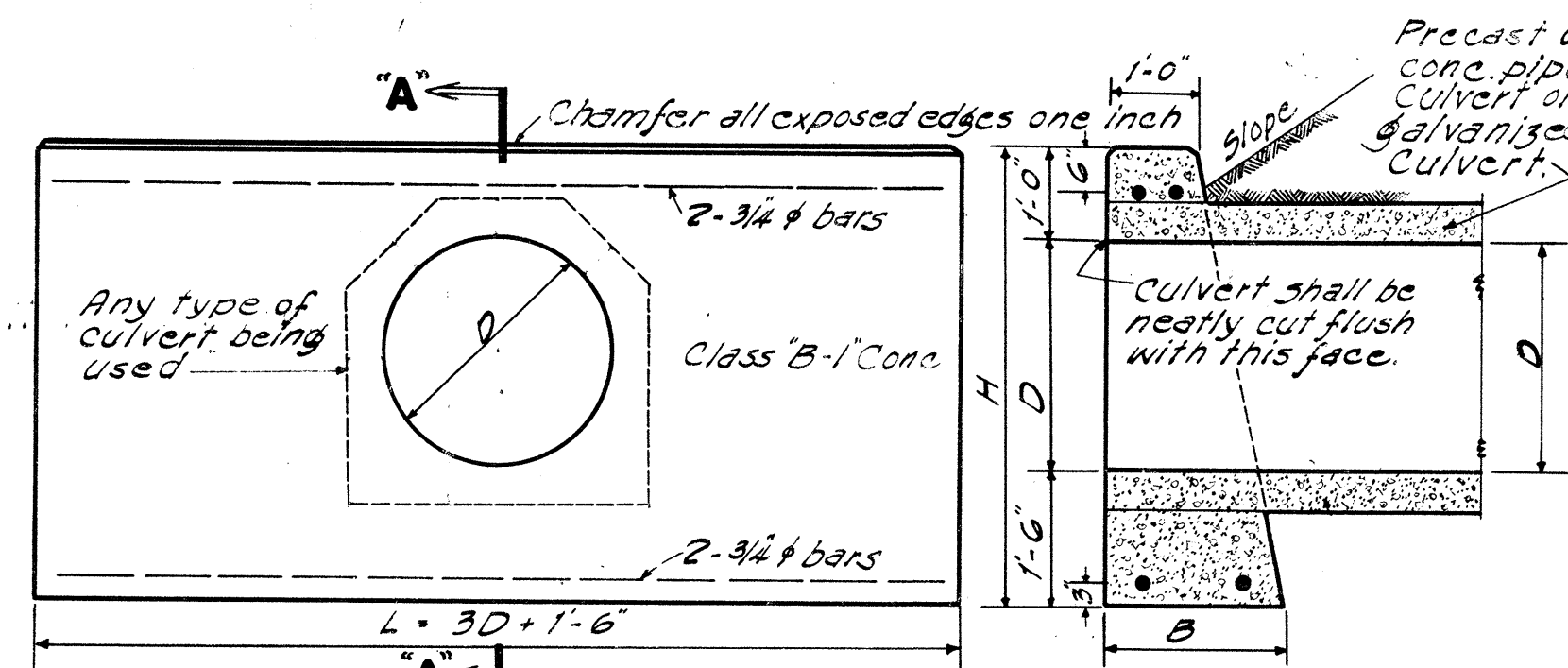
Scale: 1/2" = 1'-0"



CONG. COLLAR FOR CONG. BOX CULVERT

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

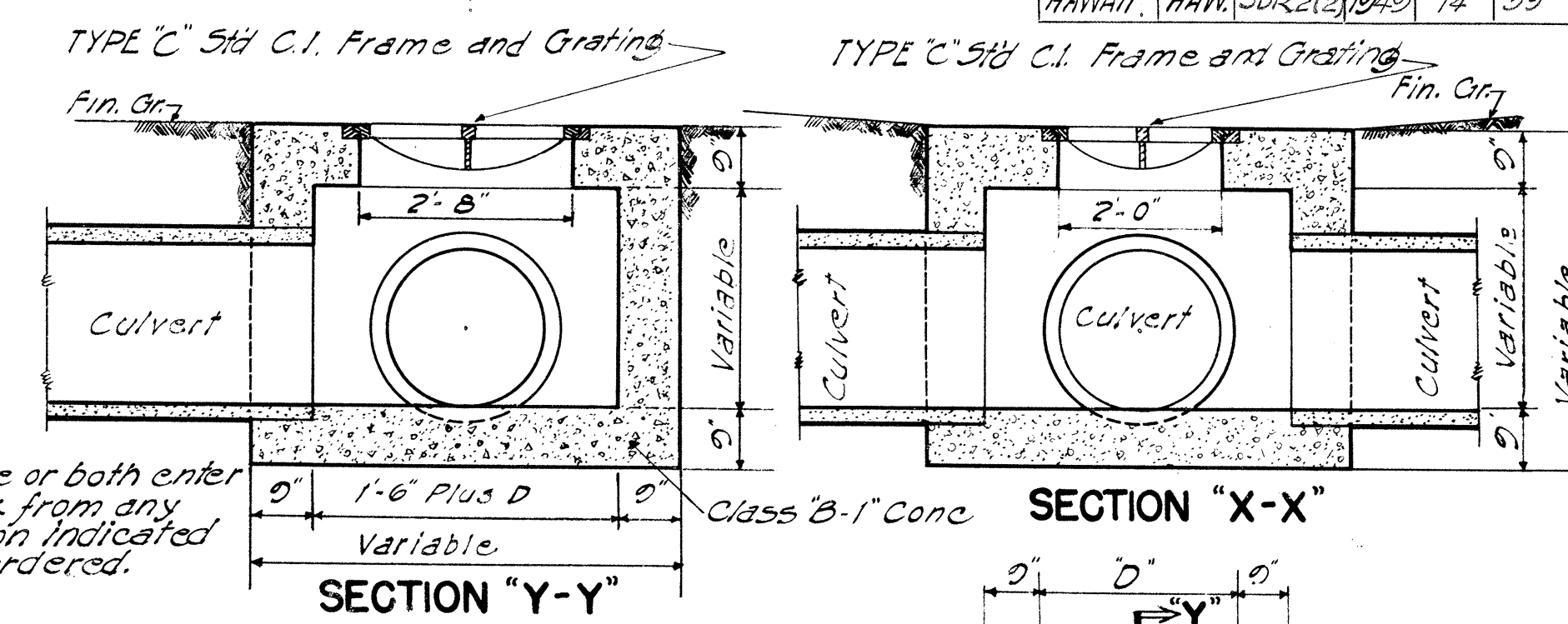
Note: Collars of this type shall be used to divide culverts into approximately 30ft lengths.



Cast-in-Place			
Cu. Yds.	D	L	H
0.92	18	1'-6"	6'-0"
1.25	24	1'-6"	7'-6"
1.95	30	2'-0"	9'-0"
2.45	36	2'-0"	10'-6"

STANDARD CONCRETE HEADWALL

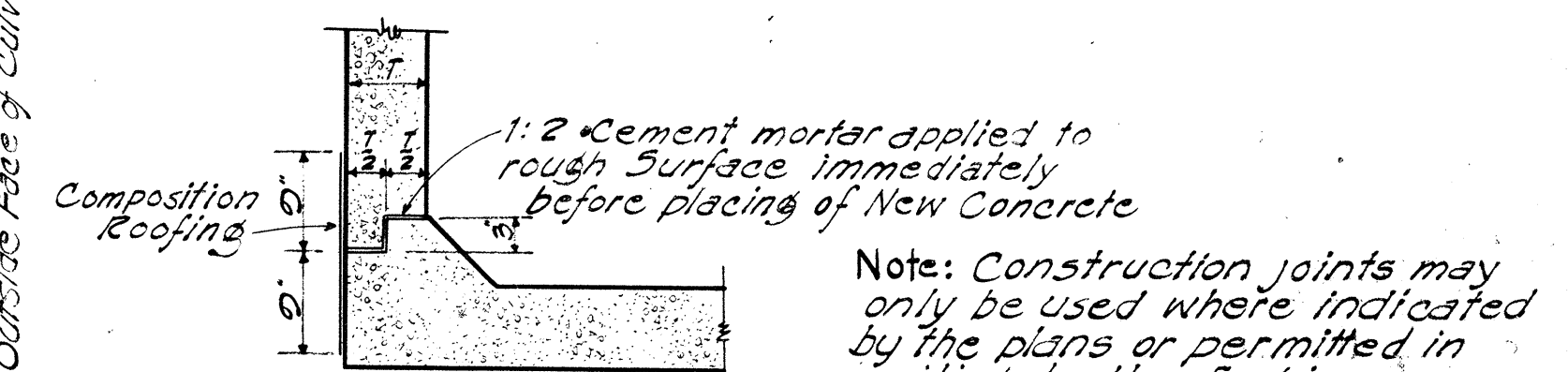
Scale: 1/2" = 1'-0"



CONG. DROP INTAKE IN MEDIAL STRIPS

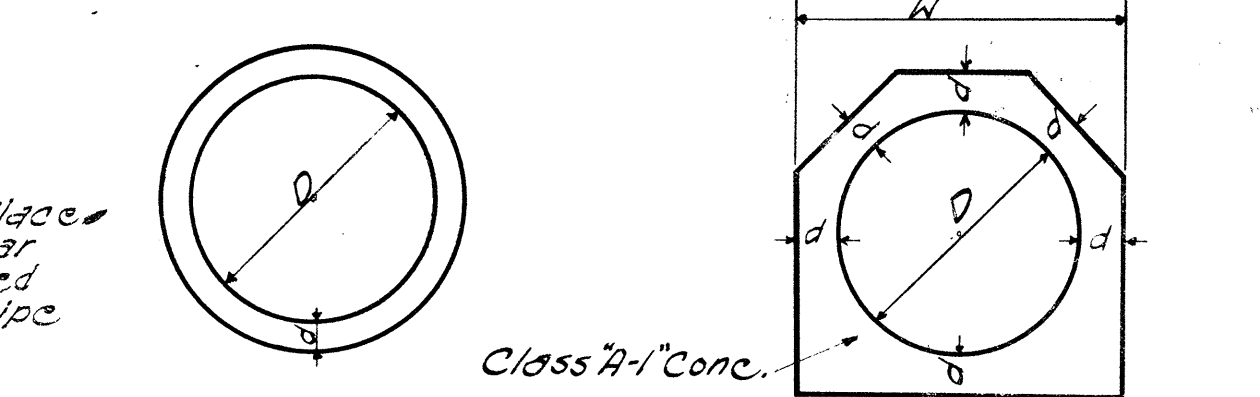
Scale: 1/2" = 1'-0"

Note: May also be used in pavement and at other places.



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).



CONG. PIPE CULVERT

Data: Cast-in-Place Conc. Culvert			
D	d	W	Culvert 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"	0.20

Note: Thickness "d" reinforcing, and concrete used are to conform with the approved design as provided by the specifications.

CAST-IN-PLACE CONG. CULVERT

TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII

STANDARD DETAILS

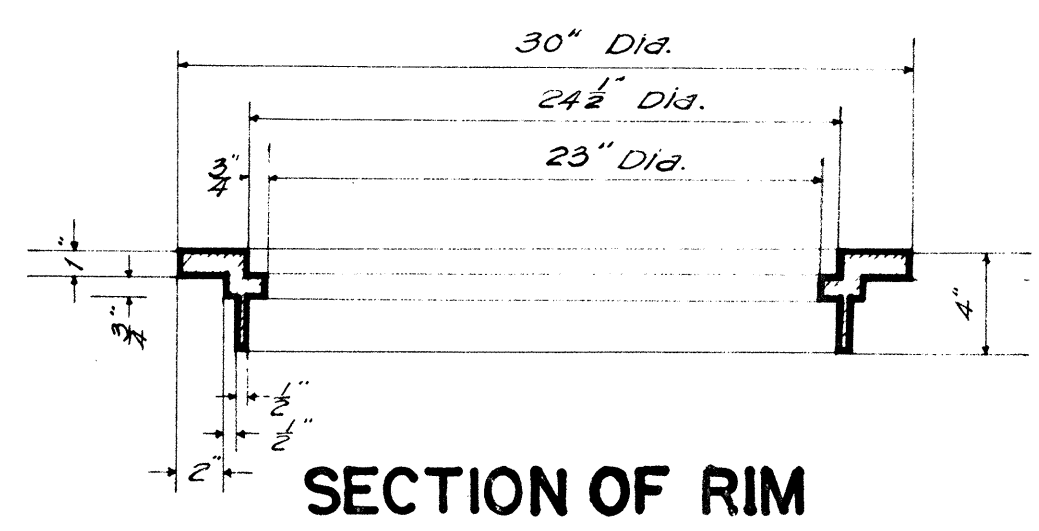
SCALES AS NOTED

APPROVED: *[Signature]* Apr. 15, 1948

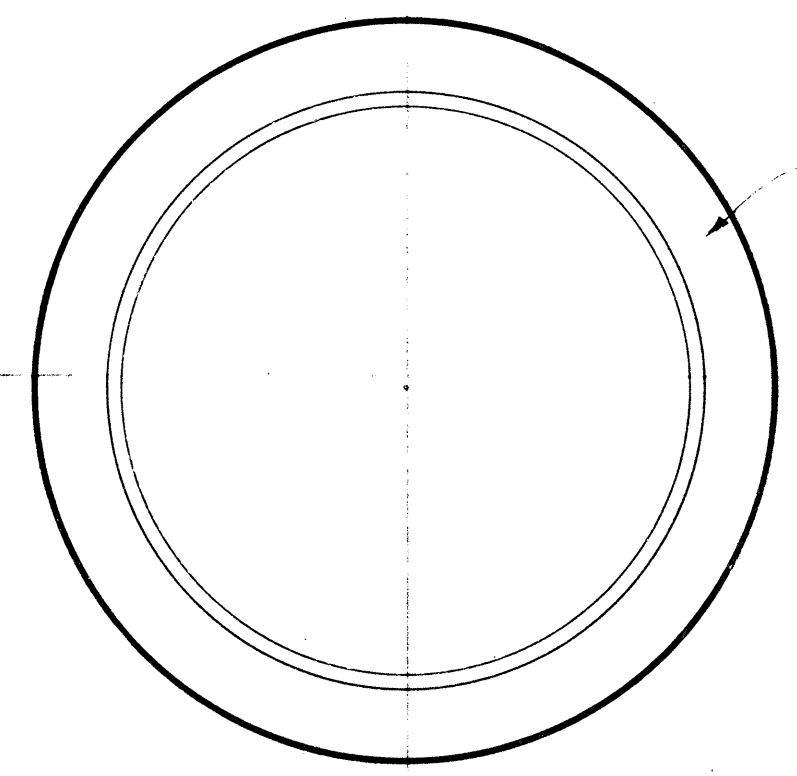
Territorial Highway Engineer
 SHEET NO. 3 OF 4 SHEETS

5399.14

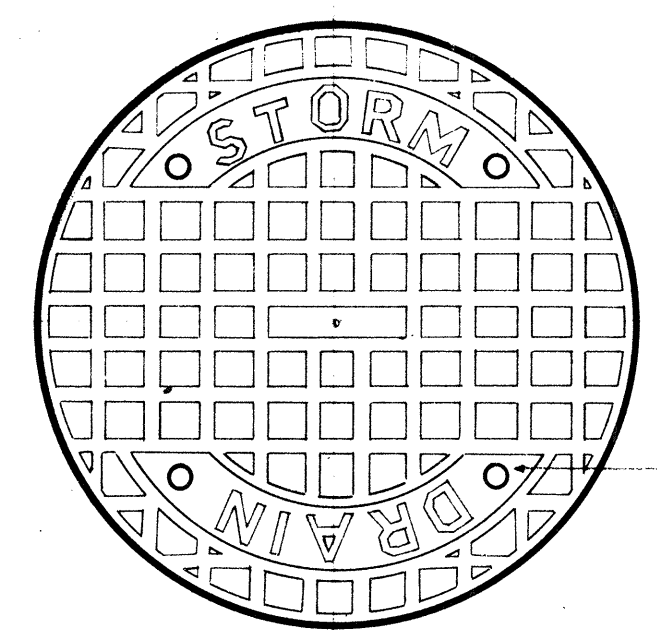
NOTE: The pattern for water manhole cover shall be the same as for sanitary sewer except that the word "Water" shall be substituted for Sanitary Sewer.



