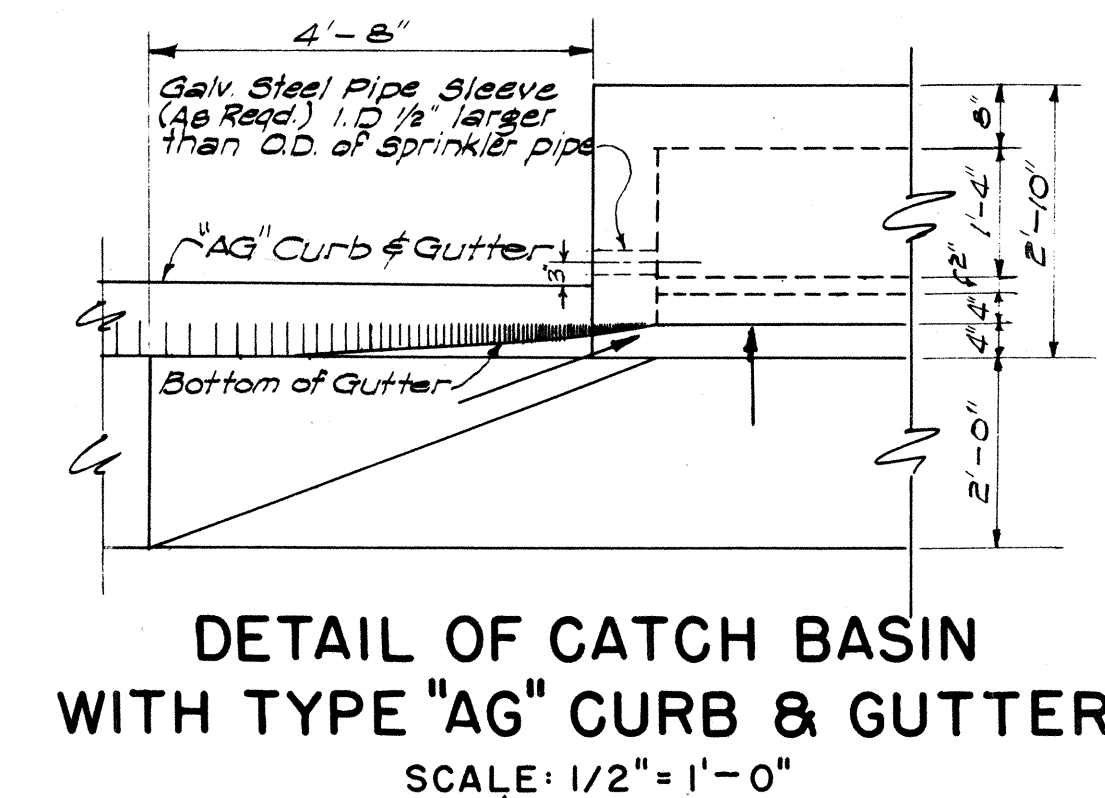
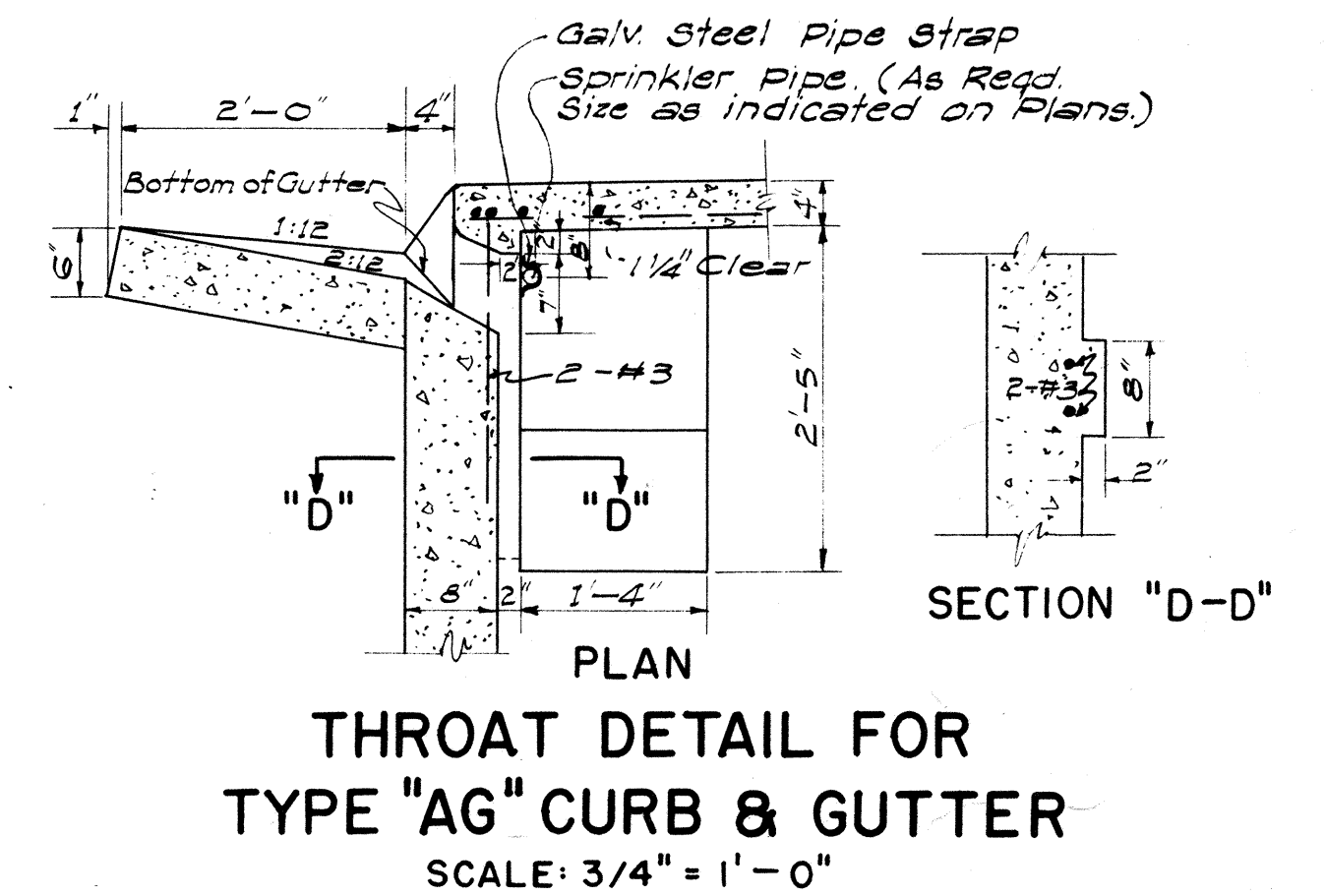
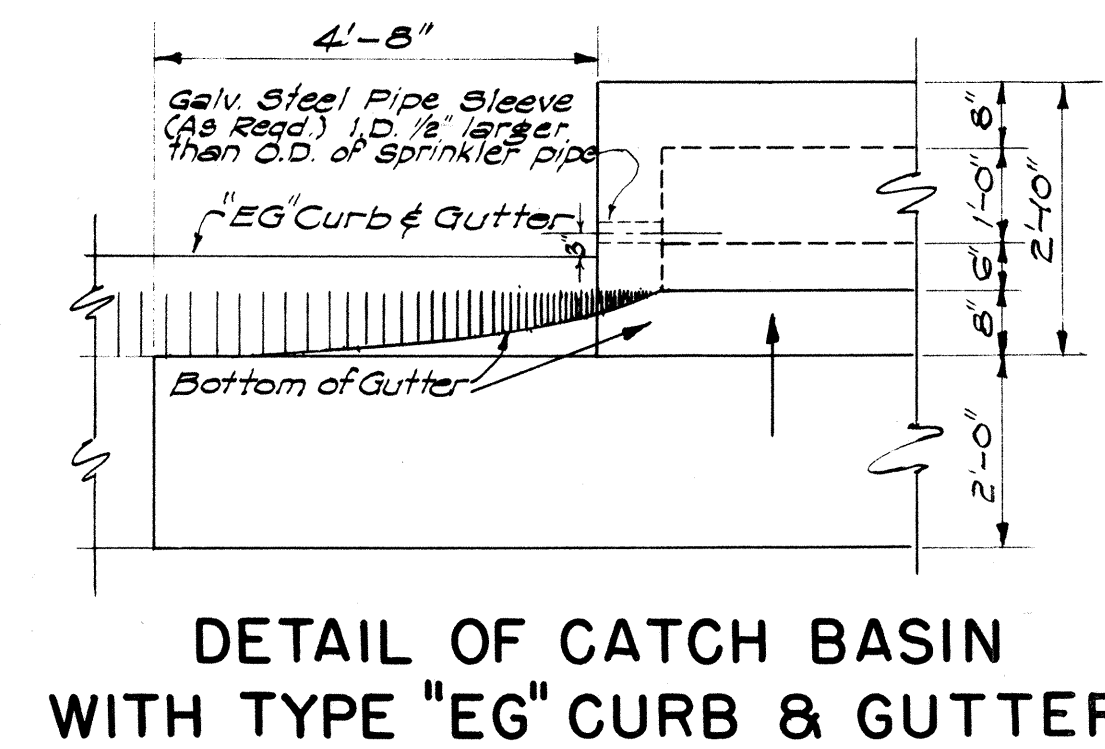
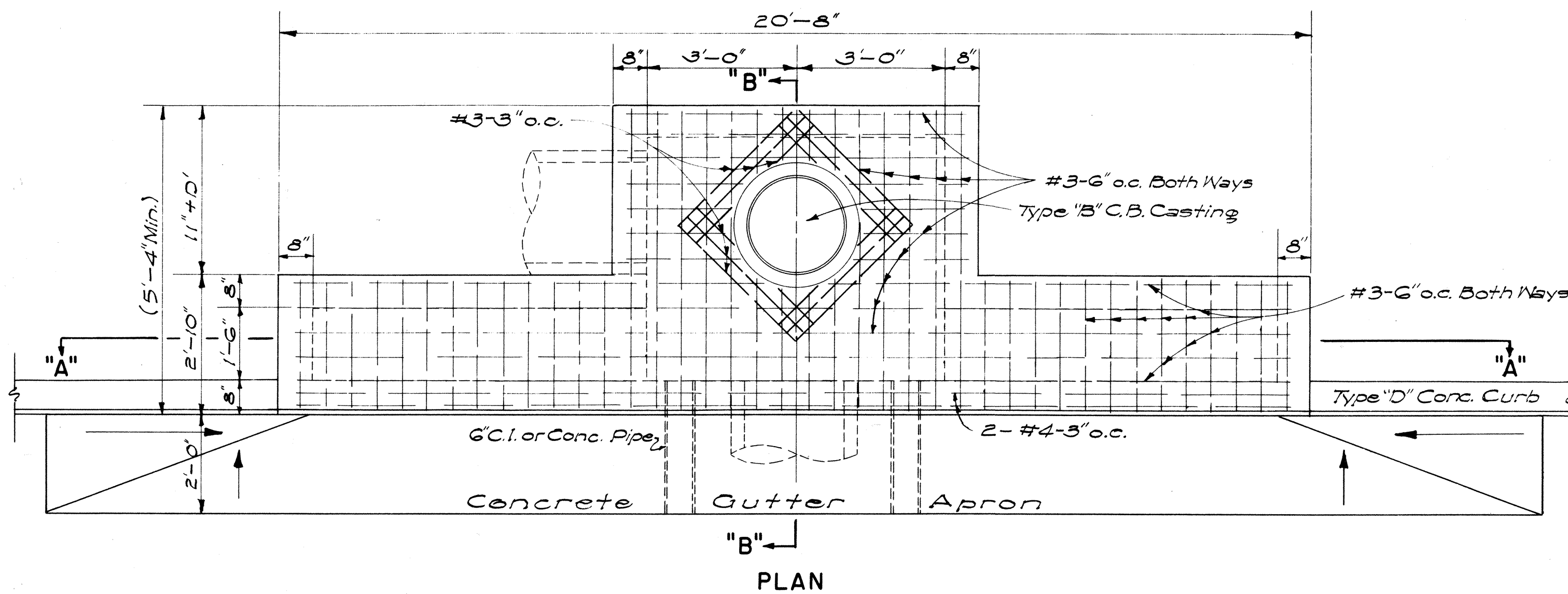
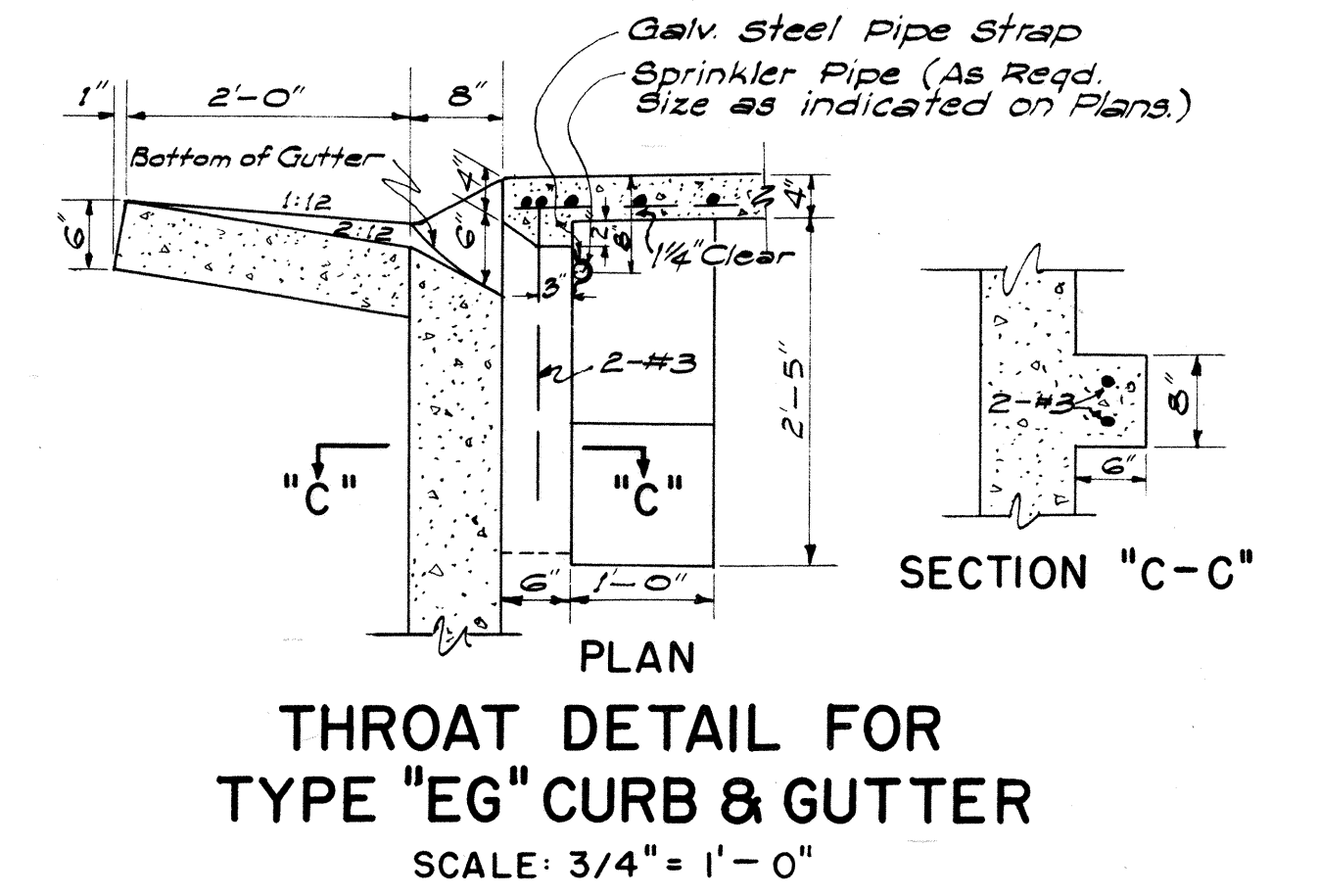
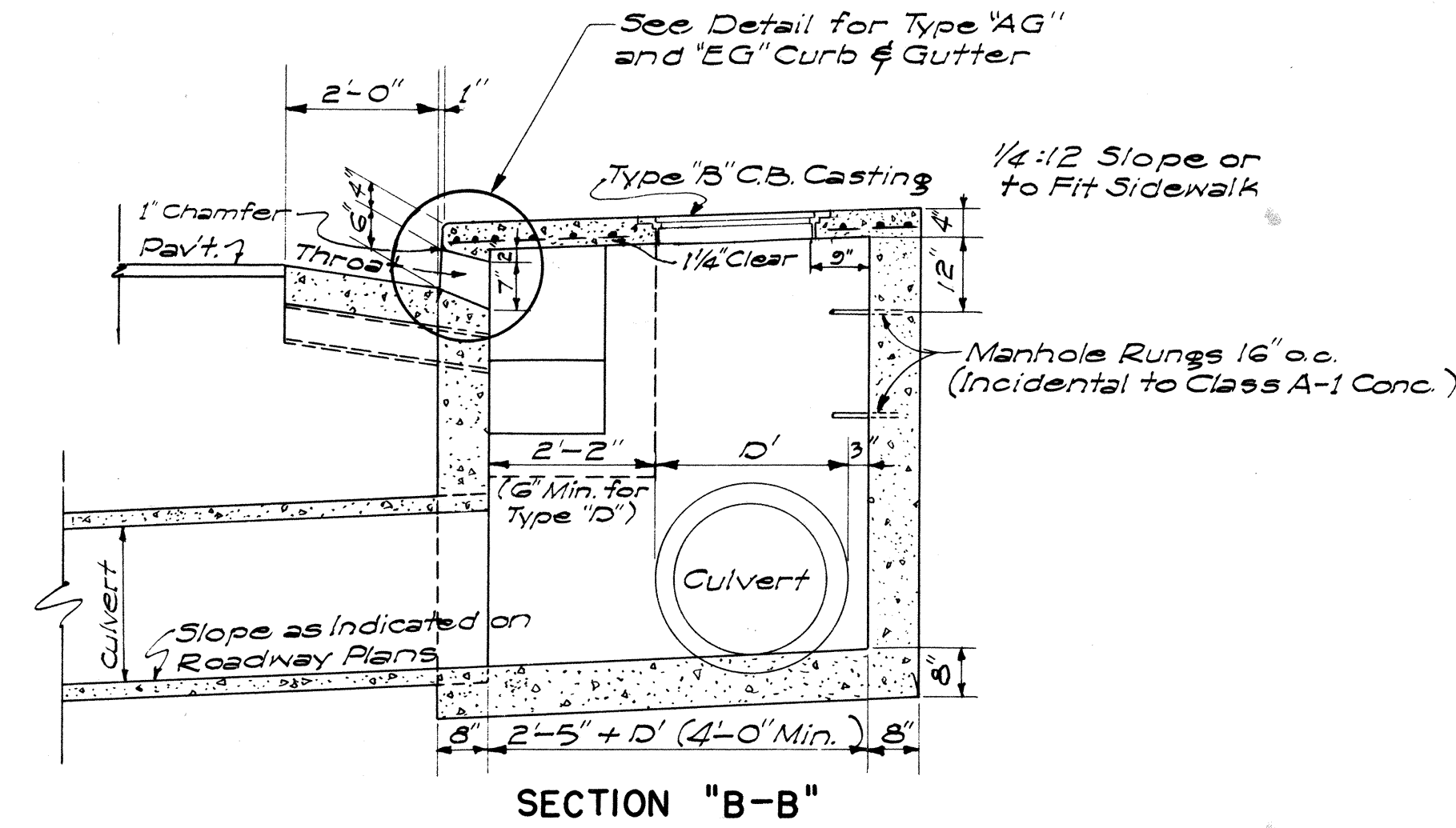
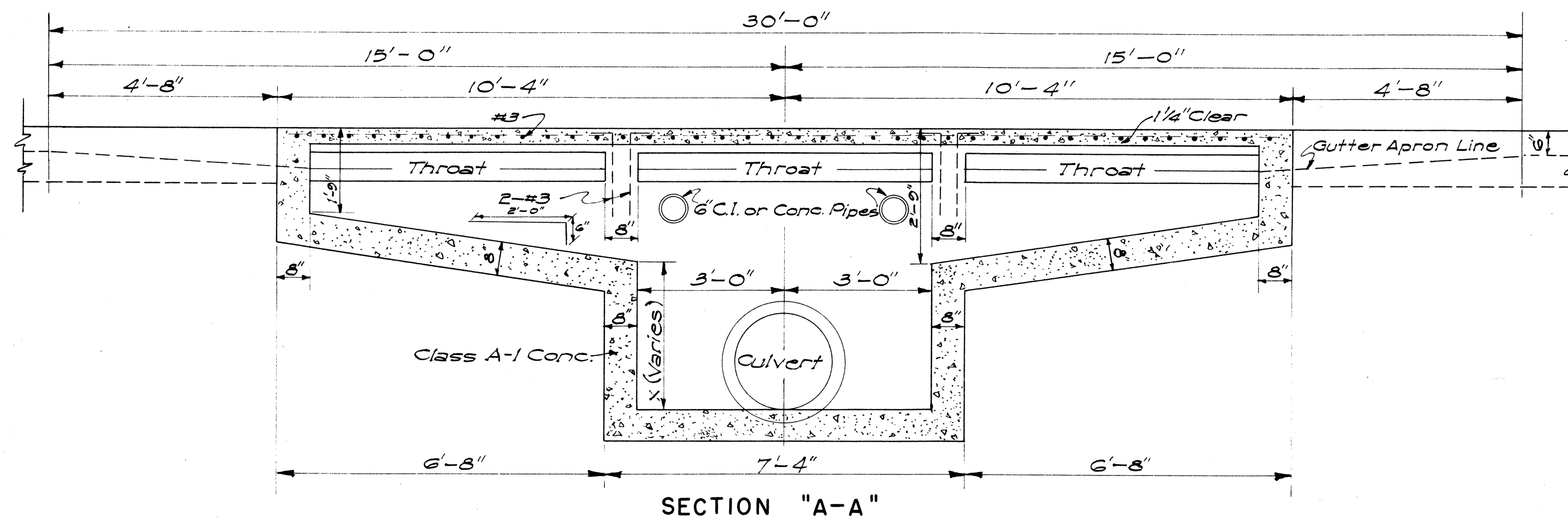


2/17/59

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F0901(6)	1961	40	71



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"

