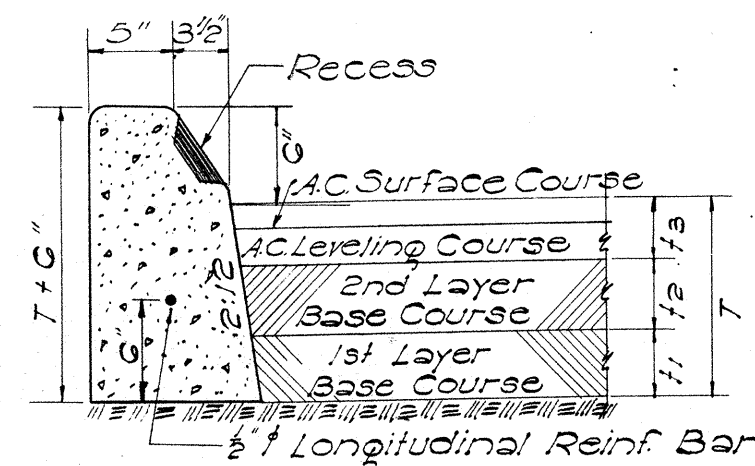
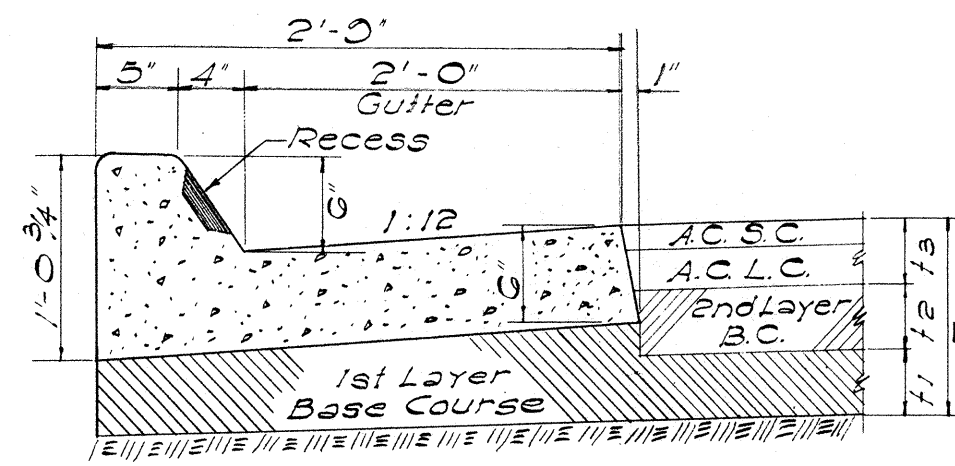


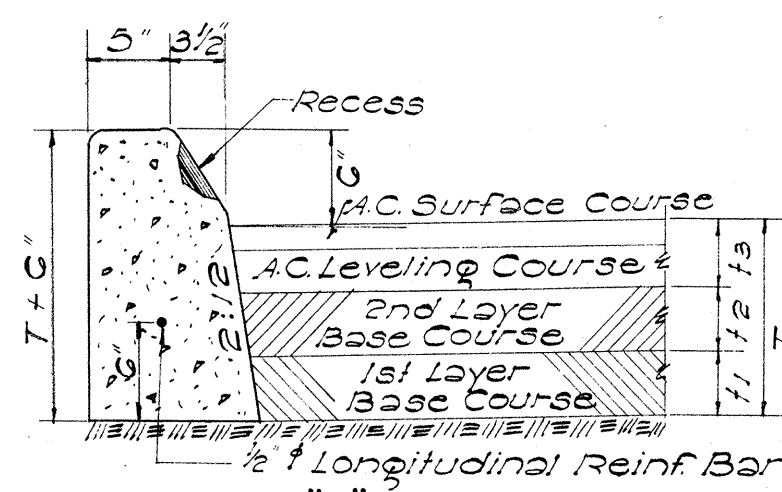
AUG. 1957



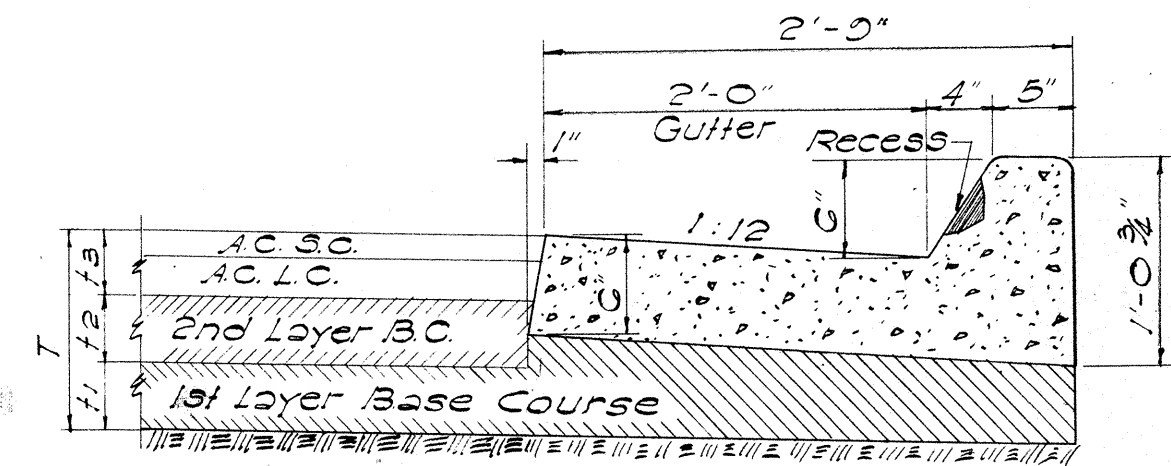
TYPE "A" & "B" CURB
SCALE: 1" = 1'-0"



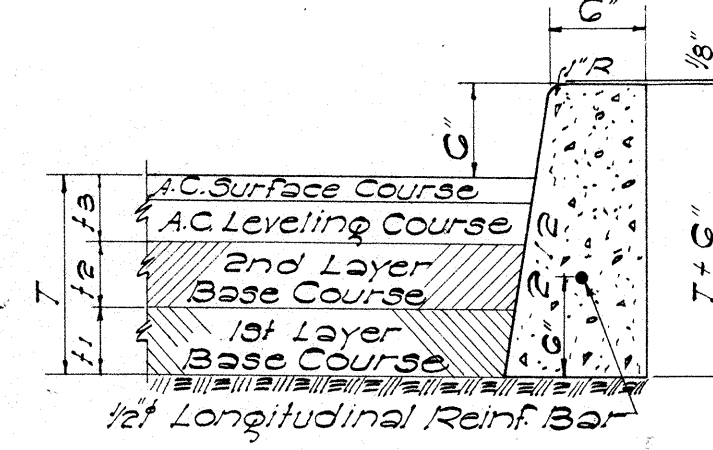
TYPE "AG" & "BG" CURB & GUTTER
SCALE: 1" = 1'-0"



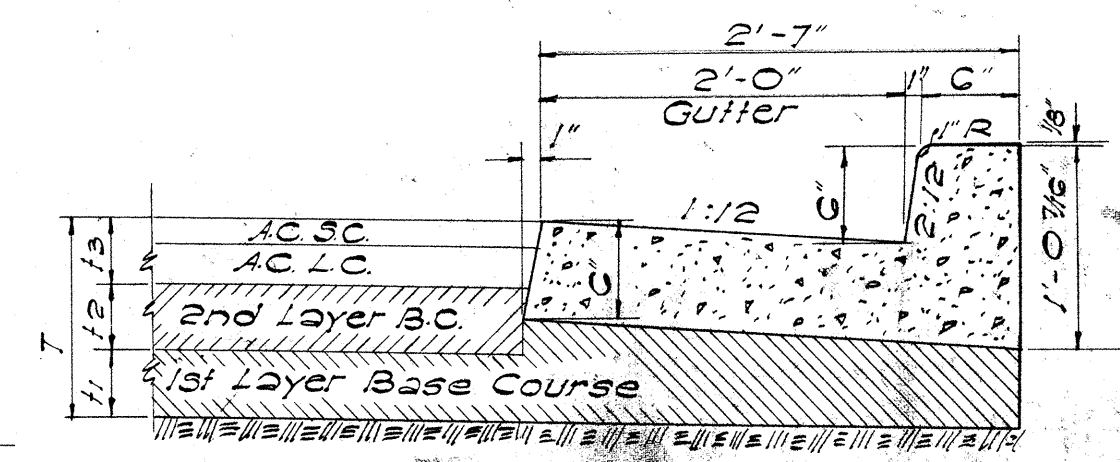
TYPE "C" CURB
SCALE: 1" = 1'-0"



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

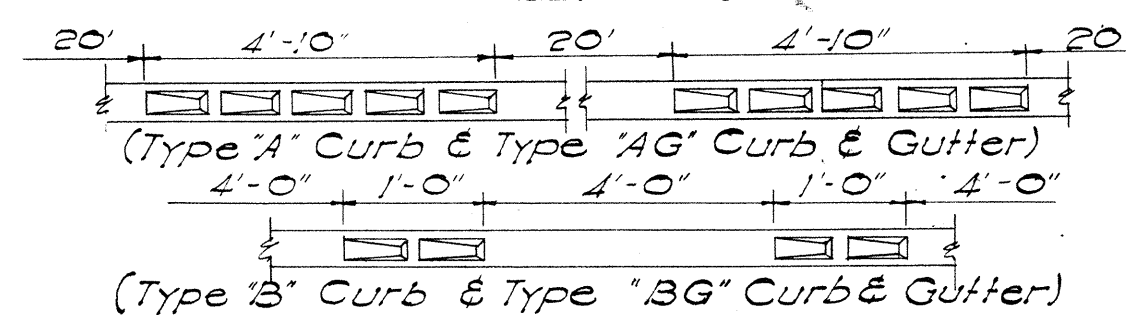


TYPE "D" CURB
SCALE: 1" = 1'-0"

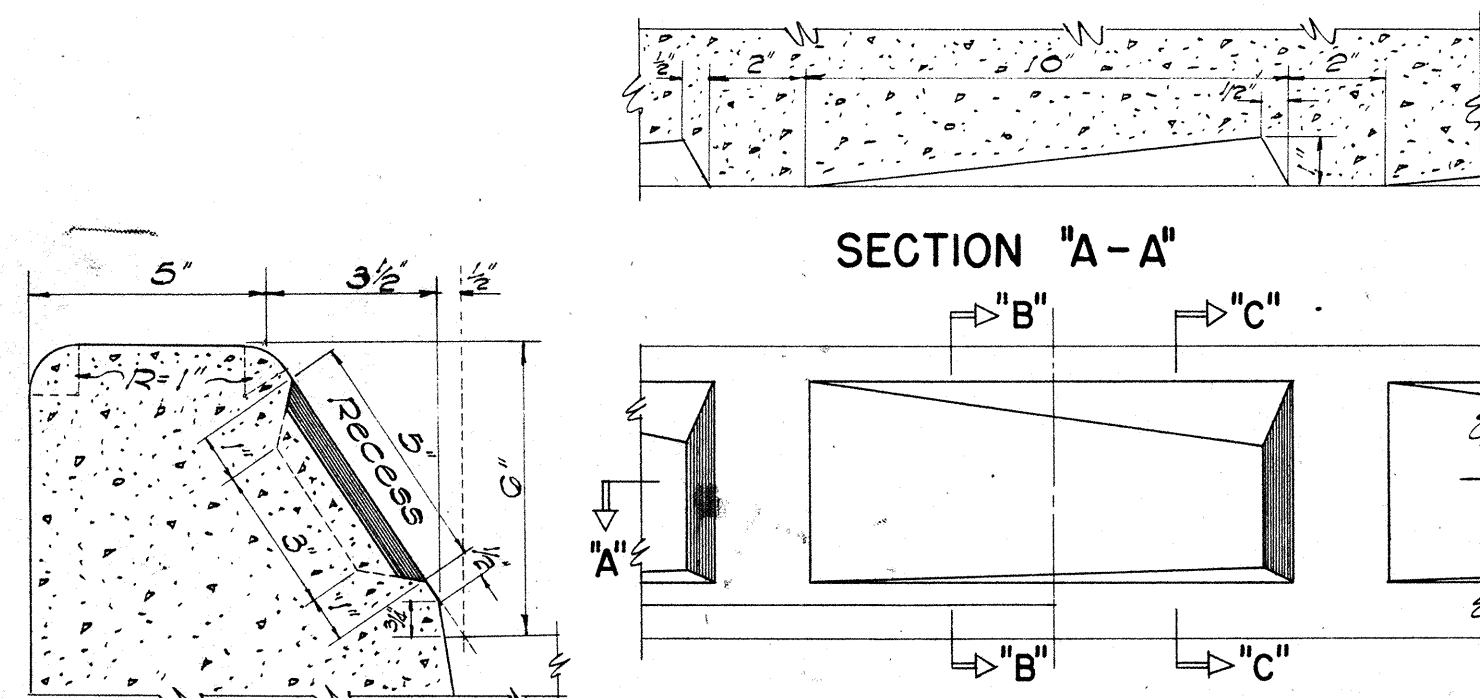


TYPE "DG" CURB & GUTTER
SCALE: 1" = 1'-0"

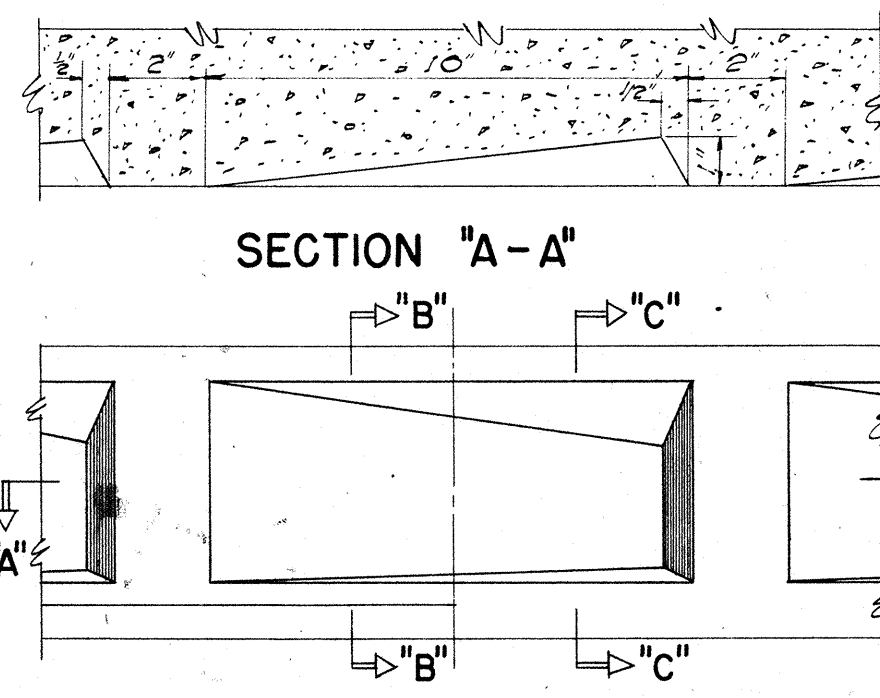
General Note Covering All Types of Curbs:
Occasionally curb rests on first layer of base course. See typical sections.



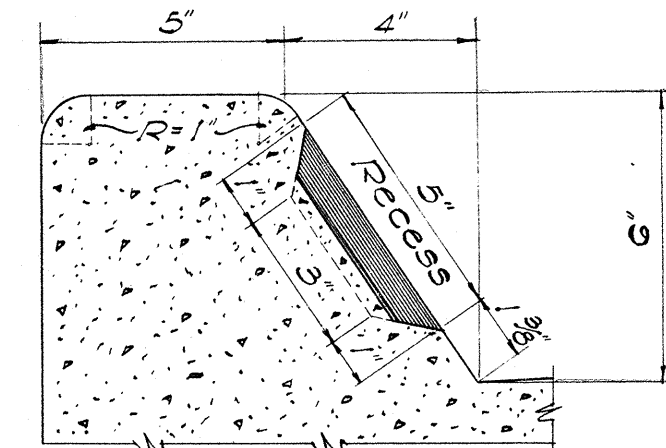
TYPE AND SPACING OF RECESSES



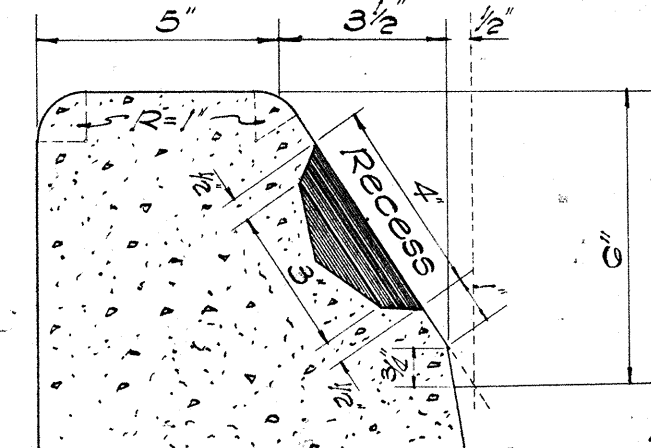
SECTION "B-B"
TYPE "A" & "B" CURB



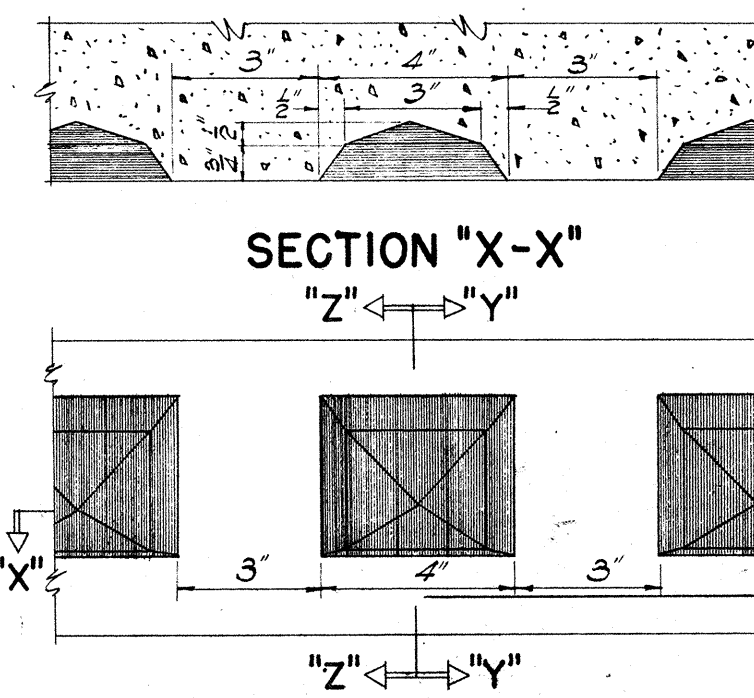
ELEVATION
SCALE: 3" = 1'-0"



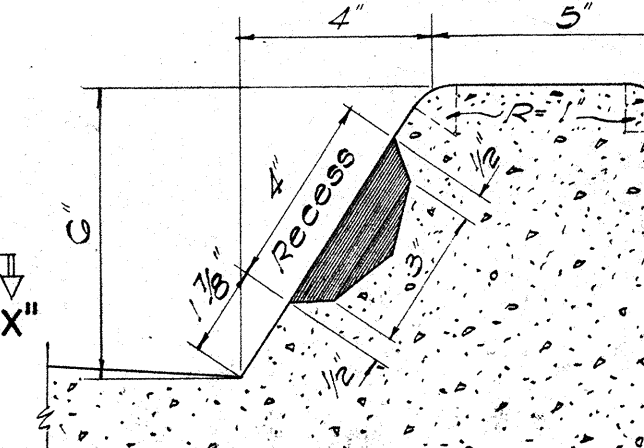
SECTION "C-C"
TYPE "AG" & "BG" CURB



SECTION "Y-Y"
TYPE "C" CURB



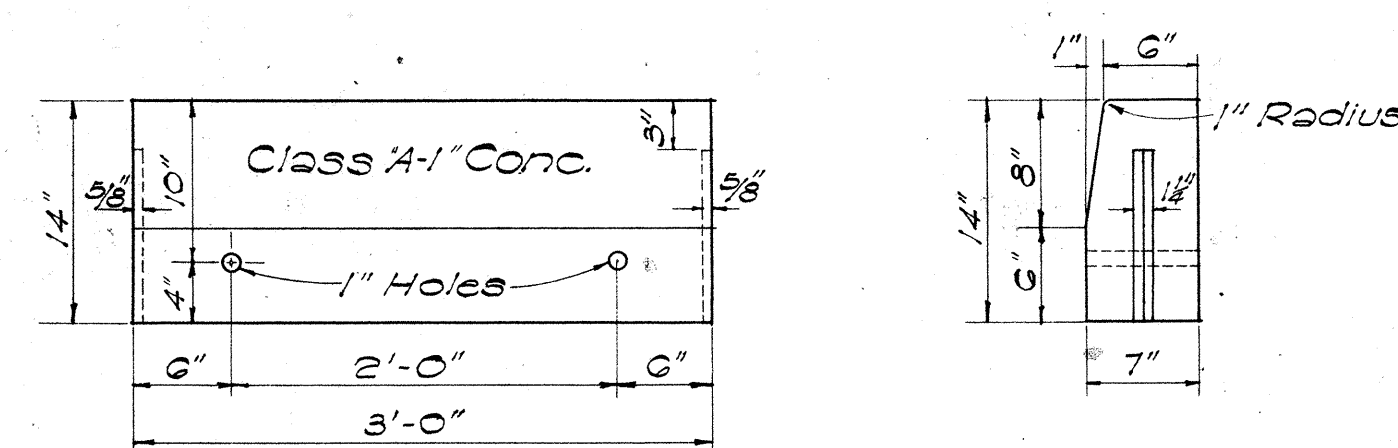
ELEVATION
SCALE: 3" = 1'-0"



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) All Conc. Curbs and Gutters shown herein are to be of Class "A-1" Conc. and Cast-in-Place.

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

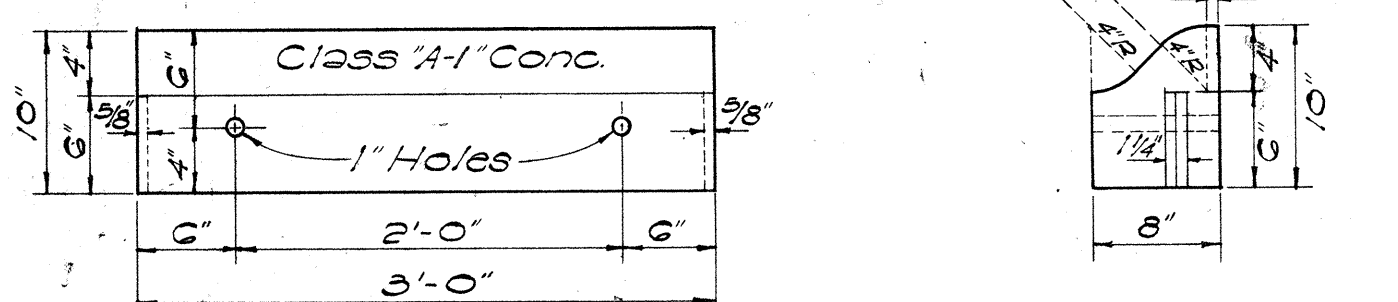


FRONT ELEV.

END ELEV.

PRECAST CONC. CURB

SCALE: 1" = 1'-0"

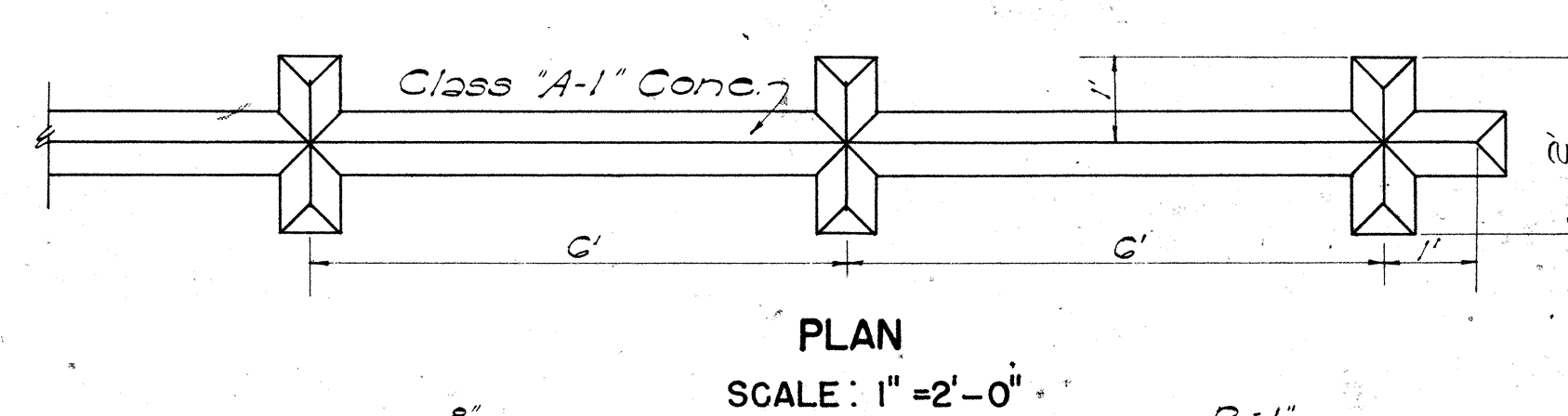


FRONT ELEV.

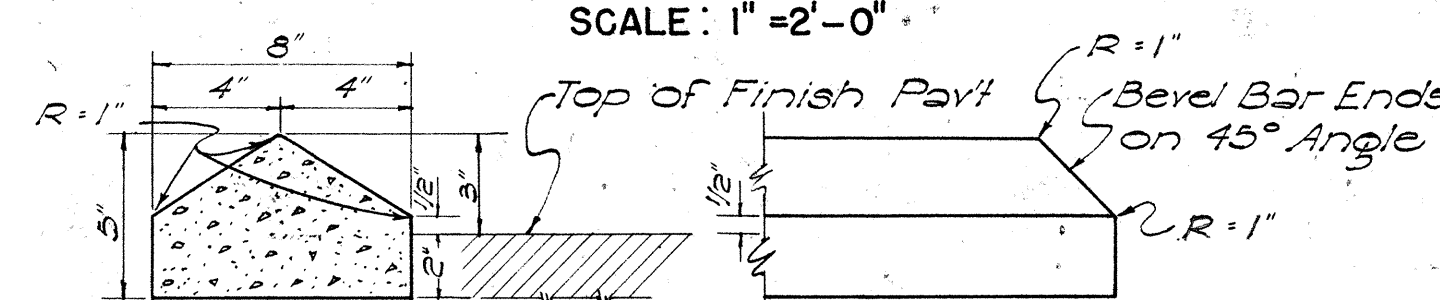
END ELEV.

PRECAST CONC. ROLL CURB

SCALE: 1" = 1'-0"

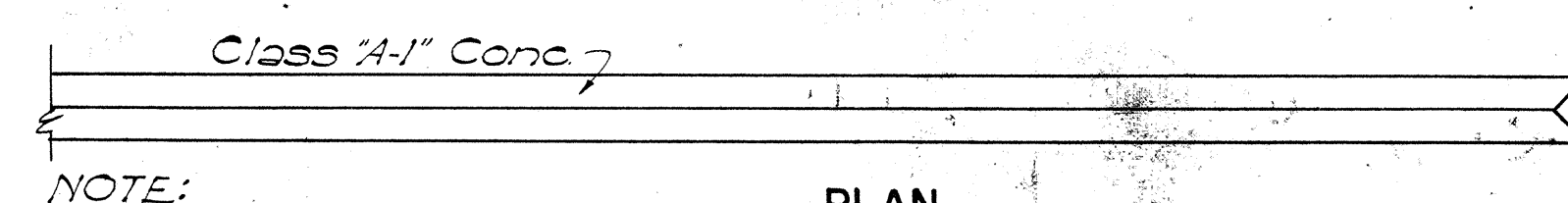


PLAN
SCALE: 1" = 2'-0"



SECTION
RAISED TRAFFIC BARS

SCALE: 1" = 6"

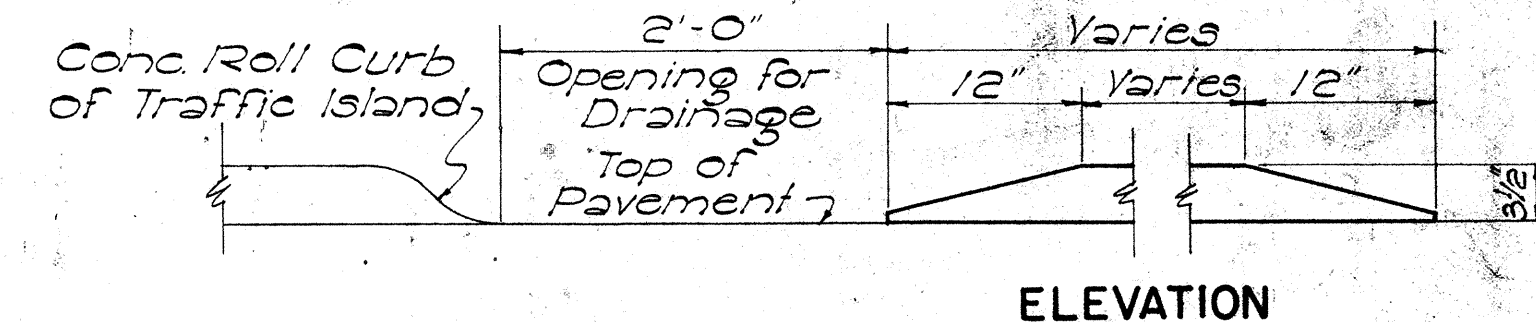


PLAN

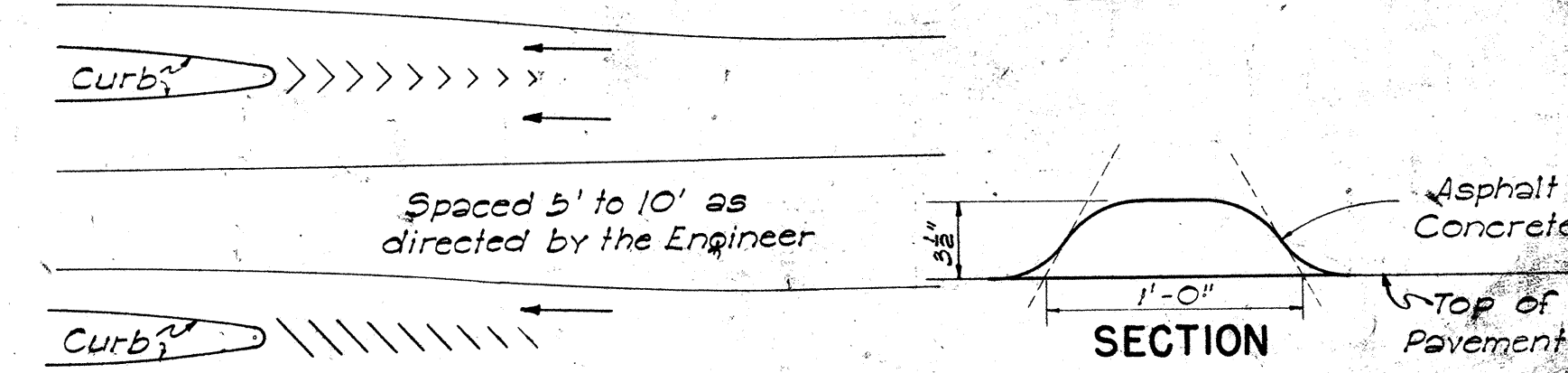
NOTE:
Section and Elevation for Jiggle Bars are same as the Traffic Bars.

RAISED JIGGLE BARS

SCALE: 1" = 2'-0"



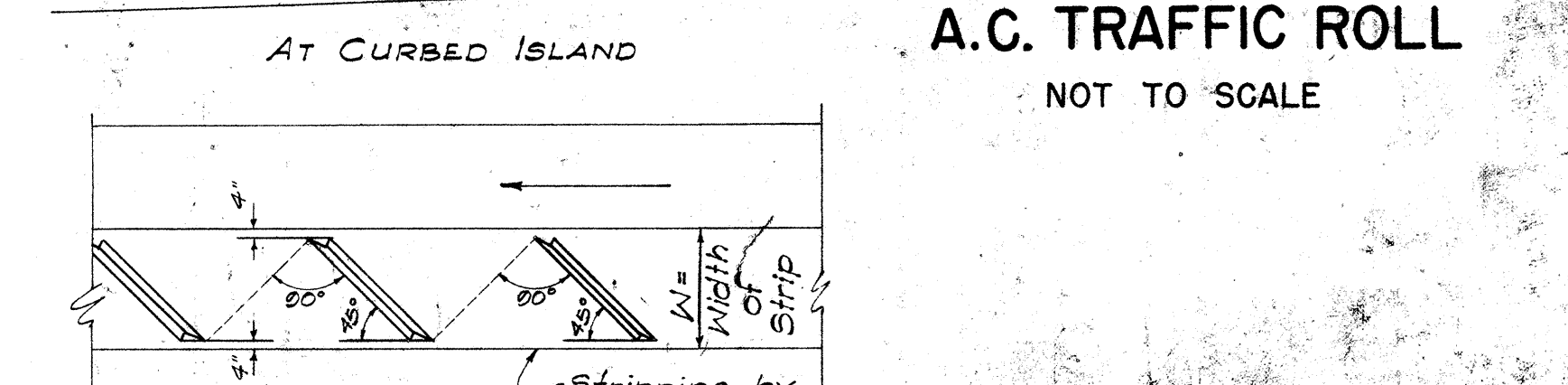
ELEVATION



SECTION

A.C. TRAFFIC ROLL

NOT TO SCALE



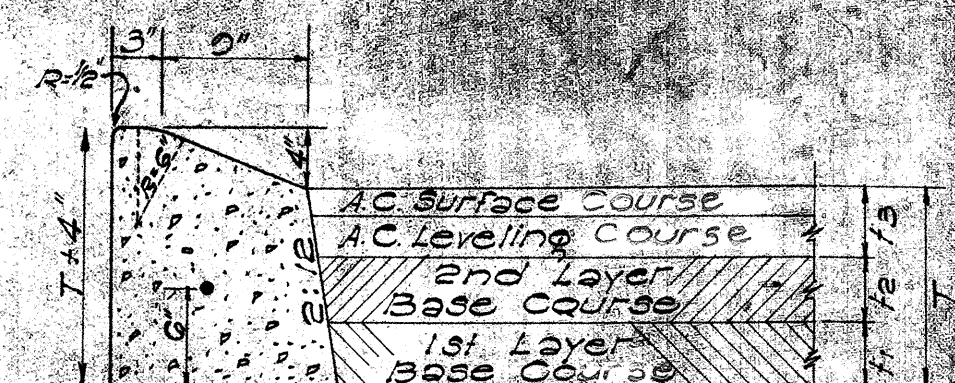
AT CURBED ISLAND

MEDIAN STRIP

NOT TO SCALE

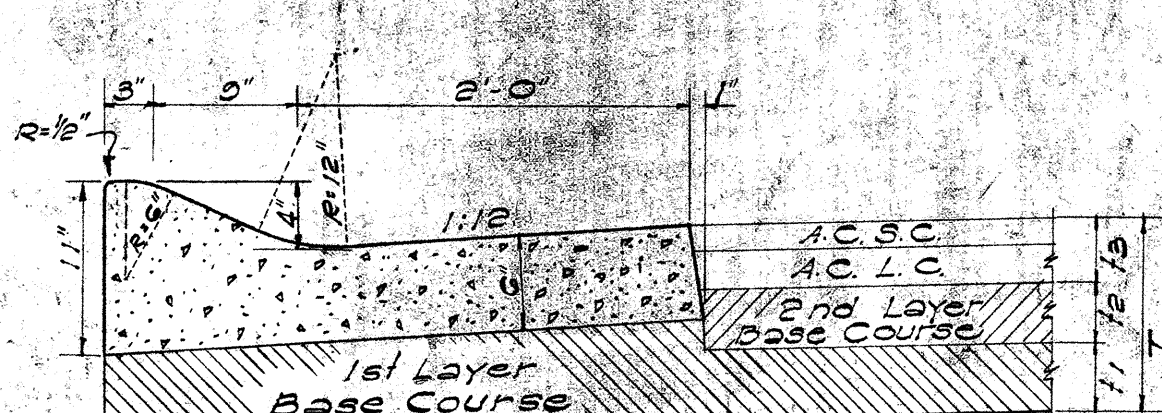
LAYOUT OF JIGGLE BARS

NOT TO SCALE



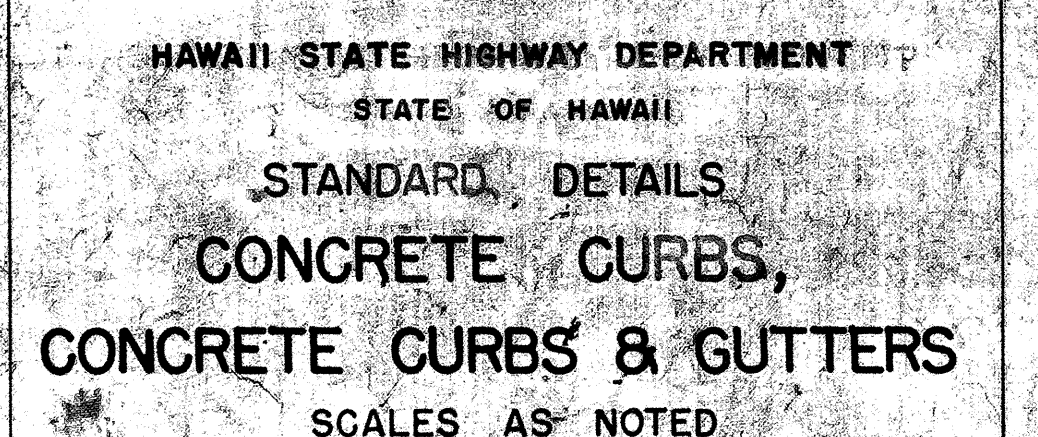
TYPE "E" CAST-IN-PLACE
CONCRETE CURB

SCALE: 1" = 1'-0"



TYPE "EG" CAST-IN-PLACE
CONC. CURB & GUTTER

SCALE: 1" = 1'-0"



HAWAII STATE HIGHWAY DEPARTMENT

STATE OF HAWAII

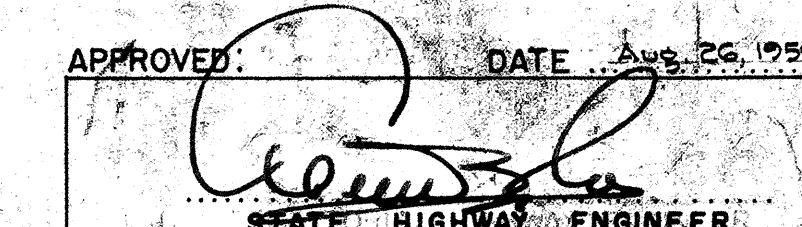
STANDARD DETAILS

CONCRETE CURBS,

CONCRETE CURBS & GUTTERS

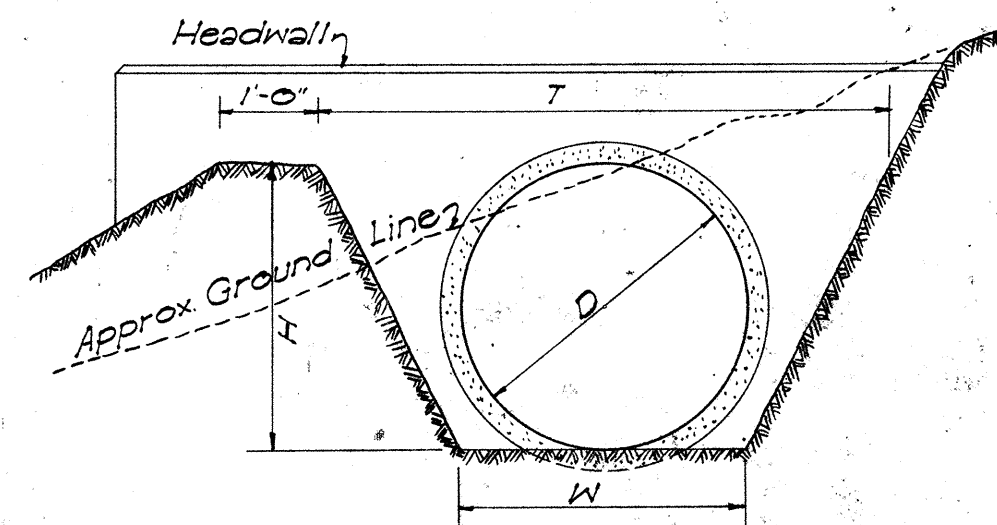
SCALES AS NOTED

SHEET NO. 1 OF 12 SHEETS



B. 8147

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

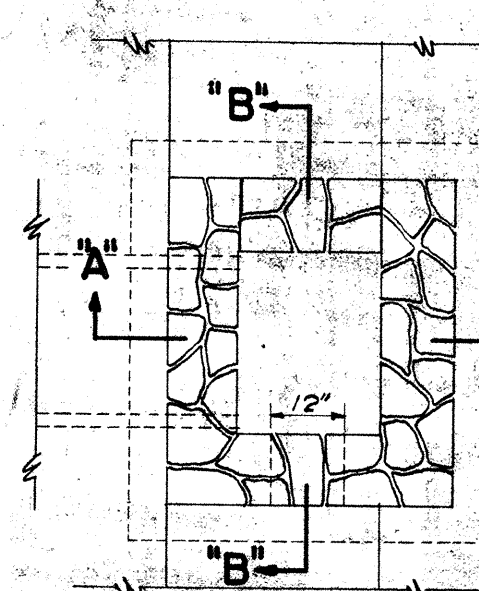


DETAIL OF OUTLET DITCH

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

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

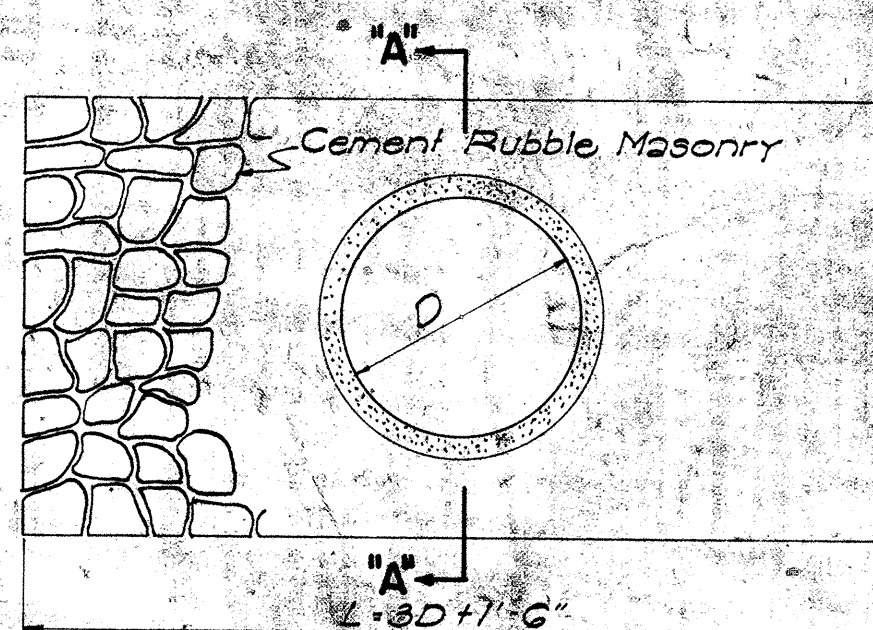
NOTE:
Dimension "X" is assumed as 2'-4" in figuring the above quantities.



