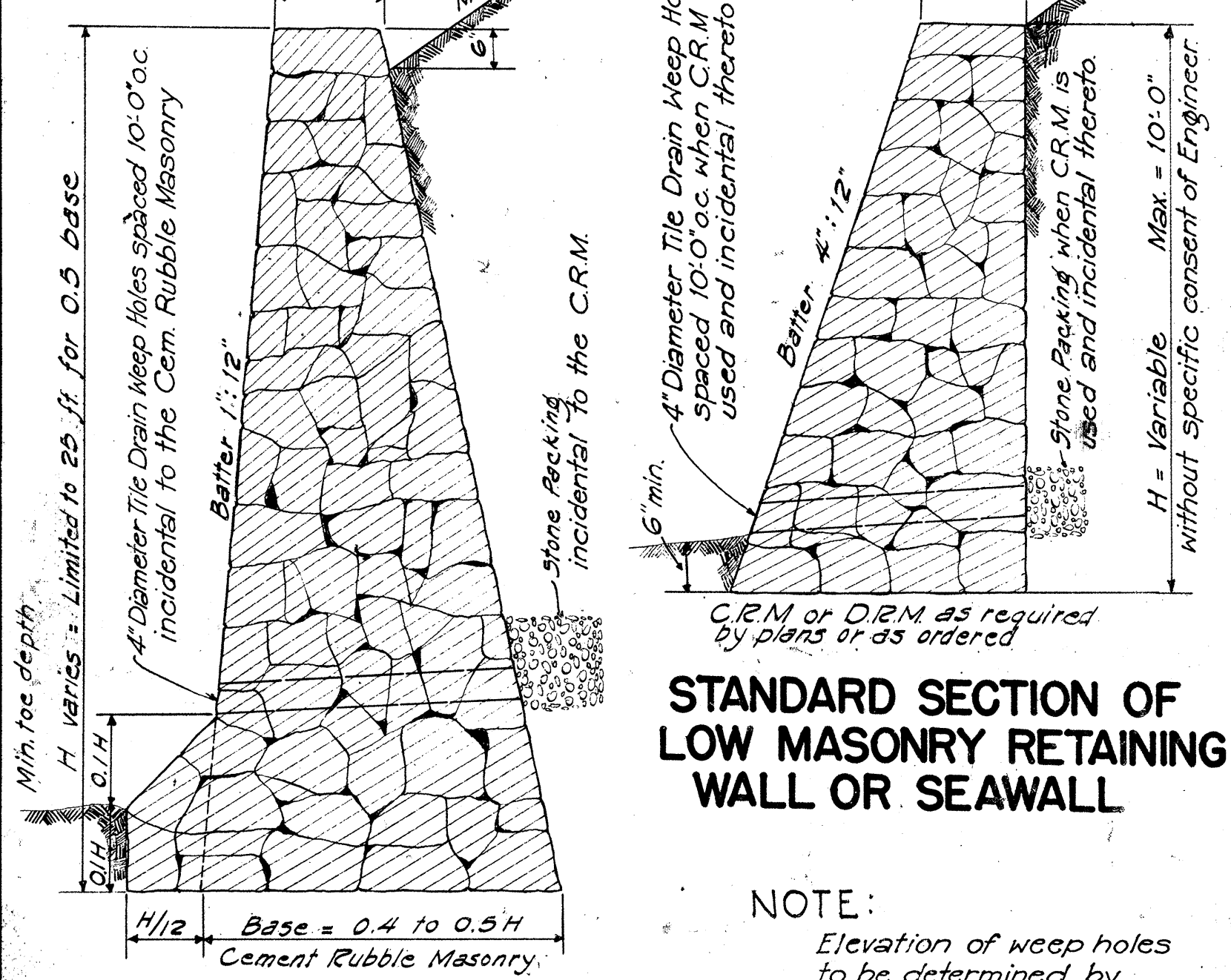


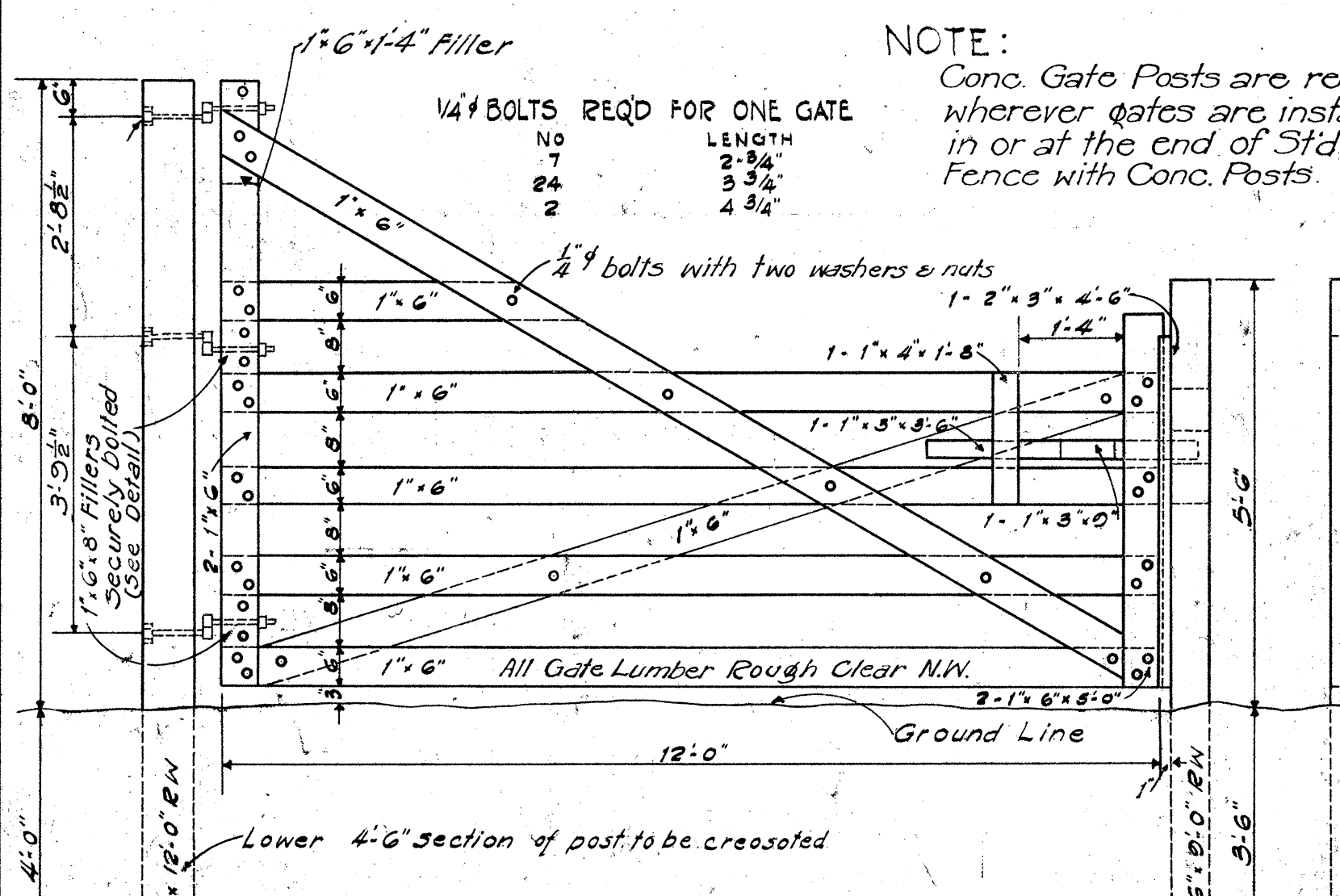
Note: TO RESIDENT ENGINEER
Consider economy of reinforcement for high retaining walls which do not originate on plan layout.



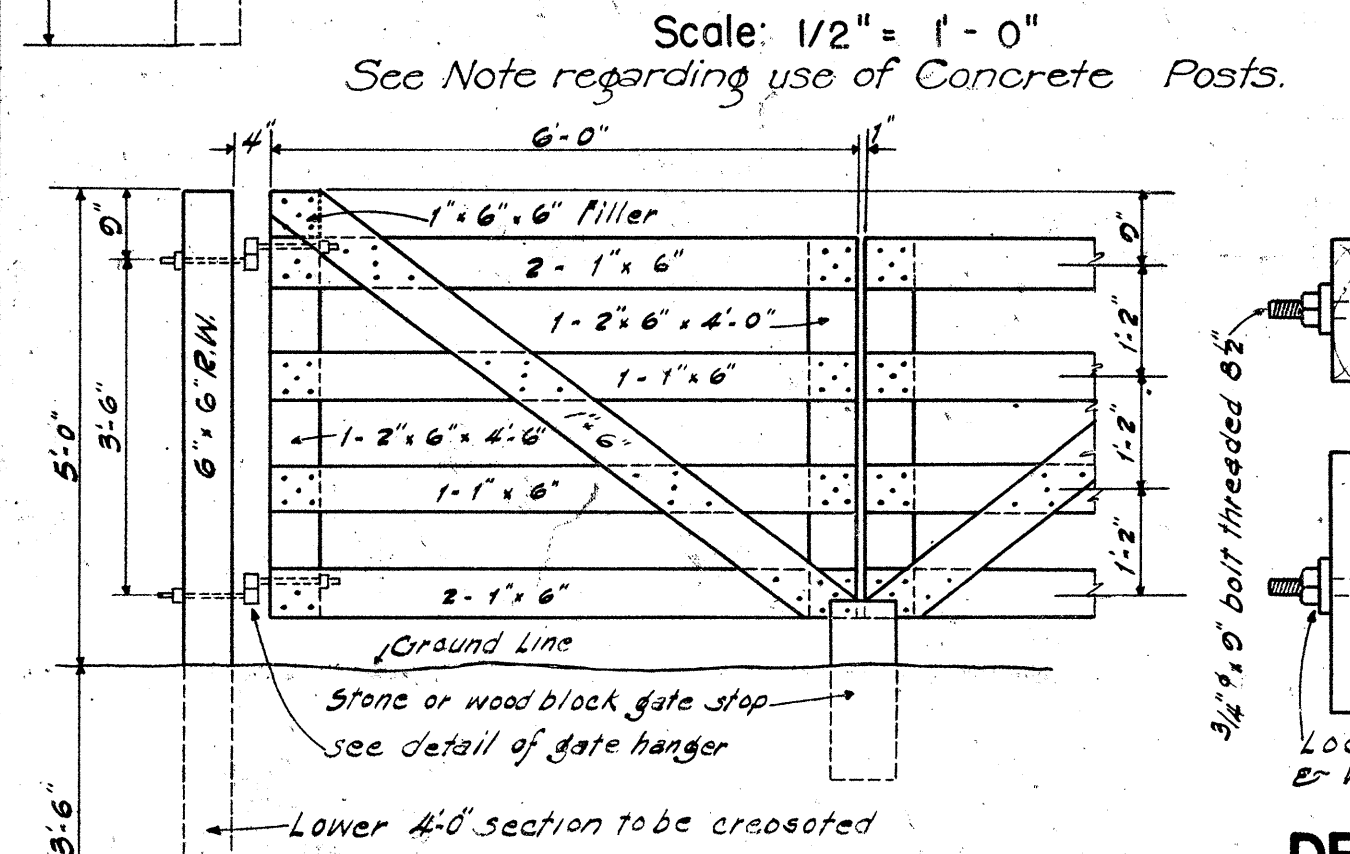
STANDARD SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

NOTE: Elevation of weep holes to be determined by Resident Engineer. Holes to be placed as close to the existing ground line as local conditions permit.

