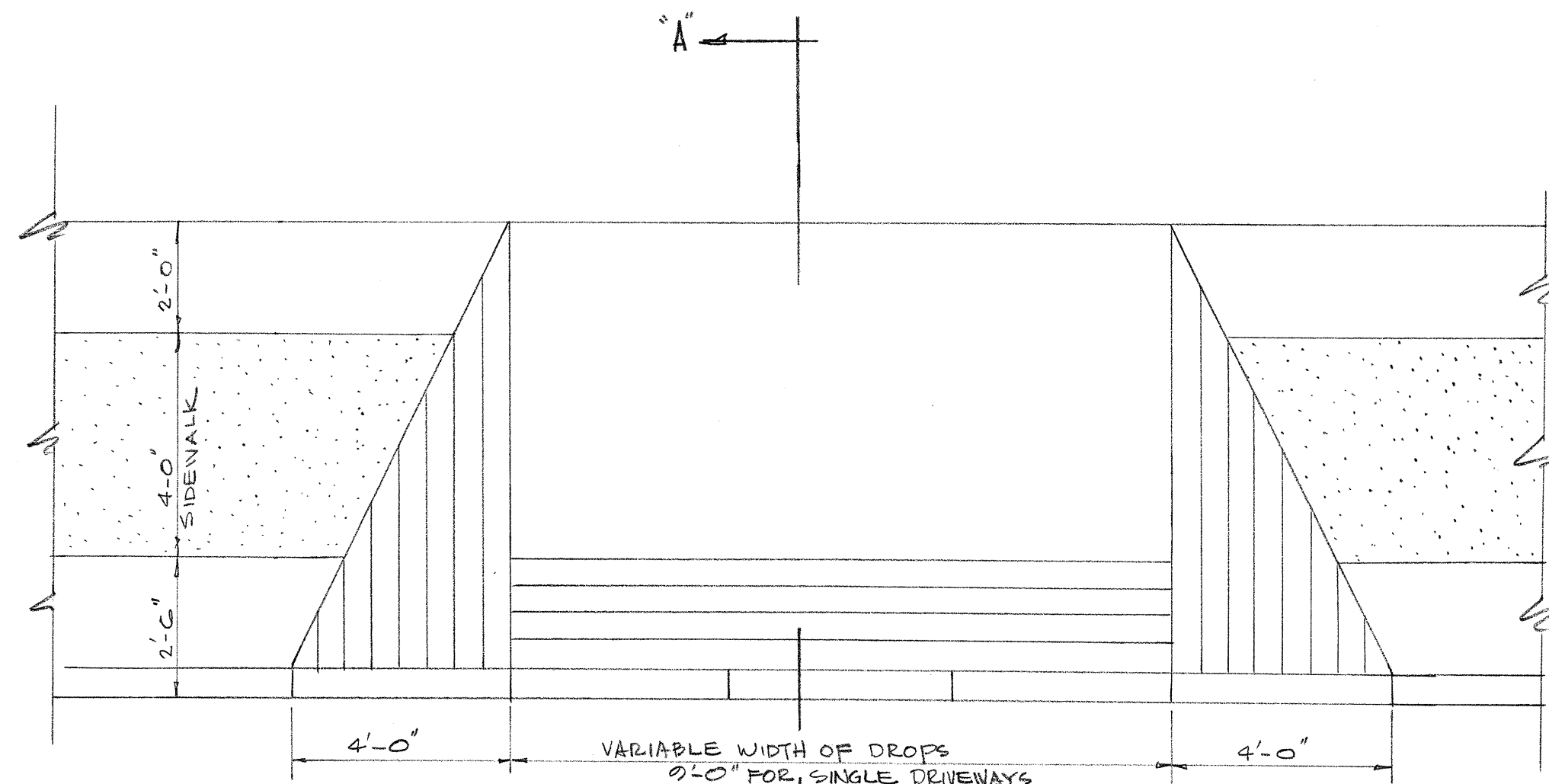
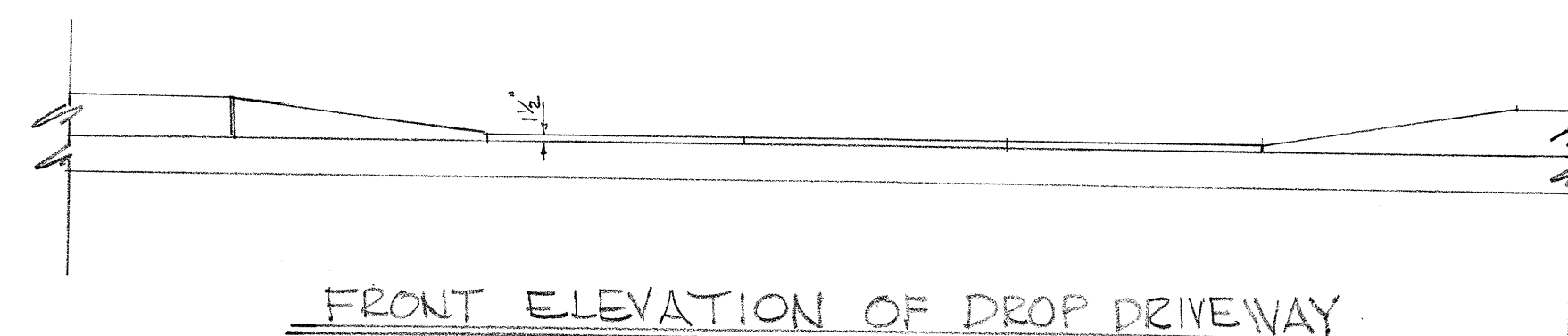
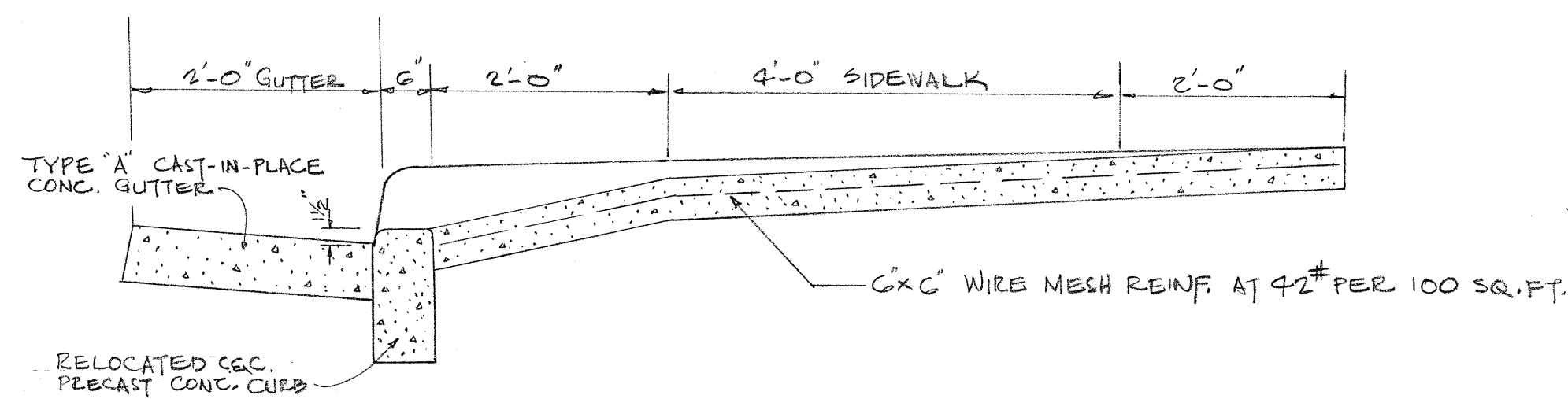




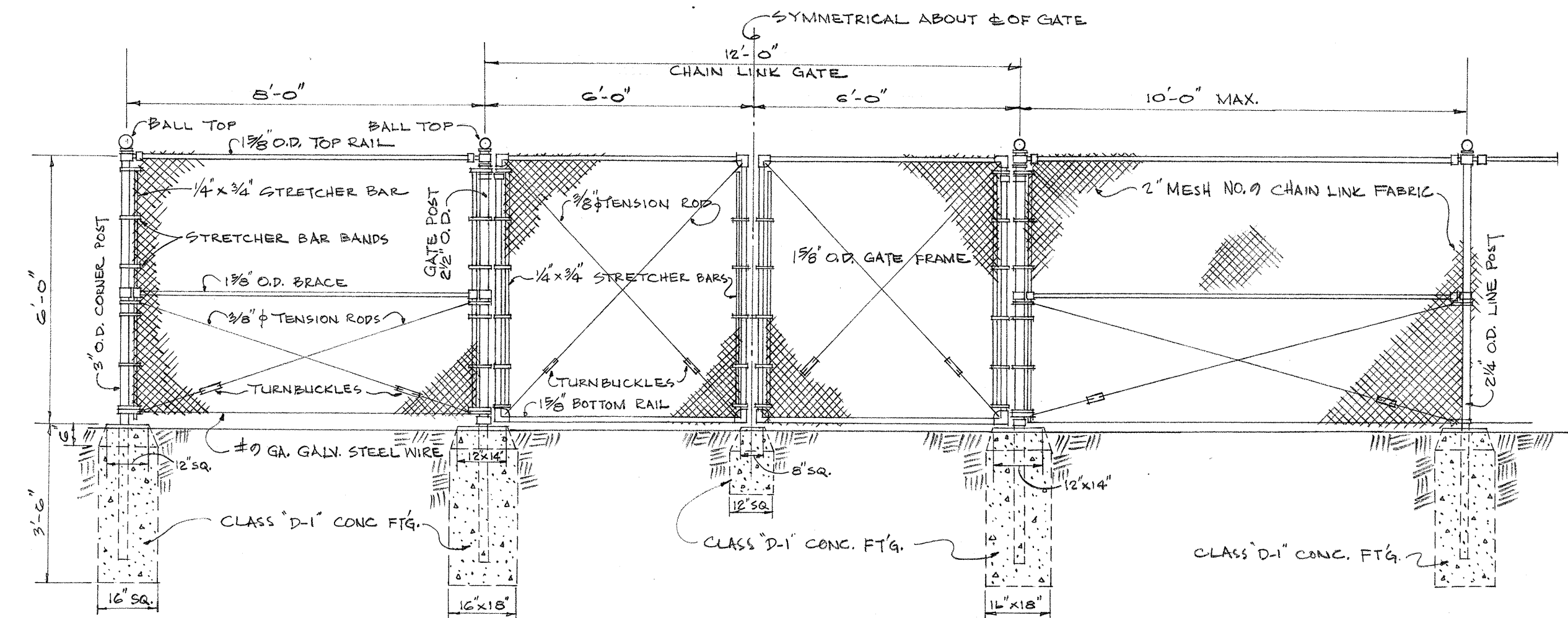
PLAN OF DROP DRIVEWAY
Scale: $\frac{3}{8}'' = 1'-0''$



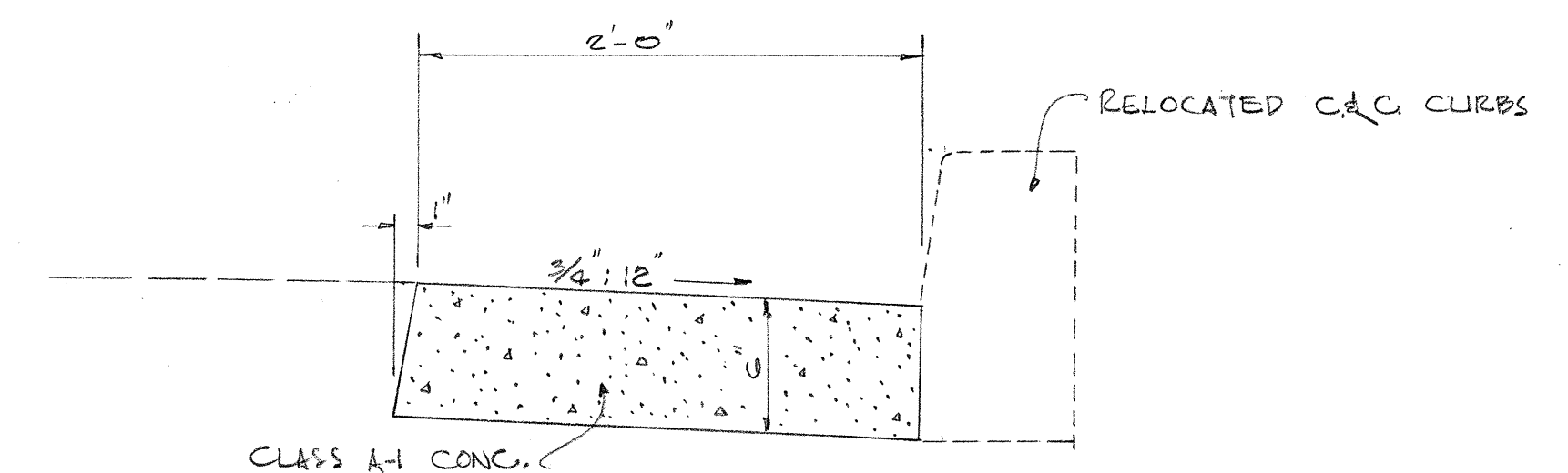
FRONT ELEVATION OF DROP DRIVEWAY
Scale: $\frac{3}{8}'' = 1'-0''$



SECTION "A-A"
Scale: $\frac{3}{4}'' = 1'-0''$



SECTION "A-A" SHOWING 12' CHAIN LINK GATE AT SUB-STATION
Scale: $\frac{3}{8}'' = 1'-0''$



TYPE "A" CAST-IN-PLACE CONC. GUTTER
Scale: $\frac{1}{2}'' = 1'-0''$

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

MISCELLANEOUS DETAILS

KALIHI VALLEY ROAD
PROJECT NO. US-5-0630(1)

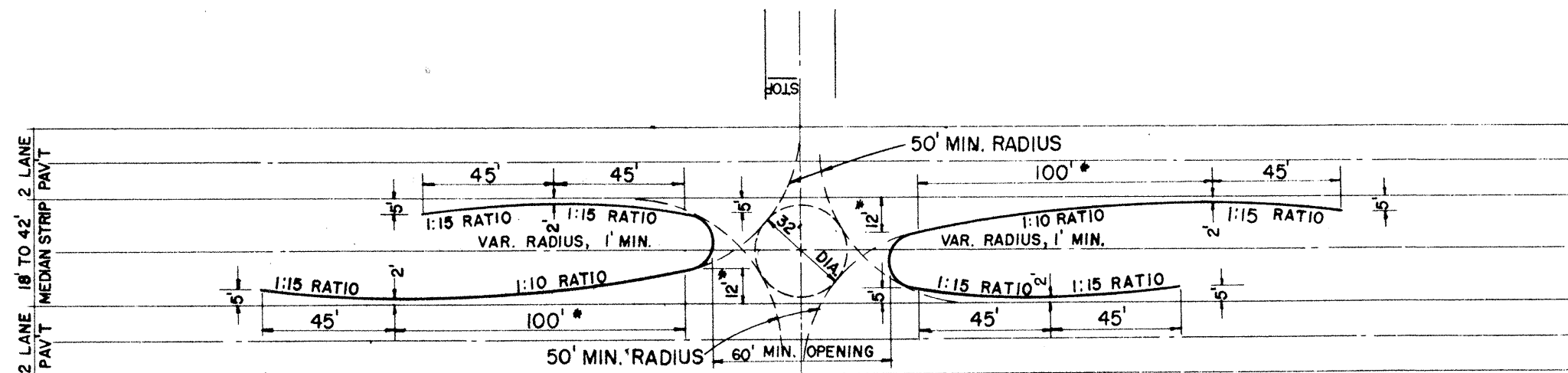
Scale: As Noted

OCT. 1955

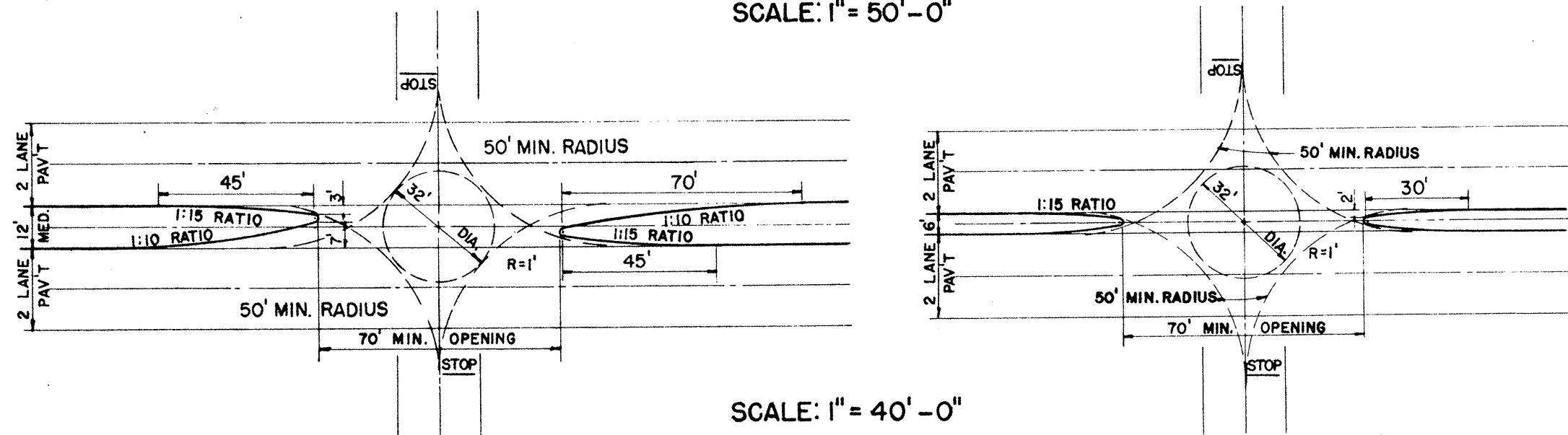
SHEET NO. / OF / SHEETS

5567.76

SURVEY PLOTTED BY
DESIGNED BY
DRAWN BY
CHECKED BY
NOTE BOOK
No.



SCALE: 1" = 50'-0"



SCALE: 1" = 40'-0"

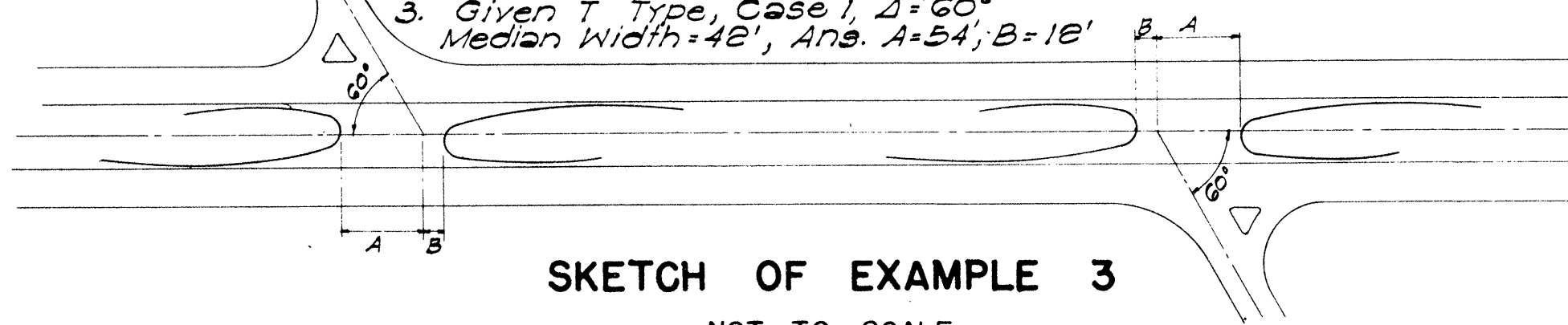
DETAILS OF MEDIAN STRIP OPENINGS

ANGLE OF INTERSECTION	WIDTH OF MEDIAN STRIP											
	42'		36'		30'		24'		18'		12'	
Case 1	A	B	A	B	A	B	A	B	A	B	A	B
	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2
60°	54	12	58	14	62	14	64	14	66	14	68	14
65°	48	14	52	16	56	16	58	16	60	16	62	16
70°	42	18	46	18	46	18	50	18	54	18	54	18
75°	36	24	40	20	40	20	44	20	48	20	50	24
80°	32	28	36	24	36	24	38	24	42	24	42	24
85°	30	30	32	28	32	28	34	28	36	28	36	30
90°	30	30	30	30	30	30	30	30	30	30	30	30
95°	30	30	28	32	30	30	28	32	30	30	30	30
100°	30	30	24	36	30	30	24	38	28	32	26	42
105°	30	30	20	40	28	32	20	44	24	36	22	48
110°	28	32	18	46	24	36	18	50	20	40	18	54
115°	22	38	16	52	18	42	14	56	16	46	16	60
120°	16	44	14	58	12	48	12	62	14	54	14	66

CASE 1	R=12 1/2		R=20 1/2		R=6 1/2		R=3 1/2		R=1 1/2		R=1	
	5	12	5	12	5	12	5	12	5	12	5	12
CASE 2	R=7 1/2		R=4 1/2		R=1 1/2		R=1		R=1		R=1	
	15	12	15	12	15	12	15	12	15	12	15	12

- NOTES:
- 1) A & B = Distance in feet from Island Nose to Centerline of Intersection.
 - 2) In a Crossing Intersection A & B are both equal to the larger distance.
 - 3) In a T Intersection A & B must be measured as shown below. The larger distance is always on the same side with the acute angle.
 - 4) The minimum radius of 50 ft. should always be scribed on a large scale drawing so that no misinterpretation of the tabulated values is made.