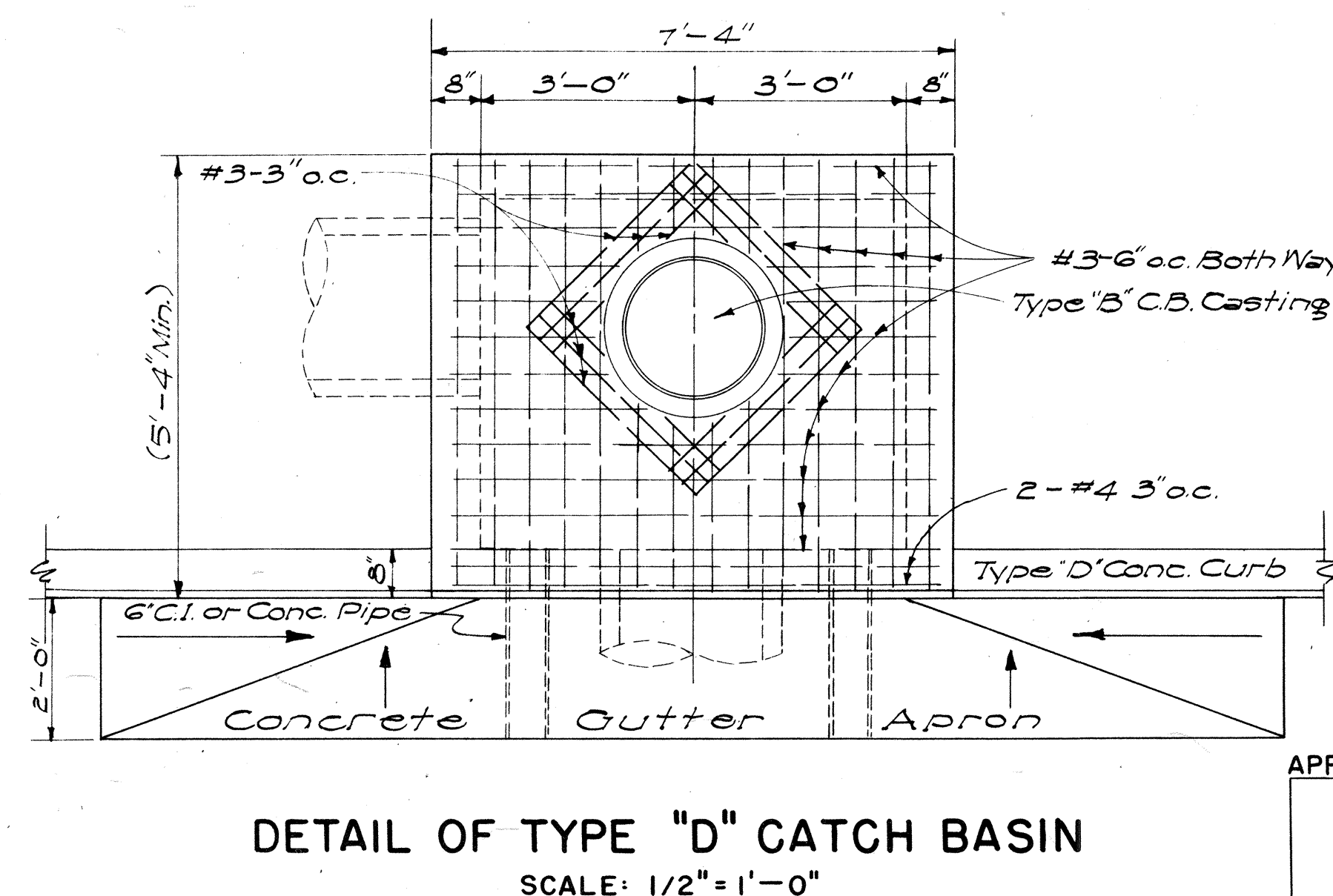
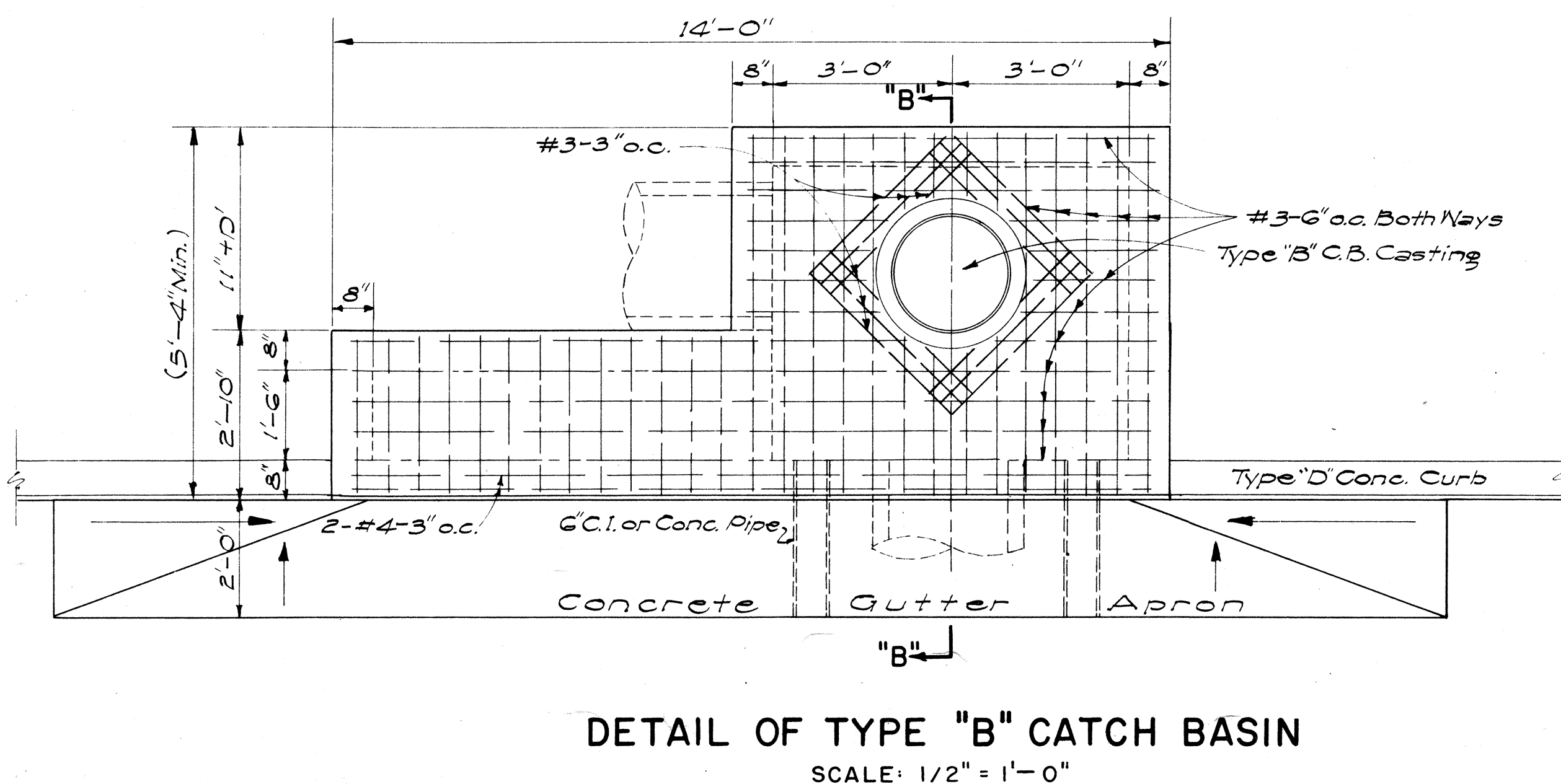
NOTES:

- 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.

REDUCED PLANS SCALES REDUCED ACCORDINGLY

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
STANDARD DETAILS
CONCRETE CATCH BASINS

SCALES AS NOTED
SHEET NO. OF SHEETS

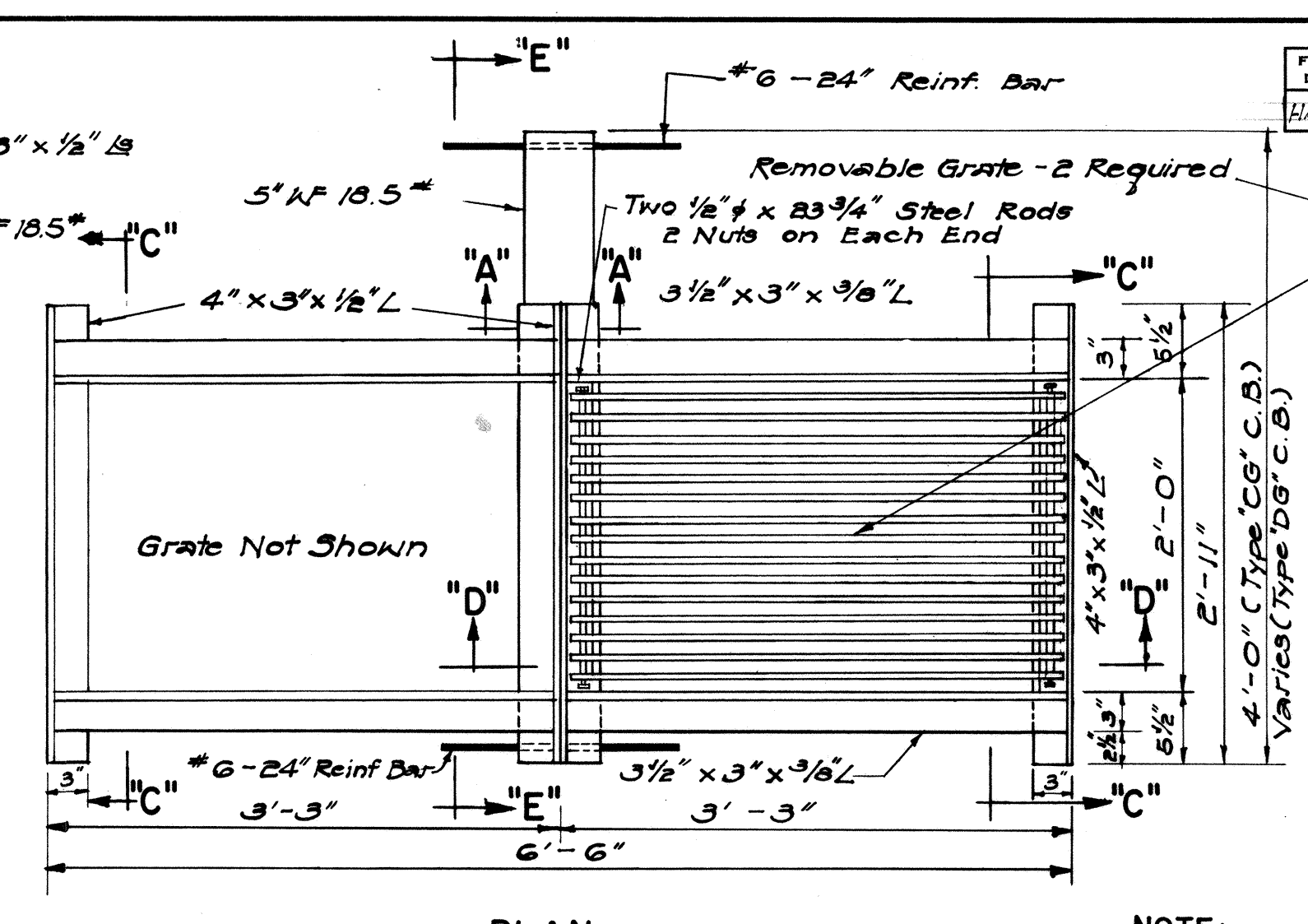
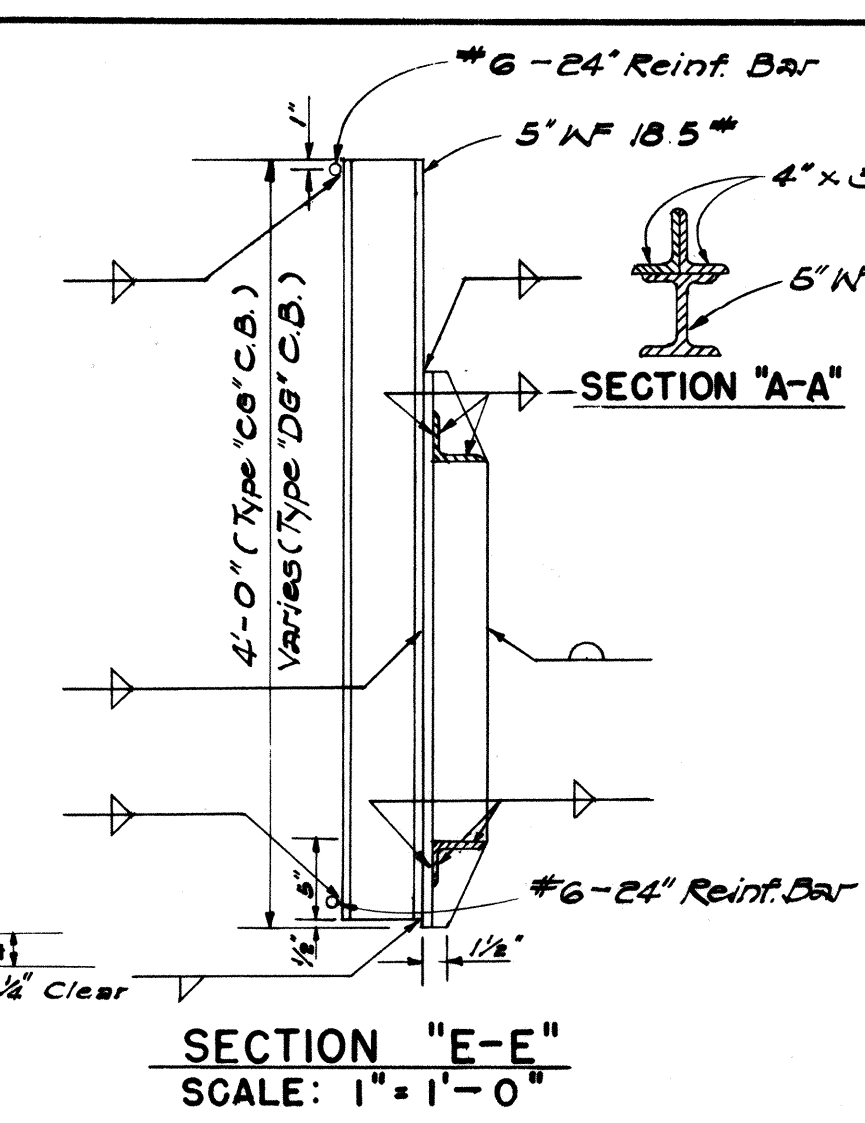
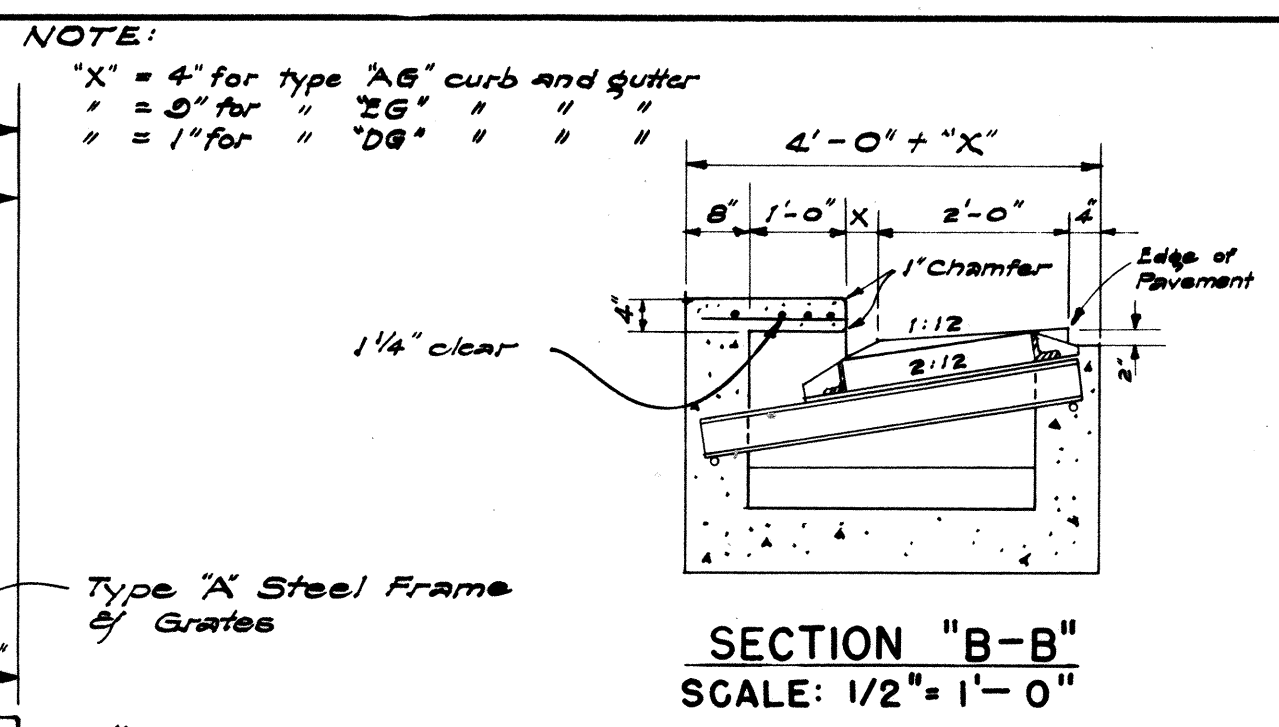
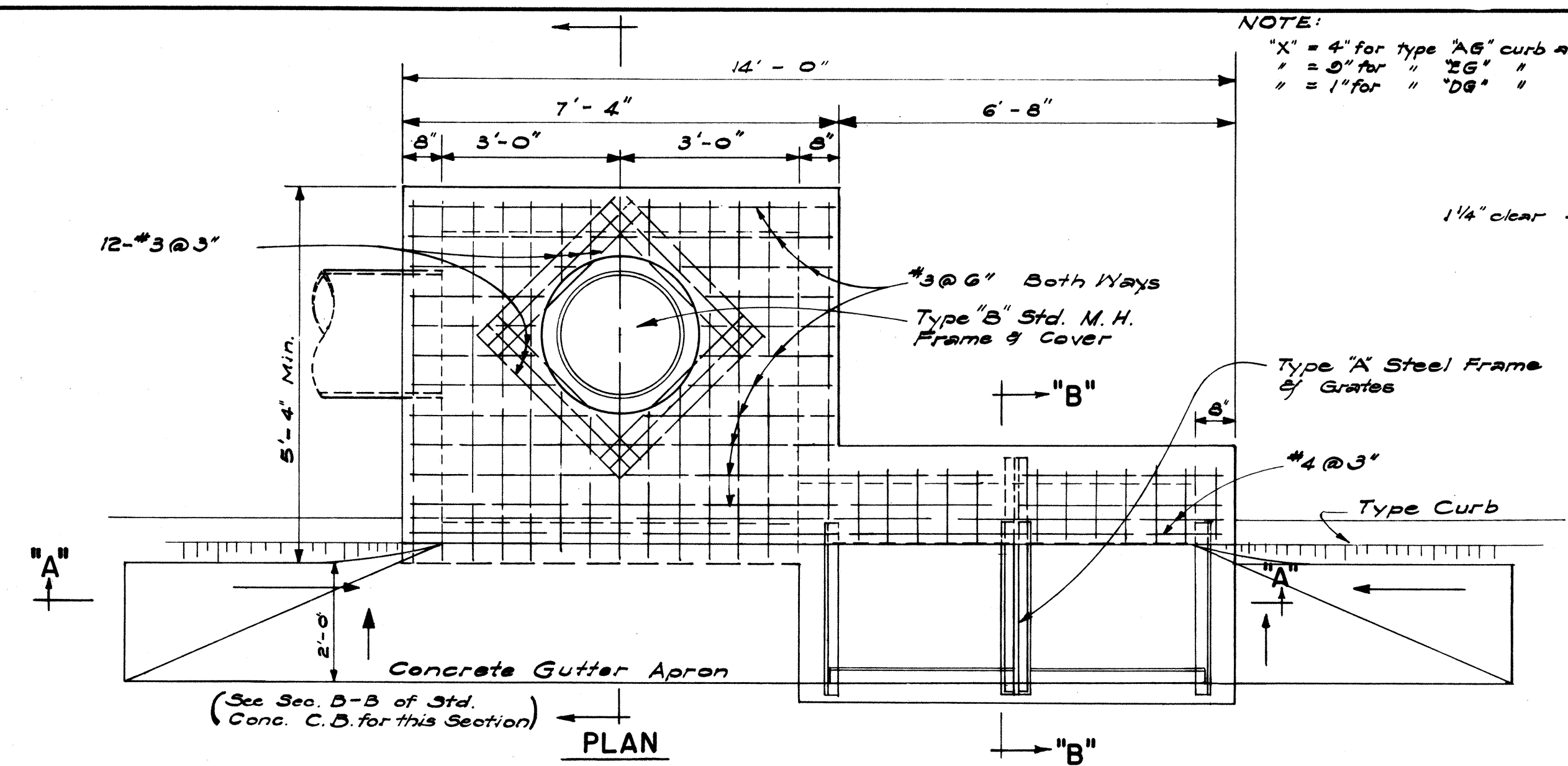


APPROVED: _____ DATE: AUG 25, 1959
STATE HIGHWAY ENGINEER

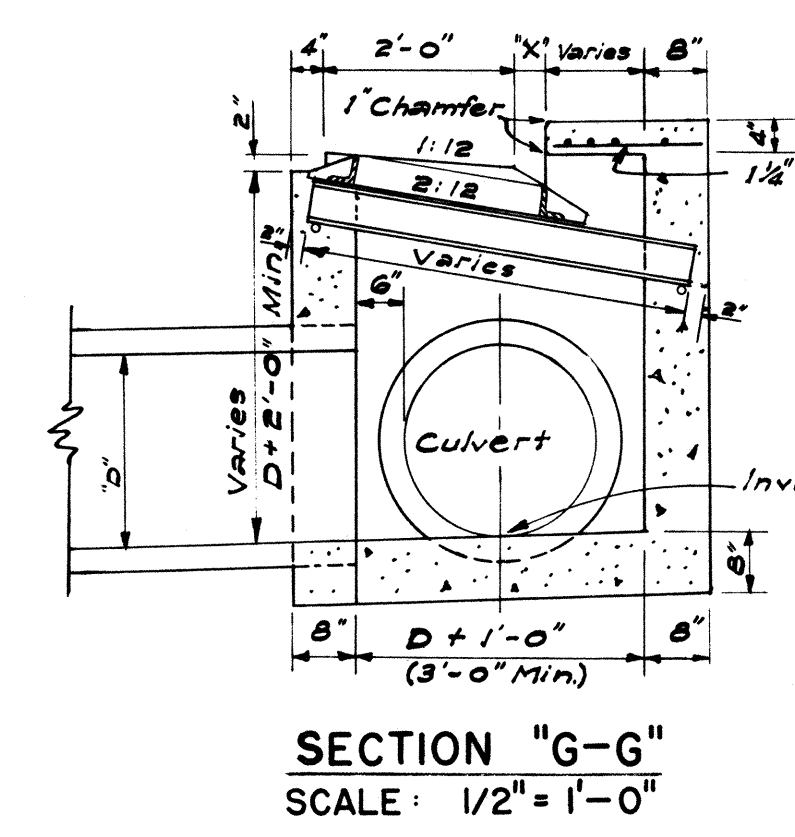
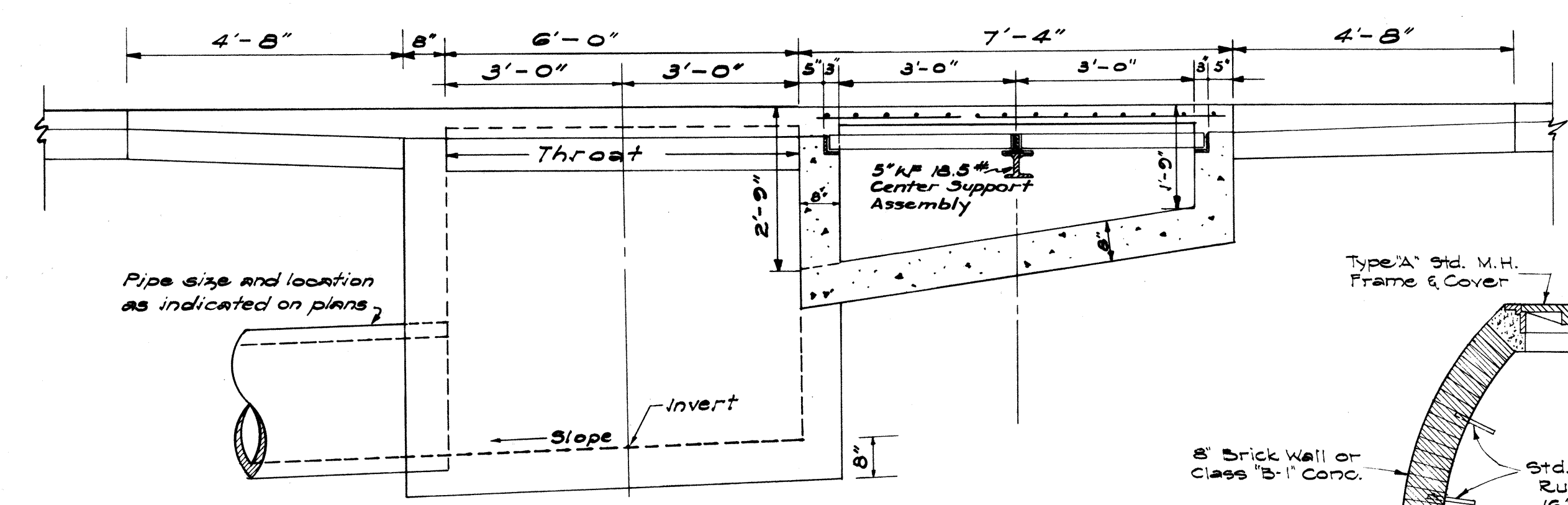
NOTE: TYPE "C" C.B. SIMILAR BUT OPPOSITE HAND

DATE	2/17/59
DESIGNED BY	W. J. J.
CHECKED BY	W. J. J.
NOTED BY	W. J. J.
QUANTITIES BY	W. J. J.
CHECKED BY	W. J. J.