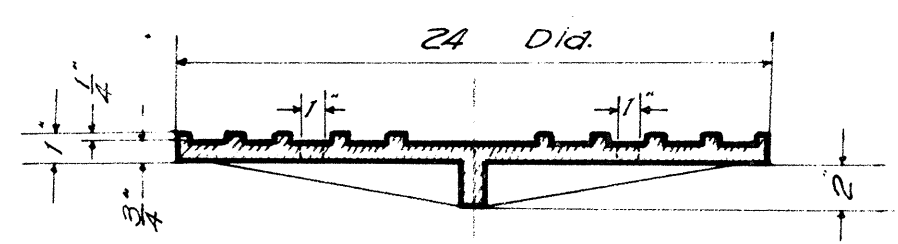
SECTION OF RIM



PLAN OF RIM

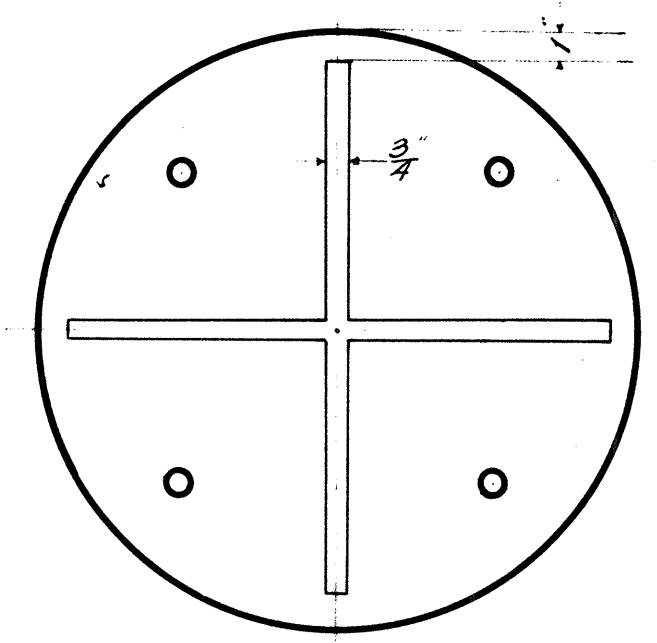


PLAN OF COVER TOP

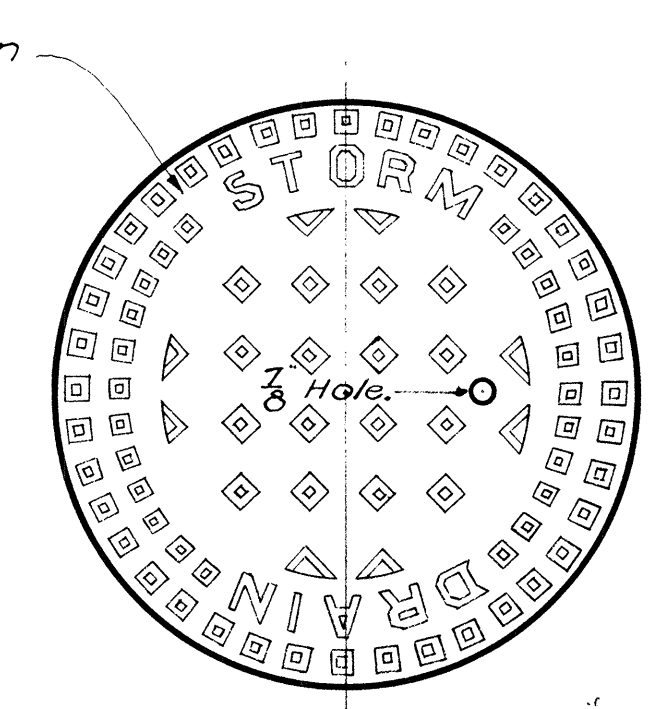


SECTION OF COVER

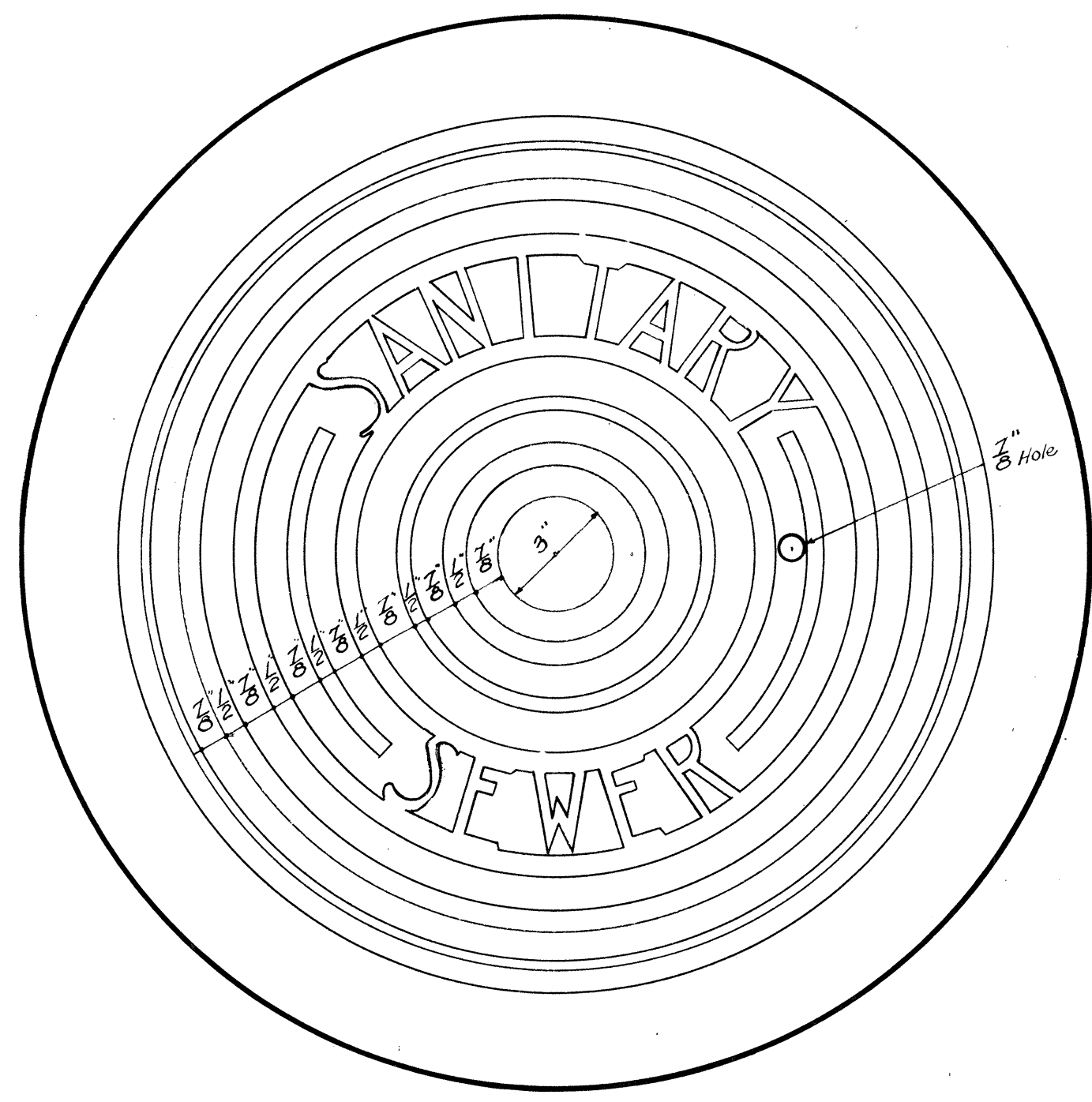
NOTE: A unit includes both Rim and Cover



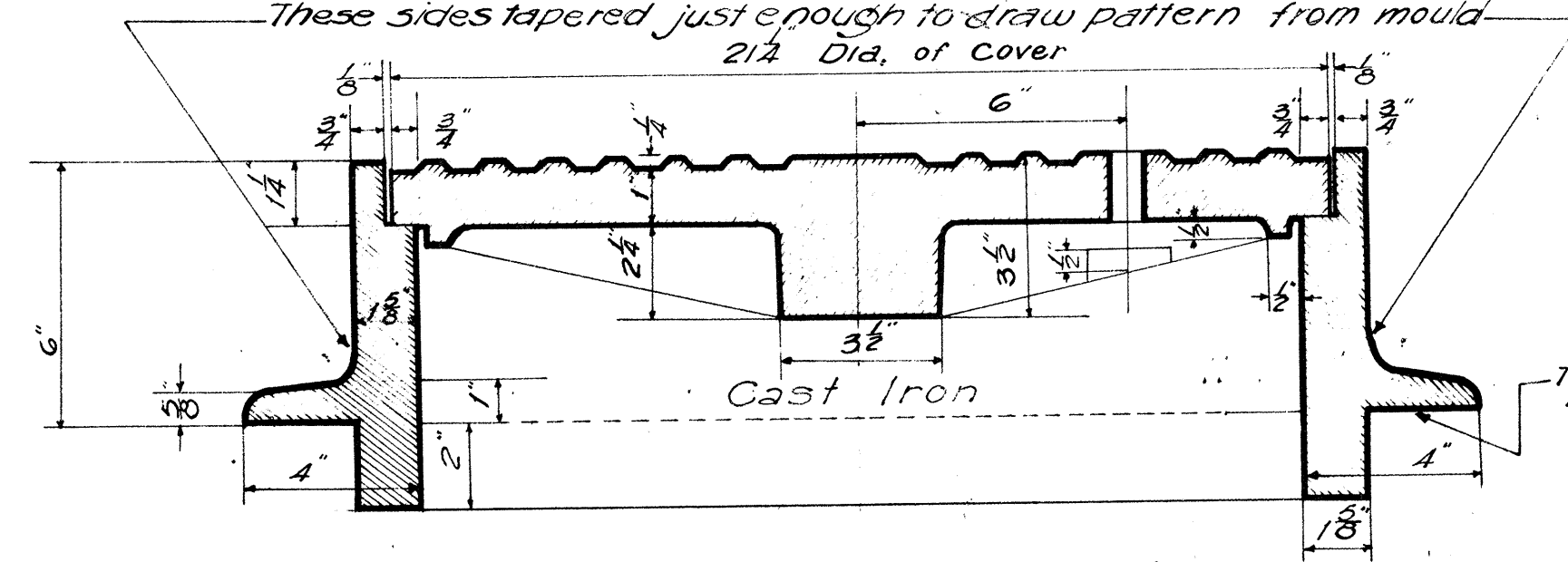
BOTTOM VIEW OF COVER
TYPE "B"
STANDARD CATCH BASIN CASTINGS
Scale: 1-1/2" = 1'-0"



PATTERN FOR STORM DRAIN MANHOLE COVER

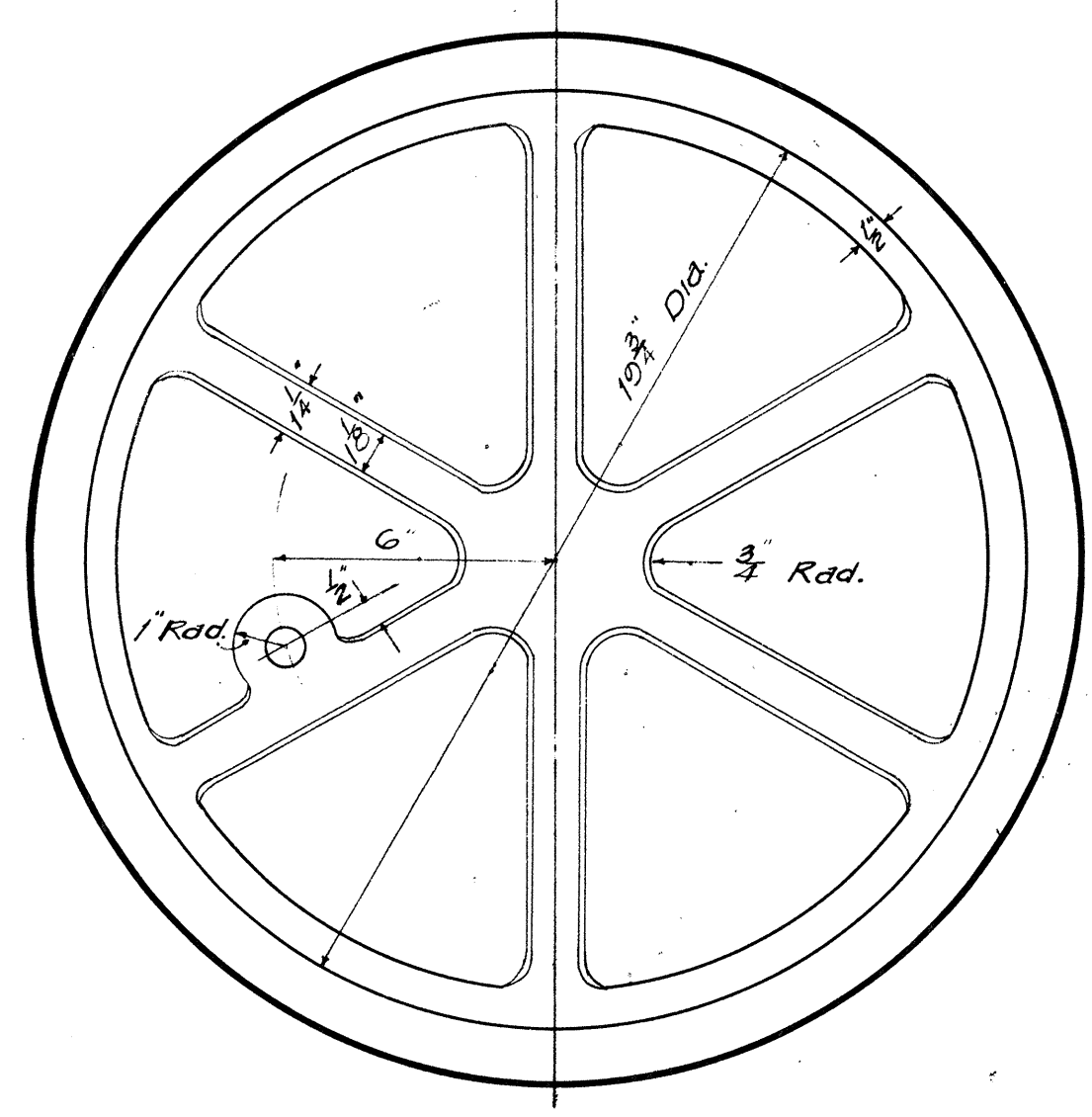


PATTERN FOR SEWER MANHOLE COVER

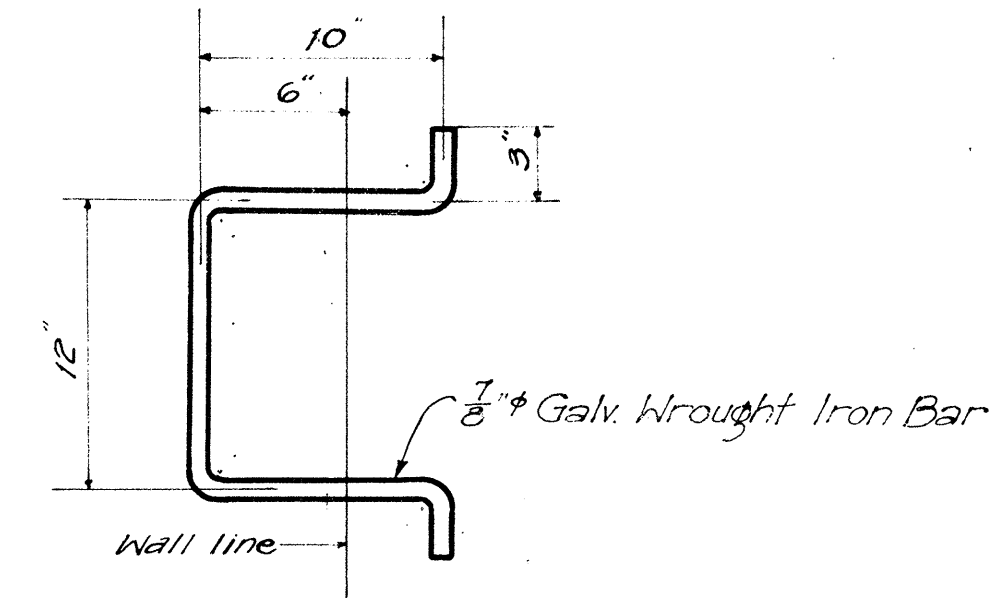


SECTION

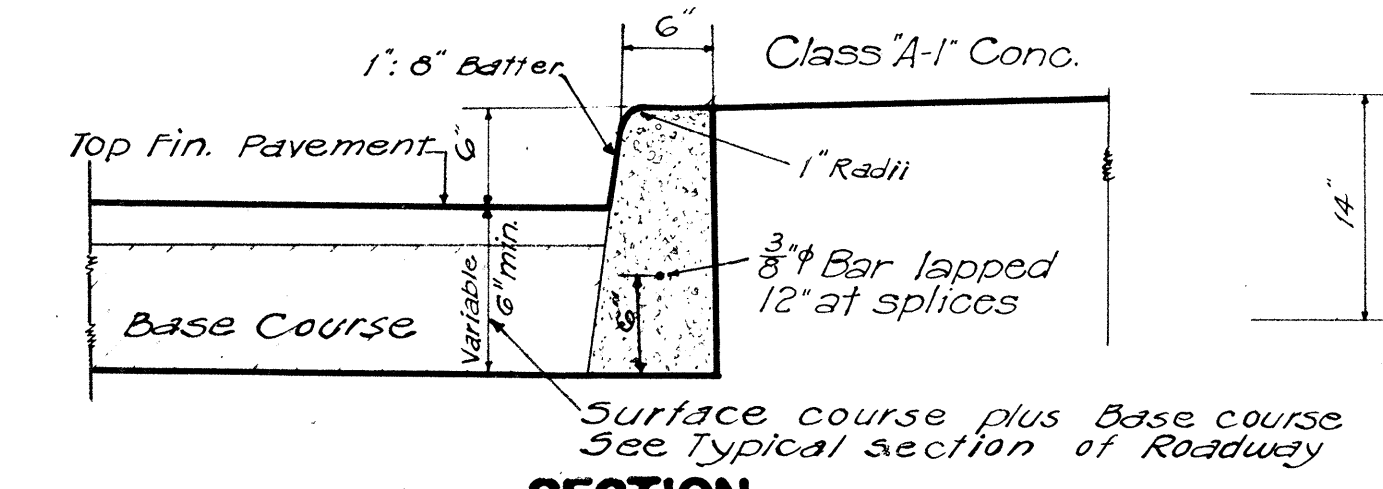
NOTE: A unit includes both Frame and Cover



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



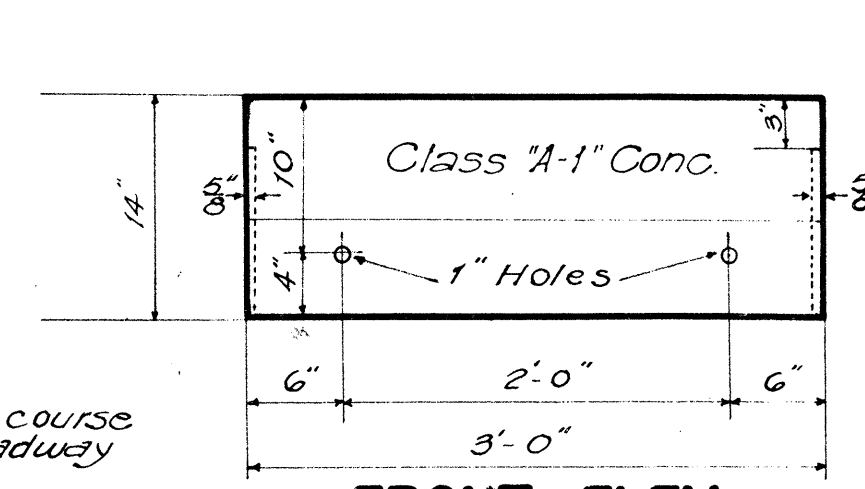
DETAIL OF MANHOLE RUNG
Scale: 1-1/2" = 1'-0"



SECTION

ST'D. CAST IN PLACE CONC. CURB

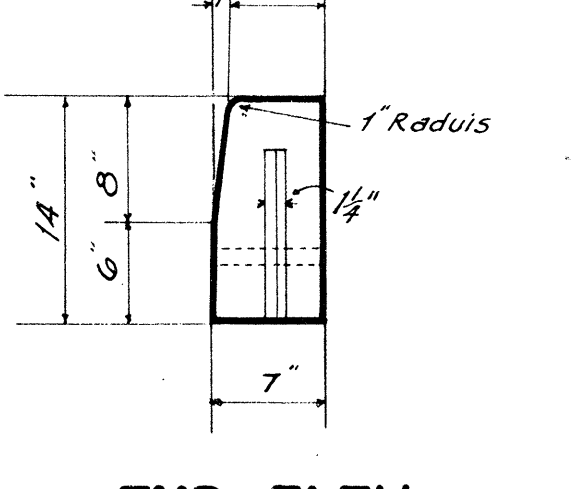
Scale: 1" = 1'-0"