- EXAMPLES:
1. Given Crossing Type, Case 1, A = 60', Median Width = 42', Ans. A = B = 54'
 2. Given T Type, Case 1, A = 60', Median Width = 42', Ans. A = 54', B = 18'



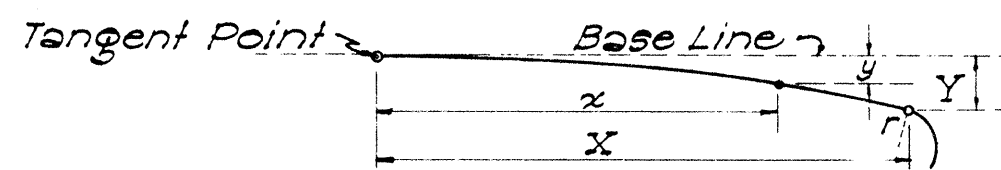
SKETCH OF EXAMPLE 3

NOT TO SCALE

These Curves are based upon the following formula:

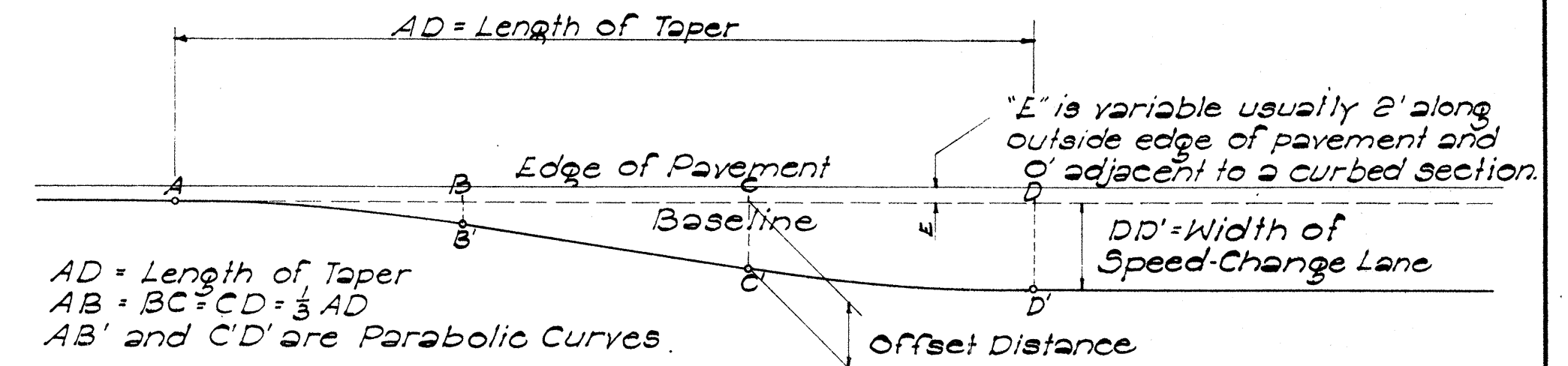
$$y = \frac{Y}{X^2}$$

Where: y = any offset, x = its tangent dist
X = maximum tangent distance
Y = maximum offset



RATIO CURVE DATA	
Dist. (ft.)	Offset in Feet (Y)
10	0.25
20	0.50
30	0.75
40	1.00
50	1.25
60	1.50
70	1.75
80	2.00
90	2.25
100	2.50

NOTE: Any ratio curve in this tabulation is designated by the maximum offset and its tangent distance

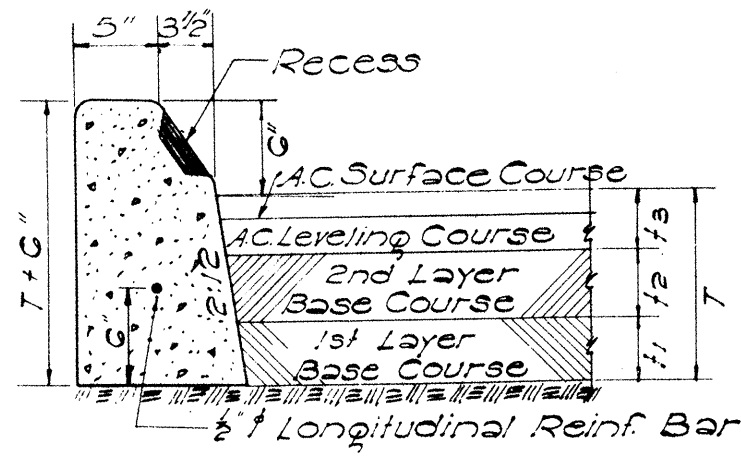


TAPER FOR SPEED-CHANGE LANES

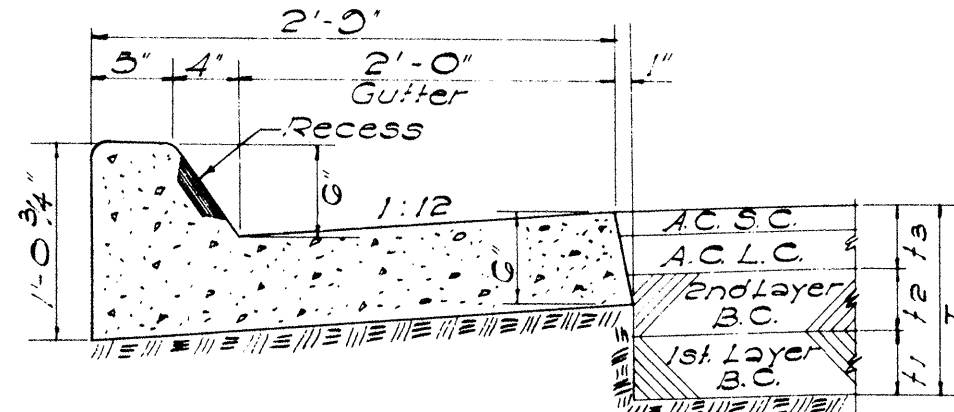
SCALE: 1" = 20'-0"

MINIMUM LENGTHS OF SPEED-CHANGE LANES & TAPER	
RAMP DESIGN SPEED (MPH)	20 30 40 50
MIN. CURVE RADIUS (FT.)	50 130 250 500
TOTAL LENGTH OF DECELERATION LANE INCLUDING TAPER (Feet)	
30	90
40	120
50	150
60	180
70	210
TOTAL LENGTH OF ACCELERATION LANE INCLUDING TAPER (Feet)	
30	150
40	180
50	210
60	240
70	270

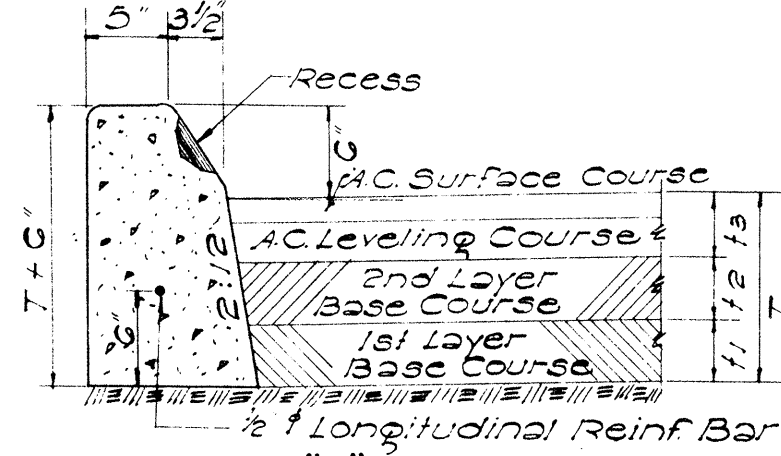
FOLLOWING TABLE GIVES OFFSETS FROM BASELINE PARALLEL TO EDGE OF PAVEMENT AT INTERVALS MEASURED FROM POINT "A". ADD "E" FOR MEASUREMENT FROM EDGE OF PAV'T												
OFFSET FROM BASELINE (Ft.)		LENGTH OF TAPER (Feet) = AD										
		00	120	150	180	210	240	270	300			
DD-10	DD-11	DD-12	DISTANCE FROM POINT "A" (Feet)									
0	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0.17	0.19	7.5	10	12.5	15	17.5	20	22.5	25		
0.62	0.69	0.75	15	20	25	30	35	40	45	50		
1.41	1.55	1.69	22.5	30	37.5	45	52.5	60	67.5	75		
2.50	2.75	3.00	30	40	50	60	70	80	90	100		
3.50	3.85	4.00	45	60	75	90	105	120	135	150		
7.50	8.25	9.00	60	80	100	120	140	160	180	200		
8.50	9.45	10.31	67.5	90	112.5	135	157.5	180	202.5	225		
9.25	10.31	11.25	75	100	125	150	175	200	225	250		
9.84	10.83	11.81	82.5	110	137.5	165	192.5	220	247.5	275		
10.00	11.00	12.00	90	120	150	180	210	240	270	300		



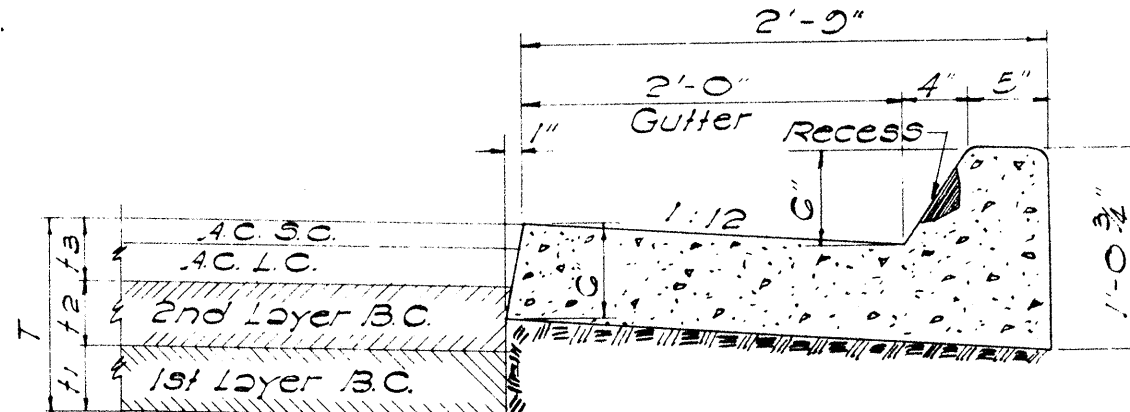
TYPE "A" & "B" CURB
SCALE: 1" = 1'-0"



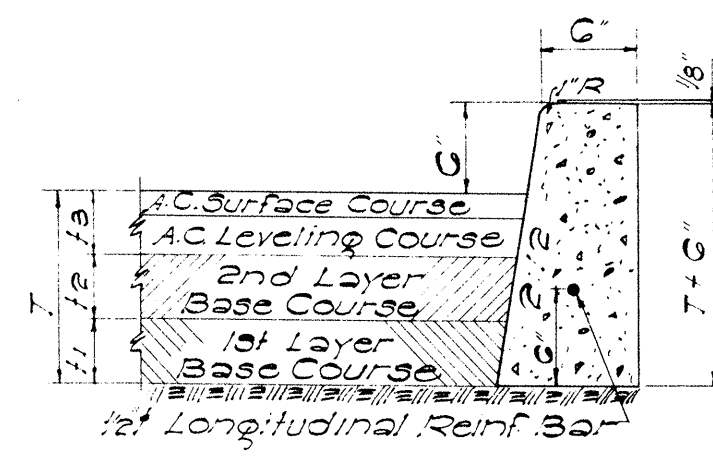
TYPE "AG" & "BG" CURB & GUTTER
SCALE: 1" = 1'-0"



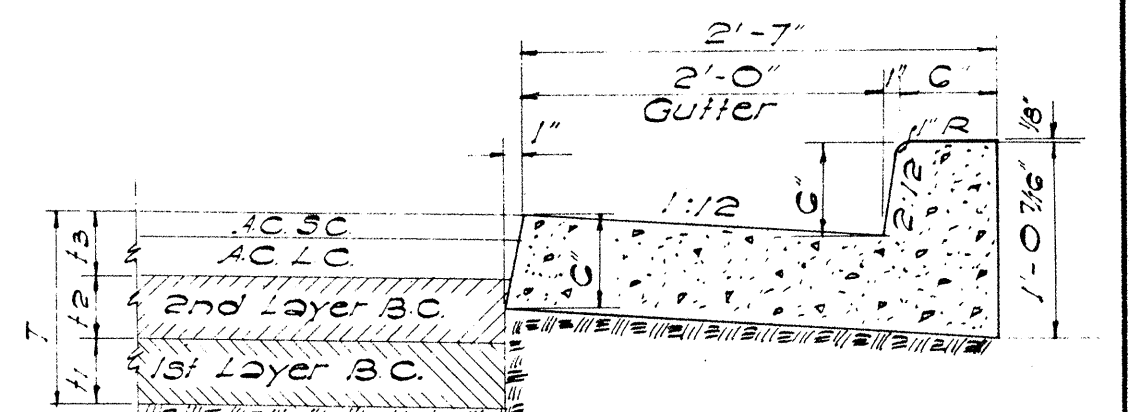
TYPE "C" CURB
SCALE: 1" = 1'-0"



TYPE "CG" CURB & GUTTER
SCALE: 1" = 1'-0"

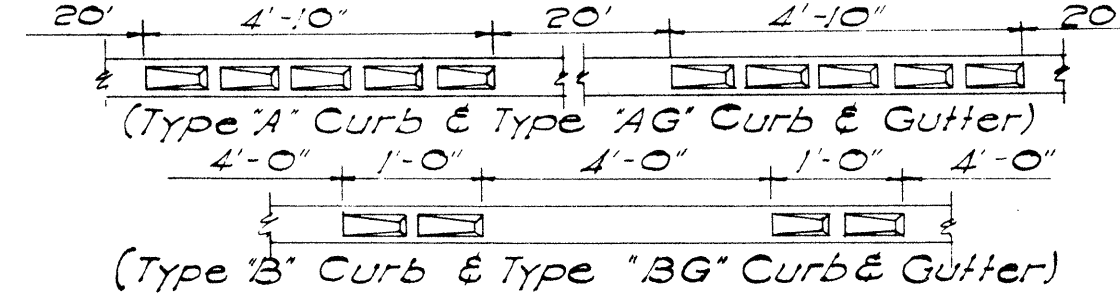


TYPE "D" CURB
SCALE: 1" = 1'-0"

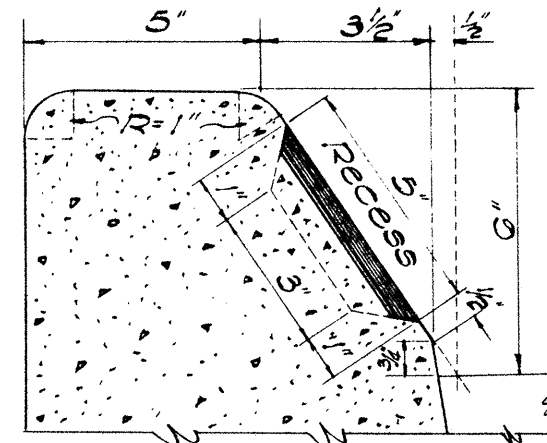


TYPE "DG" CURB & GUTTER
SCALE: 1" = 1'-0"

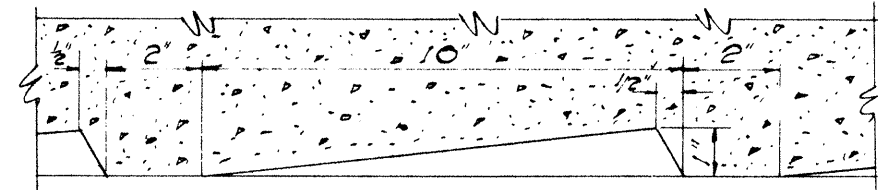
General Note Covering All Types of Curbs:
Occasionally curb rests on first layer of base course. See typical sections.



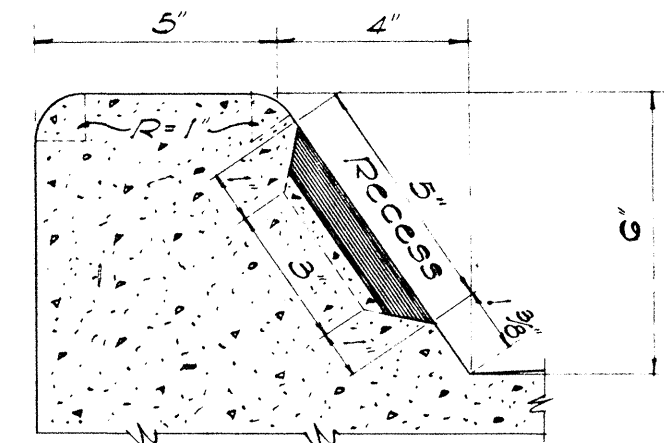
TYPE AND SPACING OF RECESSES



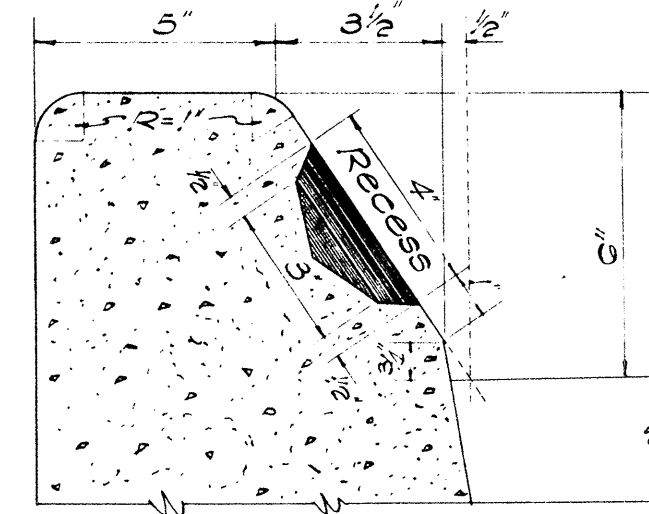
SECTION "B-B"
TYPE "A" & "B" CURB



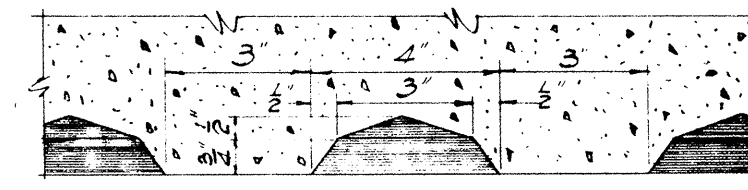
SECTION "A-A"
ELEVATION
SCALE: 3" = 1'-0"



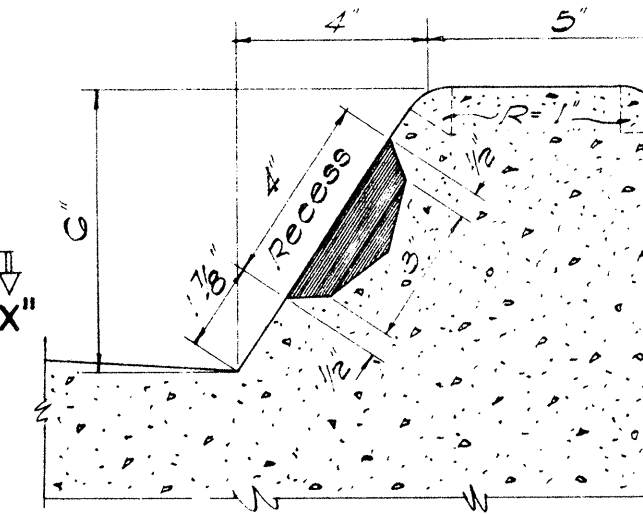
SECTION "C-C"
TYPE "AG" & "BG" CURB



SECTION "Y-Y"
TYPE "C" CURB

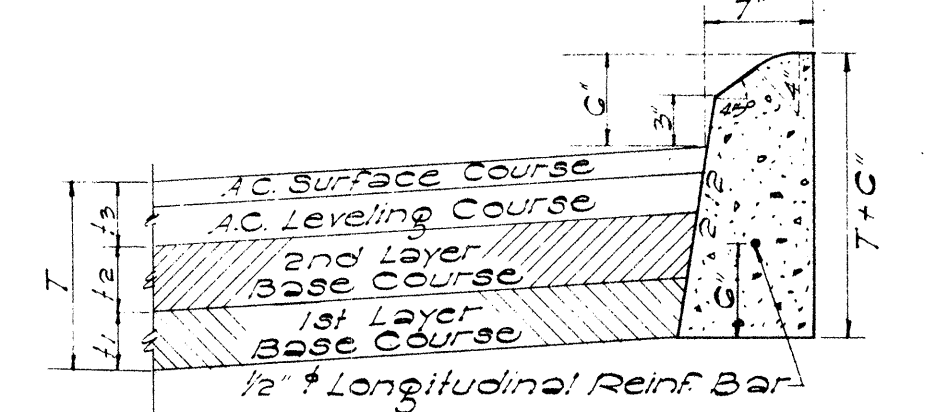


SECTION "X-X"
ELEVATION
SCALE: 3" = 1'-0"



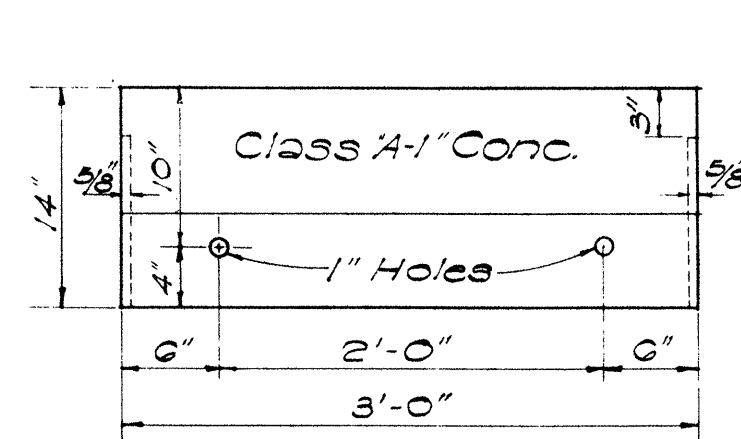
SECTION "Z-Z"
TYPE "CG" CURB

NOTES:
1) Types "AG", "BG", "CG", "DG" and "EG" Concrete Curbs and Gutters are to be poured monolithically.
2) Types "A", "B", and "C" Curbs and Types "AG", "BG" and "CG" Curbs and Gutters occur at Median Strips and Traffic Islands.
3) Shaded area in Curbs are to be painted with an approved white lacquer. (One Coat)
4) 1/2 inch Concrete Curbs and Gutters shown herein are to be of Class "A-1" Conc. and Cast-in-Place.



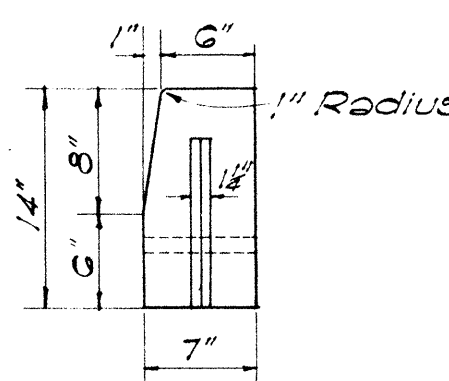
TYPE "F" CURB
SCALE: 1" = 1'-0"

DETAILS OF CAST-IN-PLACE CONC. CURBS AND GUTTERS

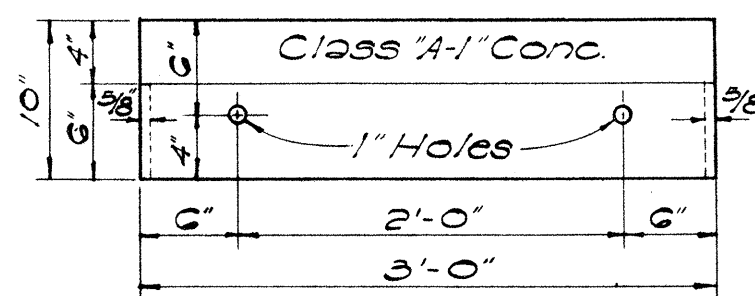


FRONT ELEV.