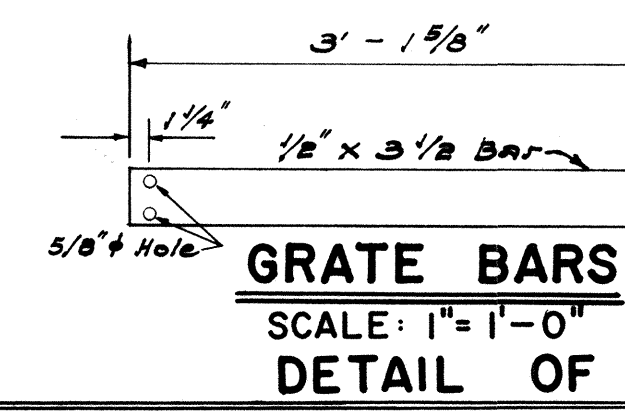
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F0201(2)	1961	41	71



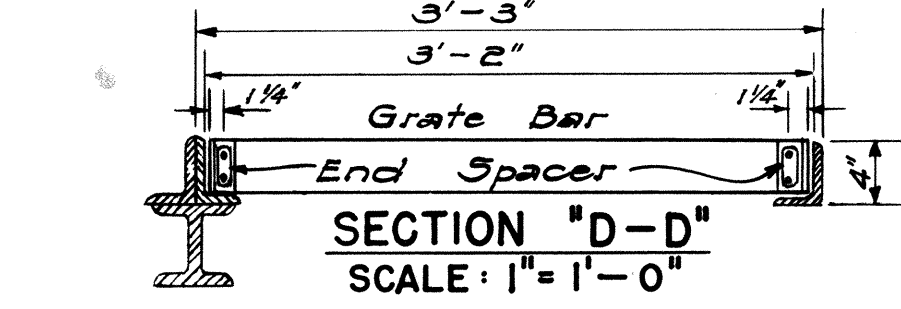
SECTION "C-C"
SCALE: 1" = 1'-0"



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

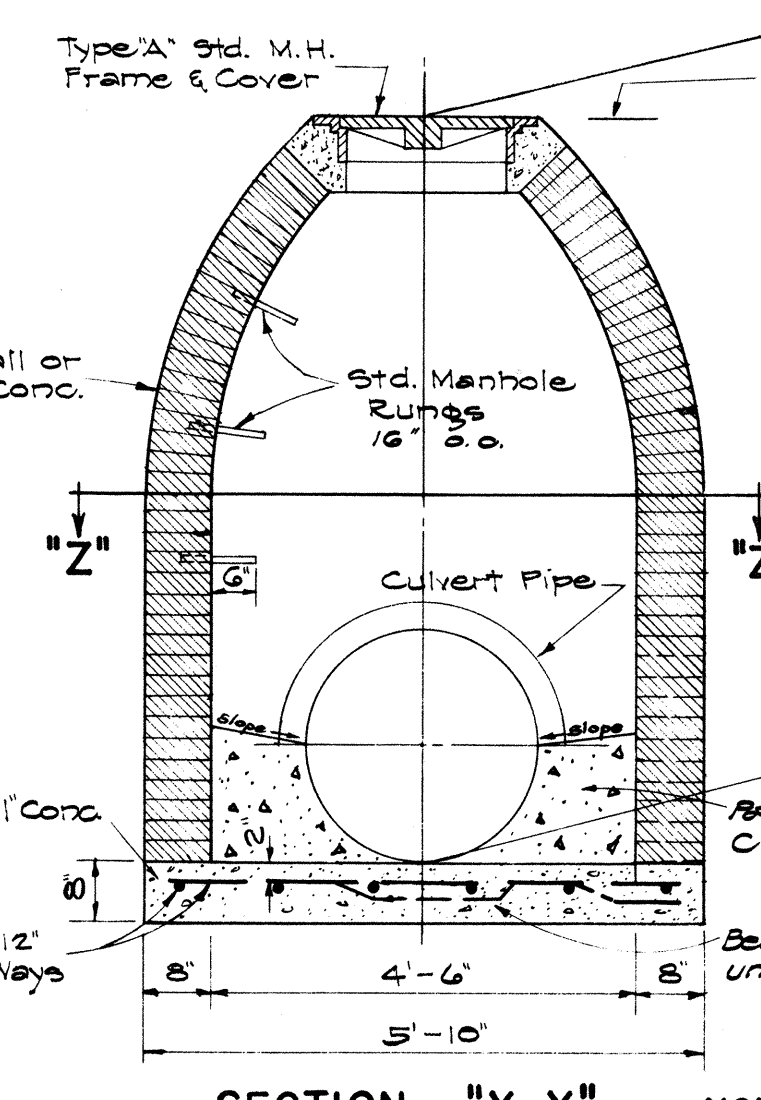
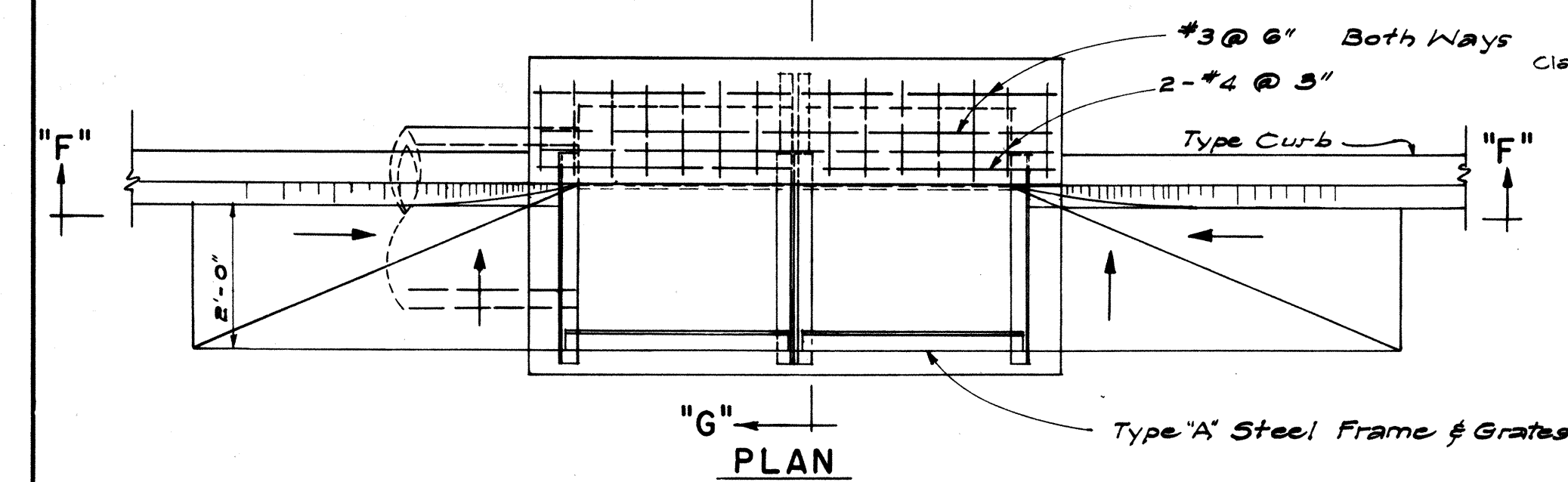


PLAN
SCALE: 1" = 1'-0"



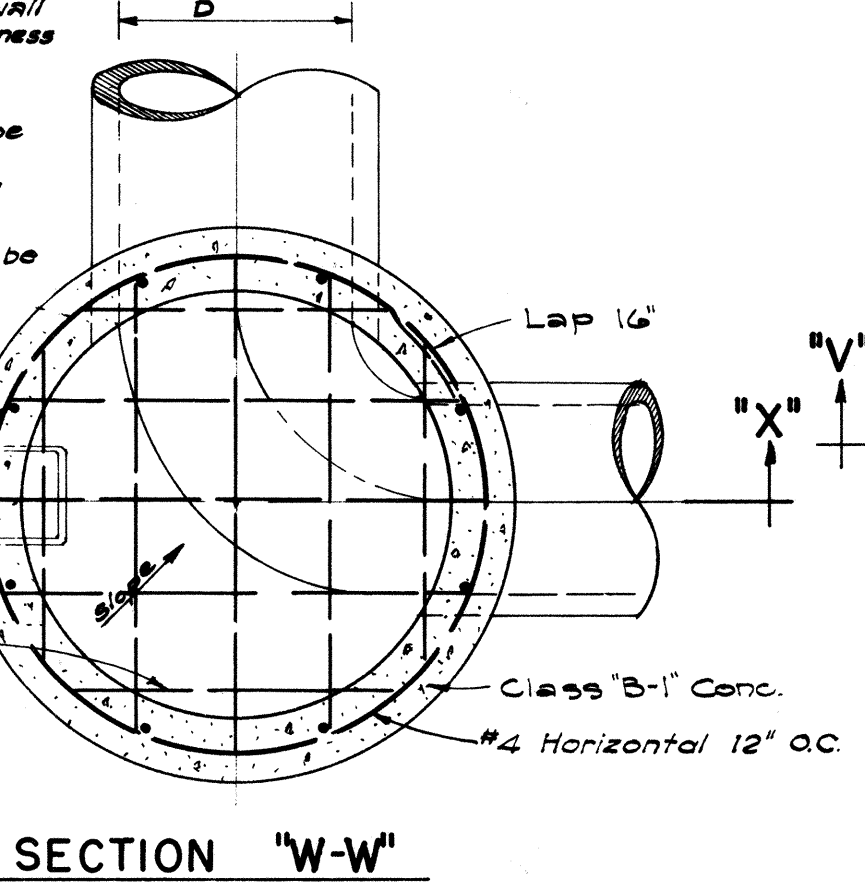
- NOTE:
1) All welds 3/8" unless otherwise noted.
2) All steel shall be structural grade.
3) Grates and frames shall be hot dip galvanized after fabrication in accordance with Section 44(H) of the Standard Specifications

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

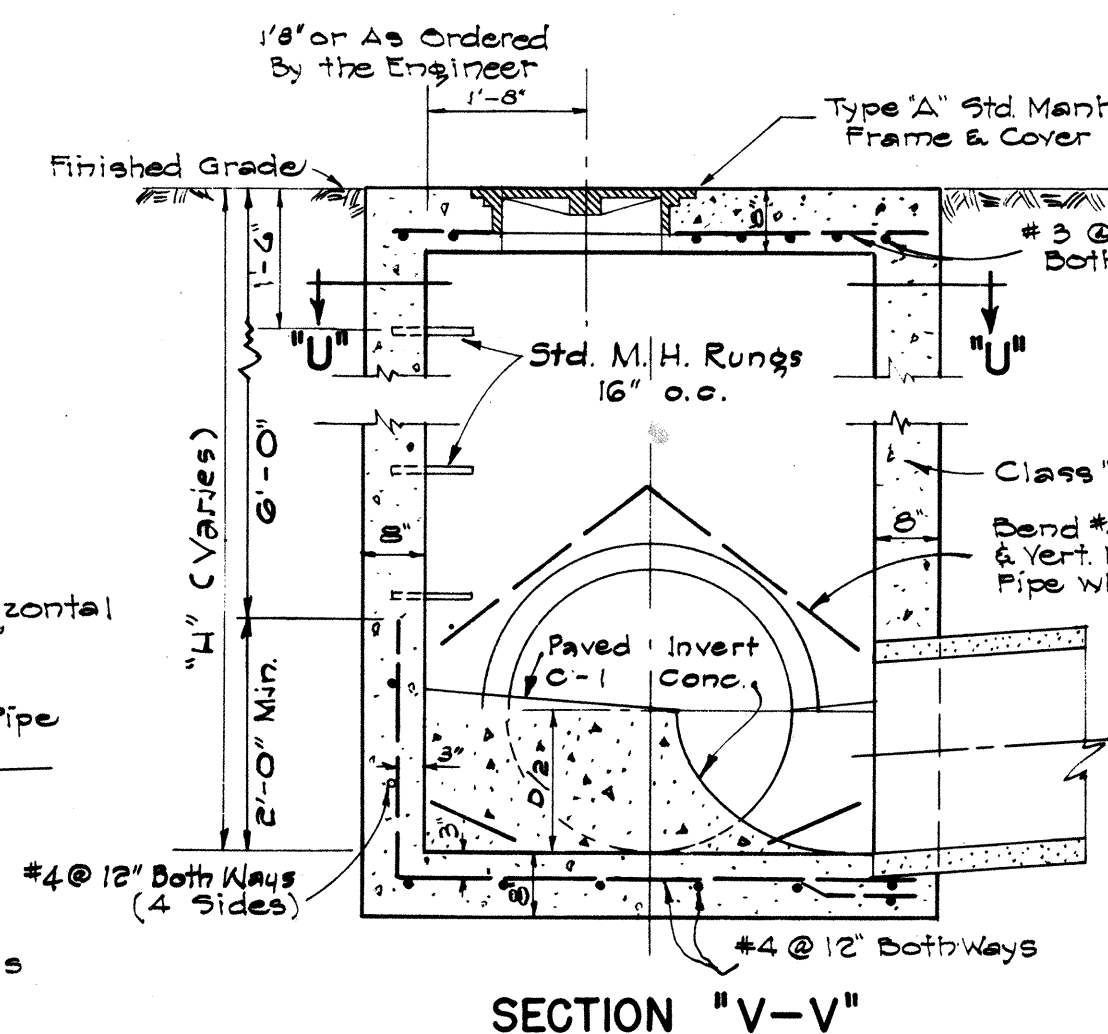


- NOTE:
1. Exterior surface of brick wall shall be plastered with 1" thickness of 1:2 Cement Mortar.
2. Number, size and direction of culvert pipes at manhole to be as shown on plans.
3. Paved invert not required at drop manholes.
4. All Class "C-1" concrete to be incidental to Class "B-1" concrete.
#4 Vertical Spaced 1/2 of Circle
#4 @ 12" Both Ways

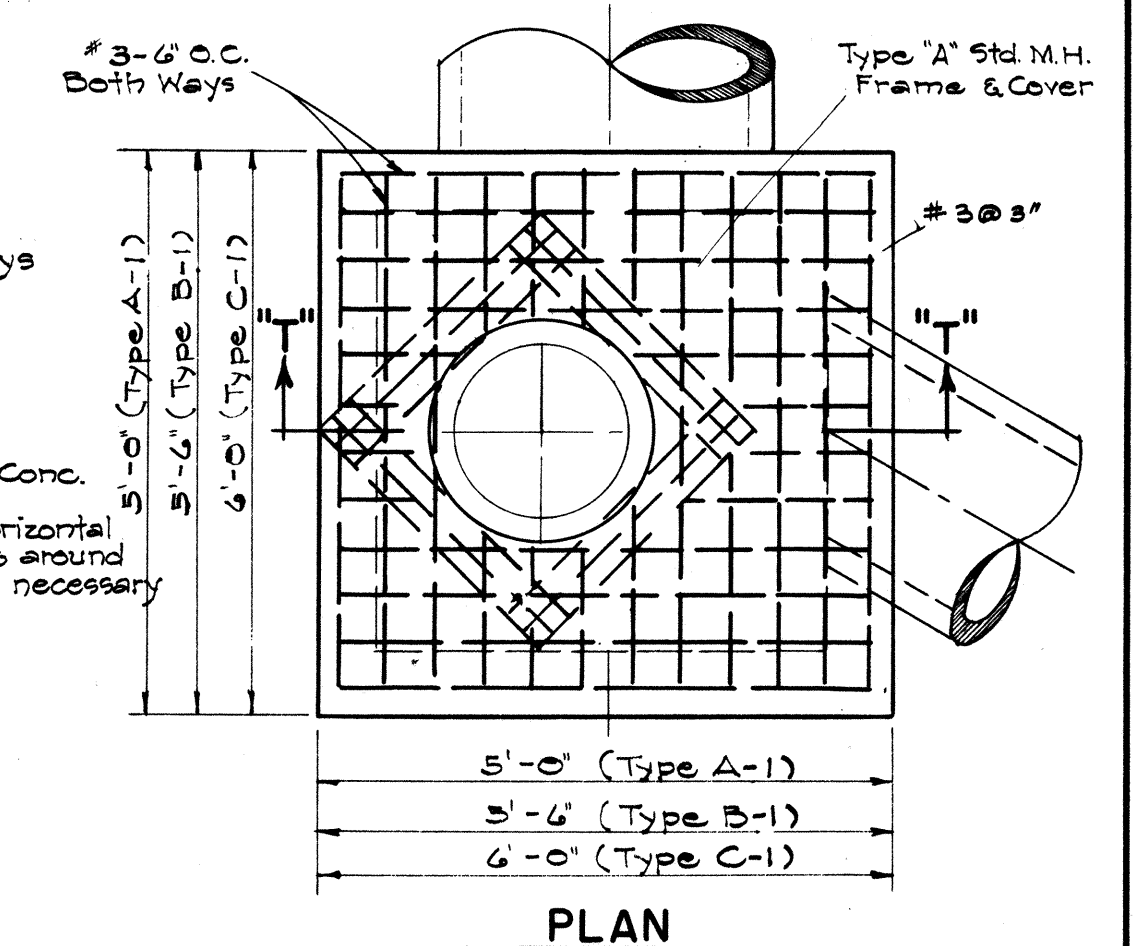
SECTION "X-X"



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"

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
STANDARD DETAILS
GRADED CATCH BASINS &
STORM DRAIN MANHOLES
SCALES AS NOTED
SHEET NO. OF SHEETS

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

REDUCED PLANS
SCALES REDUCED
ACCORDINGLY

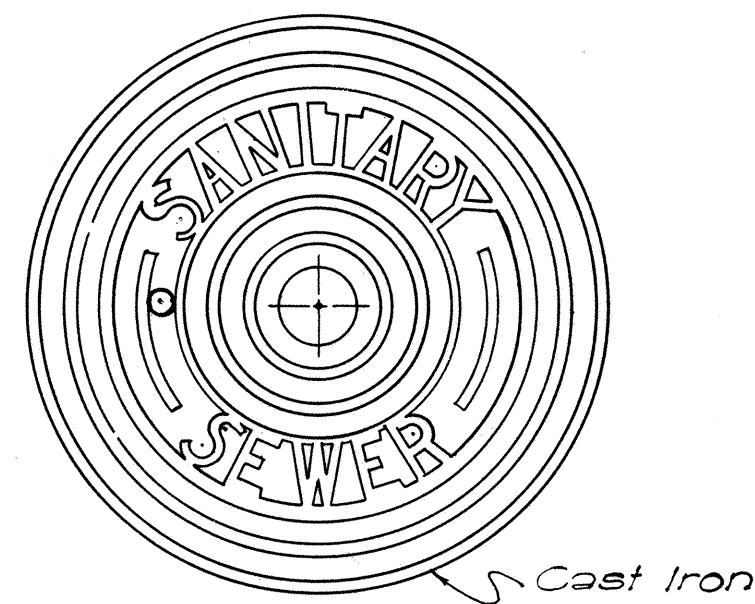
DESIGNED BY	DATE
DRAWN BY	May 55
CHECKED BY	May 55
NOTED BY	May 55
REVISIONS	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

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

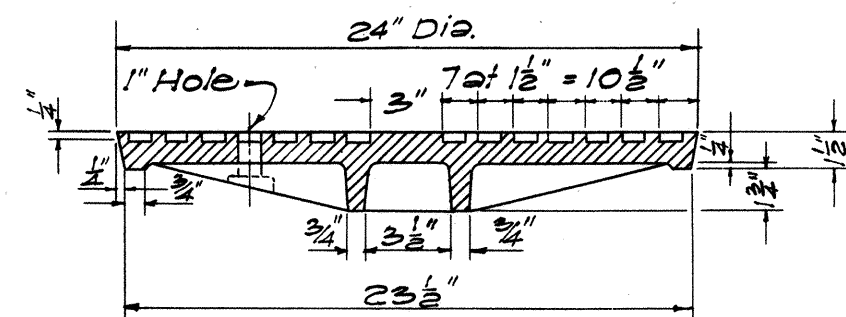
SECTION "Z-Z"
TYPE "D" STORM DRAIN MANHOLE
SCALE: 1/2" = 1'-0"

2/17/57
8/14/50

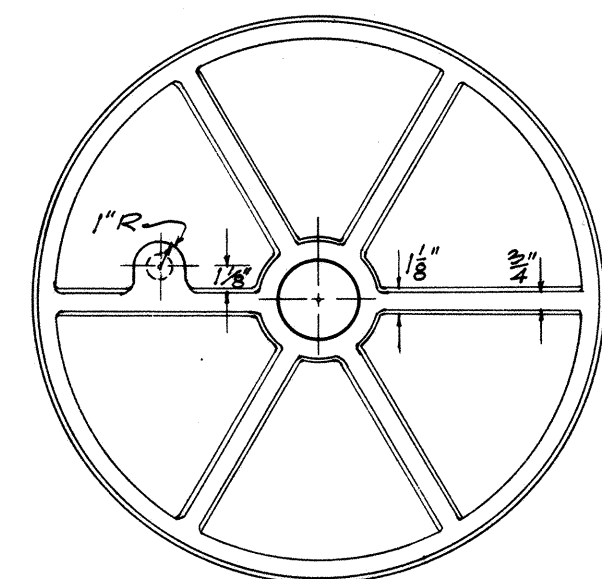
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FC00-100	1951	92	71
August 1957					