DETAIL OF MASONRY DROP INTAKE

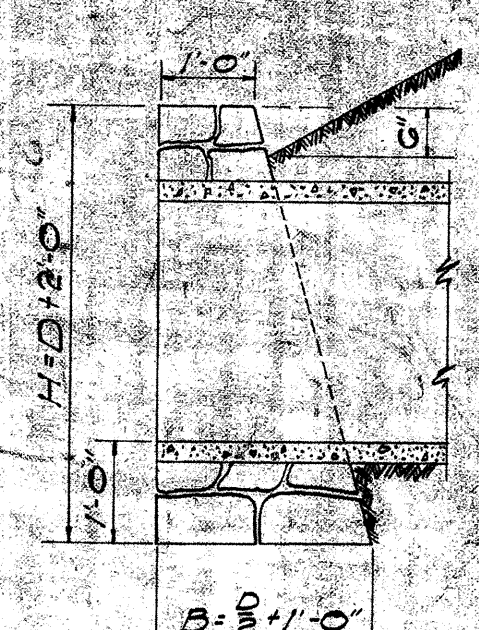
Scale: 3/8" = 1'-0"

D	H	B	L	Cost in Place Conc. Culvert Cu. Yds.	Cost in Place 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"	1.25	1.41	1.41
30"	4'-6"	3'-0"	9'-0"	1.83	2.06	2.00
36"	5'-0"	4'-0"	10'-6"	2.40	2.84	2.72



DETAIL OF MASONRY HEADWALL

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

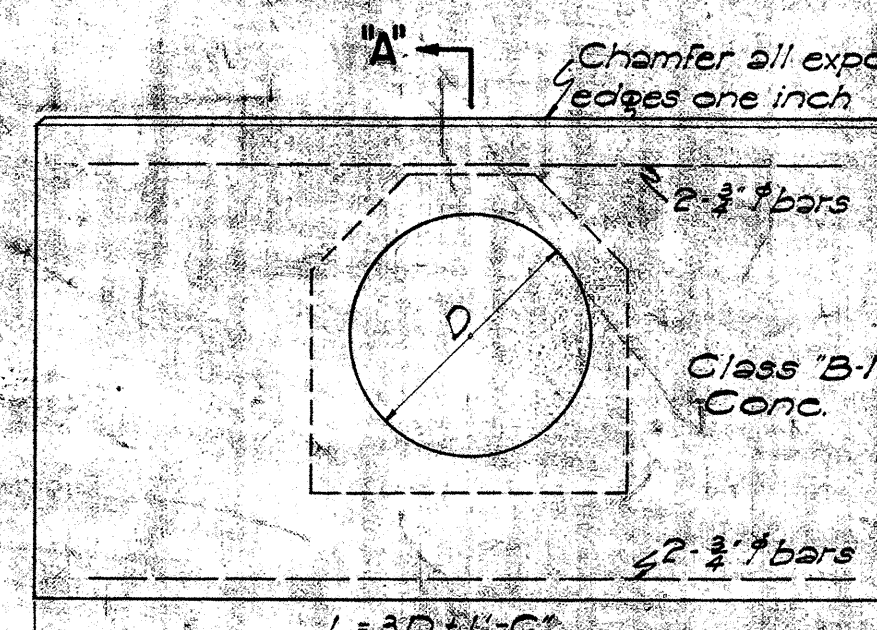


SECTION "A-A"

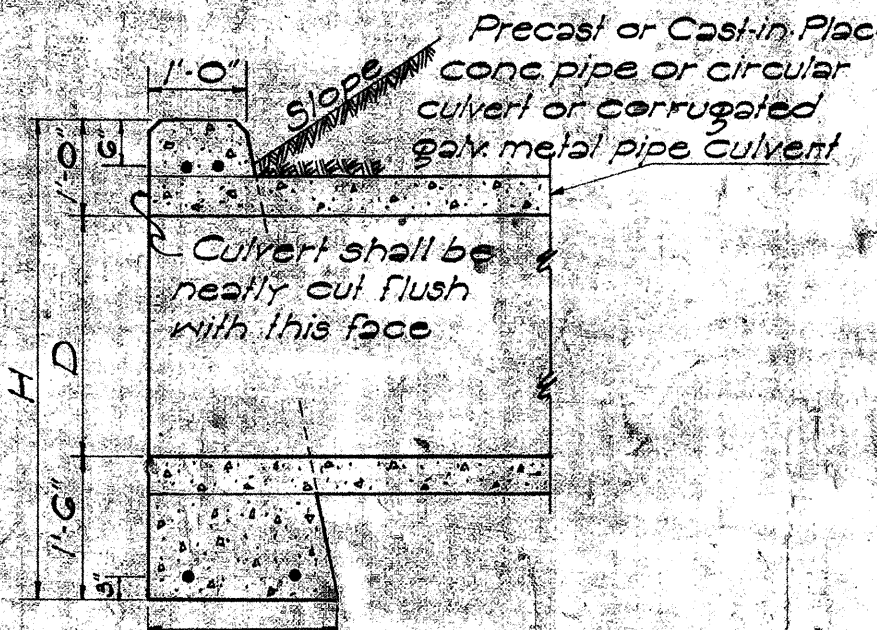
CONSTR. JOINT DETAILS

NOTE: Construction joints may only be used where indicated by the plans or permitted in writing by the Engineer.

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



ELEVATION

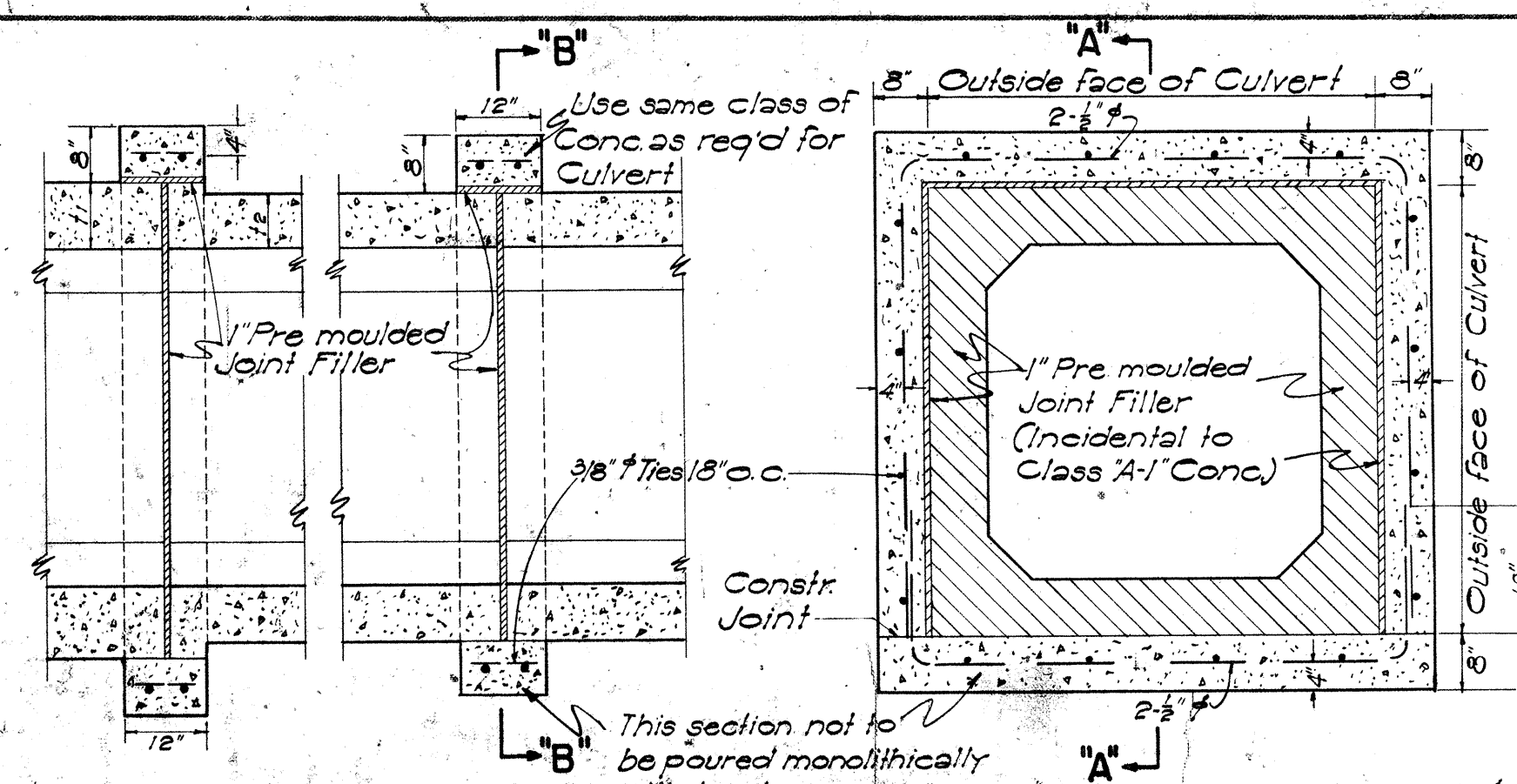


SECTION "A-A"

D	B	L	H	Cost in Place Conc. Culvert Cu. Yds.	Cost in Place 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	1.33	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'-6"	10'-6"	5'-6"	2.43	2.72	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

DETAIL OF CONCRETE HEADWALL

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

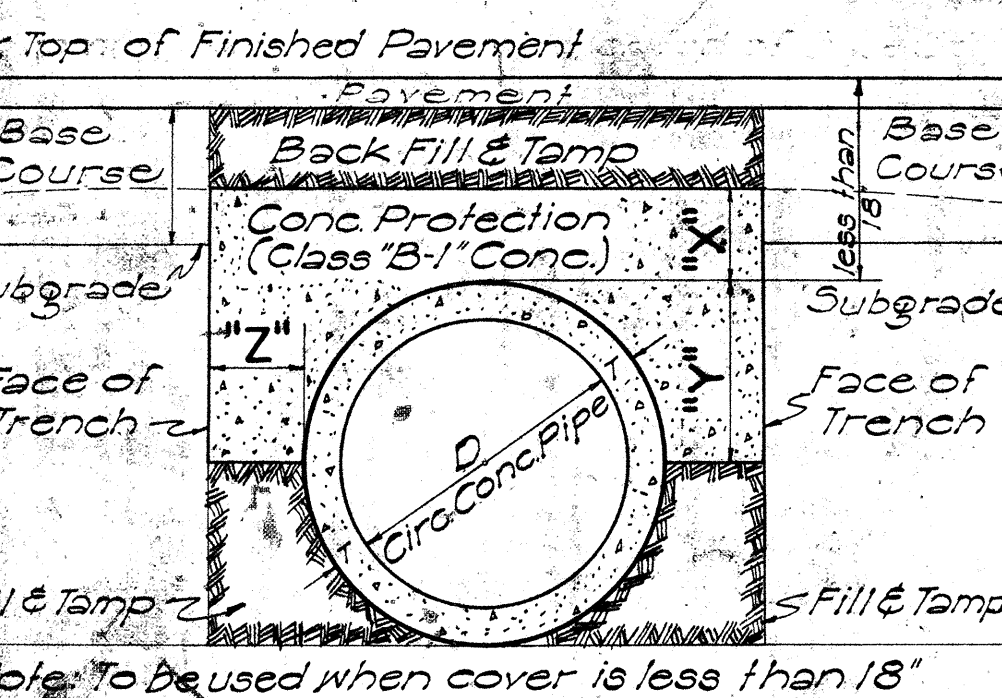


SECTION "A-A" CONC. COLLAR FOR CONC. BOX CULVERT

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.

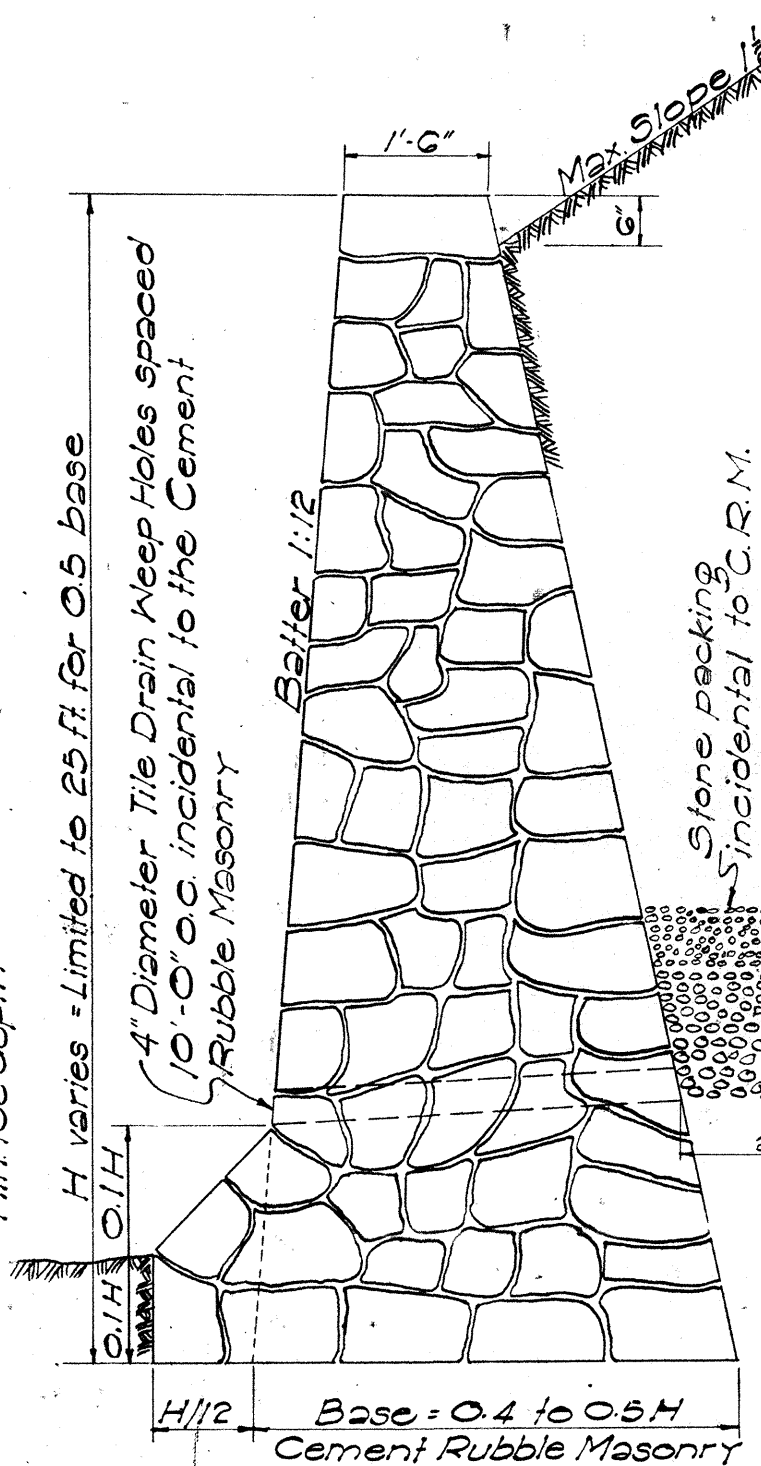
SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL



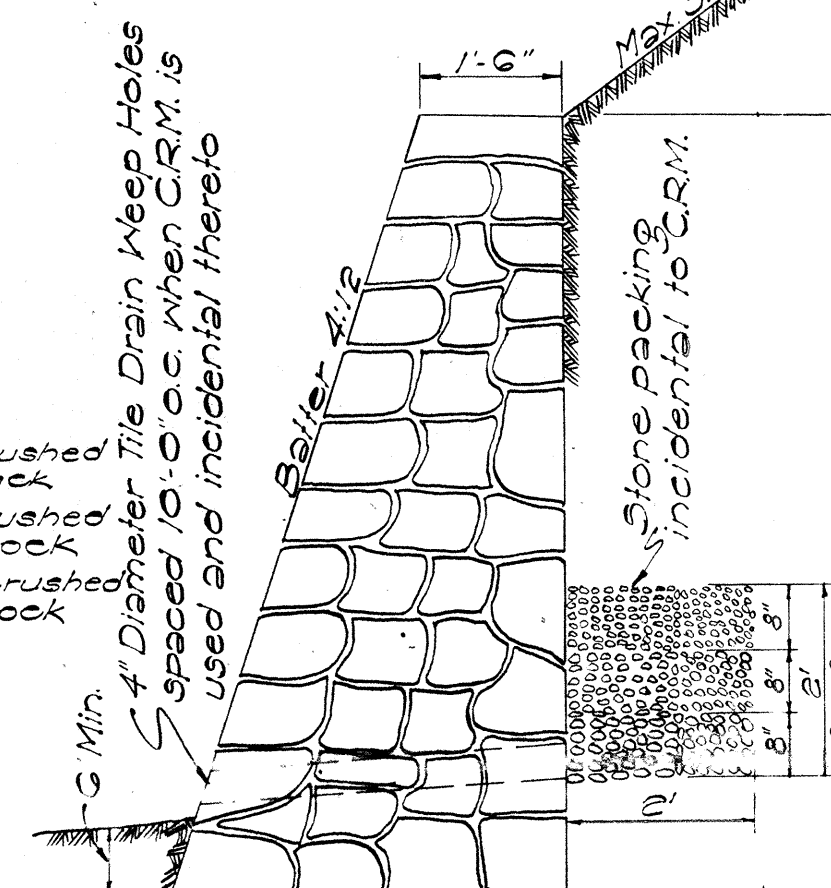
X	Y	Z
6" for 18"D		Z must be from pipe to face of trench
7" 24"D		
8" 30"D		
9" 36"D		
10" 42"D		
11" 48"D		
12" 54"D		

SECT. OF CULVERT WITH CONC. PROTECTION

Scale: 1" = 1'-0"



Note: To Resident Engineer
1) Consider economy of reinf. conc. for high retaining walls which did not originate on plan layout.
2) 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.

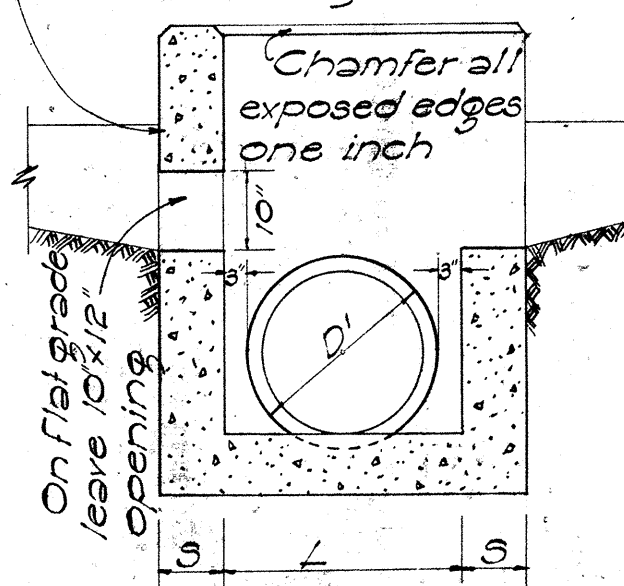


SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

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

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

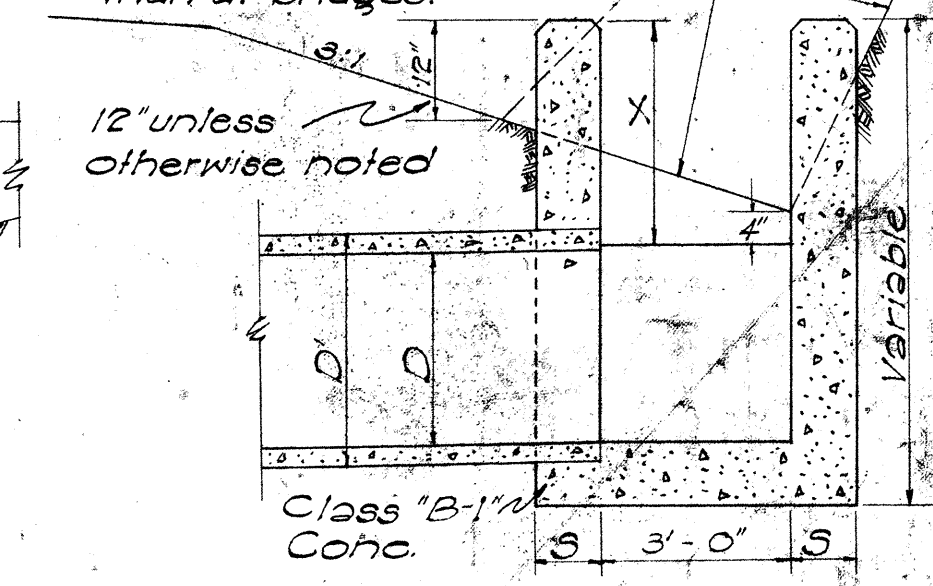
Note: This type of structure shall also be used for the Drop Intakes of Siphons connected with Irrigation Ditches or Flumes with appropriate changes to dimensions. In this case all joints must be made water-tight.



SECTION "B-B"

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

Excavate recess in roadway excavation slope for inlet to dimensions and form designated by Engineer. This is Unclassified Excavation.



SECTION "A-A"

DETAIL OF CONCRETE DROP INTAKE

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

CONC. PIPE CULVERT

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

CAST-IN-PLACE CONC. CULVERT

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

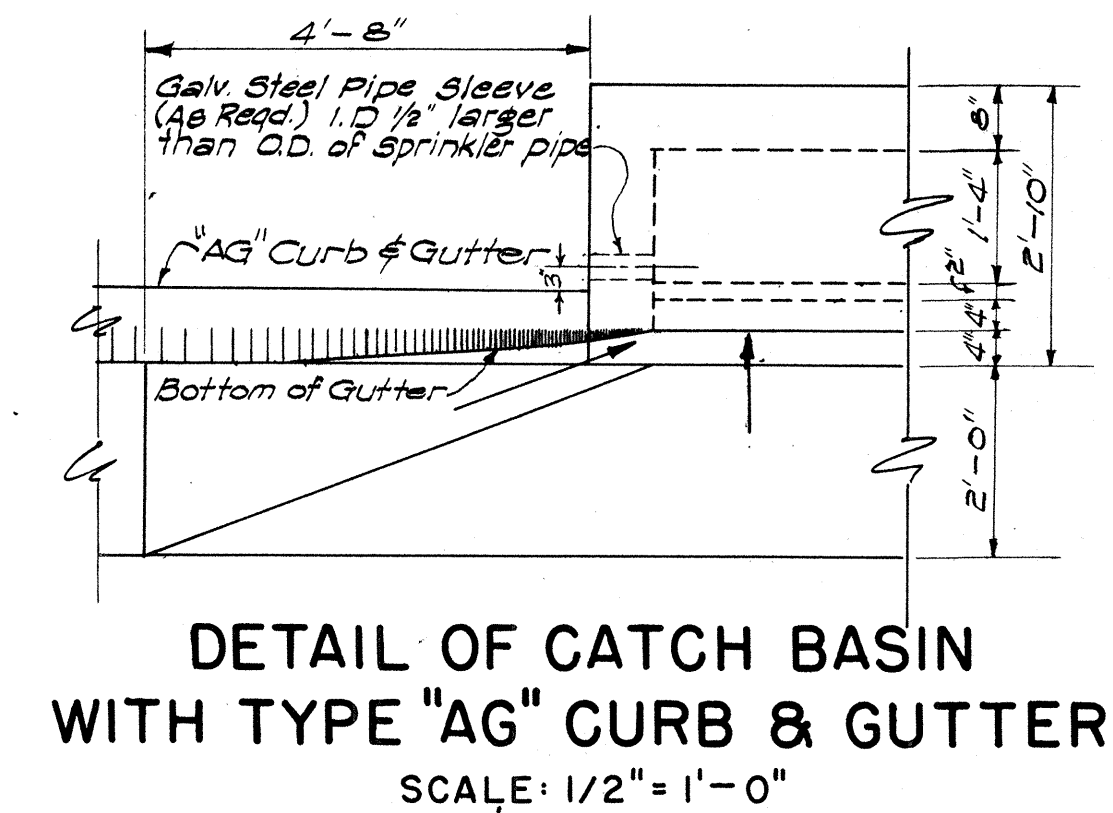
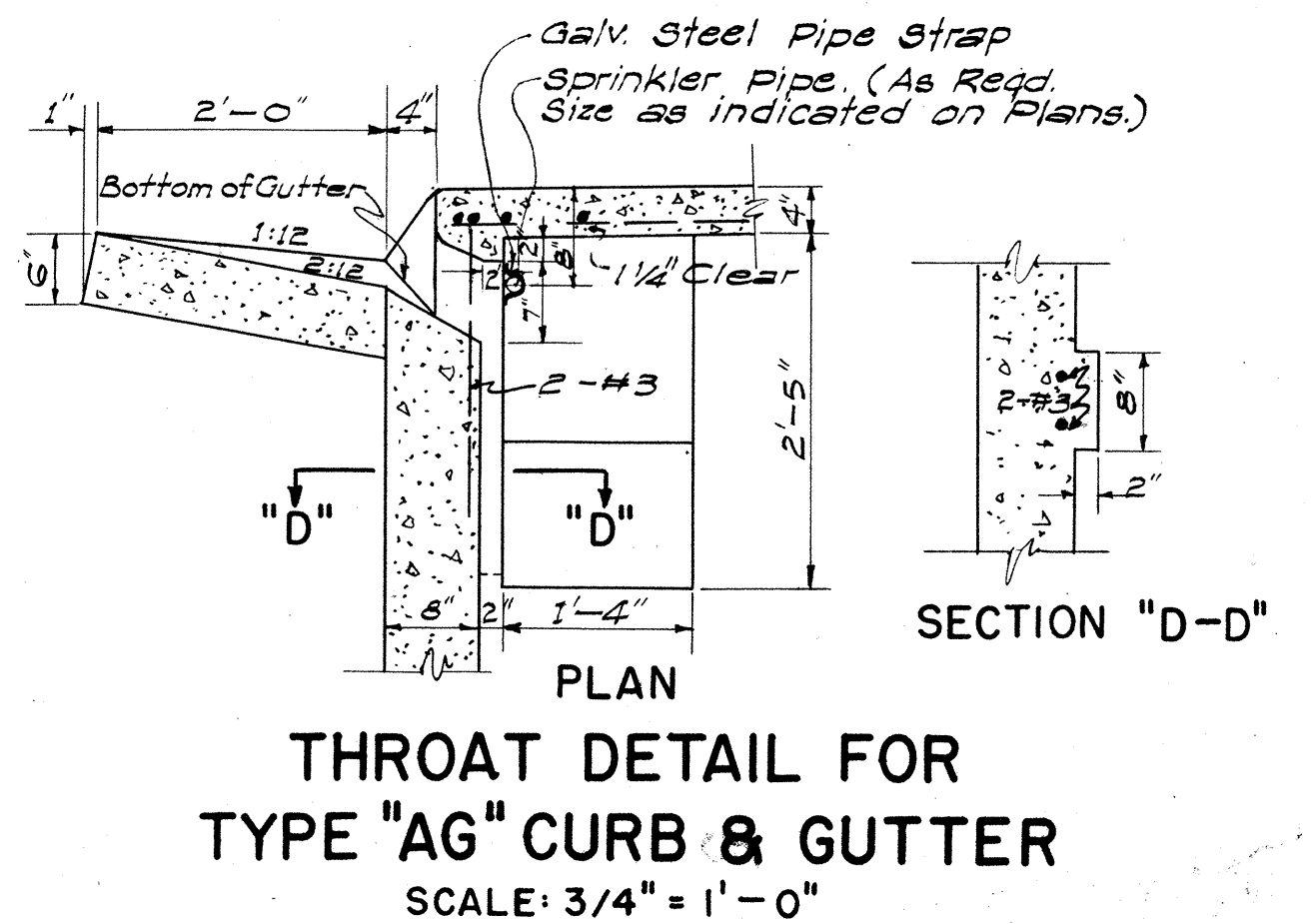
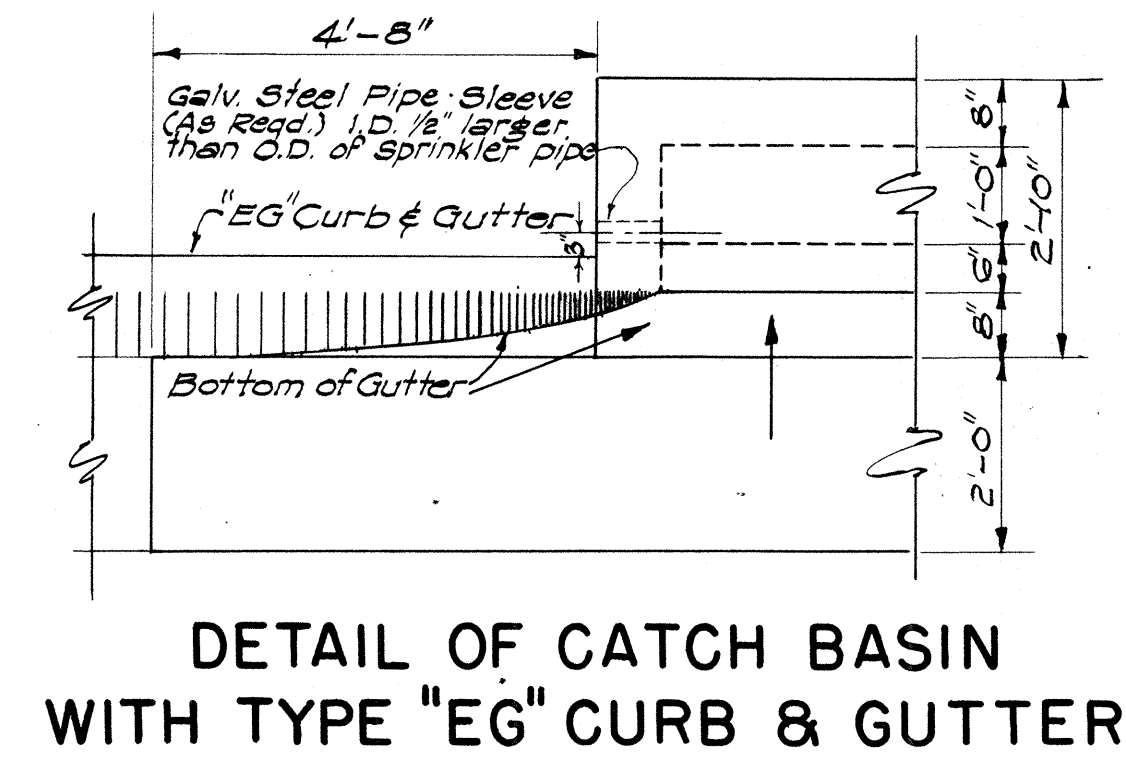
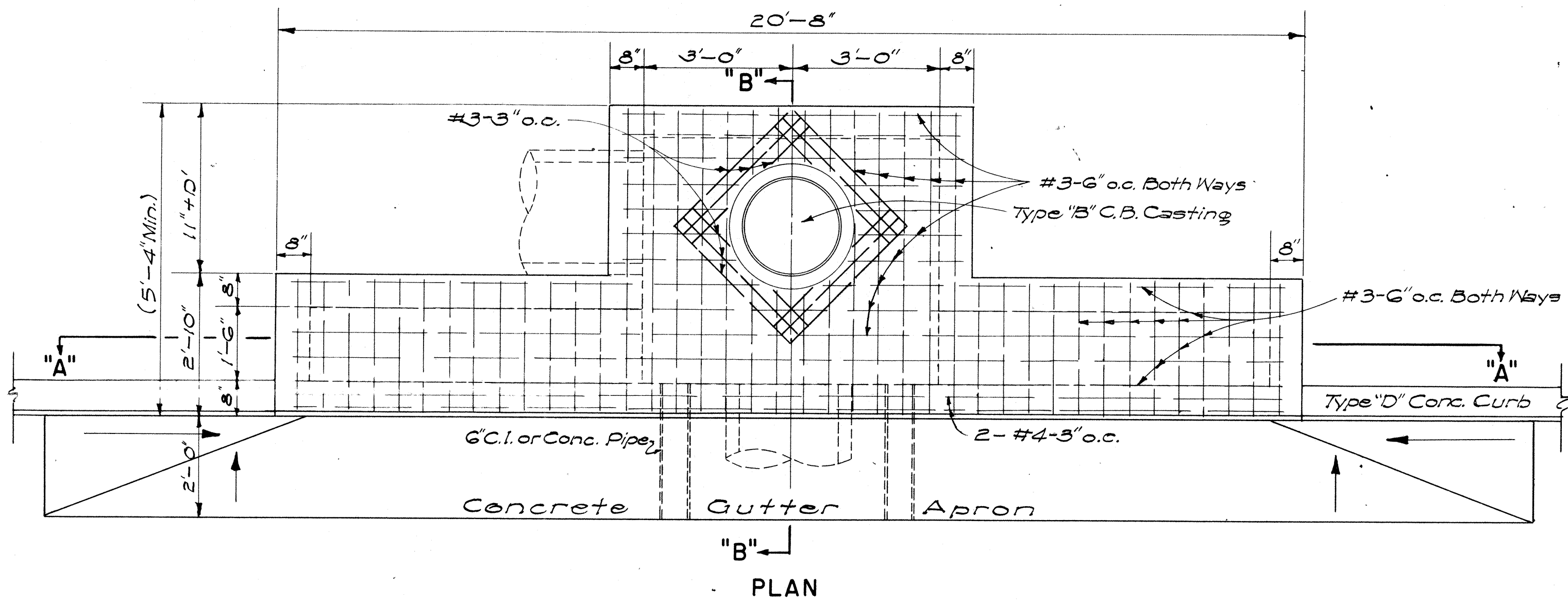
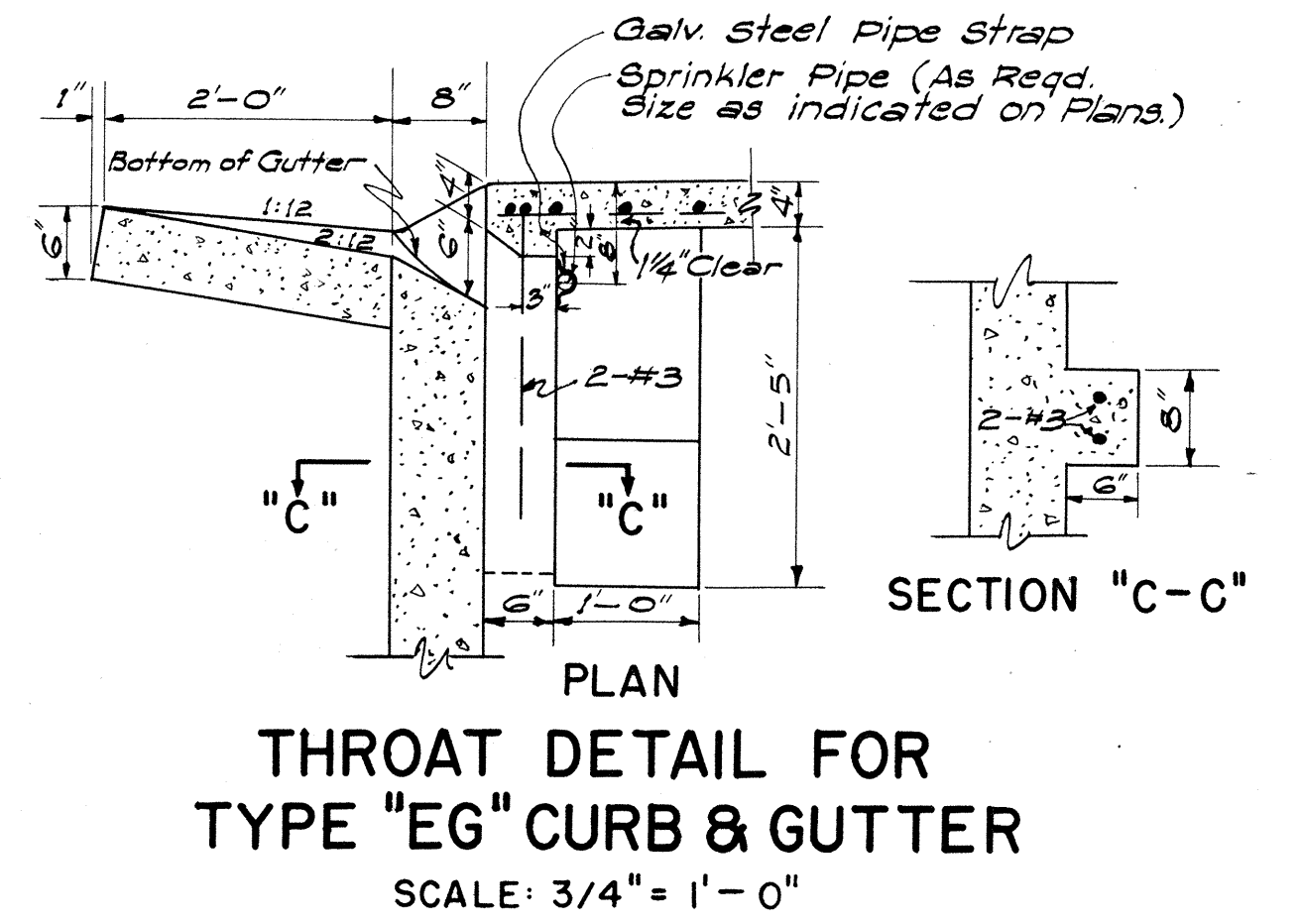
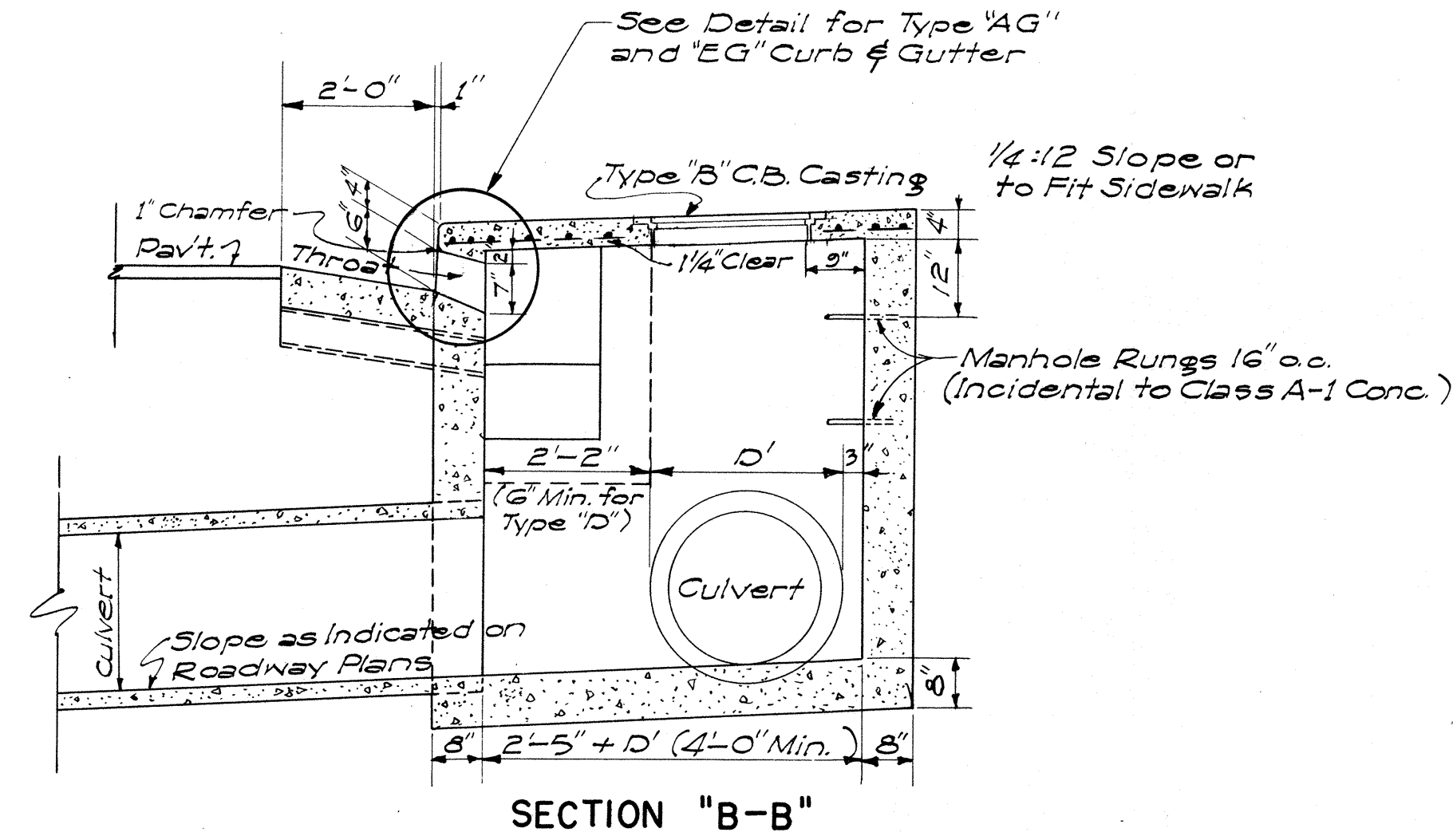
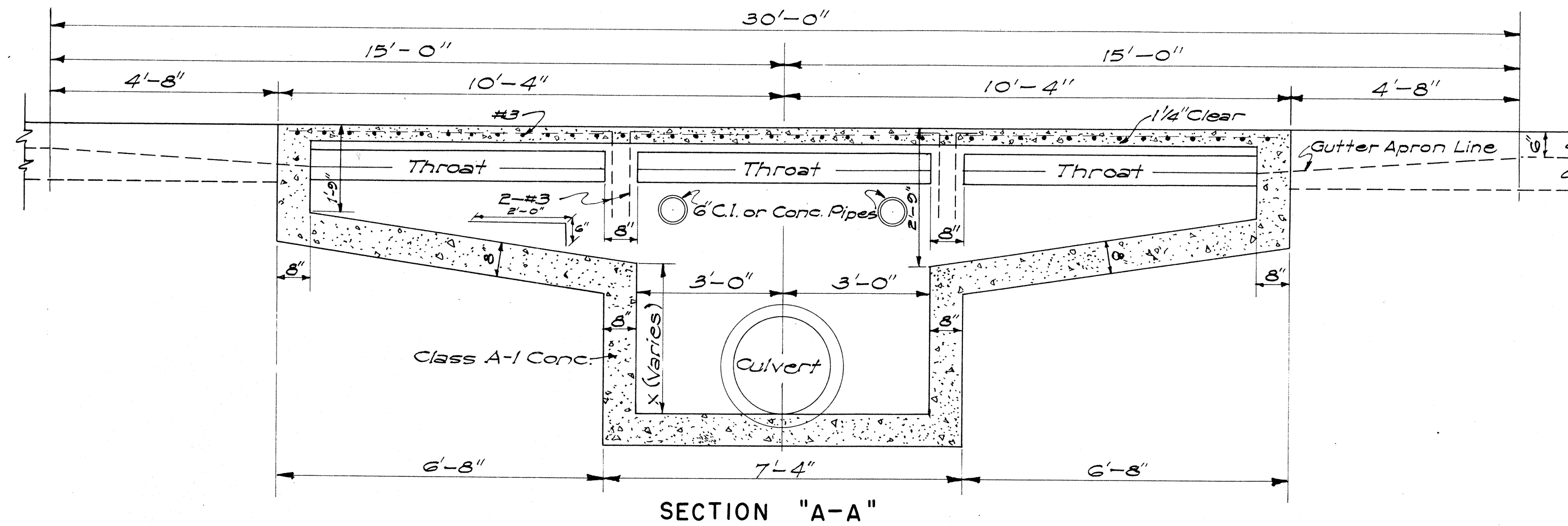
HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
DROP INTAKES, RETAINING WALLS,
HEADWALLS, CONSTRUCTION JOINTS
SCALES AS NOTED