PRECAST CONC. CURB
SCALE: 1" = 1'-0"

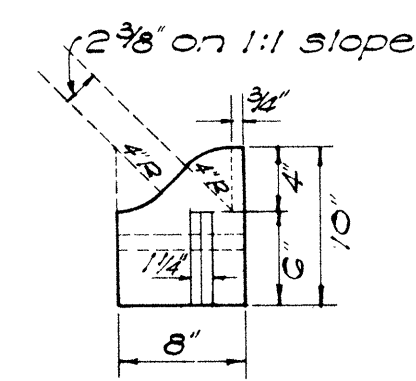


END ELEV.

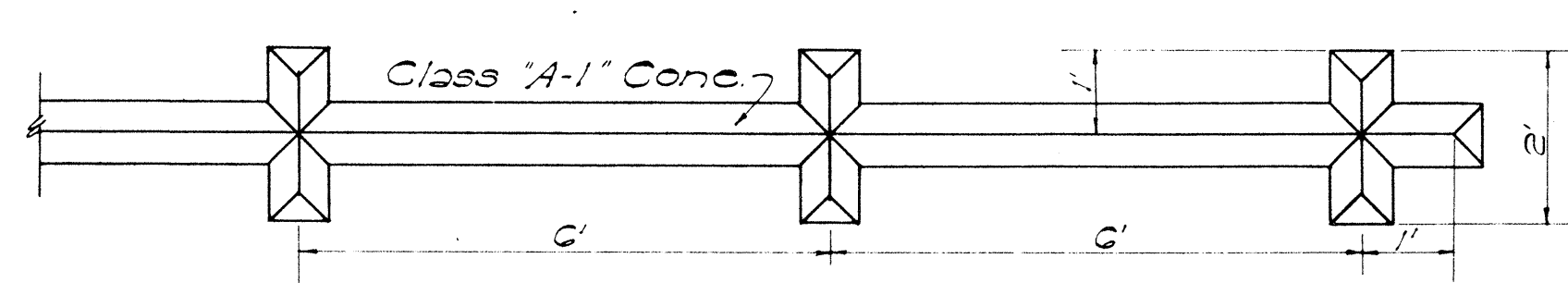


FRONT ELEV.

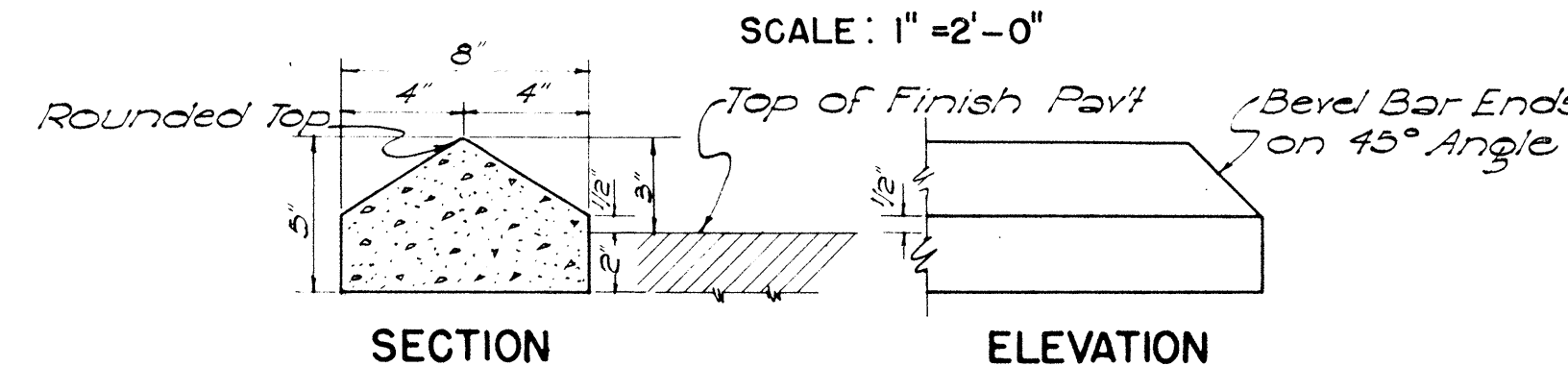
PRECAST CONC. ROLL CURB
SCALE: 1" = 1'-0"



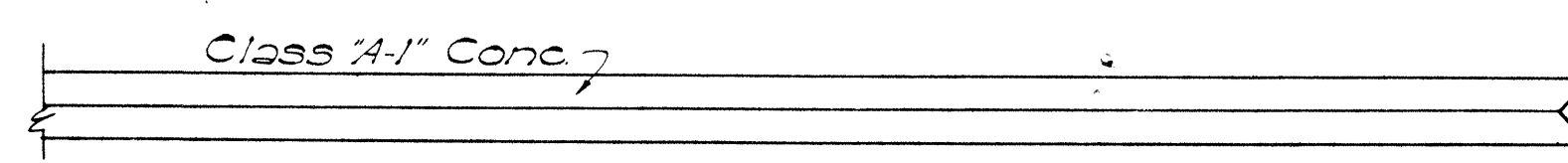
END ELEV.



PLAN
SCALE: 1" = 2'-0"



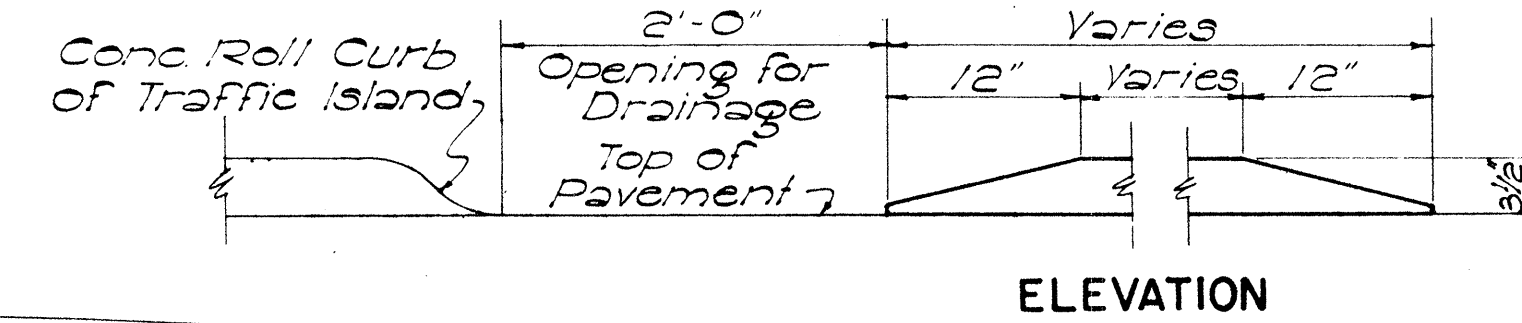
SECTION
ELEVATION
RAISED TRAFFIC BARS
SCALE: 1" = 6"



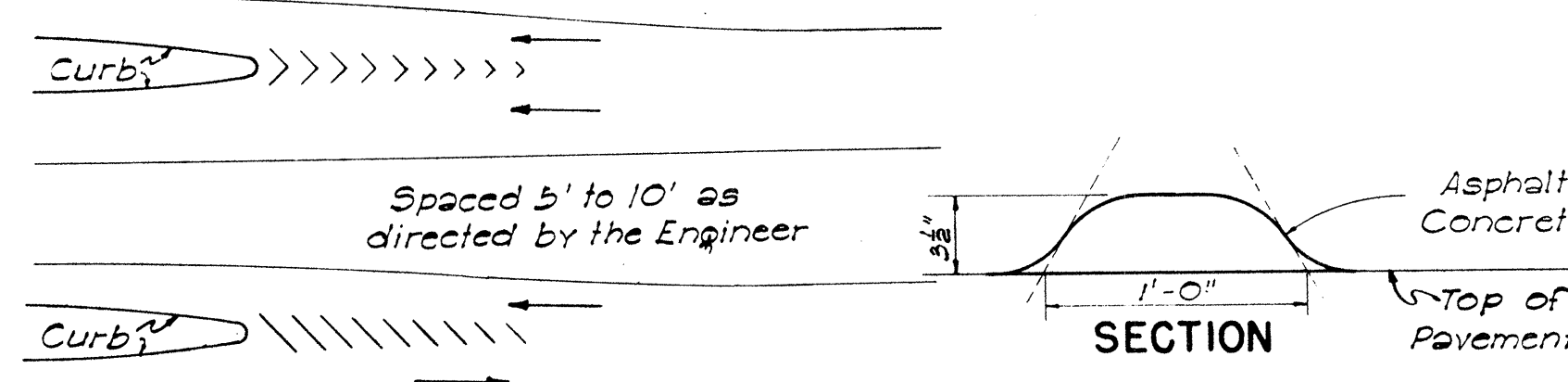
PLAN

NOTE:
Section and Elevation for Jiggle Bars are same as the Traffic Bars.

RAISED JIGGLE BARS
SCALE: 1" = 2'-0"

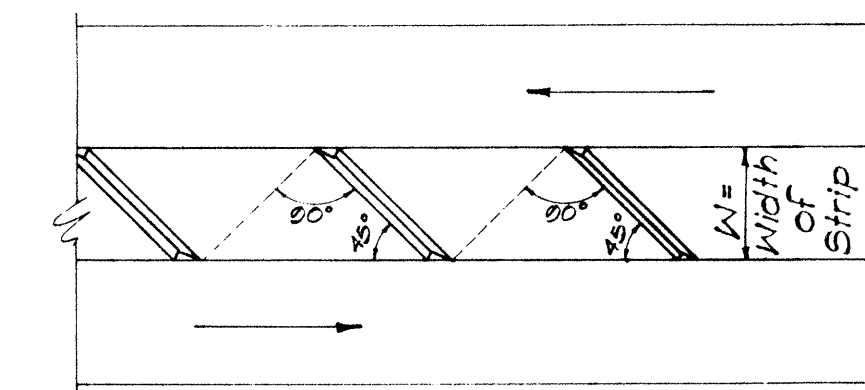


ELEVATION



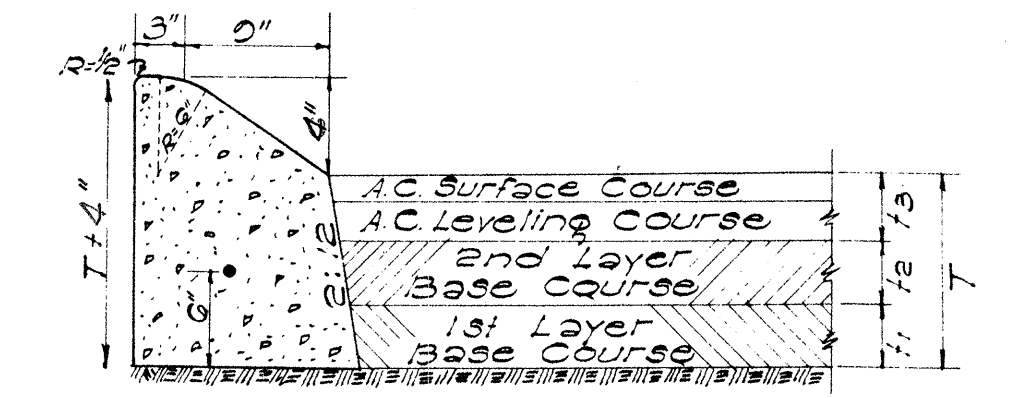
SECTION

A.C. ROLL CURB
NOT TO SCALE

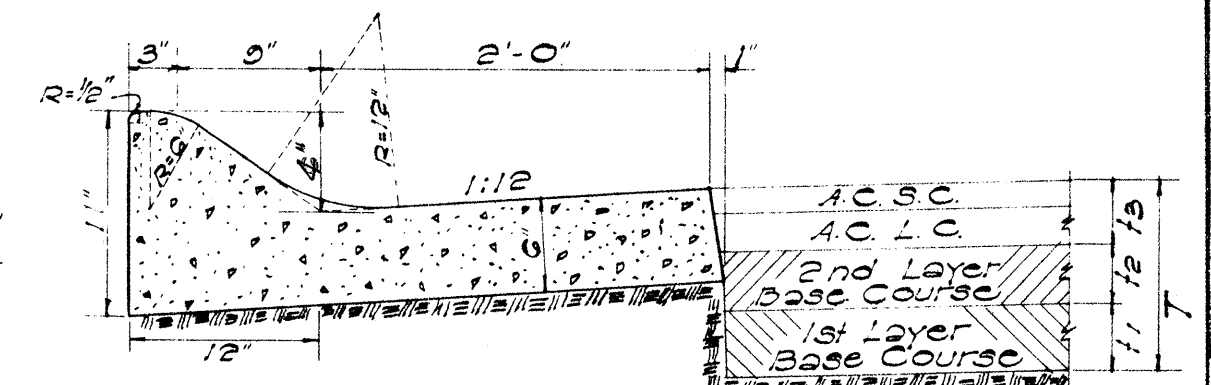


AT CURBED ISLAND

Median Strip
LAYOUT OF JIGGLE BARS
NOT TO SCALE



TYPE "E" CAST-IN-PLACE
CONCRETE CURB
SCALE: 1" = 1'-0"



TYPE "EG" CAST-IN-PLACE
CONC. CURB & GUTTER
SCALE: 1" = 1'-0"

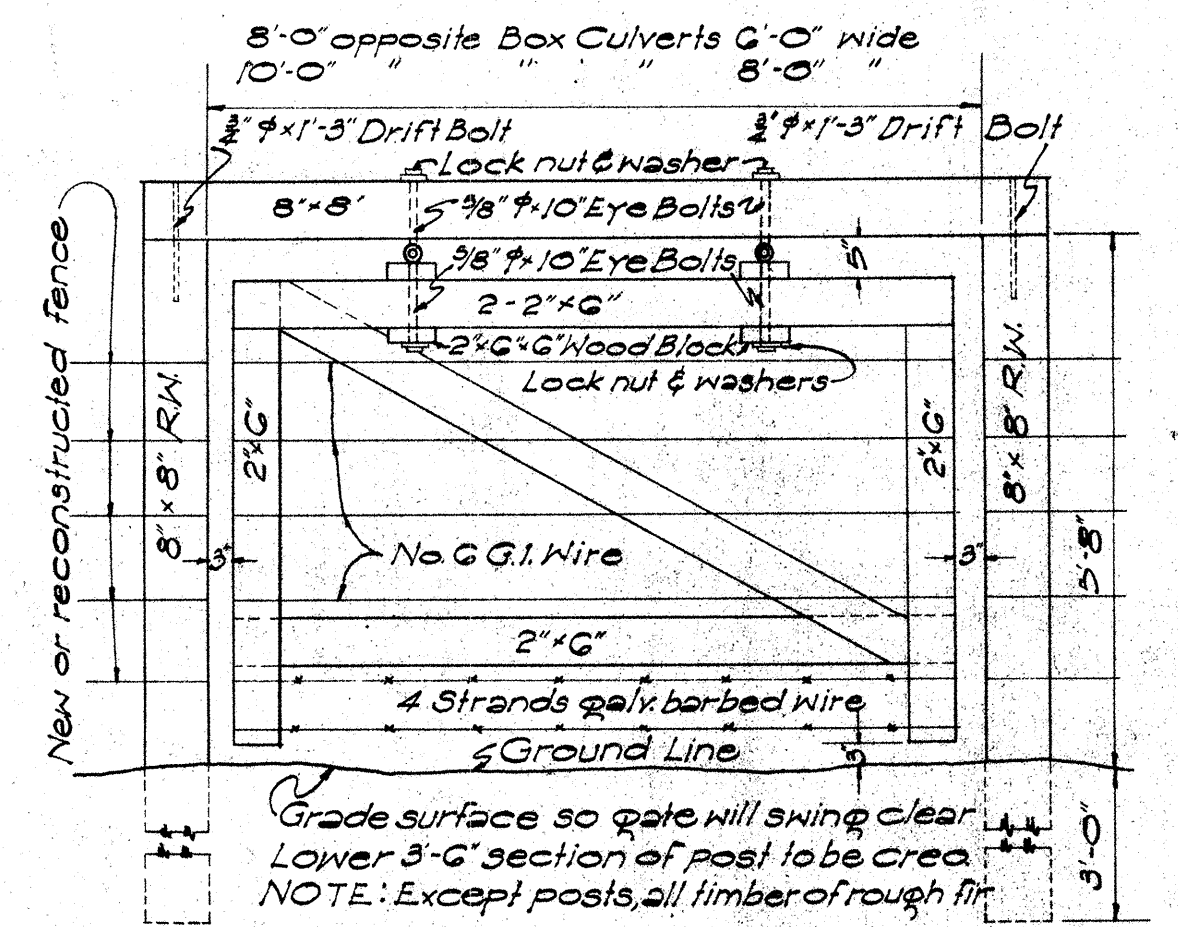
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CONCRETE CURBS,
CONCRETE CURBS & GUTTERS
SCALES AS NOTED

SHEET No 2 OF 9 SHEETS

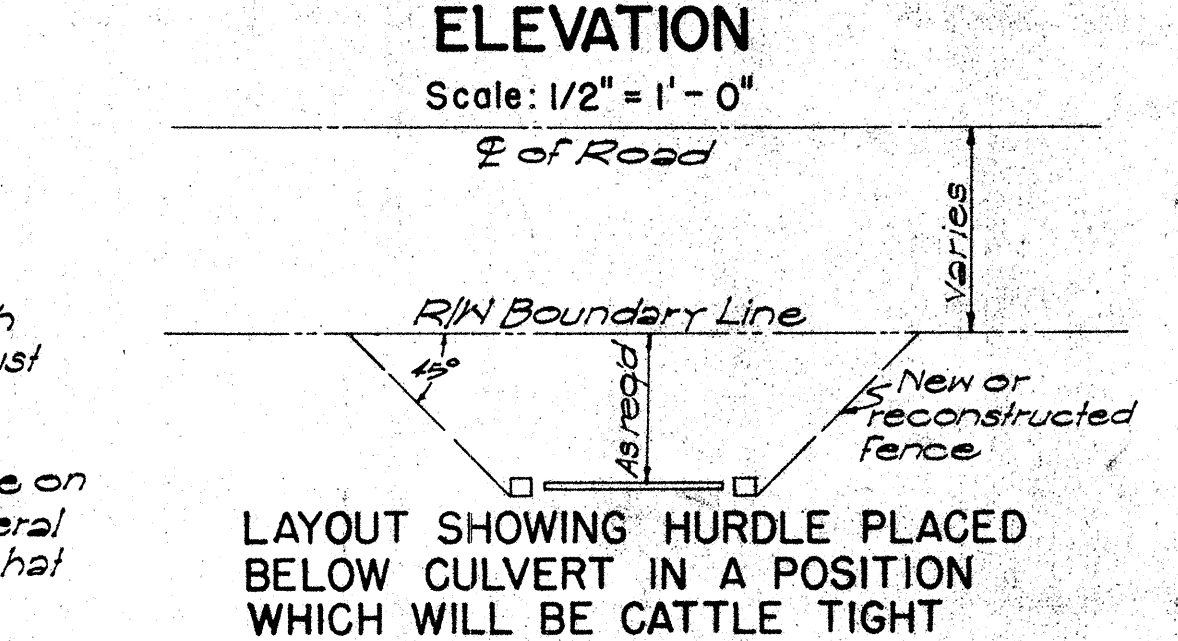
5567.78

DATE: 10-1-56
DESIGNED BY: L. C. Callisto
CHECKED BY: L. C. Callisto
QUANTITIES CHECKED BY: L. C. Callisto
ORIGINAL PLAN: 10-1-56
NOTE BOOK: 10-1-56
CHECKED BY: L. C. Callisto

APPROVED: *B. E. Hutter*
TERRITORIAL HIGHWAY ENGINEER

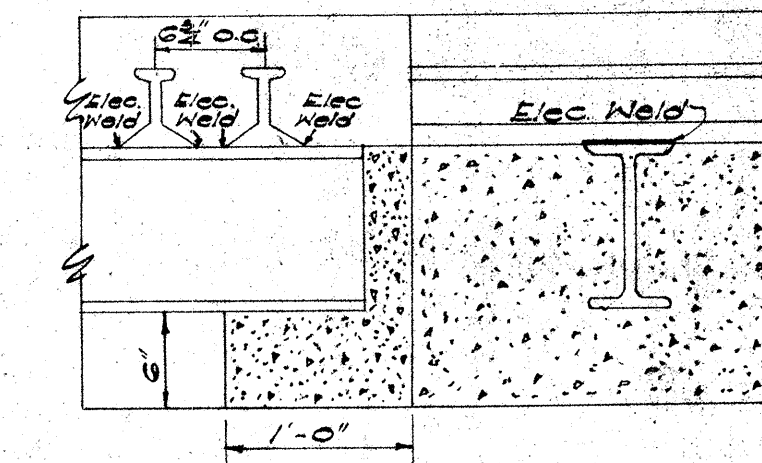


NOTE:
Use above
detail for end
post.