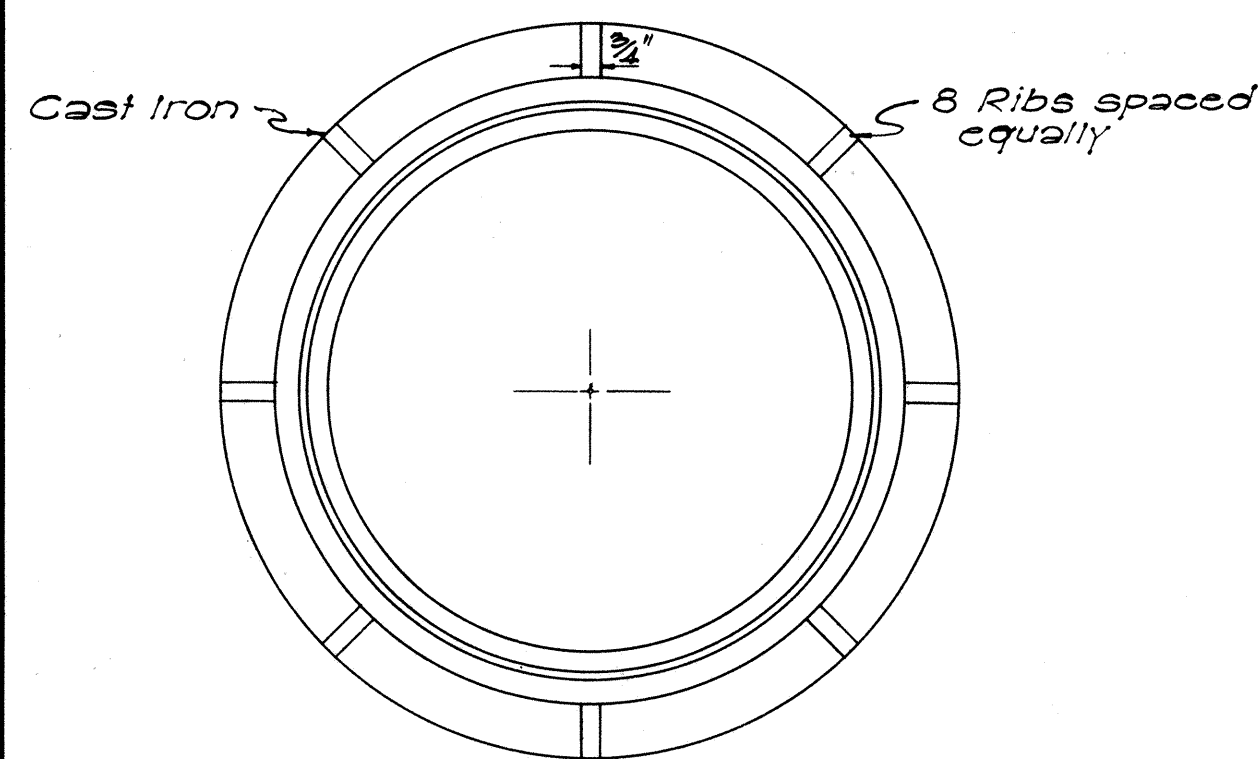
TOP VIEW OF COVER



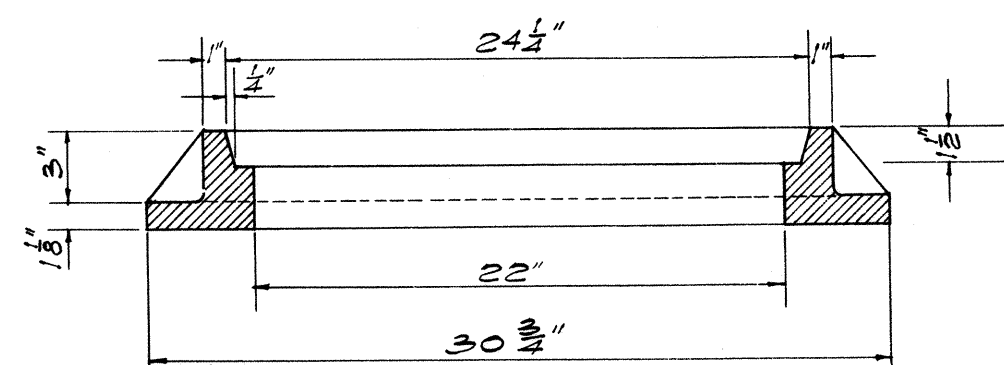
SECTION



BOTTOM VIEW OF COVER

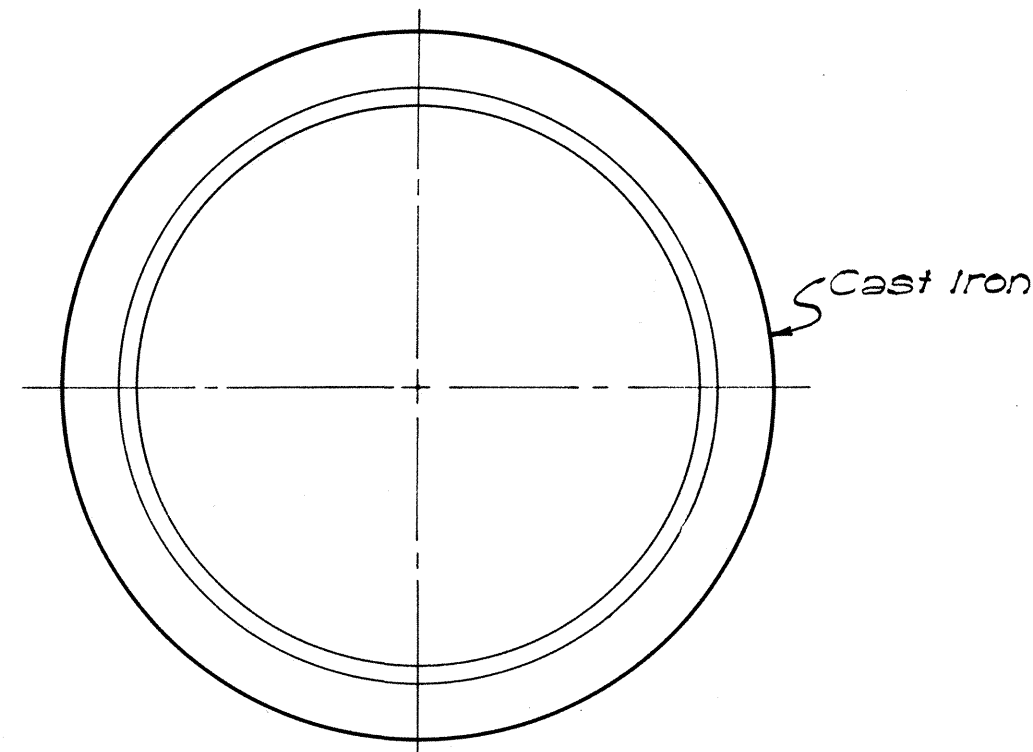


PLAN OF RIM

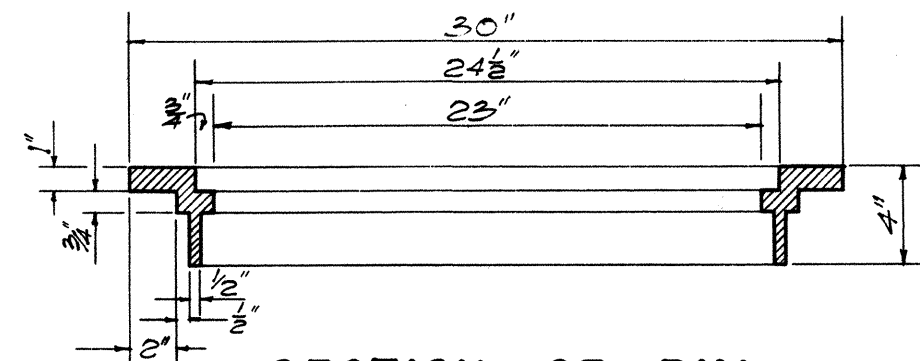


SECTION OF RIM
DETAILS OF TYPE "C"
MANHOLE CASTINGS

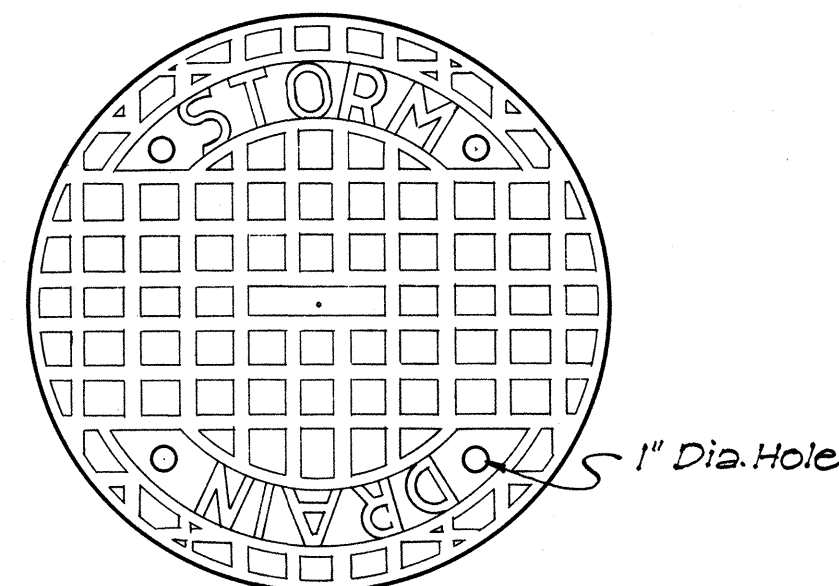
SCALE: 1-1/2" = 1'-0"



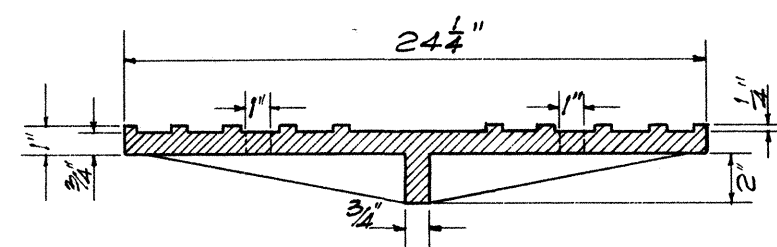
PLAN OF RIM



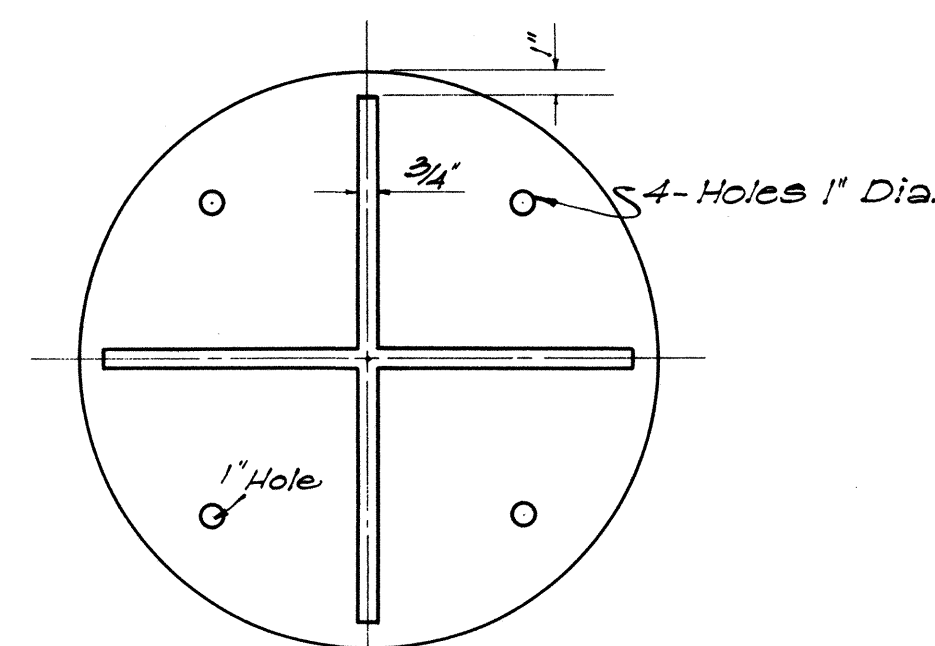
SECTION OF RIM



TOP VIEW OF COVER



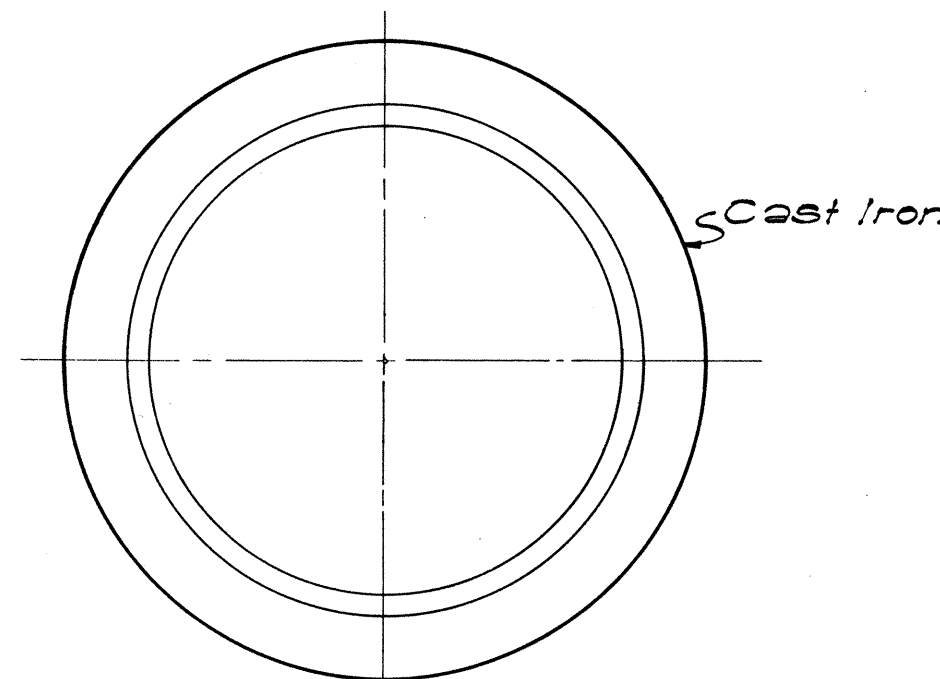
SECTION



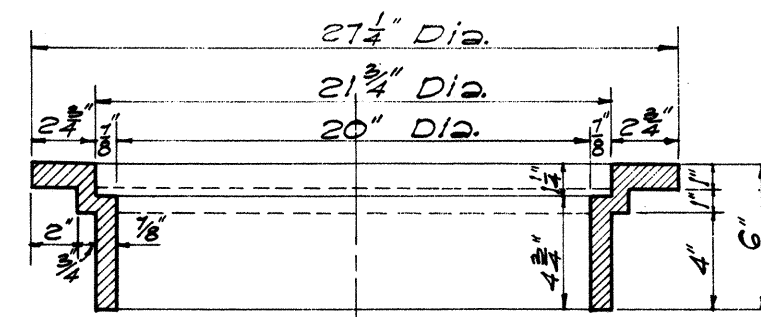
BOTTOM VIEW OF COVER

DETAILS OF TYPE "B"
CATCH BASIN CASTINGS

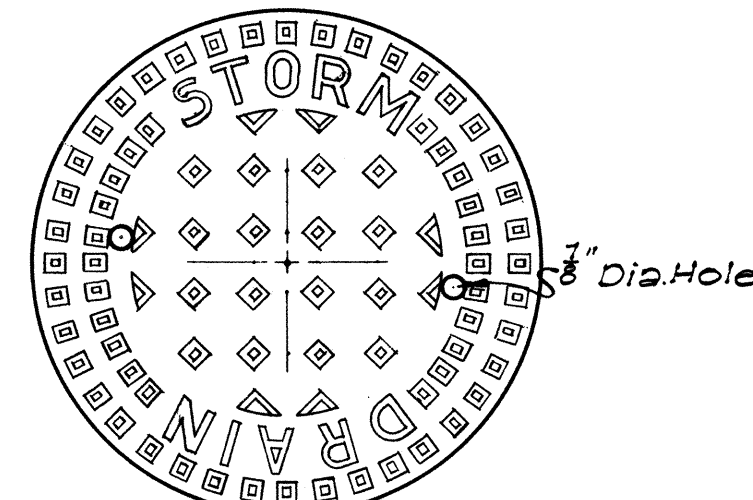
SCALE: 1-1/2" = 1'-0"



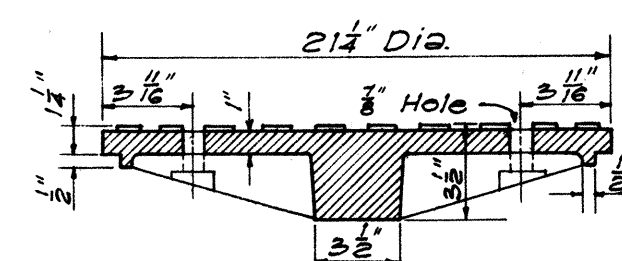
PLAN OF RIM



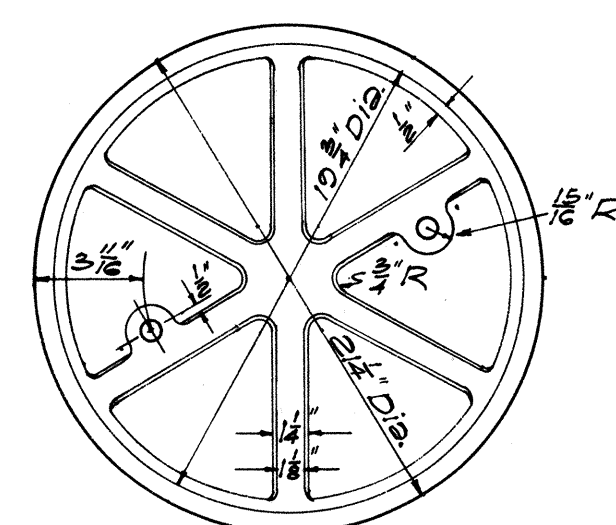
SECTION OF RIM



TOP VIEW OF COVER



SECTION

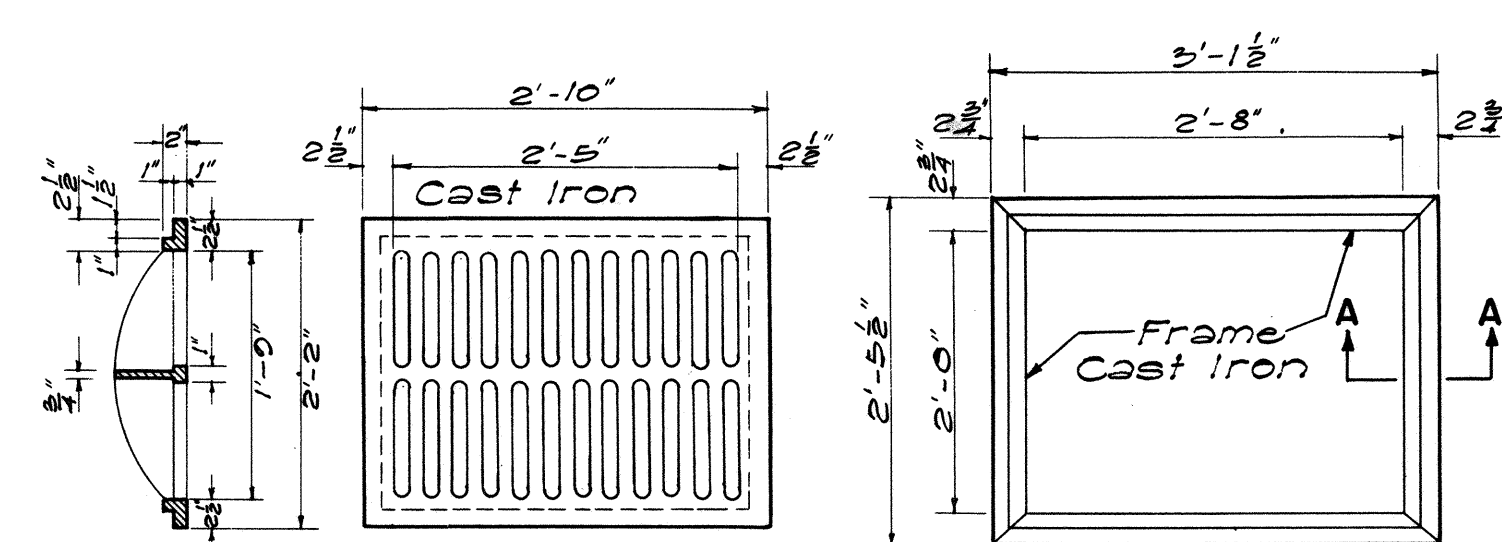


BOTTOM VIEW OF COVER

DETAILS OF TYPE "A"
MANHOLE CASTINGS

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

NOTE: Stock Pattern From Novelty Foundry ~ Honolulu

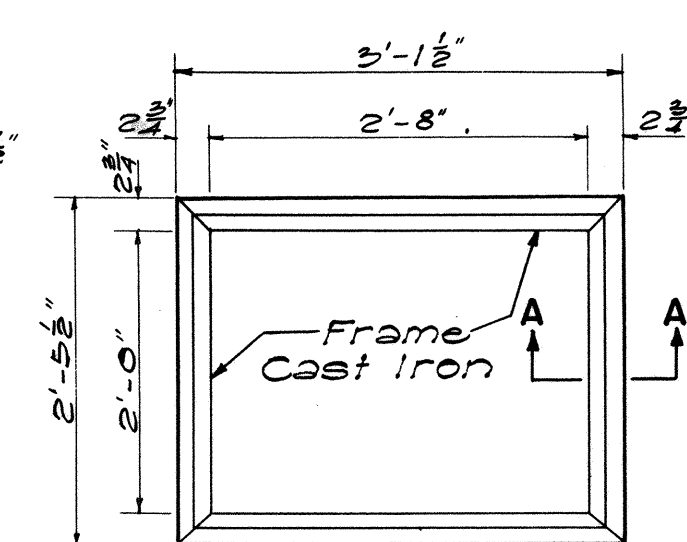


SECTION

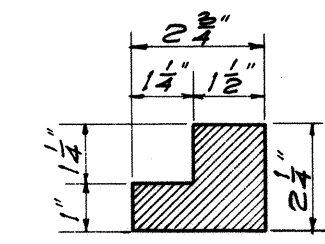
TOP VIEW

TYPE C C.I. FRAME AND GRATING

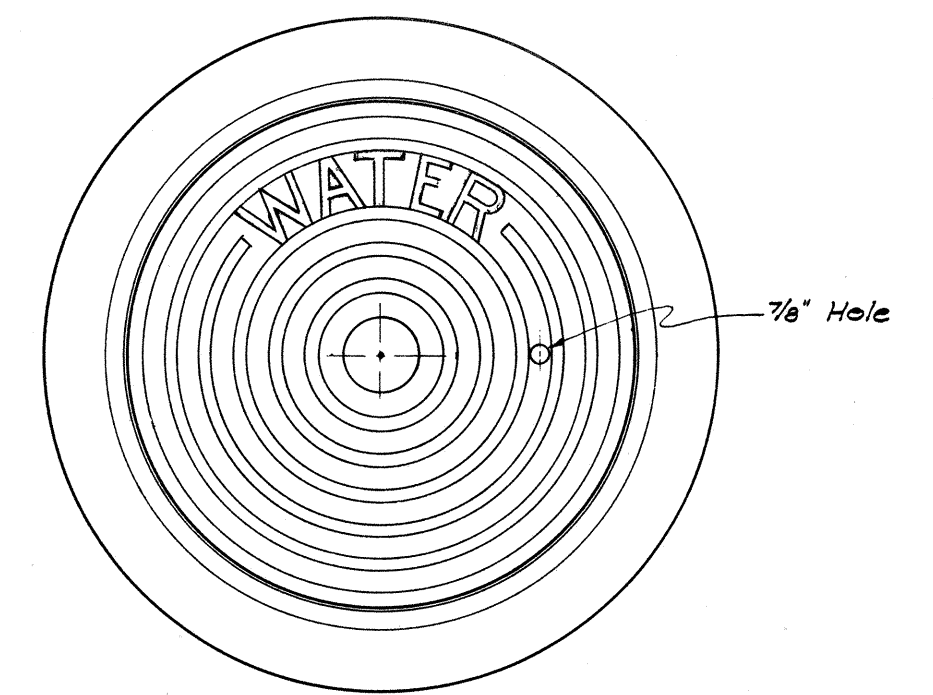
SCALE: 3/4" = 1'-0"