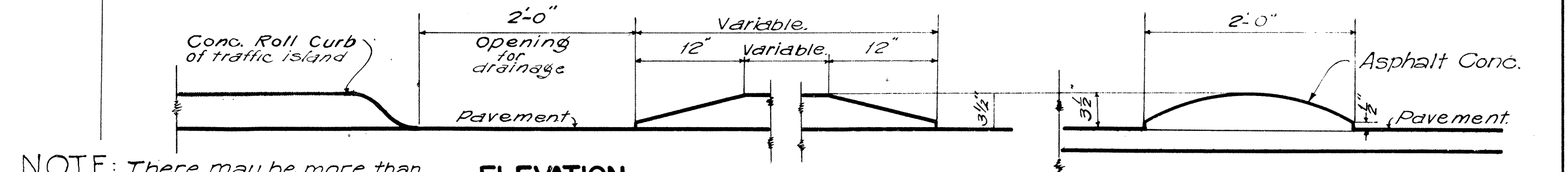
FRONT ELEV

ST'D. PRECAST CONC. CURB

Scale: 1" = 1'-0"



END ELEV

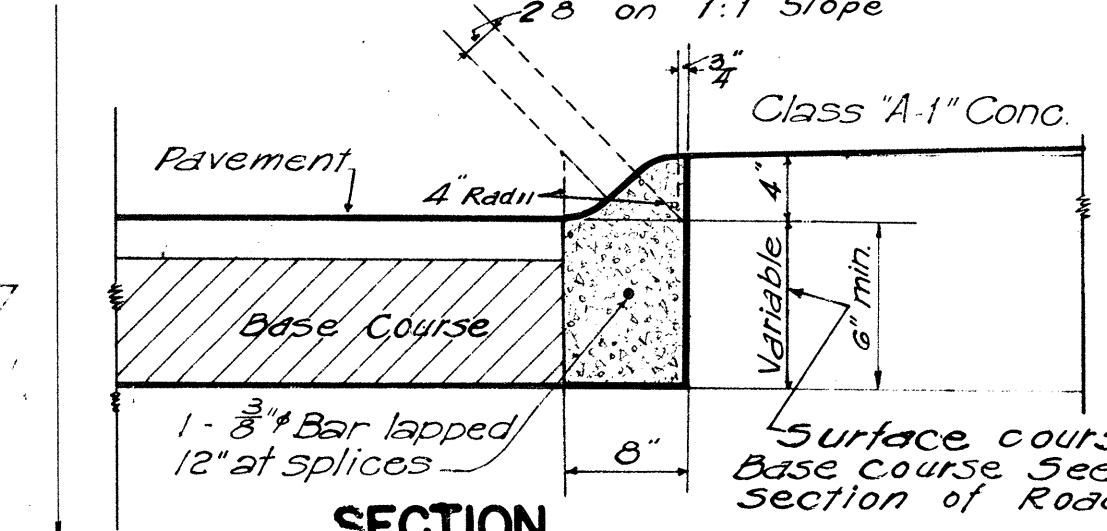


ELEVATION

DETAIL OF A.C. ROLL

Scale: 1" = 1'-0"

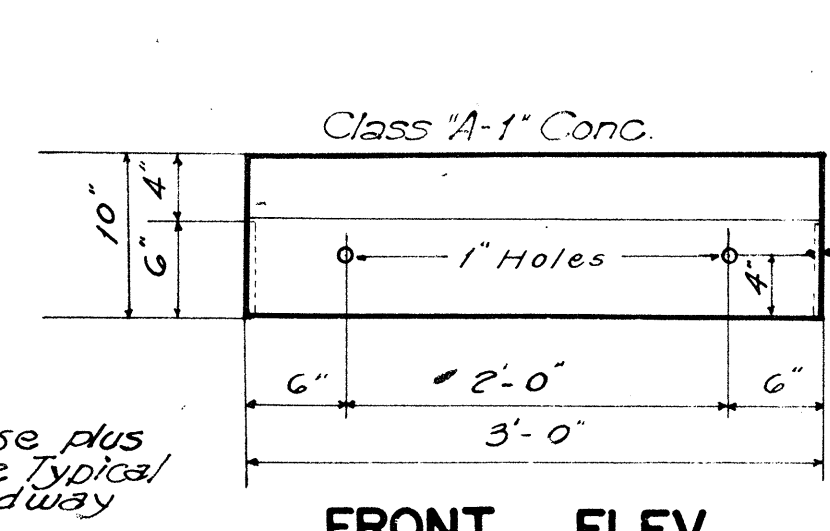
NOTE: There may be more than one over-all curb height used on an individual project depending upon Base Courses used, but this shall make no difference in items under which payment is made.



SECTION

ST'D. CAST IN PLACE CONC. ROLL CURB

Scale: 1" = 1'-0"

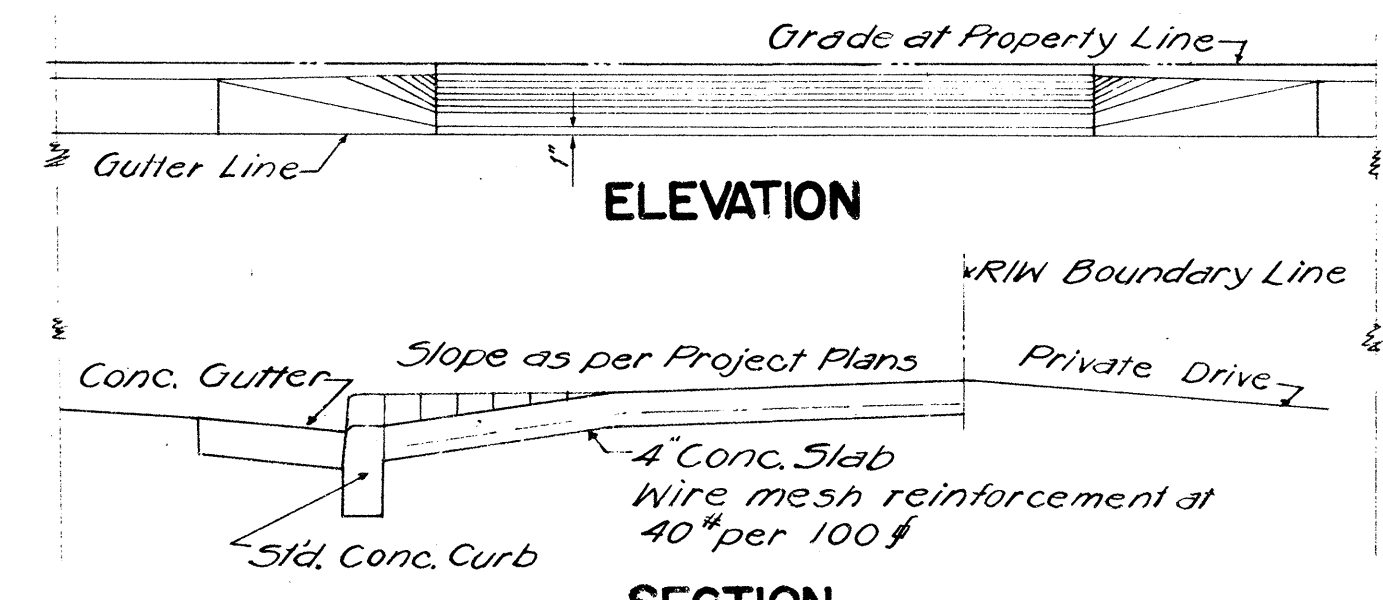


FRONT ELEV

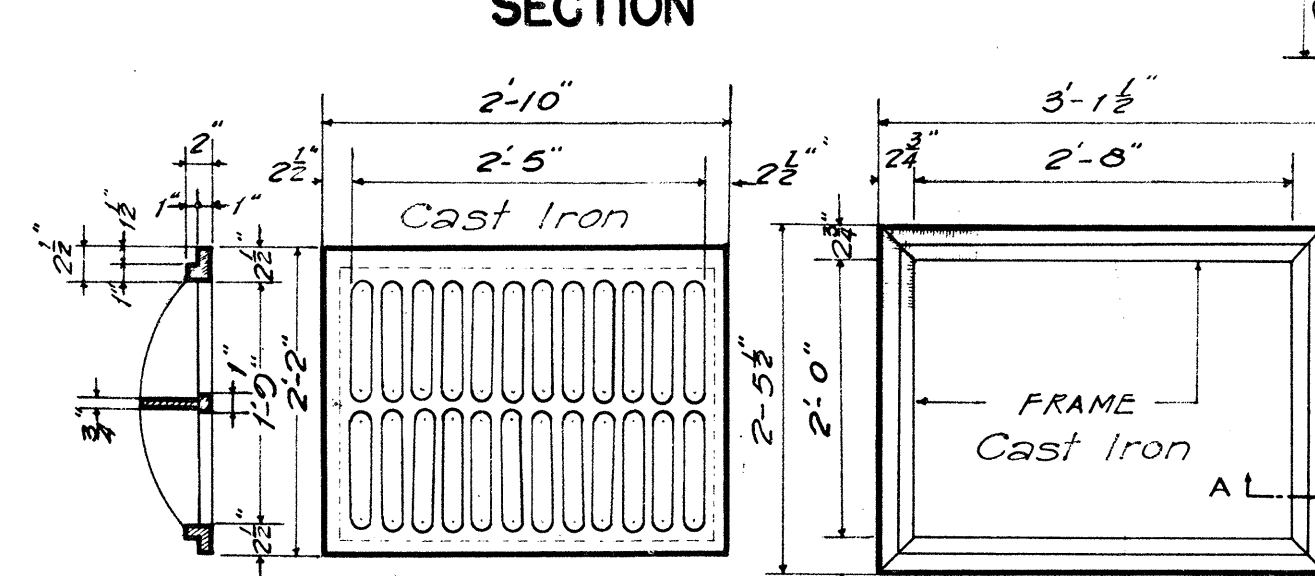
ST'D. PRECAST CONC. ROLL CURB

Scale: 1" = 1'-0"

SECTION



ELEVATION

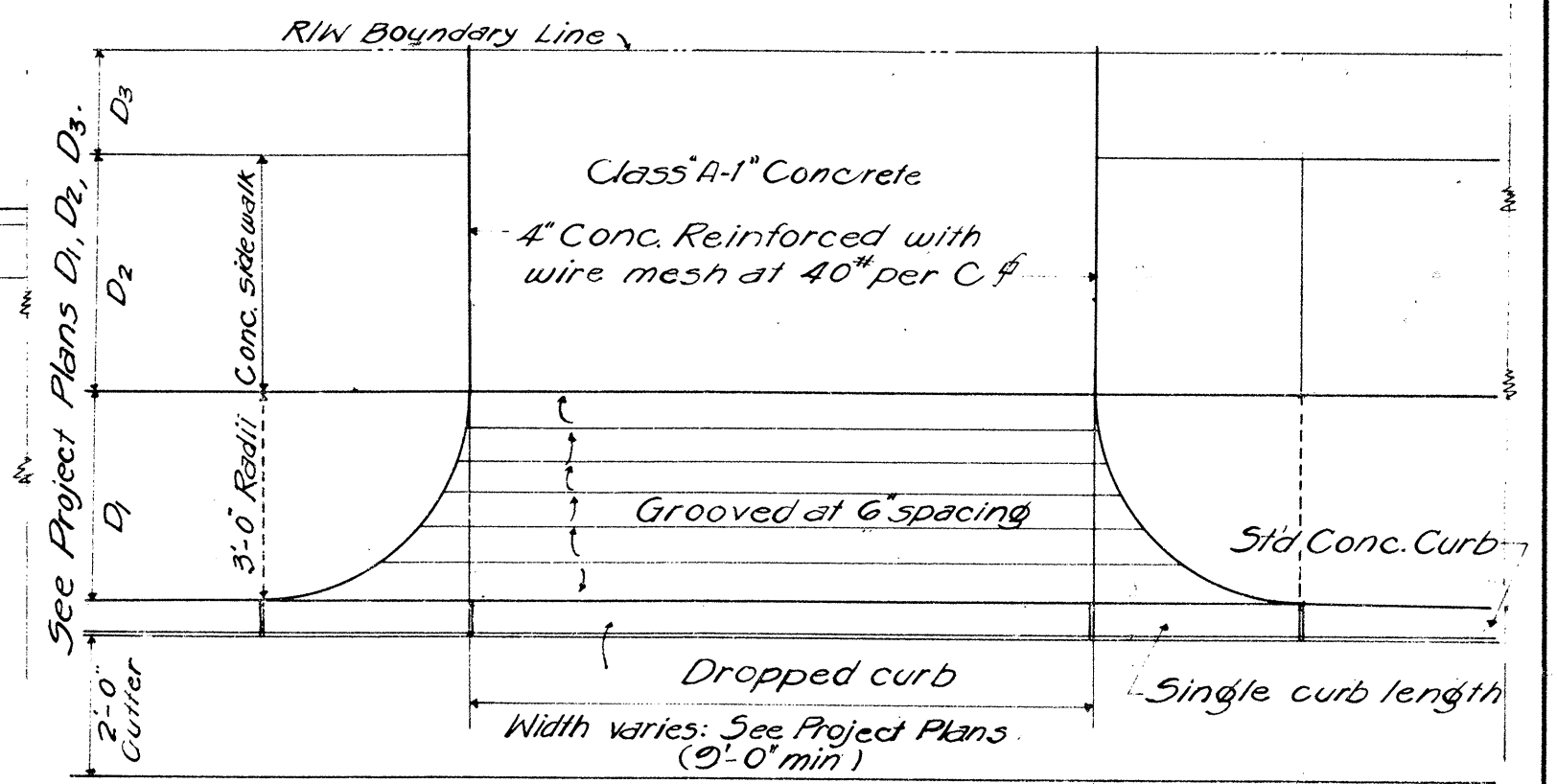


SECTION

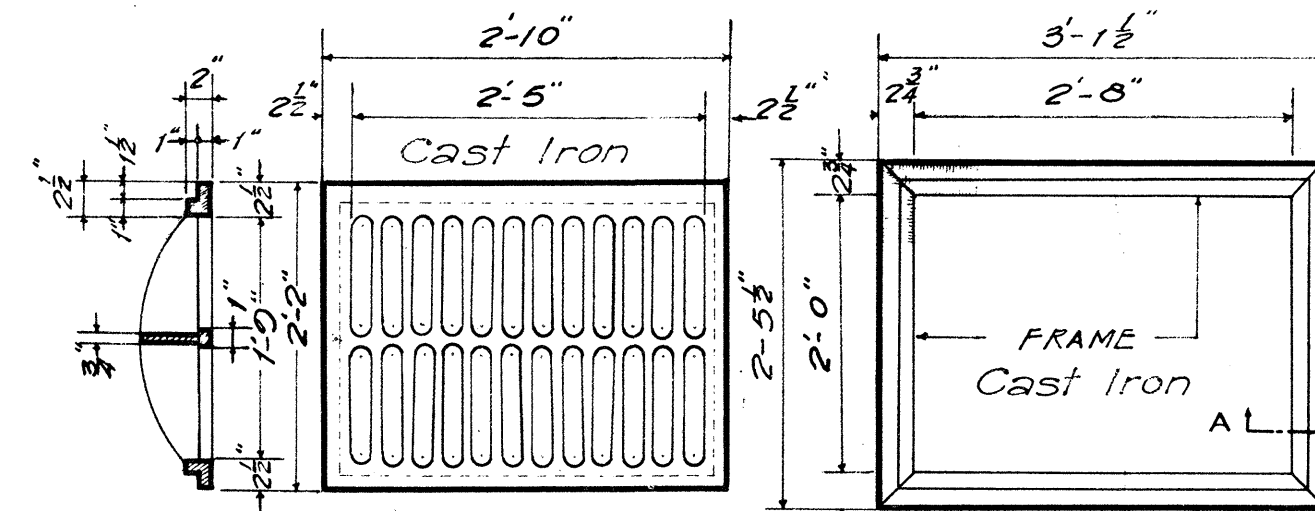
STANDARD C. I. FRAME AND GRATE TYPE "C"

Scale: 3/4" = 1'-0"

NOTE: Stock Pattern from Novelty Foundry-Honolulu



PLAN
DETAILS OF DROPPED DRIVEWAY



TOP VIEW

TOP VIEW

SECTION A-A

Scale: 3" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

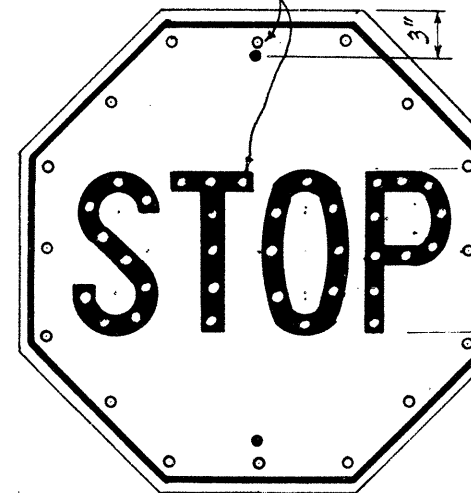
SCALES AS NOTED
APPROVED: *[Signature]*
Territorial Highway Engineer

Apr. 15, 1948

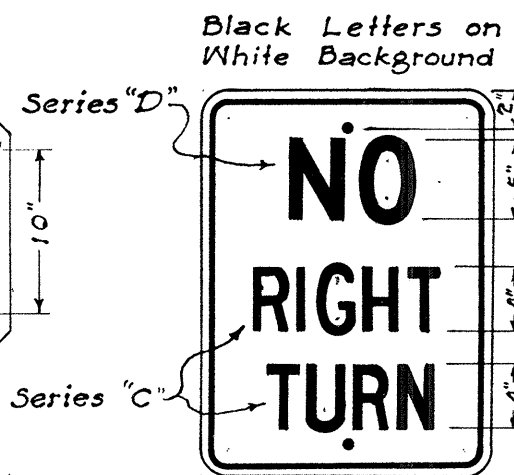
SHEET No 4 OF 4 SHEETS

DATE: _____
SURVEY PLOTTED BY: _____
DESIGNED BY: _____
TRACED BY: _____
QUANTITIES BY: _____
CHECKED BY: _____
S. Nambu

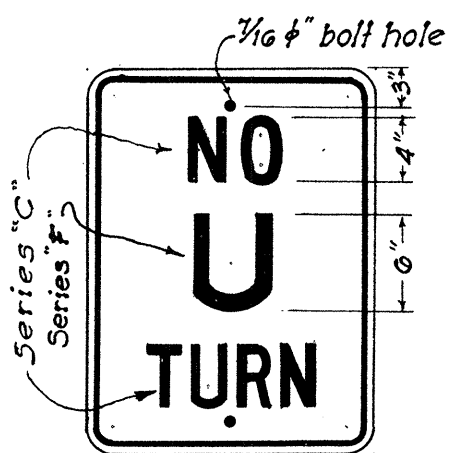
Black Letters on "Highway Yellow" Background White Reflectors