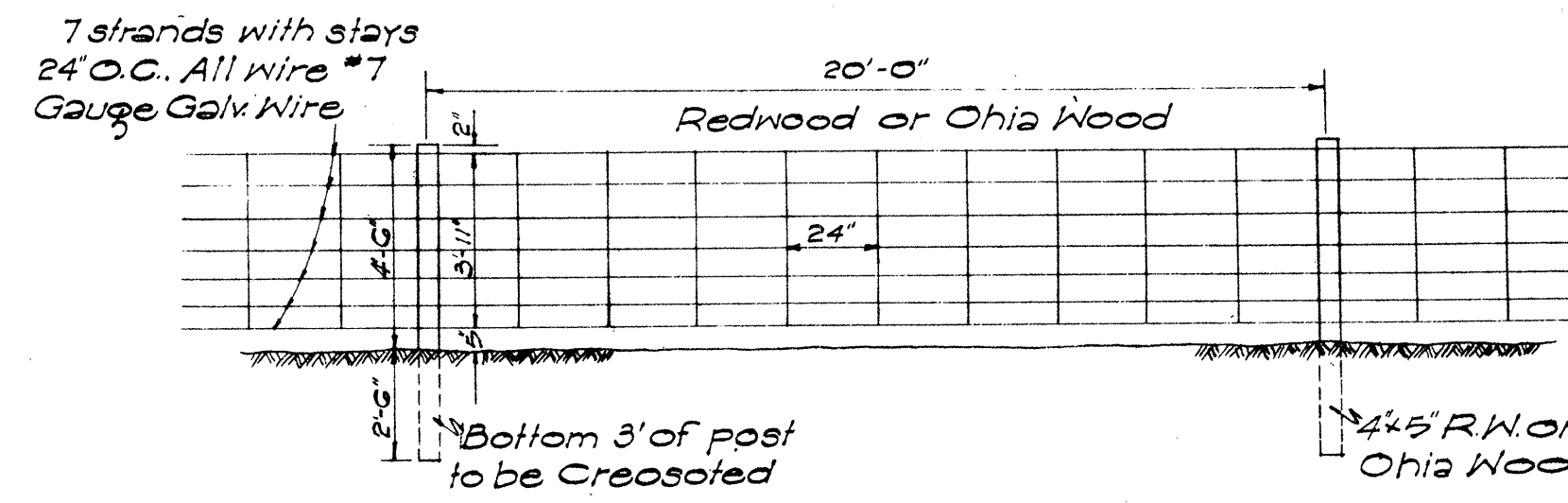
DETAILS OF HURDLE

Height of Fence	Line Post	End Post	Top Rail	Depth of Footing	Top of Footing Size	Length of Posts
	$\frac{1}{2}$ "	Pipe	Pipe	Feet	Feet	Feet
3'	2.00	1.00	2.00	30"	24"	5'-6"
4'	2.50	1.50	2.00	36"	30"	6'-6"
5'	2.80	1.80	2.00	36"	36"	8'-0"
6'	4.10	2.00	3.00	36"	36"	9'-0"

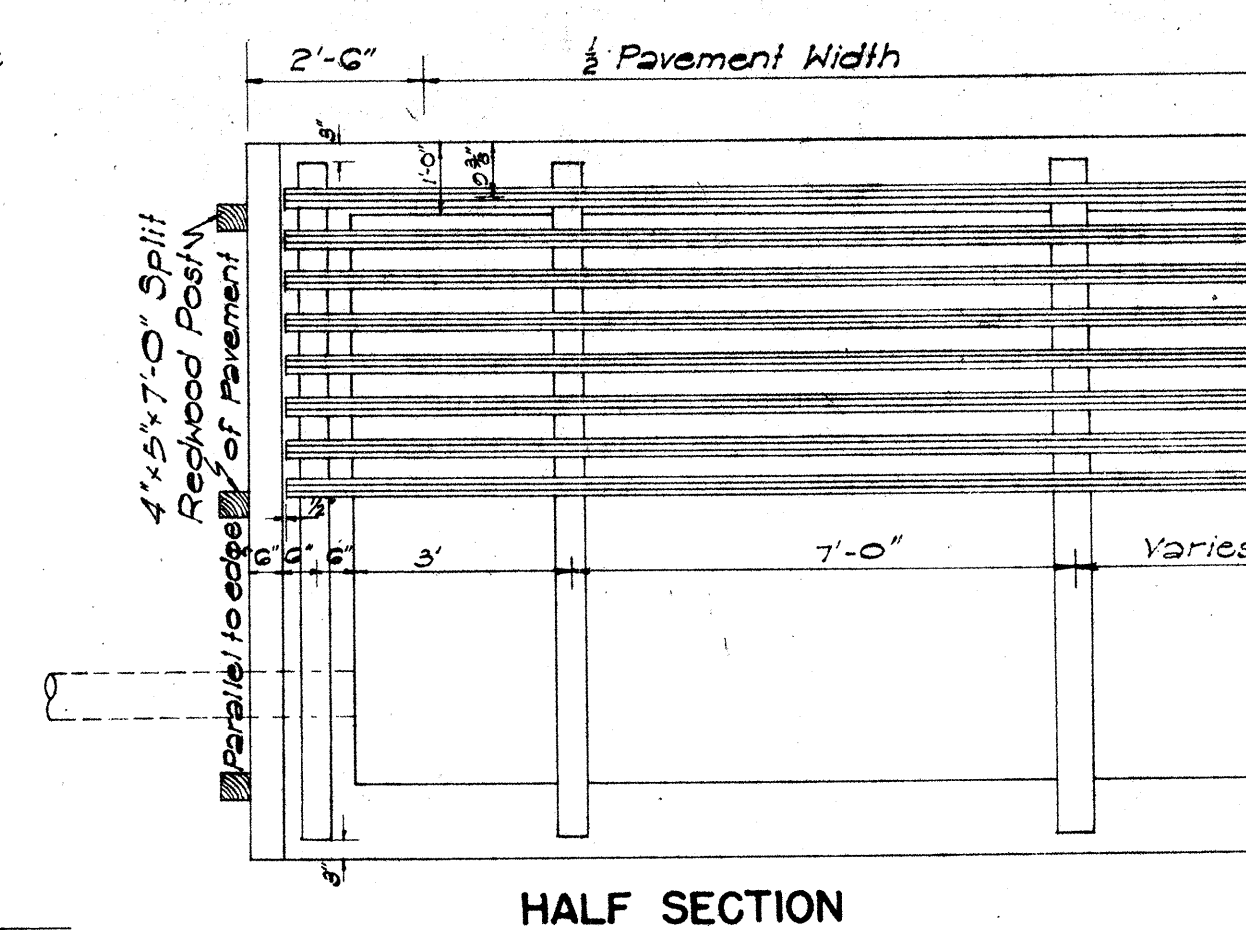


END POST ELEV.	TYPICAL SECTION	LINE POST ELEV.
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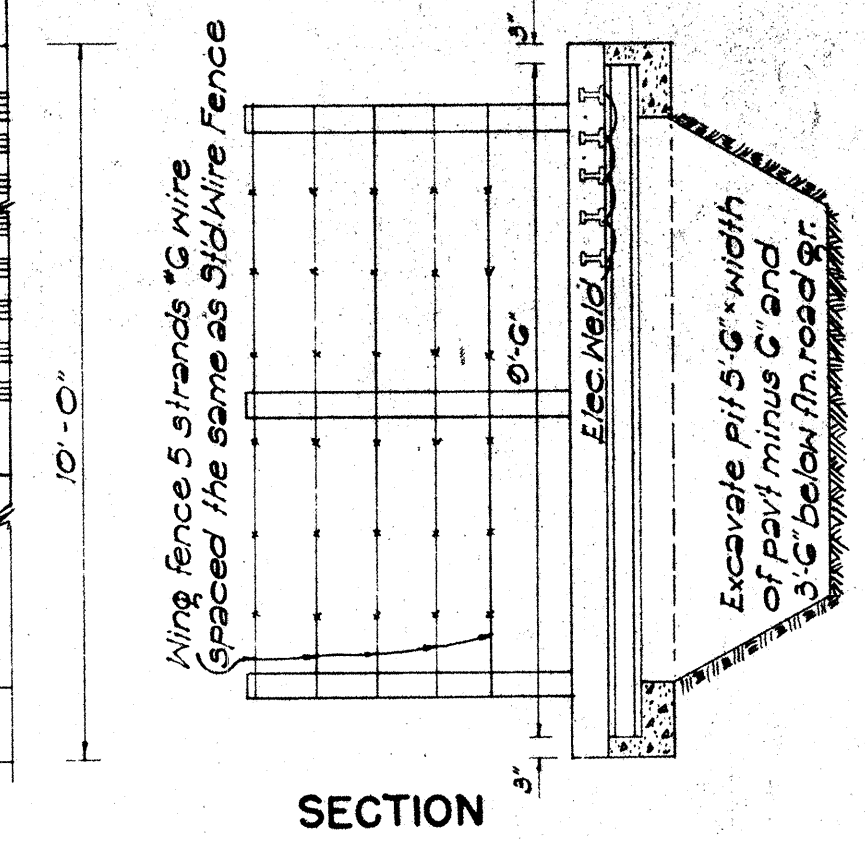
DETAIL OF CHAIN LINK FENCE



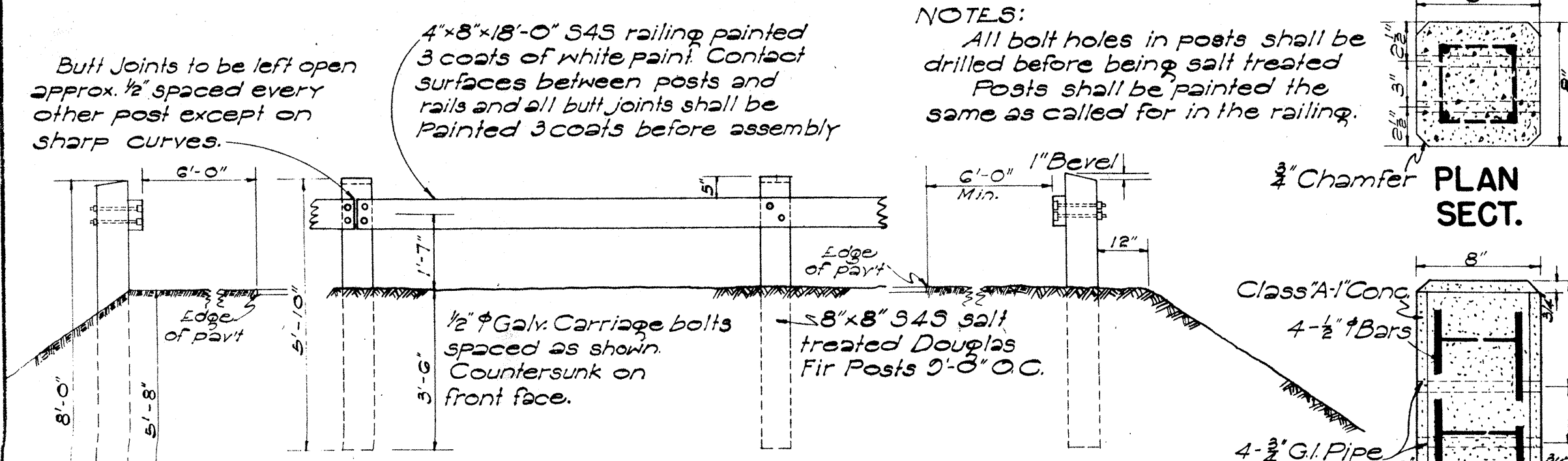
DETAIL OF WOVEN WIRE FENCE
Scale: 1/4" = 1' - 0"



HALF SECTION



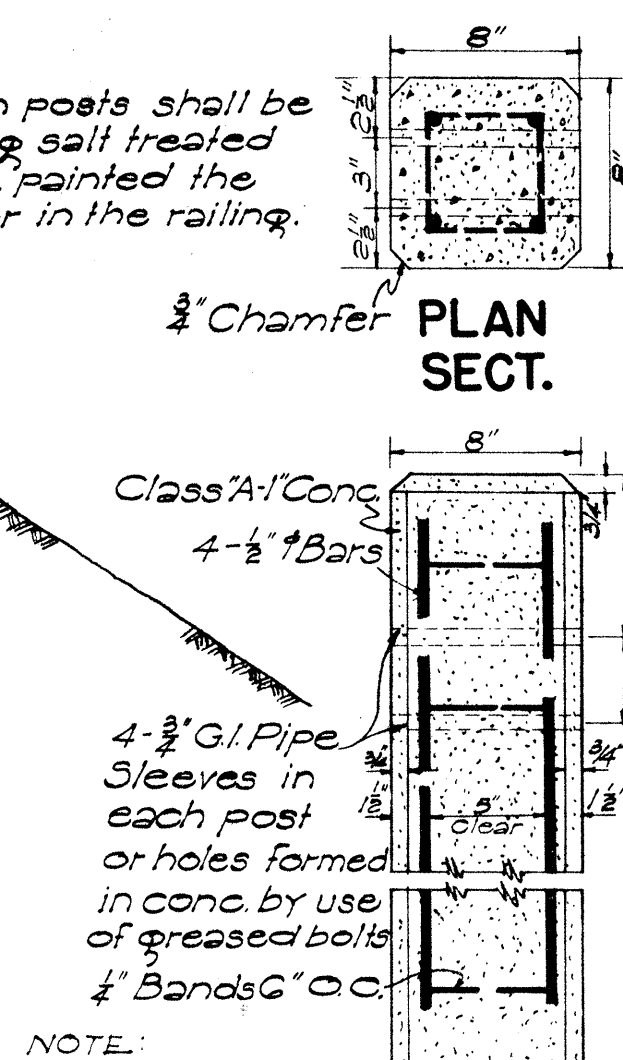
SECTION



WOOD GUARD RAIL WITH WOOD POSTS

Scale: $3/8" = 1' - 0"$

NOTE: For Conc. Post see detail at right



**DETAIL OF
CONC. POST**
Scale: 1-1/2" = 1'-0"

GUIDE POSTS: *Wood or Conc. Guide Posts are the same as those used for Wood Guard Rail spaced as shown on plans.*

DETAIL OF CATTLE GUARD

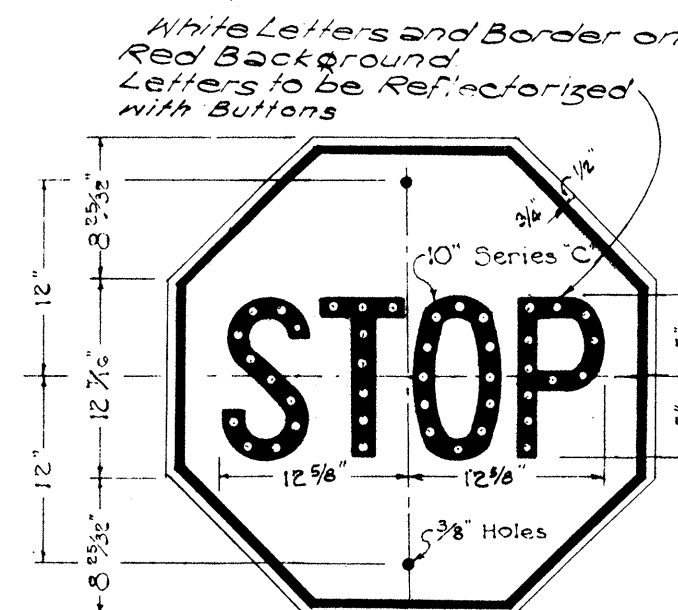
Scale: $3/8" = 1' - 0"$

APPROVED:

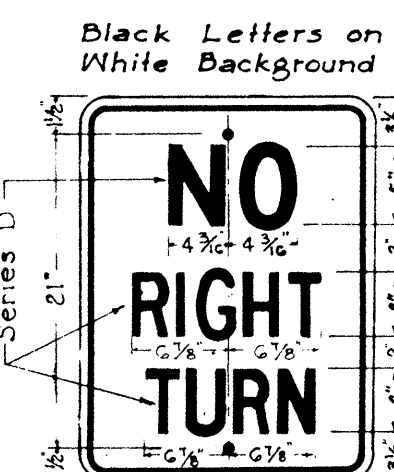
DATE 6-23-58

Paul E. Nutter
TERRITORIAL HIGHWAY ENGINEER

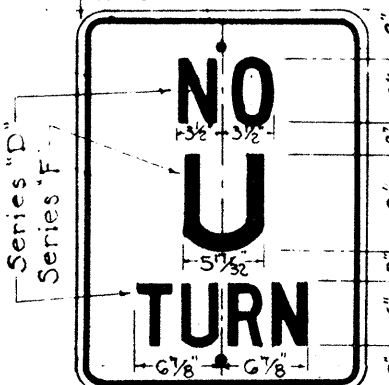
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
FENCES, GATES, GUARD RAILS,
GUIDE POSTS, CATTLE GUARD
SCALES AS NOTED



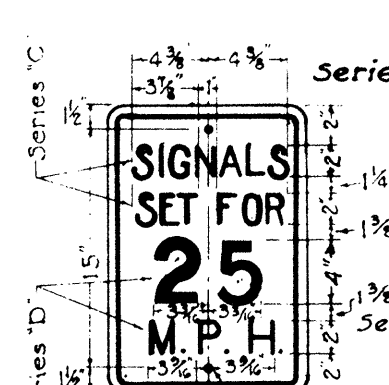
R-1
30" x 30"



R-6
18" x 24"



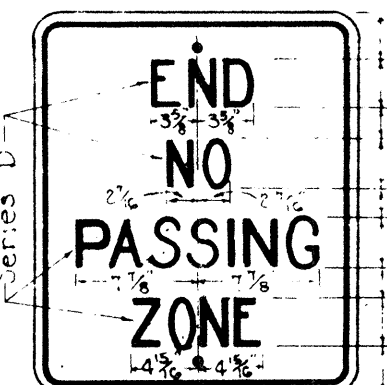
R-8
18" x 24"



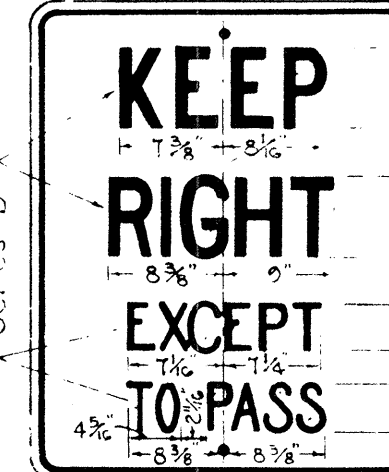
R-10
12" x 18"



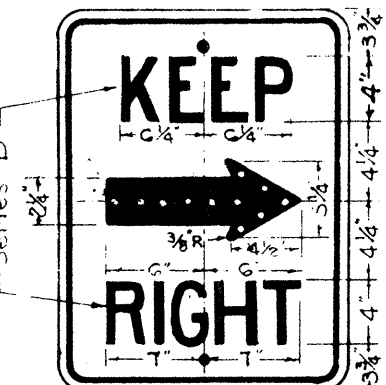
R-11
20" x 24"



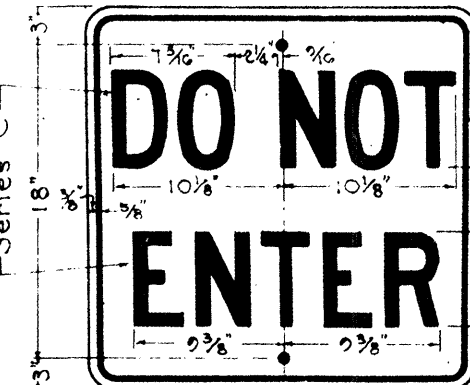
R-12
20" x 24"



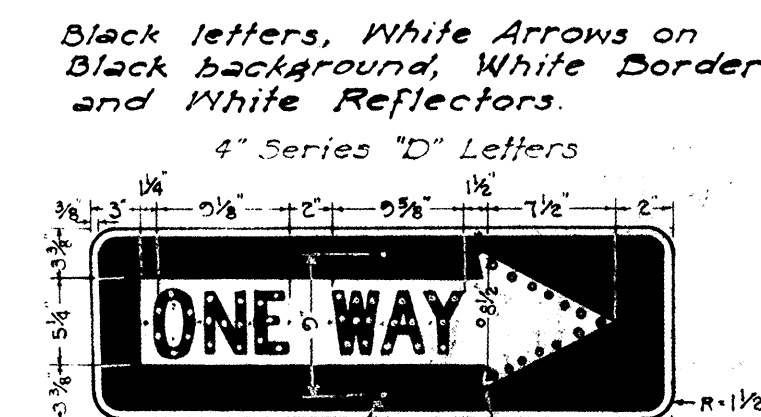
R-13
24" x 30"



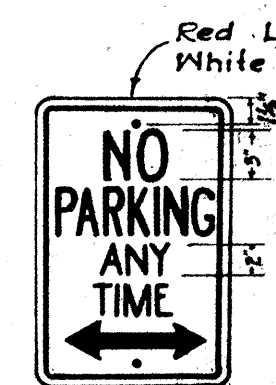
R-14
18" x 24"



R-15
24" x 24"



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



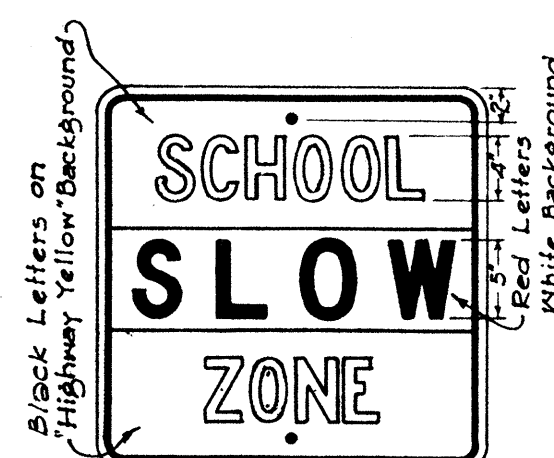
R-18
12" x 18"



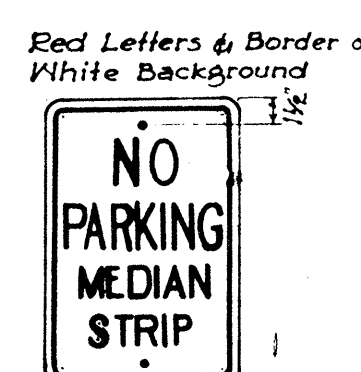
R-26
12" x 18"



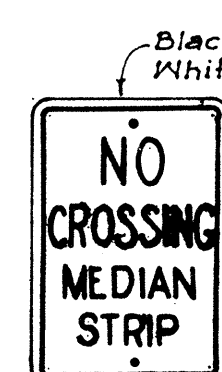
R-29
24" x 30"



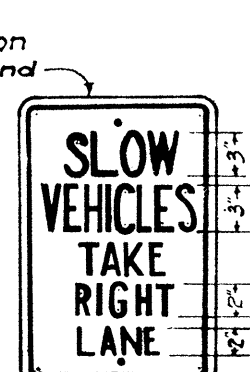
R-41-S
24" x 24"



R-42-S
12" x 18"



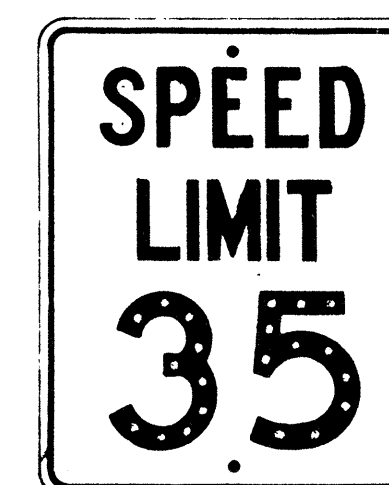
R-43-S
12" x 18"



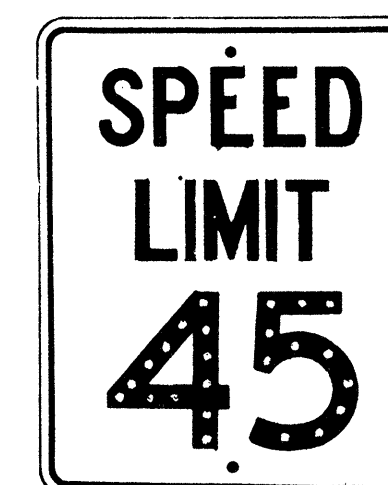
R-44-S
12" x 18"



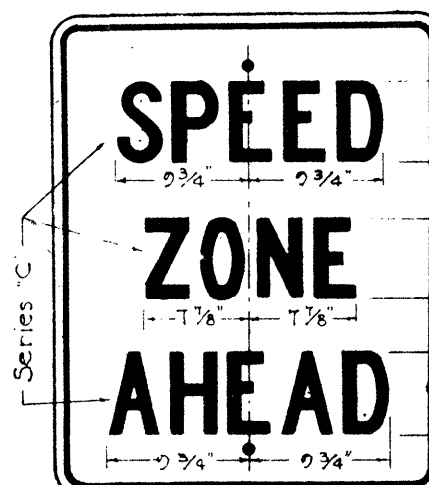
R-102-A
24" x 30"