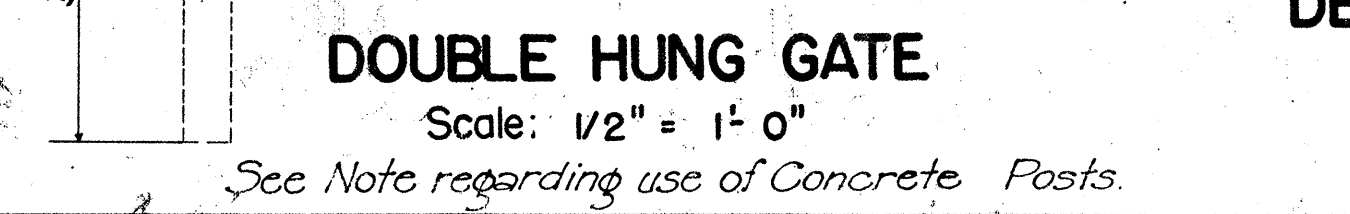
STANDARD SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL



DETAIL OF STANDARD CATTLE GATE



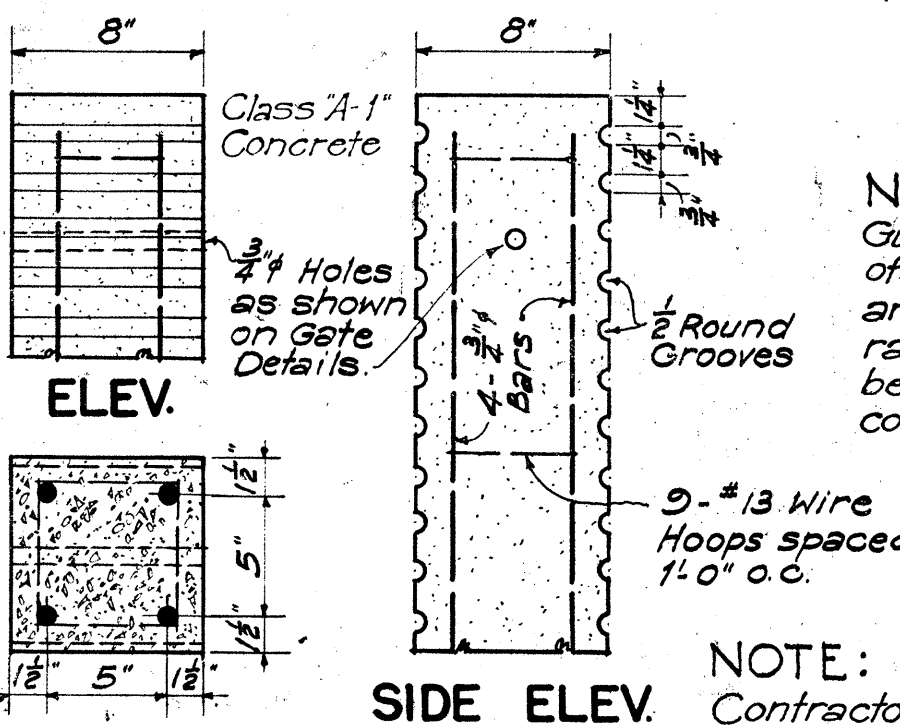
DETAIL OF GATE HANGER



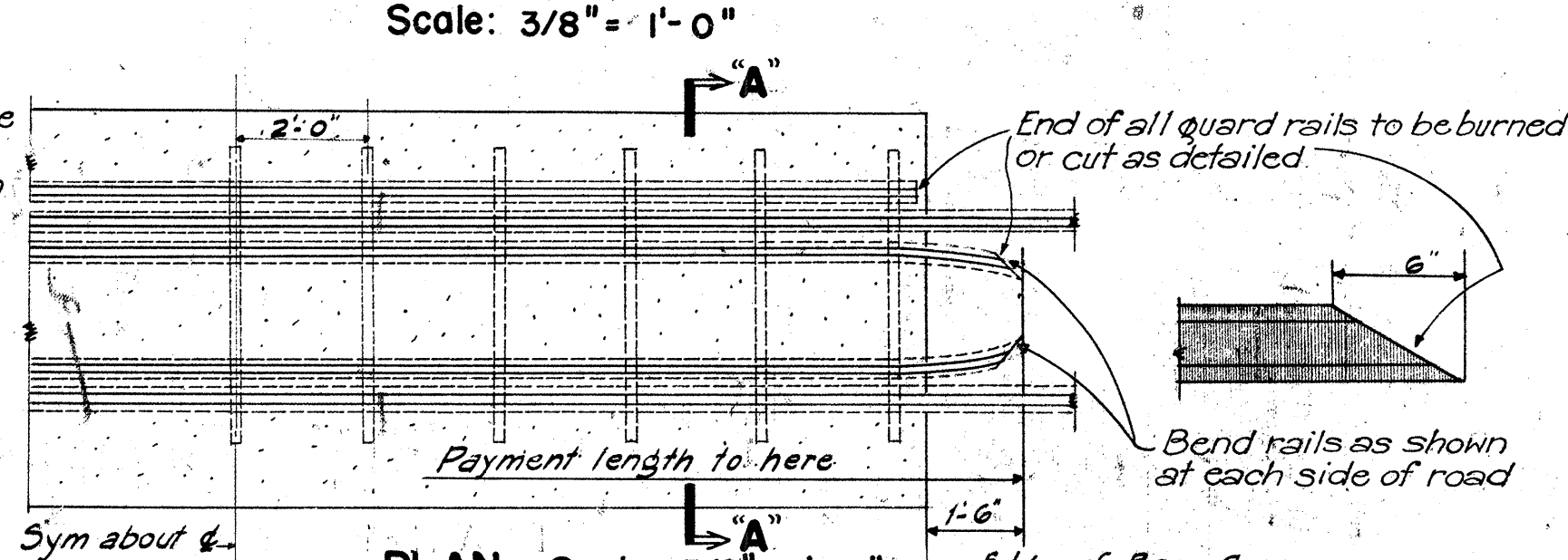
DOUBLE HUNG GATE

Data	Standard	Masonry	Drop	Intake	Where Variable Equals
D	D	L	D+G	Cu.Yds	
22 1/2	18	2'0"	2.41	4'6"	
20	24	2'6"	2.89	5'0"	
35 1/2	30	3'0"	3.38	5'6"	
42	36	3'6"	3.92	6'0"	

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



STANDARD MASONRY DROP INTAKE

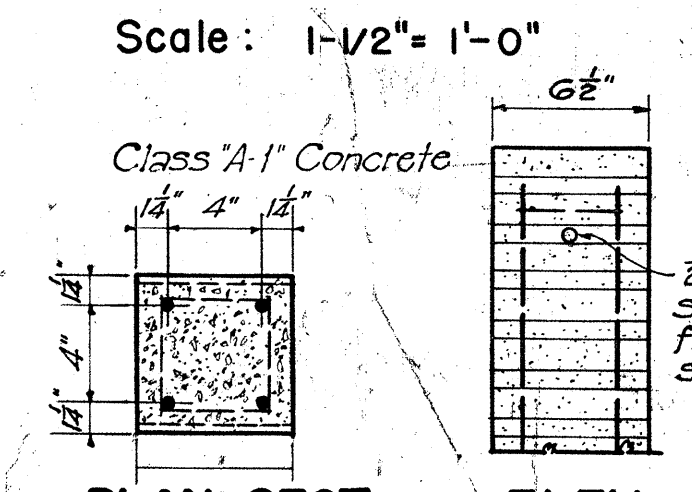


STANDARD MASONRY HEADWALL

Cast-in-Place	Precast	Data-Standard	Rubble	Masonry H.W.	
Cu. Yds.	Cu. Yds.	D	H	L	Cy. one H.W.
0.85	0.95	18"	3'-6"	1'-0"	0.93
1.23	1.45	24"	4'-0"	2'-0"	1.41
1.83	2.06	30"	4'-6"	3'-0"	2.00
2.40	2.84	36"	5'-0"	4'-0"	2.72

NOTE: Volume for one head wall is for corrugated pipe culvert.

CONC. GATE POST



PLAN SECT. CONC. GATE POST

ELEV. CONC. FENCE POST

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

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

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

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

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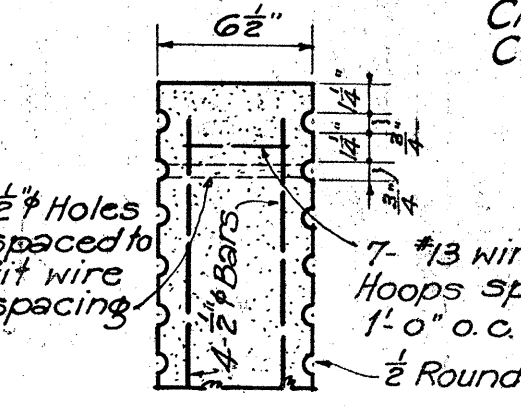
SCALE: 1-1/2" = 1'-0"

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

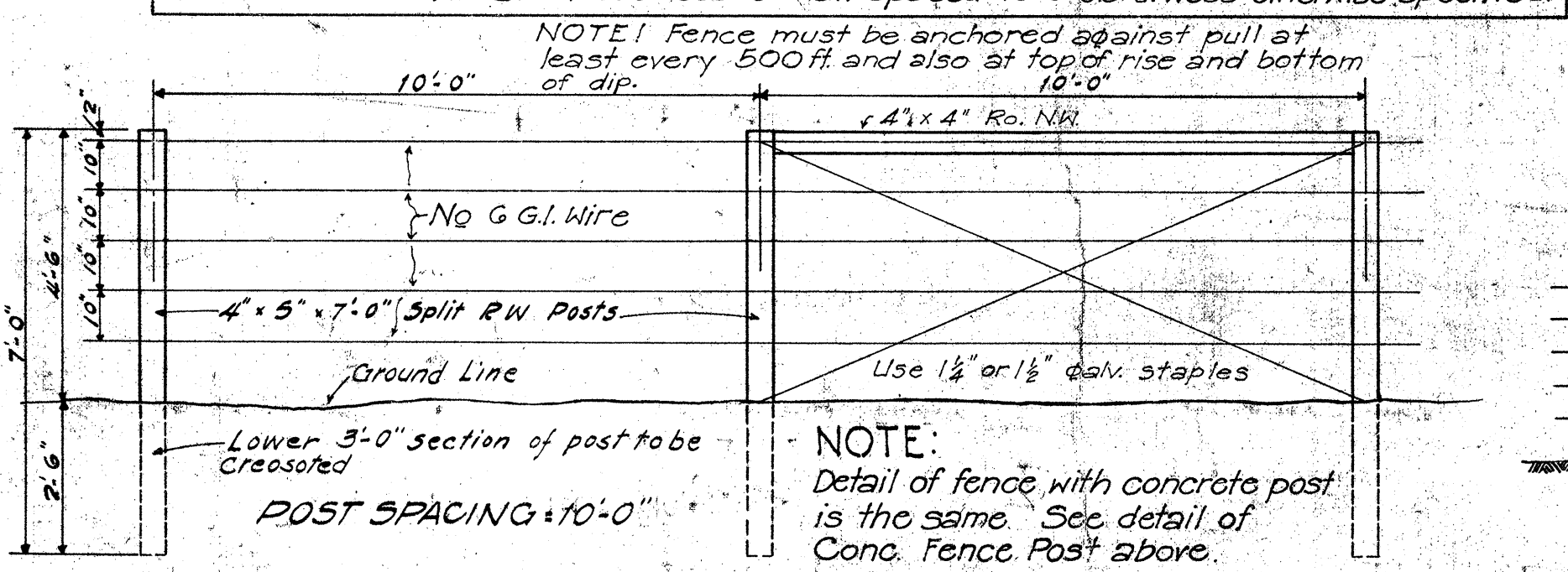
SCALE: 1-1/2" = 1'-0"

NOTE: Guard rails are to be of the same shape and weight as Main rails. Details may be varied to suit conditions in field.

NOTE: Contractor may either cast holes for fastening fence wire or cast post with 3/4 inch round grooves on 2 sides.