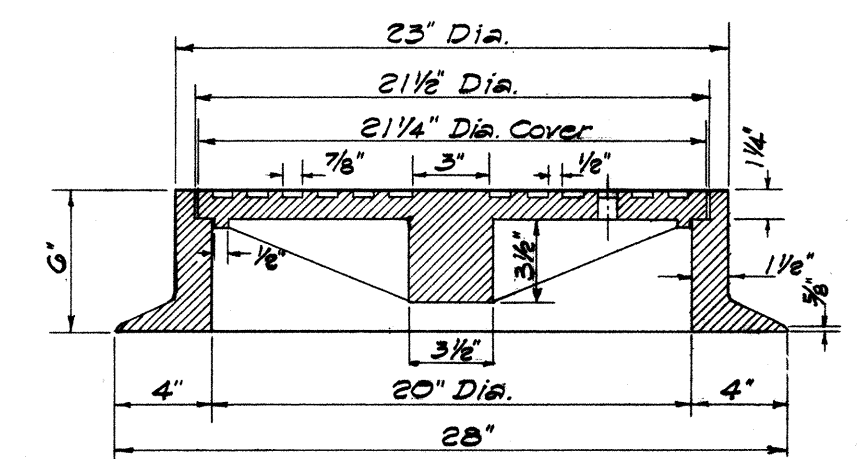
TOP VIEW



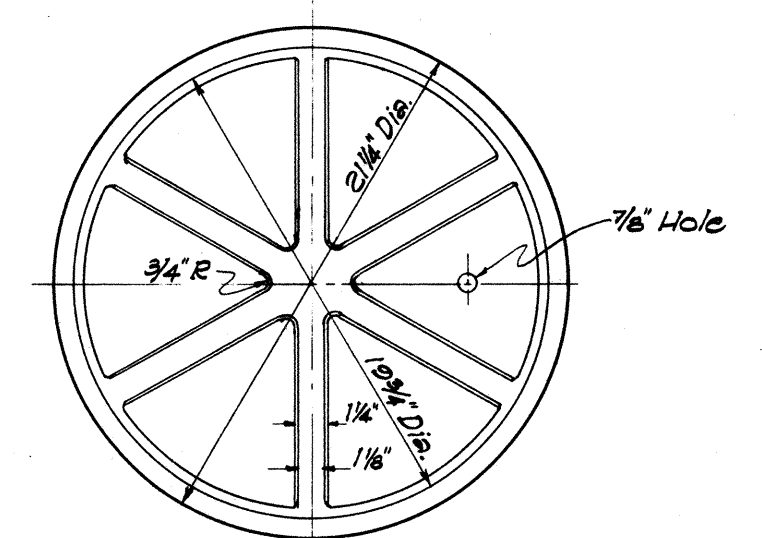
SECTION "A-A"
SCALE 3" = 1'-0"



PLAN OF FRAME AND COVER



SECTION OF FRAME AND COVER



BOTTOM VIEW OF COVER

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

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

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
STANDARD DETAILS
CATCH BASIN AND
MANHOLE CASTINGS

SCALES AS NOTED

SHEET NO OF SHEETS

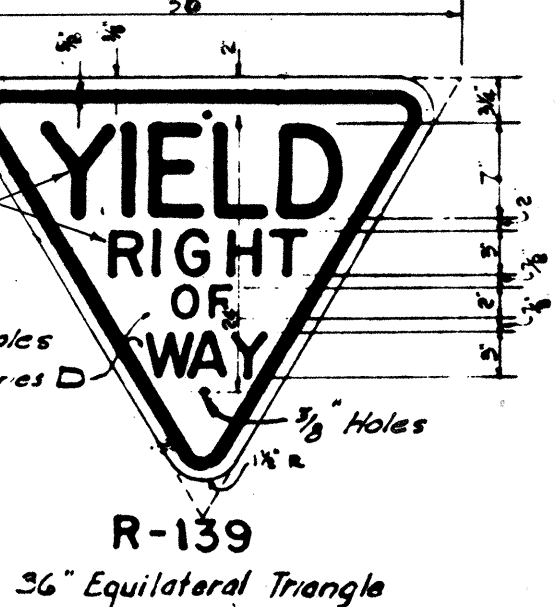
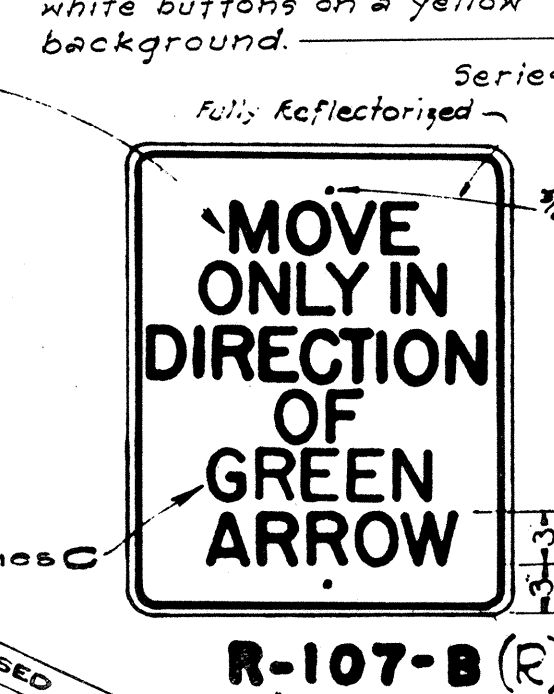
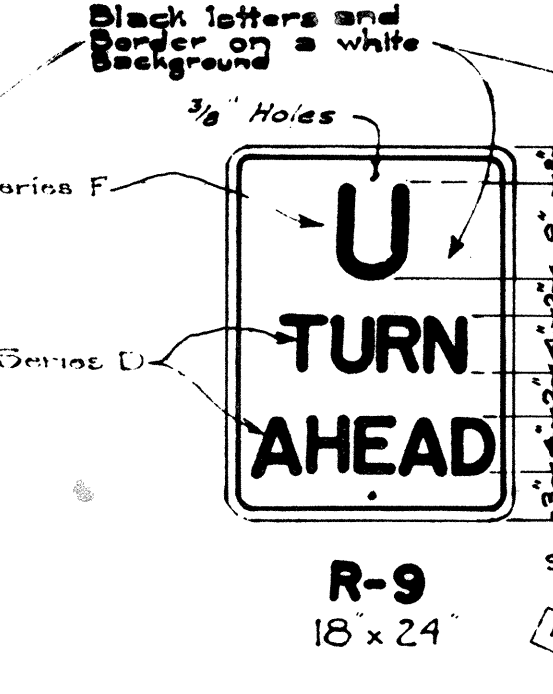
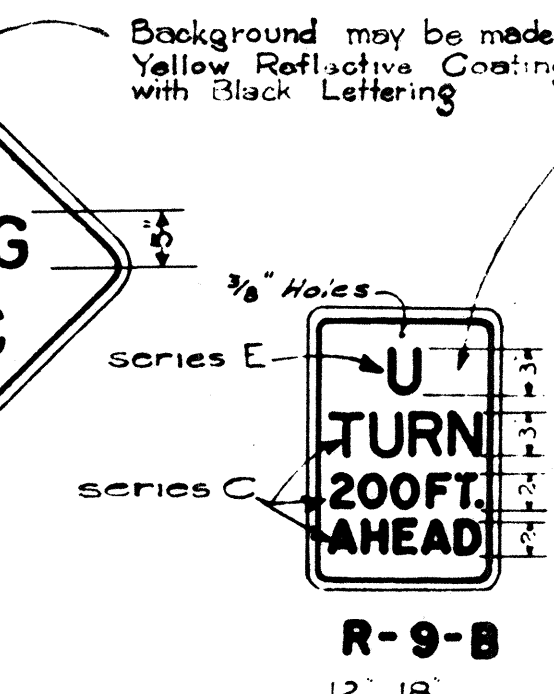
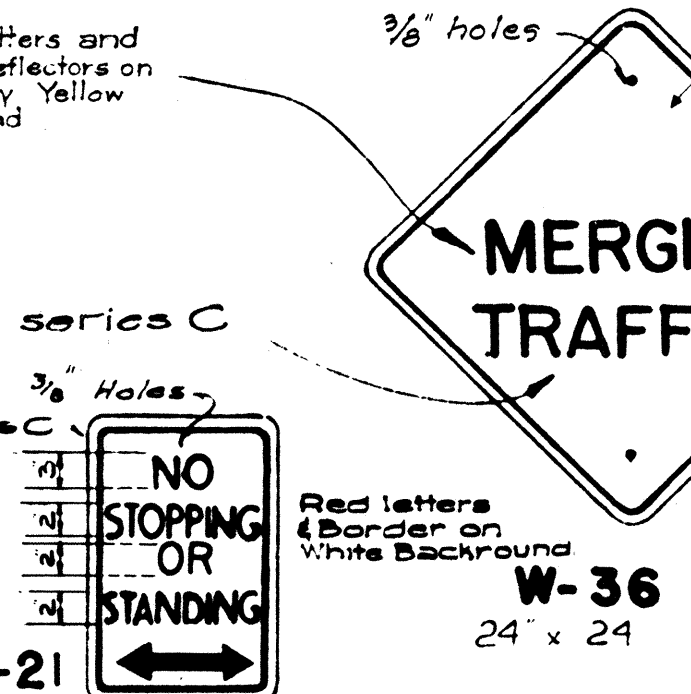
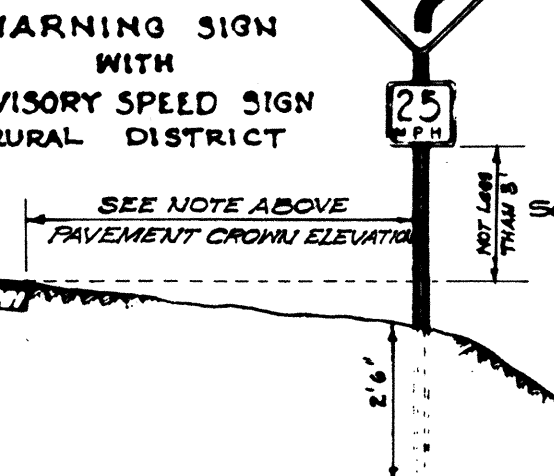
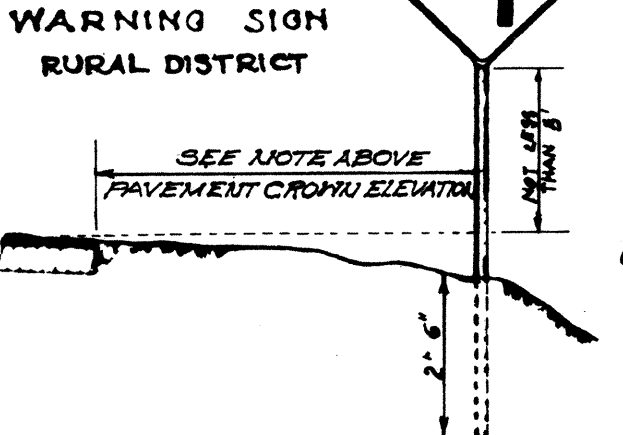
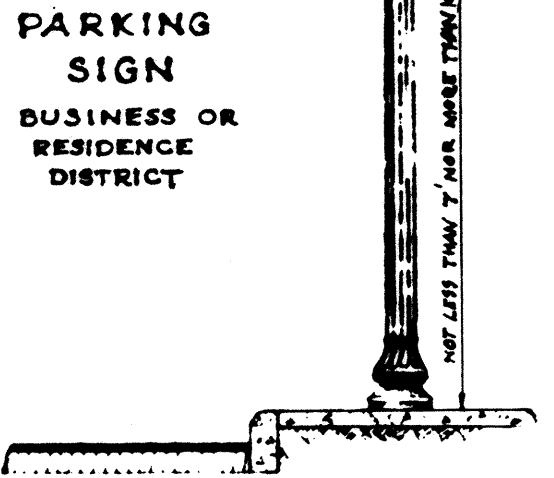
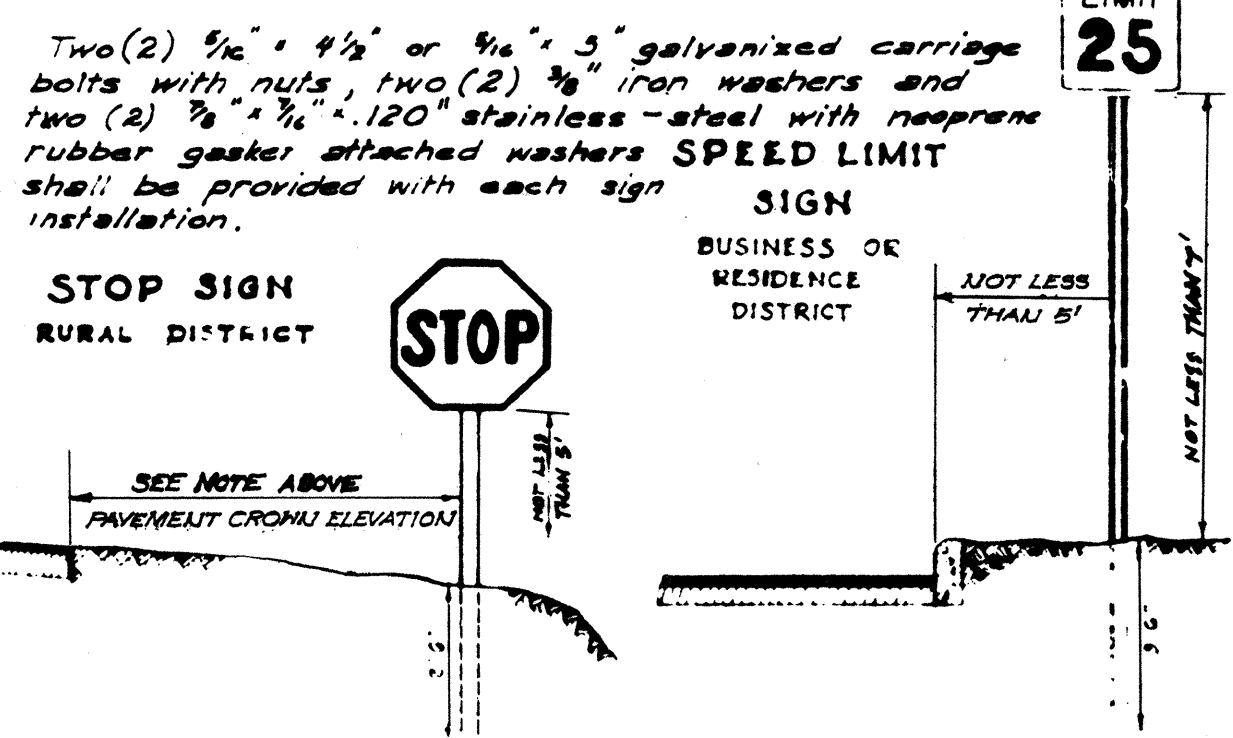
REDUCED PLANS
SCALES REDUCED
ACCORDINGLY

APPROVED: DATE: Aug. 29, 1957
STATE HIGHWAY ENGINEER

ORIGINAL PLAN
DATE: 2/17/57
DESIGNED BY: Calisto
DRAWN BY: Calisto
NOTE BOOK
CHECKED BY: Calisto
No.