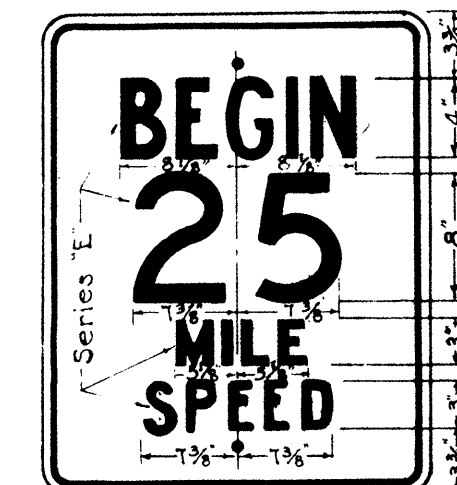
R-102-B
24" x 30"



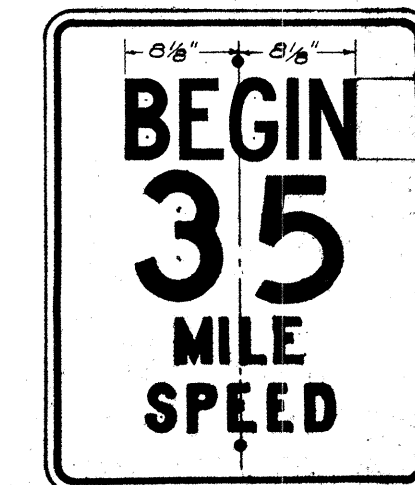
R-102-C
24" x 30"



R-104
24" x 30"



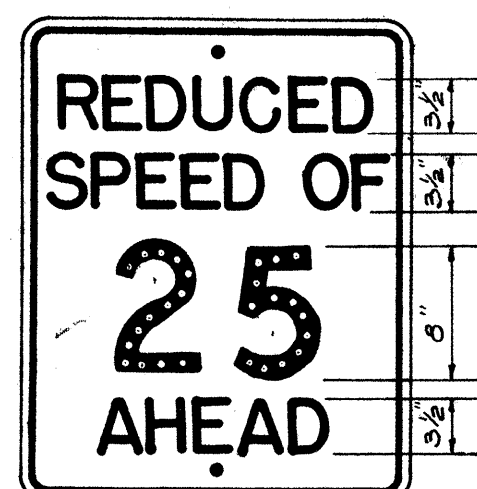
R-105-A
24" x 30"



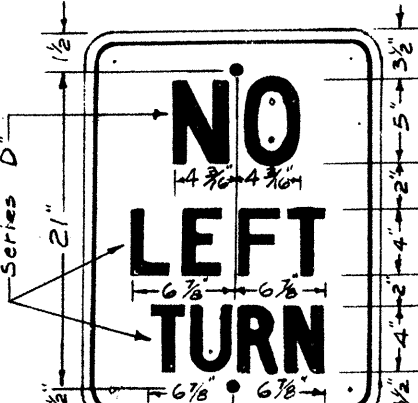
R-105-B
24" x 30"



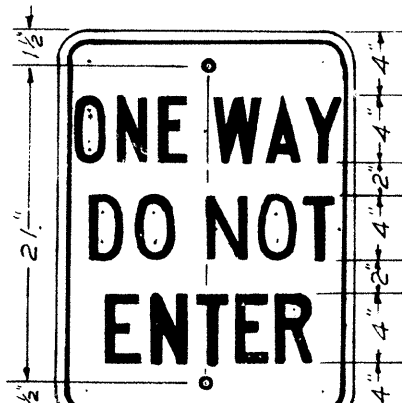
R-105-C
24" x 30"



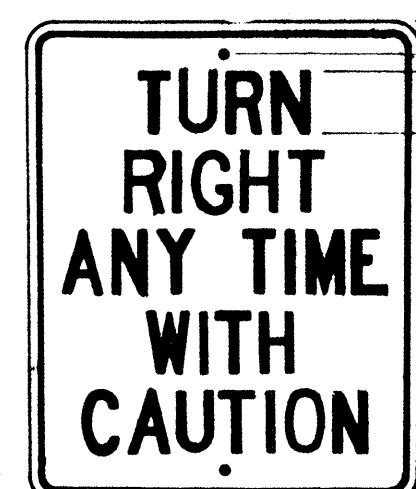
R-104-A
24" x 30"



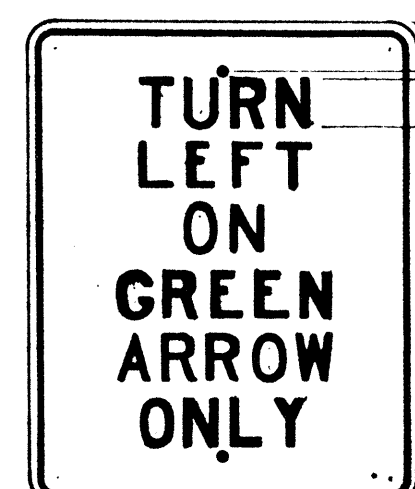
R-7
18" x 24"



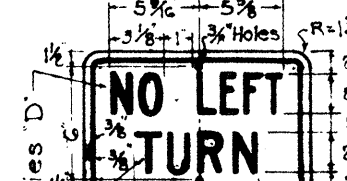
R-66
18" x 24"



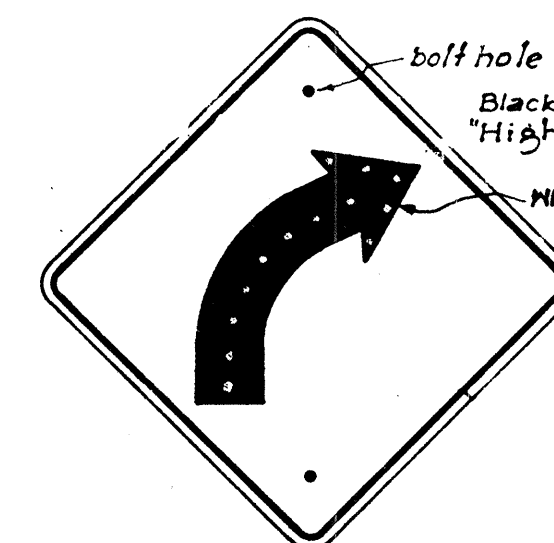
R-106
24" x 30"



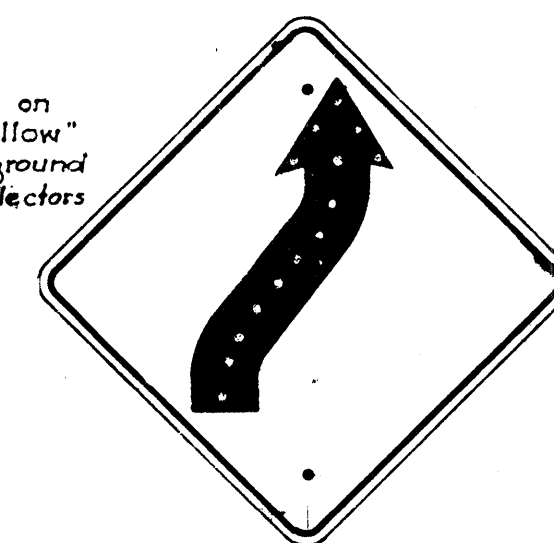
R-107-A
24" x 30"



R-107
14" x 9"



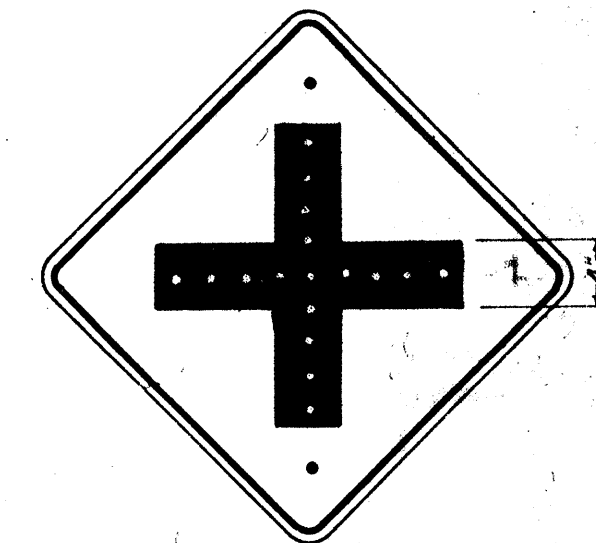
W-2-R
*W-2-L
24" x 24"



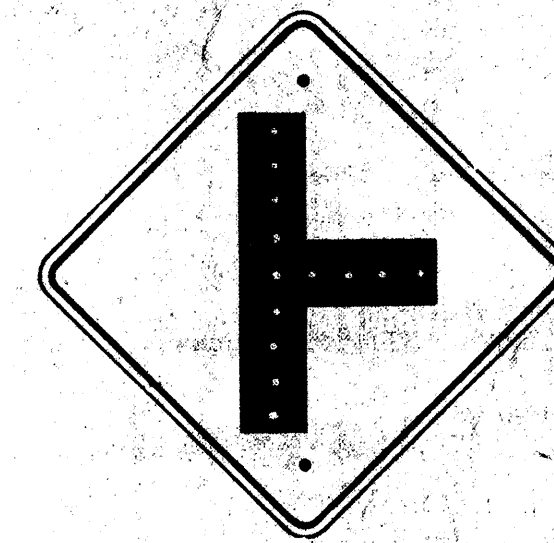
W-4-R
*W-4-L
24" x 24"



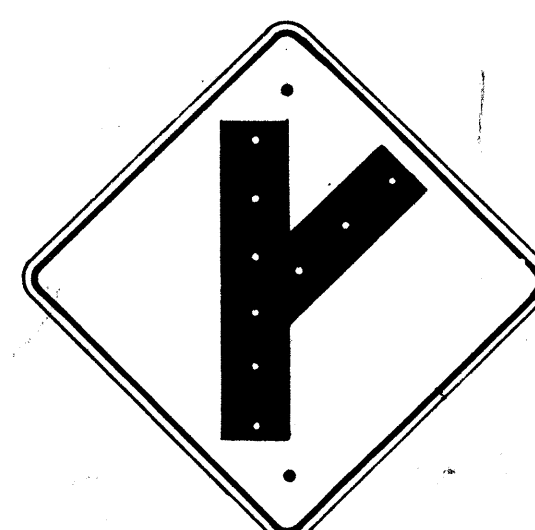
W-5-R
*W-5-L
24" x 24"



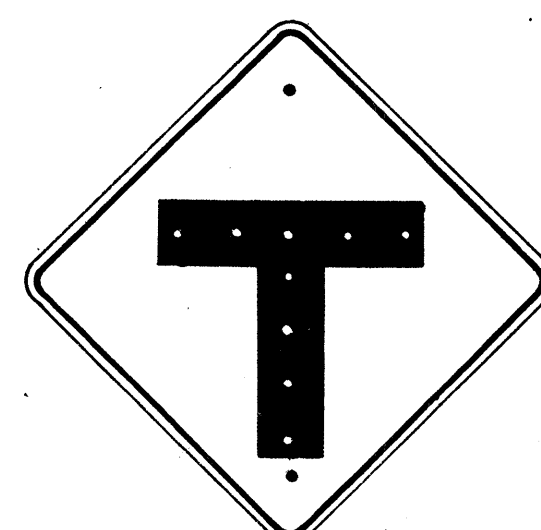
W-6
24" x 24"



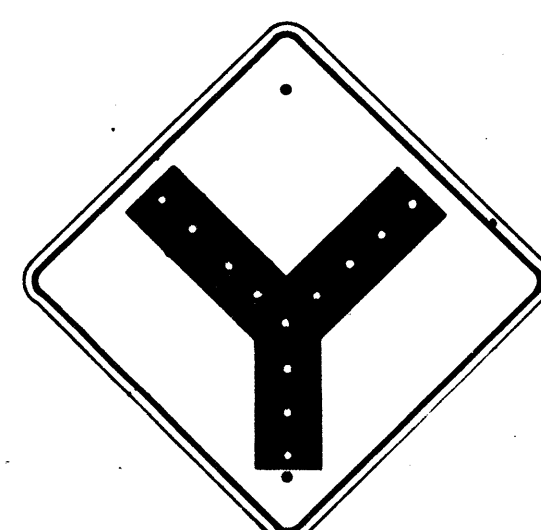
W-7
24" x 24"



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"



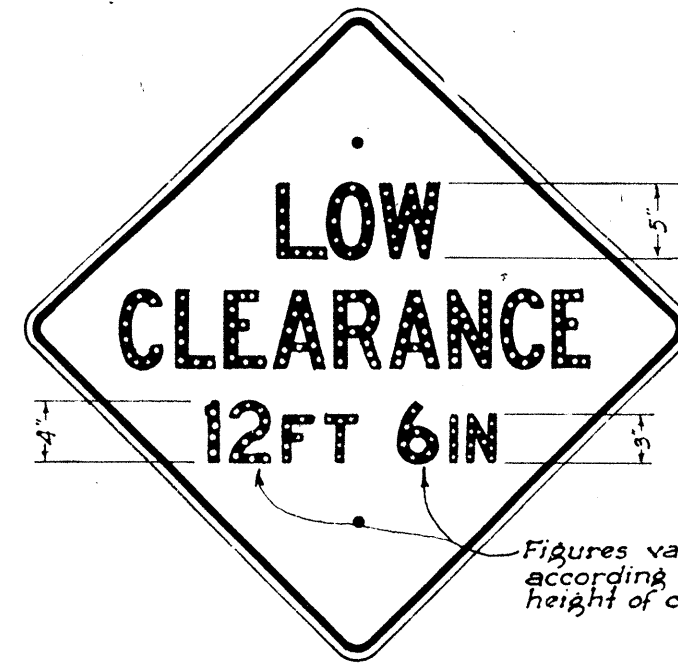
W-20
30" x 30"



W-21
30" x 30"



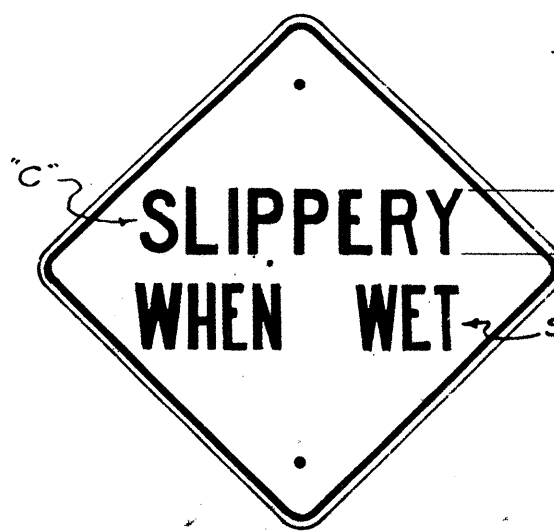
W-22
24" x 24"



W-24
30" x 30"



W-25
24" x 24"



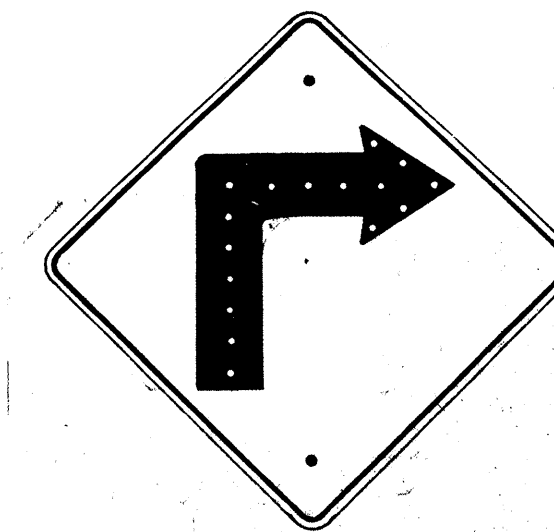
W-29
24" x 24"



W-59
24" x 24"



W-39
24" x 24"



W-1-R
*W-1-L
24" x 24"

Unless otherwise Specified, all signs shall conform with requirements of "Manual on Uniform Traffic Control Devices for Streets and Highways."

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. See Specifications for Materials and Finish.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'
APPROVED: *B. E. Kuttler*
TERRITORIAL HIGHWAY ENGINEER
JUNE 23, 1953

SHEET No. 4 OF 2 SHEETS

5567.80

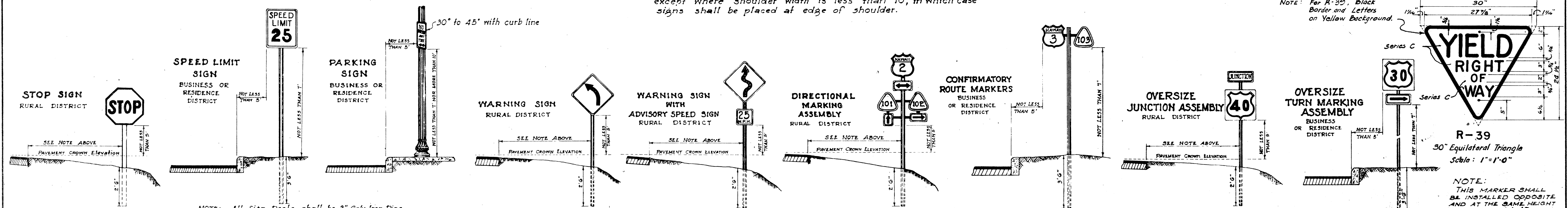
Notes: Signs shown as designed by T. Takunaga 6/19/54

6/19/54

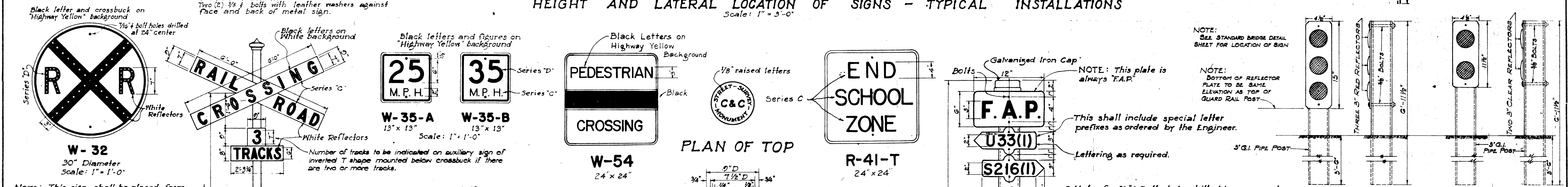
DATE: 6/19/54
SURVEY PROVIDED BY: [blank]
DESIGNED BY: T. Takunaga
DRAWN BY: [blank]
NOTED BY: [blank]
QUANTITIES BY: [blank]
CHECKED BY: [blank]

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	105-506201	1956	21	170

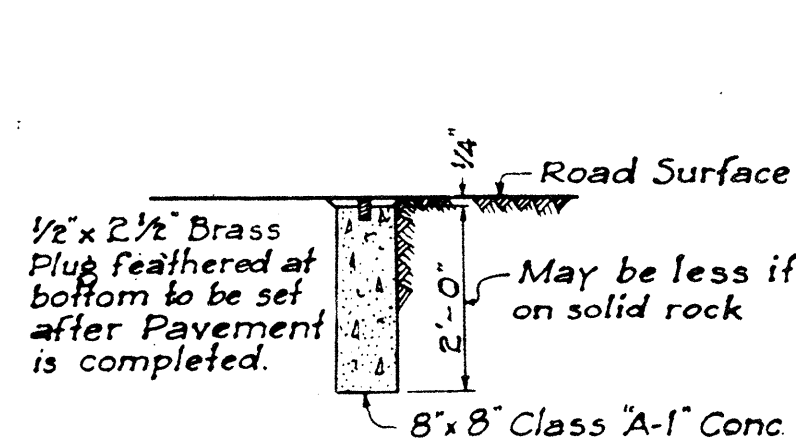
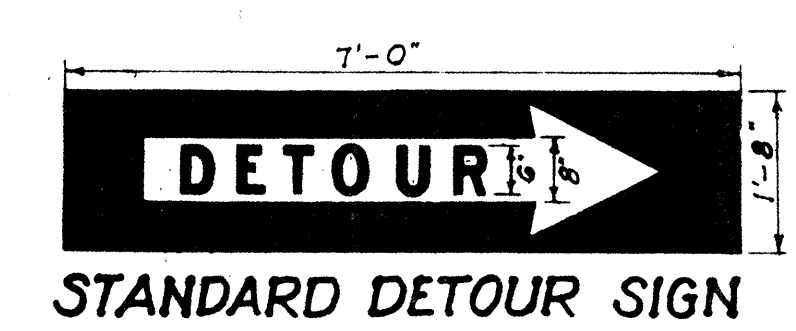
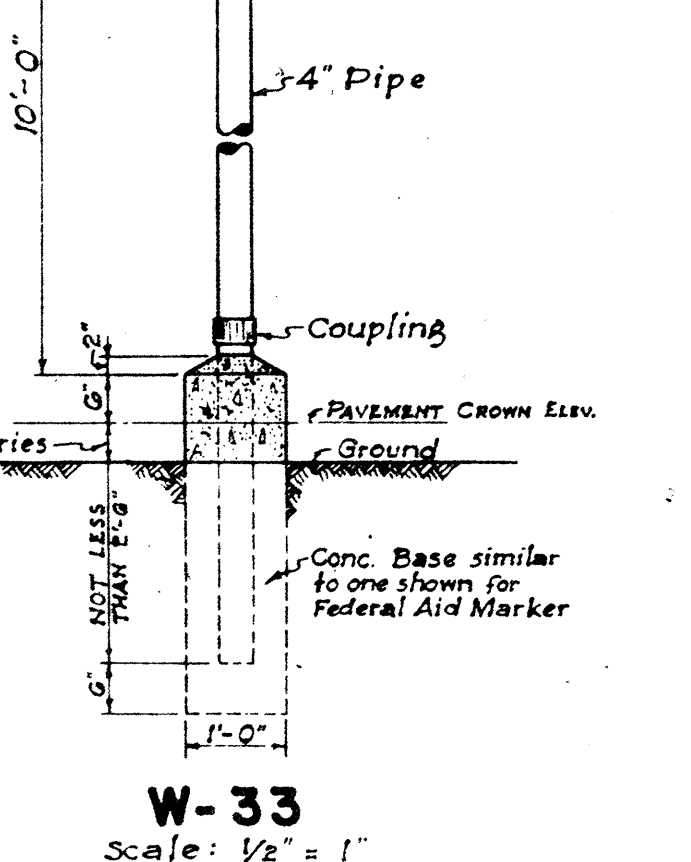
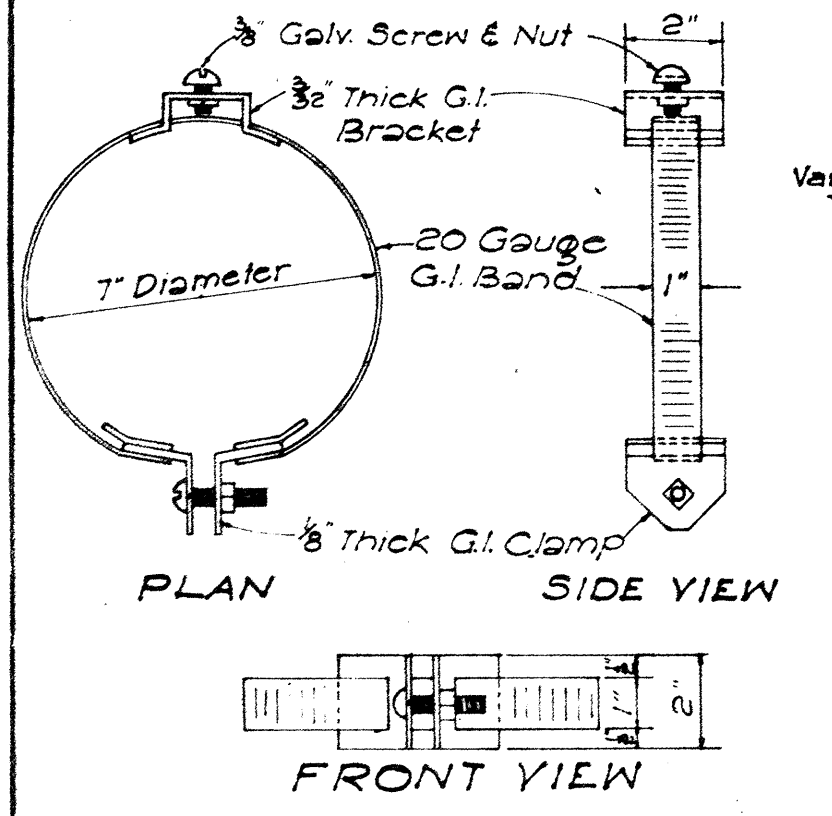
NOTE: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.