SHEET No 2 OF 12 SHEETS

B.S147.78

2/17/97

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	00064-10	1960	79	176

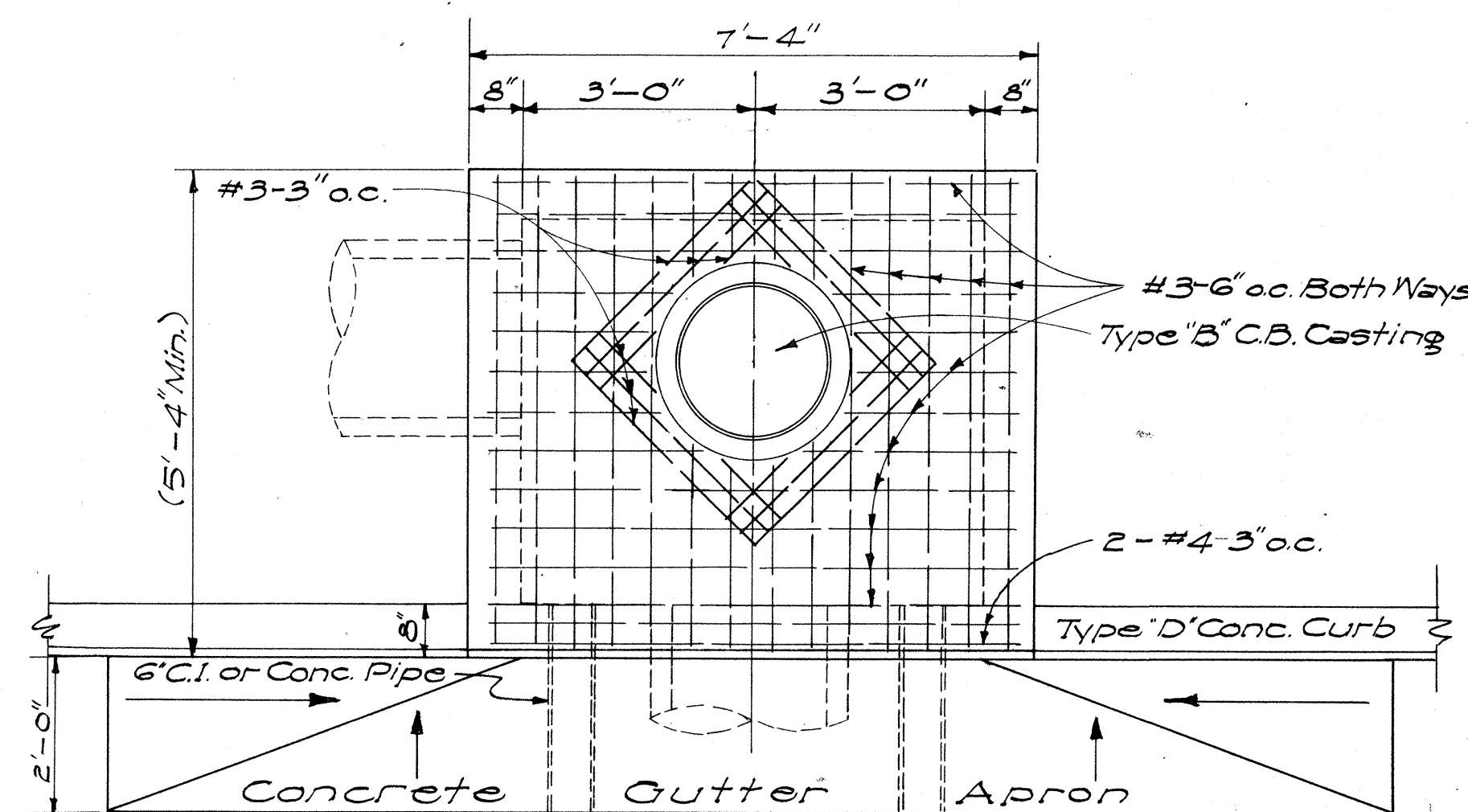
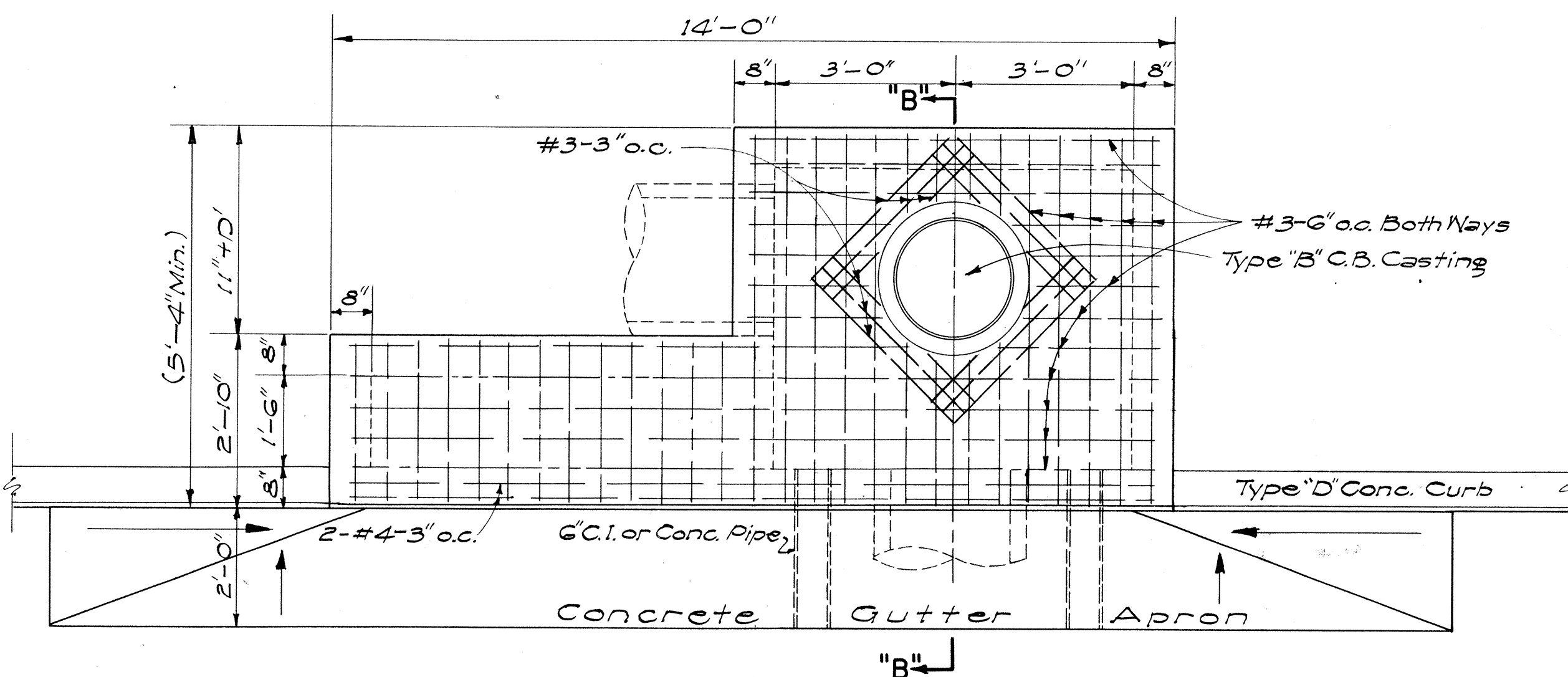


ESTIMATED QUANTITIES

Type	Class A-1 Conc.	Struct. Exc.	Reinf. Steel	Gutter Length
"A"	7.5 cy	24.7 cy	145 lb.	30'-0"
"B"	6.0 cy	21.5 cy	108 lb.	23'-4"
"C"	6.0 cy	21.5 cy	108 lb.	23'-4"
"D"	4.9 cy	16.5 cy	77 lb.	16'-8"

NOTES:

- Quantities based on X=3'-0" and D'=30"
- Quantities do not include concrete for Gutter Apron.
- The Contractor shall install 2'-6" Cast Iron or Concrete Pipes as incidental to Class A-1 Concrete for Construction Drainage.
- Culvert shall leave C.B. from any position and any direction indicated by plans or ordered by the Engineer. Culvert may both enter and leave C.B. so that C.B. will also act as Manhole.
- The Contractor shall install Galvanized Steel Pipe sleeves and Straps as incidental to Sprinkler System.



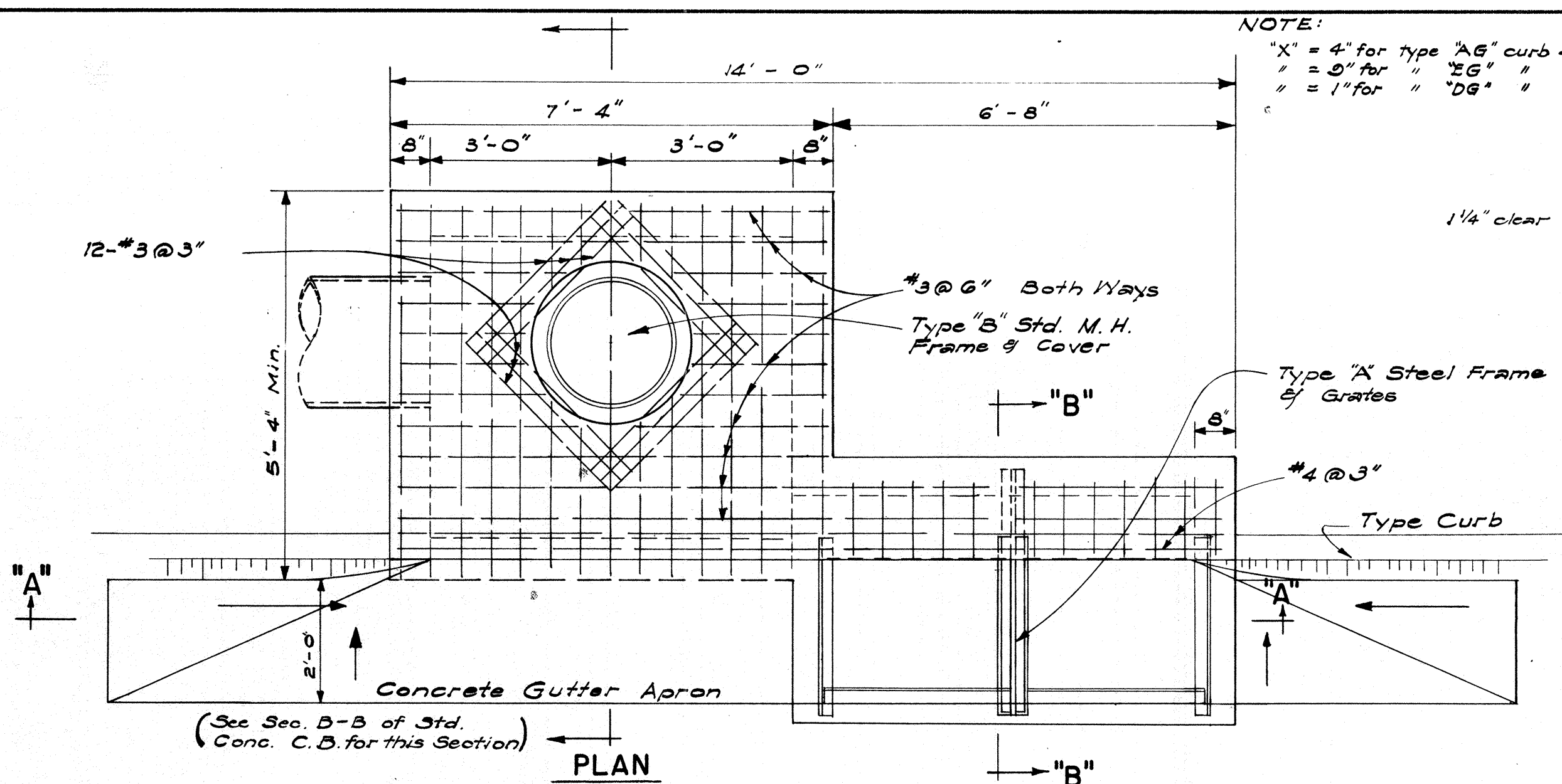
NOTE: TYPE "C" C.B. SIMILAR BUT OPPOSITE HAND

APPROVED: _____ DATE: 8/25/97
STATE HIGHWAY ENGINEER

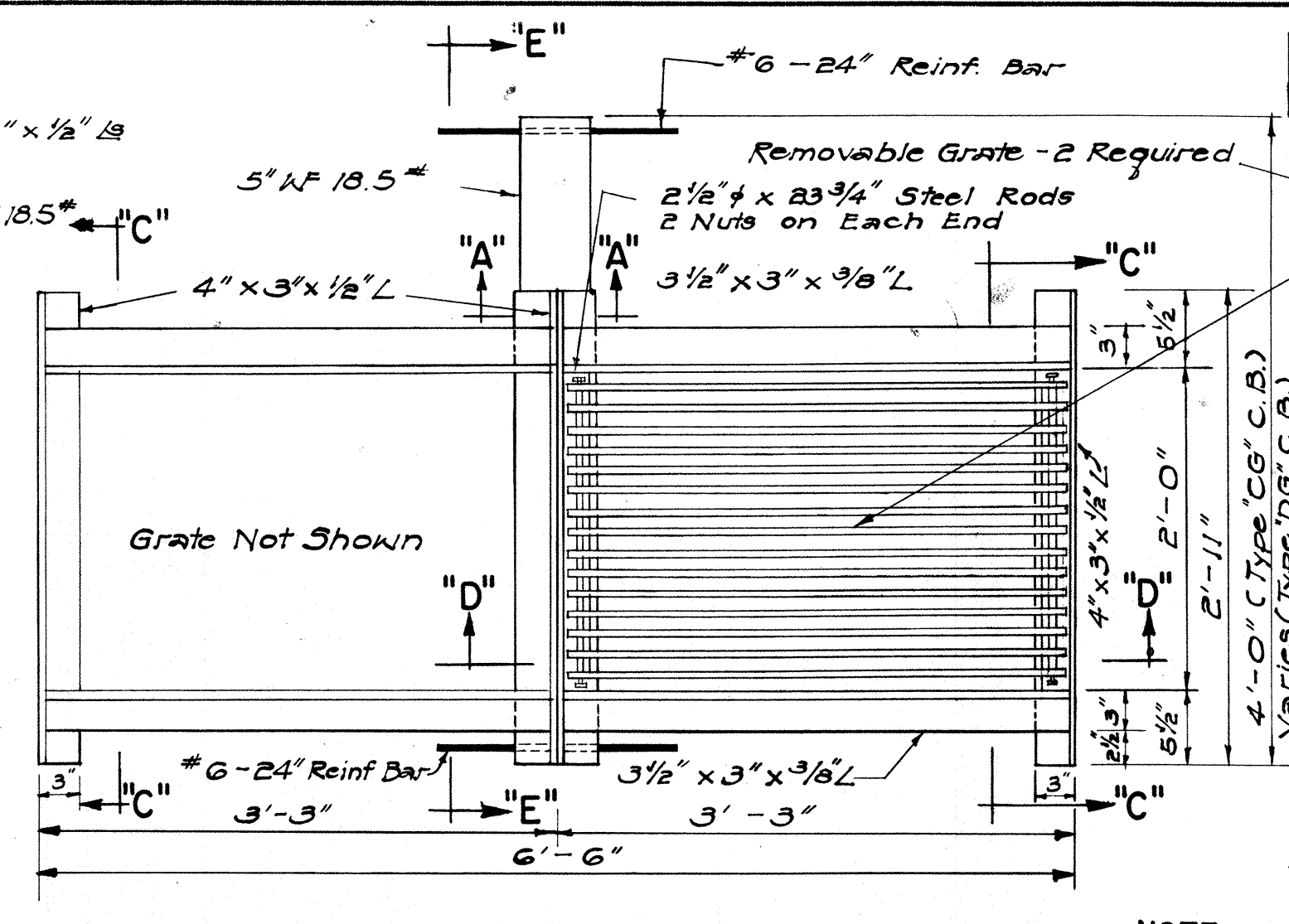
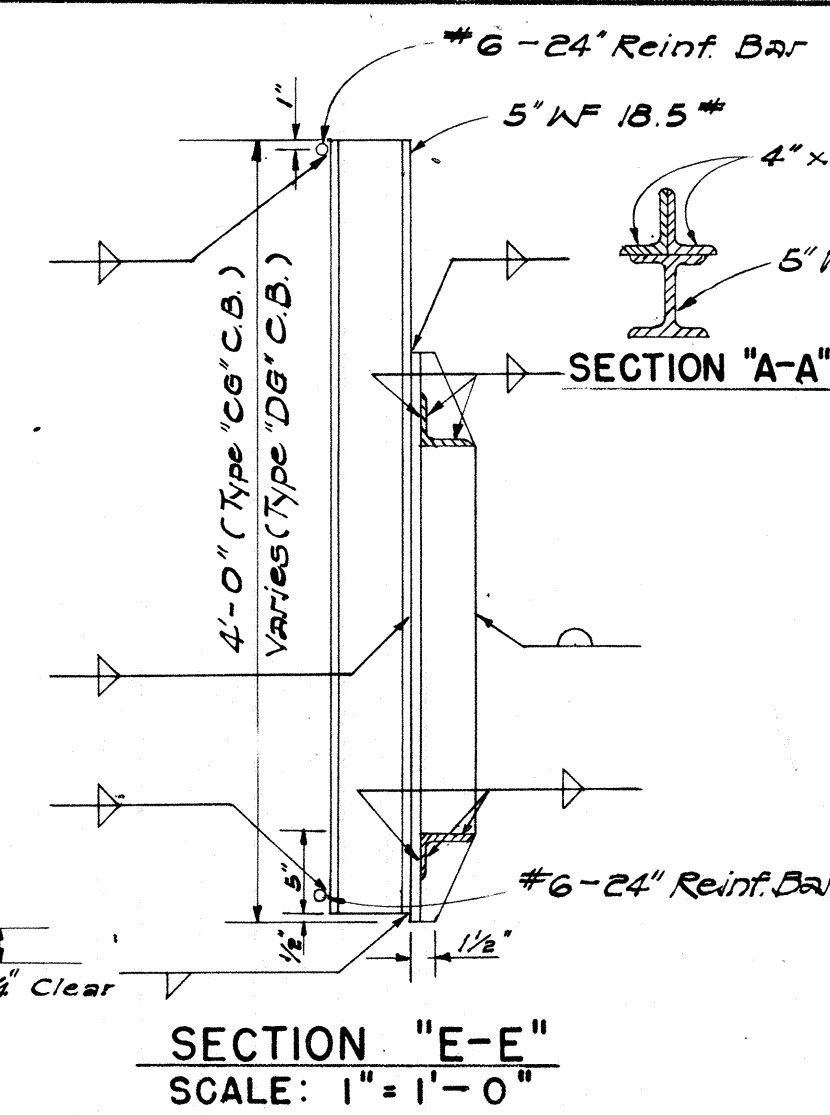
HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
CONCRETE CATCH BASINS
SCALES AS NOTED
SHEET NO 3 OF 12 SHEETS

B. S147

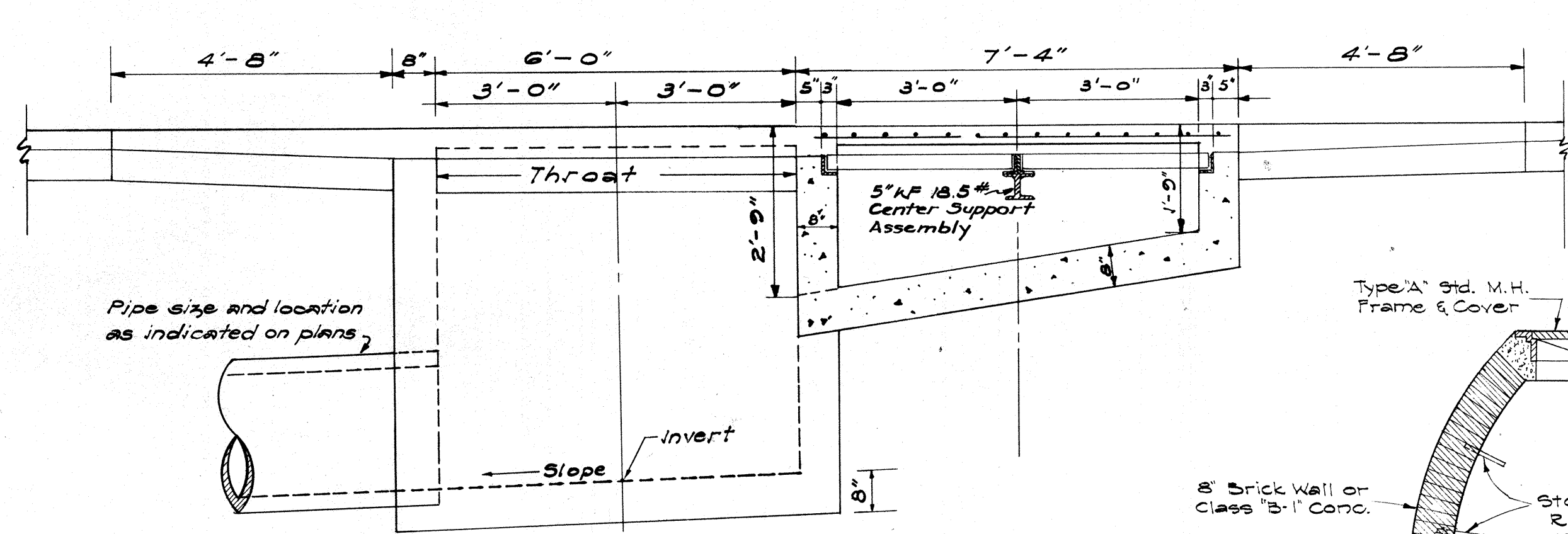
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	1360	80	176	



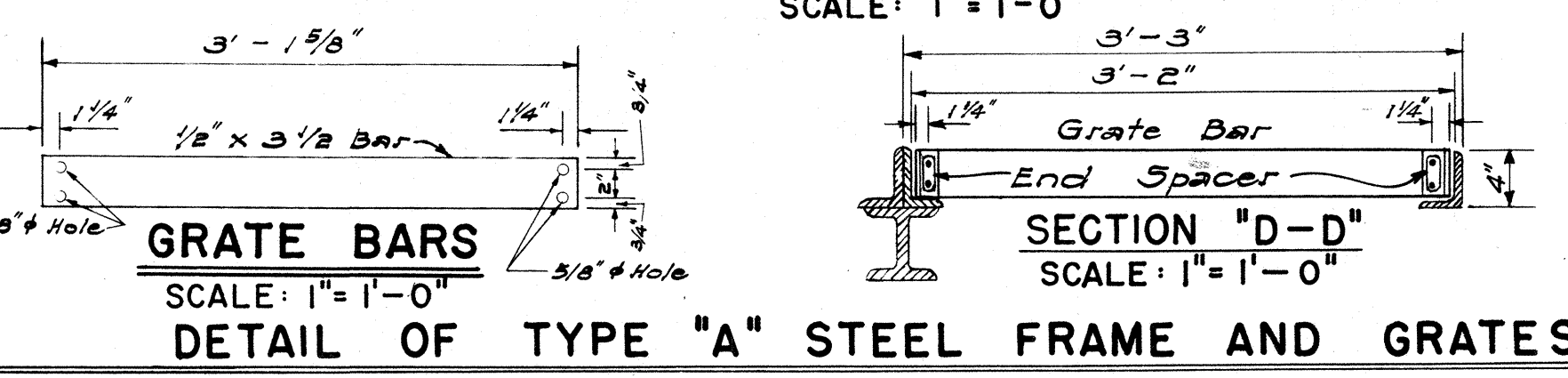
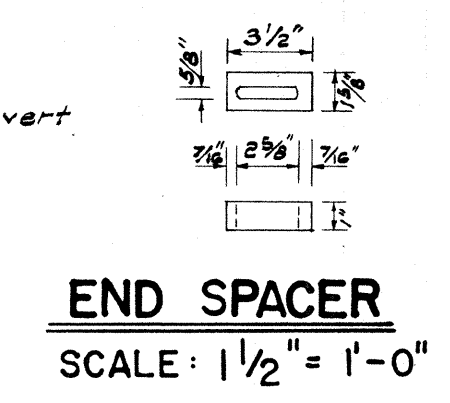
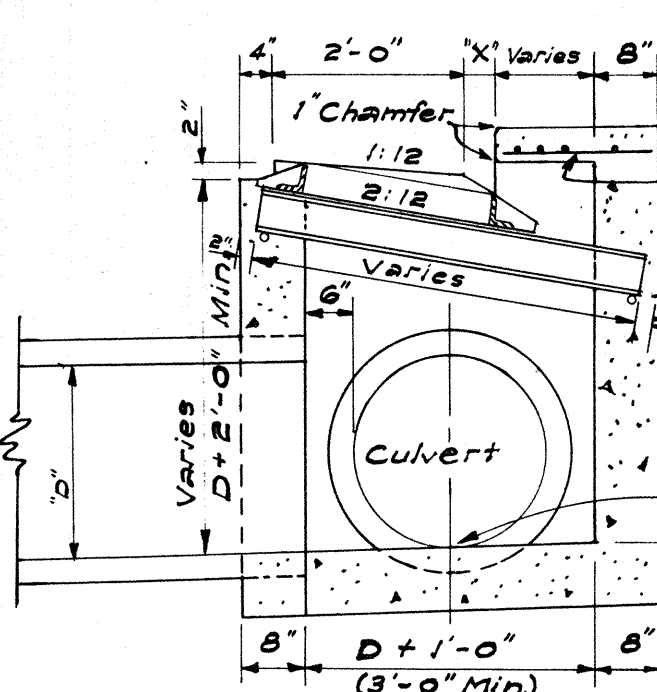
SECTION "B-B"
SCALE: 1/2" = 1'-0"



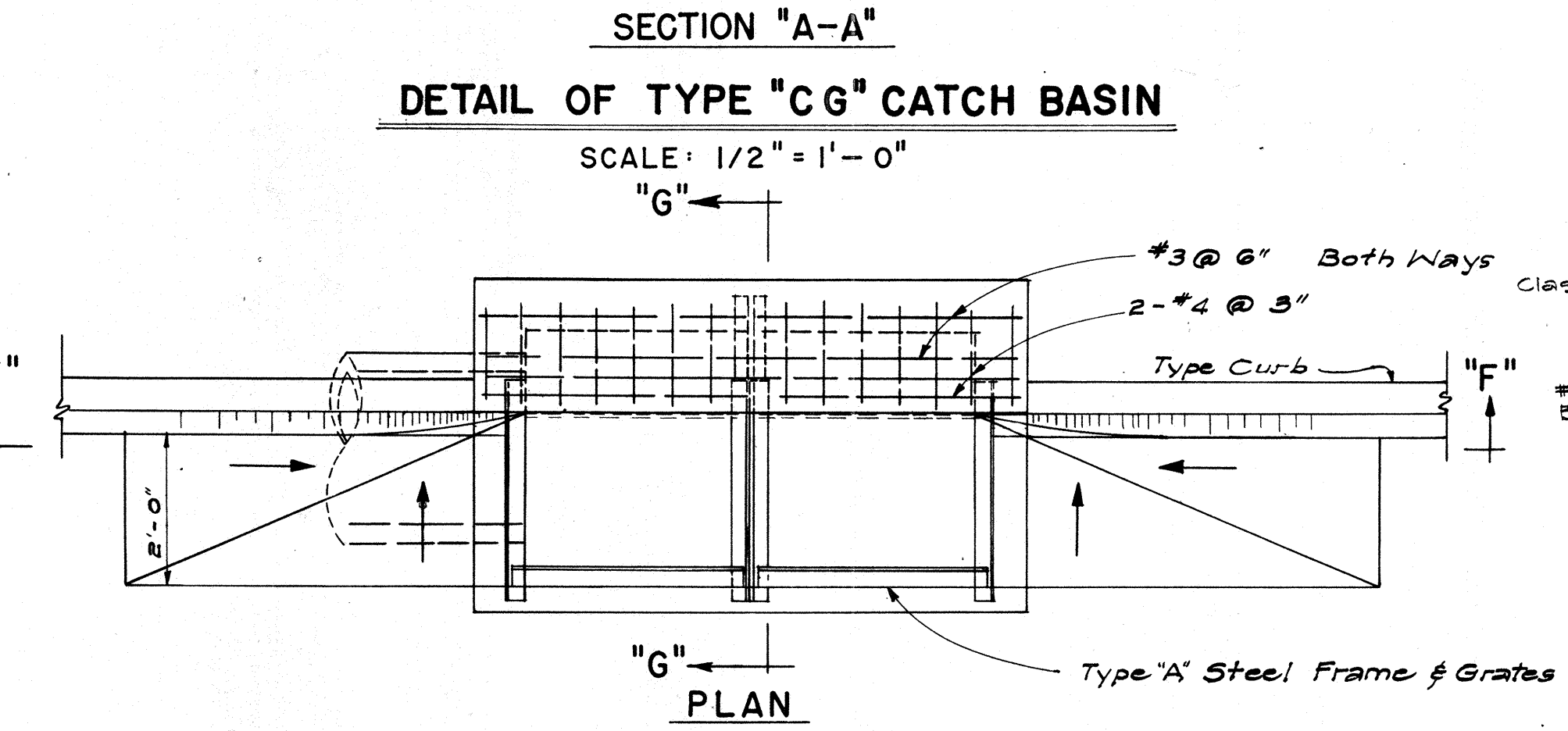
SECTION "C-C"
SCALE: 1" = 1'-0"