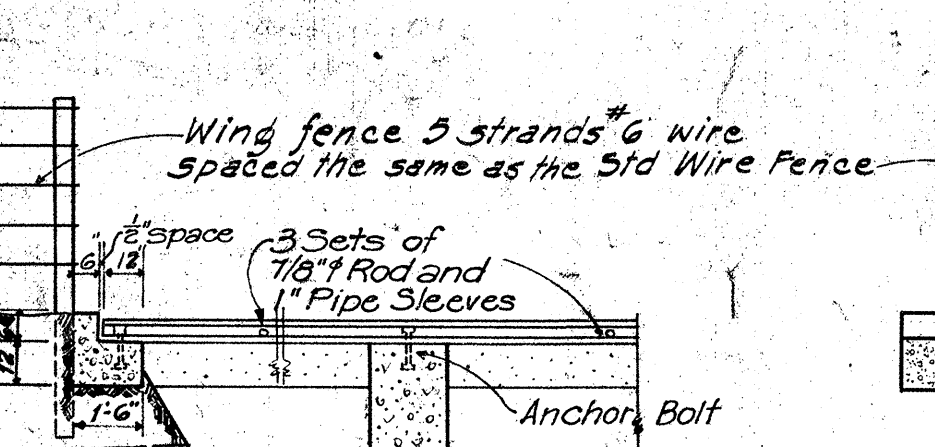


STANDARD GUIDE POSTS: 5x8" Rein. Conc. Guide Posts are the same as those used for Std. Wood Guard Rail spaced 10:0 o.c. unless otherwise specified.



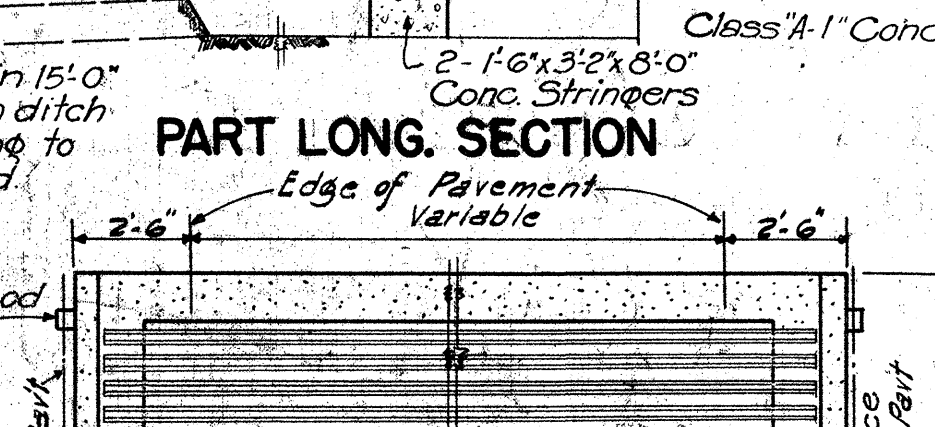
STANDARD WOOD GUARD RAIL

SCALE: 3/8" = 1'-0"



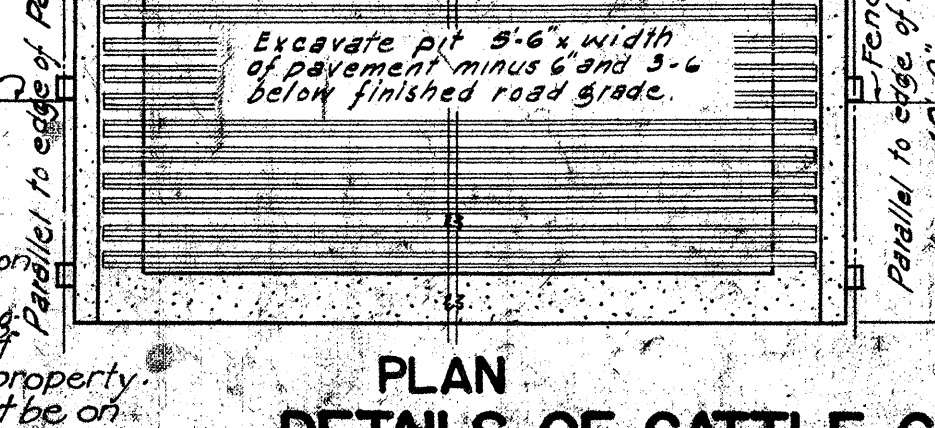
DET. OF CONC. POST

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



PART LONG SECTION

CROSS SECTION



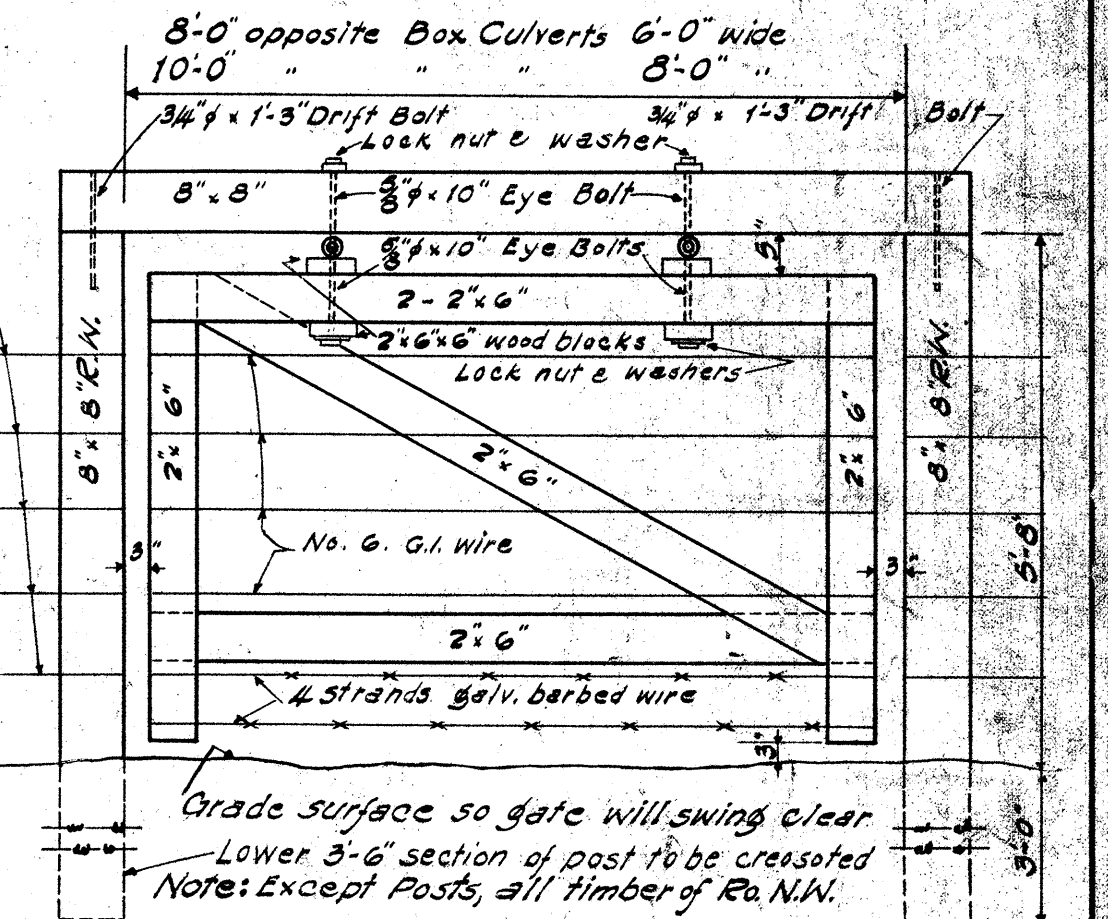
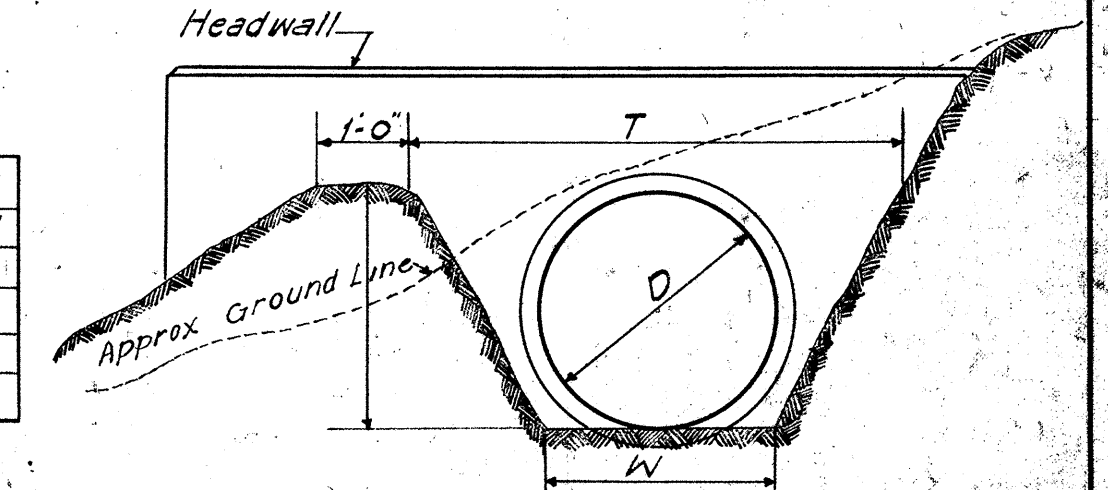
DETAILS OF CATTLE GUARD

NOTE: This Project requires Std. Wire Fence with 1 1/2 ft post spacing (If spacing is not indicated above use 10 ft).

DETAILS OF STANDARD WIRE FENCE WITH WOODEN POSTS

SCALE: 3/8" = 1'-0"

DETAIL OF STANDARD OUTLET DITCH



LAYOUT SHOWING HURDLE PLACED BELOW CULVERT IN A POSITION WHICH WILL BE CATTLE TIGHT

DETAILS OF HURDLE

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

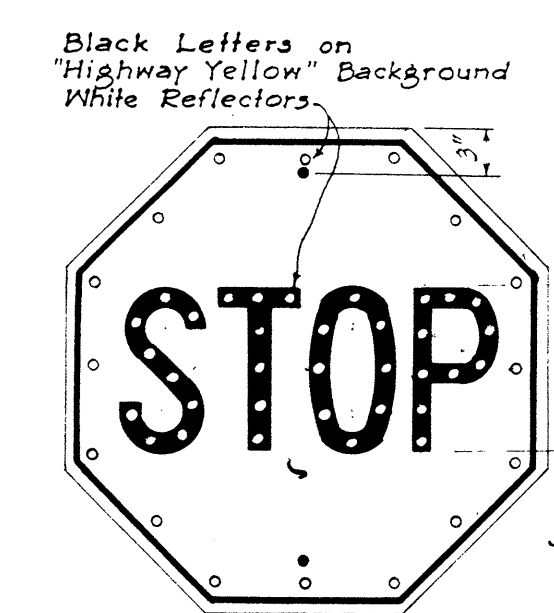
STANDARD DETAILS

SCALES AS NOTED
APR. 15, 1948

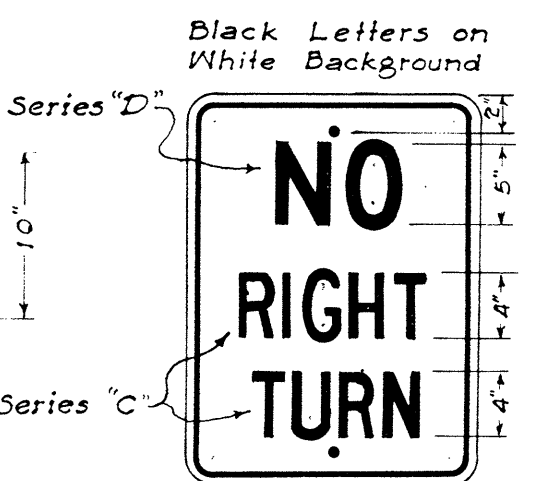
APPROVED: *[Signature]*
Territorial Highway Engineer