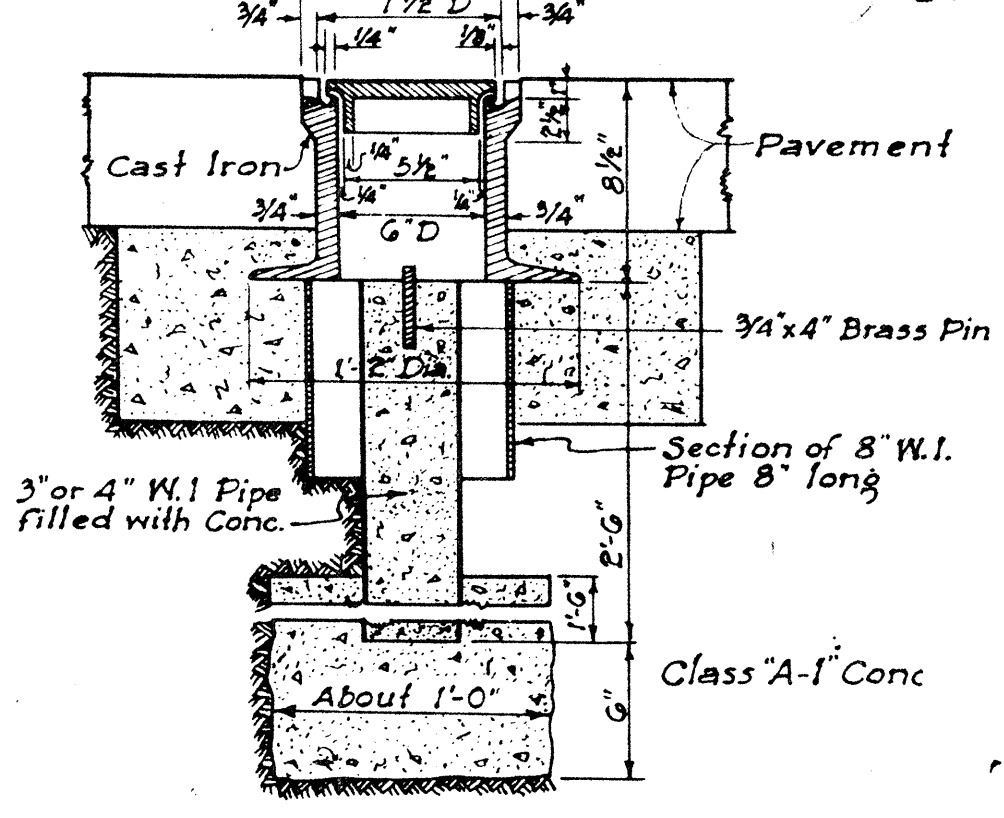
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



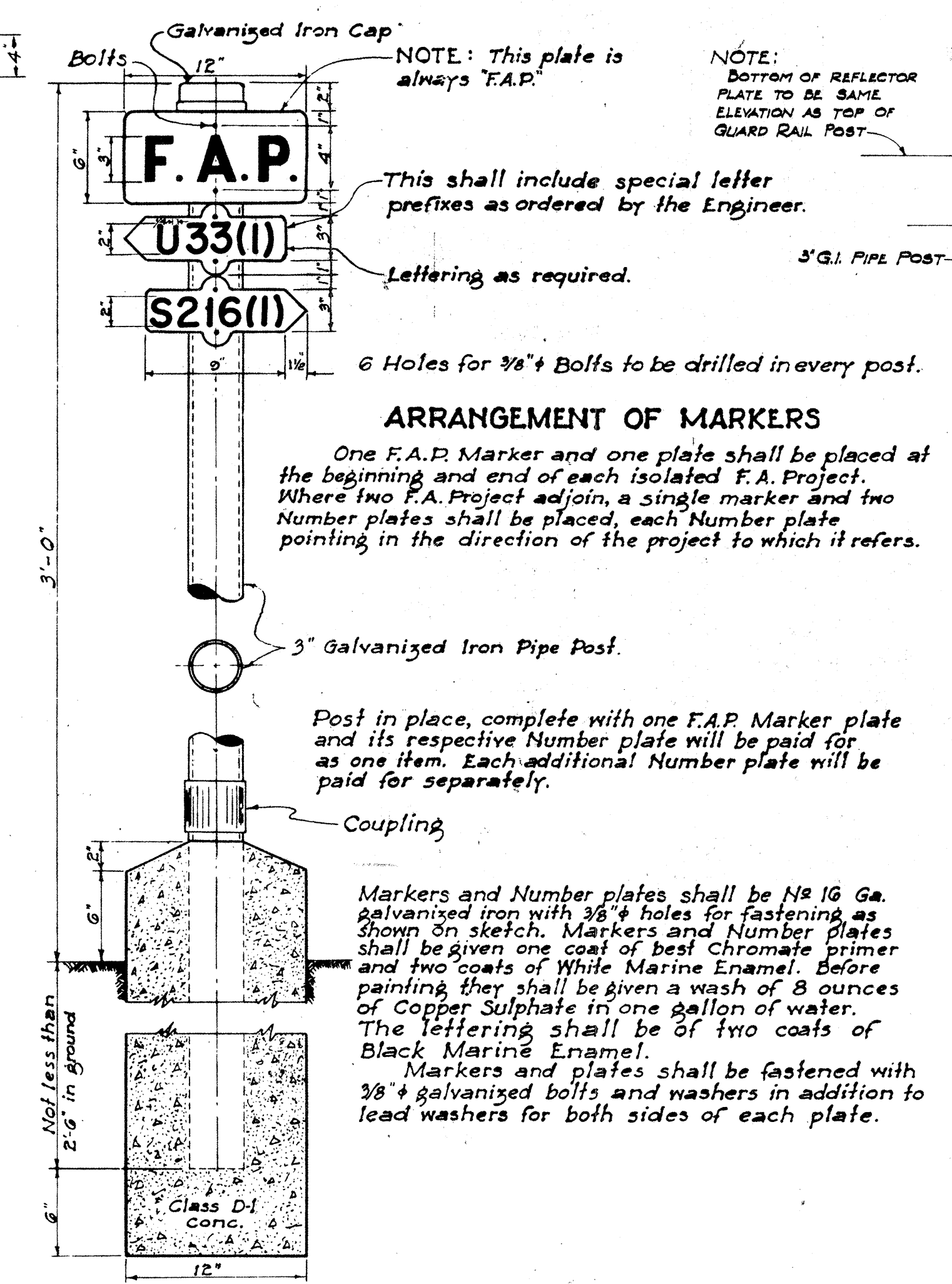
NOTE: This sign shall be placed from 300 to 500 feet from R.R. intersections in rural areas and a minimum distance of 100 feet from R.R. intersections in Residence or Business districts.



CENTER LINE MONUMENT
Scale: 1/2" = 1'-0"



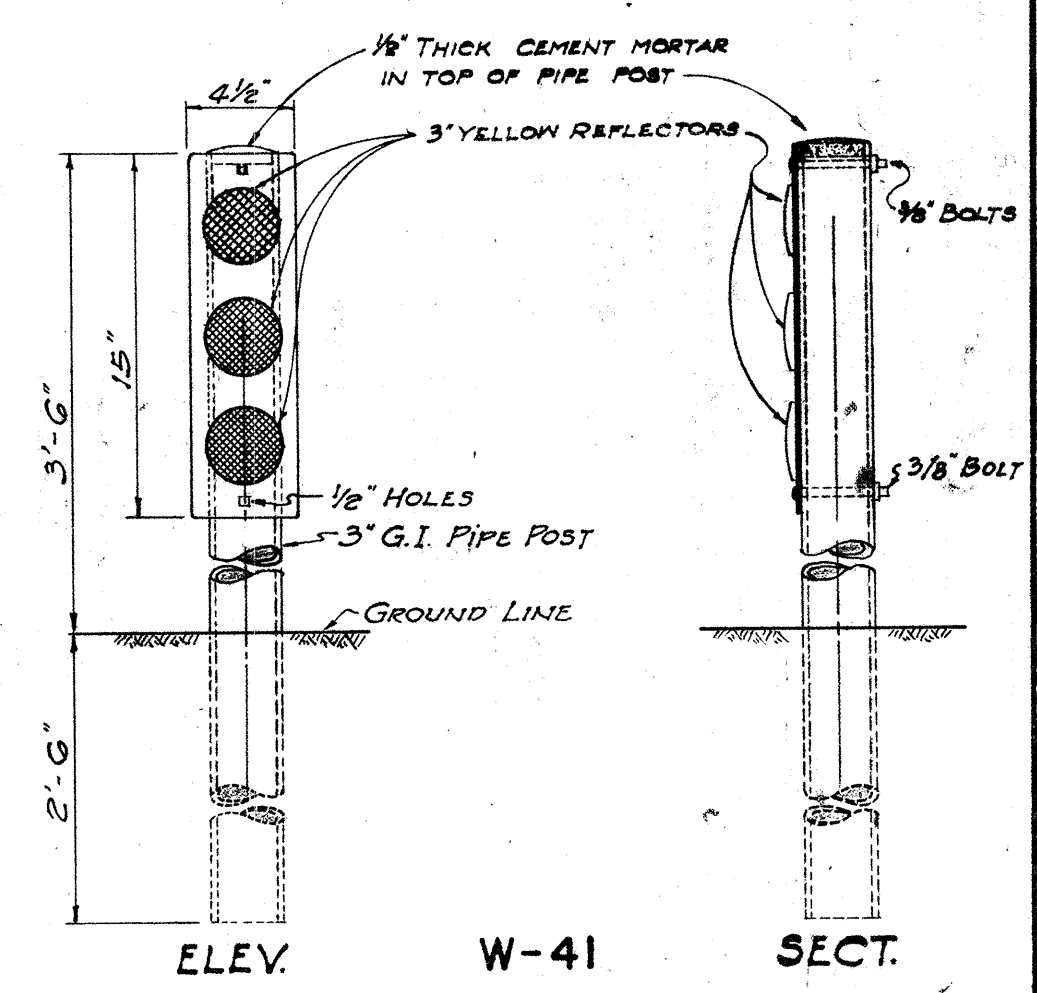
STANDARD C & C STREET SURVEY MONUMENT



ARRANGEMENT OF MARKERS
One F.A.P. Marker and one plate shall be placed at the beginning and end of each isolated F.A. Project. Where two F.A. Projects adjoin, a single marker and two Number plates shall be placed, each Number plate pointing in the direction of the project to which it refers.

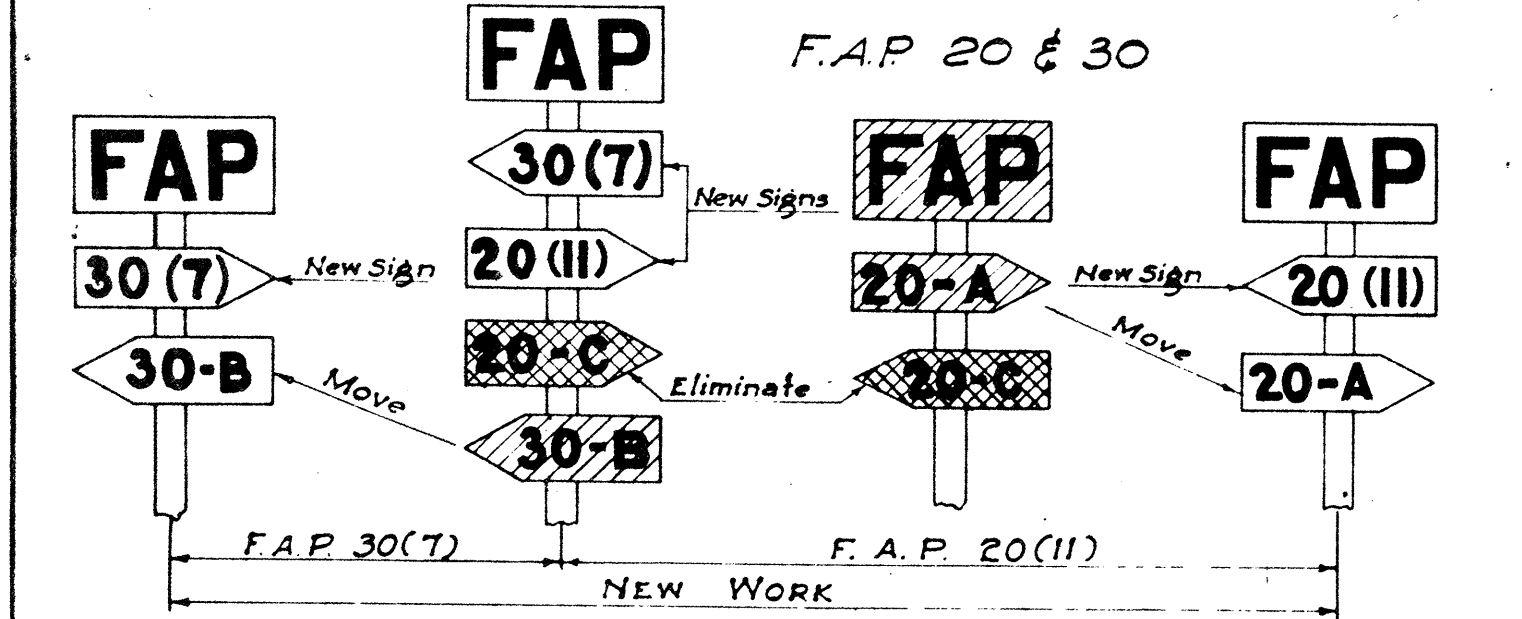
Post in place, complete with one F.A.P. Marker plate and its respective Number plate will be paid for as one item. Each additional Number plate will be paid for separately.

Markers and Number plates shall be 1/2" G.I. galvanized iron with 3/8" holes for fastening as shown on sketch. Markers and Number plates shall be given one coat of best Chromate primer and two coats of White Marine Enamel. Before painting they shall be given a wash of 8 ounces of Copper Sulphate in one gallon of water. The lettering shall be of two coats of Black Marine Enamel. Markers and plates shall be fastened with 3/8" galvanized bolts and washers in addition to lead washers for both sides of each plate.

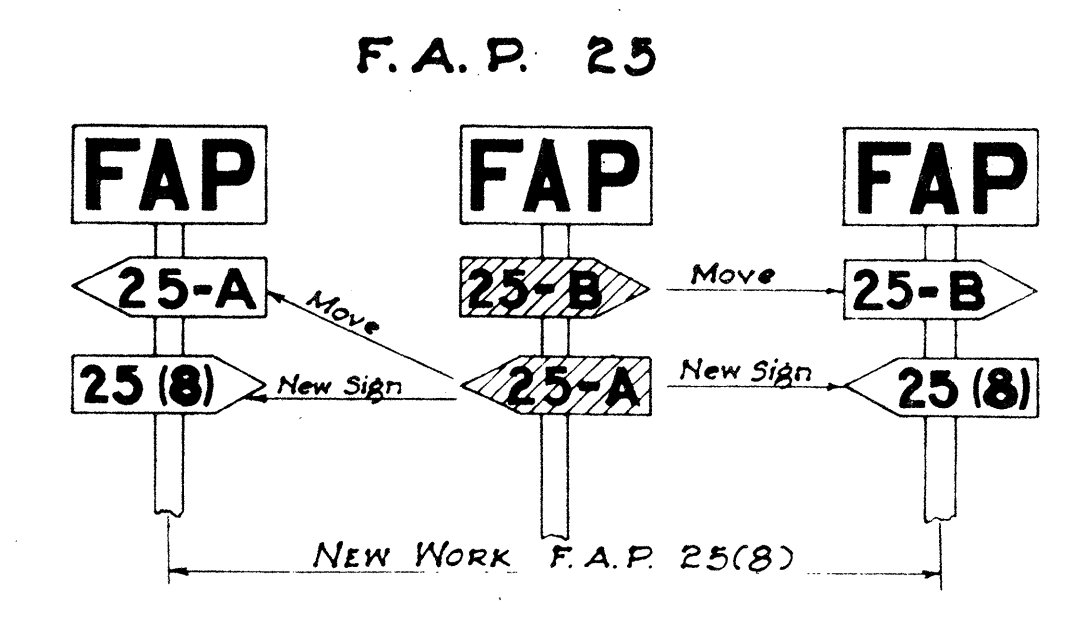


DETAIL OF SIGNS
SCALE: 1 1/2" = 1'-0"

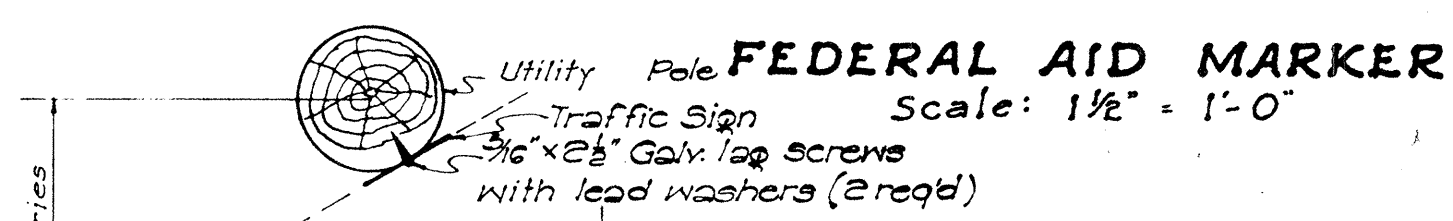
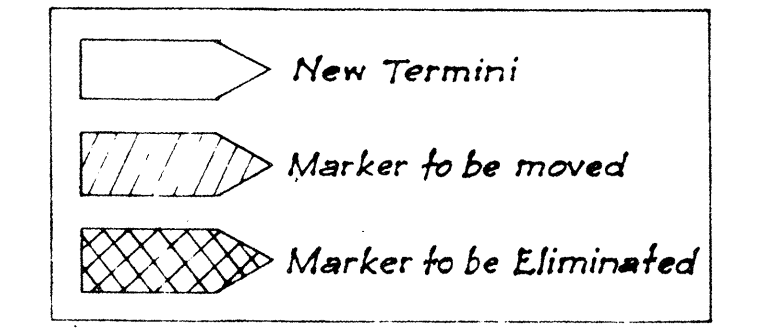
ADJUSTABLE BAND BRACKET FOR SUPPORTING TRAFFIC SIGNS ON MONOTUBE LIGHTING STANDARDS
Scale: 3/4" = 1'-0"



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.