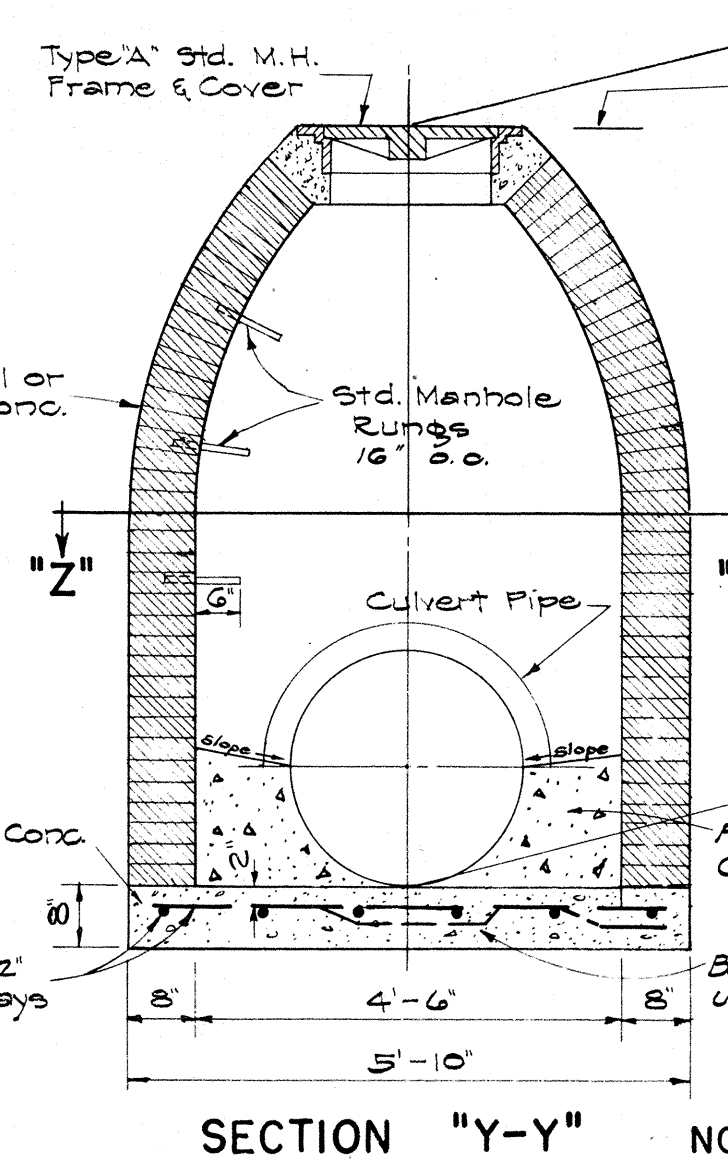
SECTION "A-A"
DETAIL OF TYPE "CG" CATCH BASIN
SCALE: 1/2" = 1'-0"



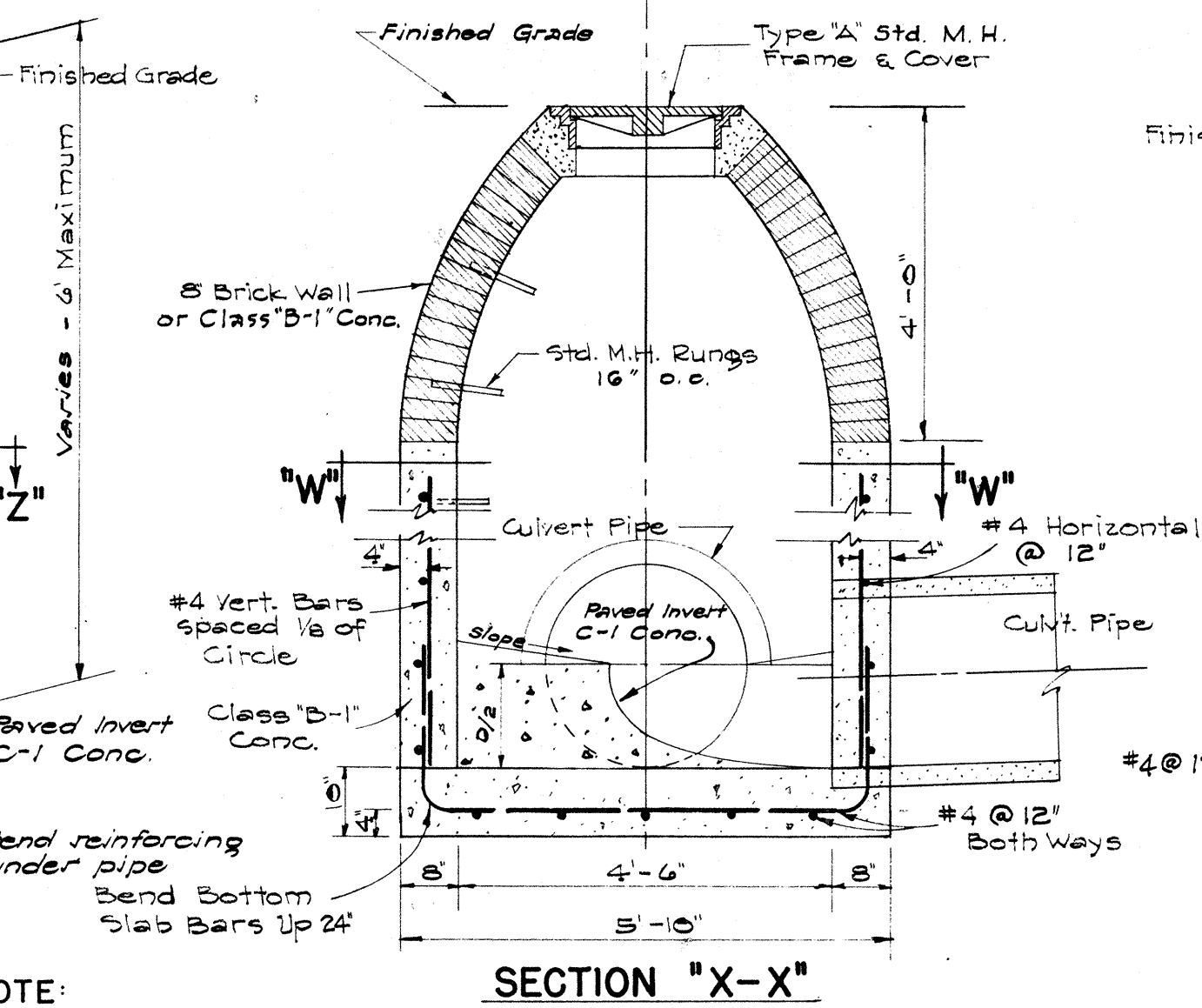
- NOTE:
 1) All welds 3/8" unless otherwise noted.
 2) All steel shall be structural grade.
 3) Grates and frames shall be hot dip galvanized after fabrication in accordance with Section 44 (H) of the Standard Specifications



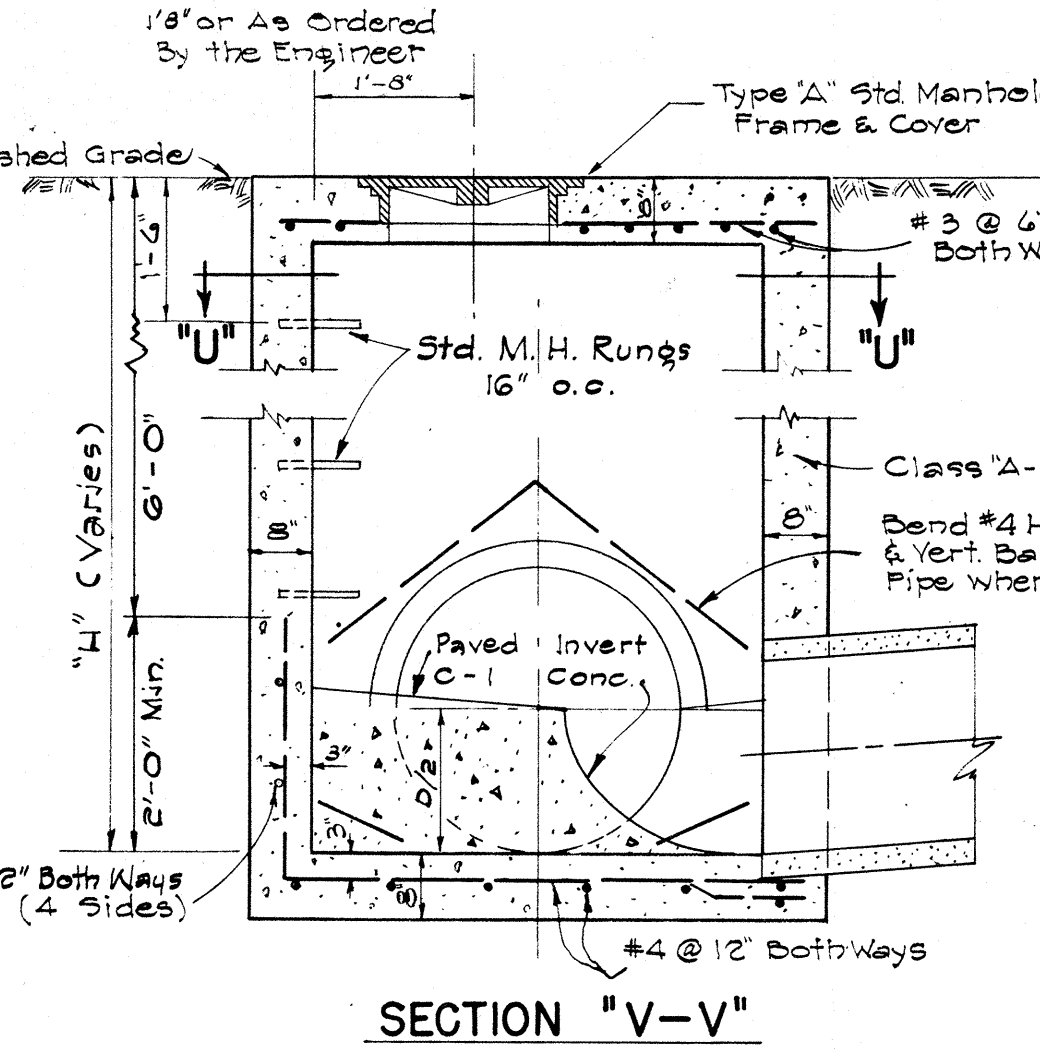
SECTION "F-F"
DETAIL OF TYPE "DG" CATCH BASIN
SCALE: 1/2" = 1'-0"



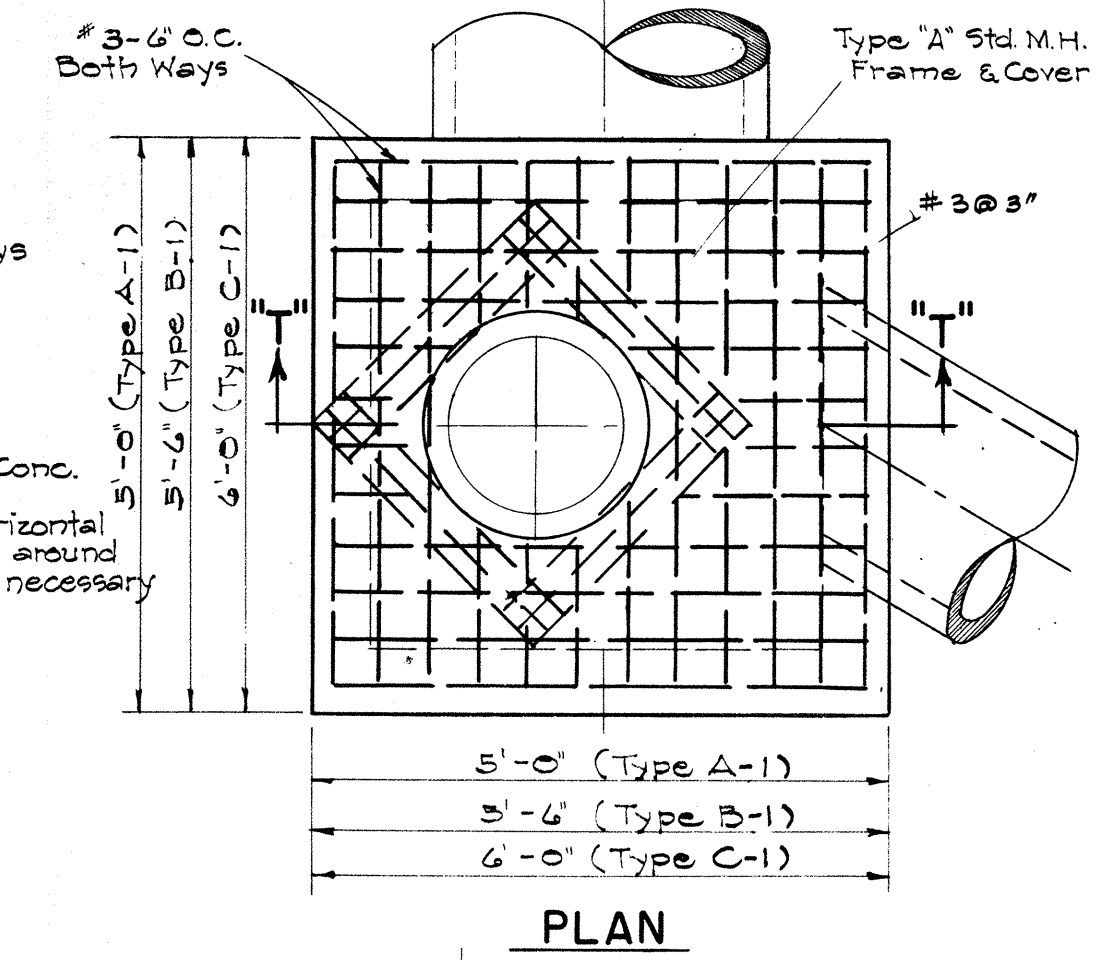
SECTION "Z-Z"
TYPE "D" STORM DRAIN MANHOLE
SCALE: 1/2" = 1'-0"



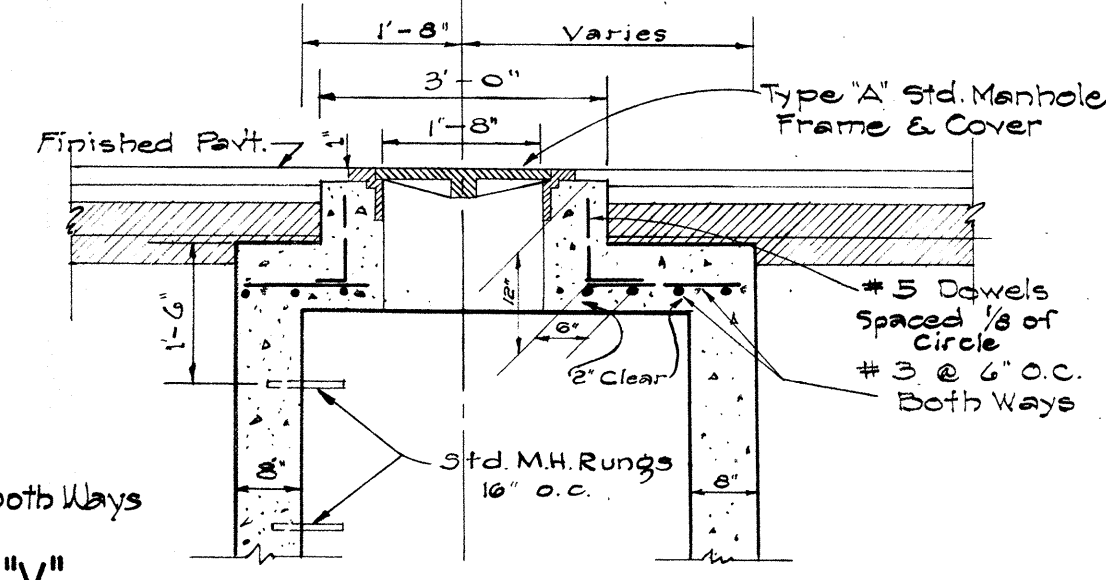
SECTION "W-W"
TYPE "E" STORM DRAIN MANHOLE
SCALE: 1/2" = 1'-0"



SECTION "U-U"
TYPE "A", "B", & "C" S.D.M.H.
SCALE: 1/2" = 1'-0"



SECTION "T-T"
TYPE "A-1", "B-1", & "C-1" S.D.M.H.
TOP DETAIL UNDER PAVEMENT
(BOTTOM DETAIL SIMILAR TO TYPE "A", "B", & "C")
SCALE: 1/2" = 1'-0"

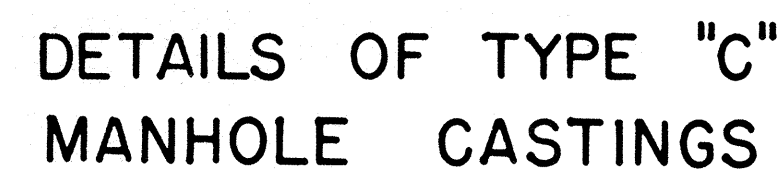


HAWAII STATE HIGHWAY DEPARTMENT
 STATE OF HAWAII
 STANDARD DETAILS
 GRATED CATCH BASINS & STORM DRAIN MANHOLES
 SCALES AS NOTED
 SHEET NO. 4 OF 12 SHEETS

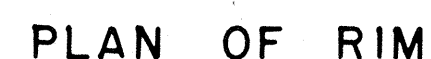
APPROVED:
 STATE HIGHWAY ENGINEER
 DATE: Aug. 26, 1959

SURVEY PLOTTED BY	DATE
PLAN	May 51
DRAWN BY	May 51
NOTED BY	May 51
CHECKED BY	May 51

ORIGINAL PLAN	SURVEY PLOTTED BY.....	DATE.....
NOTE BOOK	DESIGNED BY.....	14
	DRAWN BY.....	15
	TRACED BY.....	16
	QUANTITIES BY.....	16
No.	CHECKED BY.....	16



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



DETAILS OF TYPE "B"
CATCH BASIN CASTINGS

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



DETAILS OF TYPE "A" MANHOLE CASTINGS

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

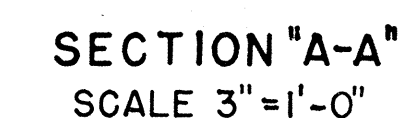
SECTION

TOP VIEW

TOP VIEW

TYPE C C.I. FRAME AND GRATING

SCALE: $3/4" = 1' - 0"$



DETAILS OF 20" CAST IRON FRAME AND COVER FOR WATER MANHOLE

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

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
CATCH BASIN AND
MANHOLE CASTINGS

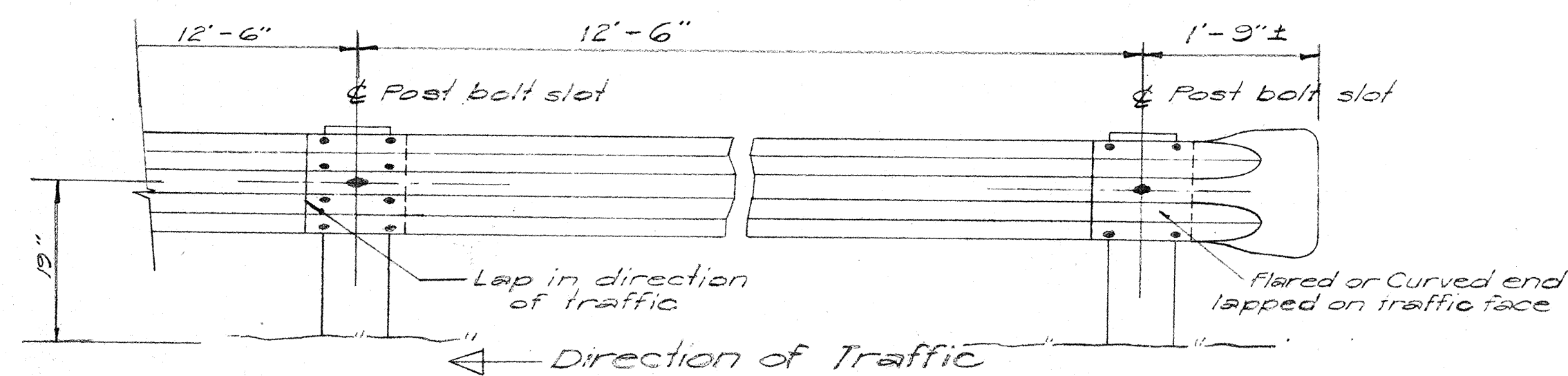
SCALES AS NOTED

SHEET NO 5 OF 12 SHEETS

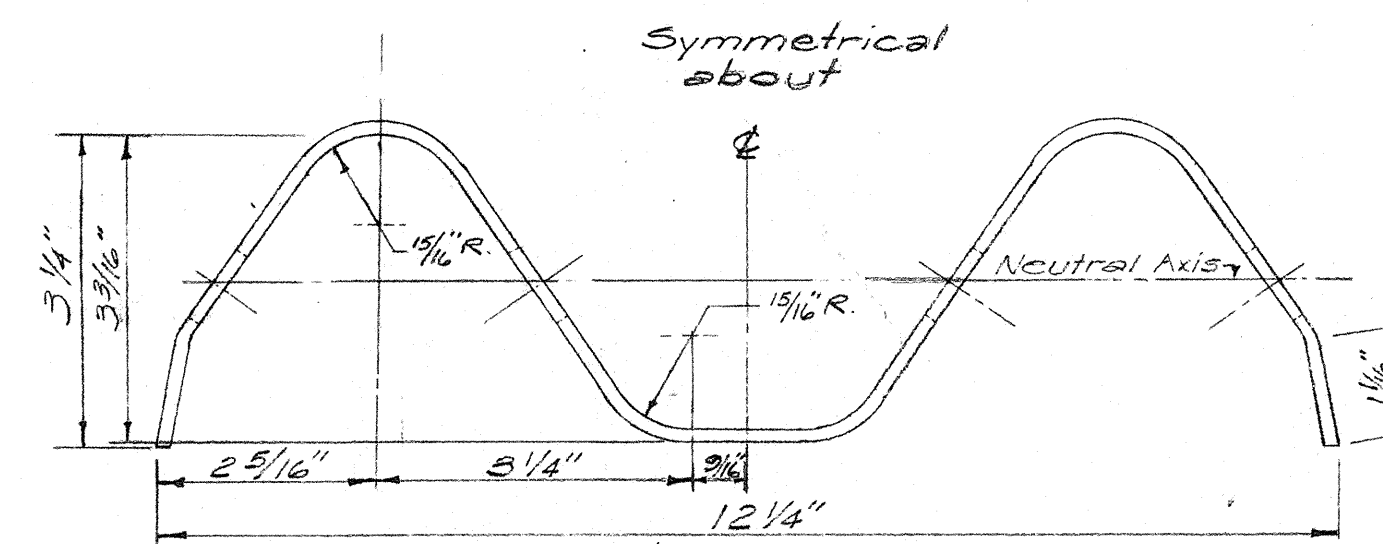
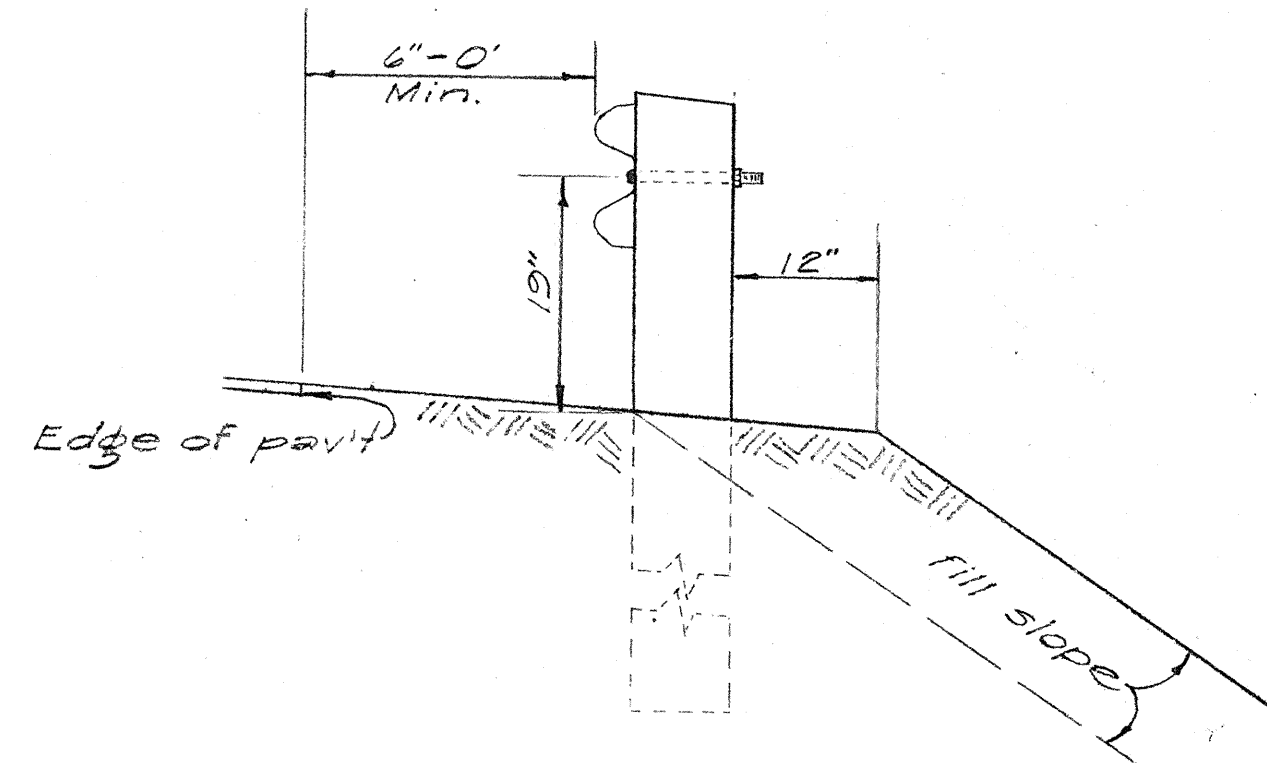
APPROVED: _____ DATE Aug. 26, 1970

 STATE HIGHWAY ENGINEER

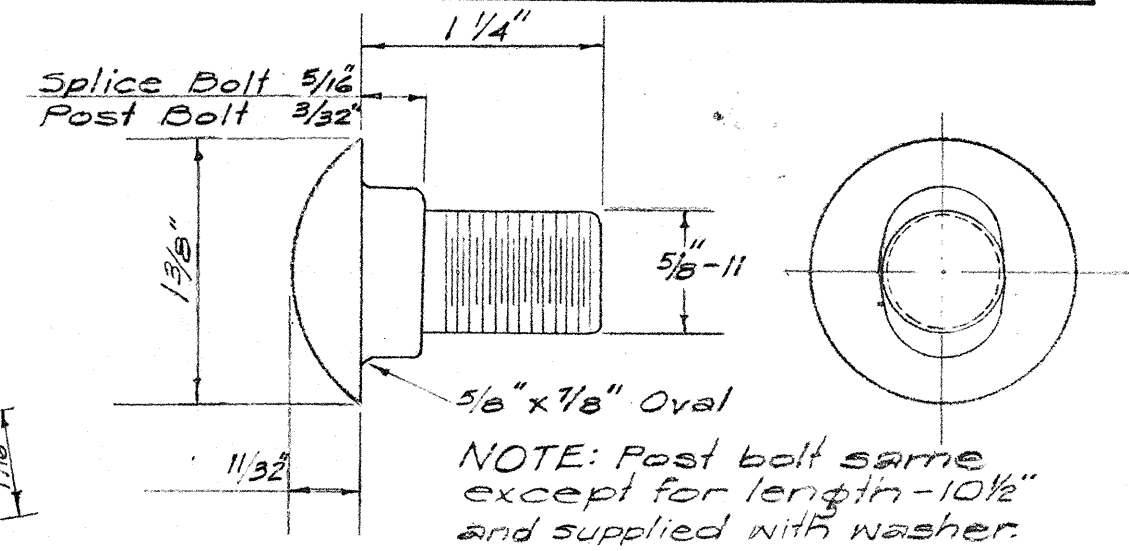
B. \$147.50



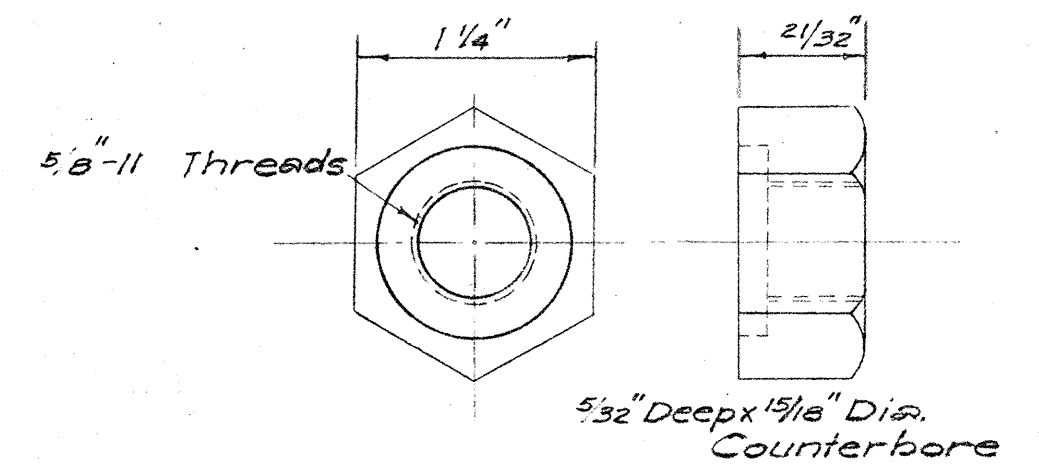
METAL GUARDRAIL
Scale: 3/4"=1'-0"



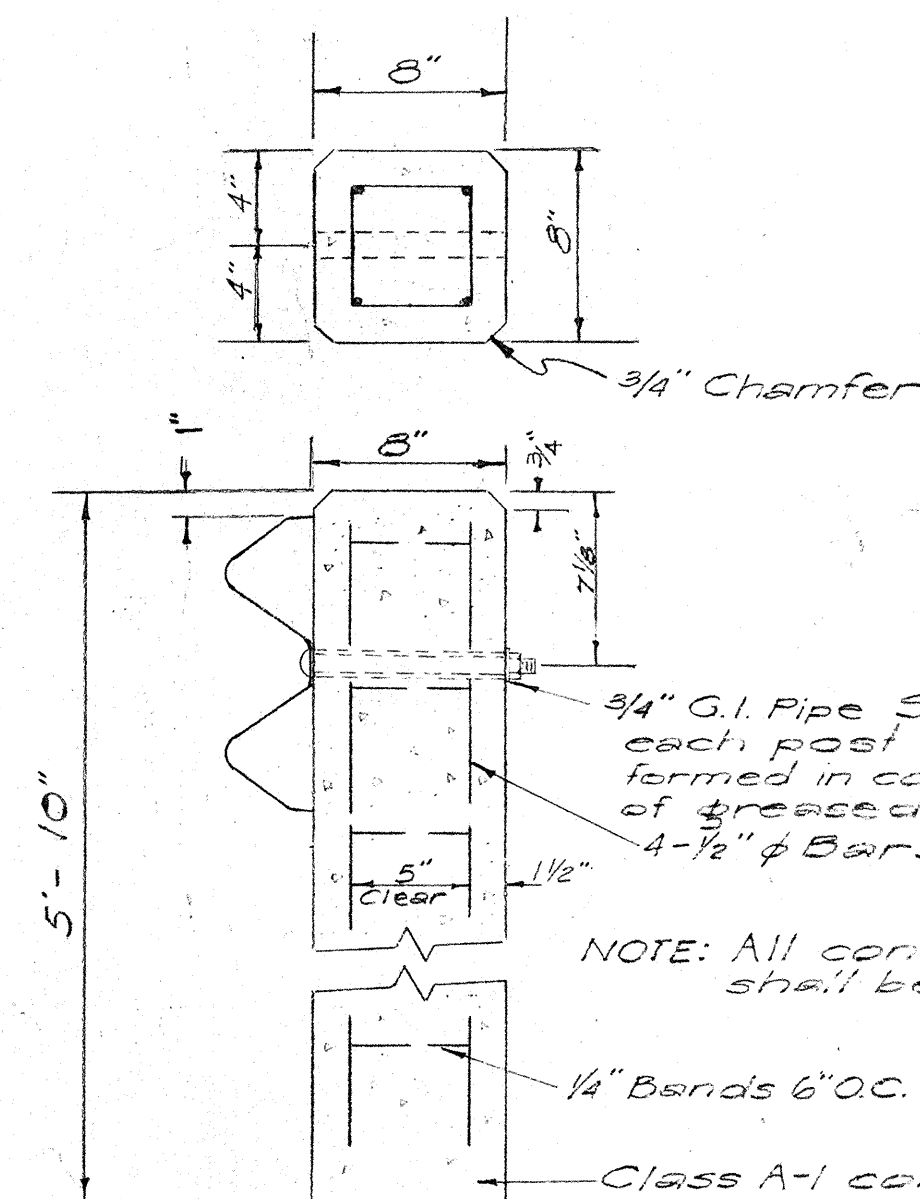
RAIL ELEMENT SECTION
Scale: 1/2"=1'



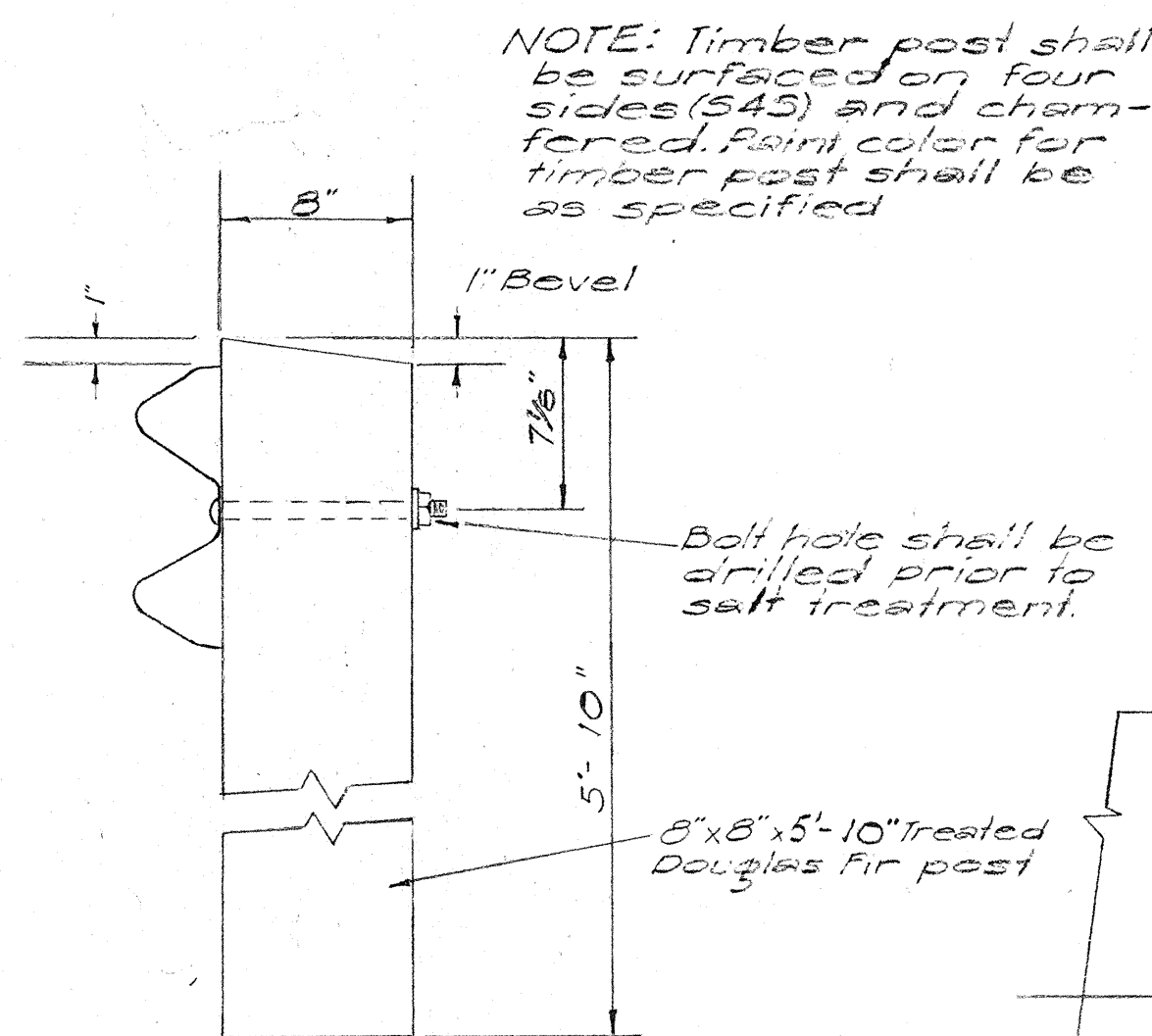
SPLICE BOLT POST BOLT
Scale: 1"=1'



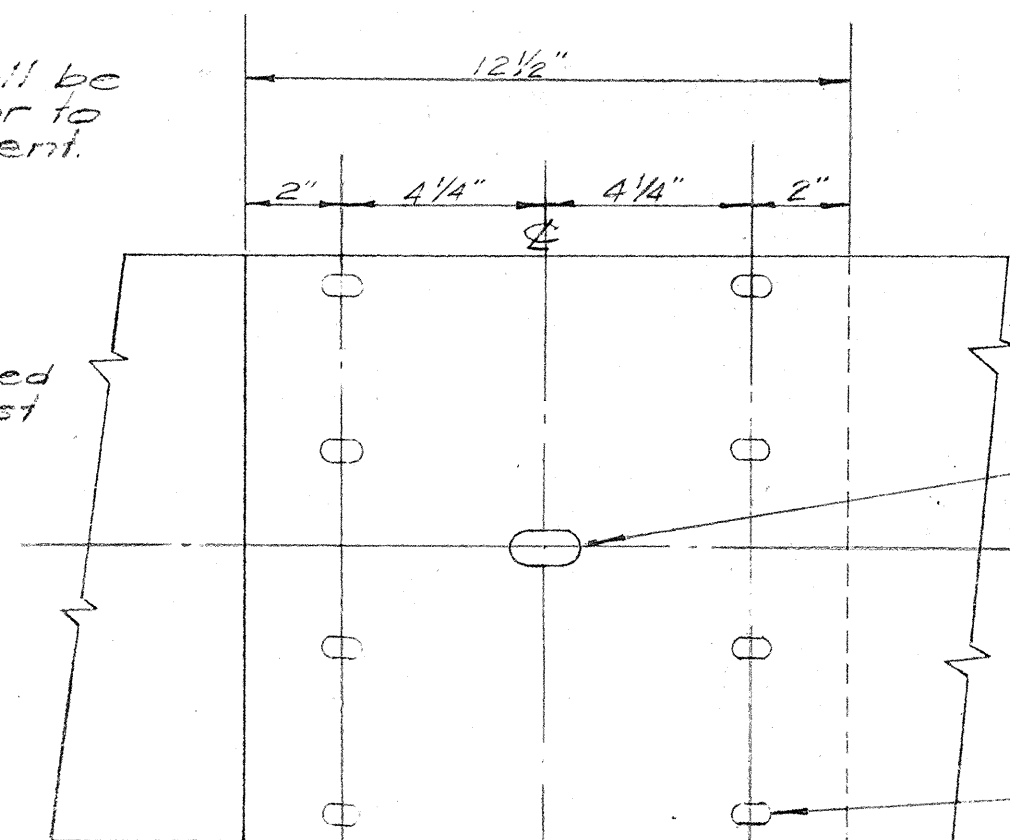
HEXAGON NUT
Scale: 1"=1'



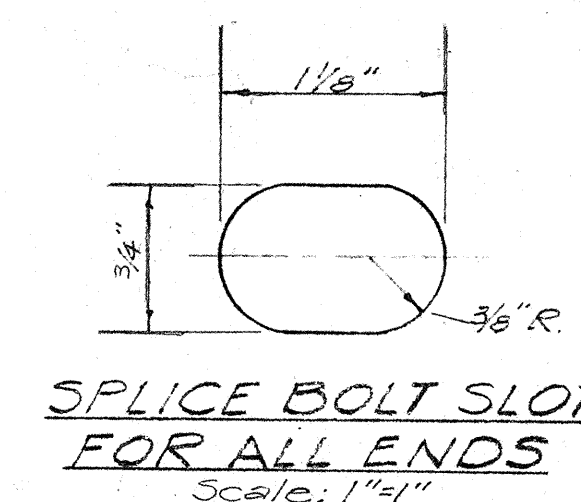
DETAIL OF CONC. POST
Scale: 1/8"=1"