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTED BY: _____
QUANTITIES BY: _____
CHECKED BY: _____
REVISIONS: _____

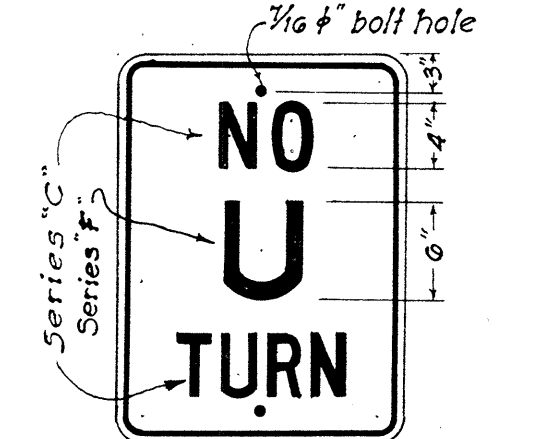




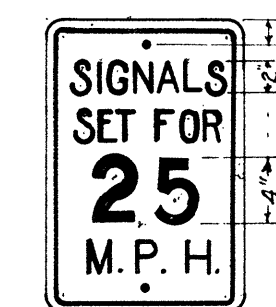
R-1
30" x 30"



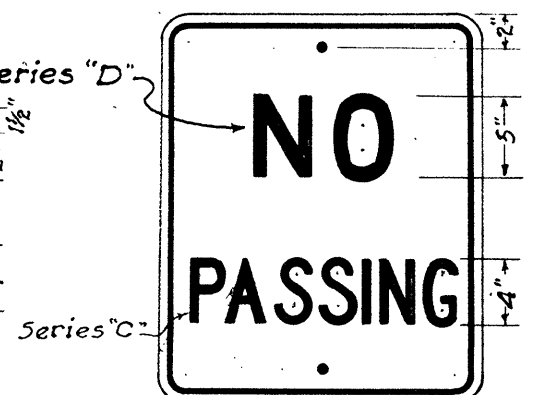
R-6
18" x 24"



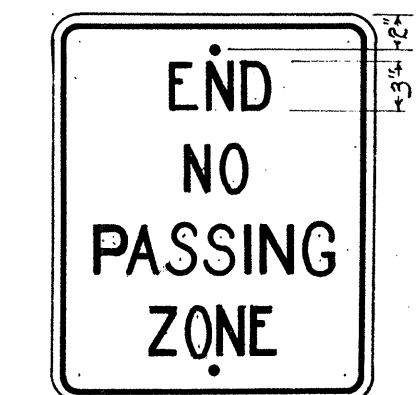
R-8
18" x 24"



R-10
12" x 18"



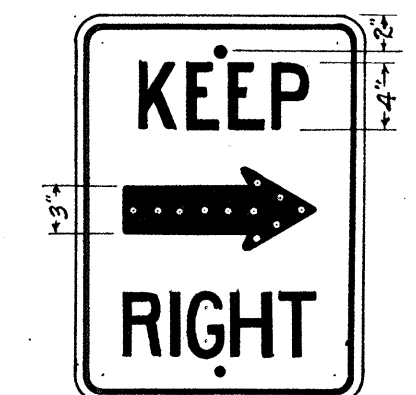
R-11
20" x 24"



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"



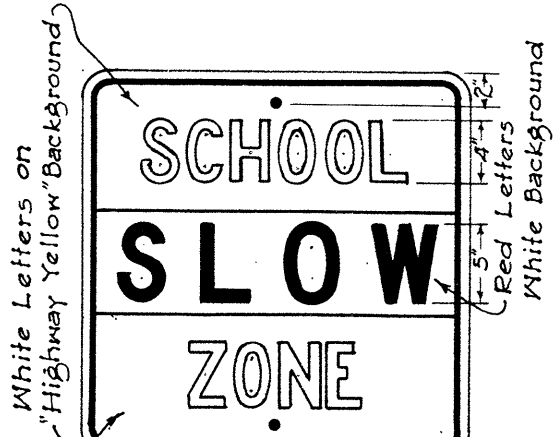
R-18
12" x 18"



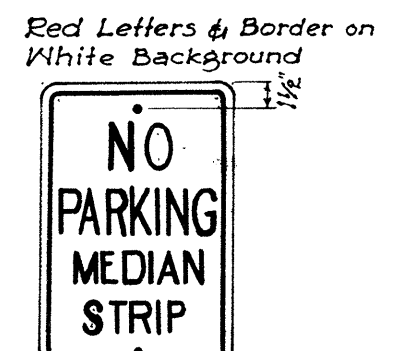
R-26
12" x 18"



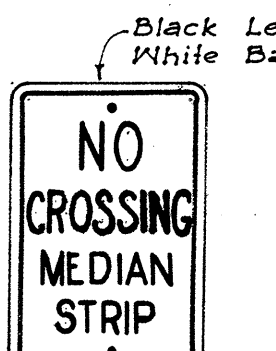
R-29
24" x 30"



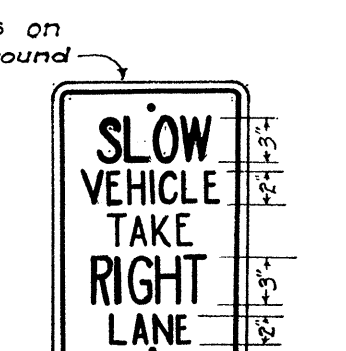
R-41-S
24" x 24"



R-42-S
12" x 18"



R-43-S
12" x 18"



R-44-S
12" x 18"



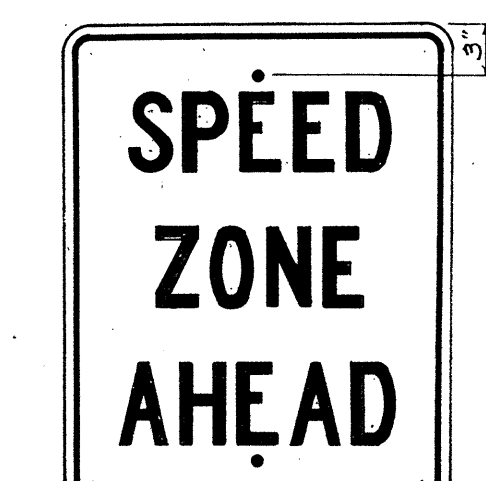
R-102-A
24" x 30"



R-102-B
24" x 30"



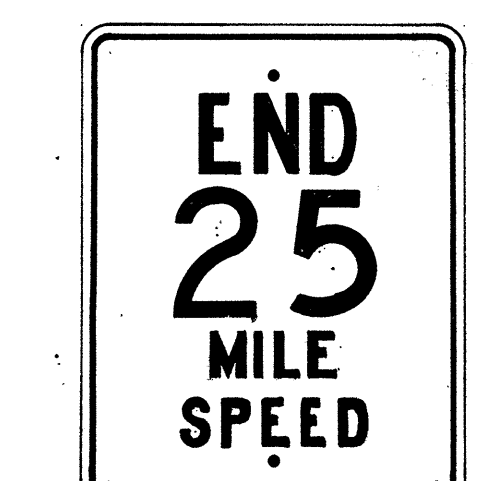
R-102-C
24" x 30"



R-104
24" x 30"



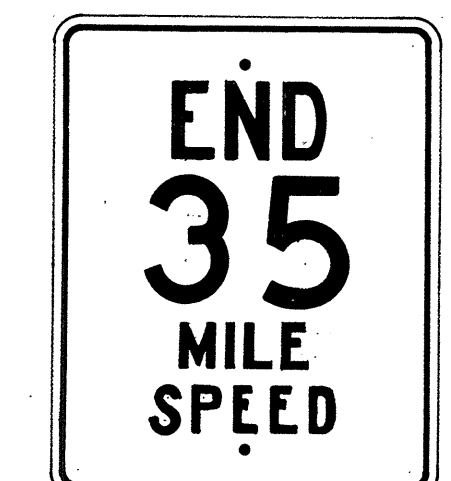
R-105-A
24" x 30"



R-105-B
24" x 30"



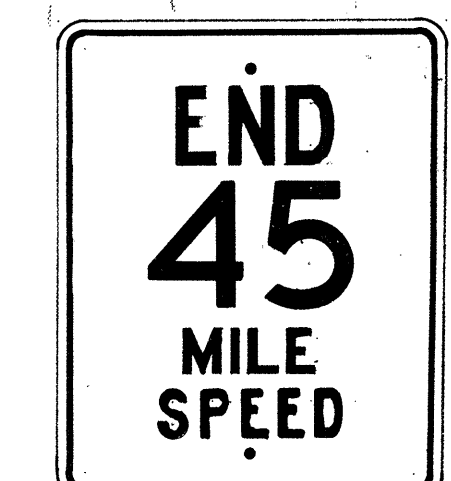
R-105-C
24" x 30"



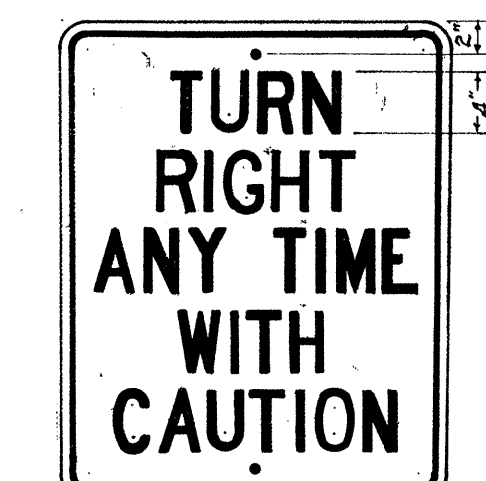
R-105-D
24" x 30"



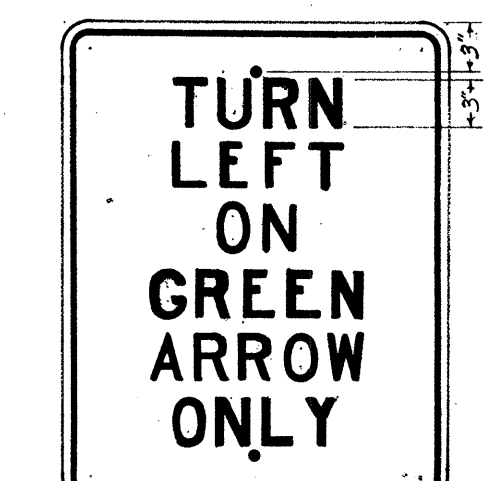
R-105-E
24" x 30"



R-105-F
24" x 30"



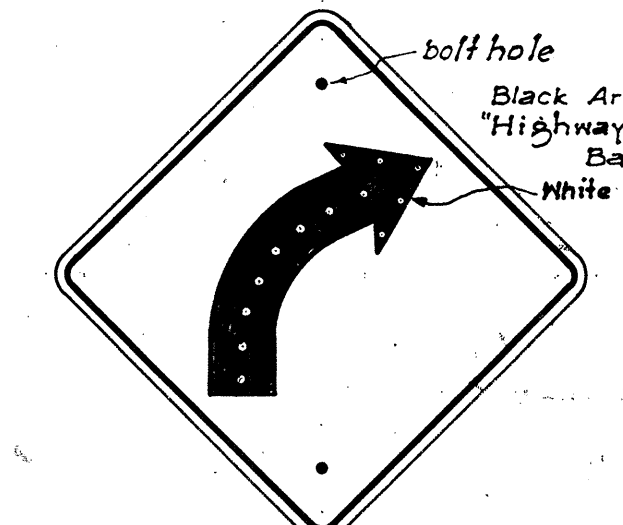
R-106
24" x 30"