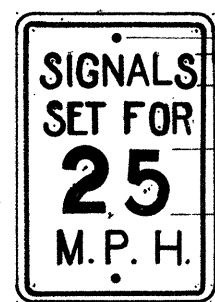
R-1
30" x 30"



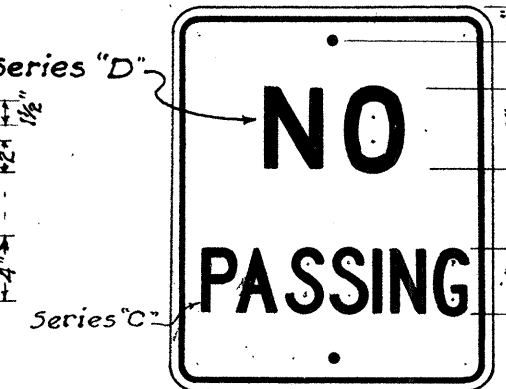
R-6
18" x 24"



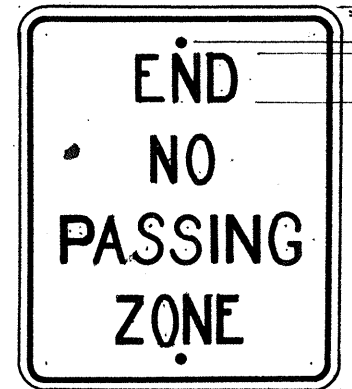
R-8
18" x 24"



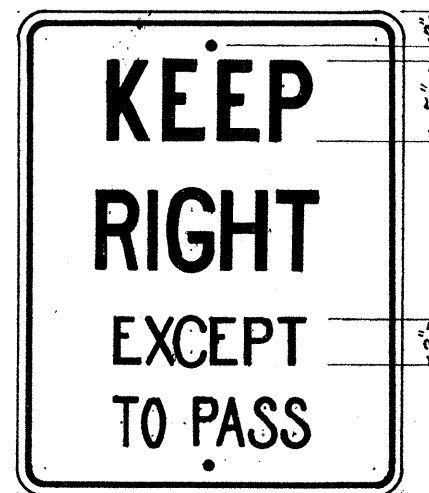
R-10
12" x 18"



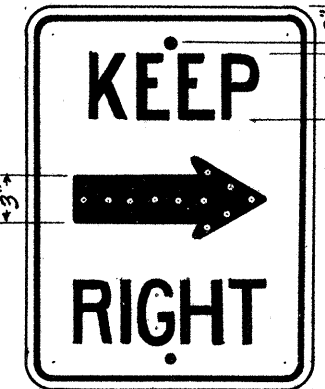
R-11
20" x 24"



R-12
20" x 24"



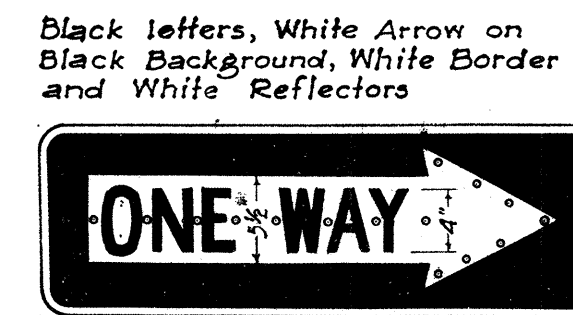
R-13
24" x 30"



R-14
18" x 24"



R-15
24" x 24"



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



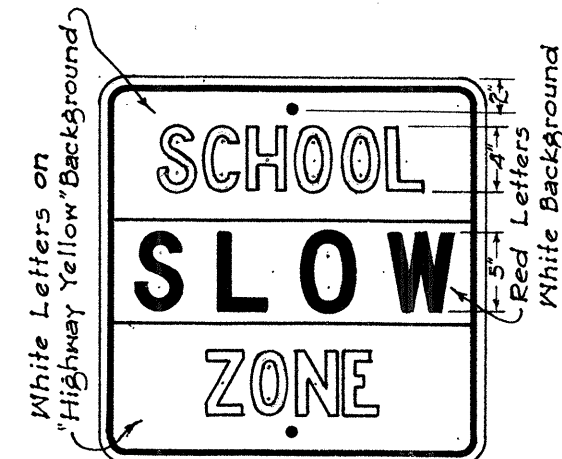
R-18
12" x 18"



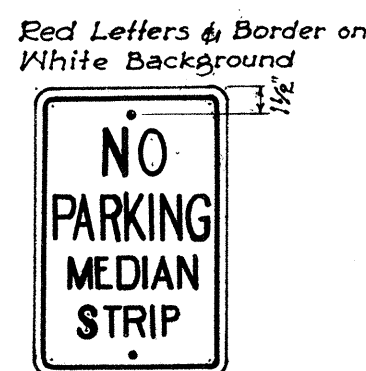
R-26
12" x 18"



R-29
24" x 30"



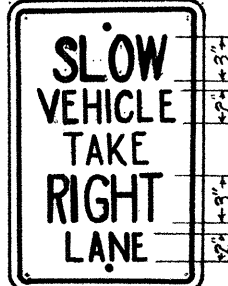
R-41-S
24" x 24"



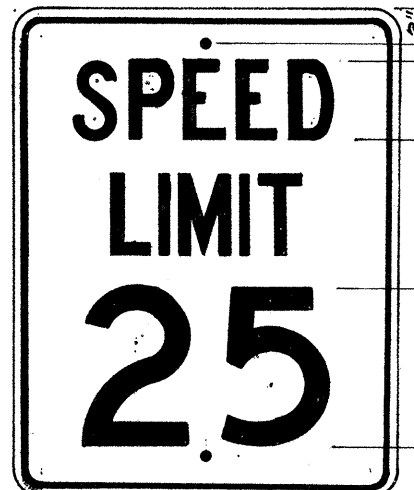
R-42-S
12" x 18"



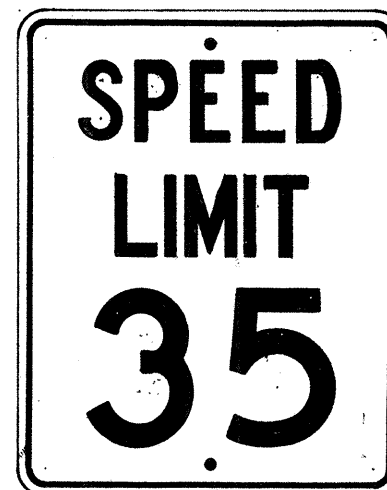
R-43-S
12" x 18"



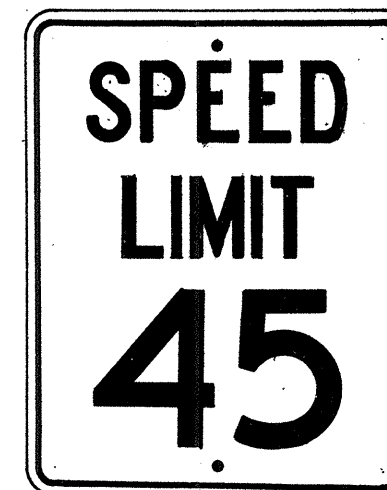
R-44-S
12" x 18"



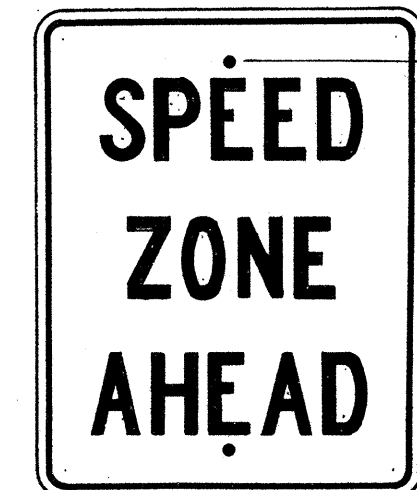
R-102-A
24" x 30"



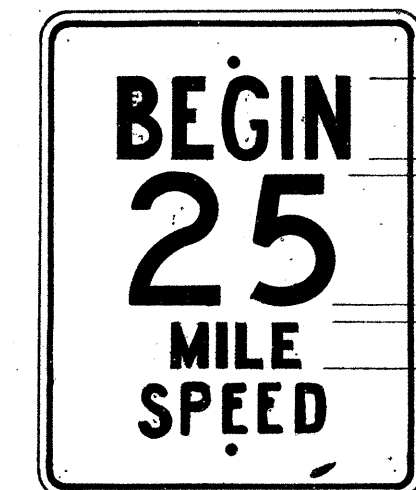
R-102-B
24" x 30"



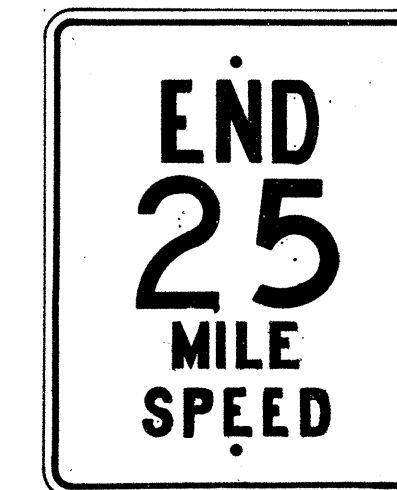
R-102-C
24" x 30"



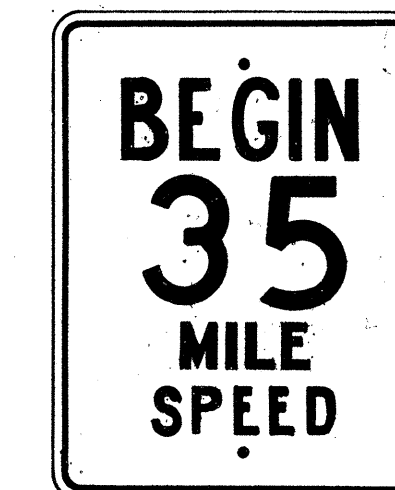
R-104
24" x 30"



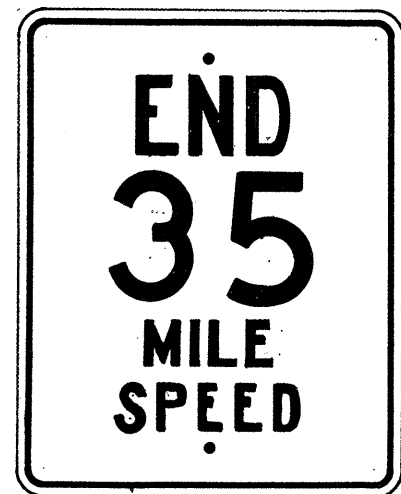
R-105-A
24" x 30"



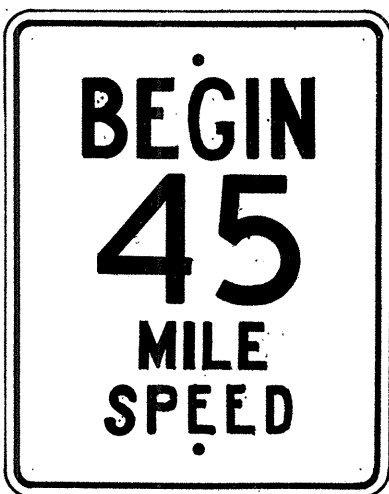
R-105-B
24" x 30"



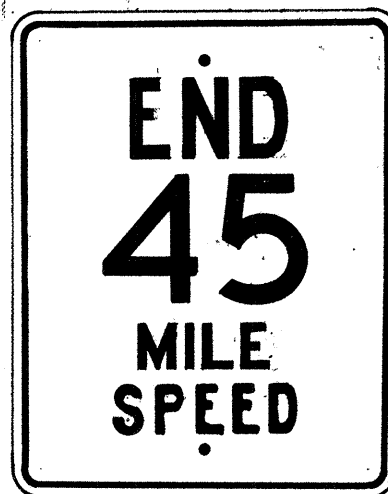
R-105-C
24" x 30"



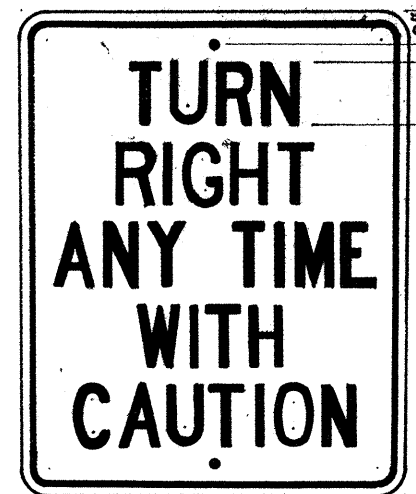
R-105-D
24" x 30"



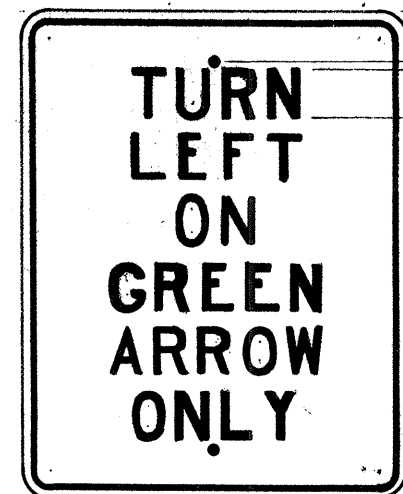
R-105-E
24" x 30"



R-105-F
24" x 30"



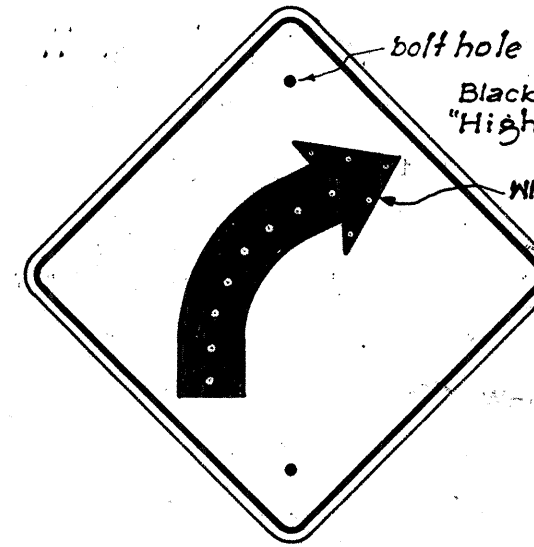
R-106
24" x 30"



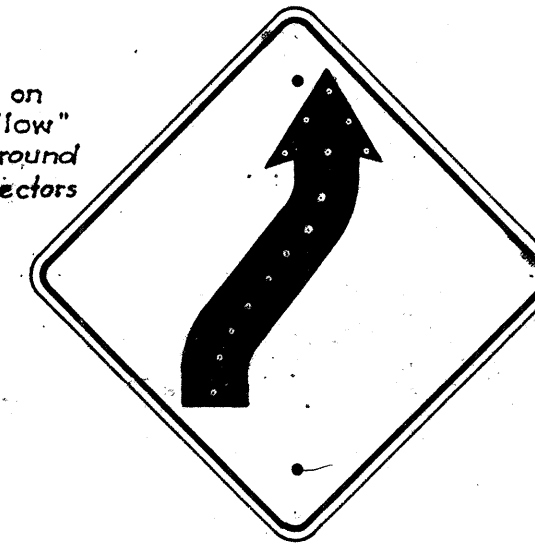
R-107-A
24" x 30"



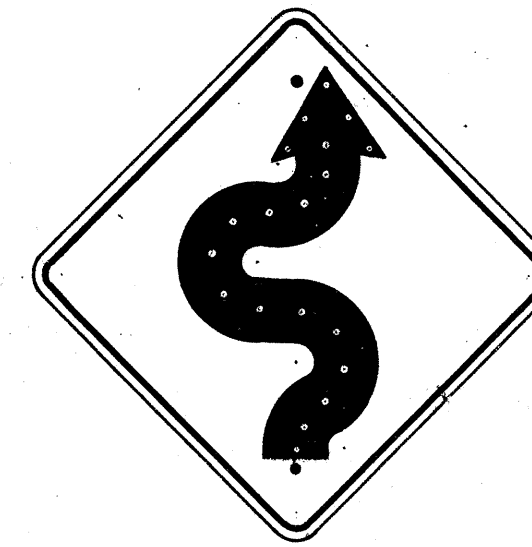
R-107
14" x 9"



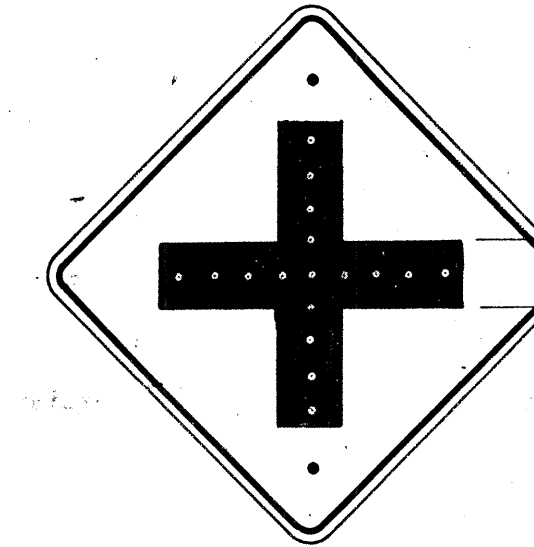
W-2-R
*W-2-L
24" x 24"