DETAIL SHOWING ANGLE OF TRAFFIC SIGNS AND CURB LINE
Scale: 1" = 1'-0"

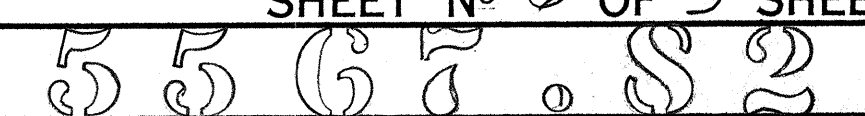
APPROVED: *Ben E. Nutter*
TERRITORIAL HIGHWAY ENGINEER

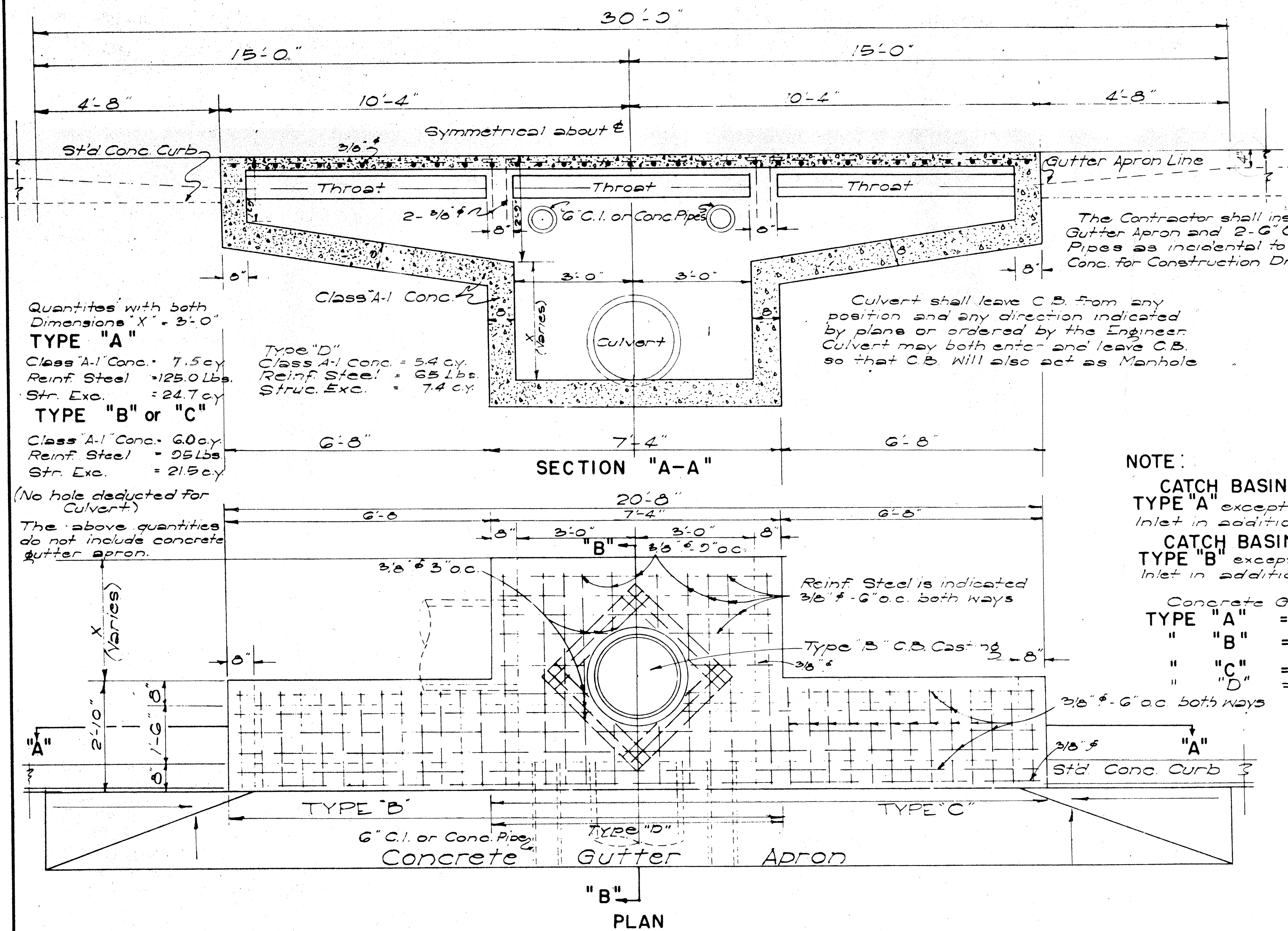
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
F.A. MARKERS, MONUMENTS
SIGNS & LOCATION OF SIGNS
SCALES AS NOTED

SHEET NO 5 OF 2 SHEETS

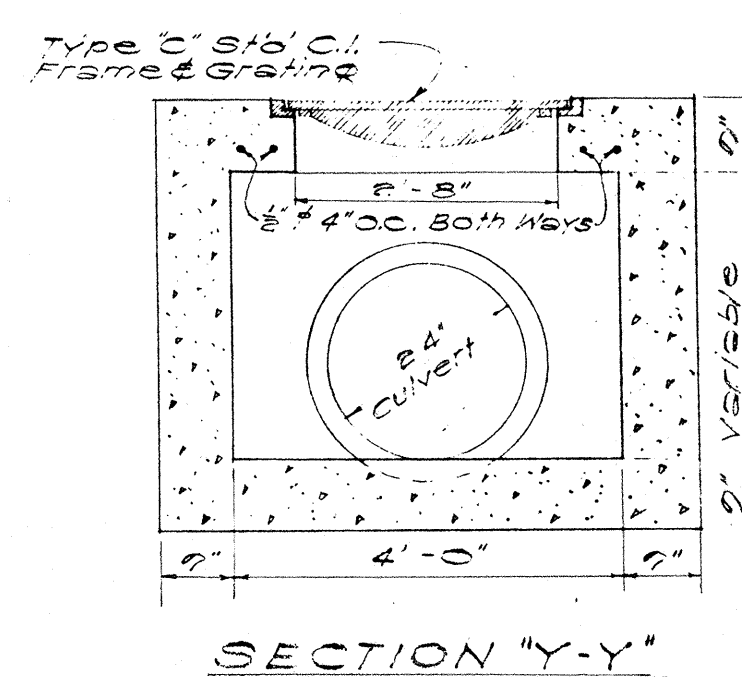
5567.81

ORIGINAL PLAN	SURVEY PLOTTED BY.....	DATE.....
NOTE BOOK	DRAWN BY.....	" "
	TRACED BY.....	" "
	QUANTITIES BY.....	" "
	CHECKED BY.....	" "
No.		

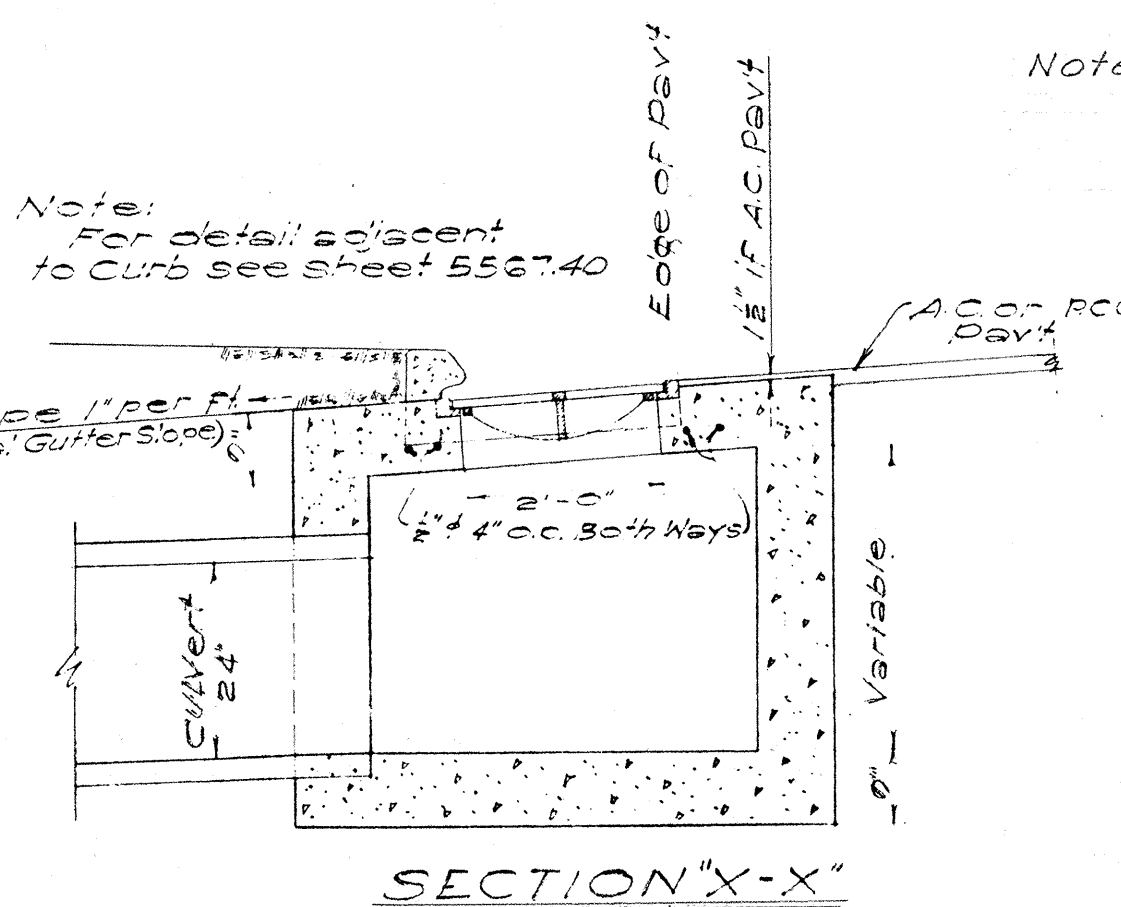
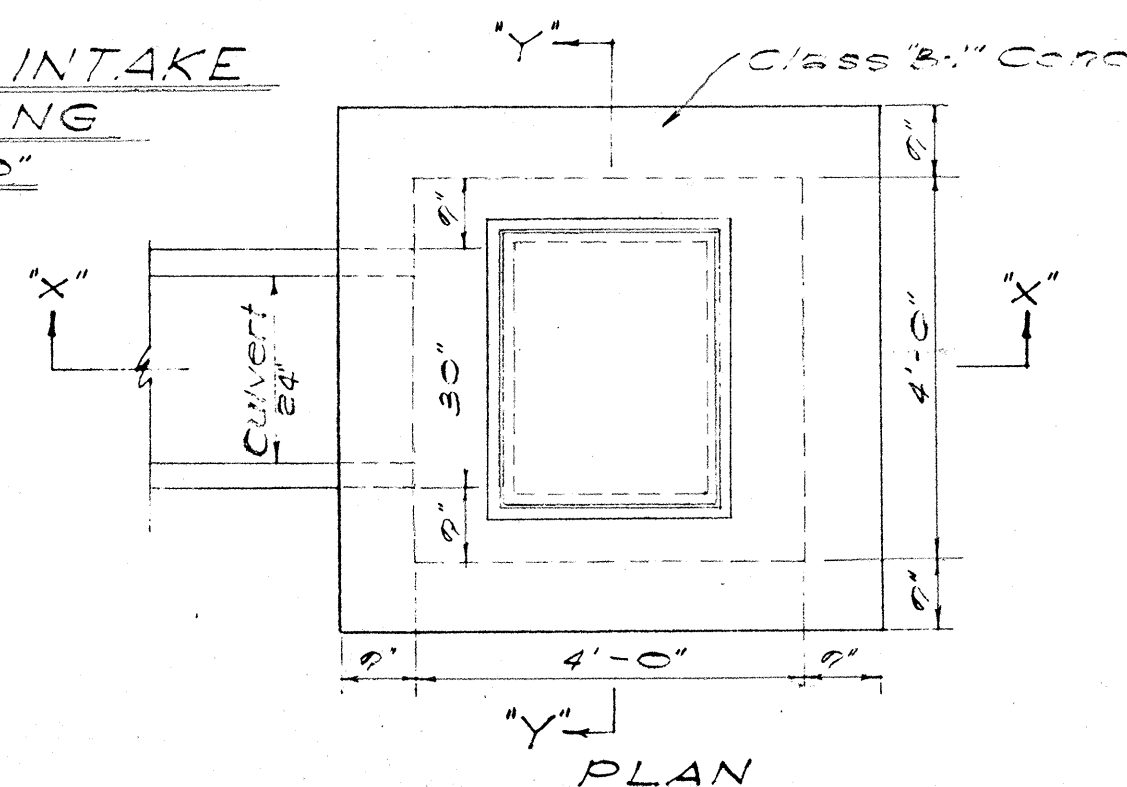




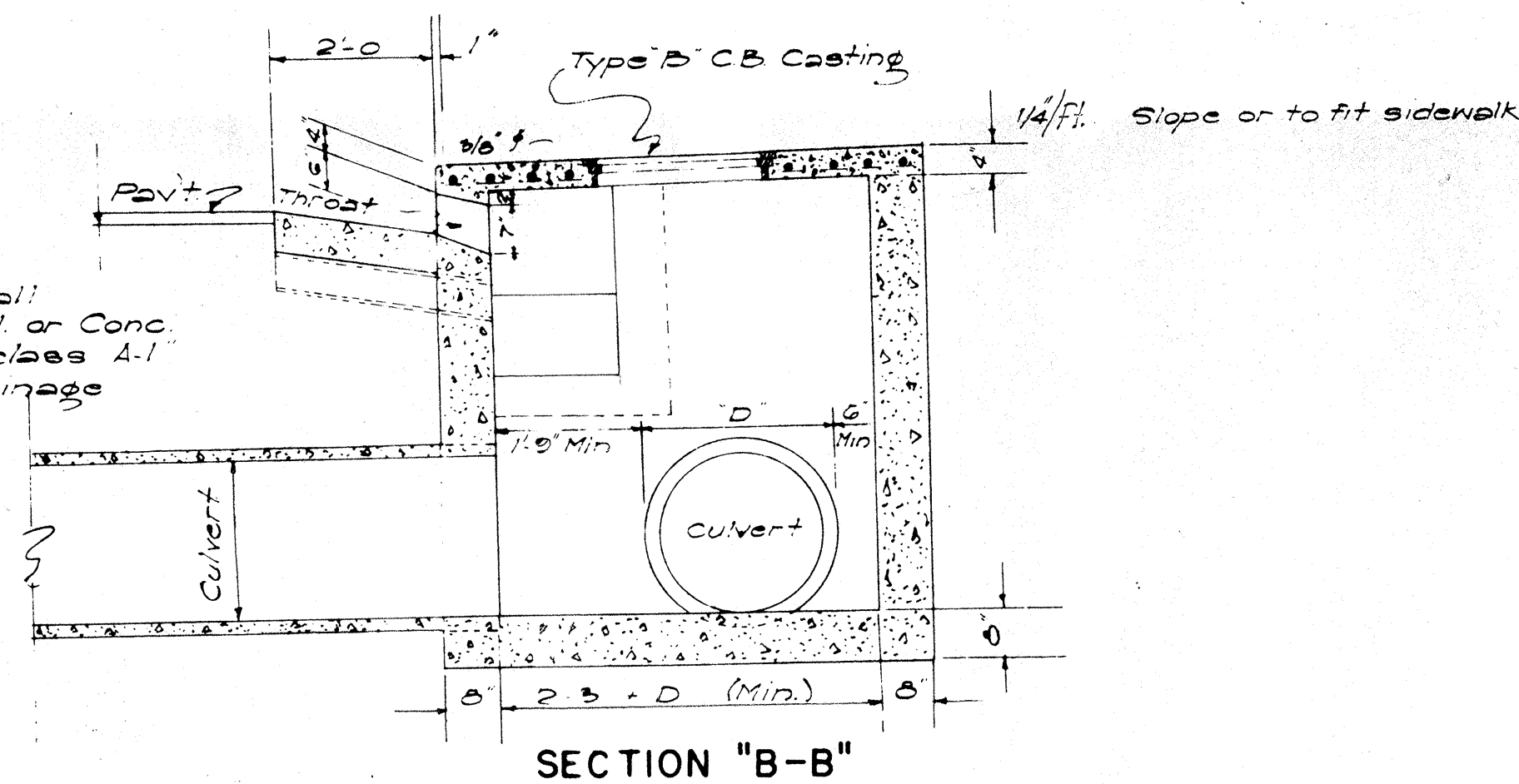
DETAIL OF CONCRETE CATCH BASIN TYPE "A"
SCALE: 1/2" = 1'-0"



CONC. DROP INTAKE WITH GRATING
Scale 3/8" = 1'-0"

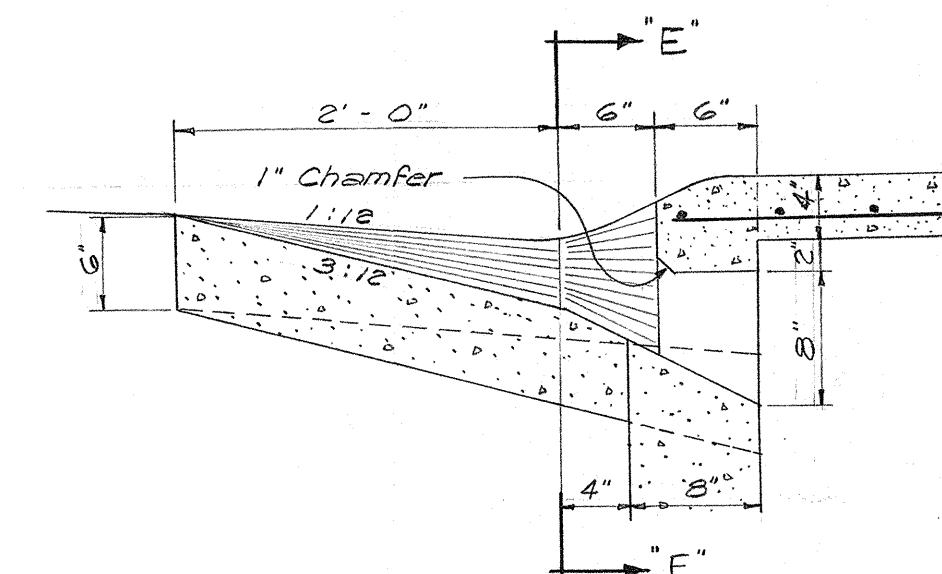


NOTE:
Provide Manhole Rungs where necessary.



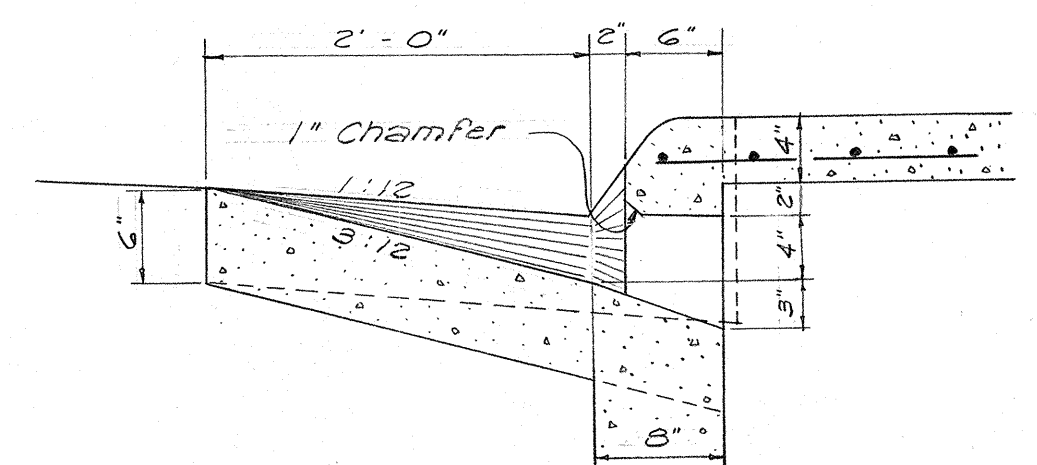
NOTE:
CATCH BASIN TYPE "B" similar to TYPE "A" except it has only Left Side Inlet in addition to the Main Box
CATCH BASIN TYPE "C" similar to TYPE "B" except it has only Right Side Inlet in addition to the Main Box

Concrete Gutter Length:
TYPE "A" = 30'-0"
" " "B" = 23'-4"
" " "C" = 23'-4"
" " "D" = 16'-8"



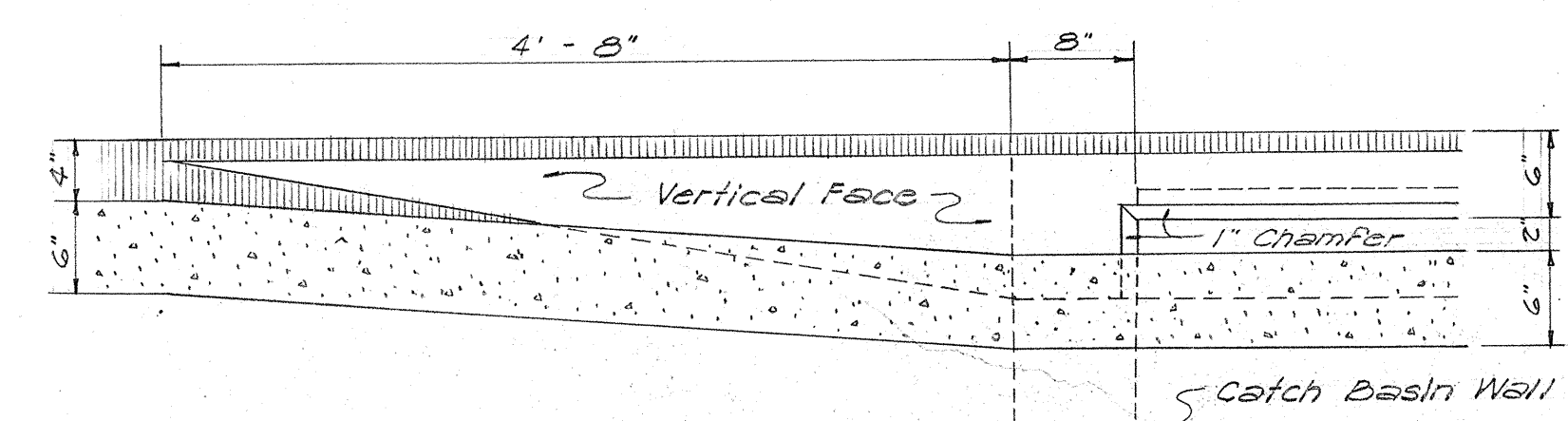
SCALE: 1" = 1'-0"

Note: This type of throat to be used for catch basin with Type "E" curb. All other dimensions Standard except where noted.



SCALE: 1" = 1'-0"

Note: This type of throat to be used for catch basin with Type "A" curb. All other dimensions Standard except where noted.



SCALE: 1" = 1'-0"

APPROVED: DATE 6-23-53
R. W. C. Hunter
TERRITORIAL HIGHWAY ENGINEER

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CATCH BASINS
HEADWALLS & DROP INTAKE
SCALES AS NOTED

SHEET NO. 7 OF 8 SHEETS

5567.83

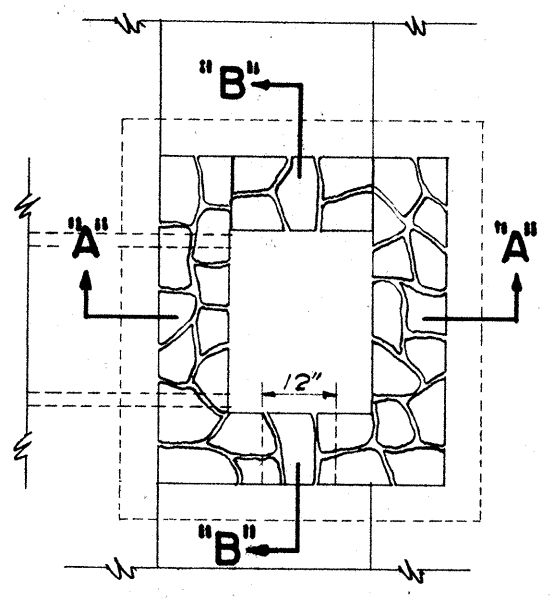
ORIGINAL
PLAN
DESIGNED BY
DRAWN BY
CHECKED BY
DATE
NO.