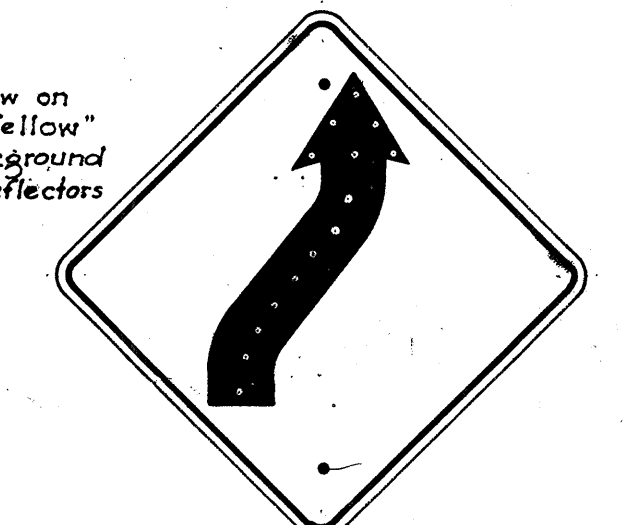
R-107-A
24" x 30"



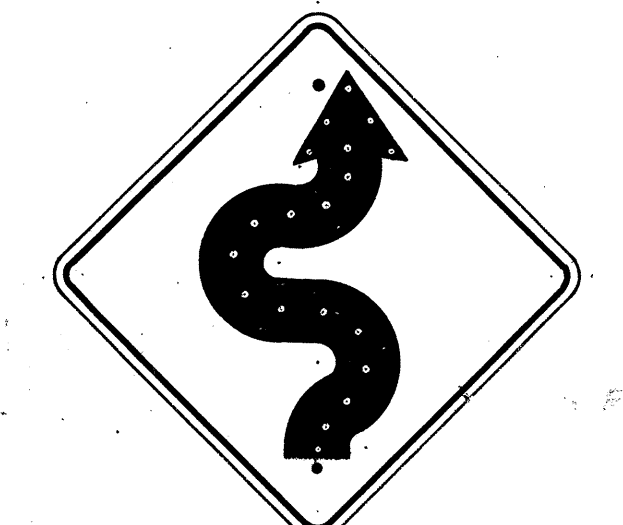
R-107
14" x 9"



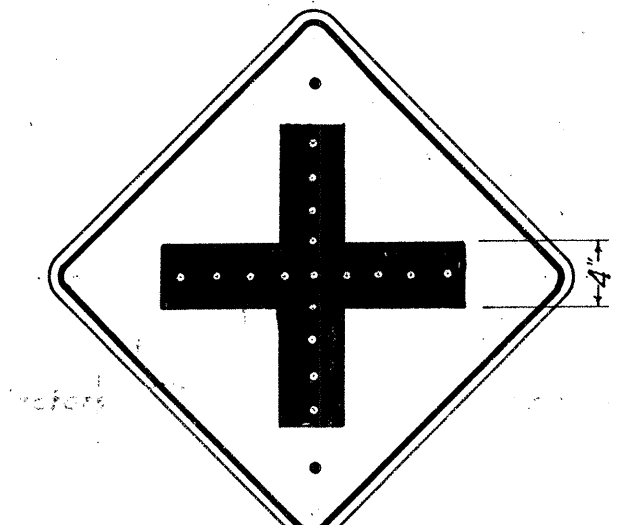
W-2-R
*W-2-L
24" x 24"



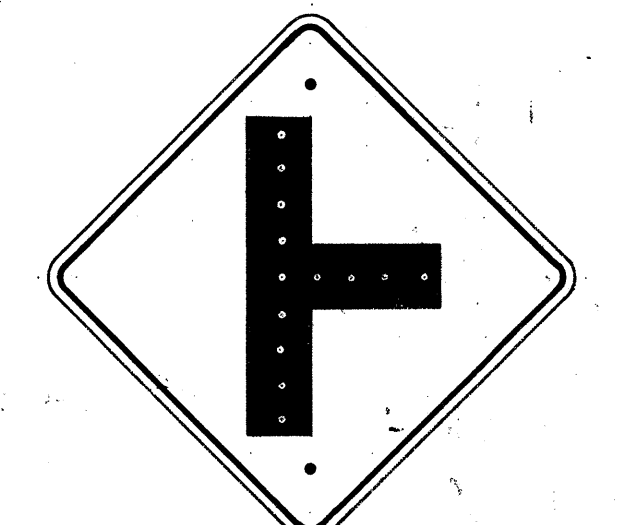
W-4-R
*W-4-L
24" x 24"



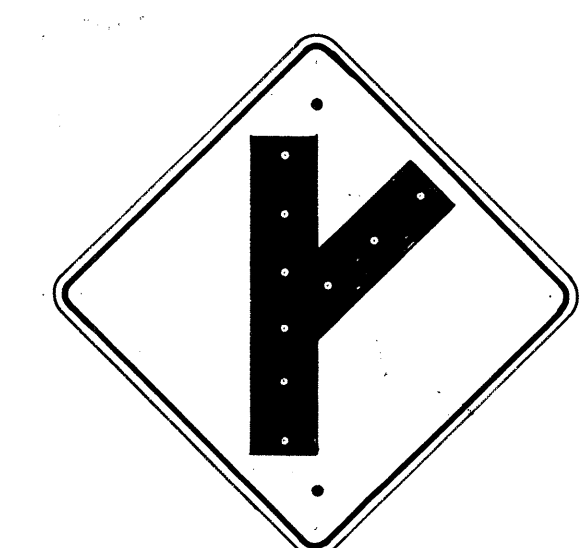
W-5-R
*W-5-L
24" x 24"



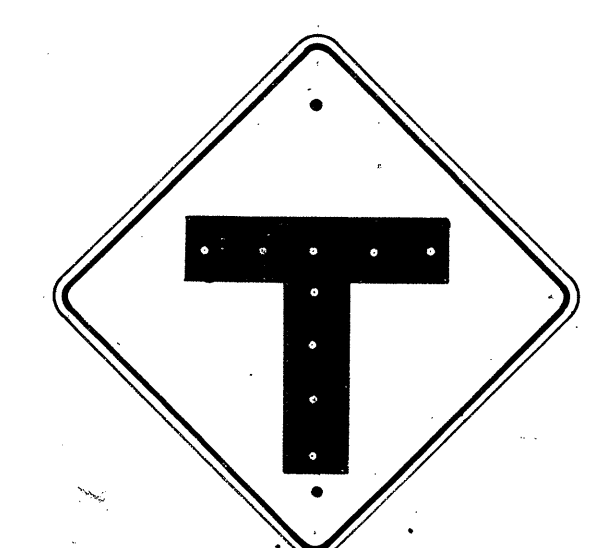
W-6
24" x 24"



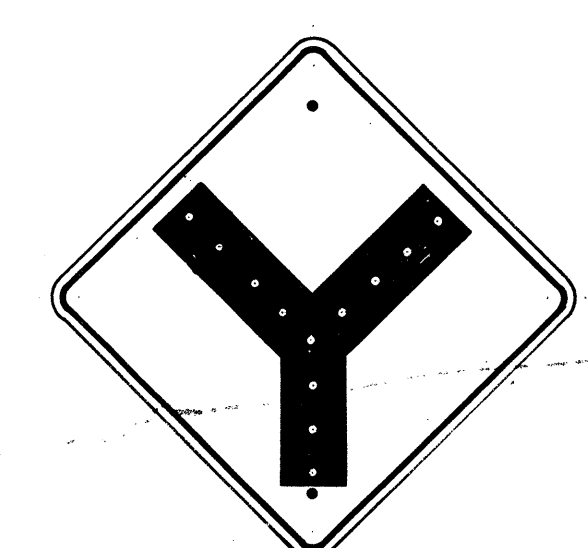
W-7
24" x 24"



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.

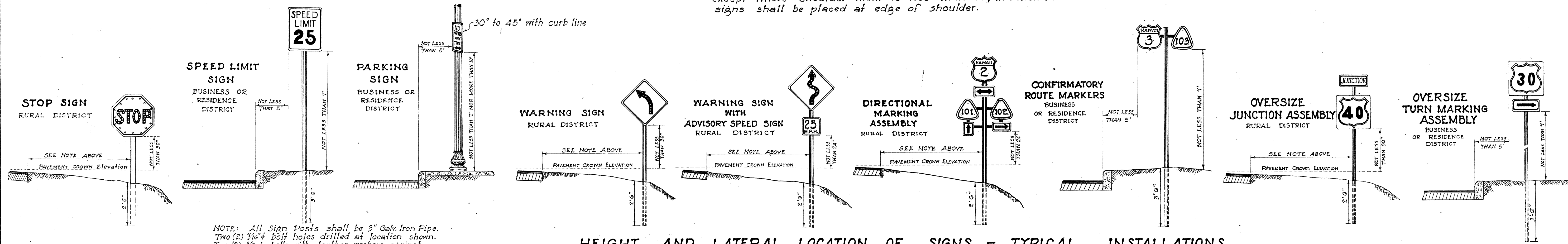
Note: All Regulatory (R) signs shall have black letters on a white background except where noted. All Warning (W) signs shall have black letters or figures on a "Highway Yellow" background. *Signs shall be similar but opposite in direction.

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

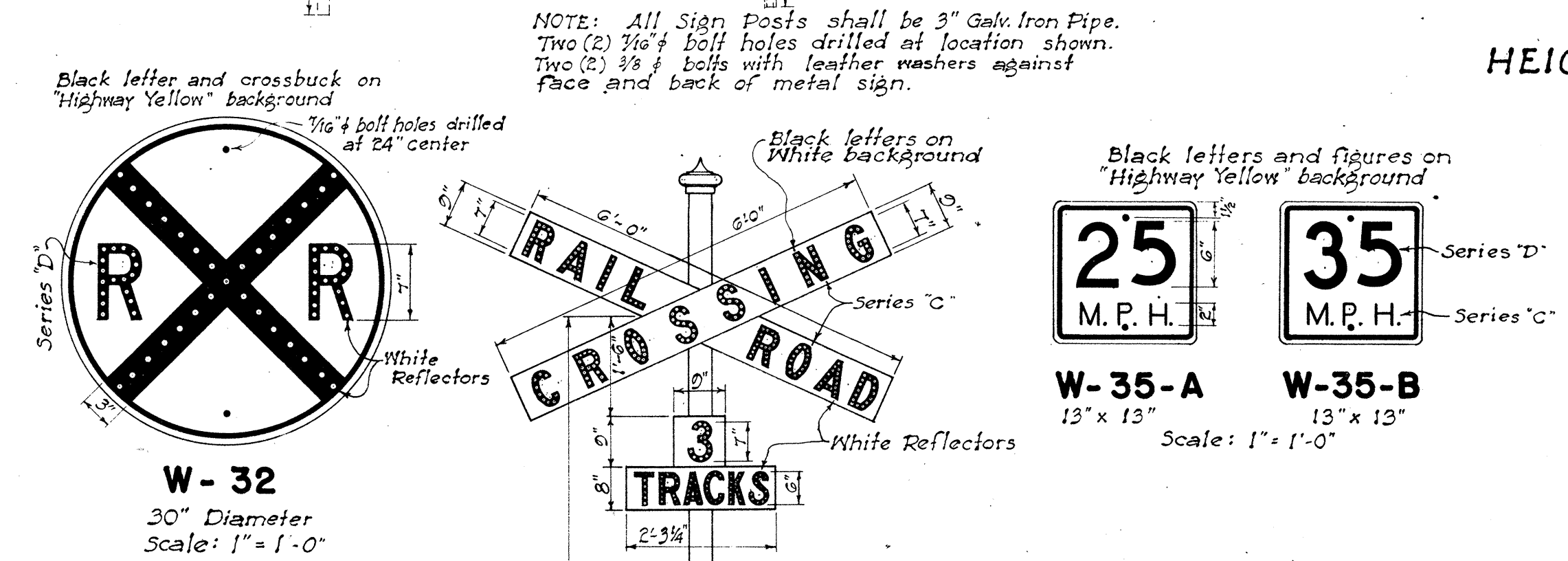
See Specifications for Materials & Finish.

ORIGINAL
DESIGNED BY
TRACED BY
QUANTITIES BY
NOTE BOOK
CHECKED BY
DATE
No.