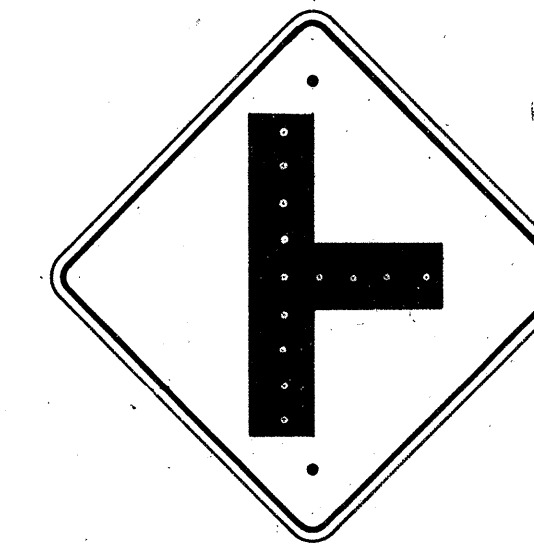
W-4-R
*W-4-L
24" x 24"



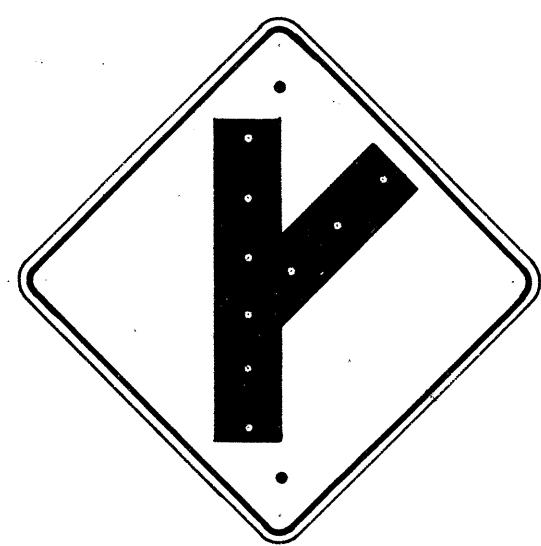
W-5-R
*W-5-L
24" x 24"



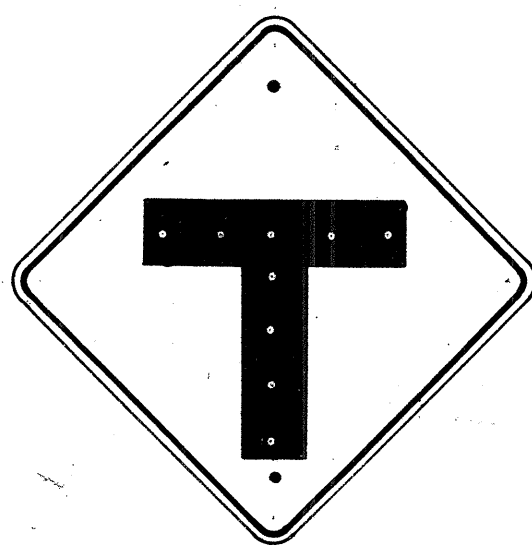
W-6
24" x 24"



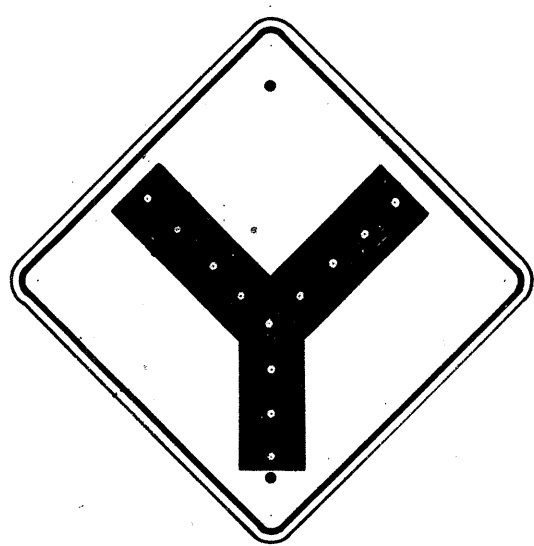
W-7
24" x 24"



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"



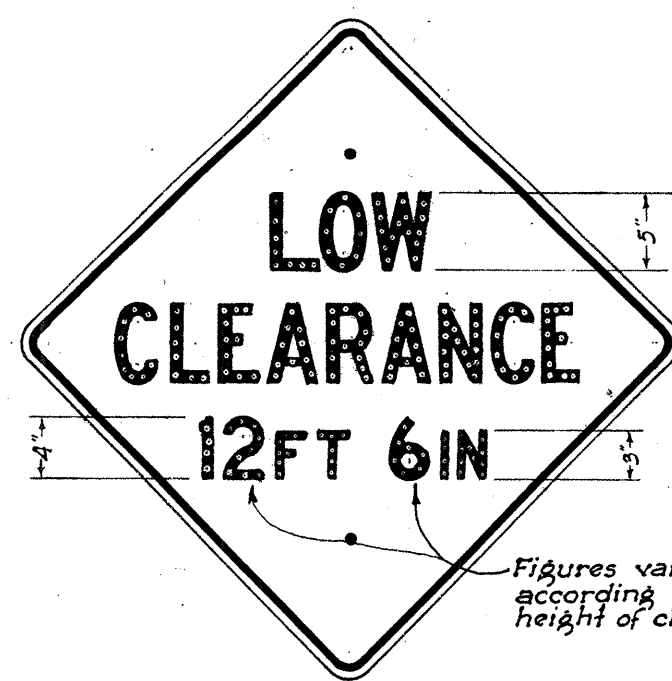
W-20
30" x 30"



W-21
30" x 30"



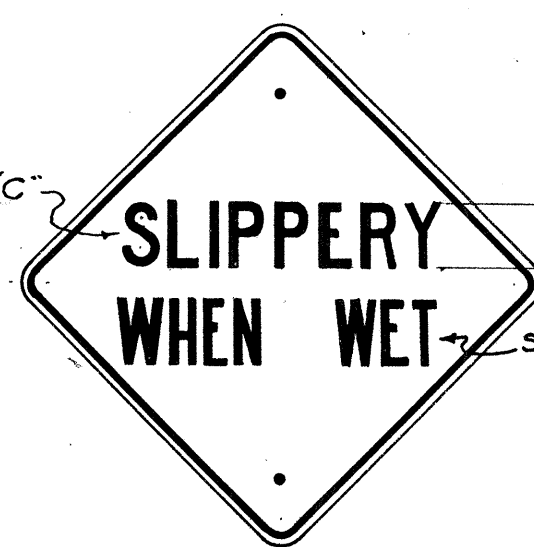
W-22
24" x 24"



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.

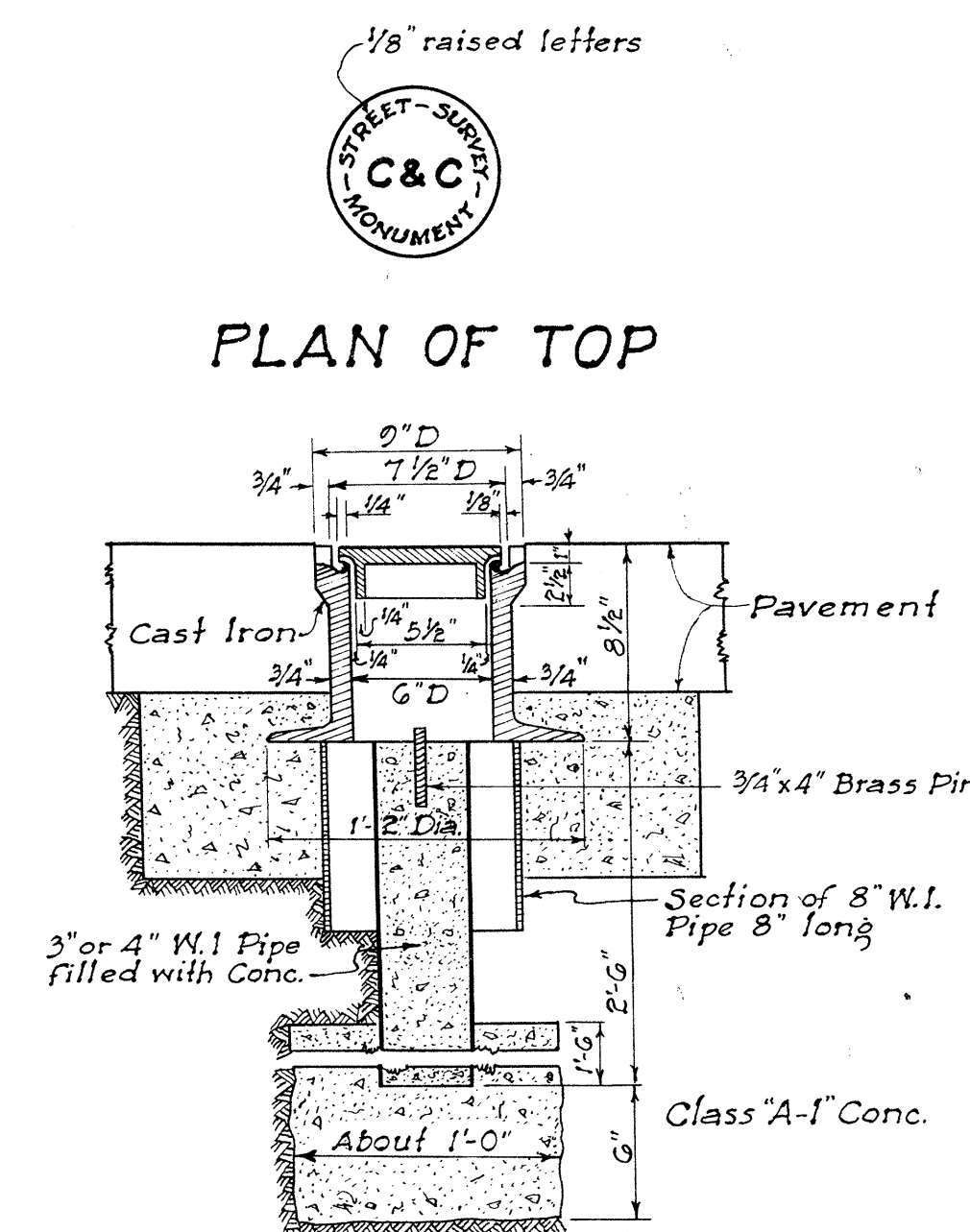
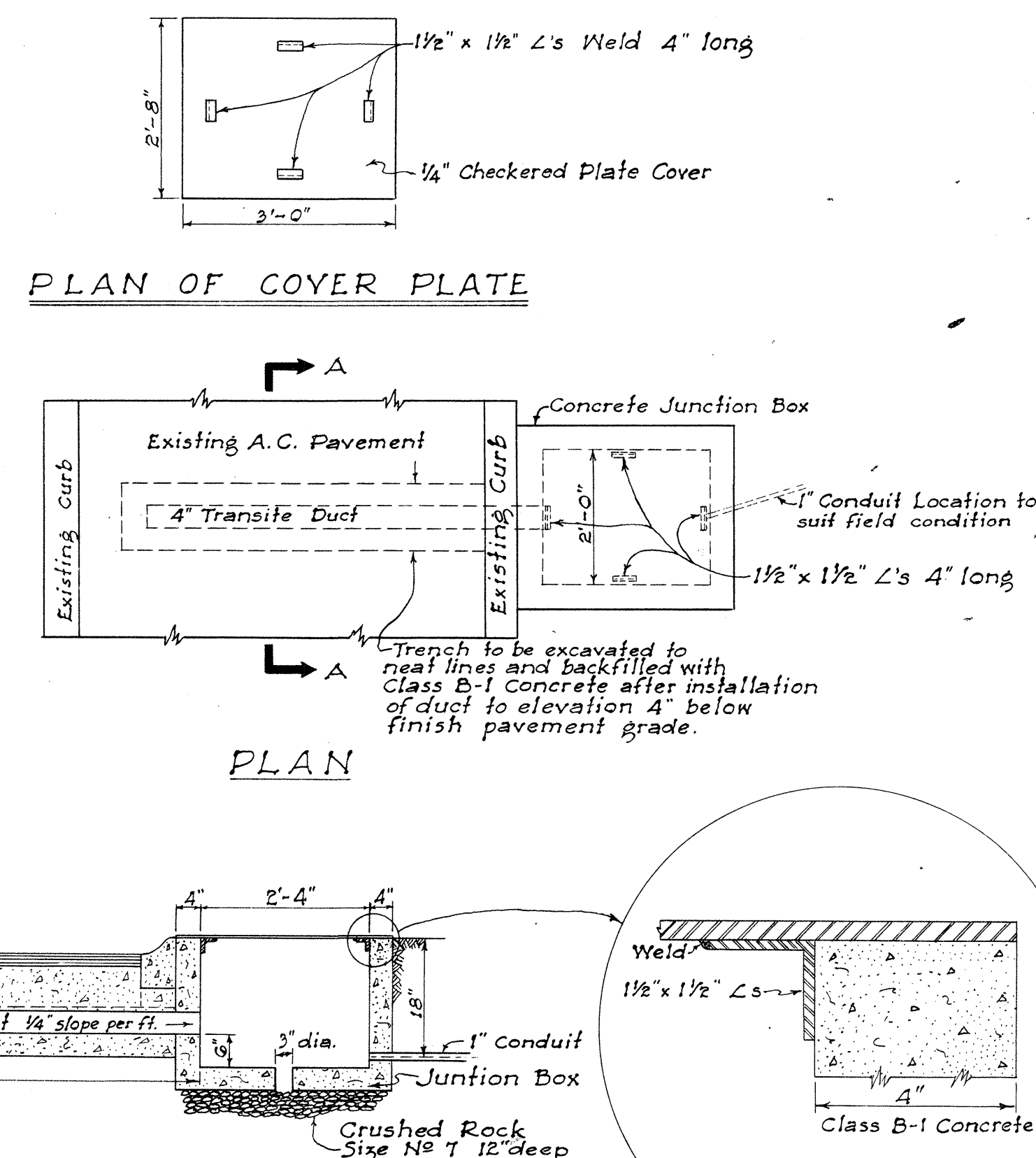
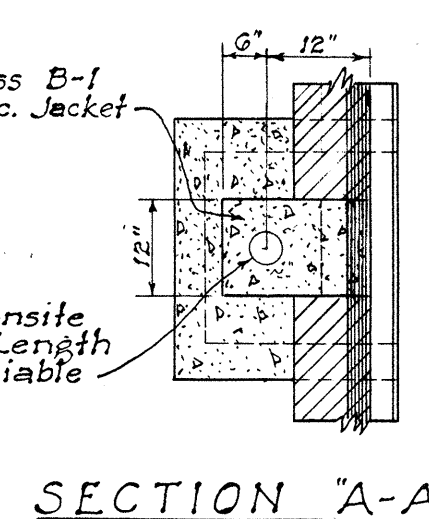
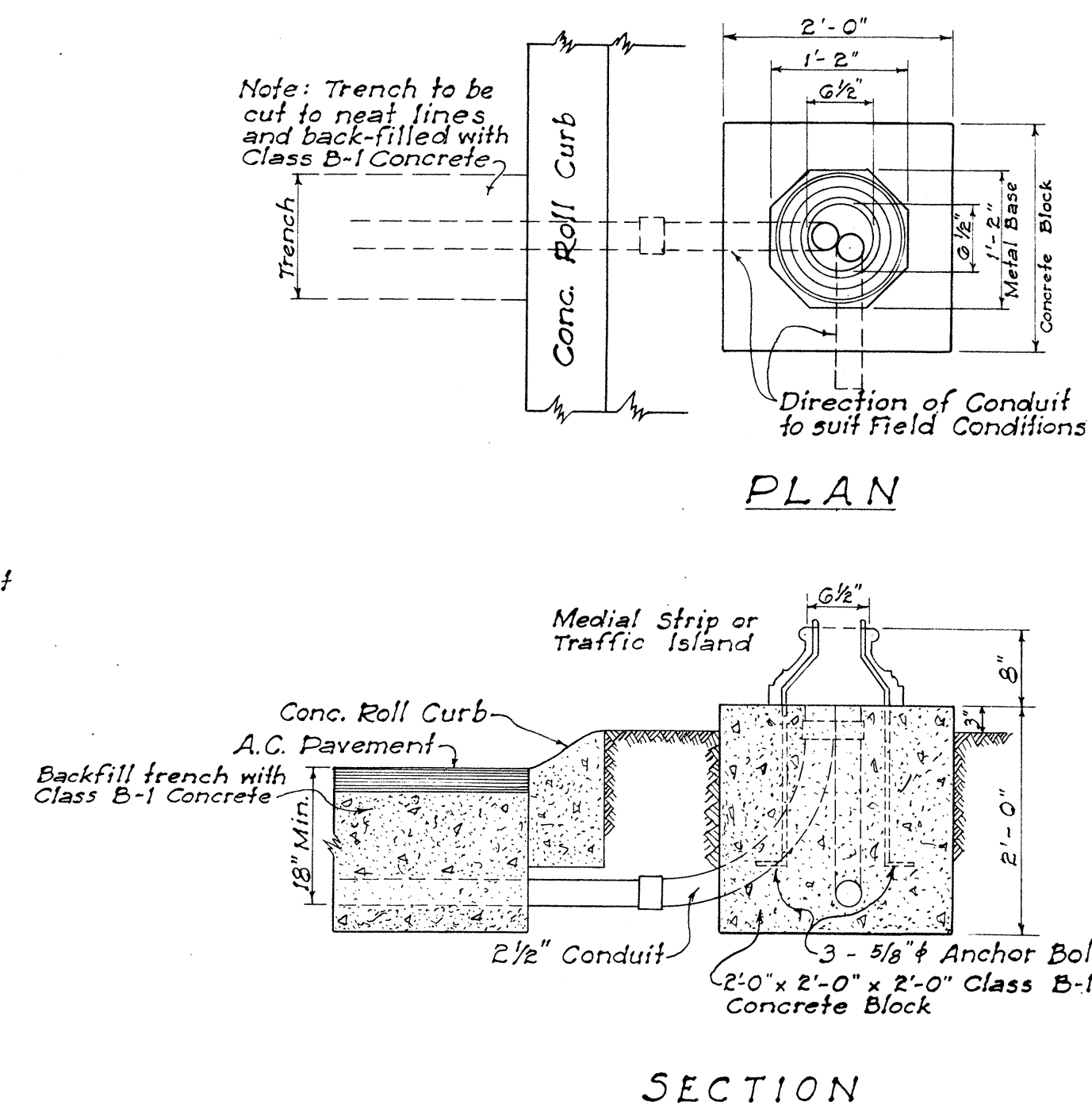
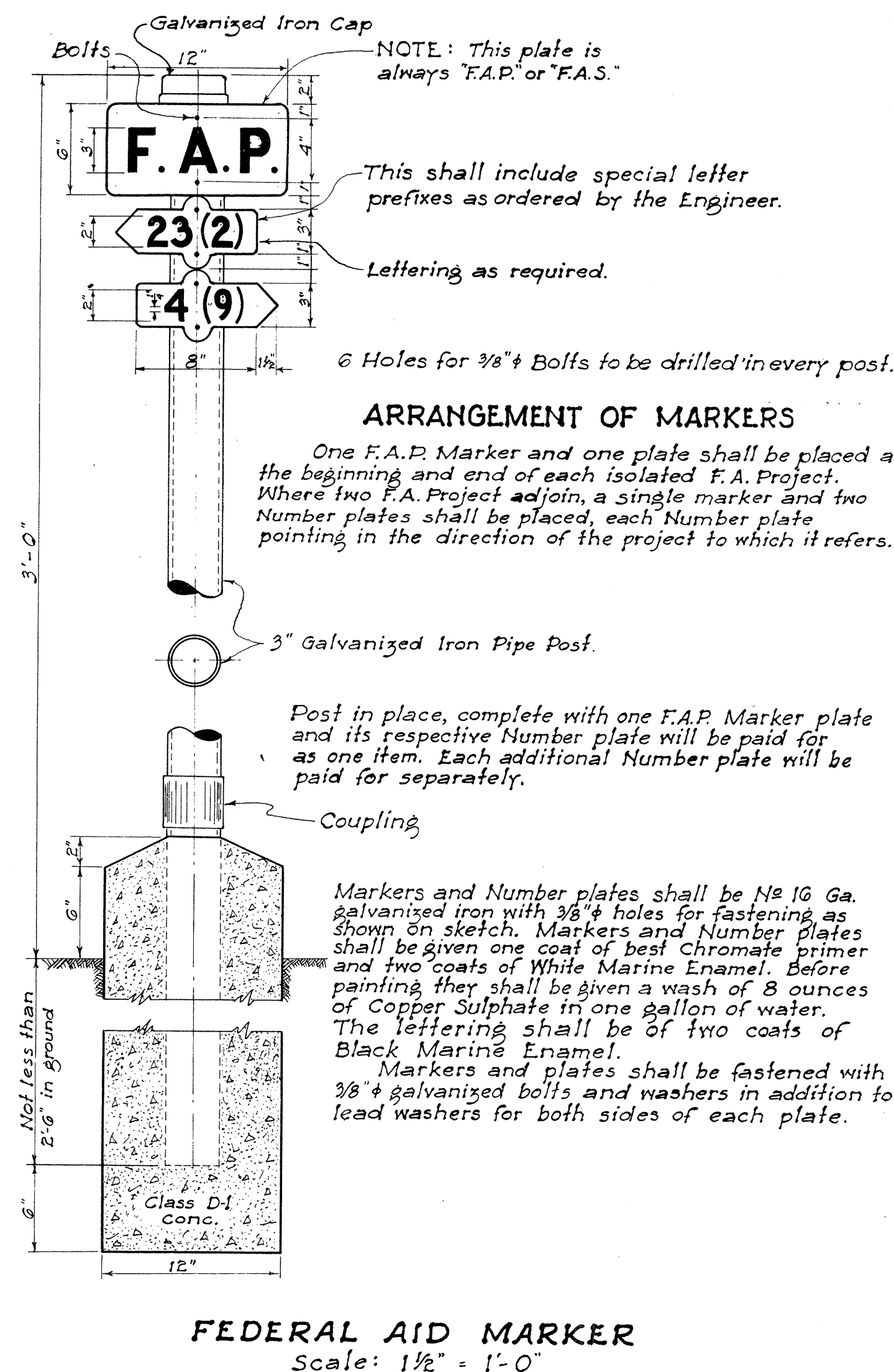
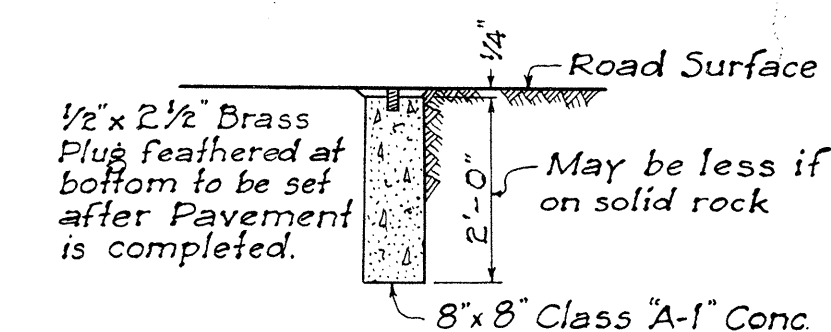
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'
APPROVED: *[Signature]* May 31, 1949
TERRITORIAL HIGHWAY ENGINEER