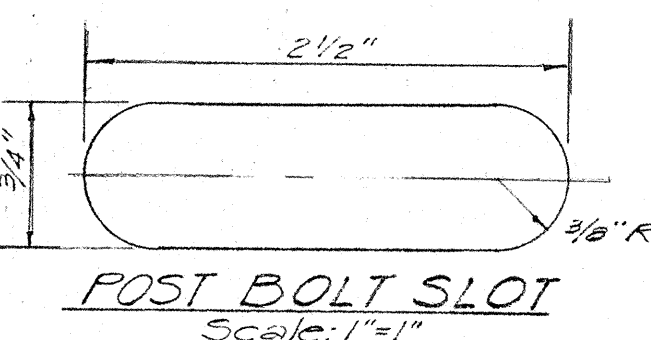
DETAIL OF TIMBER POST
Scale: 1/8"=1"



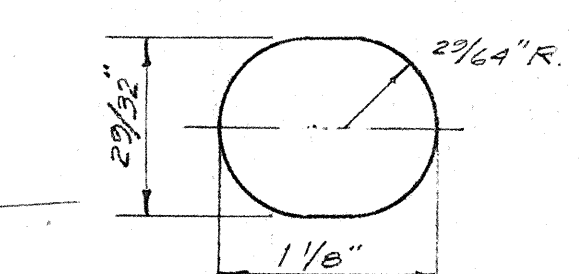
RAIL SPLICE
Scale: 1/4"=1'



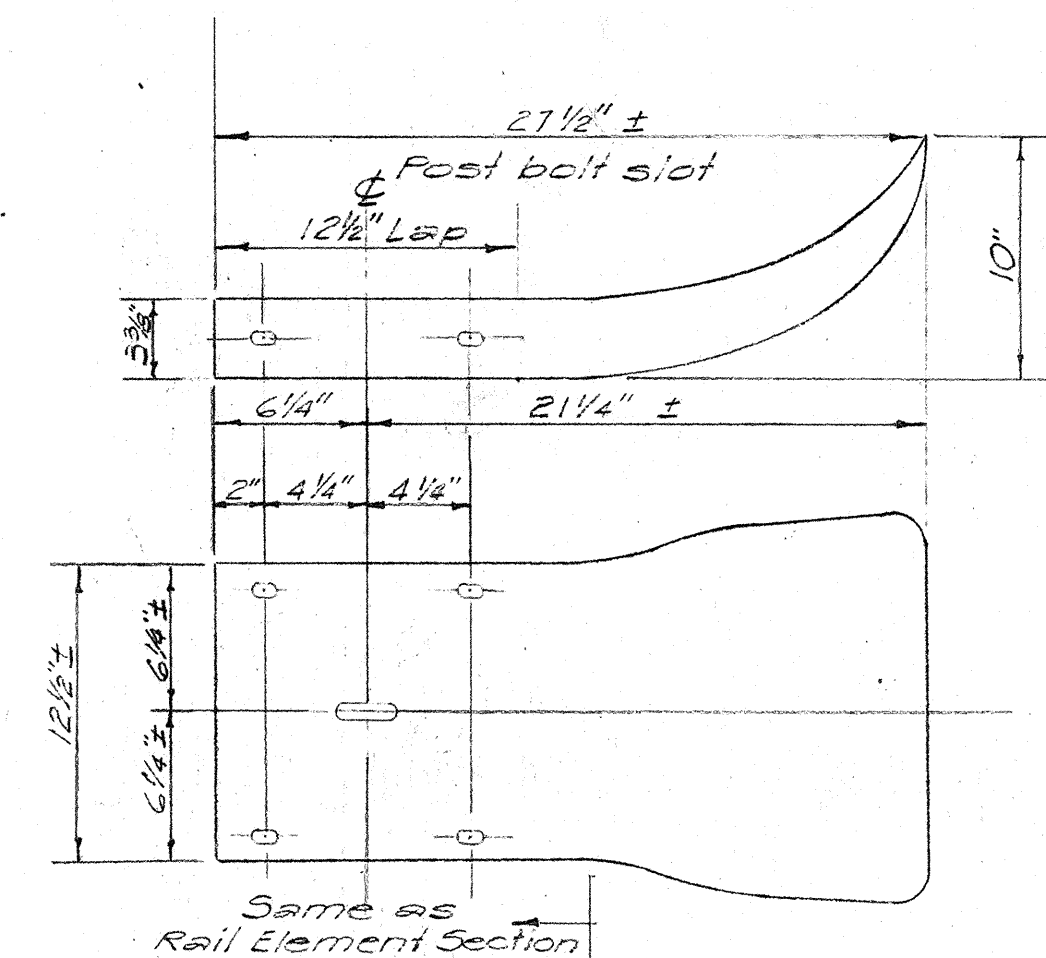
SPLICE BOLT SLOT FOR ALL ENDS
Scale: 1"=1'



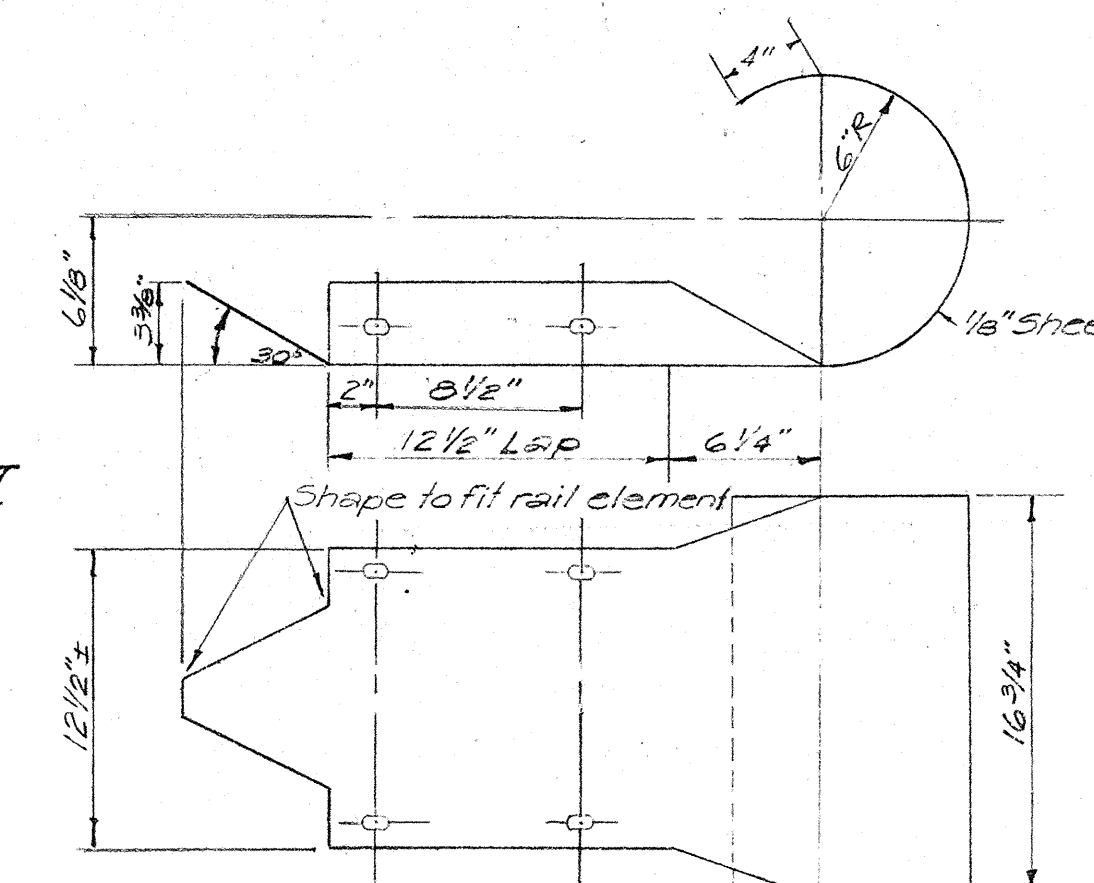
POST BOLT SLOT
Scale: 1"=1'



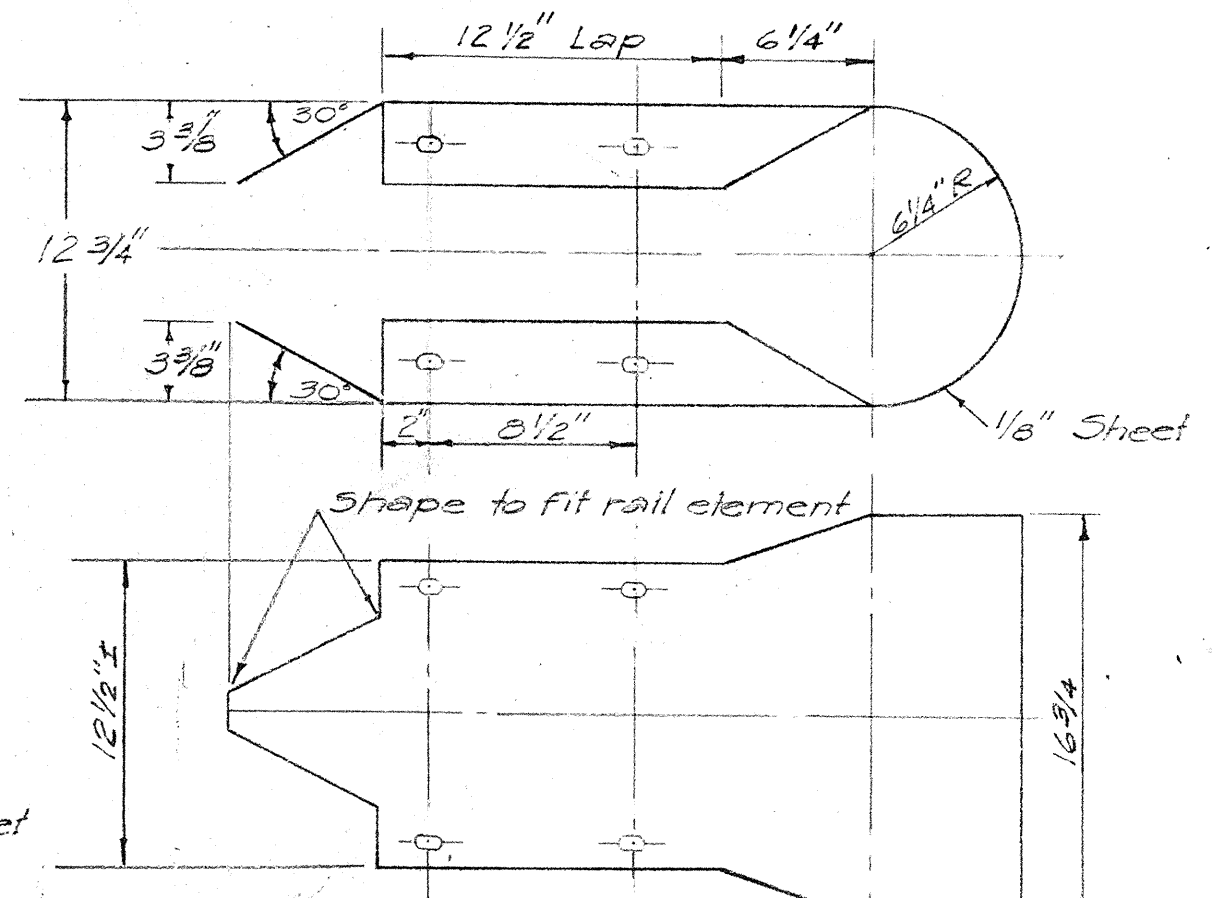
SPLICE BOLT SLOT
Scale: 1"=1'



FLARED END
Scale: 1/8"=1"



CURVED END
Scale: 1/8"=1"

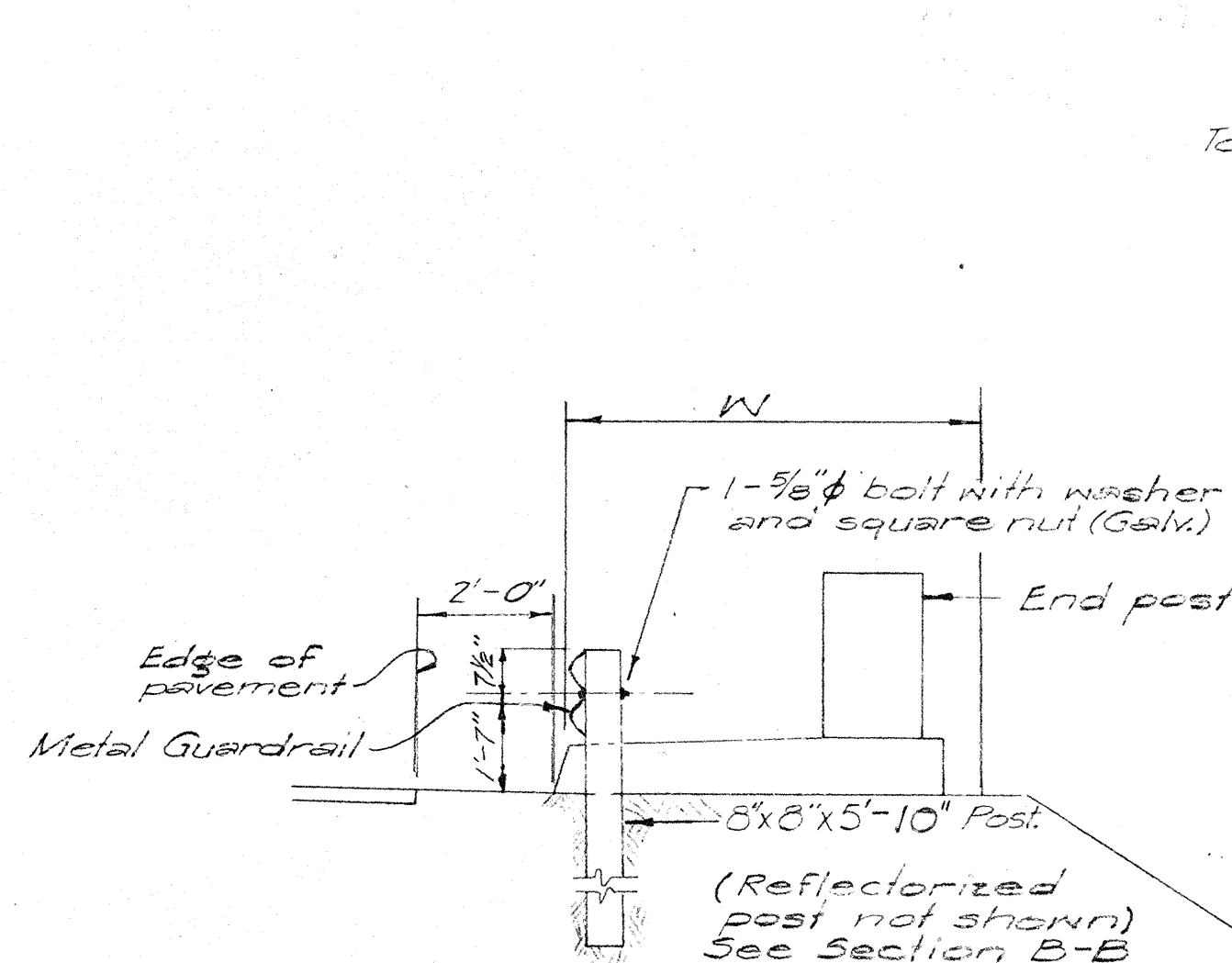


MEDIAN END
Scale: 1/8"=1"

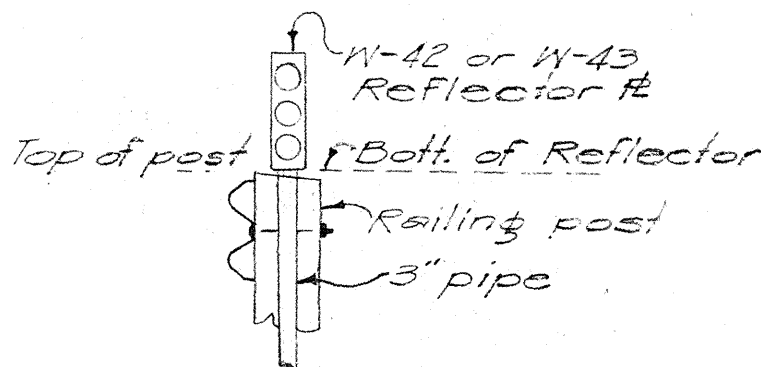
GUARDRAIL OFFSET

X	N=3'	N=4'	N=5'	N=6'	N=7'	N=8'
12.5	0.19	0.16	0.14	0.12	0.09	0.08
25.0	0.75	0.64	0.55	0.49	0.35	0.32
37.5	1.69	1.44	1.25	1.10	0.78	0.72
50.0	3.00	2.56	2.22	1.96	1.38	1.25
62.5		4.00	3.47	3.06	2.16	2.00
75.0			5.00	4.41	3.11	2.88
87.5				6.00	4.23	3.92
100.0					5.53	5.12
112.5					7.00	6.48
125.0						8.00

N = Guardrail flare.
X = Distance from post at bridge to offset points.
Y = Guardrail flare offset.

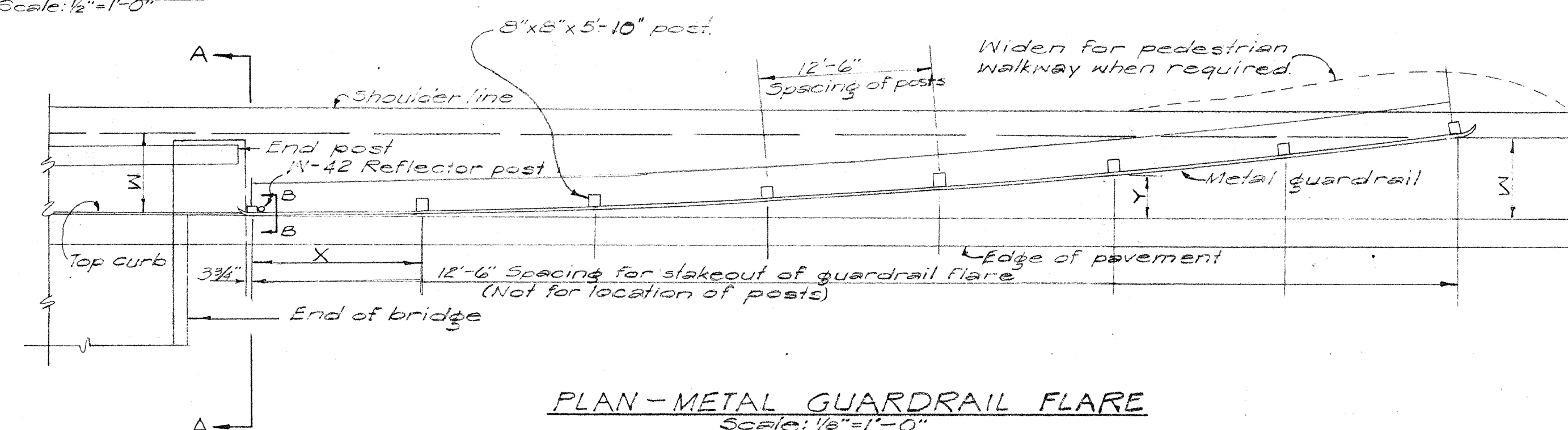


SECTION A-A
Scale: 3/8"=1'-0"

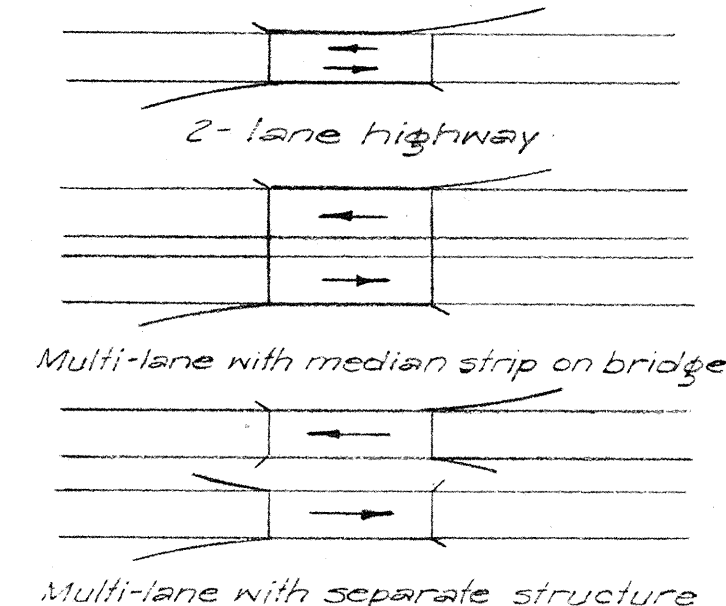


SECTION B-B
Scale: 1/2"=1'-0"

NOTE: See Regulatory & Warning Signs Sheet for details of N-42, N-43, and railing posts.



PLAN - METAL GUARDRAIL FLARE
Scale: 1/8"=1'-0"



HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII

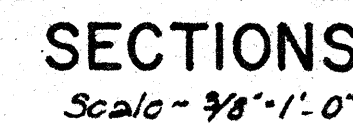
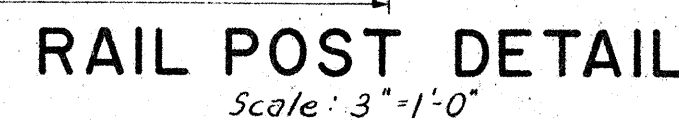
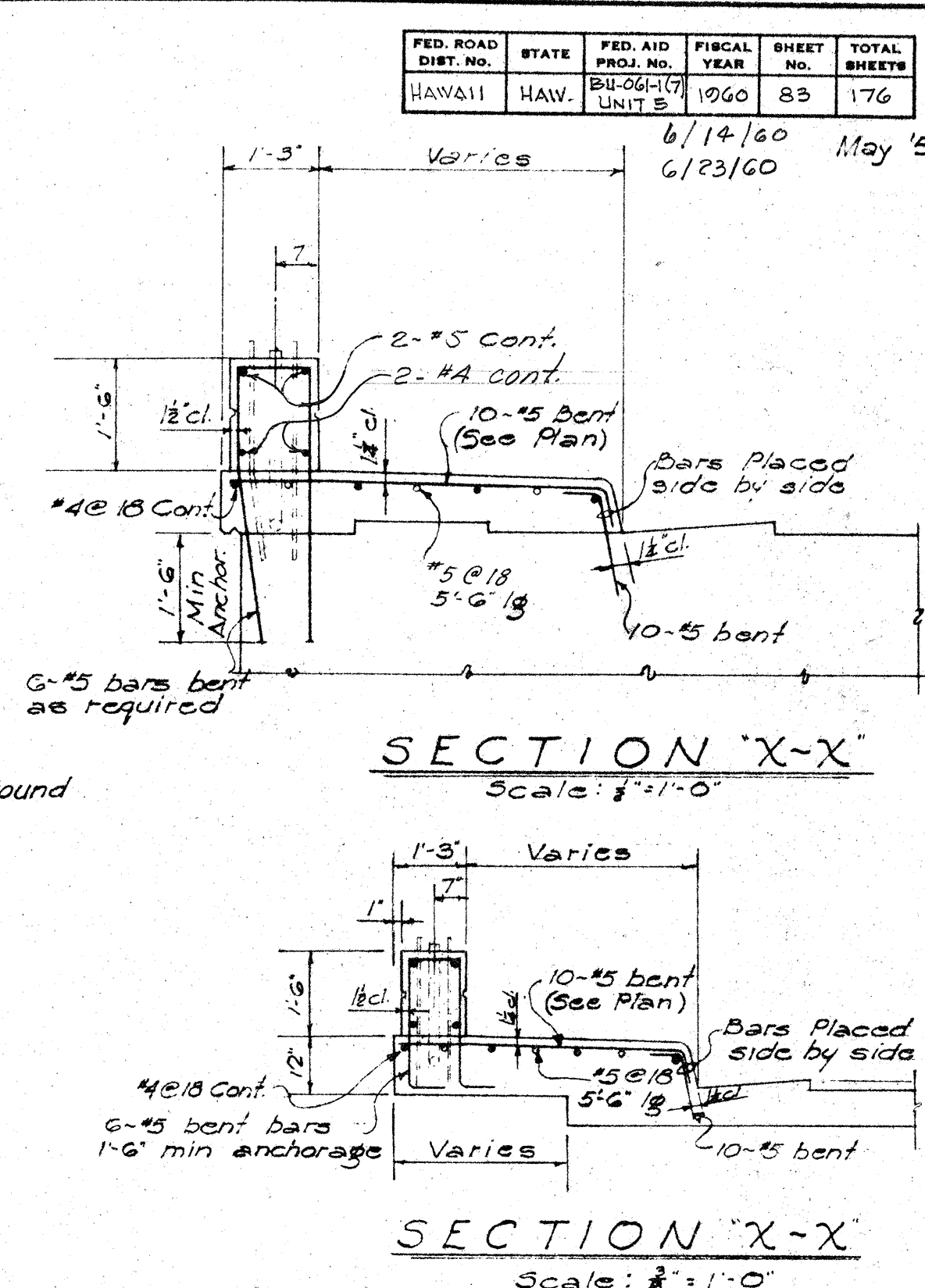
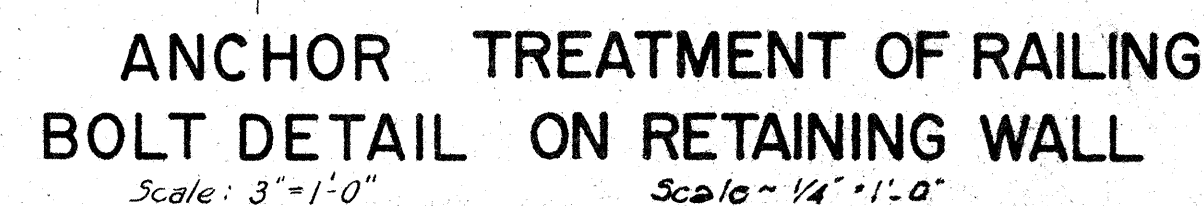
**STANDARD DETAILS
METAL GUARDRAIL**

SCALE: AS NOTED

SHEET NO. 6 OF 12 SHEETS

B.S147.S2

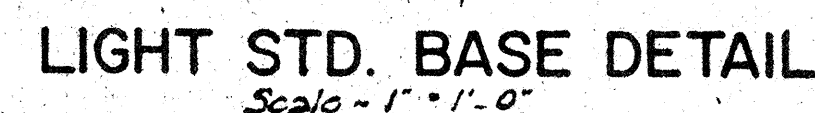
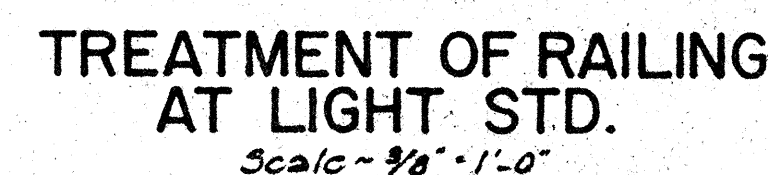
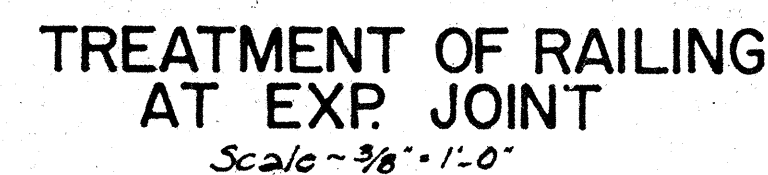
DATE: _____
DESIGNED BY: _____
TRACED BY: _____
QUANTITIES BY: _____
CHECKED BY: _____
NOTE BOOK No. _____



Aluminum railing concrete parapet & end post to receive "Class 2 Surface Finish"

ITEM	DESCRIPTION	ALLOY	UNIT WT
Top Rail	Al Alloy Drawn Or Extruded Tube 4" o.d. x 1/8" thick wall	6061 - T6	1.79 #/ft.
Bot. Rail	Al Alloy Drawn Or Extruded Tube 3 1/2" o.d. x 1/8" thick wall.	6061 - T6	1.56 #/ft.
* Rail Post	Permanent Mold Casting. See Rail Post Detail	Post A 356-T6 Post Sc. 2024-T4	16.0 #/ea.
Rail Cap	See Rail Cap Detail	Cap 356-T6	Top -.415 #/ea Bot. -.340 #/ea
Bolts	See Anchor Bolt Detail. Provide Hexagon Nut and Plain Washer.	Bolt 2024-T4 Nut 6061-T6 Wash. 2024-T4	—

LIGHT STD. BASE REINF. DETAIL



STATE HIGHWAY ENGINEER

SHEET No. 7 OF 12 SHEETS

2/17/59
4/6/59
4/28/59
7/30/59

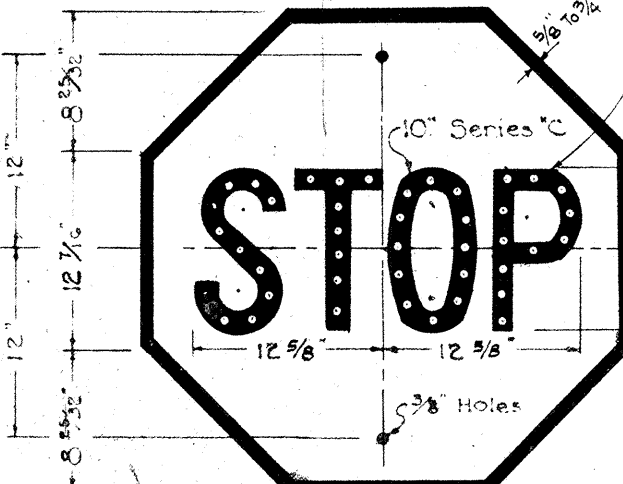
White Letters and border on Red Background (background may be of red reflective sheeting). Letters to be reflectorized with buttons or reflective sheeting.

Note: All Regulatory and Warning Signs shall have 3/8" Bolt Holes.

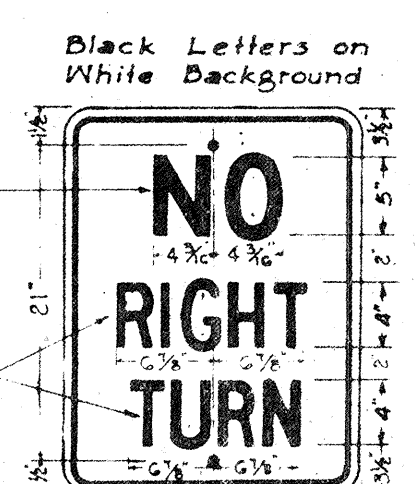
NOTE: Signs noted with an (R) designation indicate reflectorization with either buttons or reflective sheeting.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	BUDGET UNIT 5	1960	84	176

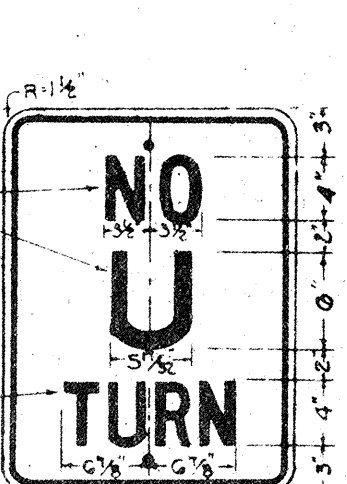
JULY 3, 1957



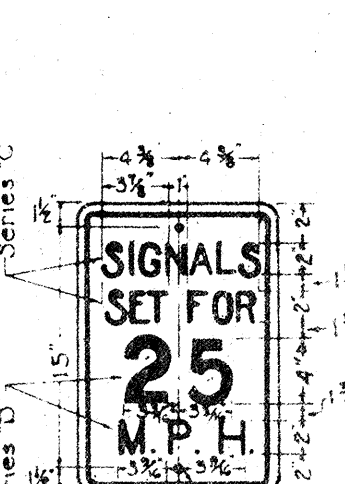
R-1
30" x 30"



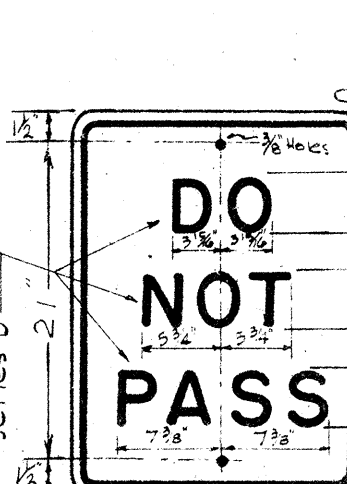
R-6
18" x 24"



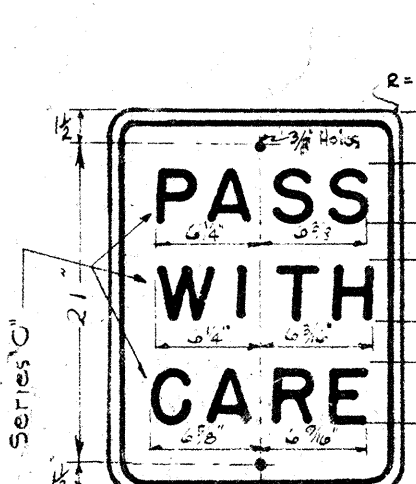
R-8
18" x 24"



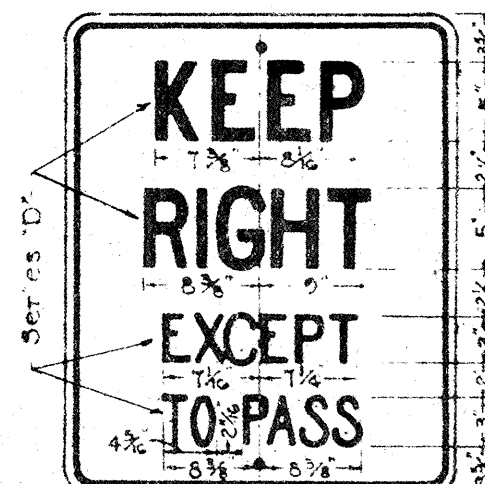
R-10
12" x 18"



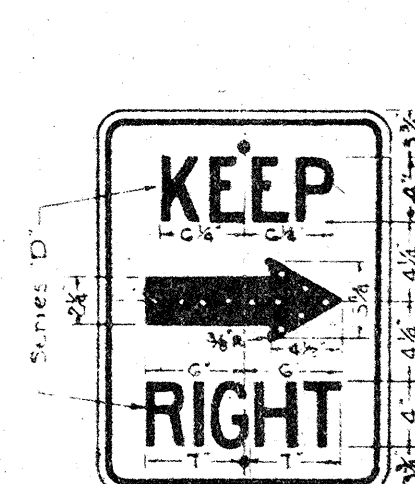
R-11
18" x 24"



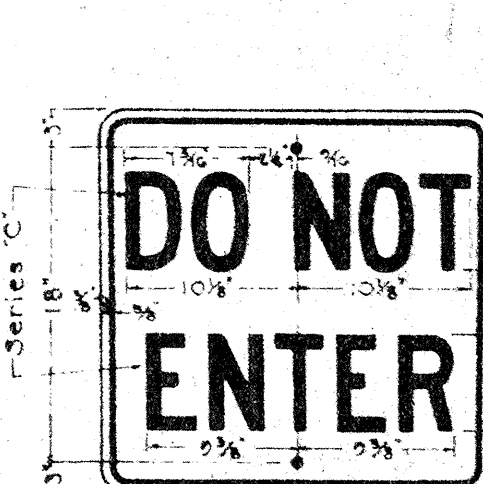
R-12
18" x 24"



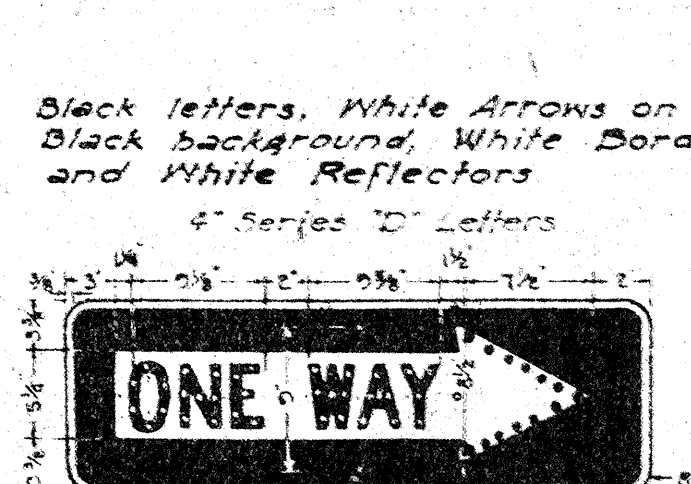
R-13
24" x 30"



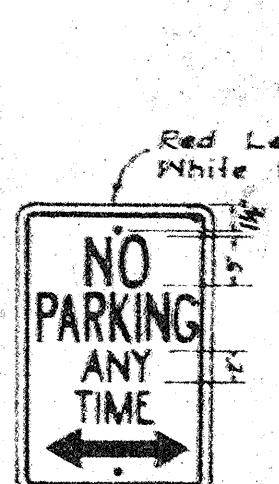
R-14 (R)
18" x 24"



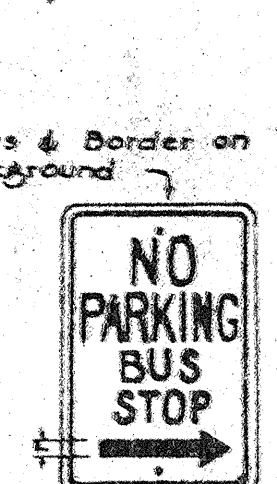
R-15
24" x 24"



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



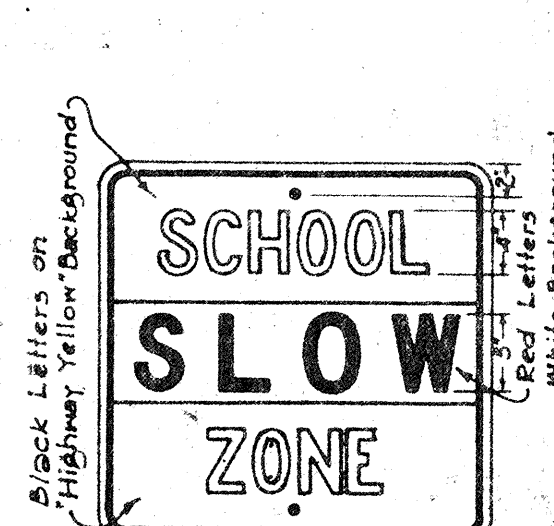
R-18
12" x 18"



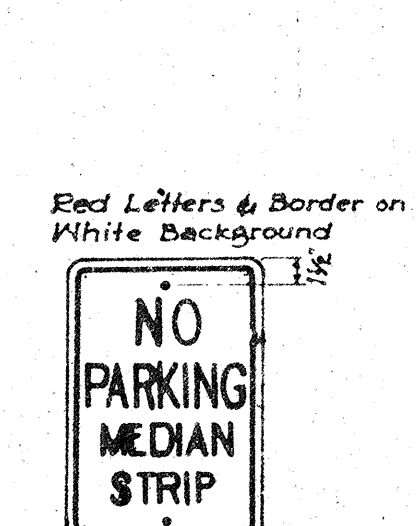
R-26
12" x 18"