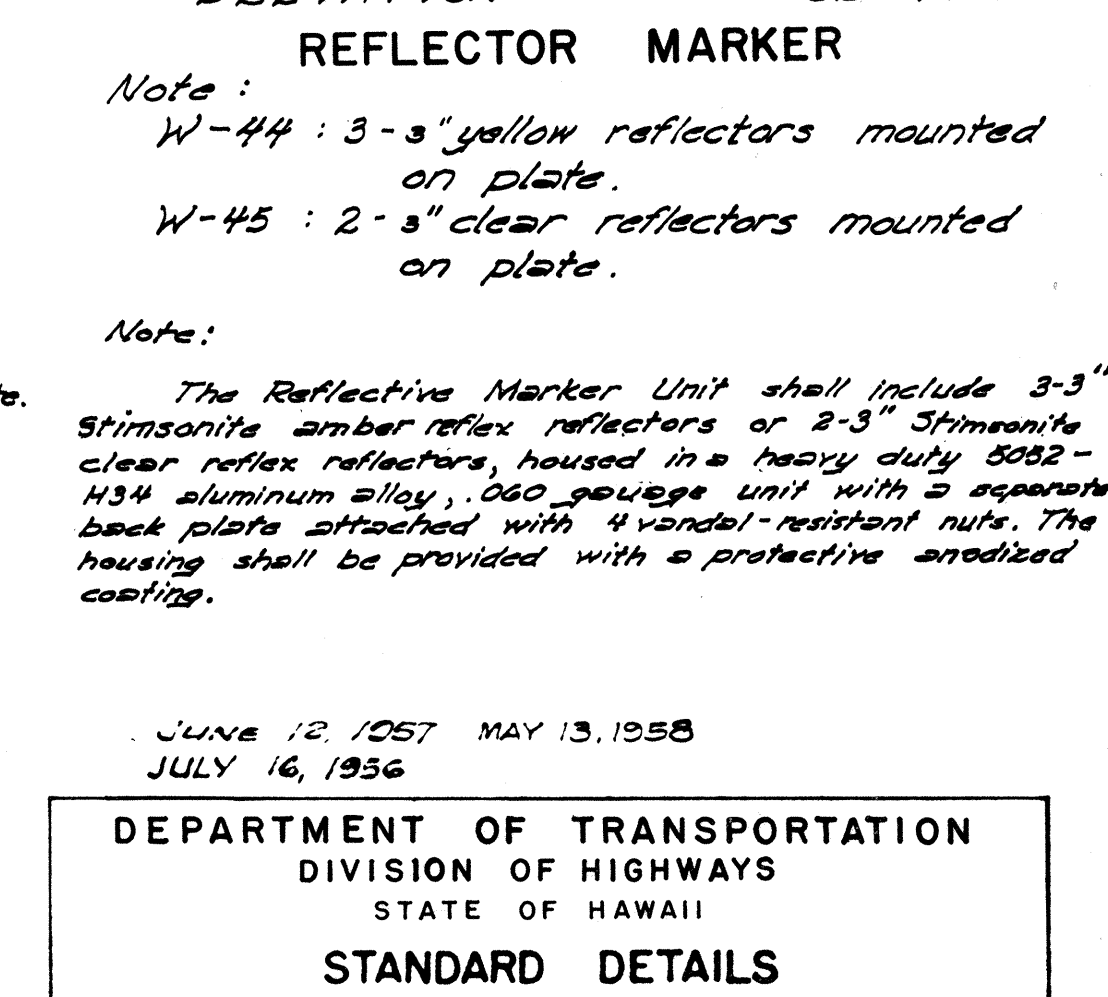
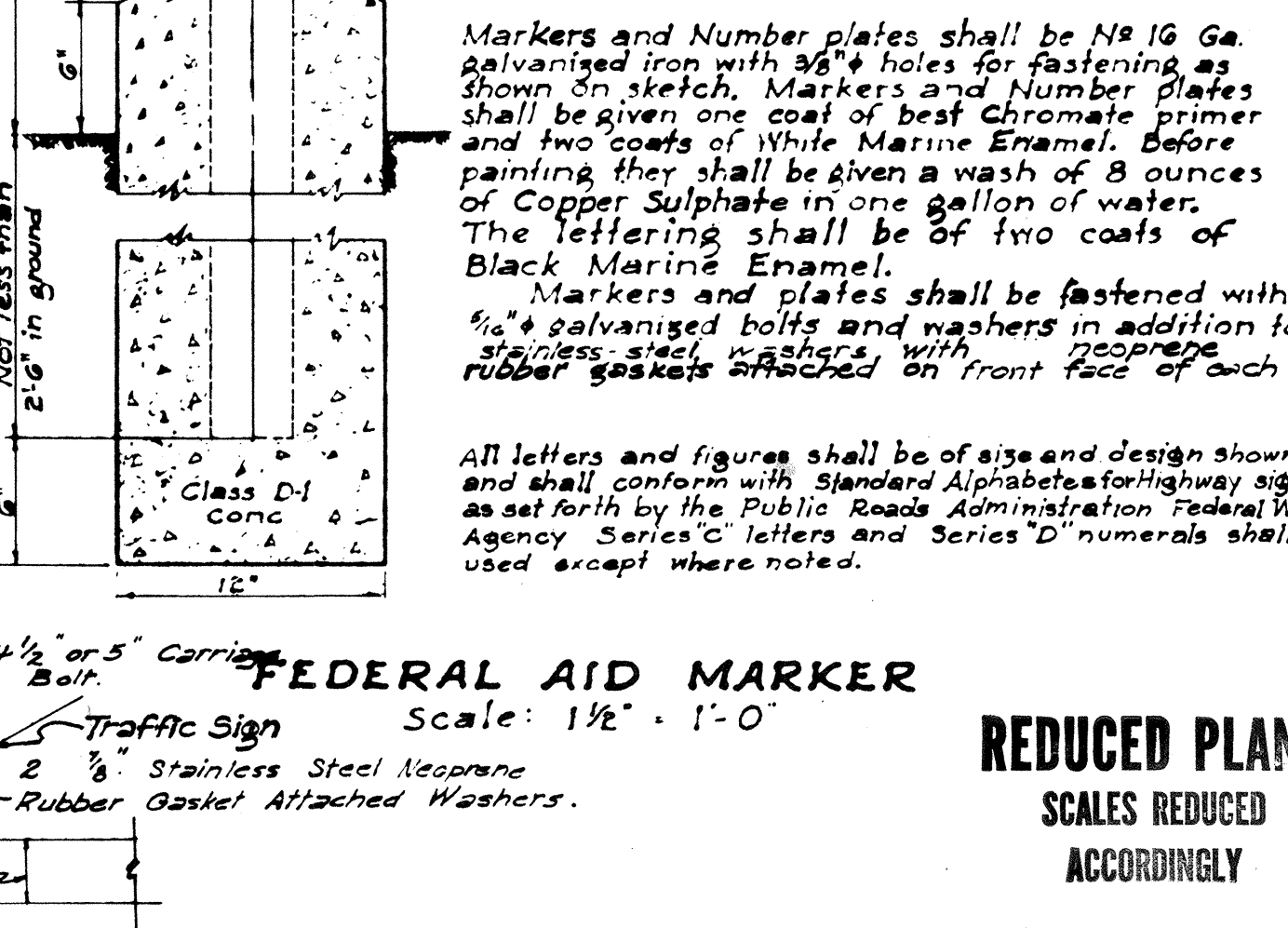
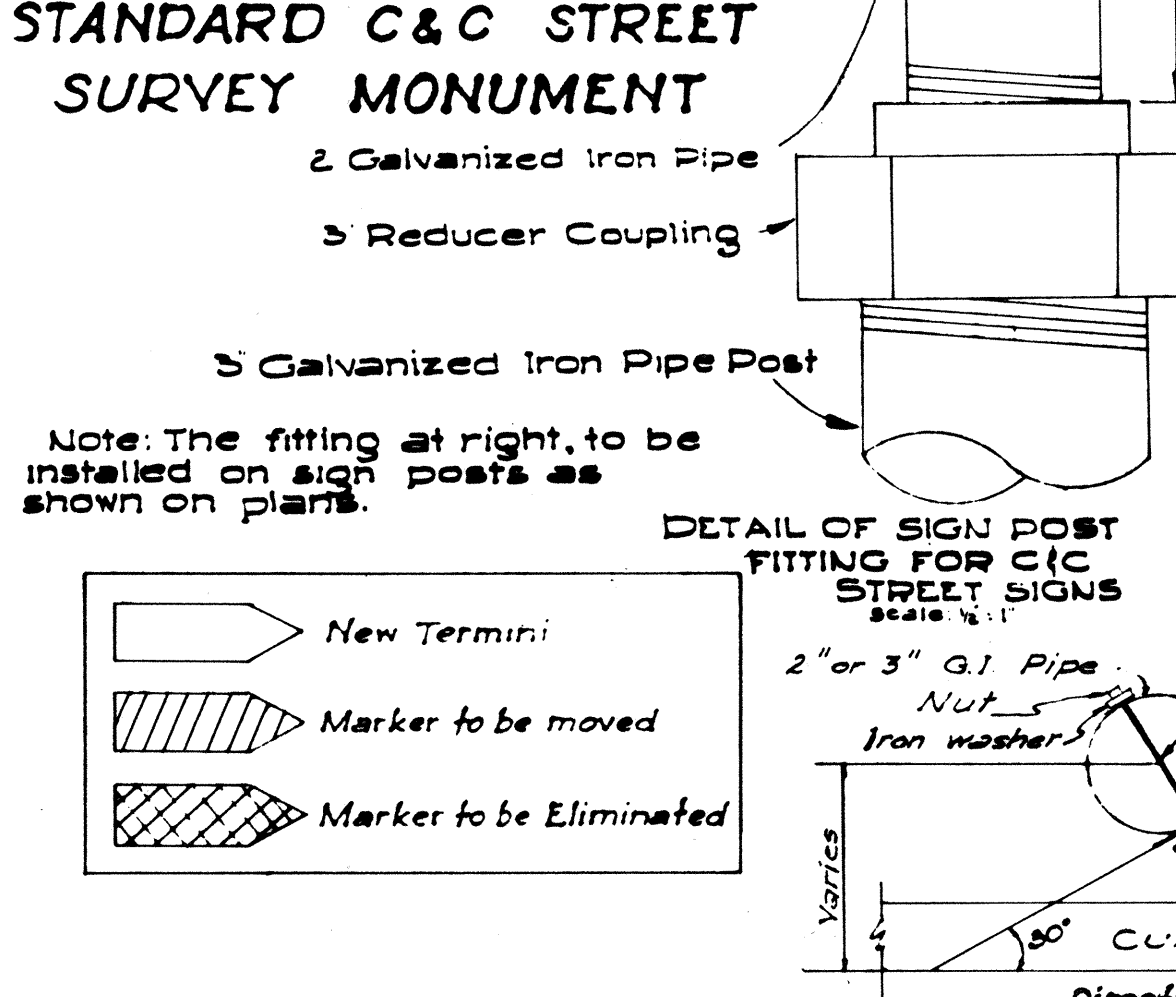
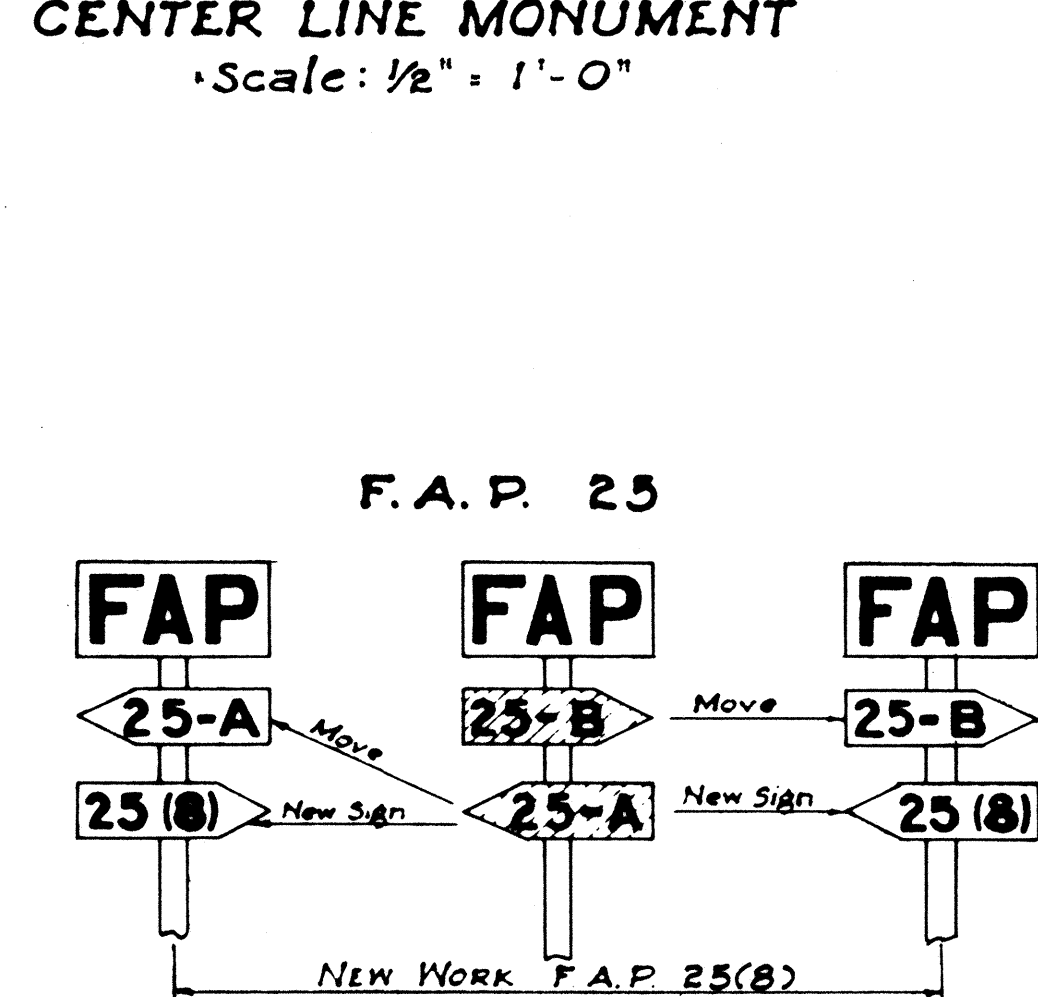
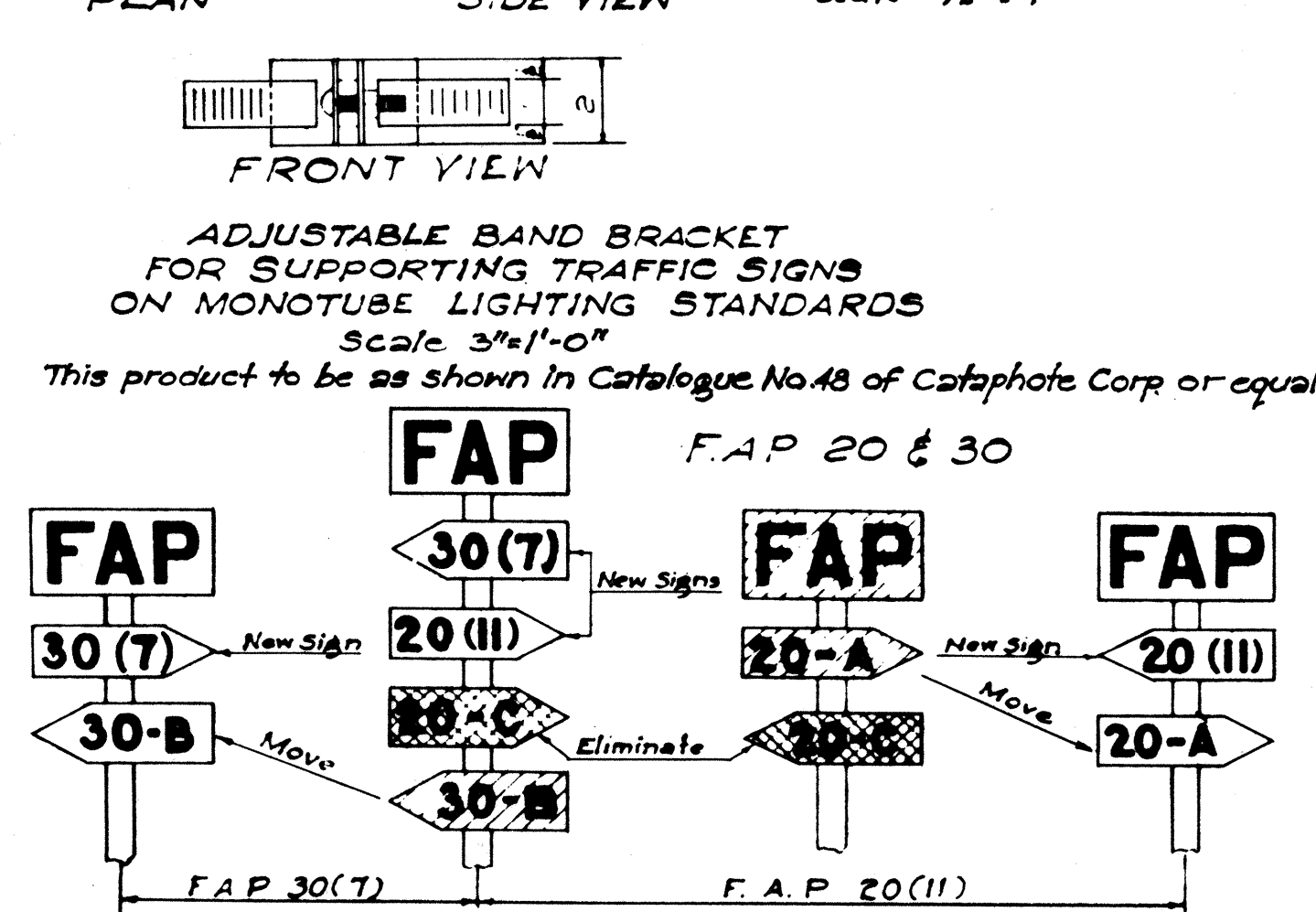
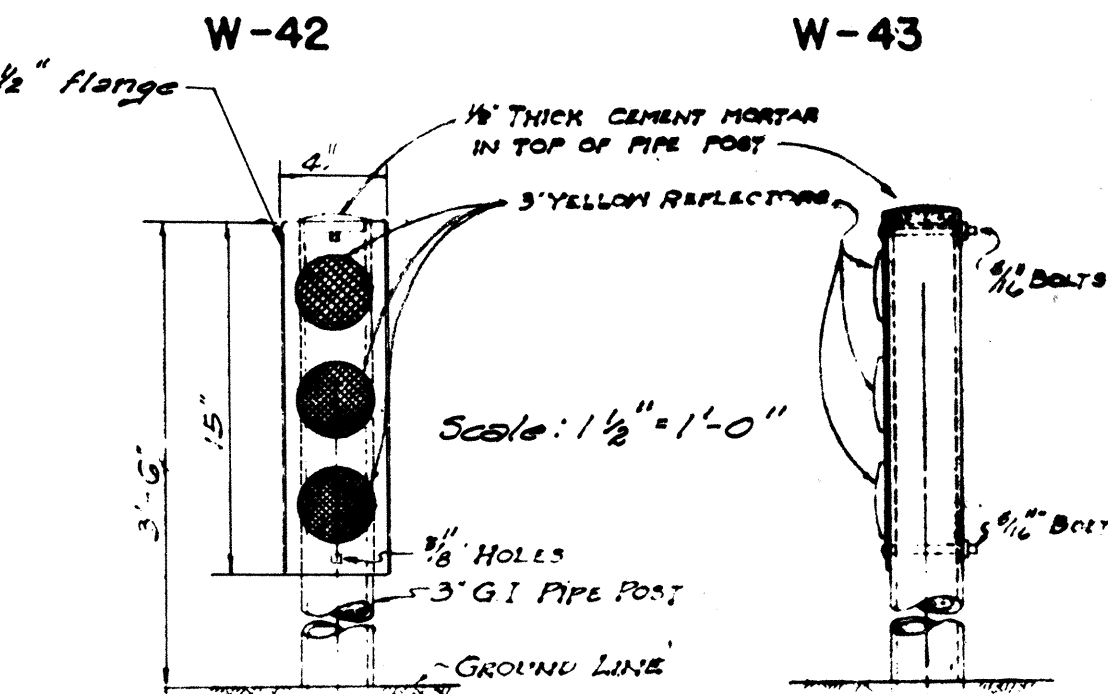
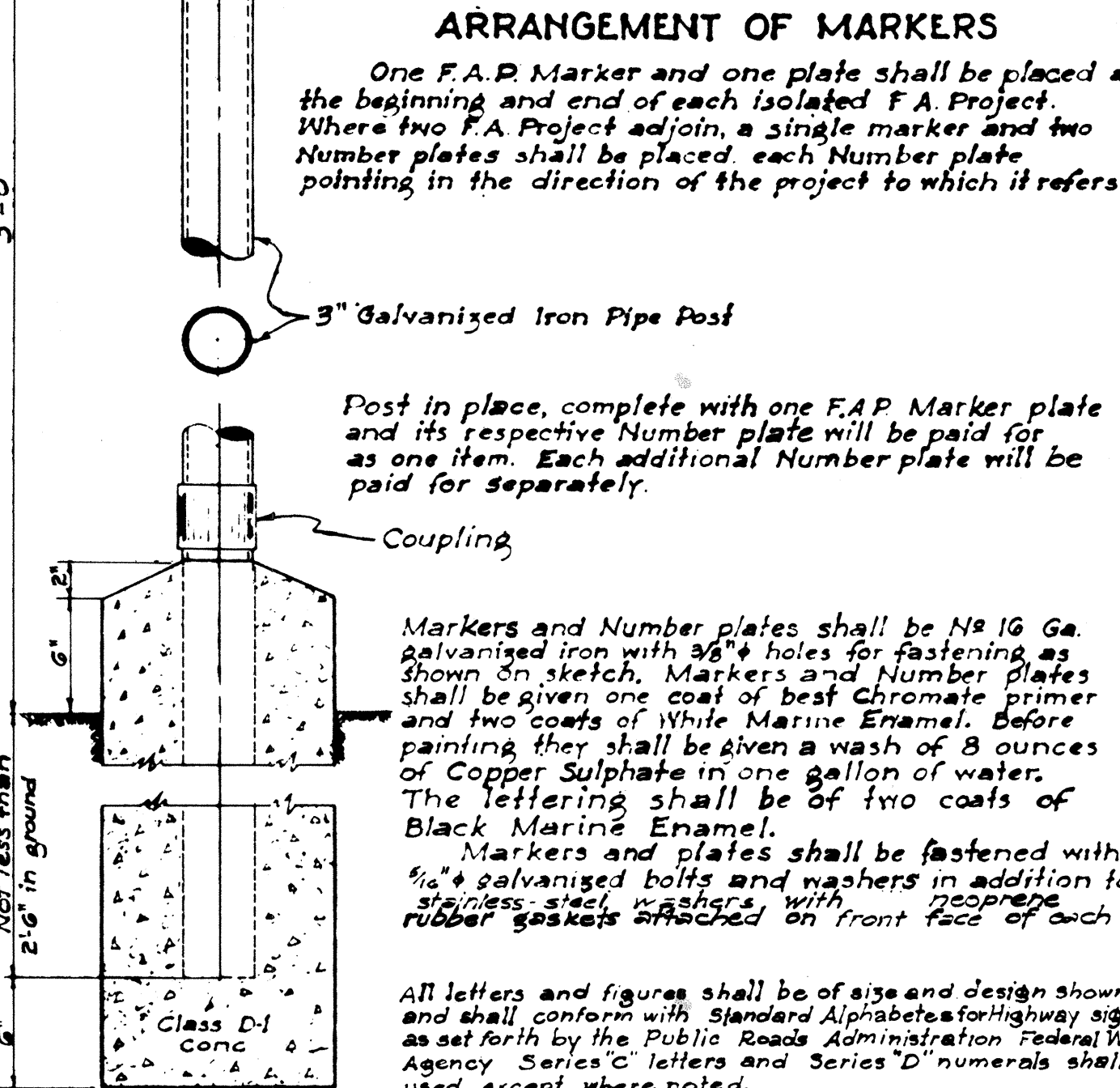
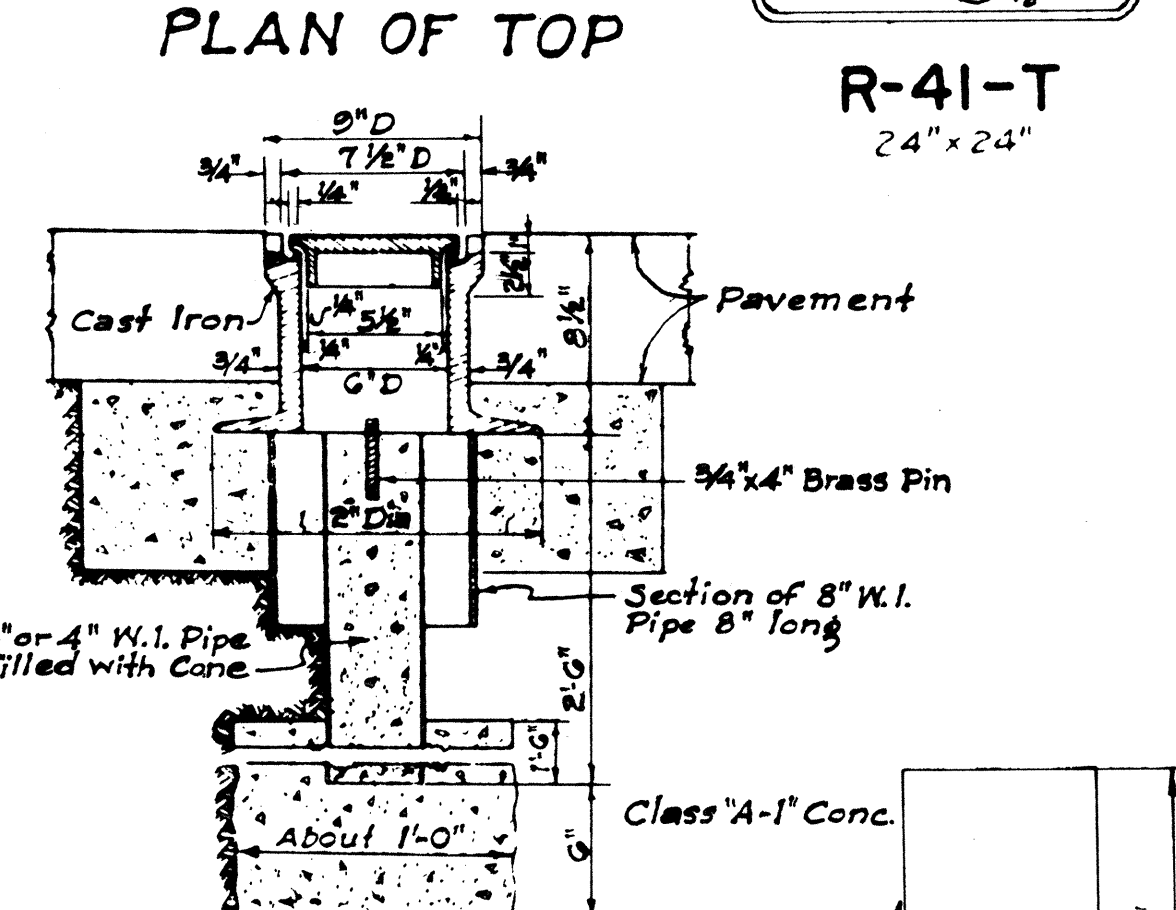
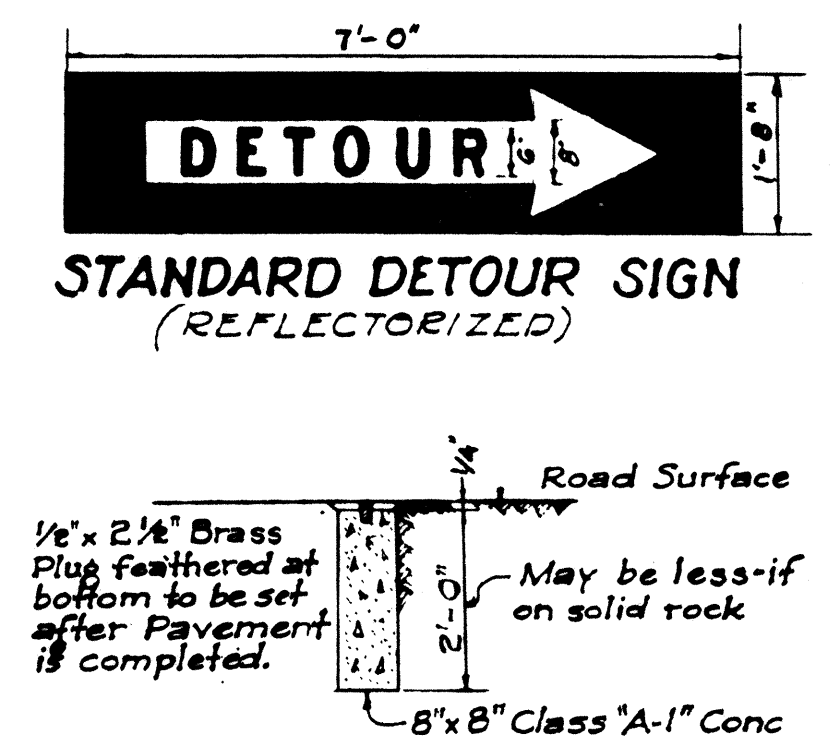
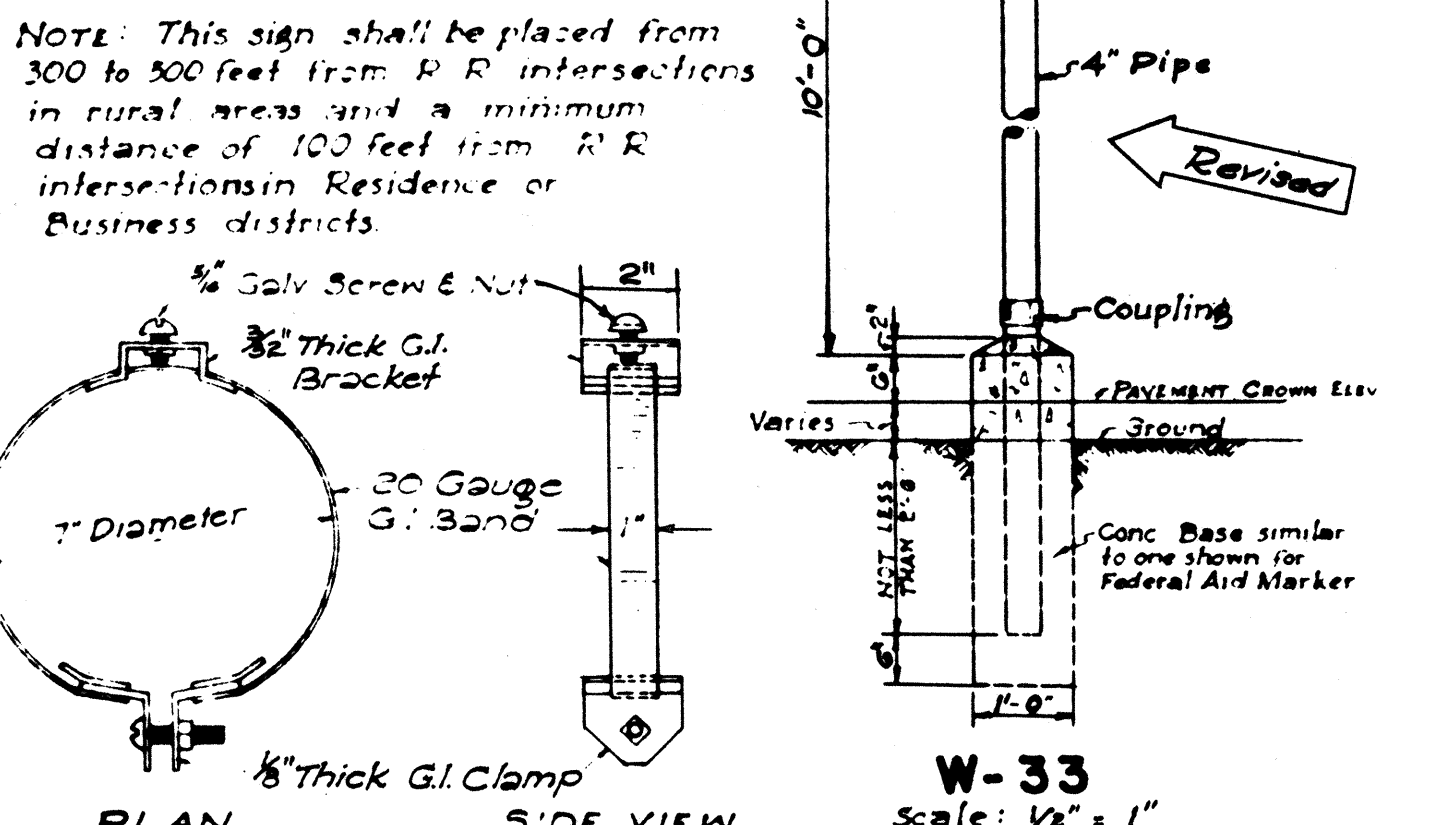
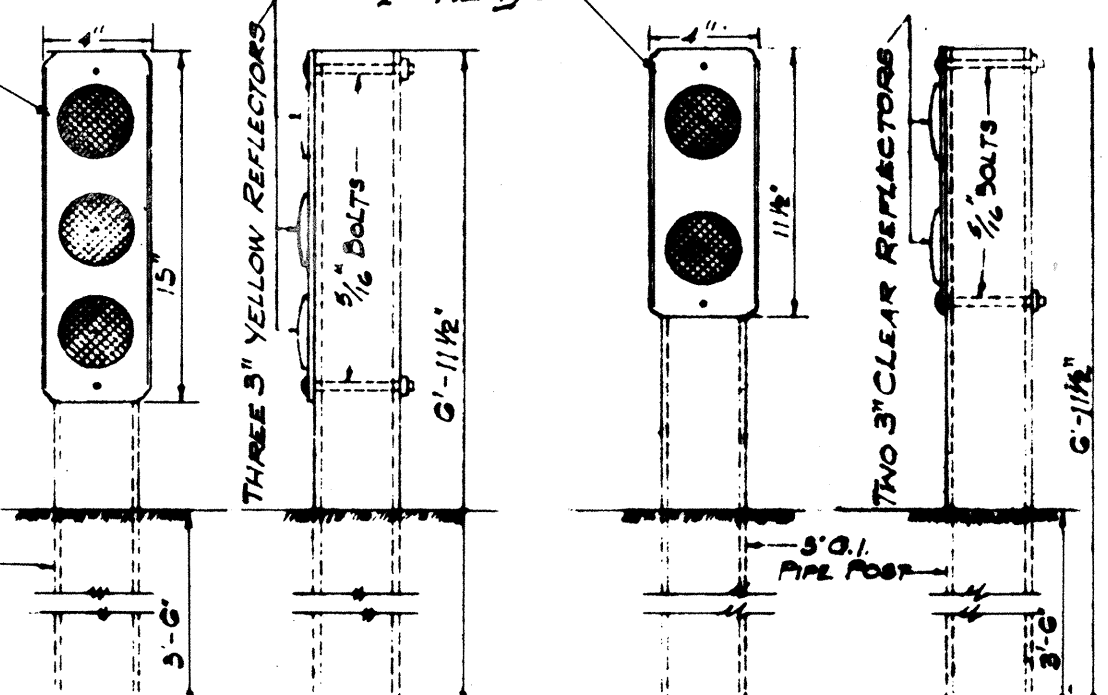
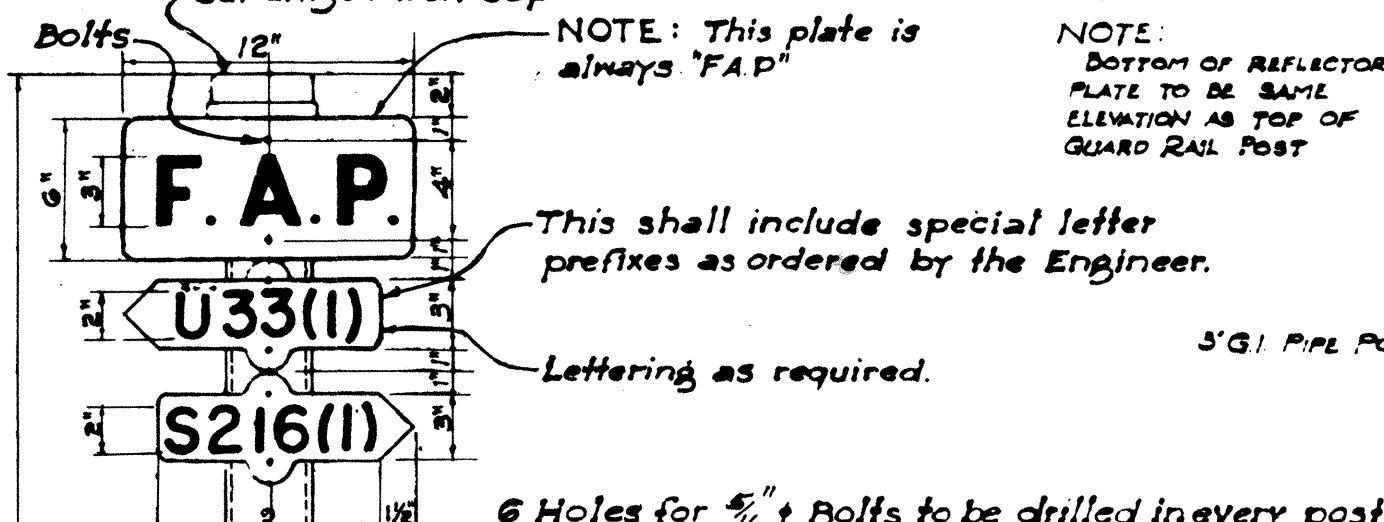
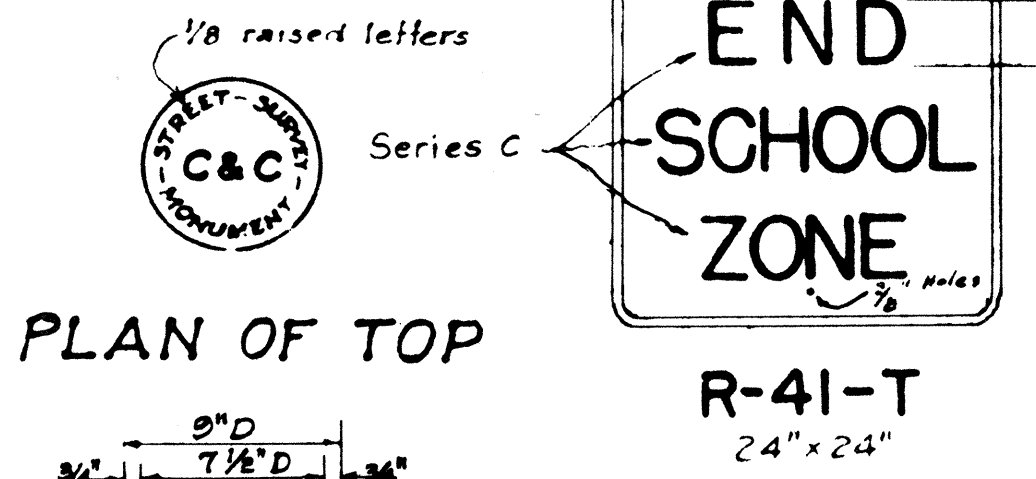
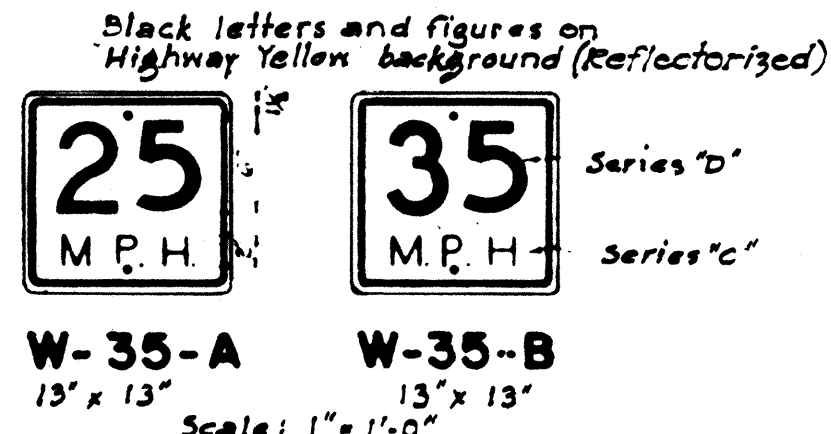
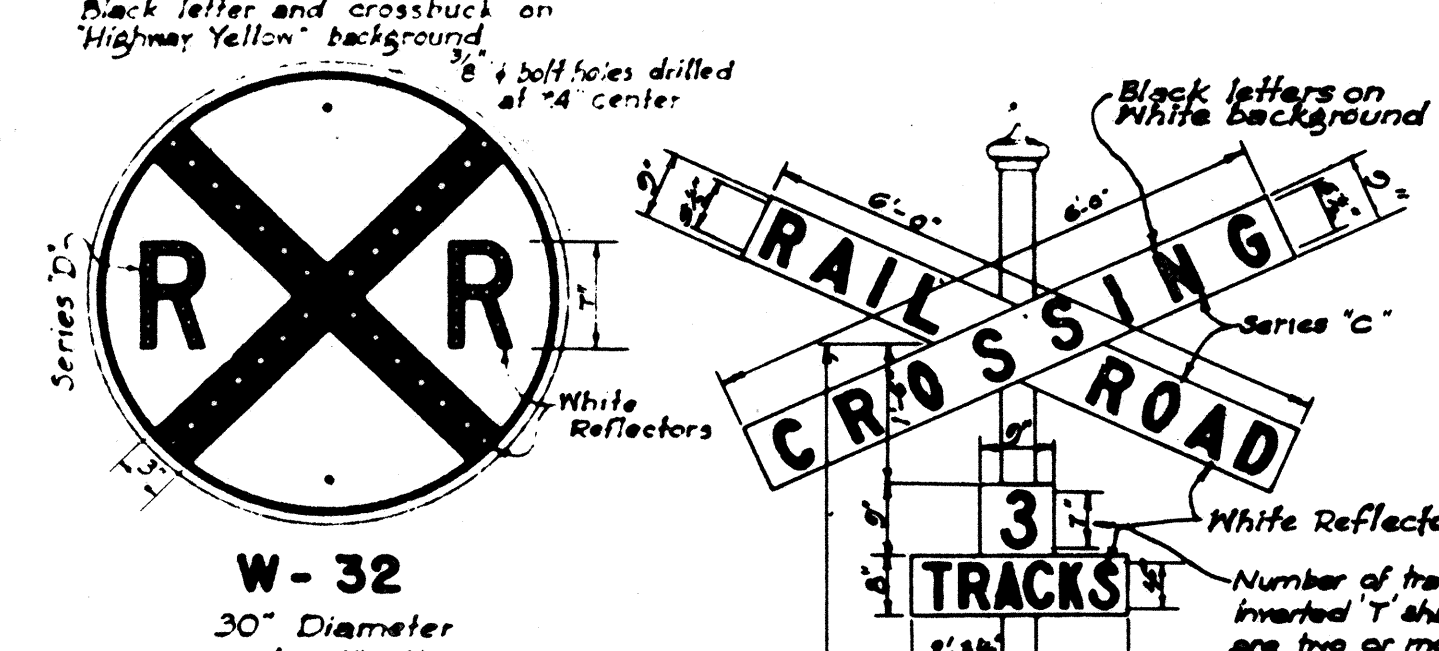
Revised:
2/17/50
4/6/59
4/28/59
7/30/59
12/22/59