See Specifications for Materials & Finish.

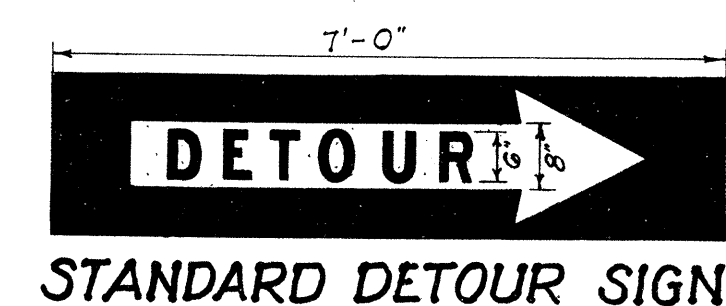
SHEET NO. OF SHEETS

5399.16

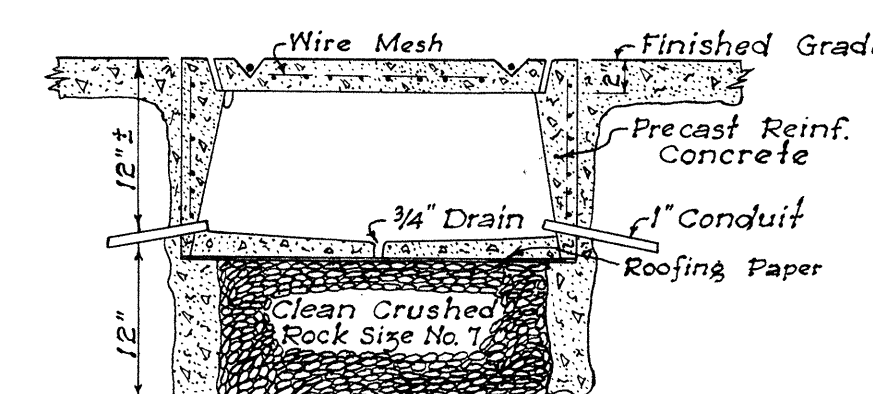
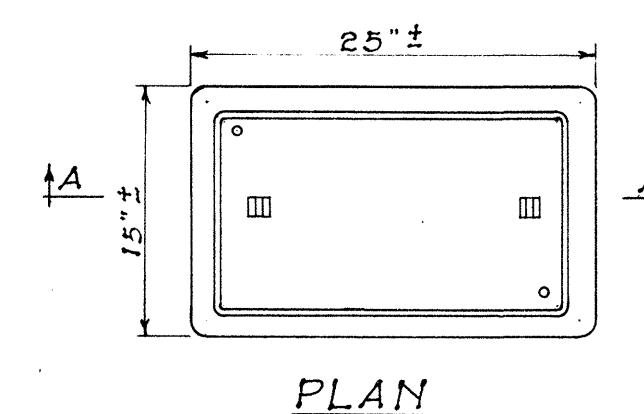
DESIGNED BY: T. Tokunaga
CHECKED BY: T. Tokunaga
QUANTITIES BY: T. Tokunaga
NOTE BOOK: No.

STANDARD C&C STREET
SURVEY MONUMENT

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



TYPICAL ROAD SECTION
SHOWING
TRAFFIC DETECTOR JUNCTION BOX AND DUCT

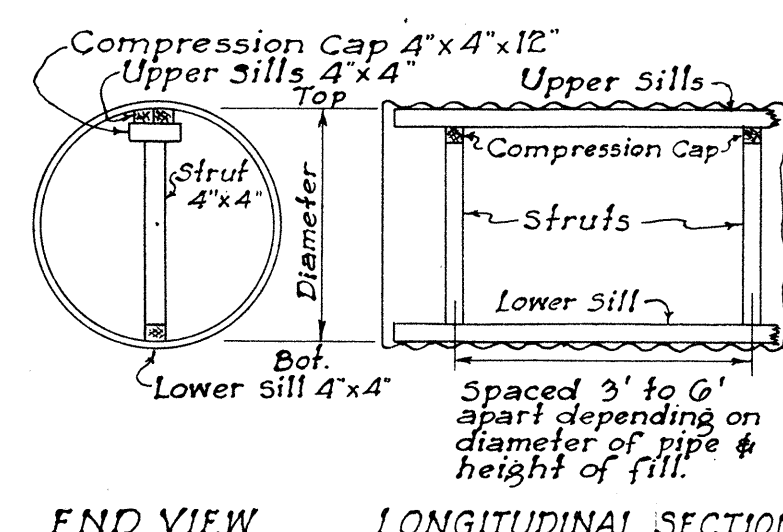


SECTION A-A

DETAIL OF PULL BOX

Scale: 1" = 1'-0"

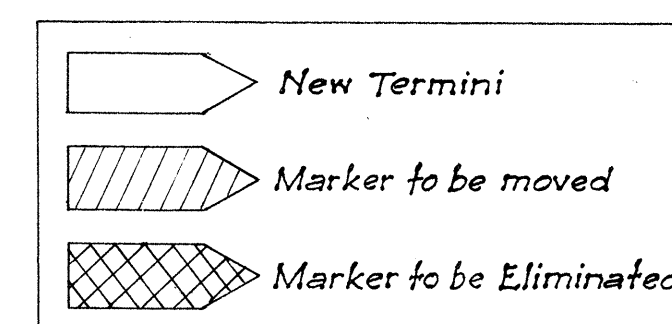
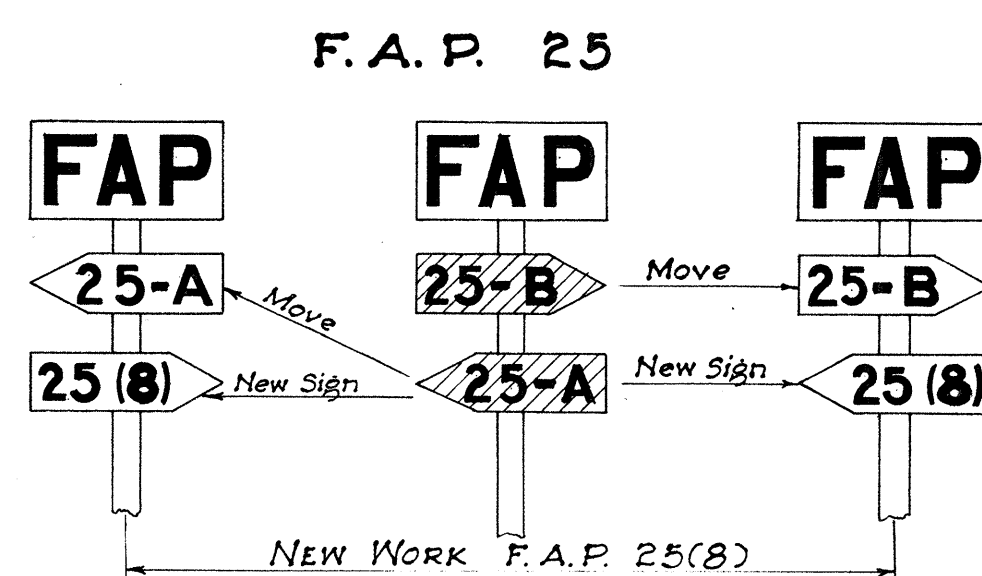
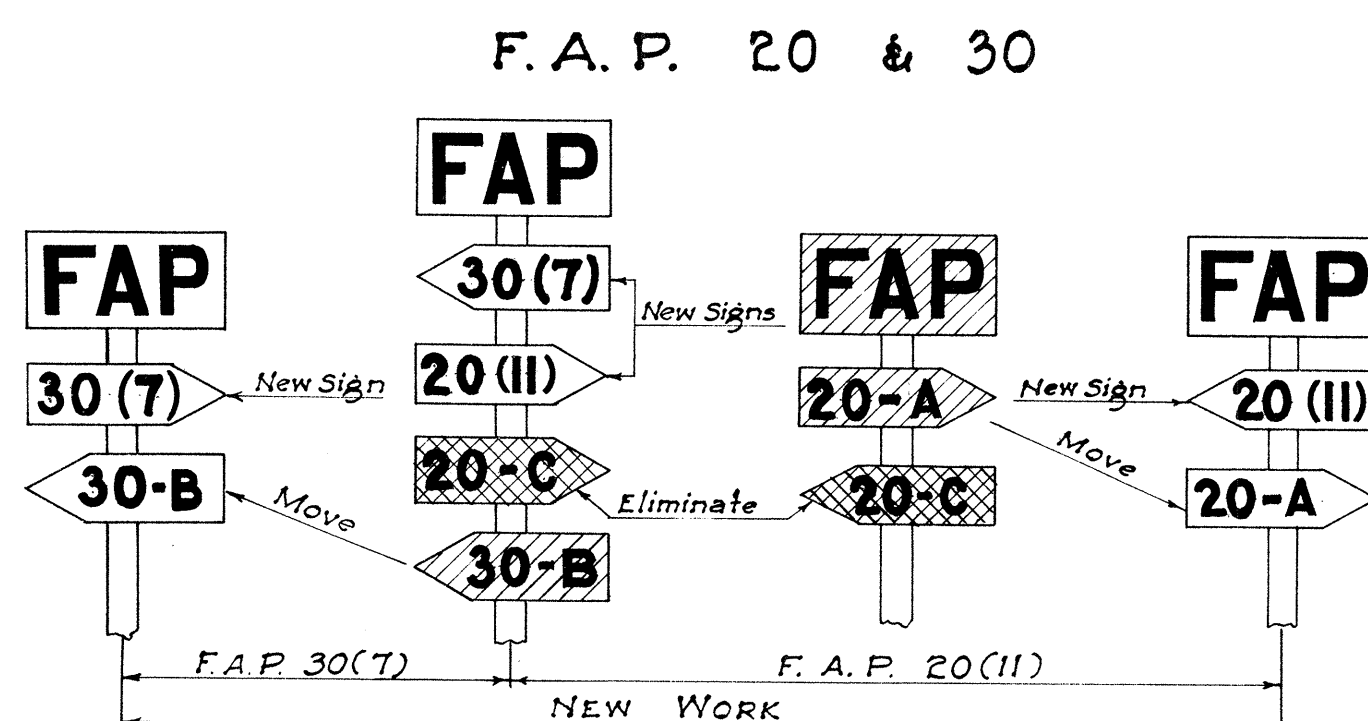
DETAIL OF BASE FOR TRAFFIC STANDARD
AND DISPATCHER PEDESTAL



Diameter of Pipe in inches	Length of Struts in inches	Spacing of Struts in ft. for Various Heights				
		FILL 1' to 5'	FILL 5' to 10'	FILL 10 to 20'	FILL 20 to 30'	FILL 30' Over 30'
48	3 3/8	—	—	—	2	4
50	4 3/8	—	—	—	2	4
60	5 1/4	—	—	—	2	4
62	5 1/4	—	—	—	2	4
72	6 3/8	—	—	—	5	9.5
78	6 3/8	—	—	—	4.5	3.5
84	7 1/4	—	—	—	4	3

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.

STRUTTING DIAGRAM & TABLE
FOR
CORRUGATED METAL PIPE CULVERT



NOTE: Federal Aid Markers should be placed at the termini of suffix designated sections. Intermediate letter designated markers

of adjacent sections located within the limits of new improvements should be moved to the termini of the new work.