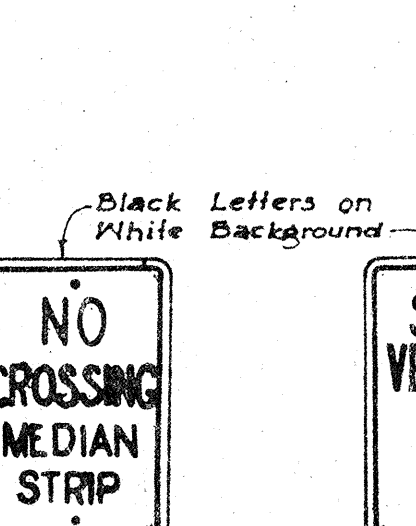
R-29
24" x 30"



R-41-S
24" x 24"



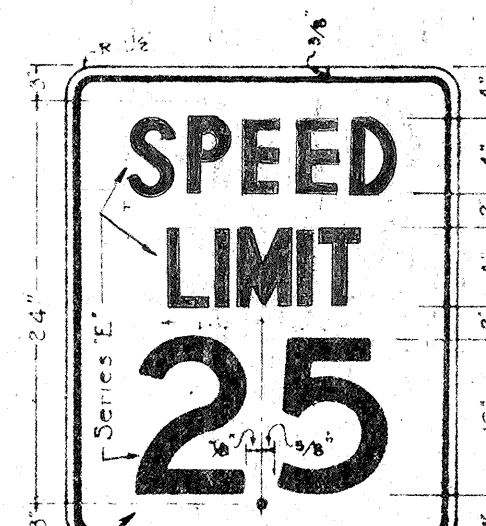
R-42-S
12" x 18"



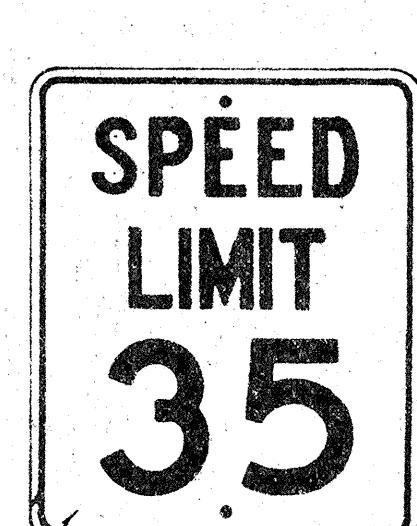
R-43-S
12" x 18"



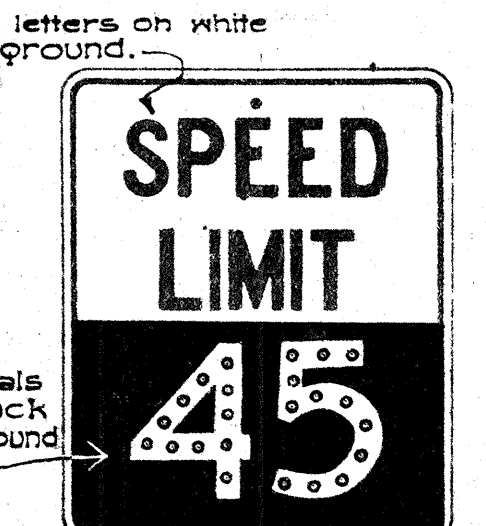
R-44-S
12" x 18"



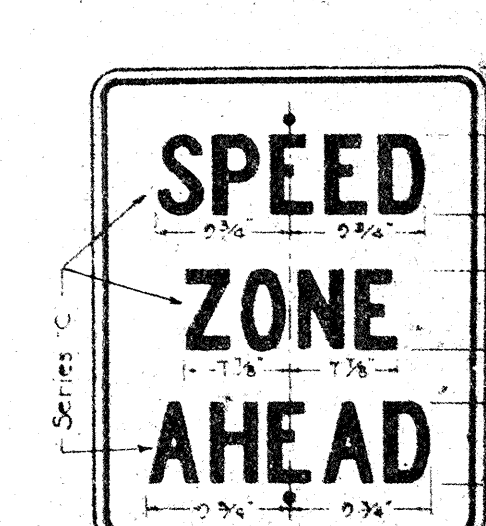
R-102-A
24" x 30"



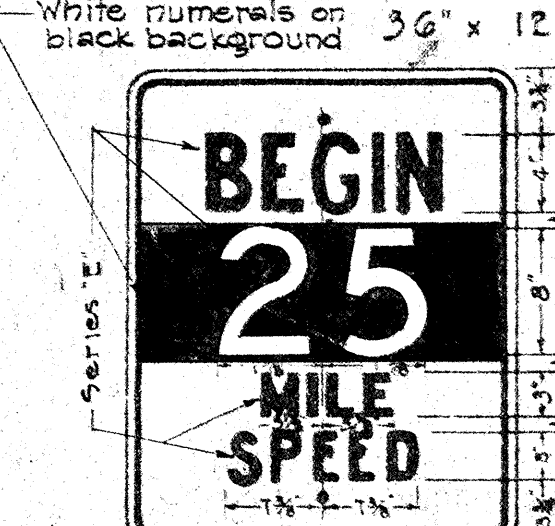
R-102-B
24" x 30"



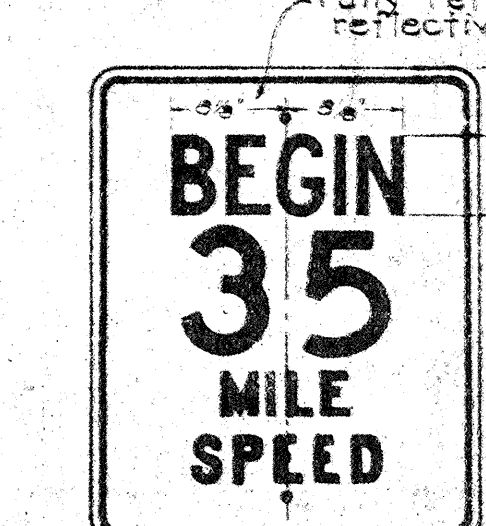
R-102-C (R)
24" x 30"



R-104
24" x 30"



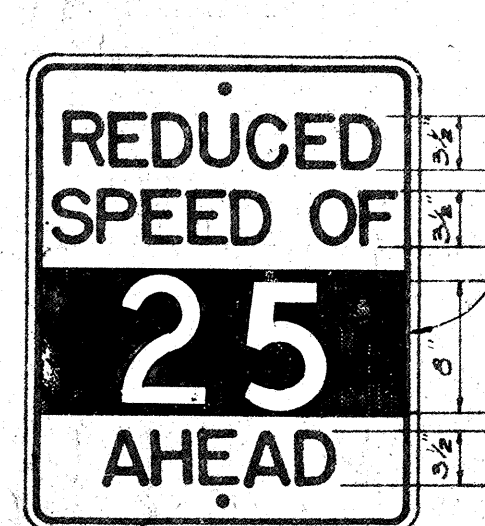
R-105-A (R)
24" x 30"



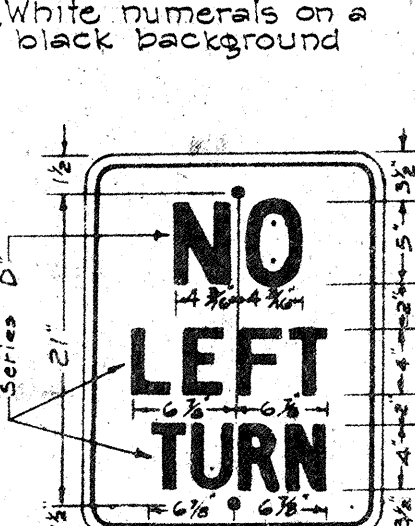
R-105-B
24" x 30"



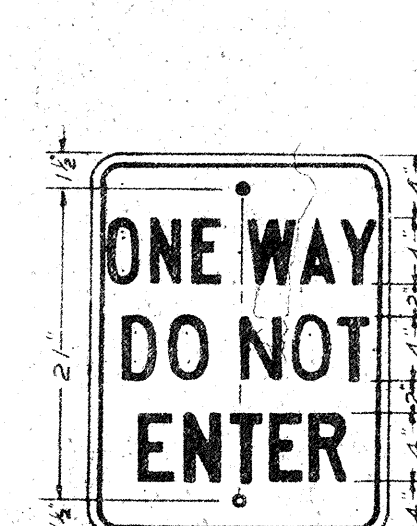
R-105-C
24" x 30"



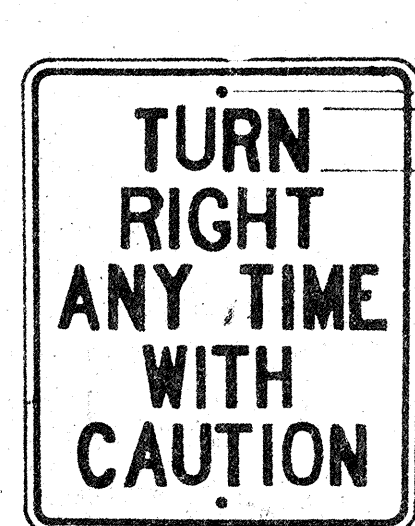
R-104-A
24" x 30"



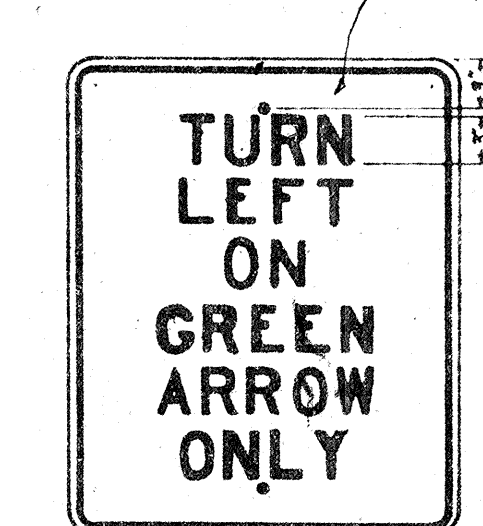
R-7
18" x 24"



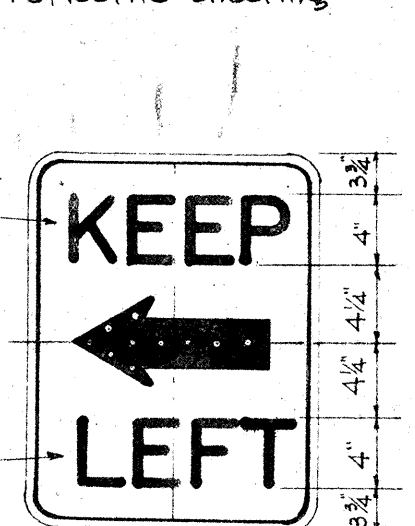
R-66
18" x 24"



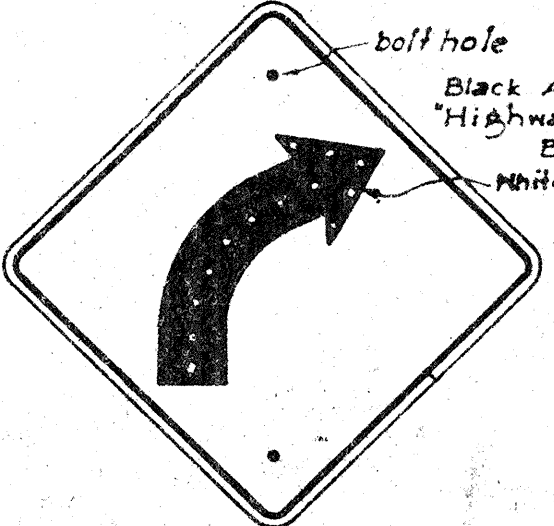
R-106
24" x 30"



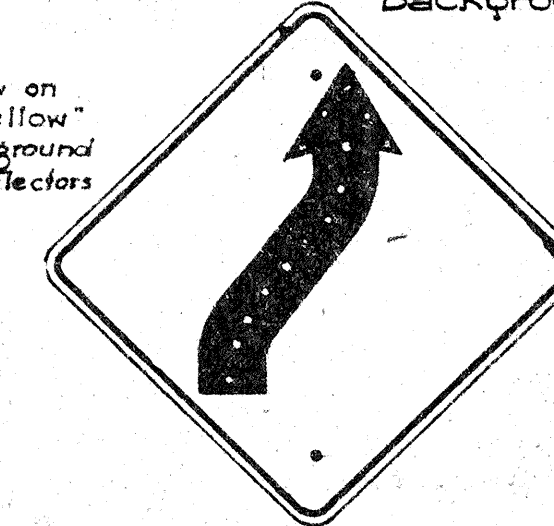
R-107-A
24" x 30"



R-14-A
24" x 24"



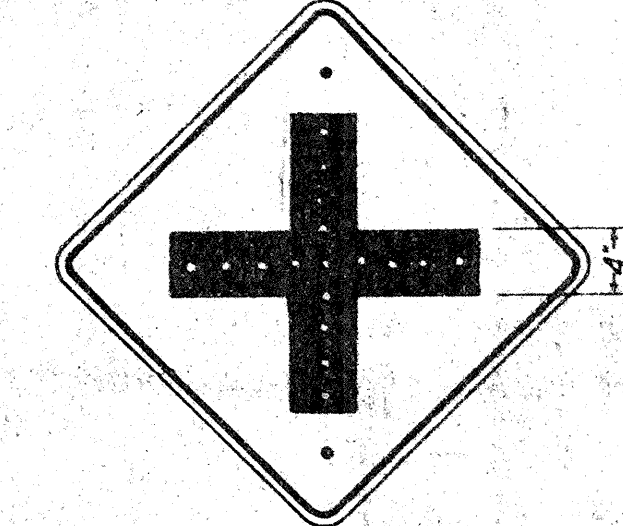
W-2-R
*W-2-L
24" x 24"



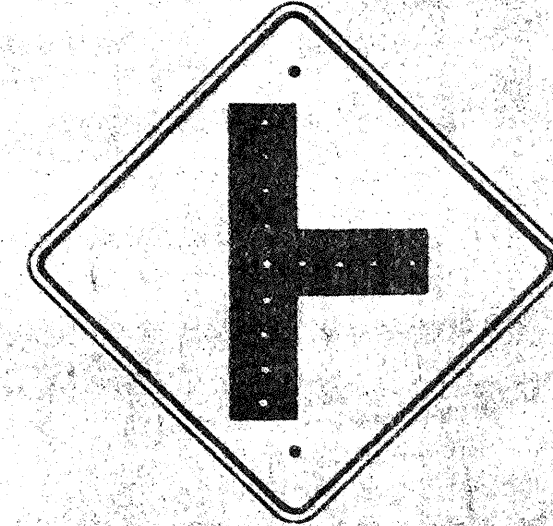
W-4-R
*W-4-L
24" x 24"



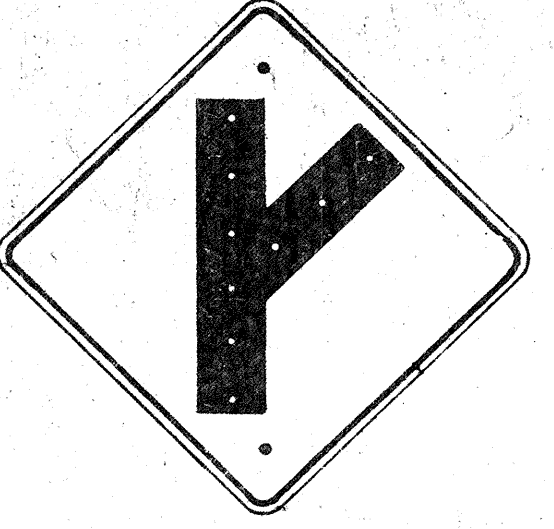
W-5-R
*W-5-L
24" x 24"



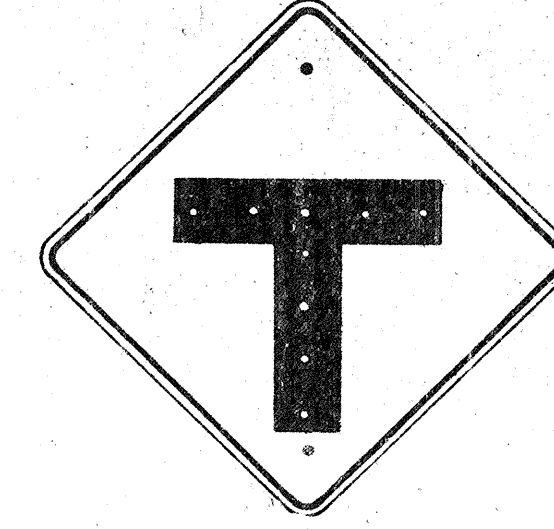
W-6
24" x 24"



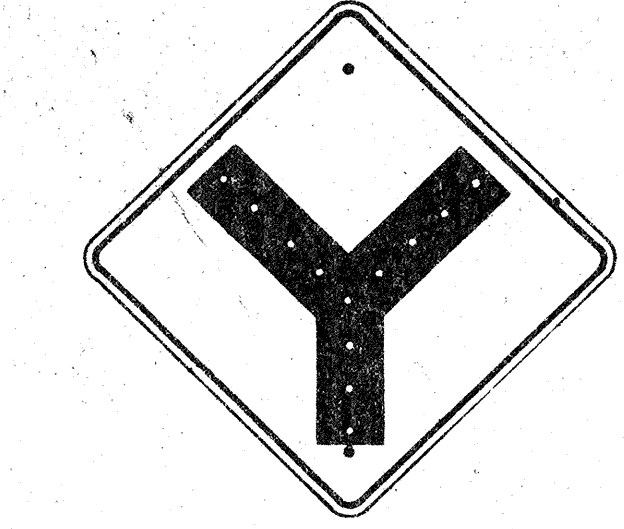
W-7
24" x 24"



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



W-9
24" x 24"



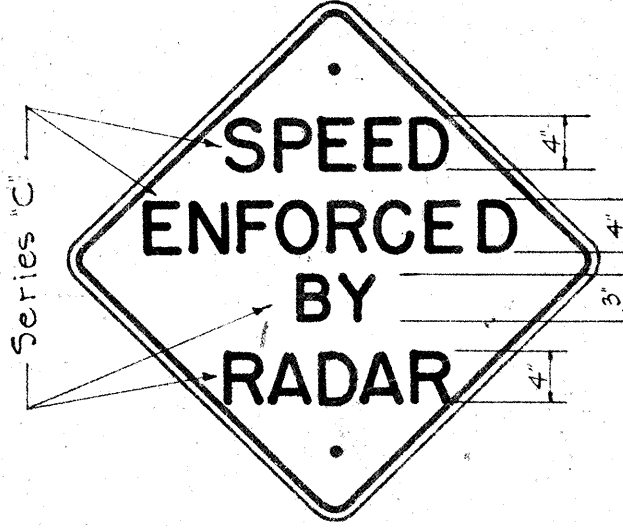
W-10
24" x 24"



W-13
24" x 24"



W-14
24" x 24"



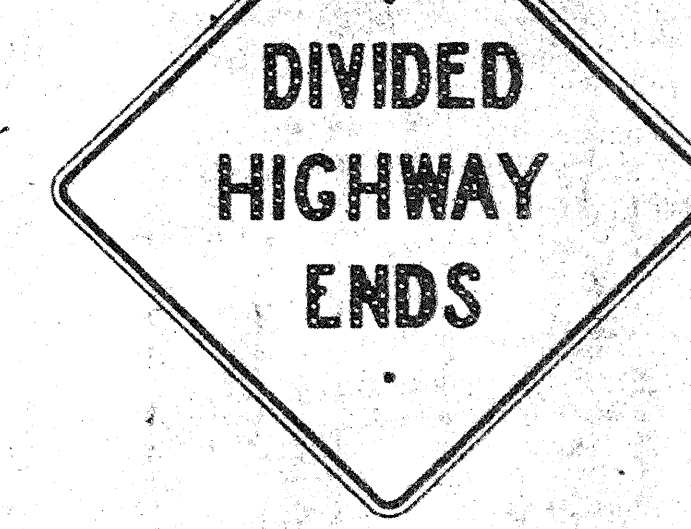
W-40
24" x 24"



W-19
30" x 30"



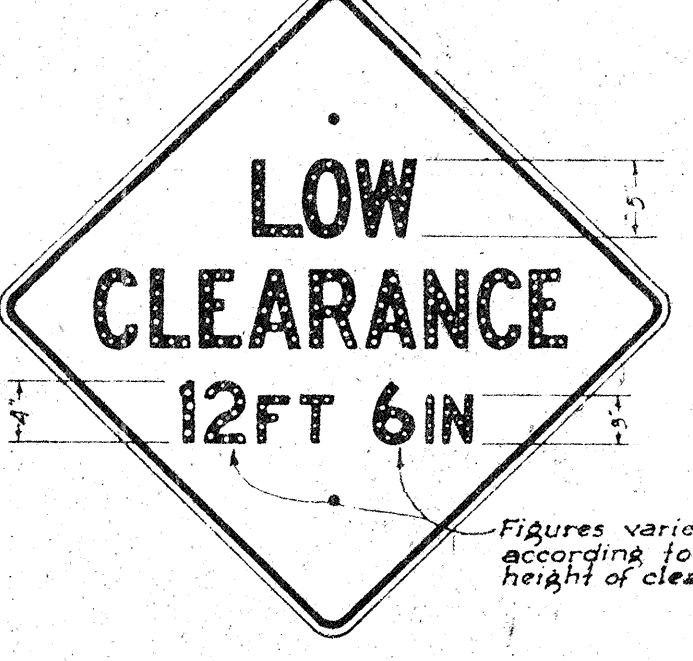
W-20
30" x 30"



W-21
30" x 30"



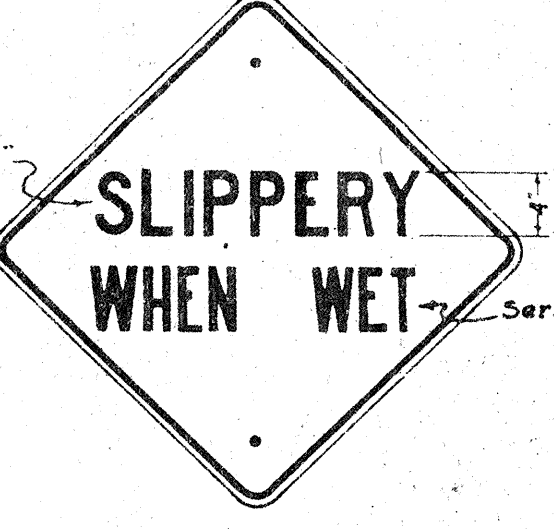
W-22
24" x 24"



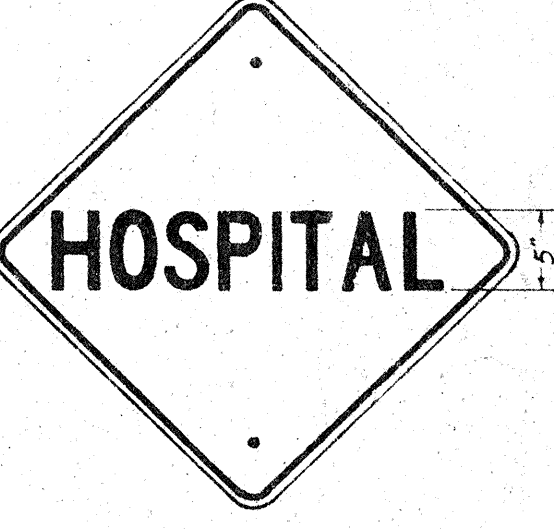
W-24
30" x 30"



W-25
24" x 24"



W-29
24" x 24"



W-59
24" x 24"

NOTE:
1. Locations and placement of signs shall conform with requirements of the Manual on Uniform Traffic Control Devices for streets and highways.
2. All regulatory (R-series) signs shall be black letters on a white reflective background, except as noted.
3. All warning (W-series) signs shall have black letters or figures reflectorized with white button reflectors on a 'Highway' yellow background or black letters or figures on a background made of yellow reflective material.
4. All letters and figures shall be of size and design shown and shall conform with 'Standard Alphabets for Highway Signs, B.P.R., Standard Highway Signs, B.P.R. and 'The American Association of State Highway Officials Manual for Signing and Pavement Markings of the National System of Interstate and Defense Highways,' 1958.

*Signs shall be similar but opposite in direction. See Specifications for Materials and Finish.

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII

REGULATORY & WARNING SIGNS

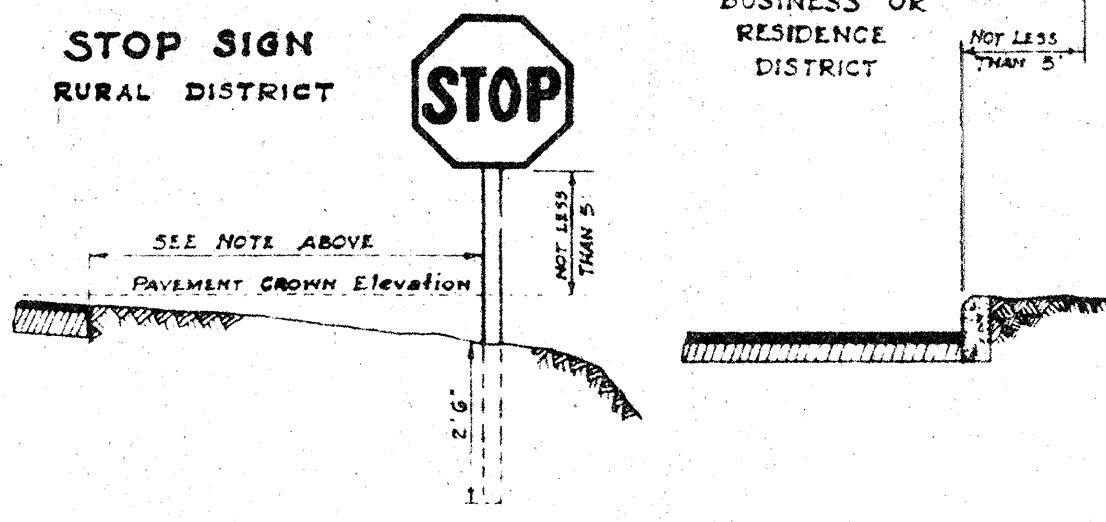
Scale: 1" = 1'-0"

APPROVED: _____
STATE HIGHWAY ENGINEER

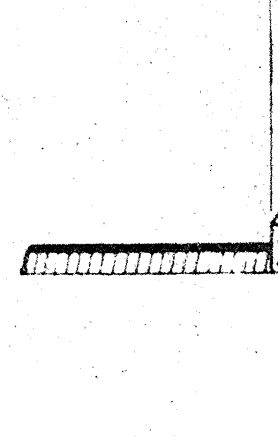
2/17/50
4/6/59
4/28/59
7/30/59

NOTE:
Sign Posts shall be 3" galv std. pipe for signs larger than 24" in any dimension and 2" galv std. pipe for signs not over 24" in any dimension.
Two (2) 3/8" bolt holes drilled at location shown.

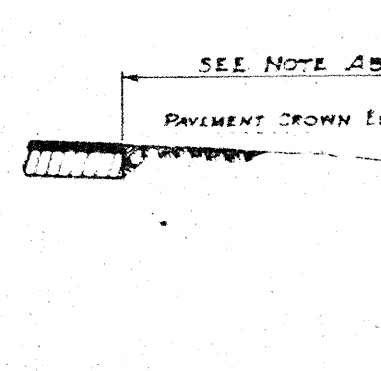
Two (2) 1/2" x 4 1/2" or 1/2" x 5" galvanized carriage bolts with nuts, two (2) 3/8" iron washers and two (2) 3/8" x 1/2" stainless steel with neoprene rubber gasket attached washers **SPEED LIMIT** shall be provided with each sign installation.



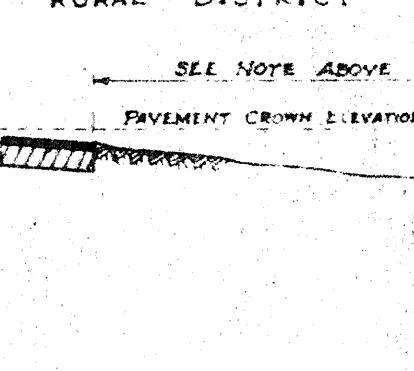
PARKING SIGN
BUSINESS OR RESIDENCE DISTRICT



WARNING SIGN
RURAL DISTRICT



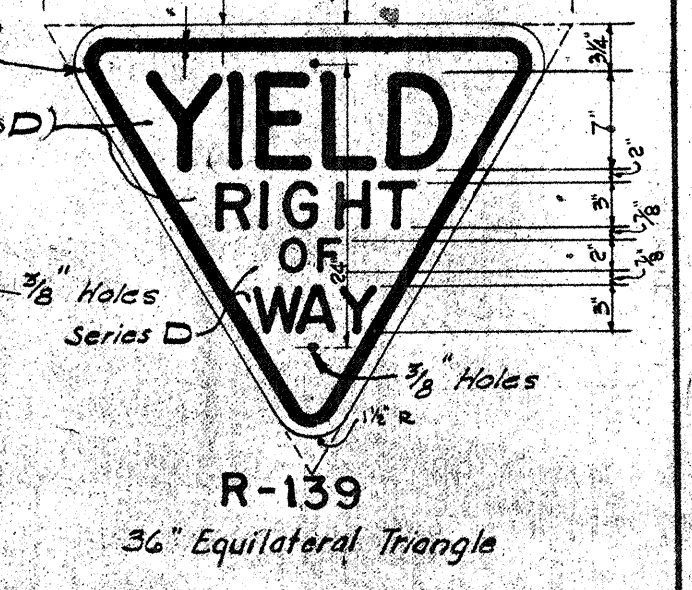
WARNING SIGN WITH ADVISORY SPEED SIGN
RURAL DISTRICT



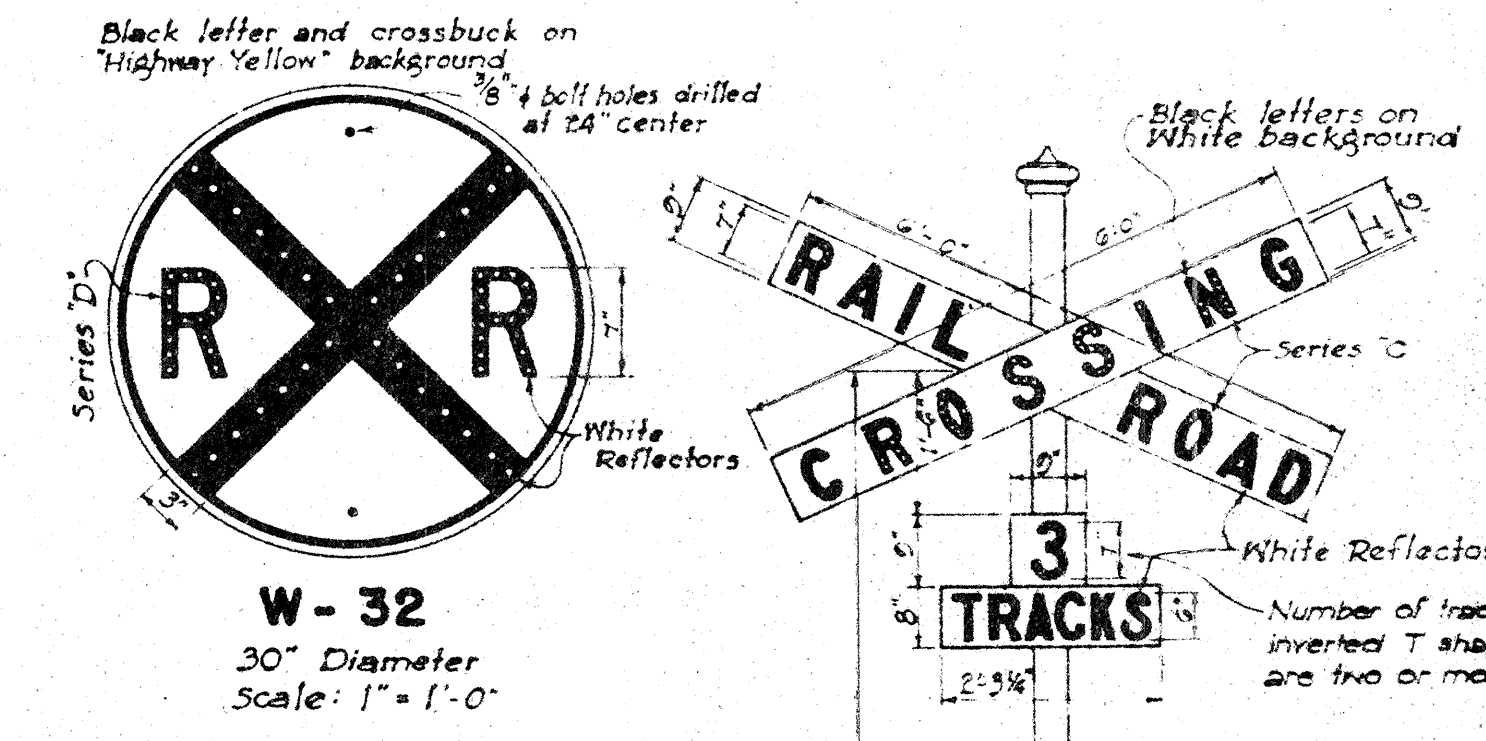
NOTE: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.

NOTE: All Regulatory and Warning Signs shall have 3/8" Bolt Holes.

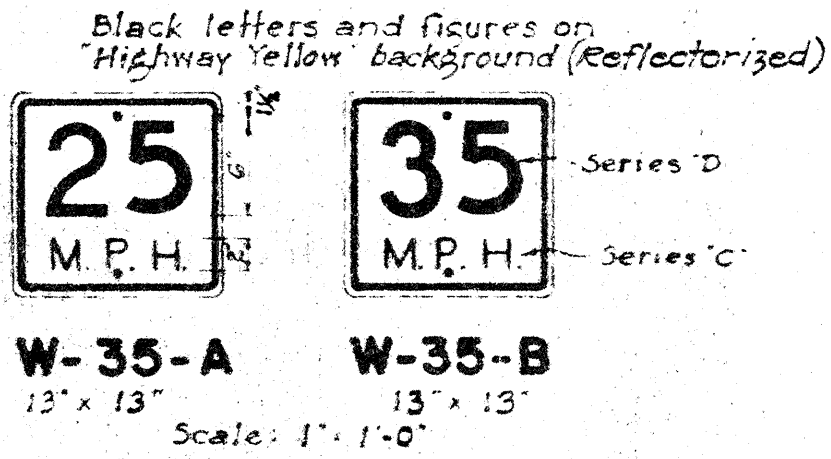
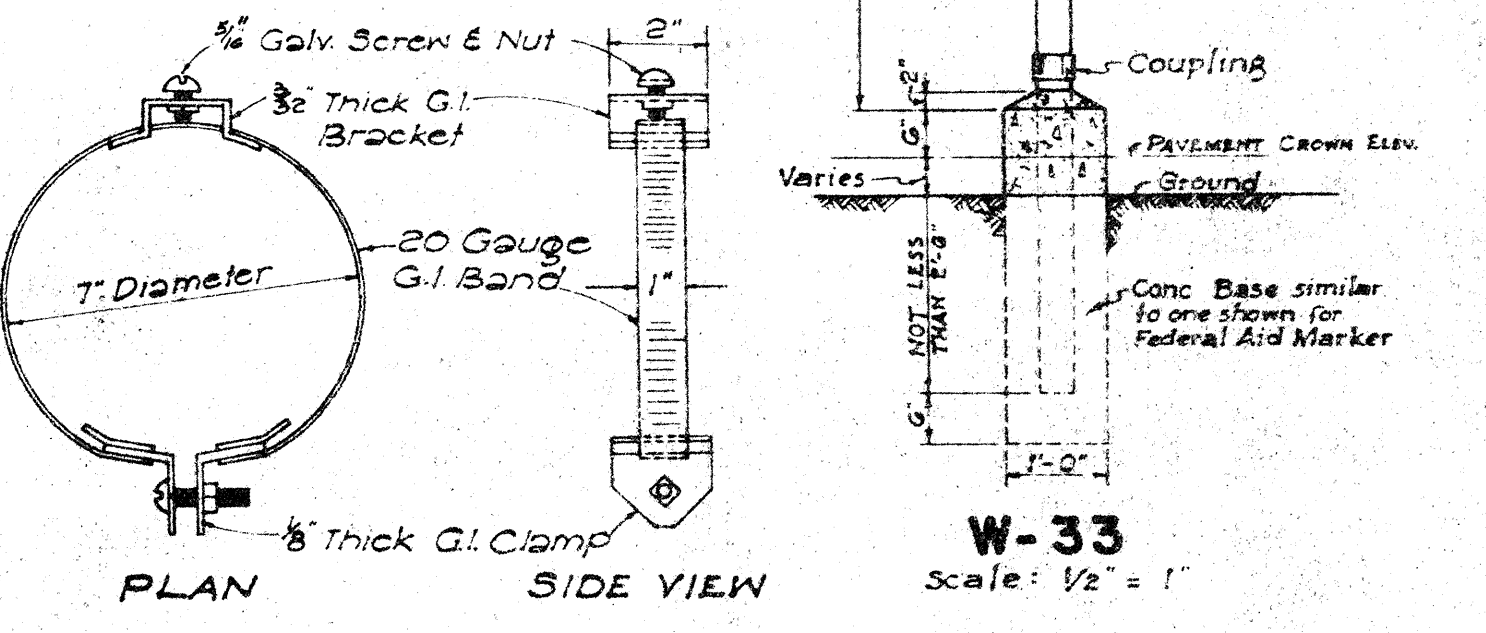
NOTE: For R-139, Black Border and Letters on Yellow Reflectorized Background or Black Border and reflectorized letters with white buttons on a Yellow Back-ground.