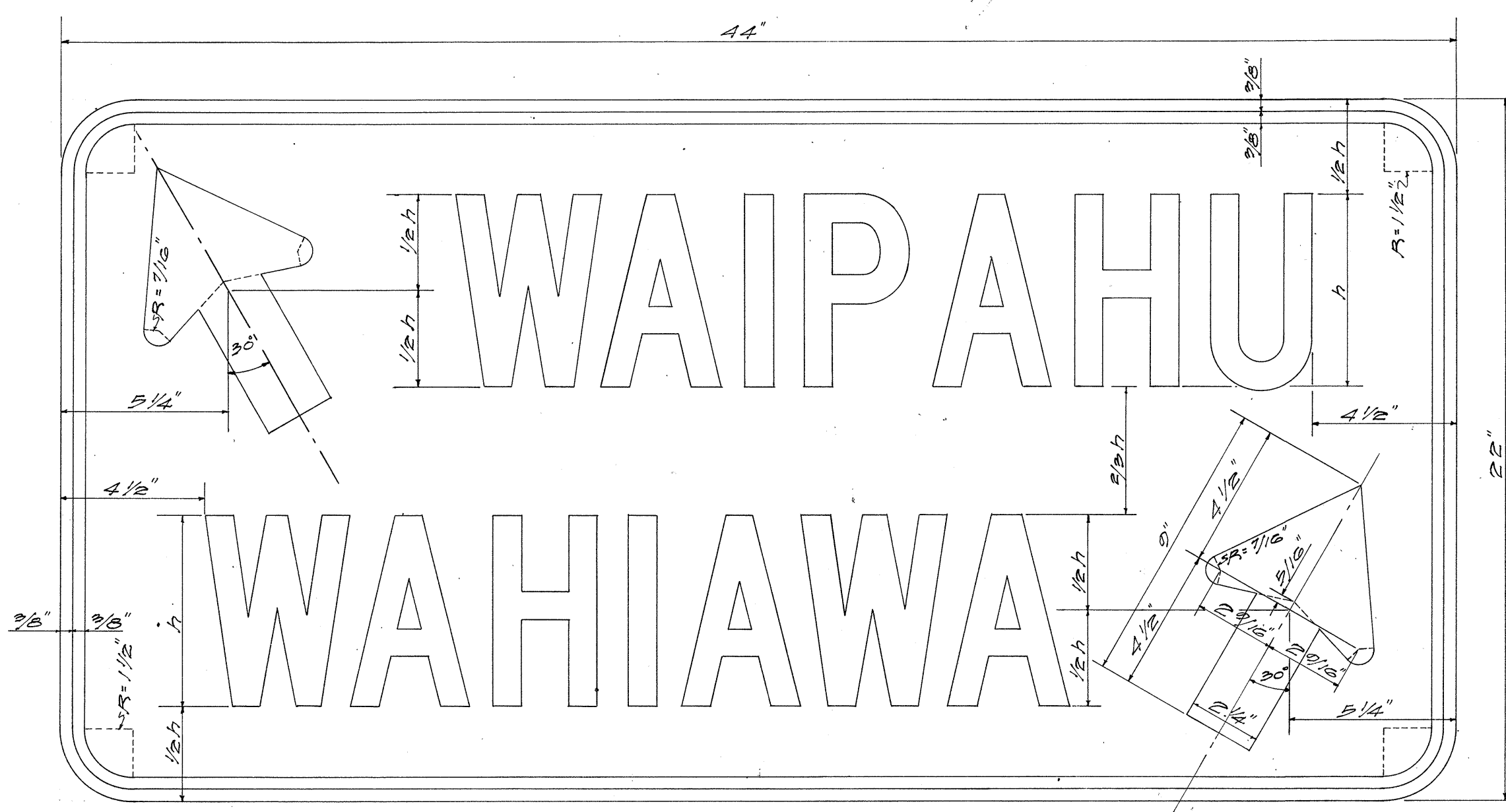
Note: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.



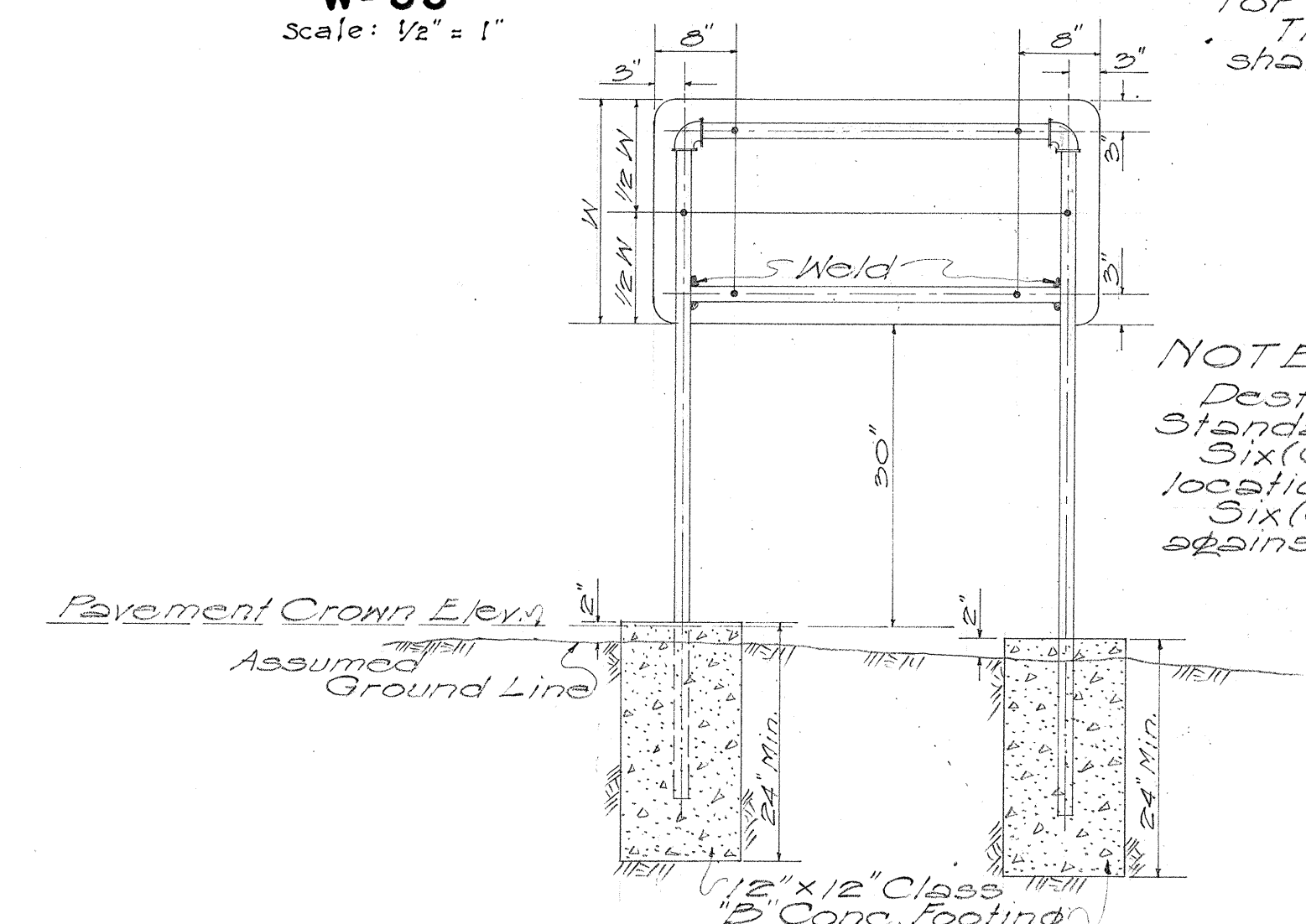
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



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.

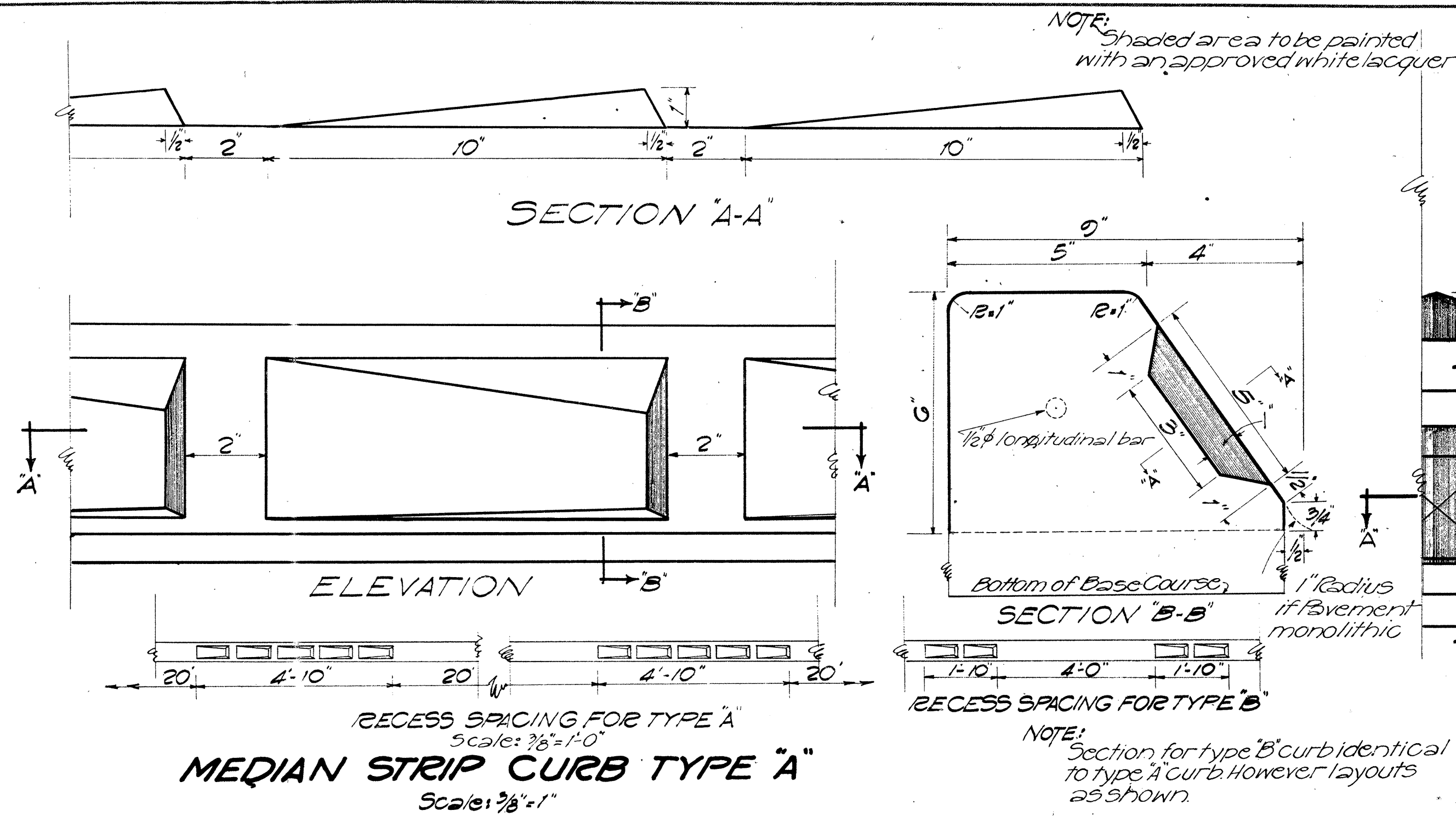


NOTE: Sign Message shall be lettered according to Standard Alphabets for Highway Signs, A.A.S.H.O., 1945. Thickness of Sheet Metal Plate shall be 16 U.S. standard gauge.