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

METHOD OF MARKING F.A. PROJECTS AT OVERLAPS

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

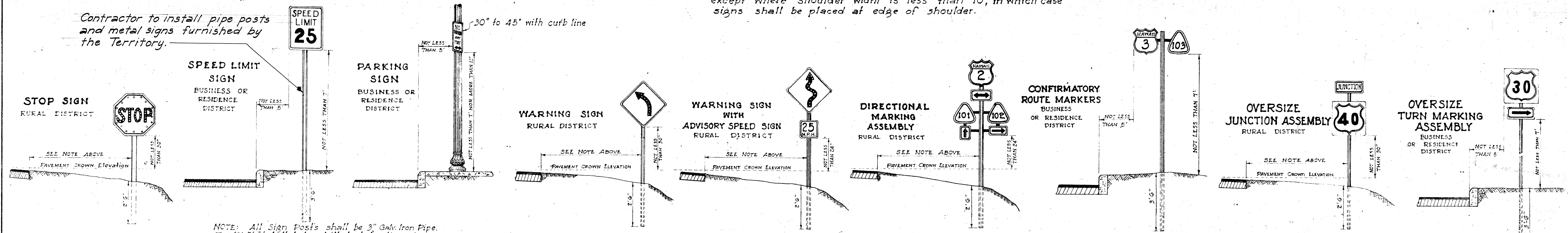
SCALES AS NOTED May 31, 1949

APPROVED: Wm. J. Zelt
Territorial Highway Engineer

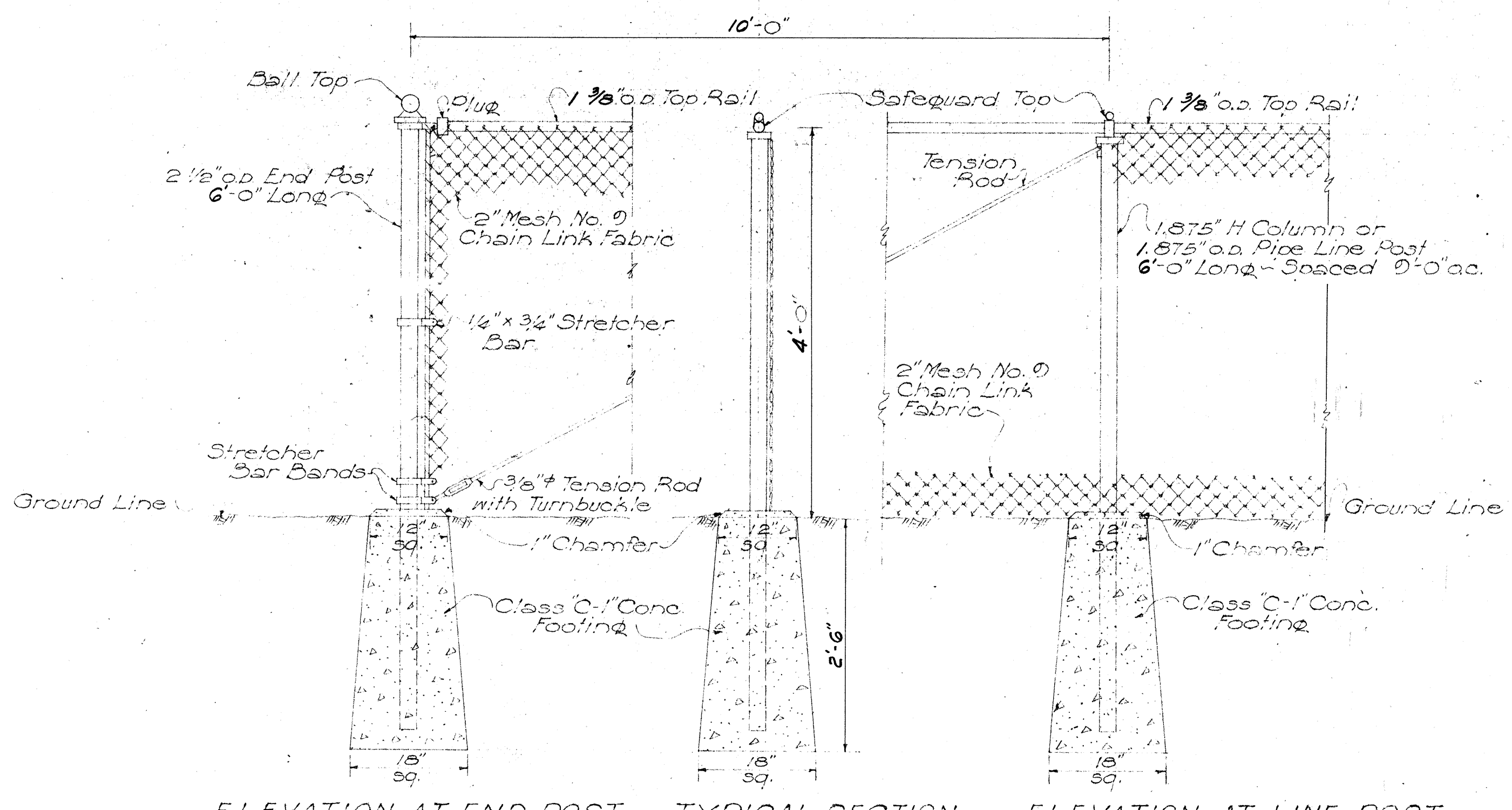
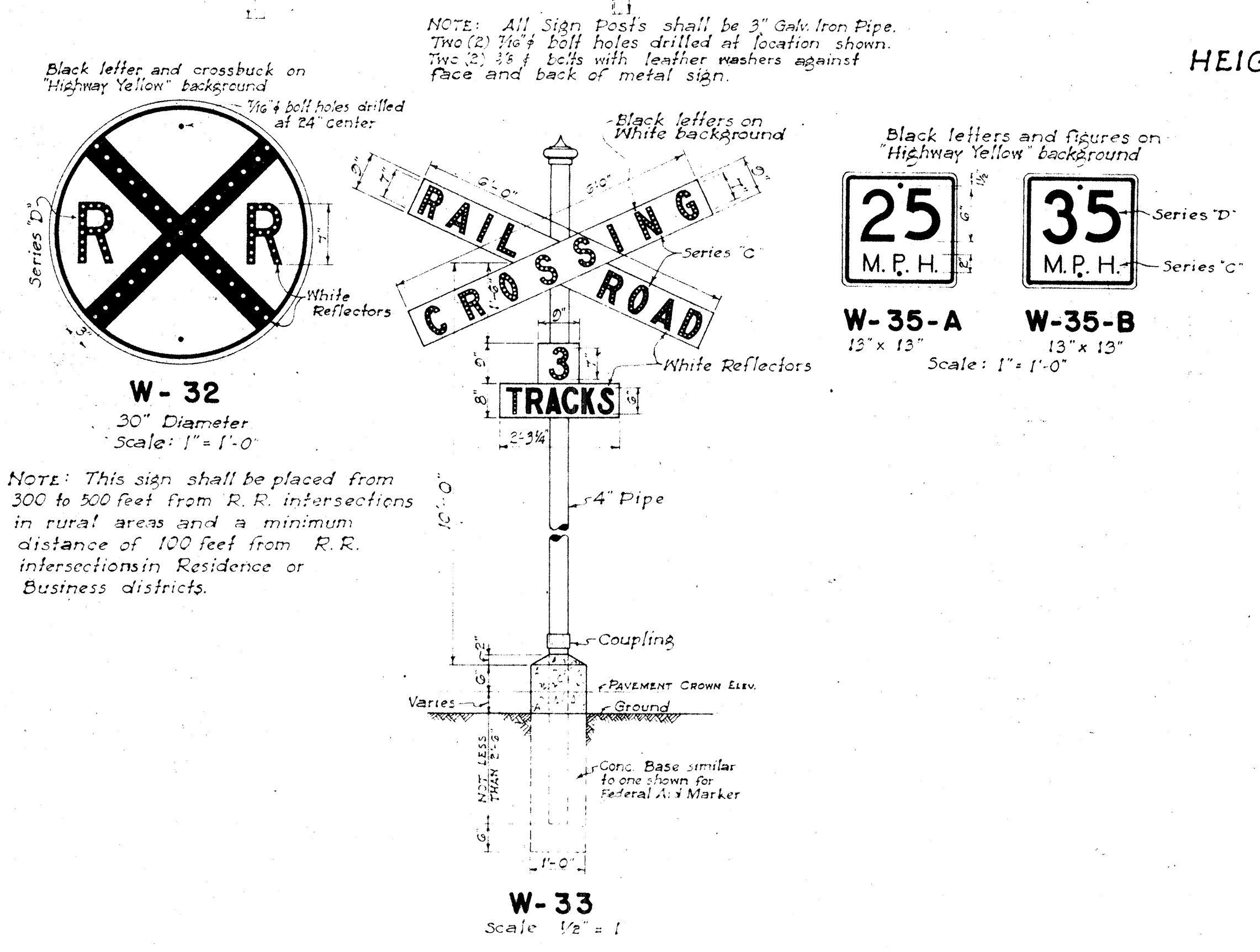
SHEET NO. OF SHEETS

9-12-50

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.



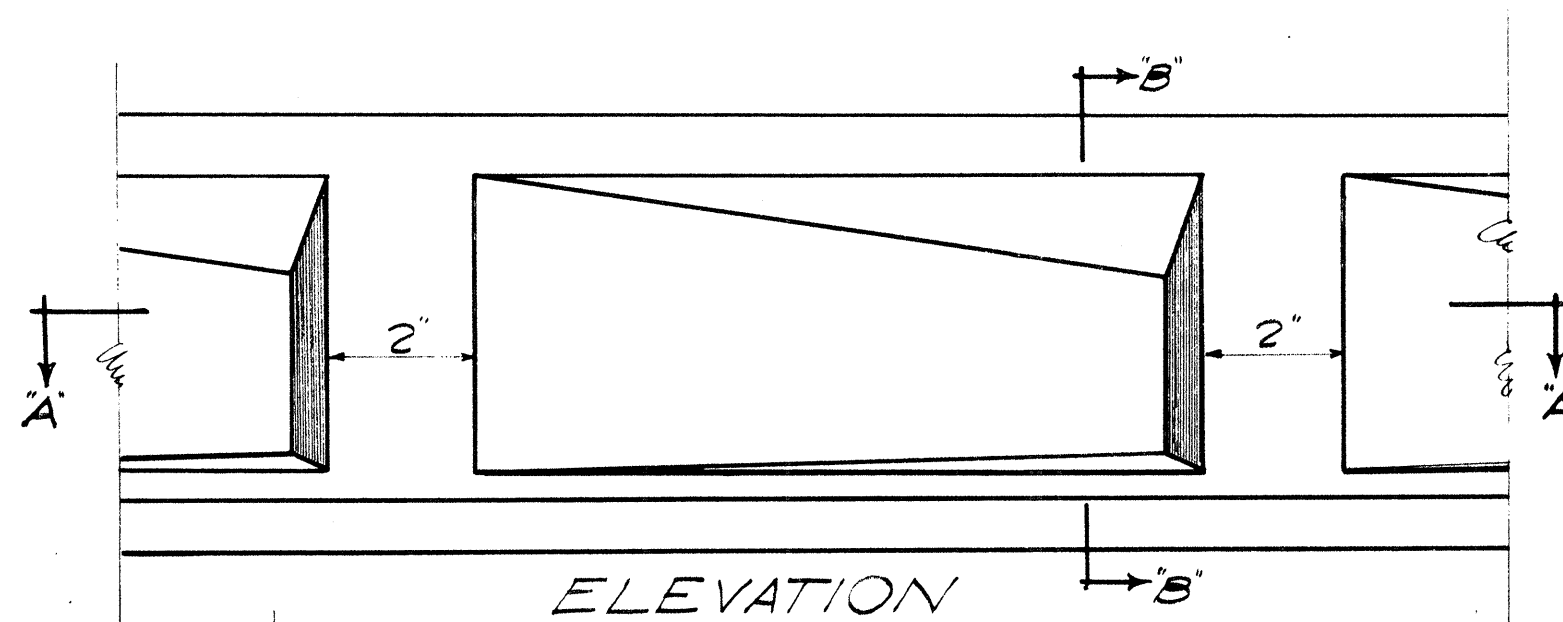
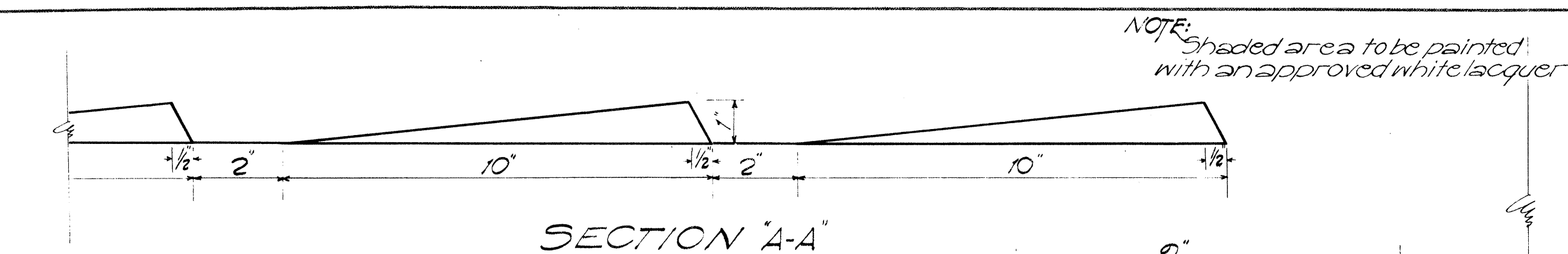
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



ELEVATION AT END POST TYPICAL SECTION ELEVATION AT LINE POST
DETAIL OF CHAIN LINK FENCE
Not Drawn to Scale

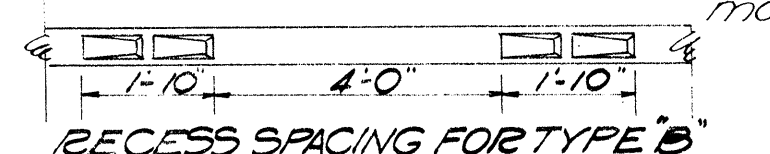
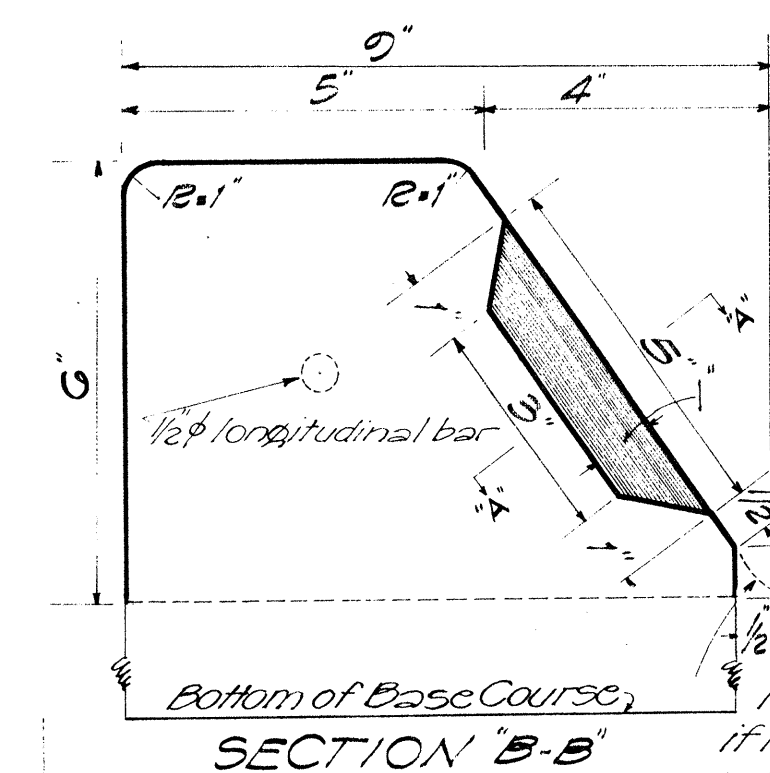
DATE
DESIGNED BY
STAN
N. H. RUCK
QUANTITIES BY
T. Tokumasa
CHECKED BY

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
REGULATORY & WARNING SIGNS
SCALE AS NOTED May 31, 1949
APPROVED: *Hubert*
Territorial Highway Engineer



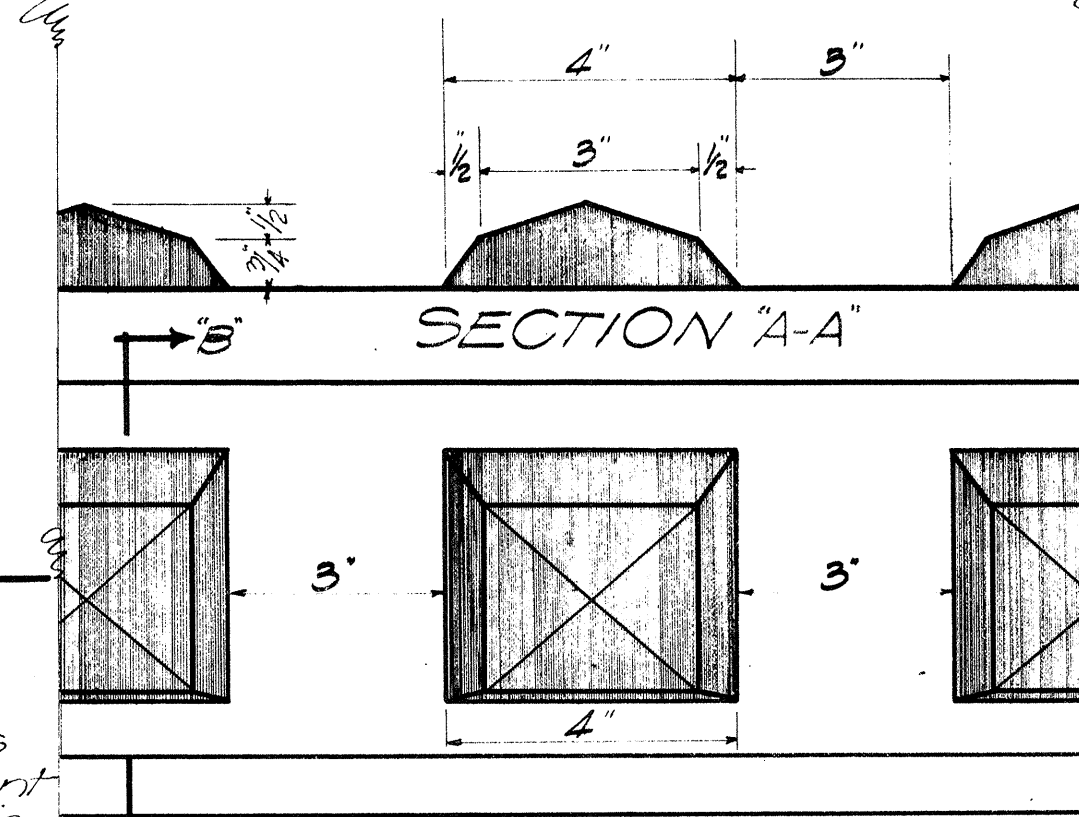
MEDIAN STRIP CURB TYPE "A"
Scale: 3/8" = 1'-0"

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



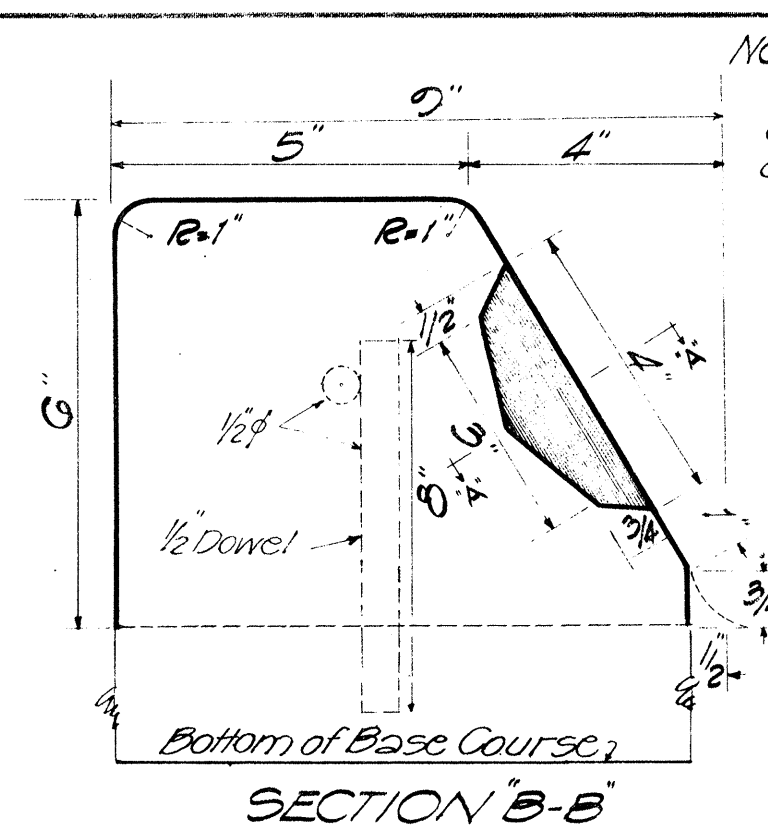
MEDIAN STRIP CURB TYPE "B"
Scale: 3/8" = 1'-0"