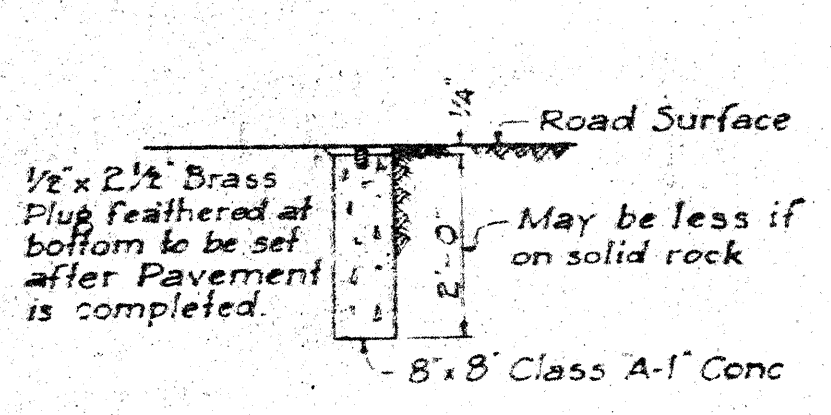
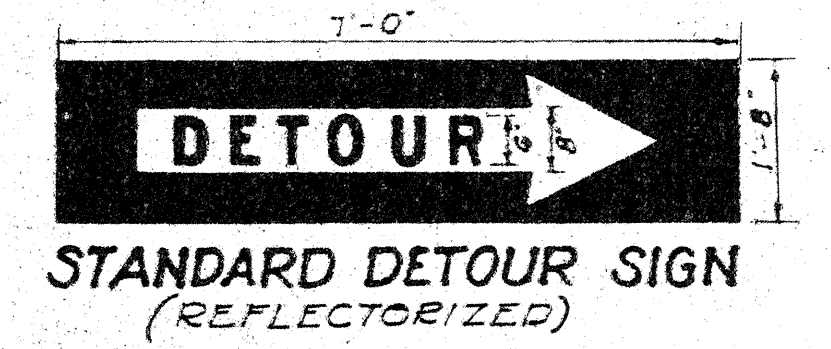
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



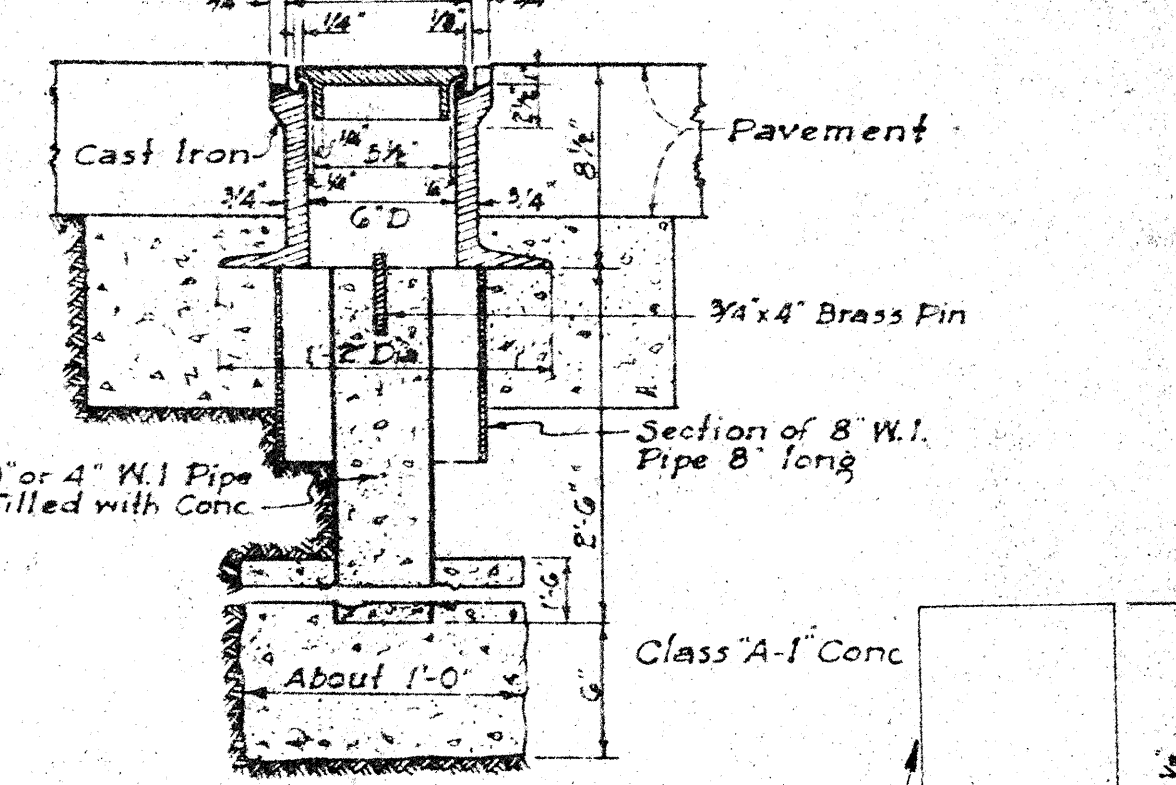
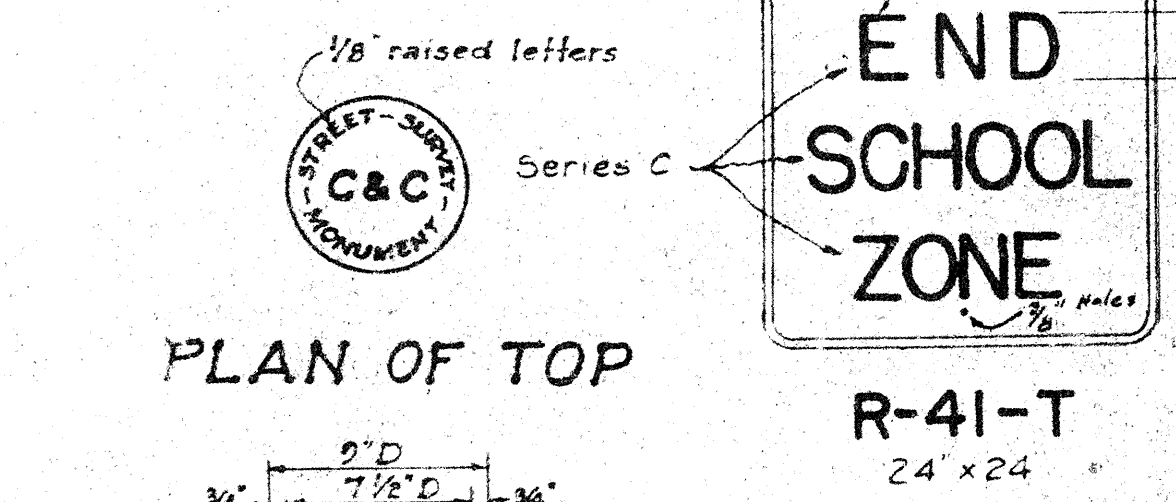
NOTE: This sign shall be placed from 300 to 500 feet from R. R. intersections in rural areas and a minimum distance of 100 feet from R. R. intersections in Residence or Business districts.



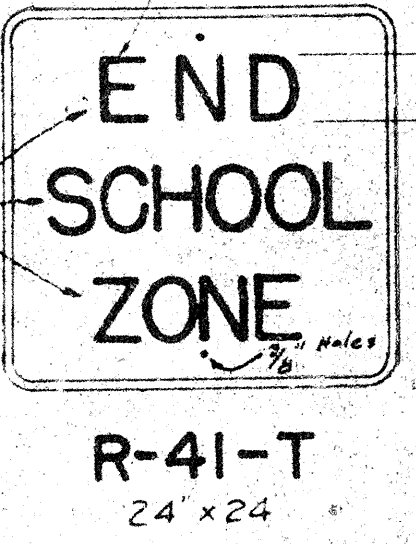
Scale: 1" = 1'-0"



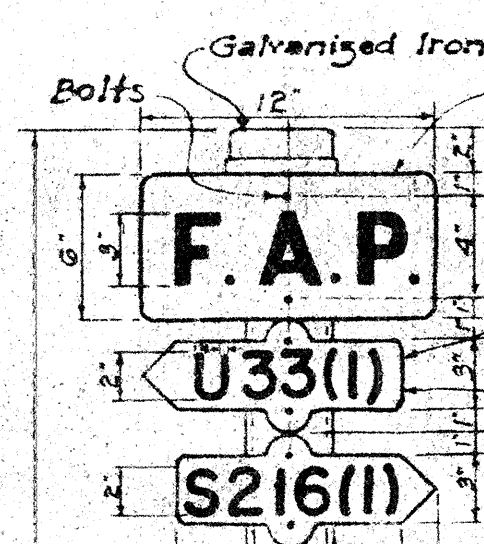
CENTER LINE MONUMENT
Scale: 1/2" = 1'-0"



STANDARD C & C STREET SURVEY MONUMENT



END SCHOOL ZONE
R-41-T
24" x 24"



FEDERAL AID MARKER
Scale: 1 1/2" = 1'-0"

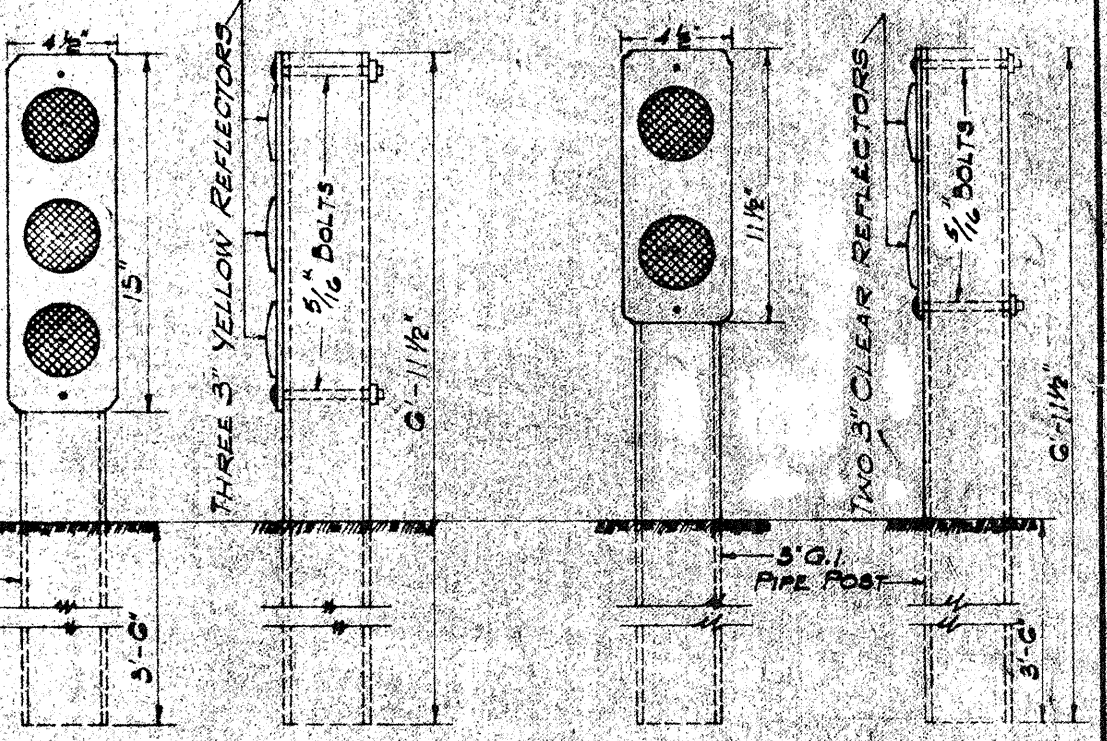
ARRANGEMENT OF MARKERS
One F.A.P. Marker and one plate shall be placed at the beginning and end of each isolated F.A. Project. Where two F.A. Projects adjoin, a single marker and two Number plates shall be placed, each Number plate pointing in the direction of the project to which it refers.

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.

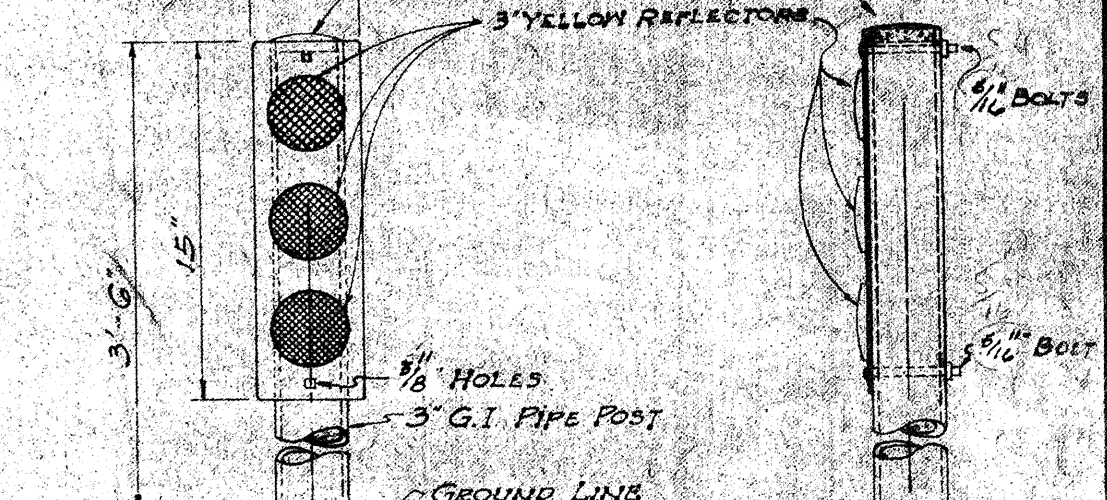
Markers and Number plates shall be No. 16 Ga. galvanized iron with 3/8" holes for fastening as shown on sketch. Markers and Number plates shall be given one coat of best Chromate primer and two coats of White Marine Enamel. Before painting they shall be given a wash of 8 ounces of Copper Sulphate in one gallon of water. The lettering shall be of two coats of Black Marine Enamel.

Markers and plates shall be fastened with 1/2" galvanized bolts and washers in addition to stainless steel washers with neoprene rubber gaskets attached on front face of each plate.

All letters and figures shall be of size and design shown and shall conform with Standard Alphabet 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.



W-42
Scale: 1 1/2" = 1'-0"



W-43
Scale: 1 1/2" = 1'-0"

W-41
Scale: 1 1/2" = 1'-0"

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

NOTE: W-44 3"-3" yellow reflectors mounted on plate
W-45 2"-3" clear reflectors mounted on plate

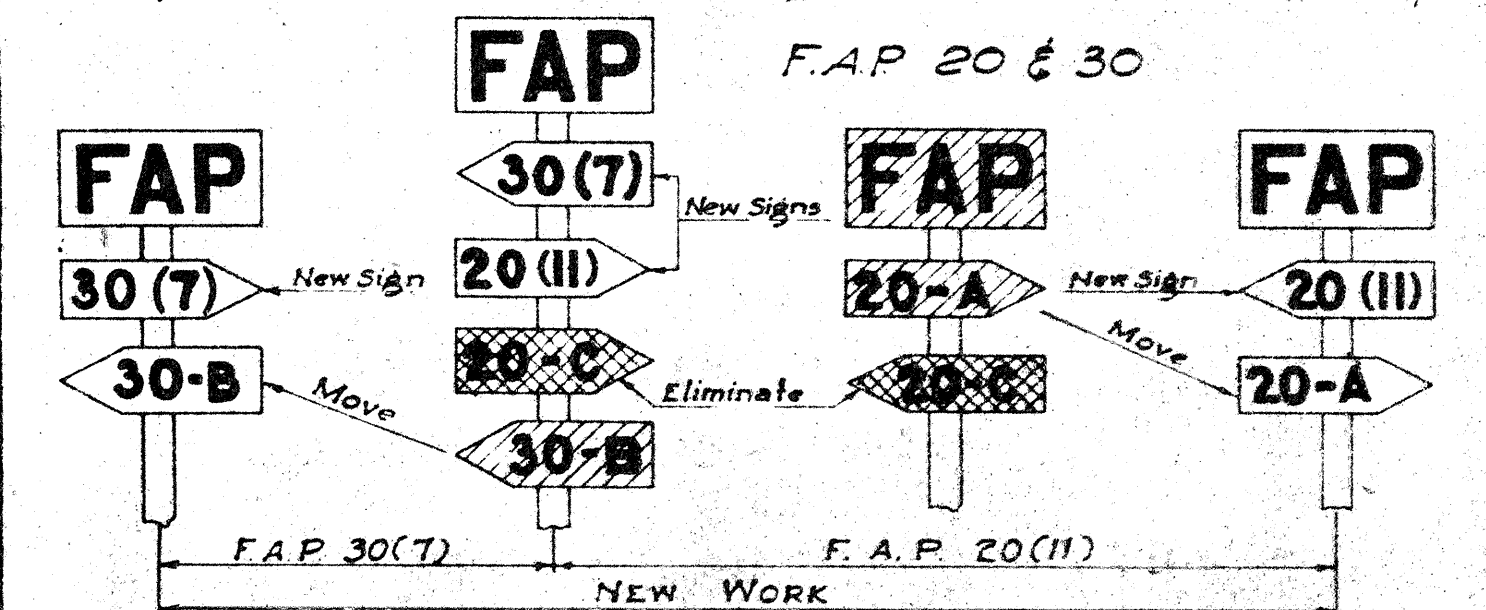
JUNE 12 1957 MAY 13 1958
JULY 16 1956

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII

STANDARD DETAILS
F.A. MARKERS, MONUMENTS
SIGNS & LOCATION OF SIGNS
SCALES AS NOTED

SHEET 9 OF 12 SHEETS

ADJUSTABLE BAND BRACKET FOR SUPPORTING TRAFFIC SIGNS ON MONOTUBE LIGHTING STANDARDS
Scale: 3" = 1'-0"
This product to be as shown in Catalogue No 48 of Cataphote Corp or equal.



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.

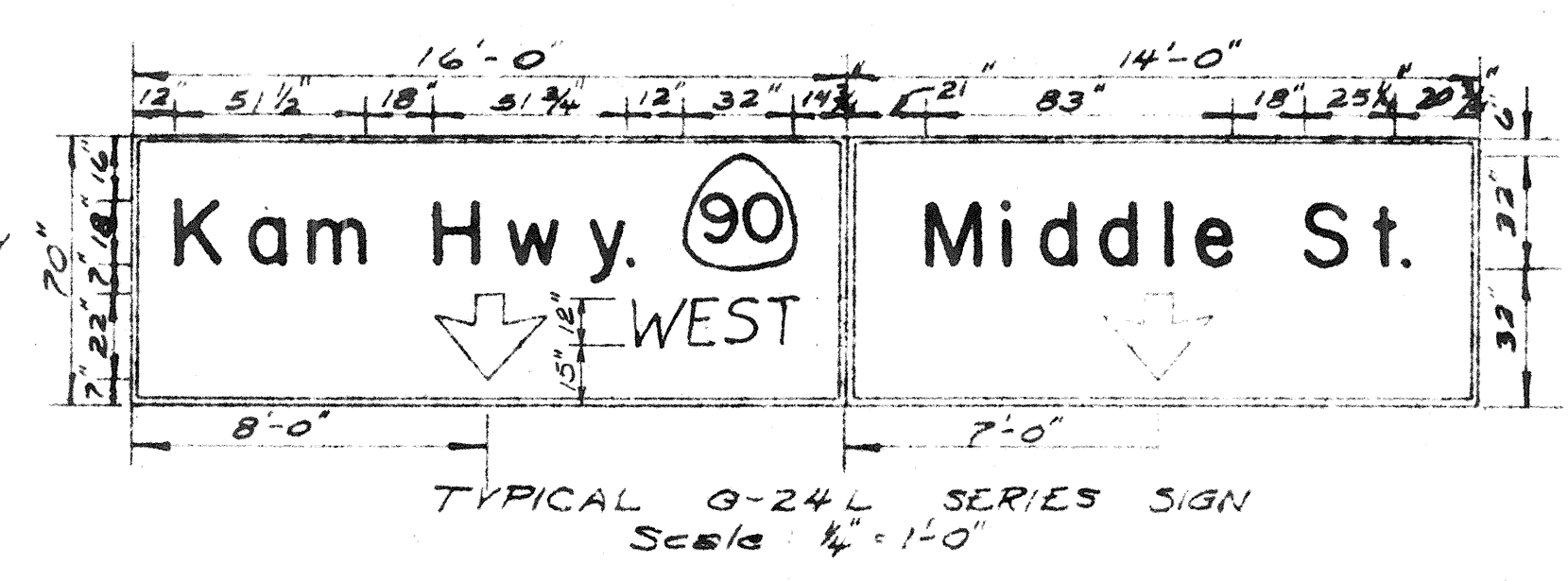
The same procedure would be followed on each successive improvement until all markers for letter designated sections are eventually eliminated.

METHOD OF MARKING F.A. PROJECTS AT OVERLAPS
(USING NUMBER SUFFIX ON NEW WORK)

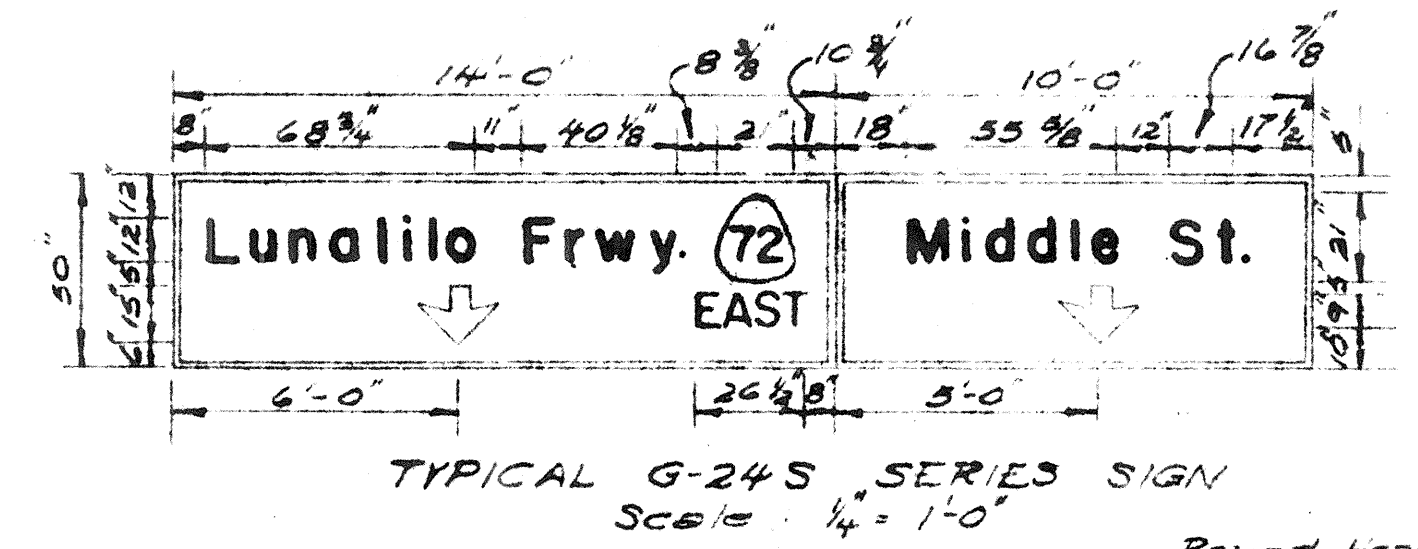
DETAIL SHOWING ANGLE OF TRAFFIC SIGNS AND CURB LINE
Scale: 1" = 1'-0"

APPROVED: _____ DATE: 8-26-59
STATE HIGHWAY ENGINEER

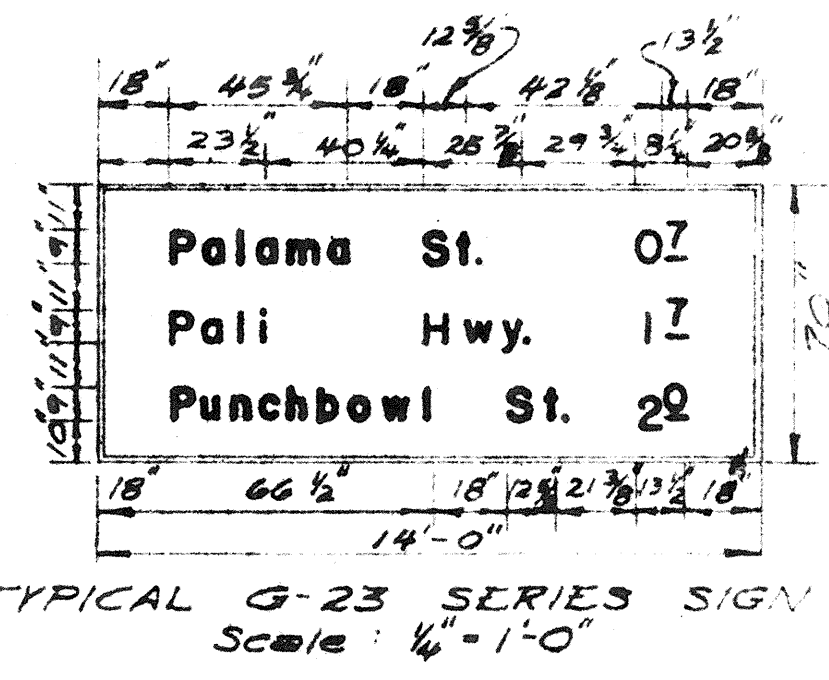
HORIZONTAL PANEL ARRANGEMENT Scale: 1/4" = 1'-0"



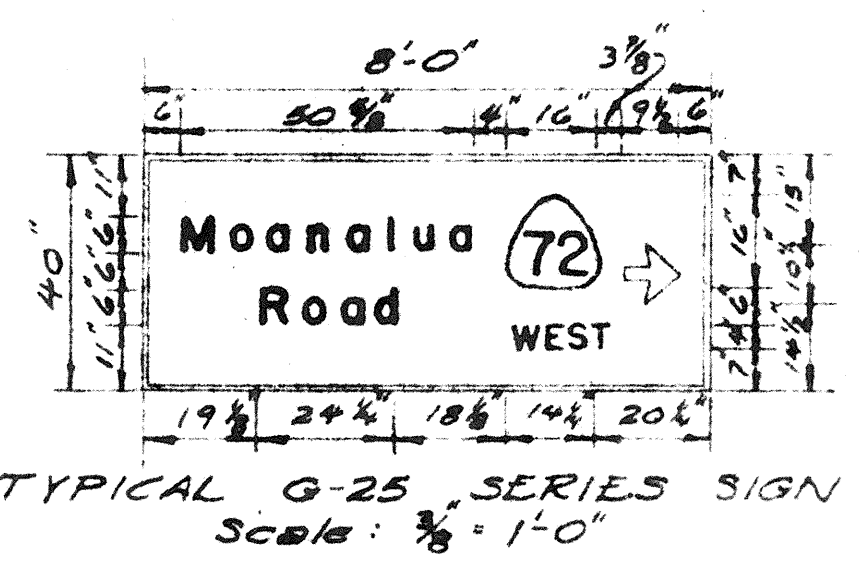
Note: G-24 L series sign shall have 18" upper case letters and 12" lower case letters.



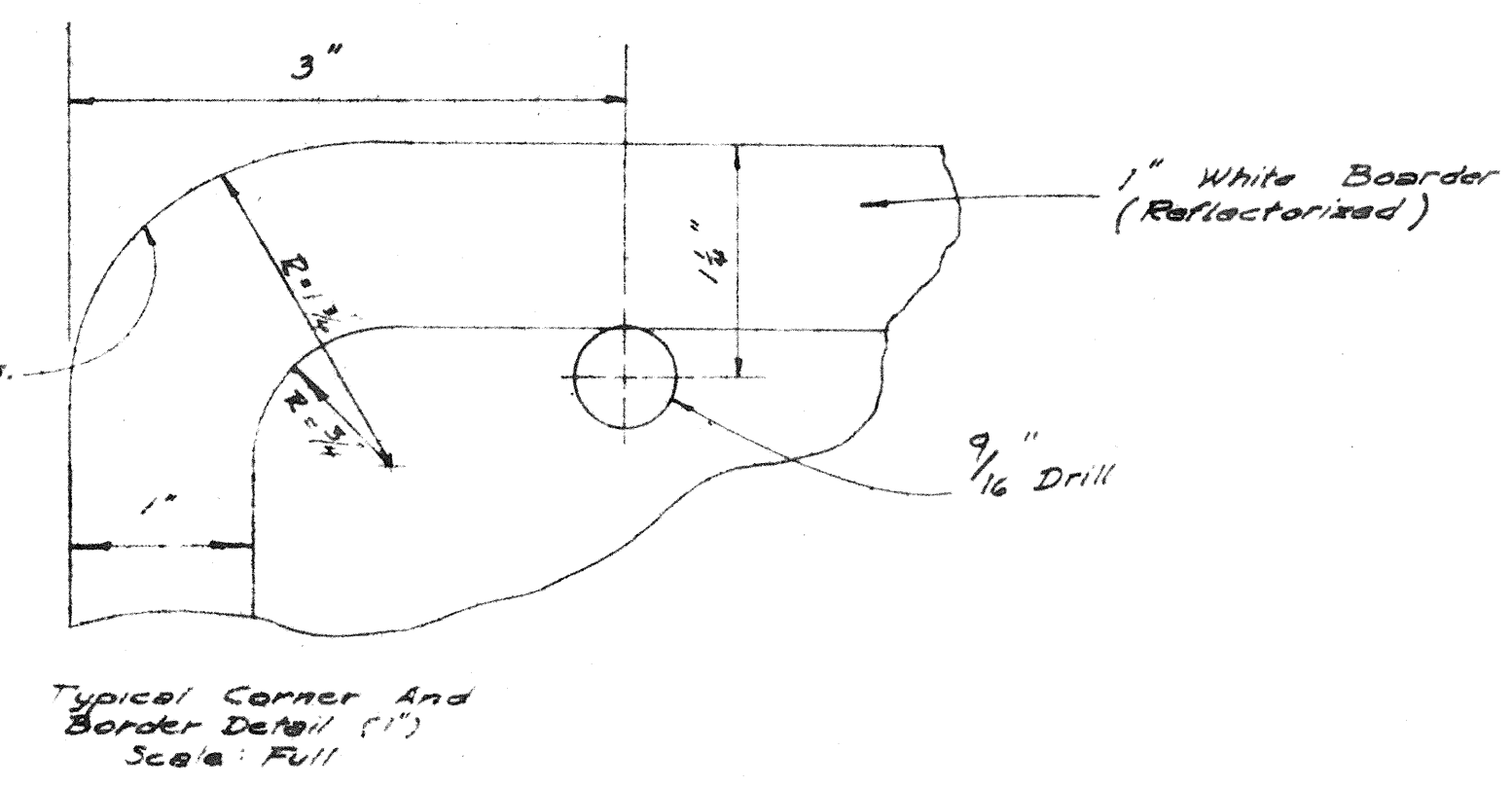
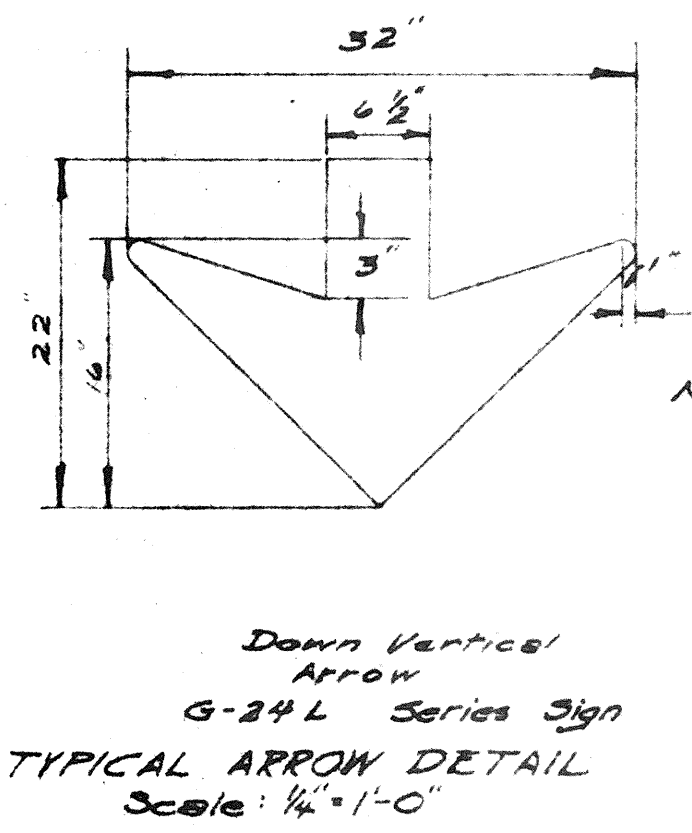
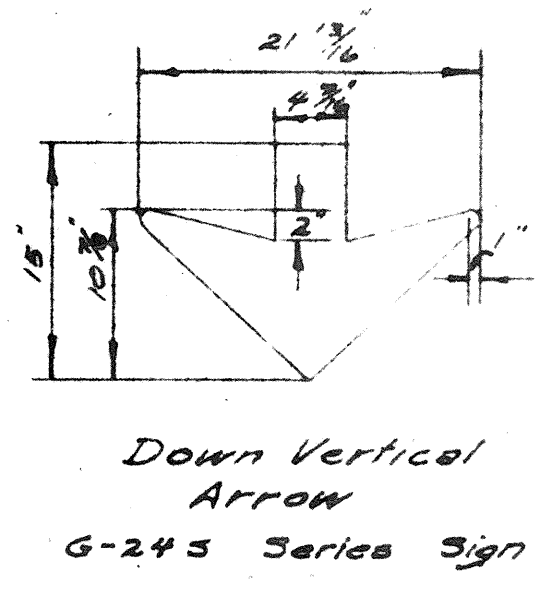
Note: G-24 S series sign shall have 12" upper case letters and 8" lower case letters.



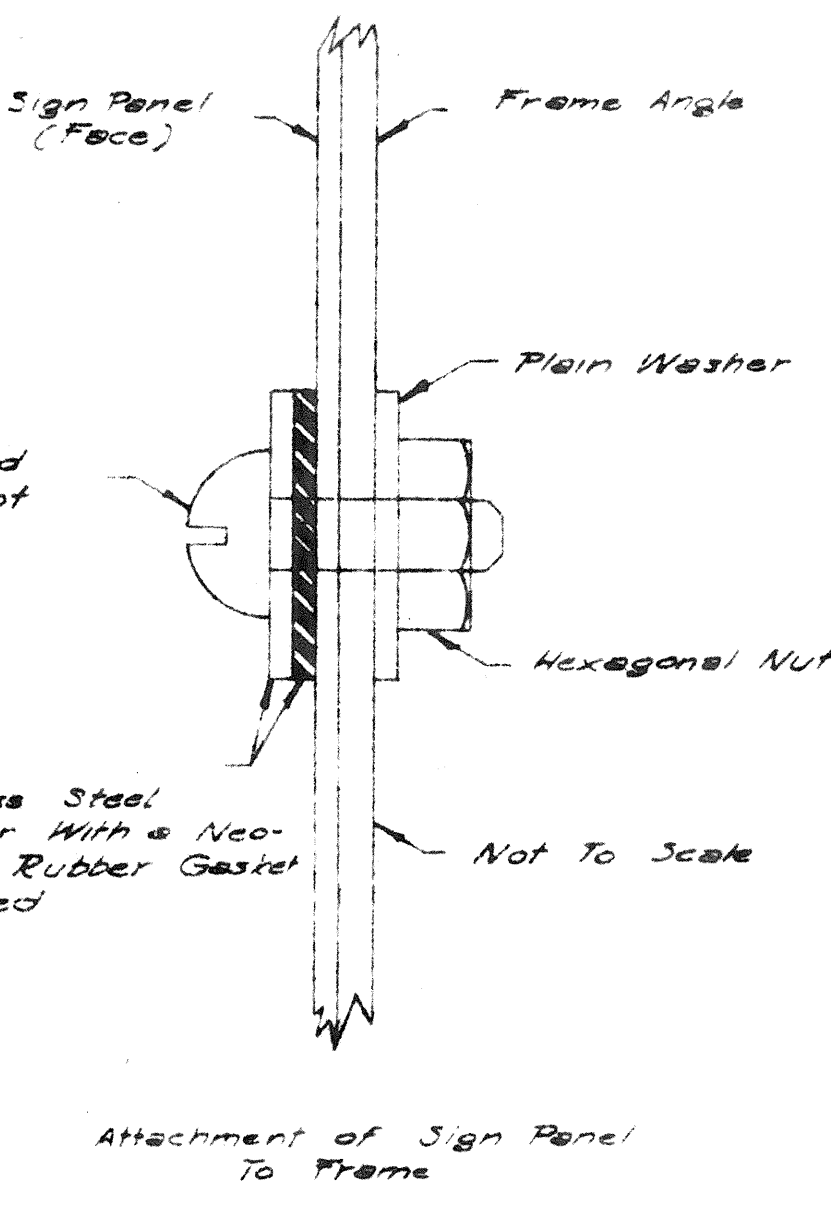
Note: G-23 series sign shall have 9" upper case letters and 6" lower case letters.



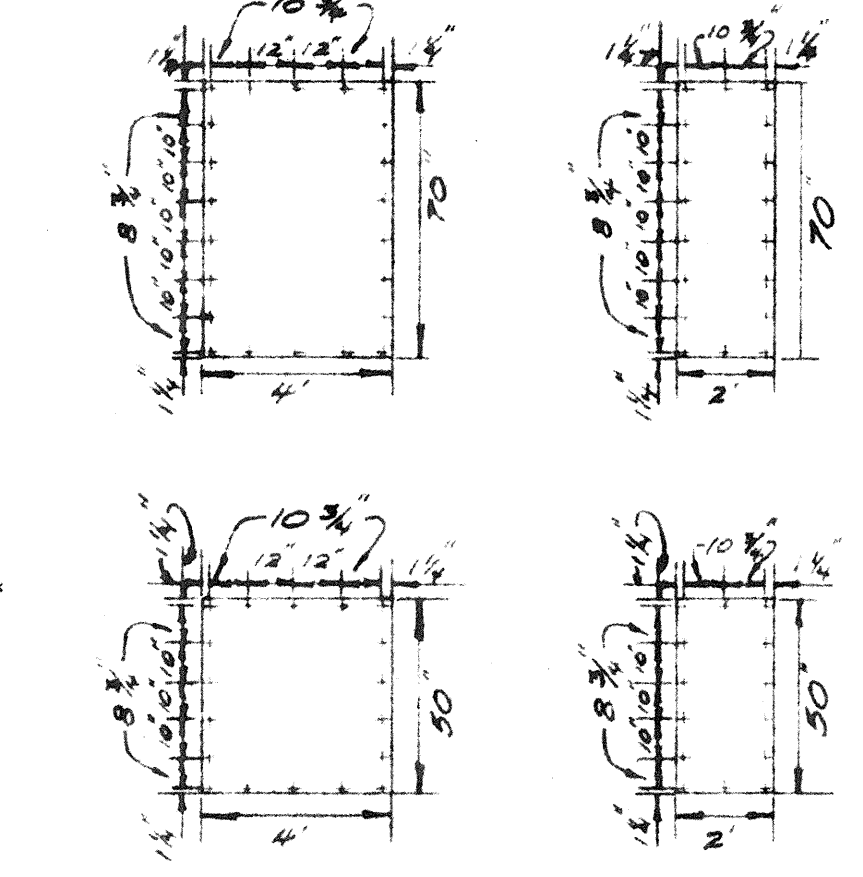
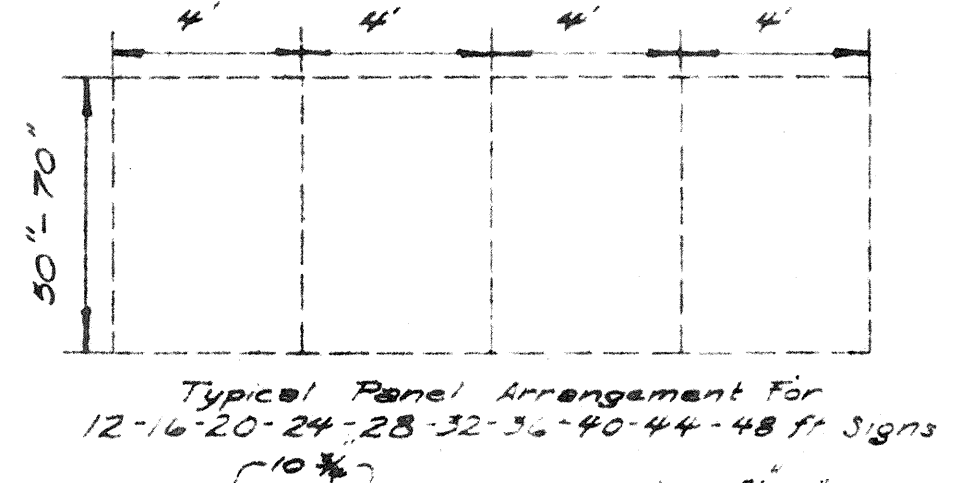
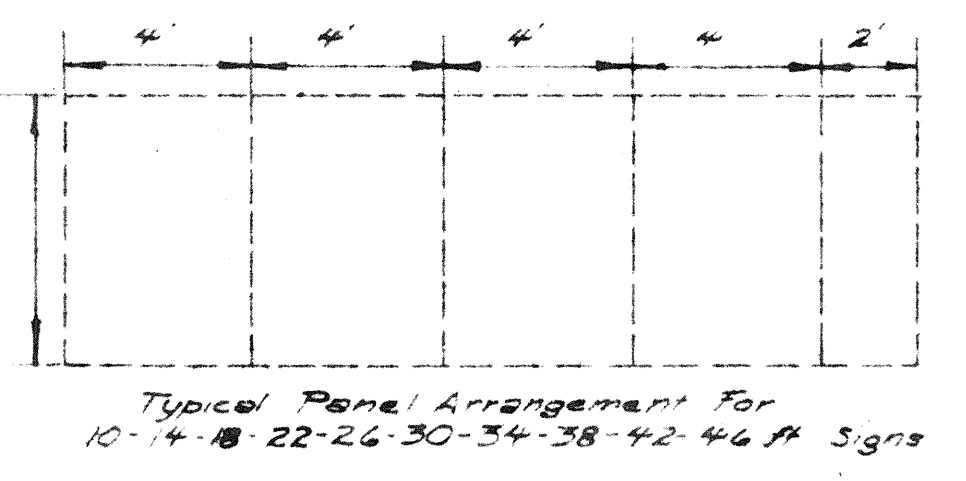
Note: G-25 series sign shall have 6" upper case letters and 4" lower case letters.