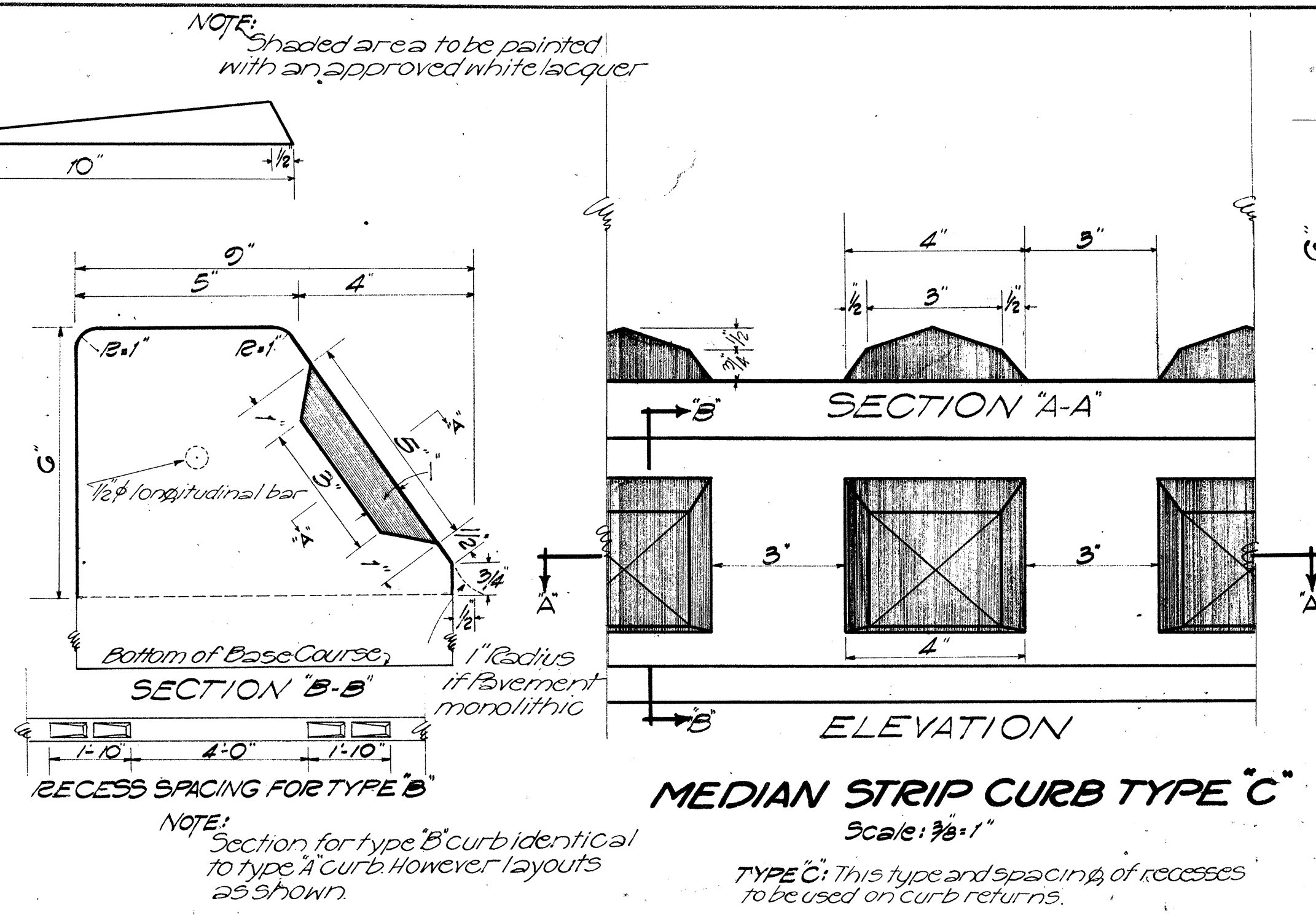


NOTE: Destination Sign Posts shall be 1 1/2" Standard Galvanized Iron Pipe. Six (6) 1/2" bolt holes drilled at location shown. Six (6) 3/8" bolts with leather washers against and back of Metal Sign.

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



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

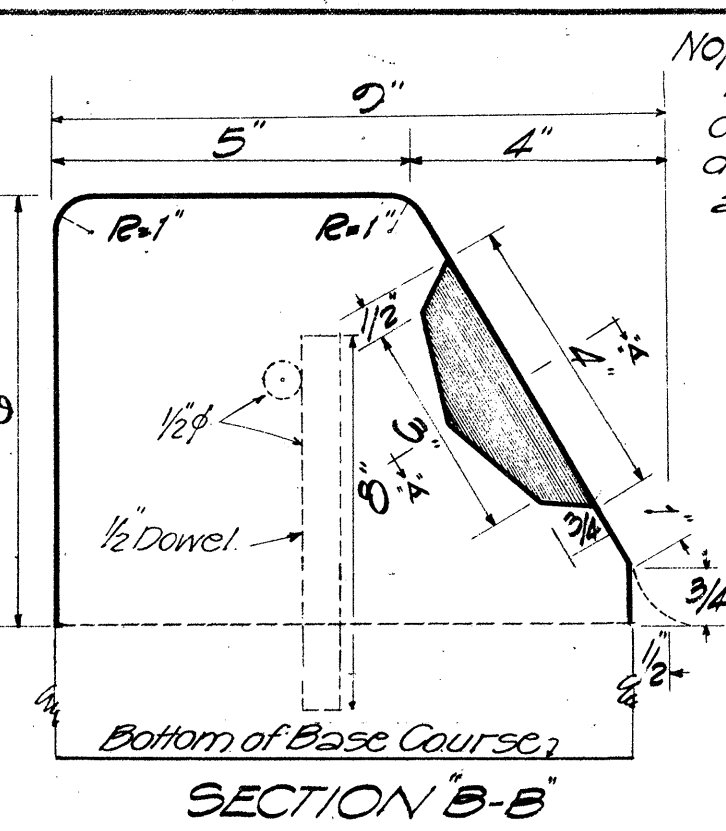


NOTE: Section for type B curb identical to type A curb. However layouts as shown.

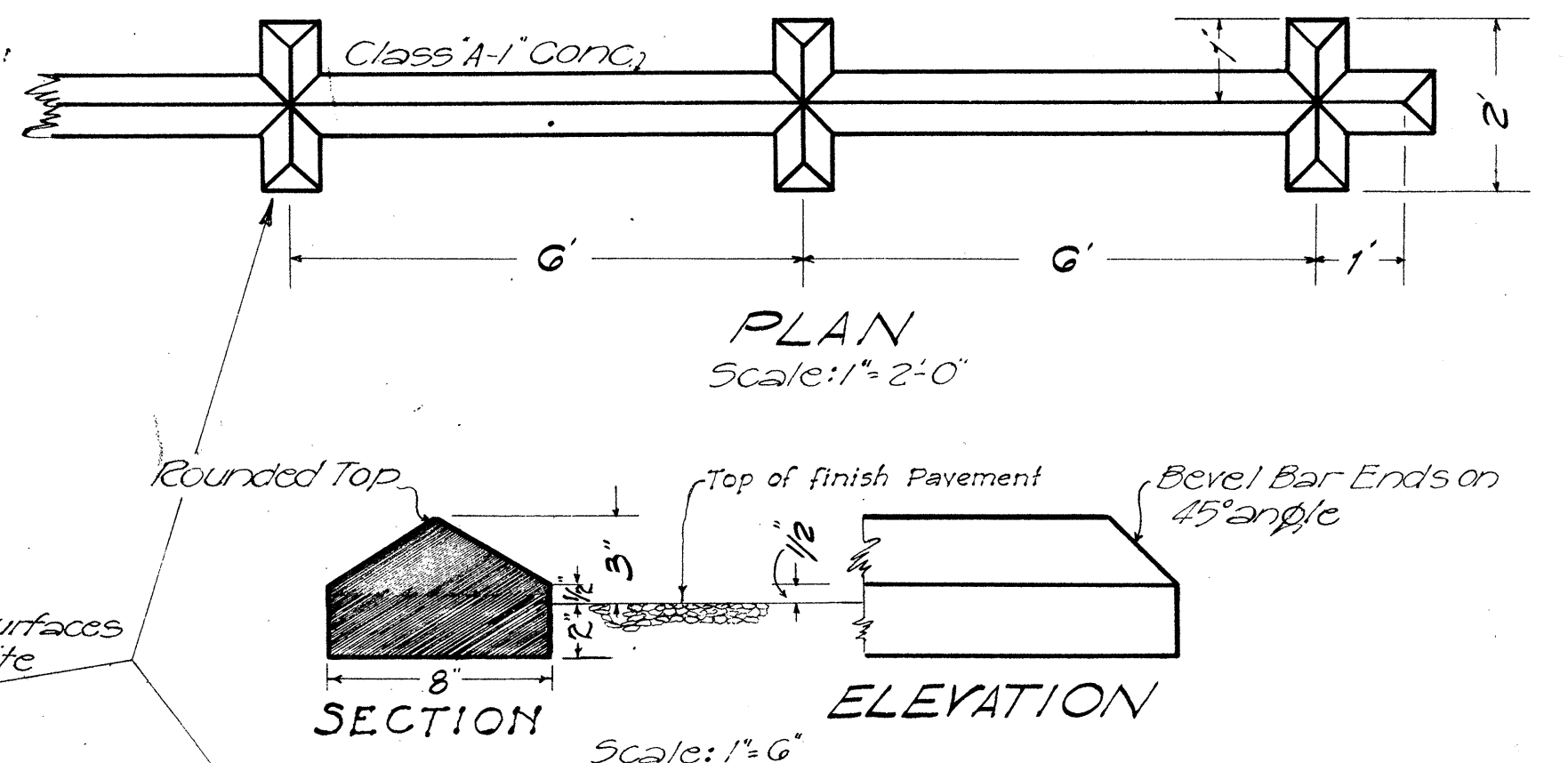
TYPE B: This type and spacing of recesses to be used on islands at intersection.



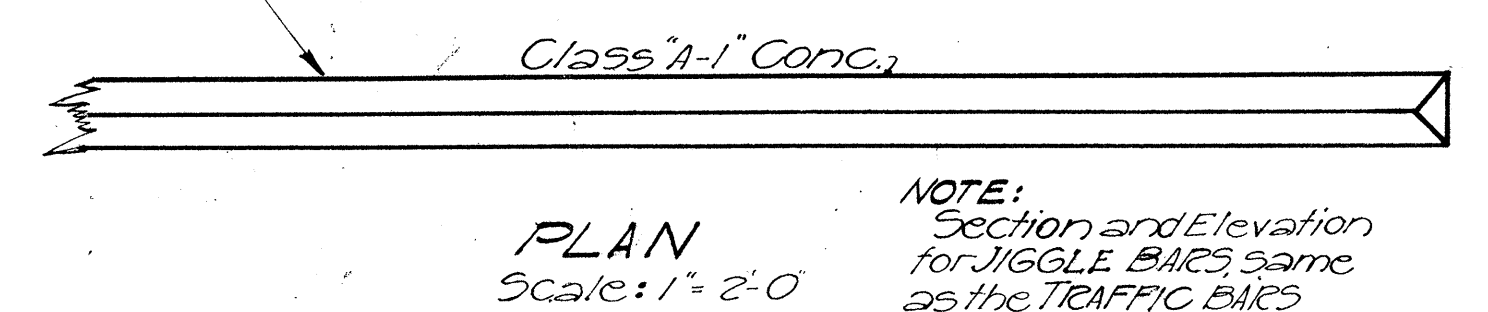
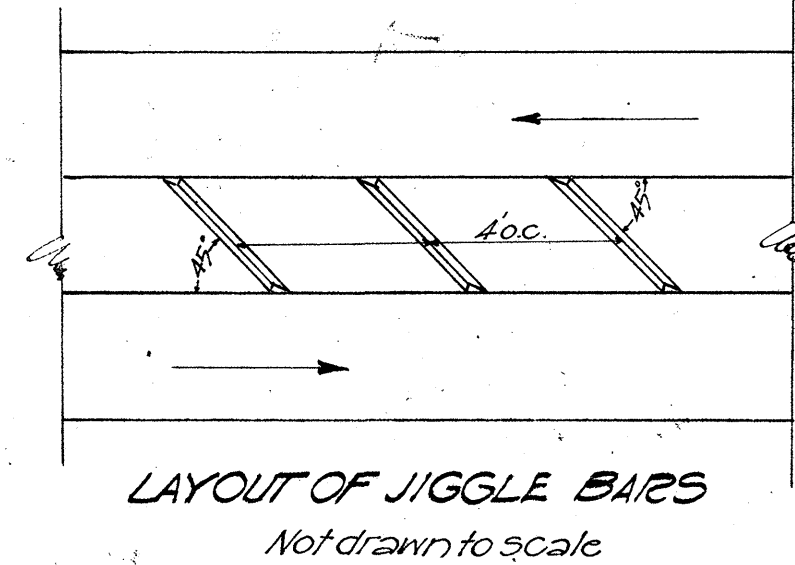
TYPE C: This type and spacing of recesses to be used on curb returns.