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) 5/8" bolt holes drilled at location shown



NOTE:
THIS MARKER SHALL BE INSTALLED OPPOSITE AND AT THE SAME HEIGHT AS MARKER W-42

HEIGHT AND LATERAL LOCATION OF SIGNS -- TYPICAL INSTALLATIONS



REDUCED PLANS
SCALES REDUCED
ACCORDINGLY

APPROVED: _____ DATE: 2/10/60
DIRECTOR

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
STANDARD DETAILS
F.A. MARKERS, MONUMENTS
SIGNS & LOCATION OF SIGNS
SCALES AS NOTED

SHEET NO. OF SHEETS

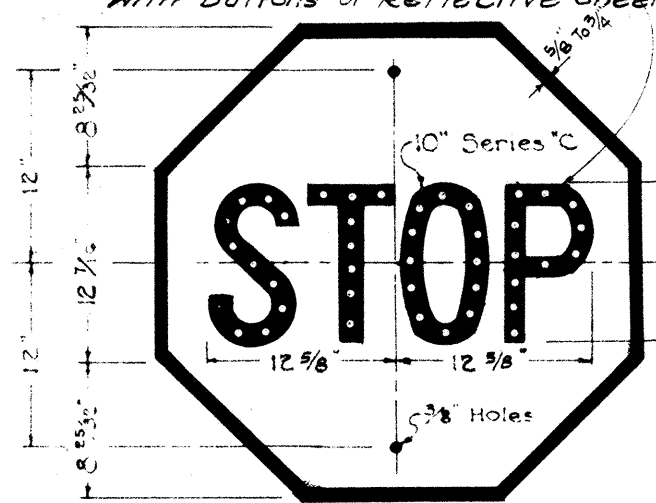
2/17/59
4/6/59
4/28/59

Note: All Regulatory and Warning Signs shall have 1/8" Bolt Holes.

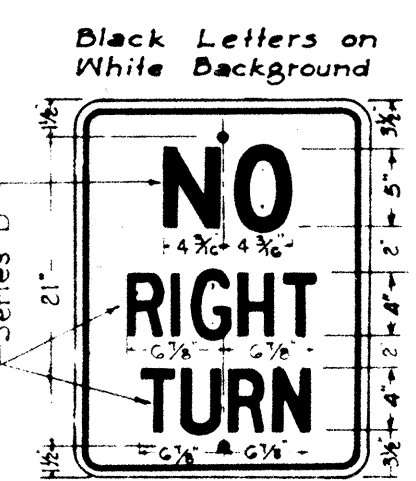
NOTE: Signs noted with an (R) designation indicate reflectorization with either buttons or reflective sheeting.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FO20-10	1961	45	71

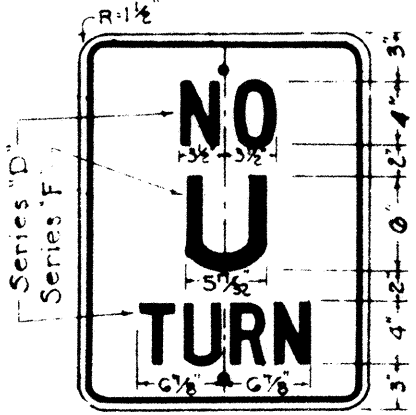
JULY 3, 1957



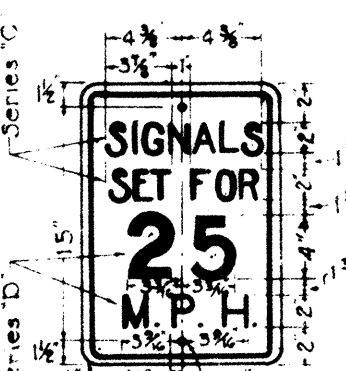
R-1
30" x 30"



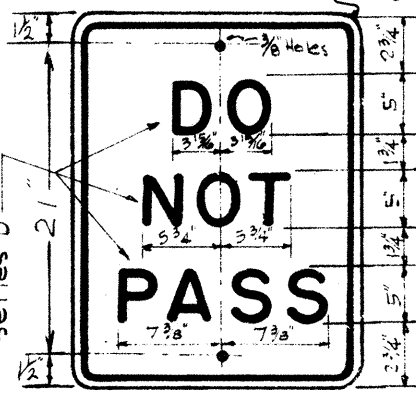
R-6
18" x 24"



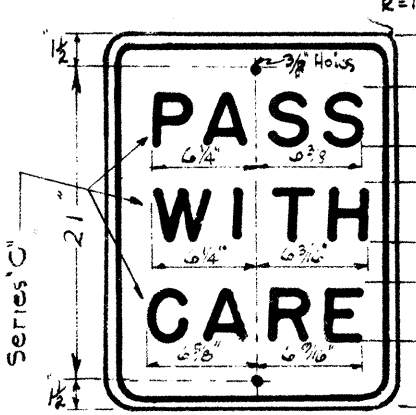
R-8
18" x 24"



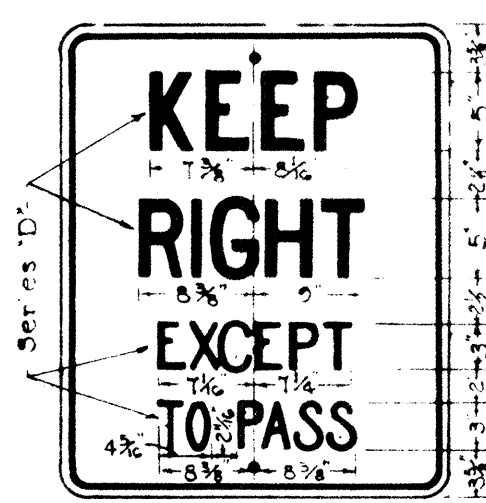
R-10
12" x 18"



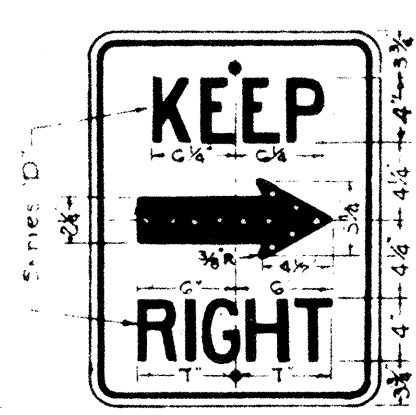
R-11
18" x 24"



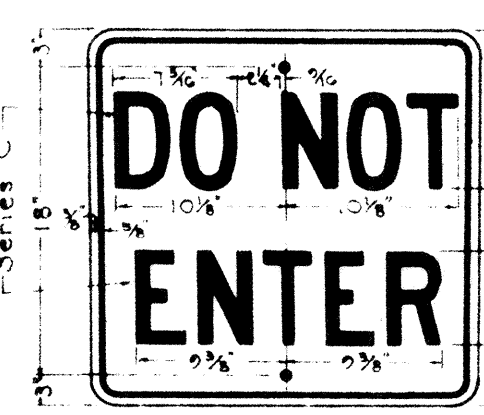
R-12
18" x 24"



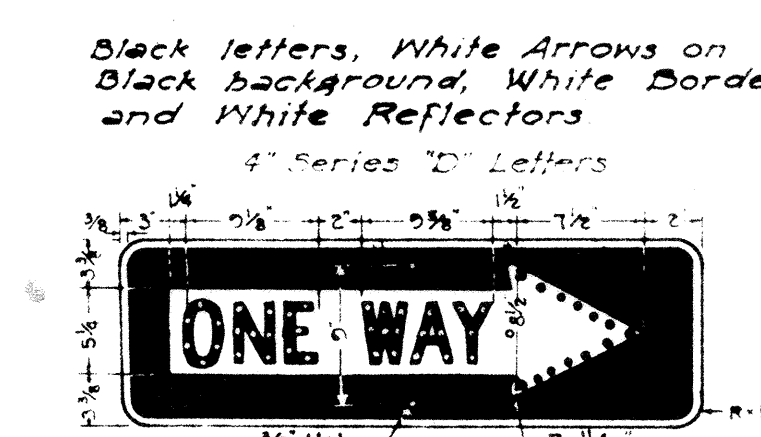
R-13
24" x 30"



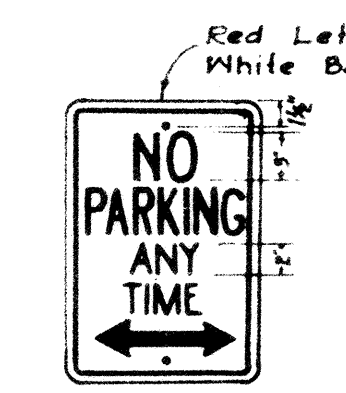
R-14 (R)
18" x 24"



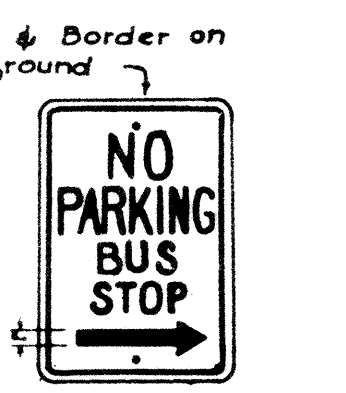
R-15
24" x 24"



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



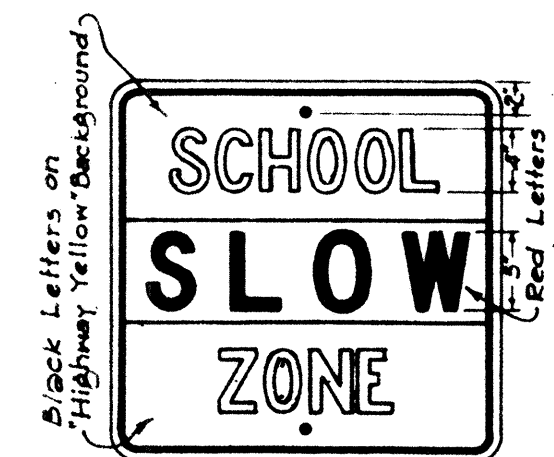
R-18
12" x 18"



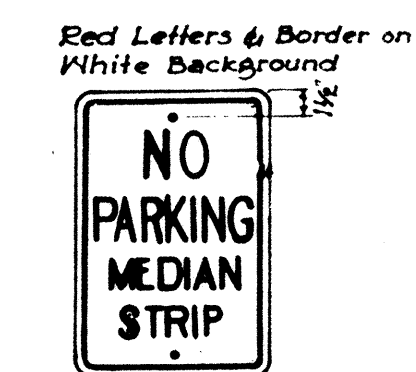
R-26
12" x 18"



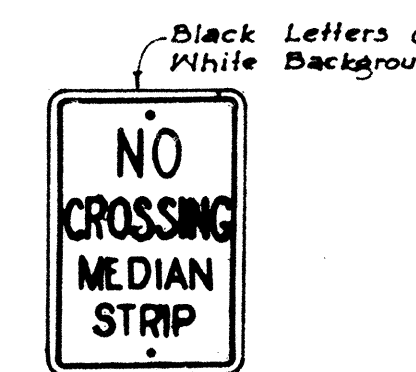
R-29
24" x 30"



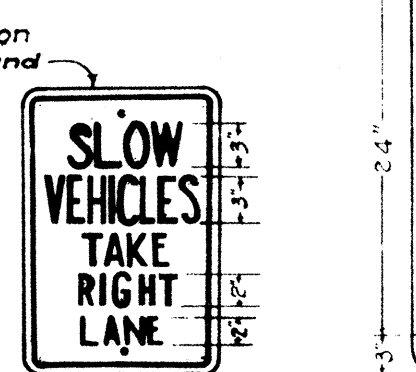
R-41-S
24" x 24"



R-42-S
12" x 18"



R-43-S
12" x 18"



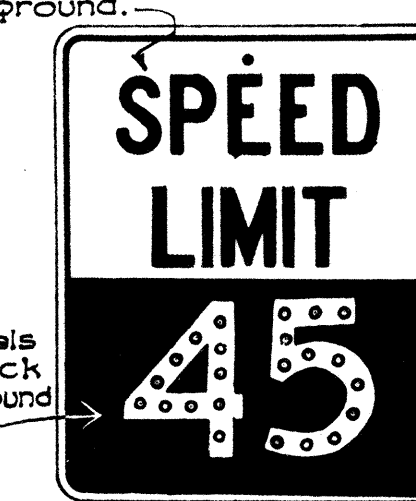
R-44-S
12" x 18"