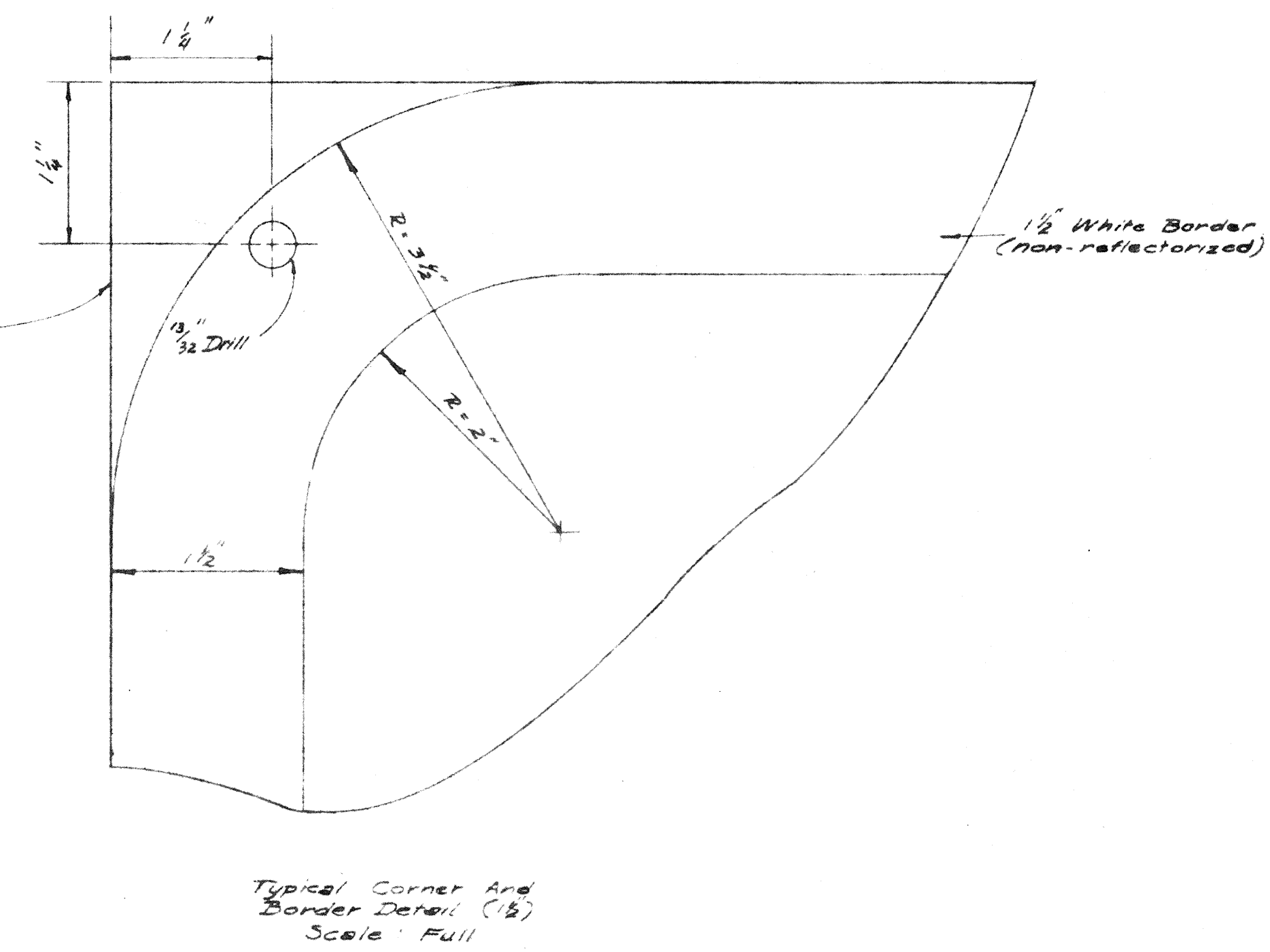
Note: Round Corners.



Stainless Steel Washer With a Neoprene Rubber Gasket Attached



Typical Bolt Hole Spacing
For G-23, G-24 S, and G-24 L Signs Only
Scale: 1/4" = 1'-0"



Note: Square Corner.

GENERAL NOTES

- 1- Use Series 'E' upper case letters from the booklet "Standard Alphabets for Highway Signs" Bureau of Public Roads, 1952 except that the stroke width shall be widened to approximately one fifth of the letter or numeral height. Refer to Table I, Width of Letters and Digits for Expressway Signs, and Table II, Spacing in Inches for 18" Upper Case Series 'E' Letters and Digits and 12" Lower Case Letters for Expressway Signs.
- 2- Use Lower Case Letters from the Standard Detail Sheet Refer to booklet "Standard Lower Case Alphabets for Highway Signs" Bureau of Public Roads, 1958.
- 3- Thickness of plate for sign shall be No. 16 U.S. Standard Gauge steel.
- 4- All signs are non-embossed porcelain enamel, white letters, arrows, and borders on a Black Semi-matte finish.
- 5- All G-24-L and G-24-S signs shall have 1/2" white borders; G-23 and G-25 series signs shall have 1" white borders.
- 6- Upper and Lower Case Letters, borders and arrows on G-23 and G-25 series signs shall be reflectorized with white reflective sheeting applied over the white porcelain enamel letters, borders, and arrows. All other signs are non-reflectorized.
- 7- G-24-L, G-24-S and G-23 signs shall be bolted to the frames with 1 1/4" long 3/8" diameter round head with slot galvanized steel plain washer (1 1/2" ID x 1 1/2" OD) and hexagonal nut. A (1 1/2" ID x 1 1/2" OD) steel washer with a neoprene rubber gasket attached shall be placed between the round head of the bolt and the face of the sign. Panel mounting holes shall be drilled with a 3/8" template.
- 8- Route shield shall conform to Standard Detail Sheet except that the Dimensions stated shall be increased as tabulated for the 21" and 32" Route Shields on G-24-S and G-24-L signs. 12" series D numerals shall be used in the 32" Route shields and 8" series D numerals shall be used in the 21" Route Shield.
- 9- Arrows shall conform to Standard Arrows for Directional Signs.
- 10- G-25 sign plate shall be bolted to frame angle with 3/8" diameter slotted head galvanized bolts and hexagonal nuts with stainless steel washer and neoprene gasket attached on face of sign. Panel mounting holes shall be drilled with a 3/8" template.
- 11- Cardinal directions shall be series C upper case letters of sizes as shown below:

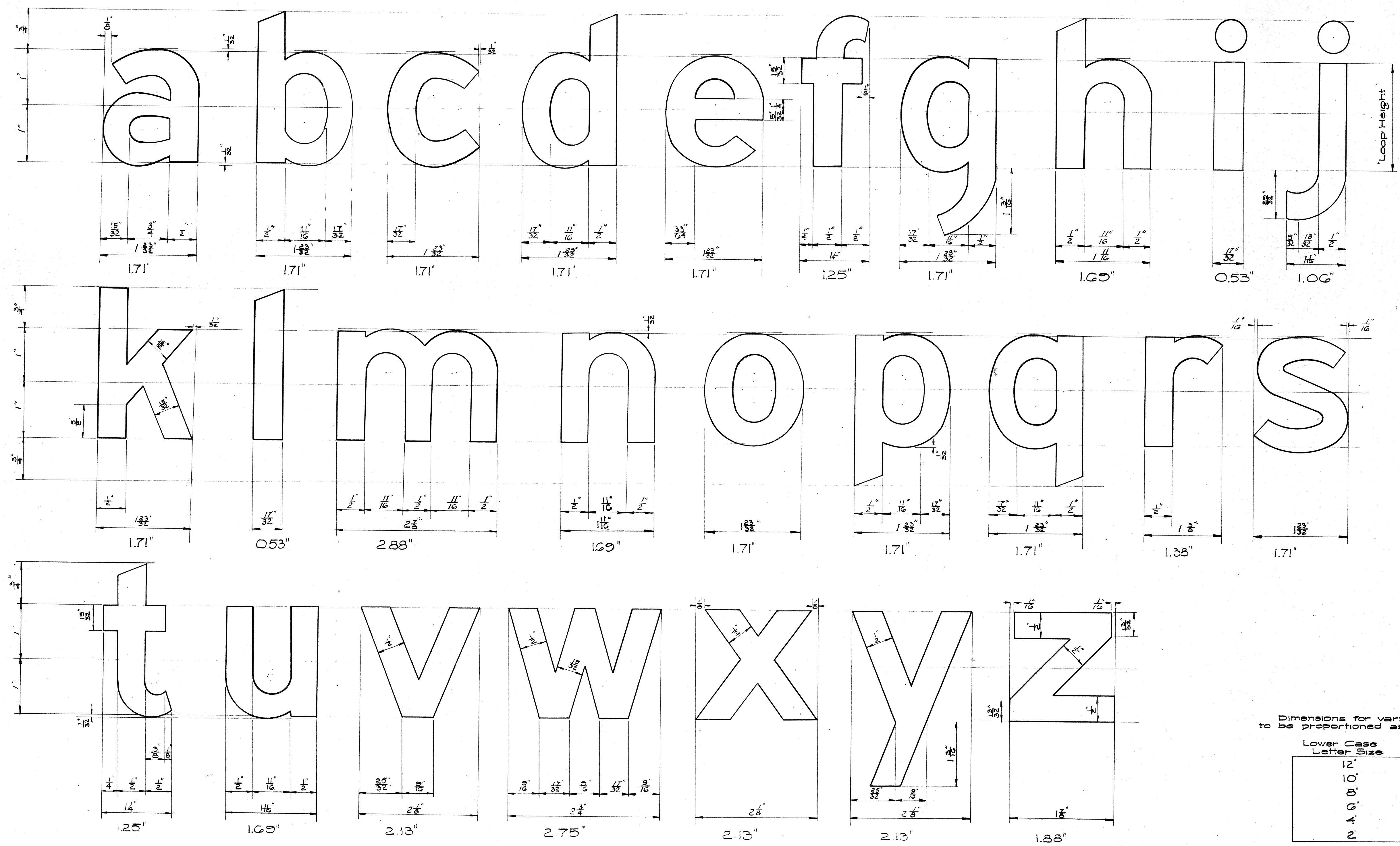
Sign Series	Cardinal Direction Letter Size	Remarks
G-23	NONE	
G-24 L	12"	
G-24 S	9"	
G-25	4"	Reflectorized

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL
EXPRESSWAY SIGNS
PANEL LAYOUT
G-23, G-24-L, G-24-S, G-25 SERIES
SCALE: AS NOTED

DATE
DRAWN BY
CHECKED BY
ORIGINAL PLAN
NOTE BOOK
QUANTITIES BY
CURED BY

2/17/59
4/6/59
4/28/59

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BU-36(H)	1960	87	176



Dimensions for various size letters are to be proportioned as follows.

Lower Case Letter Size	Multiply By Factor
12"	6
10"	5
8"	4
6"	3
4"	2
2"	1

NOTES: Spacing of letters on this drawing is not to scale and not intended to be followed. For spacing, use dimensions given in table 1" widths of letters and digits for Expressway Signs, Territorial Highway Department Standard. Letters of shorter words on signs are to have larger spacing for better proportioning of copy as shown on typical signs. Capital letters shall conform to Series 'E' of standard alphabets for Highway Signs of The Public Roads Administration 1955.

1. Capital letters used with lower case letters shall be 1.5 times height of lower case letters.

ORIGINAL PLAN
DESIGNED BY
DRAWN BY
CHECKED BY
DATE

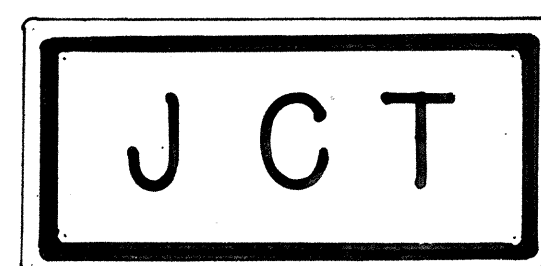
APPROVED
DATE AUG 25, 1959
STATE HIGHWAY ENGINEER

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
**STANDARD DETAILS
LOWER CASE LETTERS**
SCALE AS NOTED
SHEET NO 11 OF 12 SHEETS

B.S 147.87

2/17/59

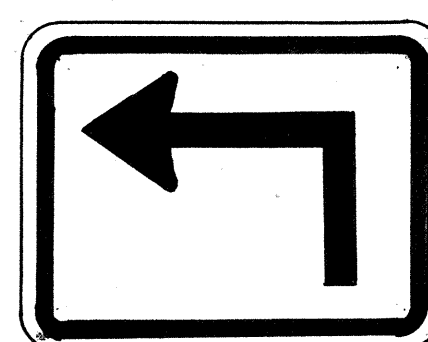
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	80 061-171	1960	88	176



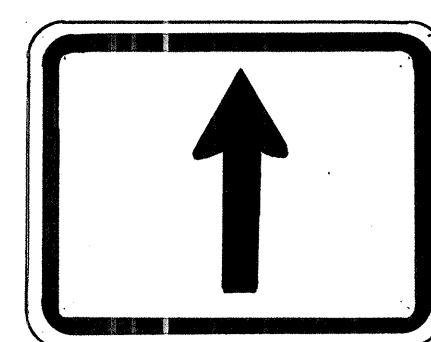
M-3
16 1/2" x 8"



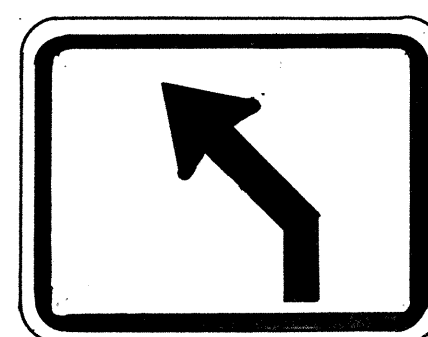
M-21-N
16 1/2" x 8"



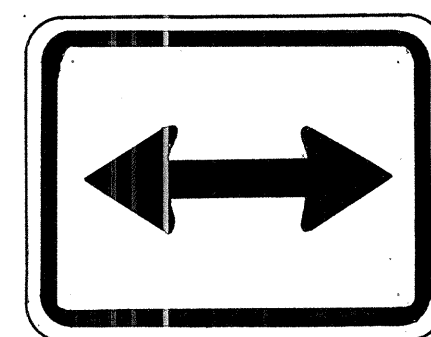
M-7-L
* M-7-R (↗)
13" x 10"



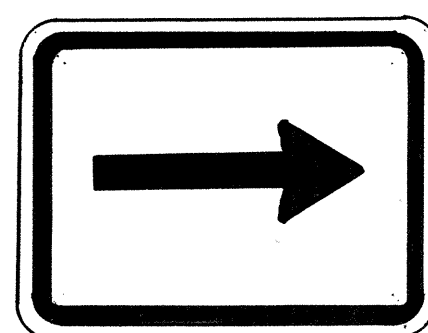
M-11
13" x 10"



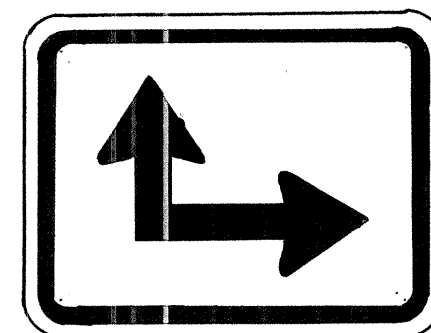
M-8-L
* M-8-R (↘)
13" x 10"



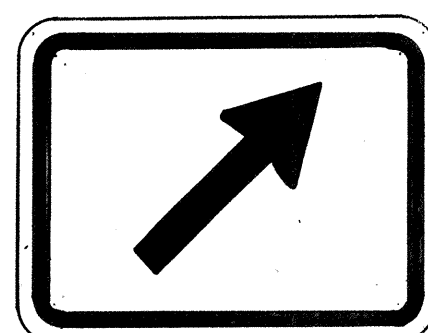
M-12
13" x 10"



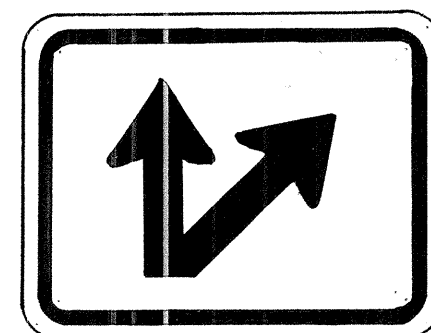
M-9
13" x 10"



M-13-R
* M-13-L (↖)
13" x 10"



M-10-R
* M-10-L (↗)
13" x 10"



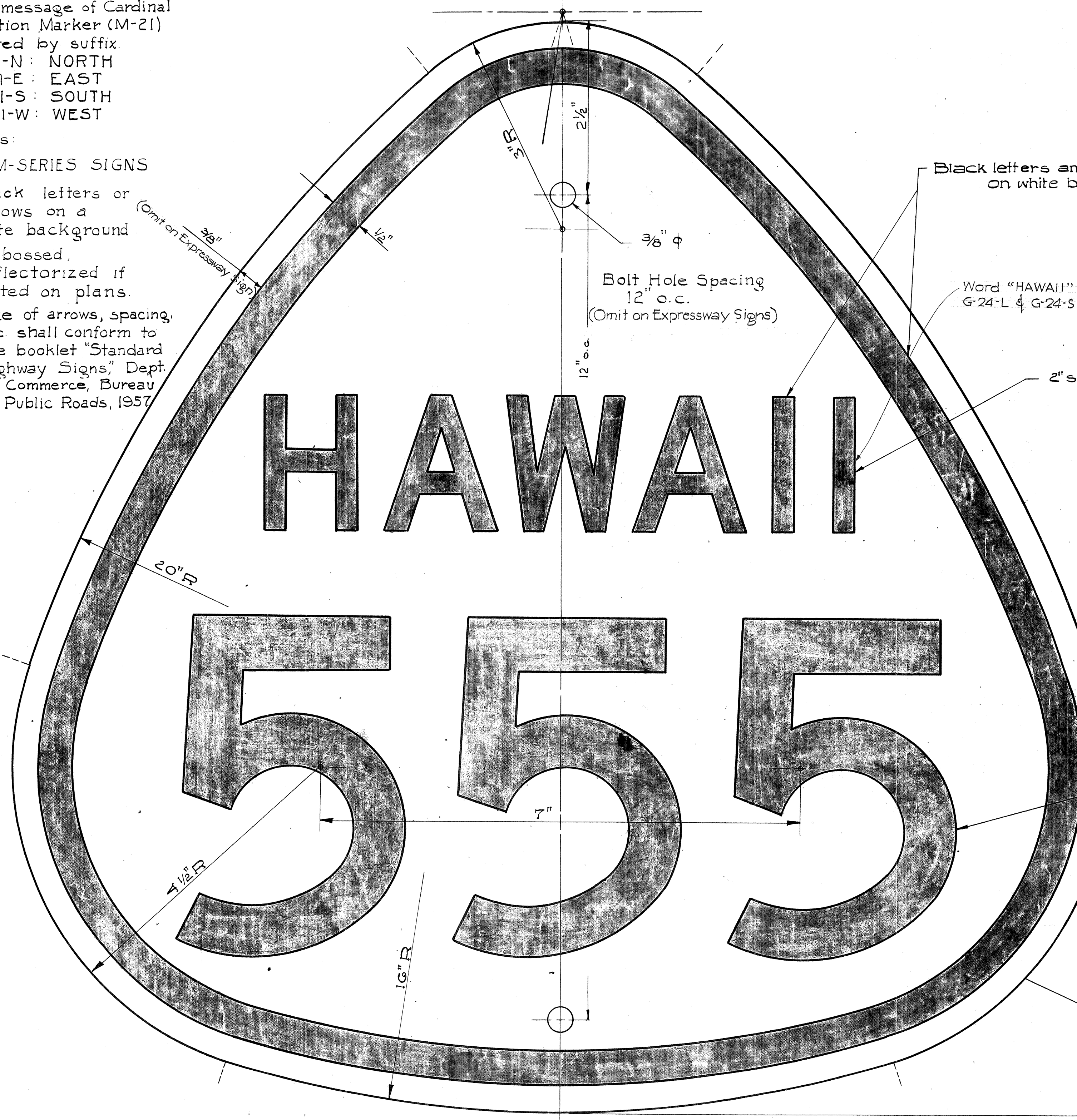
M-14-R
* M-14-L (↖)
13" x 10"

Note:
Sign message of Cardinal
Direction Marker (M-21)
denoted by suffix.
M-21-N: NORTH
M-21-E: EAST
M-21-S: SOUTH
M-21-W: WEST

Notes:

M-SERIES SIGNS

1. Black letters or arrows on a white background. (Omit on Expressway Signs)
2. Embossed, reflectorized if stated on plans.
3. Size of arrows, spacing, etc. shall conform to the booklet "Standard Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1957.



STATE ROUTE MARKER
M-2
Scale: Full Size

Black letters and border
on white background.

Word "HAWAII" not required on
G-24-L & G-24-S Series Expressway Signs.

2" series "D" letters

Location:

Use the M-2 sign at important rural and urban intersections and intermediate locations as specified in sections 93-111, Manual of Uniform Traffic Control Devices, to guide traffic over State numbered highways.

Note:

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 "D" letters and series "D" numerals shall be used.

Embossed
Black on White
16" x 16"
2" series "D" letters
5" series "D" numerals
Reflectorized if
stated on plans.

5" series "D" letters

Note:

1. Route Markers on Expressway Signs shall have white non-embossed letters, numerals and border on black semi-matte background.
2. Outside border and bolt holes are not applicable to Expressway Signs and shall be omitted.
3. Dimensions of shields as shown on this sheet shall be multiplied as follows:

Sign Series	Size	Factor (Multiply By)	Letter Size (Series "D")	Numerals Size (Series "D")
G-24-L	32"	2.0	None	12"
G-24-S	21"	1.3	None	8"
G-25	16"	1.0	2"	5"

APPROVED: DATE: AUG. 26, 1959
STATE HIGHWAY ENGINEER

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
STATE
ROUTE NUMBER
AND DIRECTIONAL
MARKER SIGNS
SCALE: AS NOTED
SHEET No 12 OF 12 SHEETS

NOT TO SCALE

* Signs shall be similar
but opposite in direction.

B. S 147 . S S

QUANTITY AND COST CONTROL SHEET

NOTE: THIS SHEET IS FOR THE USE OF THE
RESIDENT ENGINEER ONLY, AND NOT
FOR THE CONTRACTOR'S USE.

6/14/60

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BU-061-I(7) Unit 5	1960	A	176

ITEM NO.										11A	11B	12(1)	13	14(1)	14(2)	15	17(1)	18	23	24(1)	26	29	30(3)	31	32(2)	33(4)	40(1)	40(2)	46(1)	46(2)	46A	46A-0	46A-1	46A-2	46A-3	46A-4	46A-5	48(1)	48A	48A-1	48A-2	48A-3					
ITEM		A.C. Paving (New)	A.C. Resurfacing	P.C.C. 6 1/2"	Untreated Base 8"	Untreated Base 4"	Select Borrow Sub-base, 12" Thick	Select Borrow Sub-base, 6" Thick	2" A.C. Pav't & 6" Untreated Base Course	Removing and Salvaging Lane 200' x 200'	Demolishing & Removal of Buildings	Clearing & Grubbing	Roadway Excavation	Structure Exc., other than at Bridges	Structure Exc., for Bridges	Ditch and Channel Excavation	Station Yard Overhaul	Compacting Original Ground	Sprinkling	Select Borrow Sub-base Course	Untreated Base	Brooming Off	Emulsified Asphalt Mixing Type, for Prime Coat	Emulsified Asphalt, Penetration Type, for Tack Coat.	A.C. Pavement Mix No. III	A.C. Pavement Mix No. II	P.C.C. Pav't.	Mesh Reinf. for Conc. Pav't.	Class "A" Conc., other than in Bridges	Class "B" Conc., other than in Bridges	Conc. in Bridges other than in prestressed members (Struc. No. 3)	Prestressed Conc. Members in Bridges (Struc. No. 3)	Conc. in Bridges (Struc. No. 4)	Conc. in Bridges, (Struc. No. 5)	Conc. in Bridges (Struc. No. 6)	Conc. in Bridges (Struc. No. 7)	Conc. in Bridges (Struc. No. 8)	Conc. in Bridges (Struc. No. 9)	Reinf. Steel other than in Bridges	Reinf. Steel in Bridges (Struc. No. 3)	Reinf. Steel in Bridges (Struc. No. 4)	Reinf. Steel in Bridges (Struc. No. 5)	Reinf. Steel in Bridges (Struc. No. 7)				
UNIT USED		Sq.Yd.	Sq.Yd.	Sq.Yd.	Sq.Yd.	Sq.Yd.	Sq.Yd.	Sq.Yd.	Sq.Yd.	Lin.Ft.	L.S.	Acre	Cu.Yd.	Cu.Yd.	Cu.Yd.	Cu.Yd.	Sta.Yd.	Sq.Yd.	M-Gal.	Cu.Yd.	Cu.Yd.	Sq.Yd.	Gal.	Gal.	Ton	Ton	Cu.Yd.	Sq.Yd.	Cu.Yd.	Cu.Yd.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.					
ROADWAY		34,532	3,070 +66+	5,339	34,532	12,367	19,681	14,930	260	1,200 +75+	1	12.9 21.7	320,132 317,576	433 +5			173,924 163,970	5,100 5,03+	1,912 3,047	2,337 3,049	14,333 12,735	2,950 +66+	10,421 +2+	640 +24	3,828 3,103	2,854 2,074	1,154 966	6,185 5,391	11										3,463								
DRAINAGE														3,386 3,902		1,020 792														154 +71.2	23 21.3										5,401.2 5432						
RETAINING WALLS														4,015 3,618																2,712 2,652											29,141.8 274,896						
SUB-TOTAL										1,200 +75+		12.9 21.7	320,132 317,576	7834 7532	258 +6+	1,020 792	173,924 163,970	5,100 5,03+	1,912 3,047	2,337 3,049	14,333 12,735	2,950 +66+	10,421 +2+	640 +24	3,828 3,103	2,854 2,080	1,154 966	6,185 5,391	2,877 2,823.2	23 21.3							72.7 (77)	126.5 (+15)			300,006 289,289				10,470 (10,600)		
MISCELLANEOUS										96		0.3	4,862 +5,324	267	14	38	3,230	466	153	45+	635	139	363	16	97	79	24	159	468	0.7							(3)	(5)		3,712			(209)				
TOTAL										1,200 +850		12.9 22	324,994 333,500	7834 7900	258 +75	1,020 830	173,924 +72,200	5,100 5,500	1,912 3,200	2,337 3,500	14,333 13,370	2,950 +800	10,421 +2,540	640 +455	3,828 3,200	2,854 2,150	1,154 990	6,185 5,550	2,877 2,870	23 22.0							72.7 (80)	126.5 (+20)			300,006 289,000				10,470 (10,800)		
WATER														651 800																												1,825 +800					
SEWER														1,145 +1,050																													445 910				
ELECTRIC		H.E. CO. SPLIT COST H.E. SHARE												651.6																													1,643 330				
TELEPHONE		H.T. CO. SPLIT COST H.T. SHARE																																													
STRUCTURES	NEW PARTIAL BRIDGE														16																																
	STRUCTURE # 3													1365 +1465										92		32																					
	STRUCTURE # 4													1230 +1070										126		41																					
	STRUCTURE # 5													802 +1,53										4		32																					
	STRUCTURE # 7 *	*												670 6										12																							
	STRUCTURE # 8 *													82 8										15																							
	STRUCTURE # 12													476 +24																																	
	SUB-TOTAL													4089 3,973																																	
	MISCELLANEOUS													212																																	
	TOTAL													4,089 +1,85																																	
R/W CONSTRUCTION																																															
AUWAI														390																																	
STAIRWAY NR STA. 38+23														21																																	
DRIVEWAY & C.R.M. WALL AT PHILIPPINE CONSULATE								330					177.7 +85	16 +8					3			70 77		41 +15	35 38																						
MISCELLANEOUS IMPROVEMENTS AT TAX KEY 2-2-22-3								27					12.3 2	1					0			6		14 +6	5 3.5																						
SUB-TOTAL								357					190 +93	409 +11					3			70 83		55 +25	40 +1.5																						
MISCELLANEOUS								13					7	13					+			7		5		0.5																					
TOTAL								370					190 200	409 +24					4			70 90		55 +30	40 +20																						
GRAND TOTAL								630		1,200 +850	1	12.9 22	325,184 333,700	10,104 +10,380	4,347 +4,360	1,020 830	173,924 +72,200	5,100 5,500	1,912 3,204	2,337 3,500	14,403 +13,460	2,950 +1,900	10,476 +2,670	248 775	3,868 3,242	2,263 2,258	1,154 990	6,185 5,560	2,880 2,881	103.2 92.6	1316.1 (1,360)	713 (715)	1,292 (1,360)	1,182.4 (1,220)	72.7 (80)	126.5 (+20)			343.4 (360)	304,029 292,440	148,842 (148,000)	193,800 (193,000)	154,820 (156,000)	10,470 (10,500)			
CORR. TOTAL																																															
CONTROL																																															
UNIT PRICE											L.S.																																				
ITEM NO.										11A	11B	12(1)	13	14(1)	14(2)	15	17(1)	18	23	24(1)	26	29	30(3)	31	32(2)	33(4)	40(1)	40(2)	46(1)	46(2)	46A	46A-0	46A-1	46A-2	46A-3	46A-4	46A-5	48(1)	48A	48A-1	48A-2	48A-3					

QUANTITY AND COST CONTROL SHEET

6/14/60

NOTE: THIS SHEET IS FOR THE USE OF THE
RESIDENT ENGINEER ONLY, AND NOT
FOR THE CONTRACTOR'S USE.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BU-06I-I(7) Unit 5	1960	5	176

ITEM NO.		48 A-4	48 A-5	52	53 (1-A)	53 (1-B)	53 (1-C)	53 (4)	53 (5) I	53 (4) I	53 (5) I	53 (6) I	53 (7b)	53 (7b) II	53 (8b) II	62	65	67	69	70 (1a)	70 (1b)	70 (1c)	70 (1d)	70 (1e)	70 (1f)	70 (2b)	70 (2c)	70 (2f)	70 (3a)	70 (3b)	70 (3d)	70 (3e)	70 (3f)	71 (1)	72 (1)	74	76	77	80 (2)	88 (1a)	88 (1b)	88 (1c)		
ITEM		Reinf. Steel in Bridges (Structure No. 8)	Reinf. Steel in Bridges (Structure No. 12)	Filter Material	Metal Bailing 1 1/2 inch Galv. Steel Pipe	Metal Bailing 1 1/2 inch Galv. Steel Pipe	Metal Hand Bail 1 1/2 inch Galv. Steel Pipe	Aluminum Rolling	24 inch Class III Reinf. Concrete Culvert Pipe	24 inch Class II Reinf. Concrete Culvert Pipe	30 inch Class III Reinf. Concrete Culvert Pipe	30 inch Class II Reinf. Concrete Culvert Pipe	24 inch Cor. Galv. Sheet Metal Culvert Pipe 14 Gauge	24 inch Cor. Galv. Sheet Metal Culvert Pipe 12 Gauge	30 inch Cor. Galv. Sheet Metal Culvert Pipe 12 Gauge	Cement Rubble Masonry	Grouted Rubble Paving	Centerline Monuments	Reconstructed Survey Monuments	Type "A" Cast-in Place Concrete Curb	Type "B" Cast-in Place Concrete Curb	Type "C" Cast-in Place Concrete Curb	Type "D" Cast-in Place Concrete Curb	Type "E" Cast-in Place Concrete Curb	Type "H" Cast-in Place Concrete Curb	Type "B" Cast-in Place Concrete Curb	Type "C" Cast-in Place Concrete Curb	Type "F" Cast-in Place Concrete Curb	Type "A" Cast-in Place Concrete Curb & Gutter	Type "B" Cast-in Place Concrete Curb & Gutter	Type "D" Cast-in Place Concrete Curb & Gutter	Type "E" Cast-in Place Concrete Curb & Gutter	Type "H" Cast-in Place Concrete Curb & Gutter	Precast Concrete Curb	Reconstructed Precast Concrete Curb	Reconstructed Lava Rock Curb	Plain Concrete Sidewalk	Reinforced Concrete Driveway	Galvanized Steel Guard Rail With Concrete Posts	48 inch Chain Link Fence	72 inch Chain Link Fence Post in Conc. Walls	72 inch Chain Link Fence Posts in Ground 46000.00		
UNIT USED		L.S.	L.S.	Cu. Yd.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Cu. Yd.	Cu. Yd.	Ea.	Ea.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	39. Ft.	39. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	
ROADWAY				807		65										203.9 87	4	10	2	3,834 3,836	509 561	87 103	2,485 2,371	1,629 1,534	5,231 5,230	450 421	613 627	1,266	2,034	260	3,908 2,658	5,345 5,486	2,029 2,045	52	290	583 218	17,619 17,308	1,627 1,113	3,821	28 25	366 390	3,918 3,615		
DRAINAGE									1,036	1,828	400	580	14 12	2,676 2,832	987 972	14.6 6	8																											
RETAINING WALLS				570 577.5				1,261 1,255								462.4 356																												
SUB-TOTAL		24,190 (17,100)		1,377 686.5		65		1,422 4,401	1,036	1,828	400	580	14 12	2,676 2,832	987 972	713.4 499	12	10	2	3,834 3,836	509 561	87 103	2,485 2,371	1,629 1,534	5,231 5,230	450 421	613 627	1,266	2,034	260	3,908 2,658	5,345 5,486	2,029 2,045	52	290	583 218	17,619 17,308	1,627 1,113	3,821	28 25	366 390	3,918 3,615		
MISCELLANEOUS		(200)		63.5				9	36	52	12	20	2	88	28	21	2	0	0	74	19	7	48	36	170	9	13	24	46	10	52	114	45	8	10	12	492	17	79	5	10	65		
TOTAL		24,190 (17,300)		1,377 750		65		1,422 4,410	1,072	1,880	412	600	14	2,676 2,920	987 1,000	713.4 520	14	10	2	3,834 3,910	509 580	87 110	2,485 2,420	1,629 1,570	5,231 5,400	450 430	613 640	1,290	2,034 2,080	260	3,908 2,710	5,345 5,600	2,029 2,080	60	300	583 230	17,619 17,800	1,627 1,130	3,900	28 30	366 400	3,918 3,680		
WATER																																												
SEWER																																												
ELECTRIC		H. E. CO. SPLIT COST H.E. SHARE																																										
TELEPHONE		H. T. CO. SPLIT COST H.T. SHARE																																										
STRUCTURES	NEW PARTIAL BRIDGE															11.9																												
	STRUCTURE #3			165 160				245 244																																				
	STRUCTURE #4			121 120				309 310																																				
	STRUCTURE #5			10 10				340 340																																				
	STRUCTURE #7			9 9				48 47																																				
	STRUCTURE #8	24,190 (17,100) (200)		+				113 99 +								20.6 20																												
	STRUCTURE #12		34,544 34,500		588 593		92									15 15																												
	SUB-TOTAL		34,544 (34,500)	409 415	588 593		92	894								15 94																												
	MISCELLANEOUS		(700)	35	7		3	16								6																												
	TOTAL		34,544 (35,200)	409 450	588 600		92 95	910								15 100																												
R/W CONSTRUCTION																																												
AUWAI																																												
STAIRWAY NR STA. 38+23						20.6 18																																						
DRIVEWAY & CRM WALL AT PHILLIPINE CONSULATE																58 52.5																												
MISCELLANEOUS IMPROVE- MENTS AT TAX KEY 2-2-22-3																9.5																												
SUBTOTAL						20.6 18										58 62.0																												
MISCELLANEOUS						2										3.0																												
TOTAL						20.6 20										58 65.0																												
GRAND TOTAL		24,190 (17,300)	34,544 35,200	1,796 1,200	588 600	55.6 20	92 95	2,316 2,320	1,072	1,880	412	600	14	2,676 2,920	987 1,000	786.4 685	14	10	2	3,834 3,910	509 580	87 110	2,485 2,420	1,629 1,570	5,231 5,400	450 430	613 640	1,290	2,034 2,080	260	3,908 2,710	5,345 5,600	2,029 2,080	60	300	628 320	17,619 17,800	1,627 1,130	3,900	28 30	366 400	3,918 3,680		
CORR. TOTAL																																												
CONTROL																																												
UNIT PRICE		L.S.	L.S.																																									
ITEM NO.		48 A-4	48 A-5	52	53 (1-A)	53 (1-B)	53 (1-C)	53 (4)	53 (5) I	53 (4) I	53 (5) I	53 (6) I	53 (7b)	53 (7b) II	53 (8b) II	62	65	67	69	70 (1a)	70 (1b)	70 (1c)	70 (1d)	70 (1e)	70 (1f)	70 (2b)	70 (2c)	70 (2f)	70 (3a)	70 (3b)	70 (3d)	70 (3e)	70 (3f)	71 (1)	72 (1)	74	76	77	80 (2)	88 (1a)	88 (1b)	88 (1c)		

B.S147.B

6/24/60

PED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BU-061-172 Unit 5	1960	C	176

B. § 147. C

QUANTITY AND COST CONTROL SHEET

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BU-OG-K70 Unit 5	1960	D	176

MATERIAL FURNISHED BY
CONT., INSTALLED BY BWS

B. § 147. D

6/24/60

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BU-OG-117 Unit 5	1960	E	176

B. § 147. De