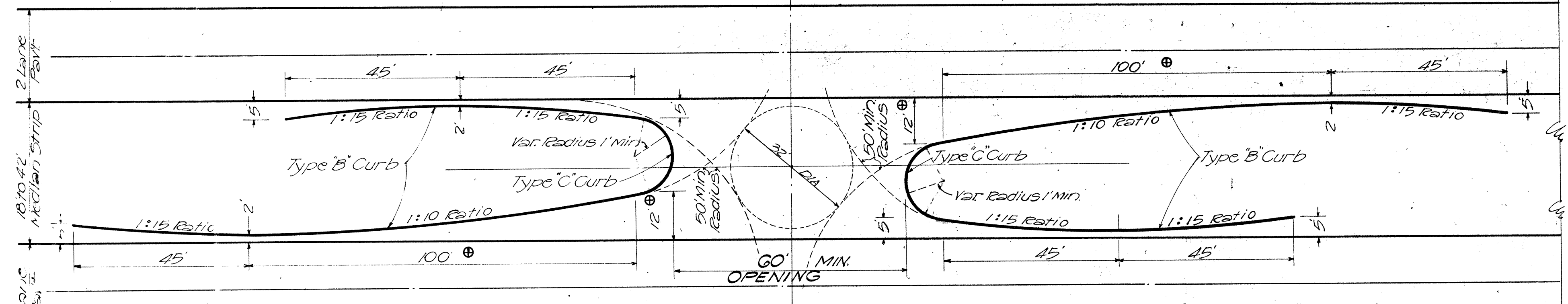
NOTE: Paint all exposed surfaces of bars with beaded white traffic lacquer.



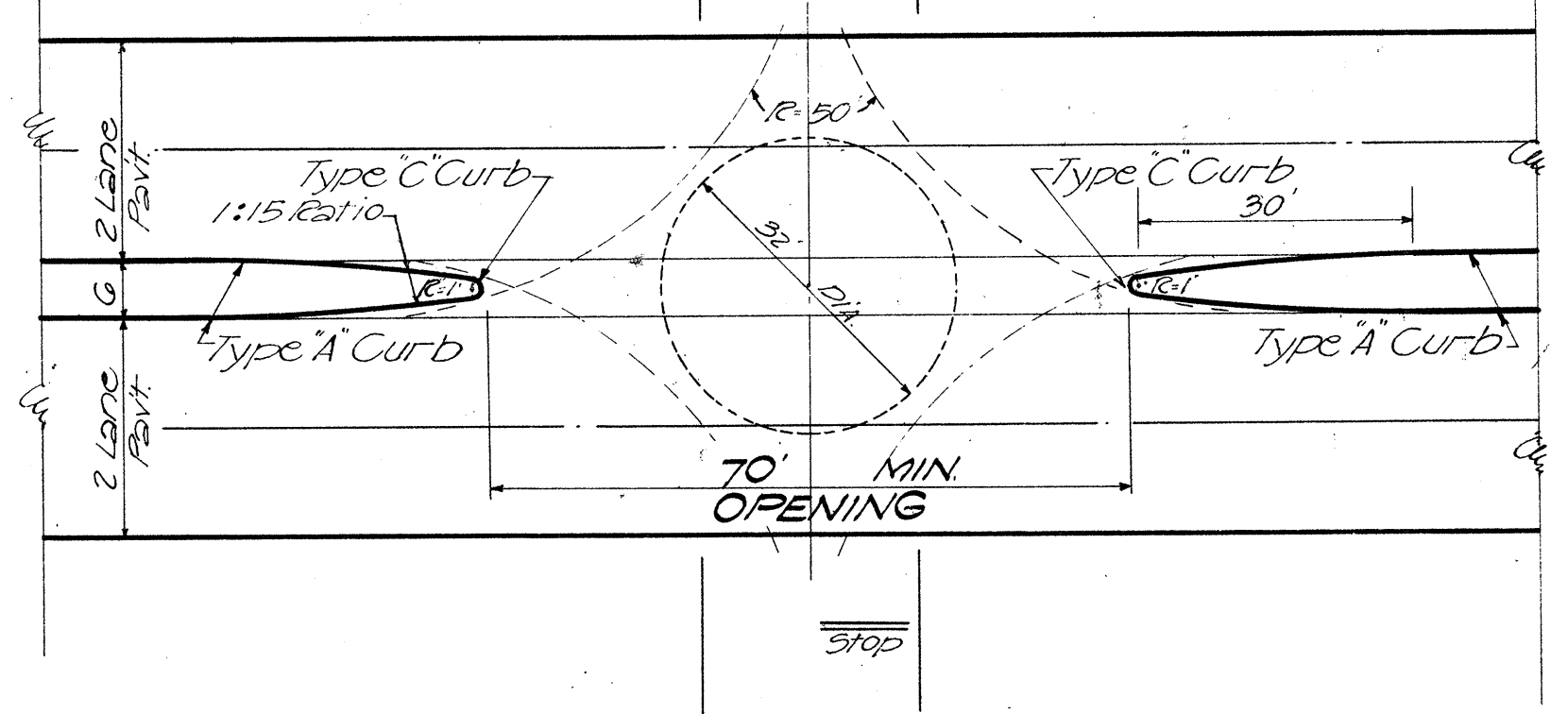
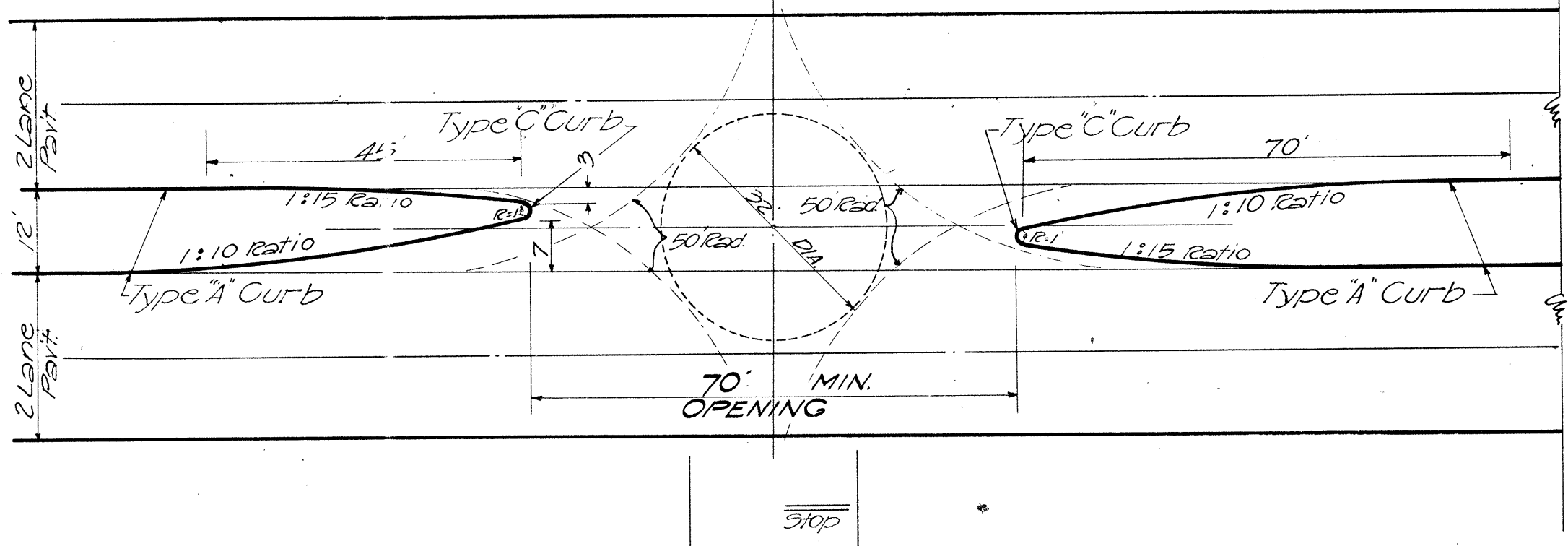
RAISED TRAFFIC BARS



RAISED JIGGLE BARS

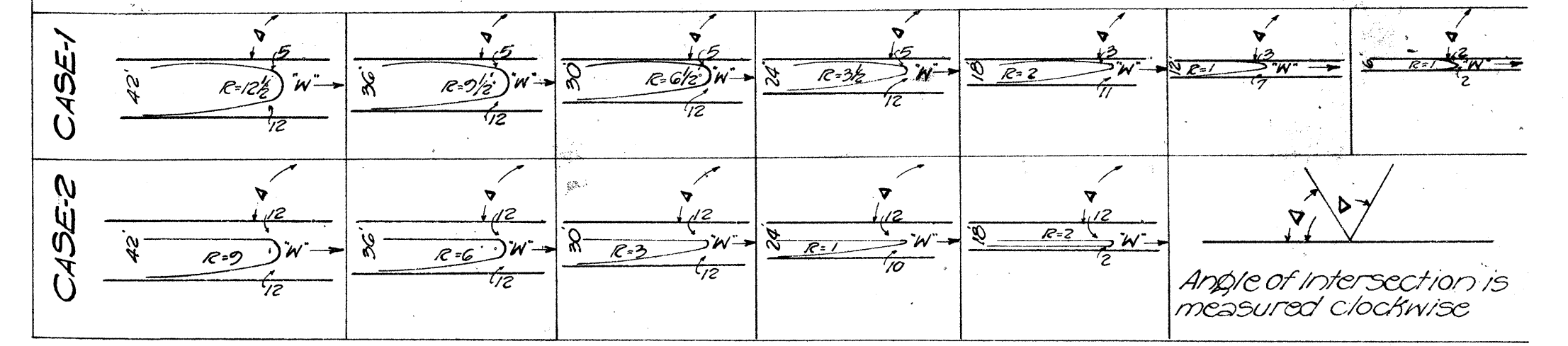


NOTE: With an 18' Median Strip, the 12' Offset must be reduced to 11', which in turn reduces the 1:10 flar to 20'.



Angle of Inters.	WIDTH OF MEDIAN STRIP									
	42'	36'	30'	24'	18'	12'	6'	42'	36'	30'
60°	54	58	62	66	70	74	78	82	86	90
65°	48	52	56	60	64	68	72	76	80	84
70°	42	46	50	54	58	62	66	70	74	78
75°	36	40	44	48	52	56	60	64	68	72
80°	32	36	40	44	48	52	56	60	64	68
85°	30	34	38	42	46	50	54	58	62	66
90°	30	34	38	42	46	50	54	58	62	66
95°	30	34	38	42	46	50	54	58	62	66
100°	30	34	38	42	46	50	54	58	62	66
105°	30	34	38	42	46	50	54	58	62	66
110°	30	34	38	42	46	50	54	58	62	66
115°	30	34	38	42	46	50	54	58	62	66
120°	30	34	38	42	46	50	54	58	62	66

"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

5478.11