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

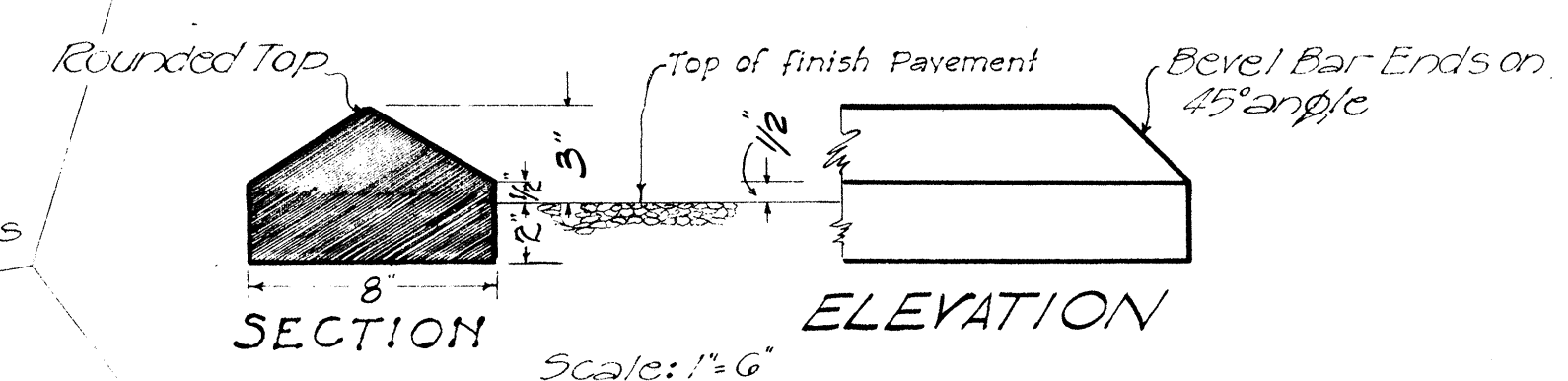
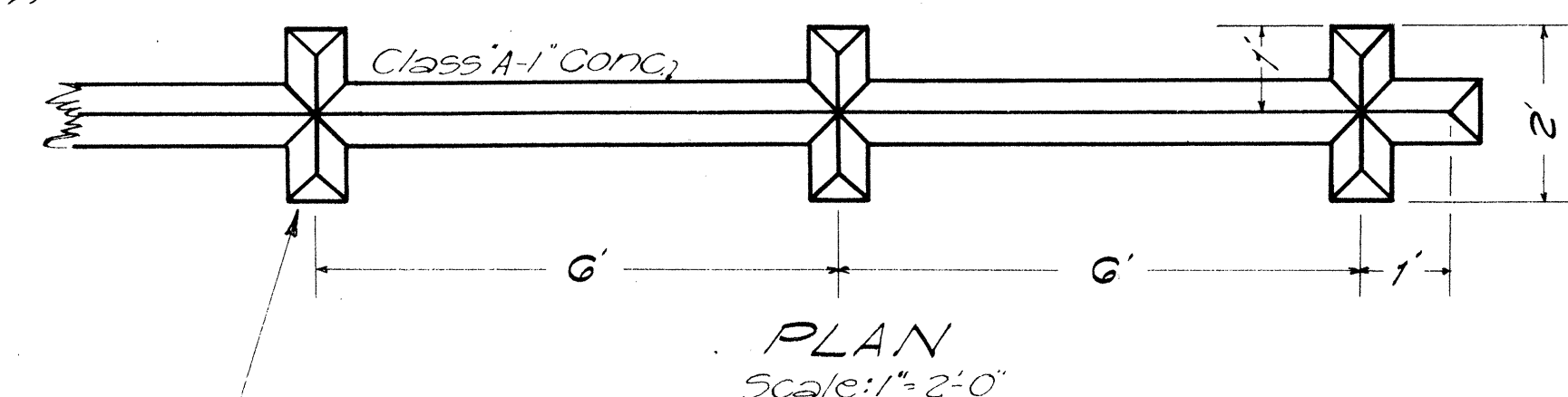
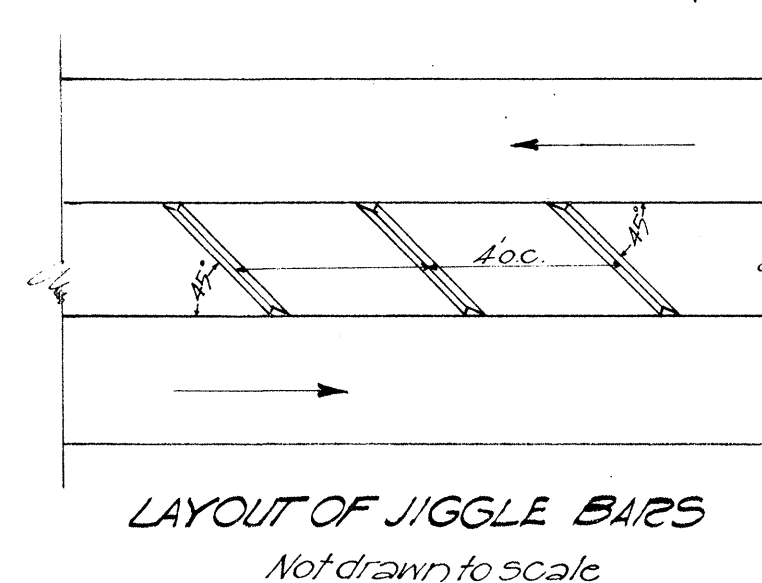


MEDIAN STRIP CURB TYPE "C"
Scale: 3/8" = 1'-0"

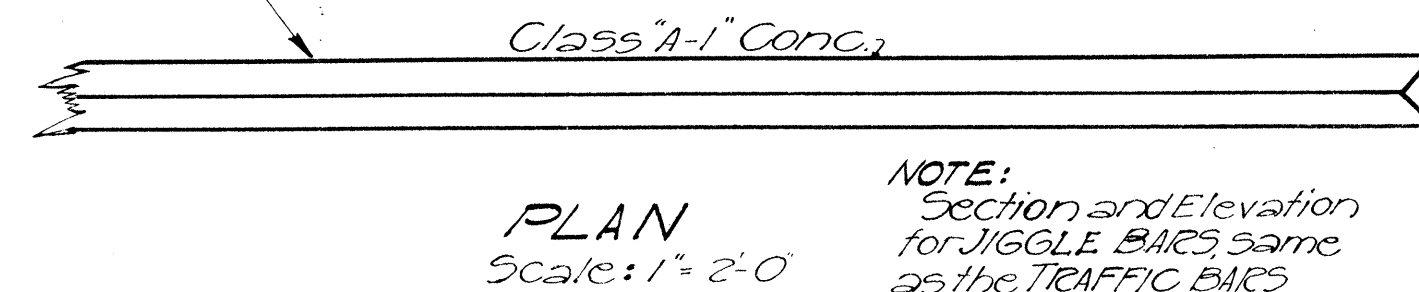
TYPE C: This type and spacing of recesses to be used on curb returns.



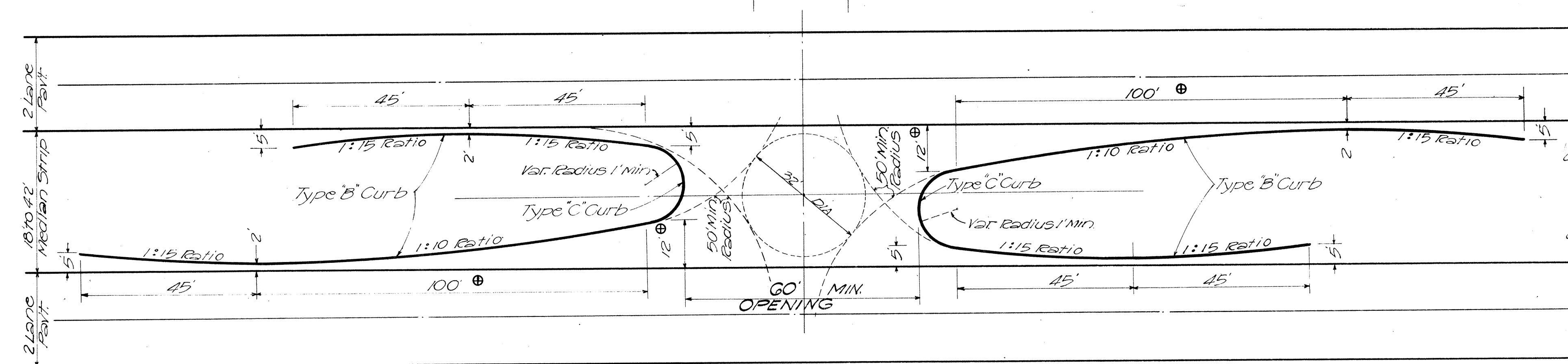
NOTE: Paint all exposed surfaces of bars with beaded white traffic lacquer.



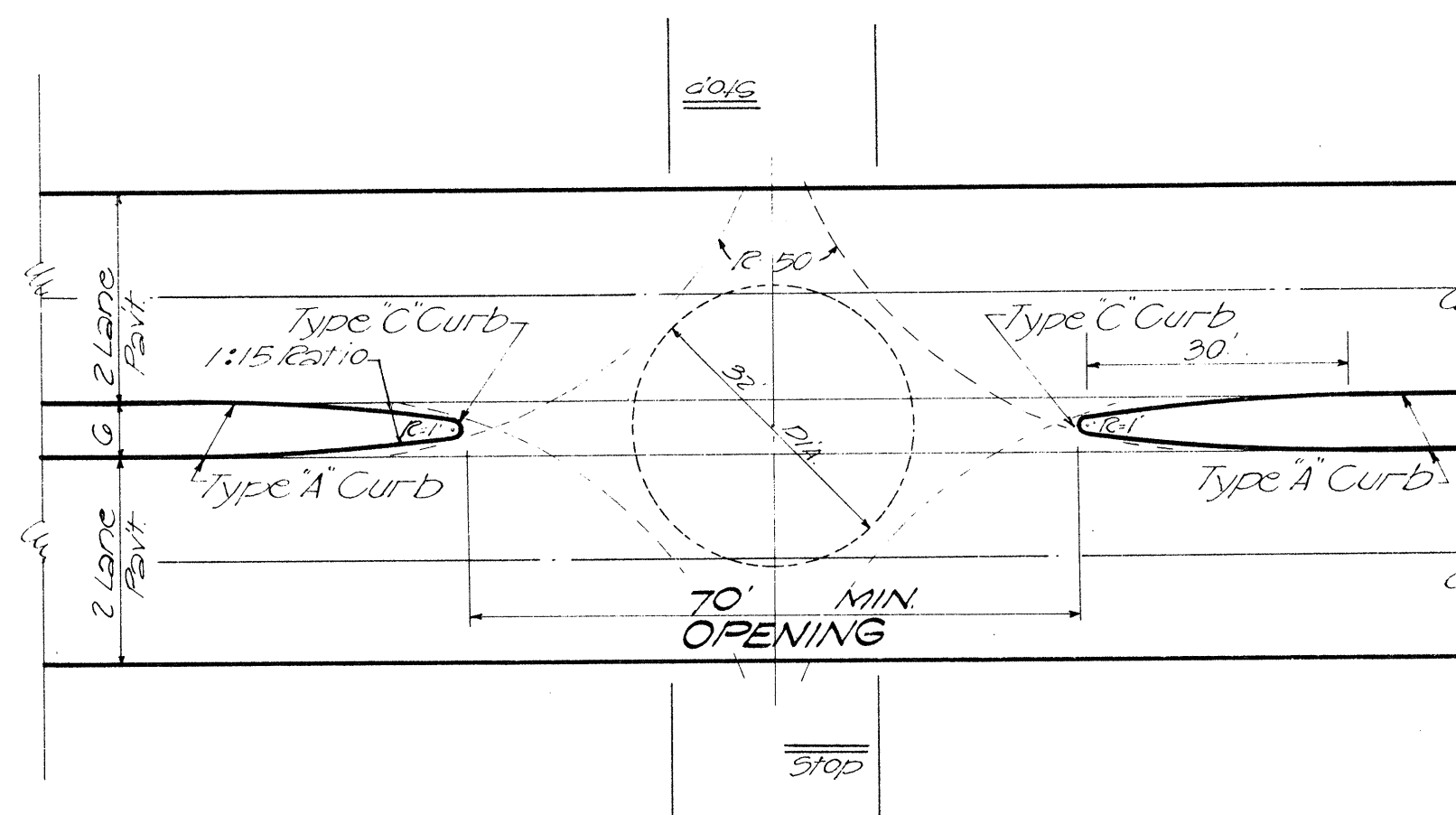
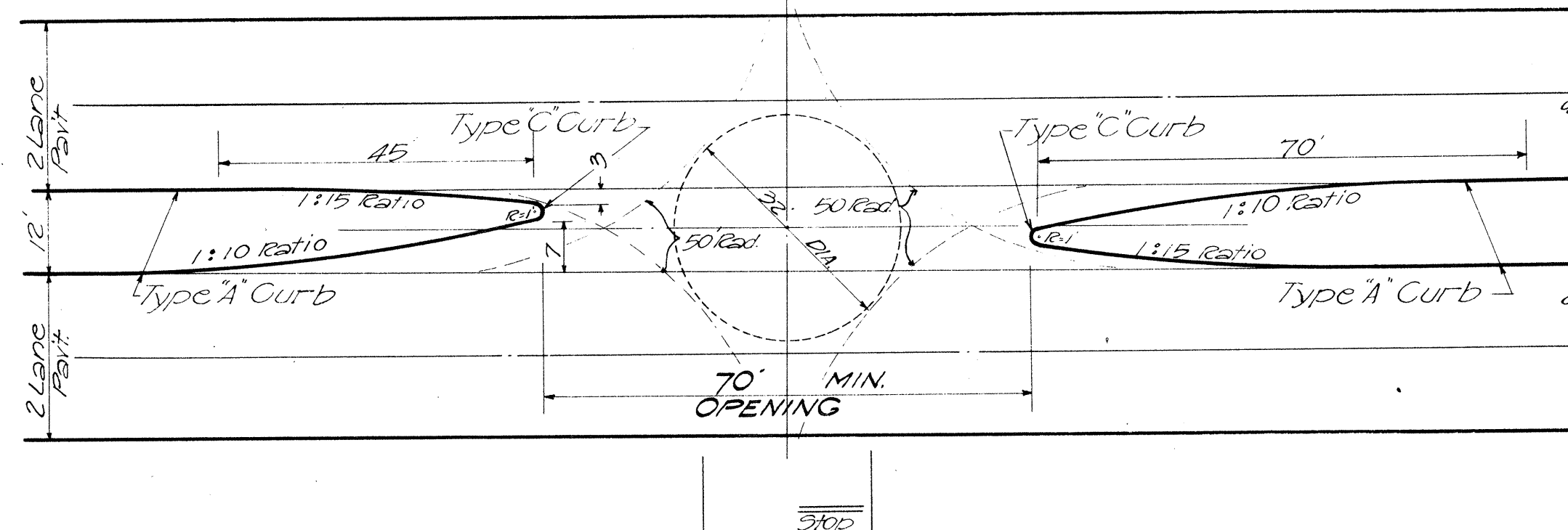
RAISED TRAFFIC BARS



RAISED JIGGLE BARS



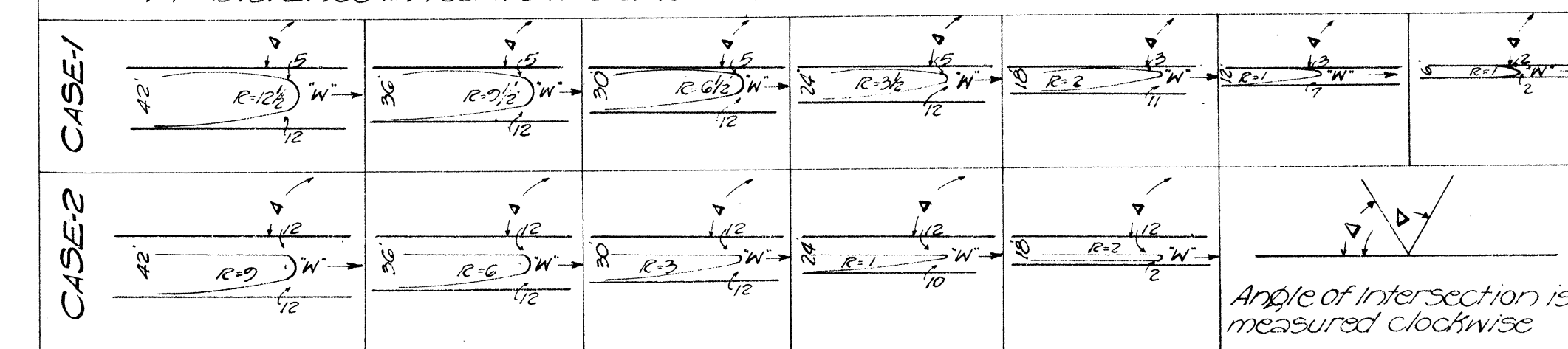
NOTE: With an 18' Median Strip, the 12' Offset must be reduced to 11', which in turn reduces the 1:10 flare to 90°



STANDARD MEDIAN STRIP OPENING
Scale: 1" = 20'

Angle of Inters.	WIDTH OF MEDIAN STRIP									
	42'	36'	30'	24'	18'	12'	6'	12'	6'	6'
40°	54	58	62	66	70	74	78	82	86	90
45°	48	52	56	60	64	68	72	76	80	84
50°	42	46	50	54	58	62	66	70	74	78
55°	36	40	44	48	52	56	60	64	68	72
60°	30	34	38	42	46	50	54	58	62	66
65°	24	28	32	36	40	44	48	52	56	60
70°	18	22	26	30	34	38	42	46	50	54
75°	12	16	20	24	28	32	36	40	44	48
80°	6	10	14	18	22	26	30	34	38	42
85°	4	8	12	16	20	24	28	32	36	40
90°	3	7	11	15	19	23	27	31	35	39
95°	2	6	10	14	18	22	26	30	34	38
100°	1	5	9	13	17	21	25	29	33	37
105°	1	4	8	12	16	20	24	28	32	36
110°	1	3	7	11	15	19	23	27	31	35
115°	1	2	6	10	14	18	22	26	30	34
120°	1	2	5	9	13	17	21	25	29	33

"W" = Distance in feet from Island Nose to Centerline of Intersection



NOTE: Sketches are not to scale

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

Scale as shown

APPROVED

Date 9-2-49
Territorial Highway Engineer

SHEET No. OF SHEETS

5399.18A