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

DETAIL OF OUTLET DITCH
Scale: 1/2" = 1'-0"

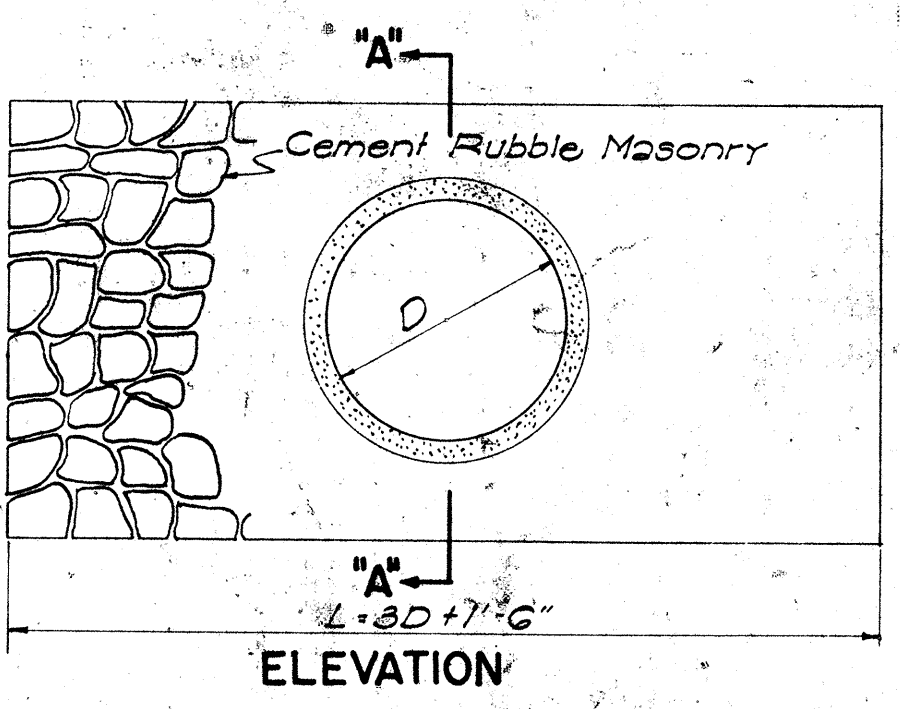
D	D	L=D+G	Cu Yds.	Where Variables Equal
23"	18"	2'-5"	3.02	4'-6"
30"	24"	3'-0"	3.61	5'-0"
37"	30"	3'-7"	4.21	5'-6"
44"	36"	4'-2"	4.85	6'-0"

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

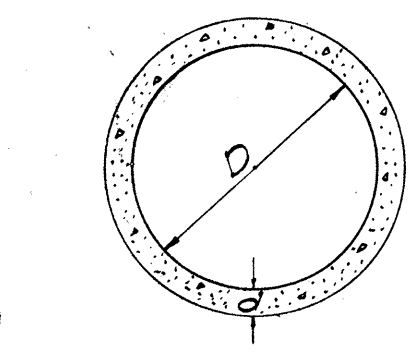


DETAIL OF MASONRY DROP INTAKE
Scale: 3/8" = 1'-0"

D	H	B	L	Cast-in-Place Conc. Culvert Cu Yds.	Conc. Pipe Culvert Cu Yds.	Corrugated Pipe Culvert Cu Yds.
18"	3'-6"	1'-0"	6'-0"	0.85	0.05	0.03
24"	4'-0"	2'-0"	7'-6"	1.28	1.45	1.41
30"	4'-6"	2'-3"	9'-0"	1.83	2.06	2.00
36"	5'-0"	2'-6"	10'-6"	2.40	2.84	2.72



DETAIL OF MASONRY HEADWALL
Scale: 1/2" = 1'-0"

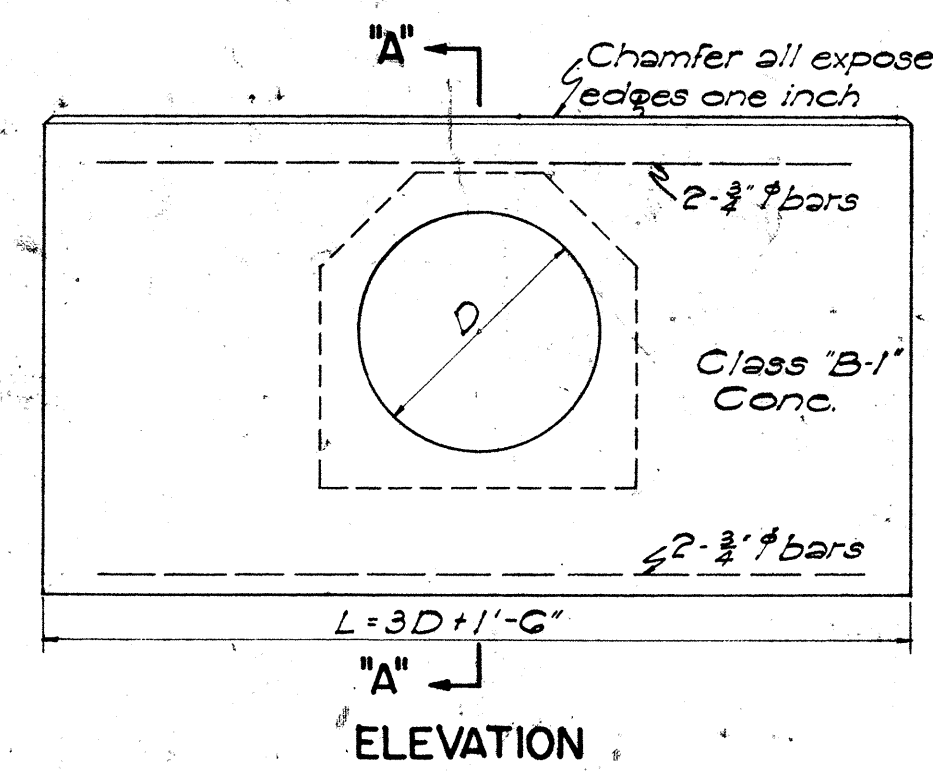


SECTION CONC. PIPE CULVERT

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

D	d	W	Cu Yds. per Ft.
18"	4"	2'-2"	0.11
24"	4 1/2"	2'-9"	0.14
30"	5"	3'-4"	0.19
36"	5 1/2"	3'-11"	0.26

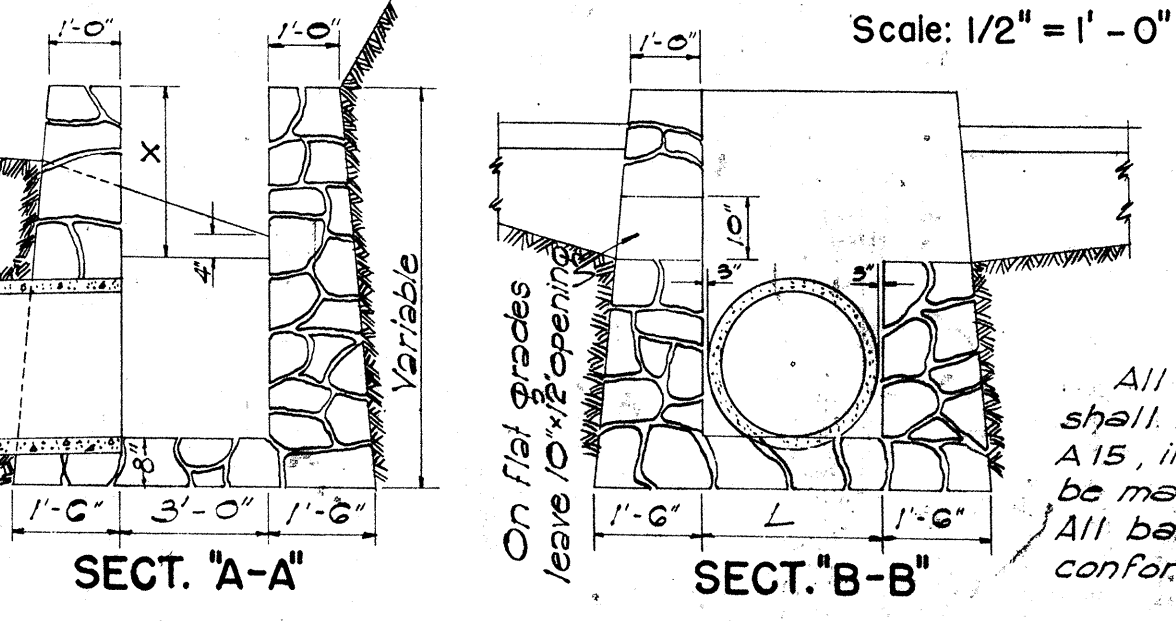
CAST-IN-PLACE CONC. CULVERT



DETAIL OF CONCRETE HEADWALL
Scale: 1/2" = 1'-0"

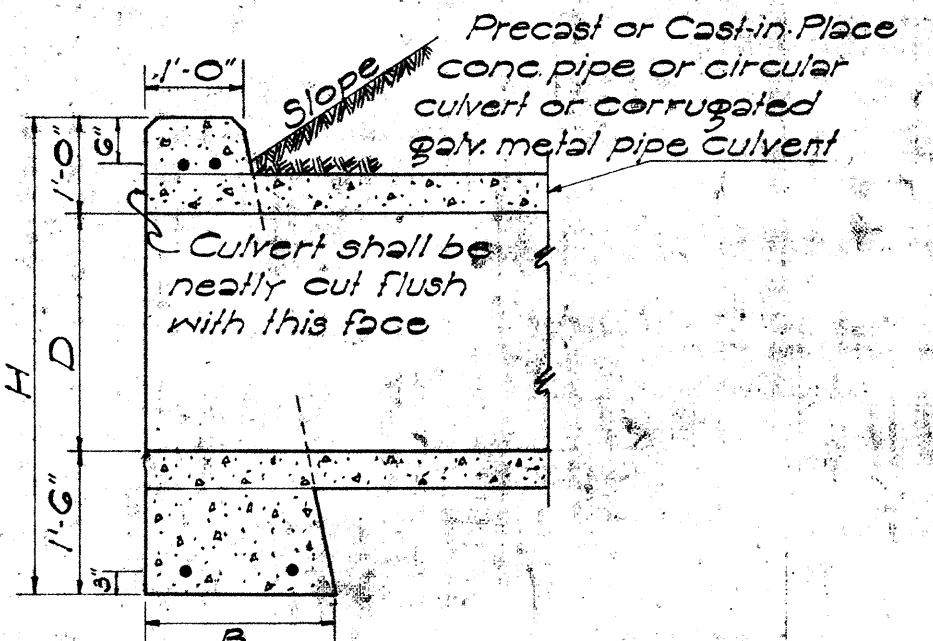
D	B	L	H	Cast-in-Place Conc. Culvert Cu Yds.	Conc. Pipe Culvert Cu Yds.	Steel For One Headwall No. of Bars Size Length Lbs.
18"	1'-6"	6'-0"	4'-0"	0.02	1.00	4 3/4" 5'-6" 33
24"	1'-6"	7'-6"	4'-6"	1.25	1.38	4 3/4" 7'-0" 42
30"	2'-0"	9'-0"	5'-0"	1.05	2.17	4 3/4" 8'-6" 51
36"	2'-0"	10'-6"	5'-6"	2.45	2.74	4 3/4" 10'-0" 60
42"	2'-6"	12'-0"	6'-0"		3.87	4 3/4" 11'-6" 60
48"	2'-6"	13'-6"	6'-6"		4.66	4 3/4" 13'-0" 78

SECTION "A-A" CONC. COLLAR FOR CONC. BOX CULVERT
Scale: 1/2" = 1'-0"



REINFORCING BARS
All reinforcing bars for concrete shall be Billet Steel bars, ASTM A15, intermediate grade. Steel shall be made by the open-hearth process. All bars shall be deformed type conforming to ASTM A-305.

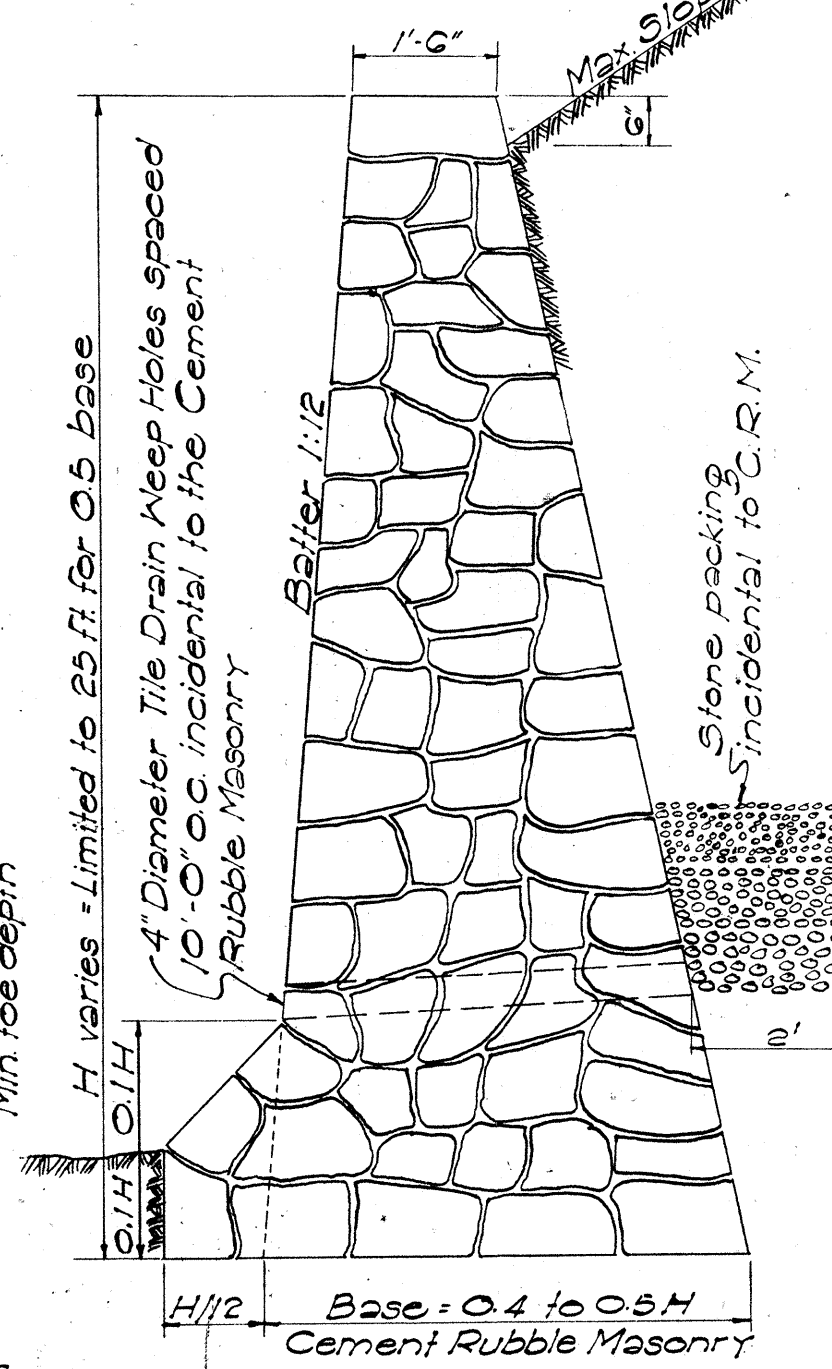
NOTE: When subgrade is below top of jacket, it shall be fully compacted to this line and then re-excavated (Struc. exc.) to proper subgrade. This surface shall be rolled again.



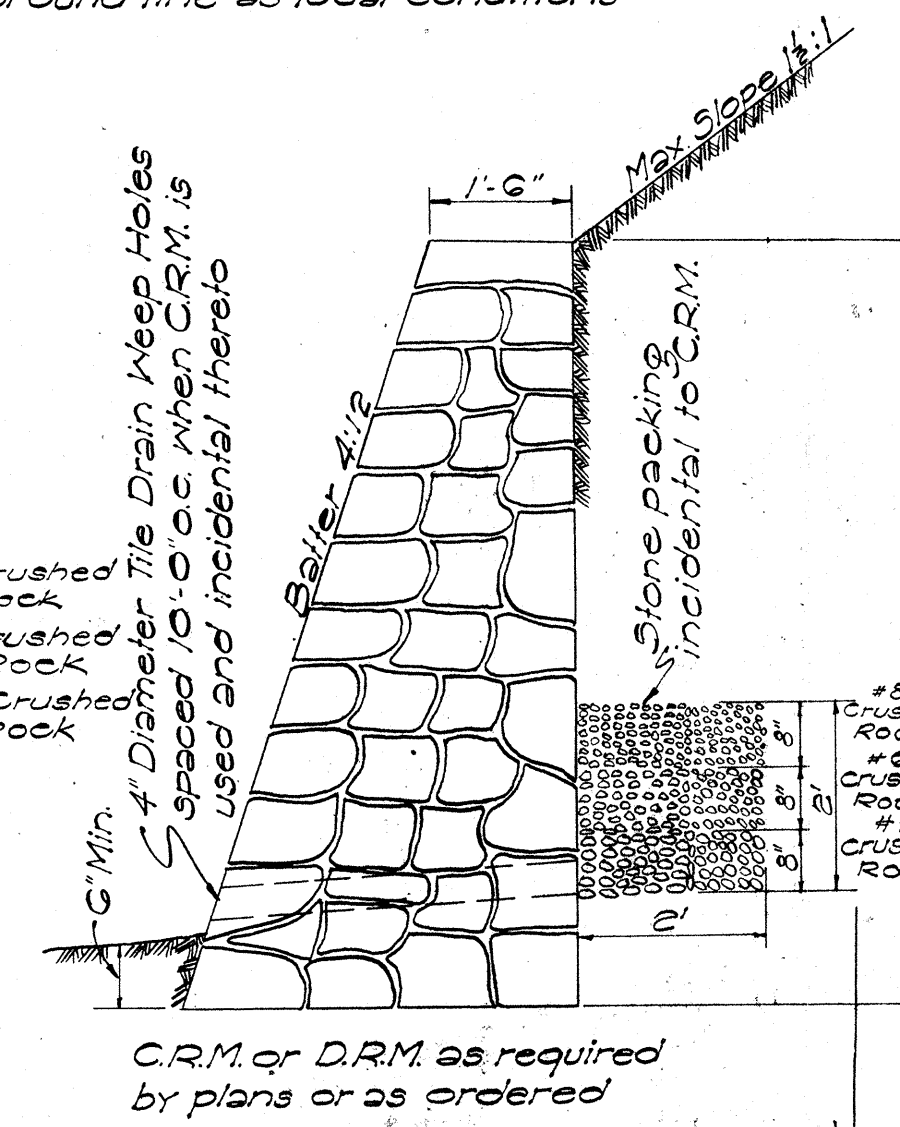
SECT. OF CULVERT WITH CONC. PROTECTION
Scale: 1" = 1'-0"

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	D/2 + T	Minimum = X
10" " 42"D		Maximum pay quantity will be Z = 12"
11" " 48"D		
12" " 54"D		

SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL



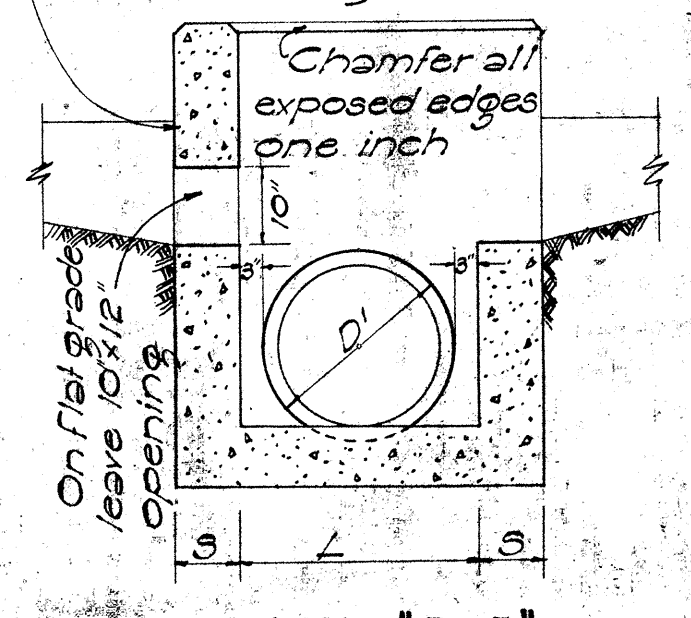
SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL



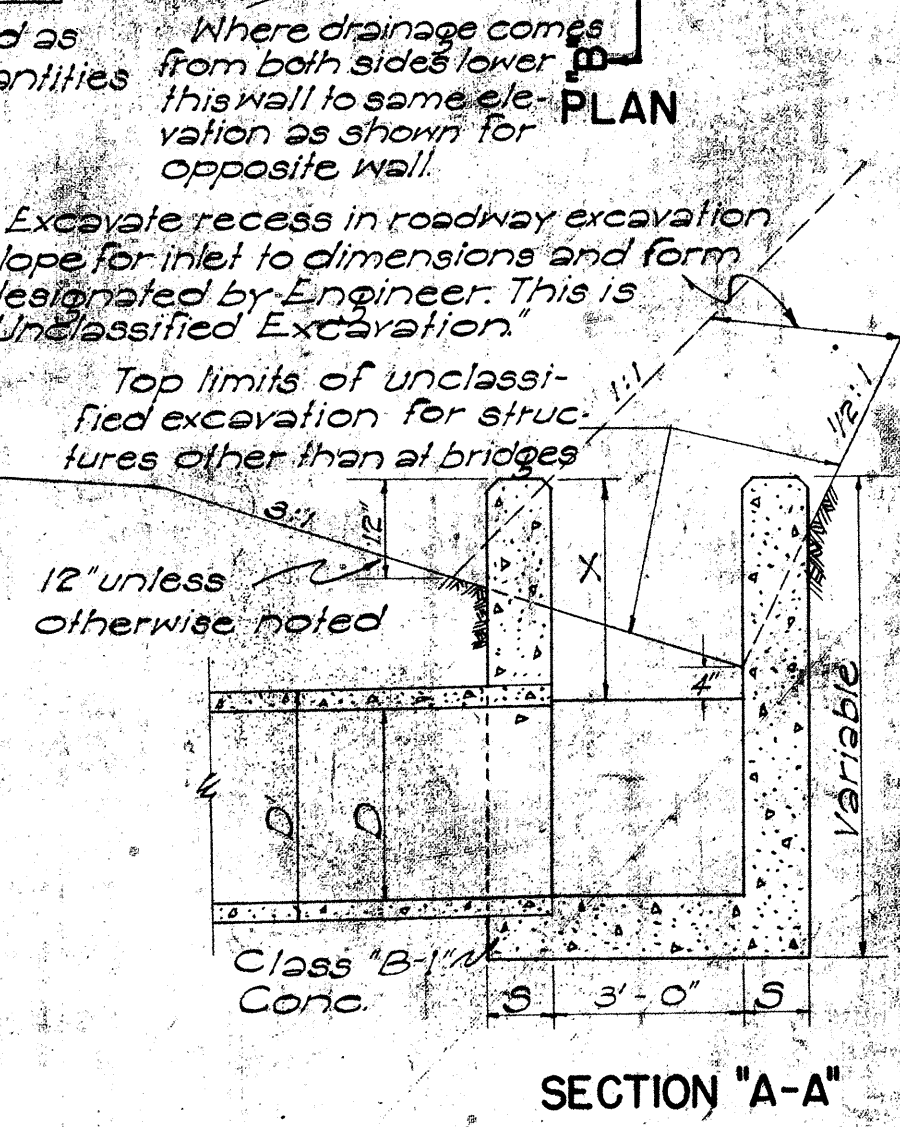
D	D	L=D+G	S	Cu Yds.	Where Variables Equal
23"	18"	2'-5"	8'	1.41	4'-6"
30"	24"	3'-0"	8'	1.72	5'-0"
37"	30"	3'-7"	9'	2.32	5'-6"
44"	36"	4'-2"	9'	2.73	6'-0"
51"	42"	4'-9"	10'	3.54	6'-6"
58"	48"	5'-4"	10'	4.01	7'-0"

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

NOTE: This type of structure shall also be used for the Drop Intakes of Syphons connected with Irrigation Ditches or Flumes with appropriate changes to dimensions. In this case all joints must be made water tight.



DETAIL OF CONCRETE DROP INTAKE
Scale: 1/2" = 1'-0"



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
DROP INTAKES, RETAINING WALLS, HEADWALLS, CONSTRUCTION JOINTS
SCALES AS NOTED

5567.S5