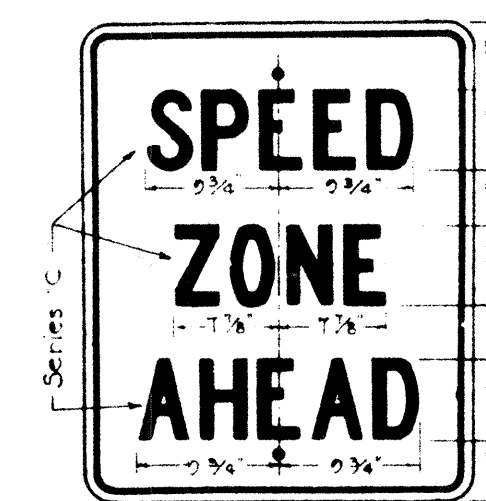
R-102-A
24" x 30"



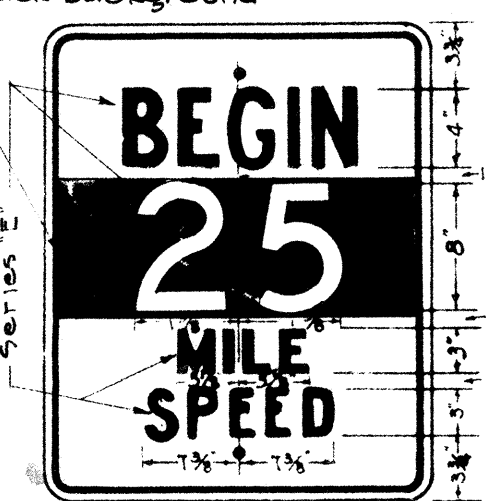
R-102-B
24" x 30"



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



R-104
24" x 30"



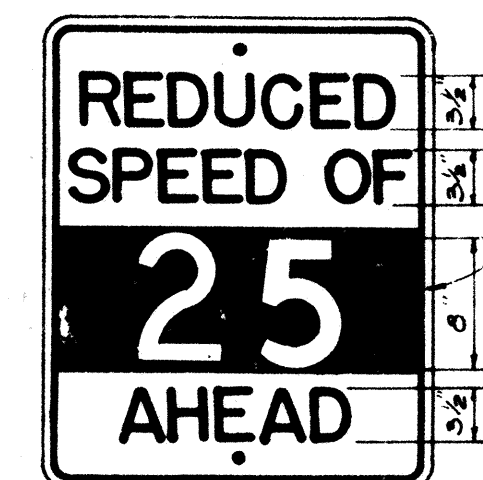
R-105-A (R)
24" x 30"



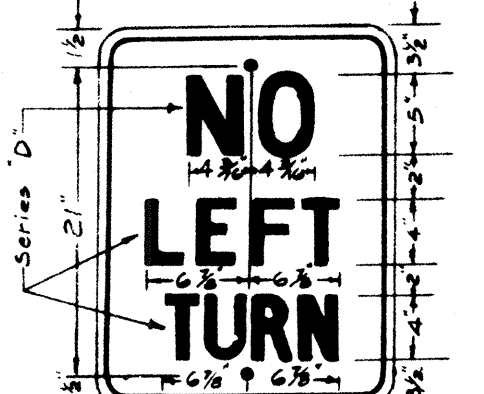
R-105-B
24" x 30"



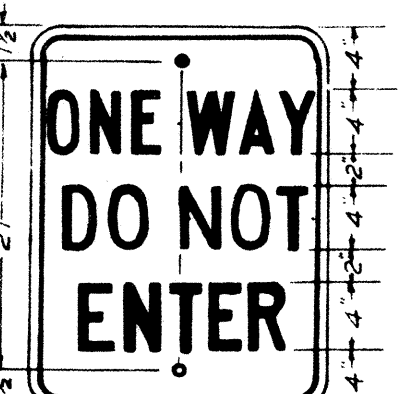
R-105-C
24" x 30"



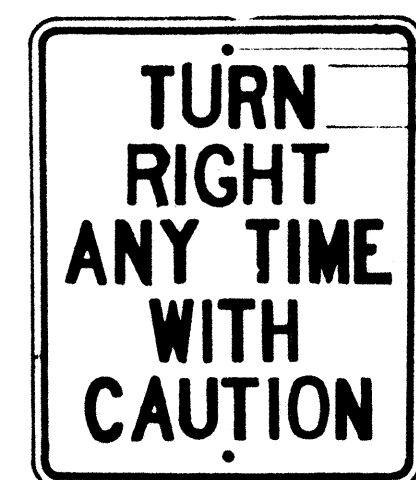
R-104-A
24" x 30"



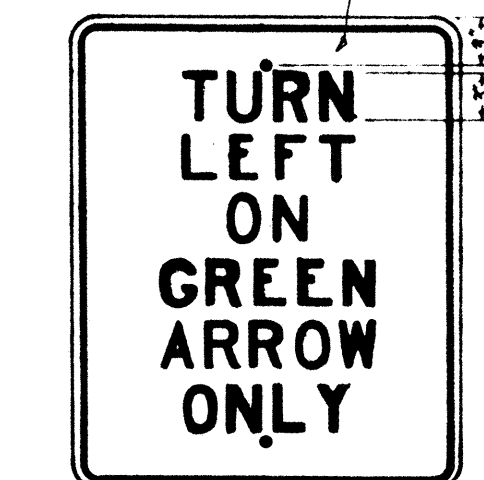
R-7
18" x 24"



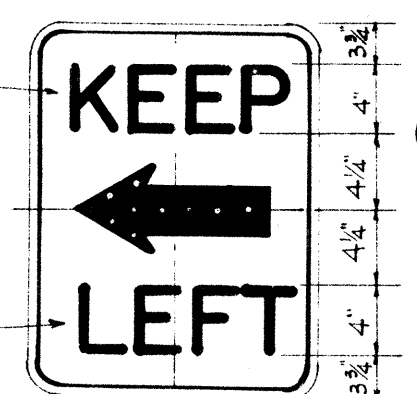
R-66
18" x 24"



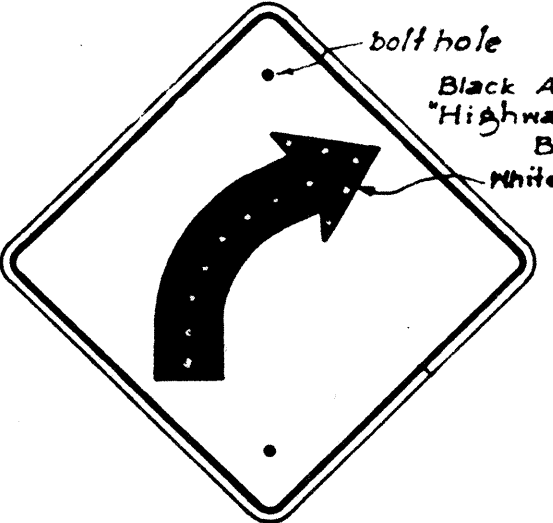
R-106
24" x 30"



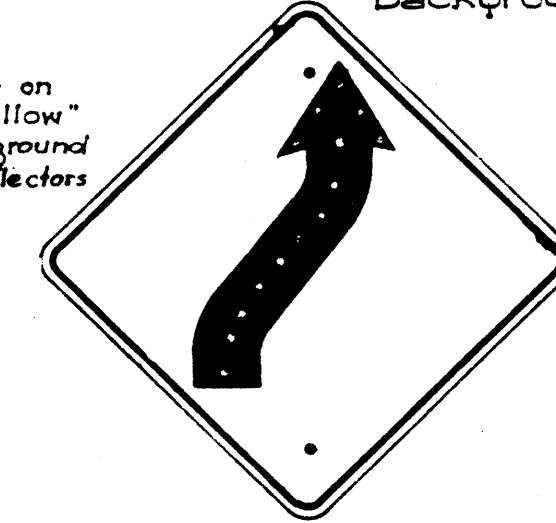
R-107-A
24" x 30"



R-14-A
24" x 24"



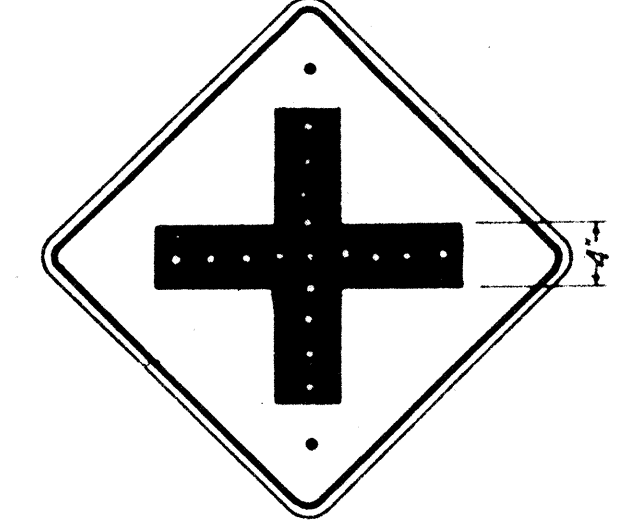
W-2-R
*W-2-L
24" x 24"



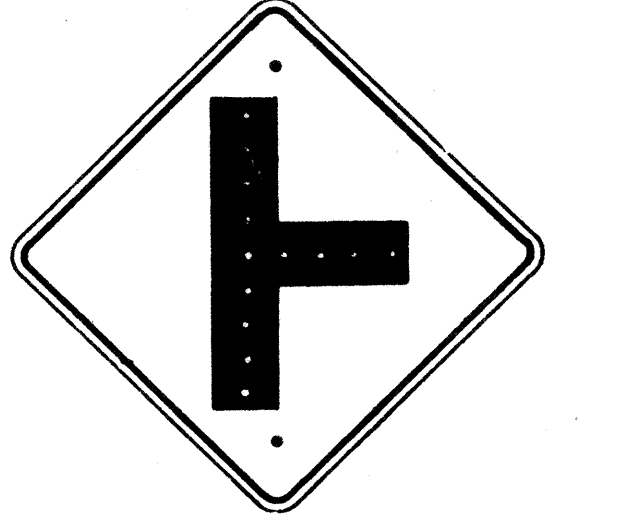
W-4-R
*W-4-L
24" x 24"



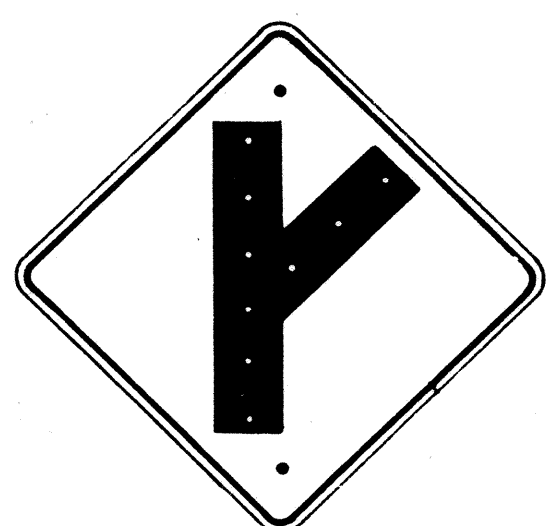
W-5-R
*W-5-L
24" x 24"



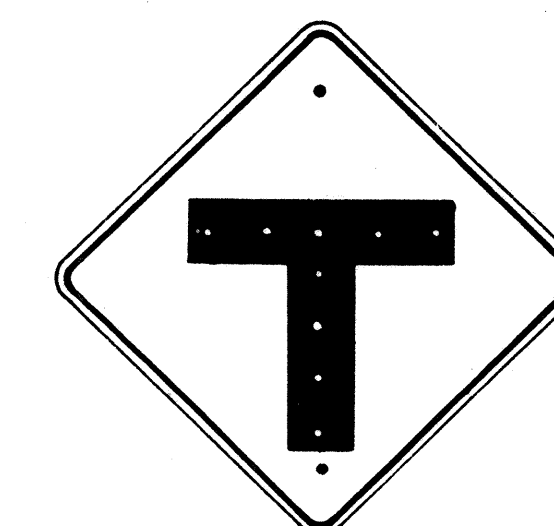
W-6
24" x 24"



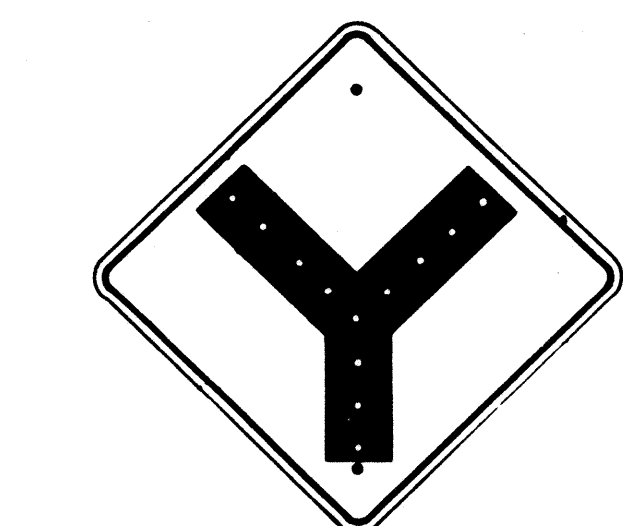
W-7
24" x 24"



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



W-9
24" x 24"



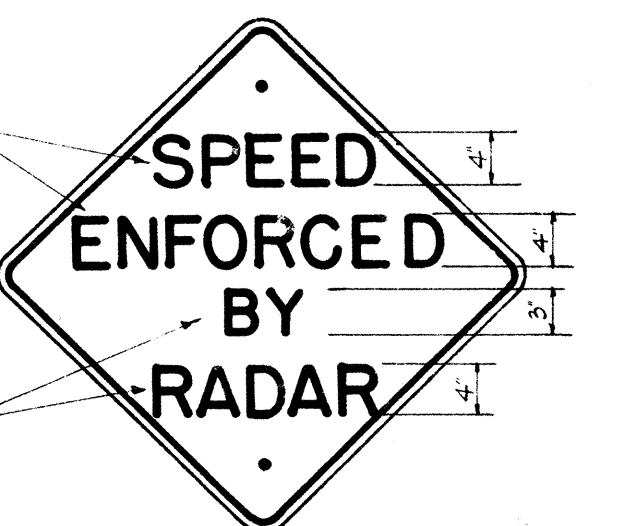
W-10
24" x 24"



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"



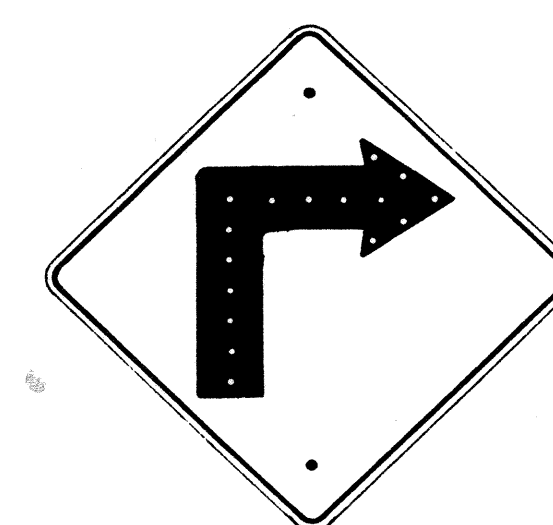
W-29
24" x 24"



W-59
24" x 24"



W-39
24" x 24"



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

Note: Stop Sign has been revised 6/24/54

6/24/54

DESIGNED BY T. Tokunaga
CHECKED BY J. H. HARRIS
DATE 6/24/54

Background may be made of Yellow Reflective sheeting.

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.

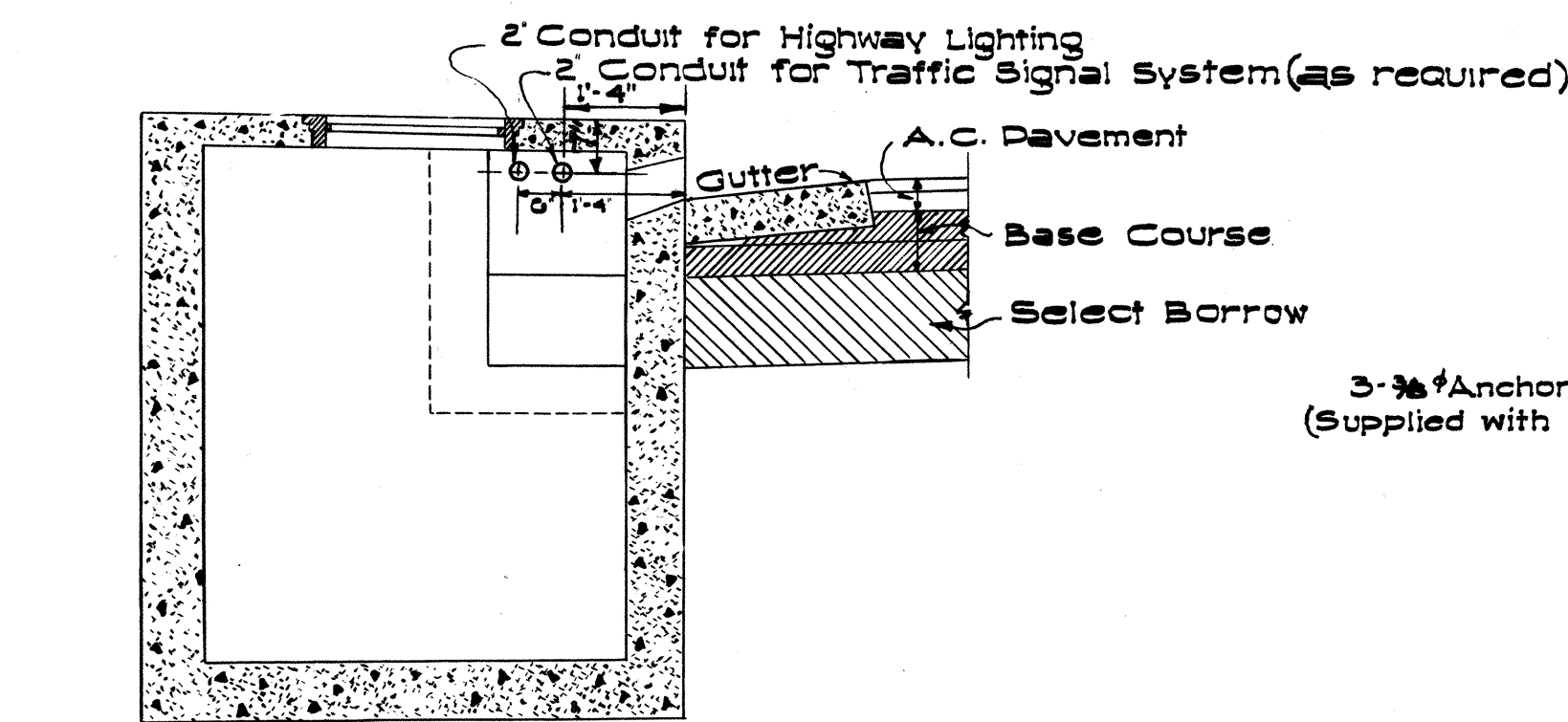
Note: All Regulatory signs shall have black letters on a white background except where noted. All Warning (W) signs shall have black letters or figures on a "Highway Yellow" background. Signs shall be similar but opposite in direction. See Specifications for Materials and Finish.

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'
DATE: AUG. 29, 1957
APPROVED: [Signature]
STATE HIGHWAY ENGINEER

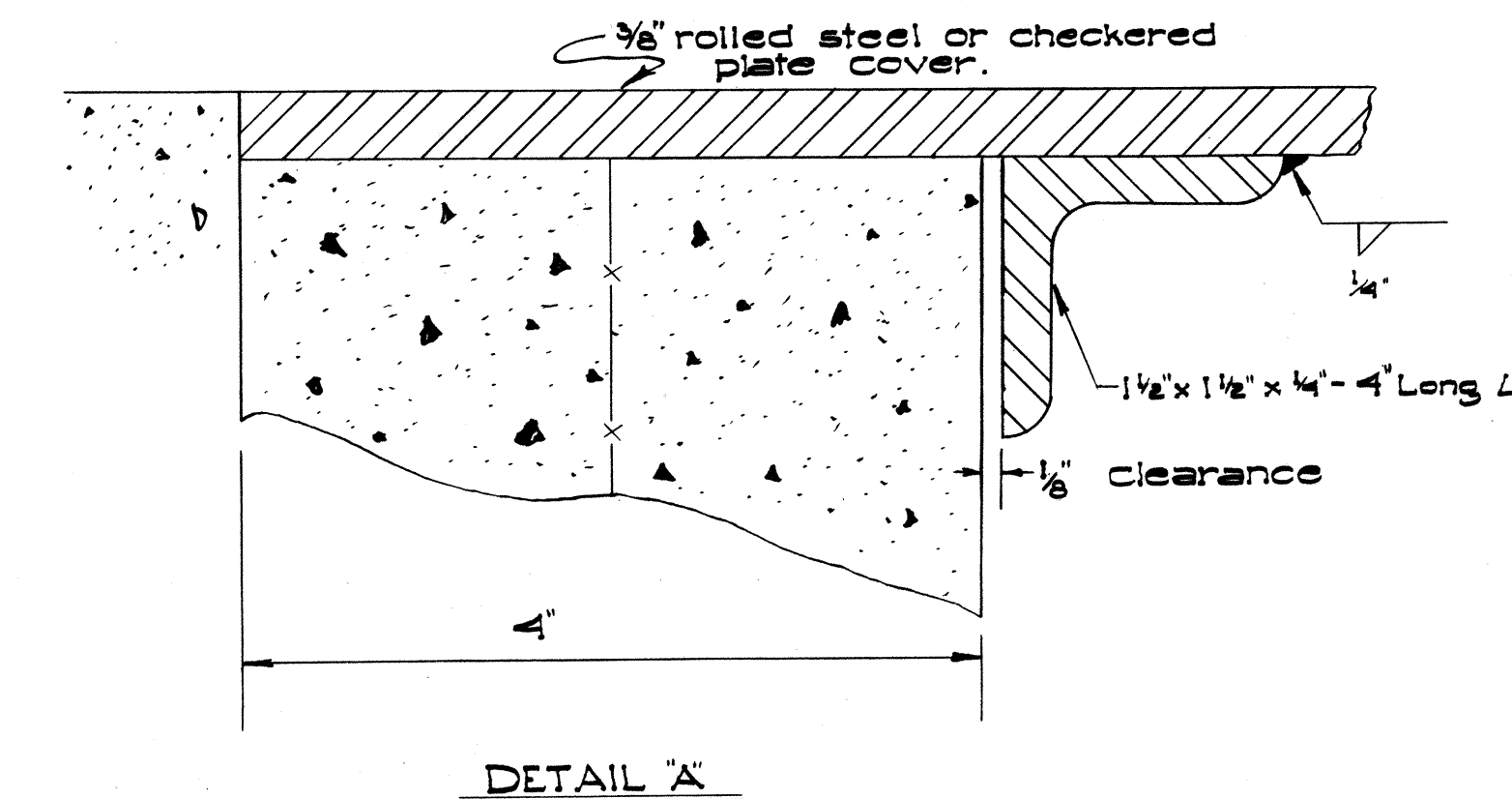
SHEET NO. 45 OF 71 SHEETS

NOTE: Galv. 2" Conduits shall be supported by Band Hangers bolted to the top slab of Catch Basins. Pipe Hangers and bolts shall be incidental to Item No. 46(1) Class A-1 Concrete other than in Bridges.

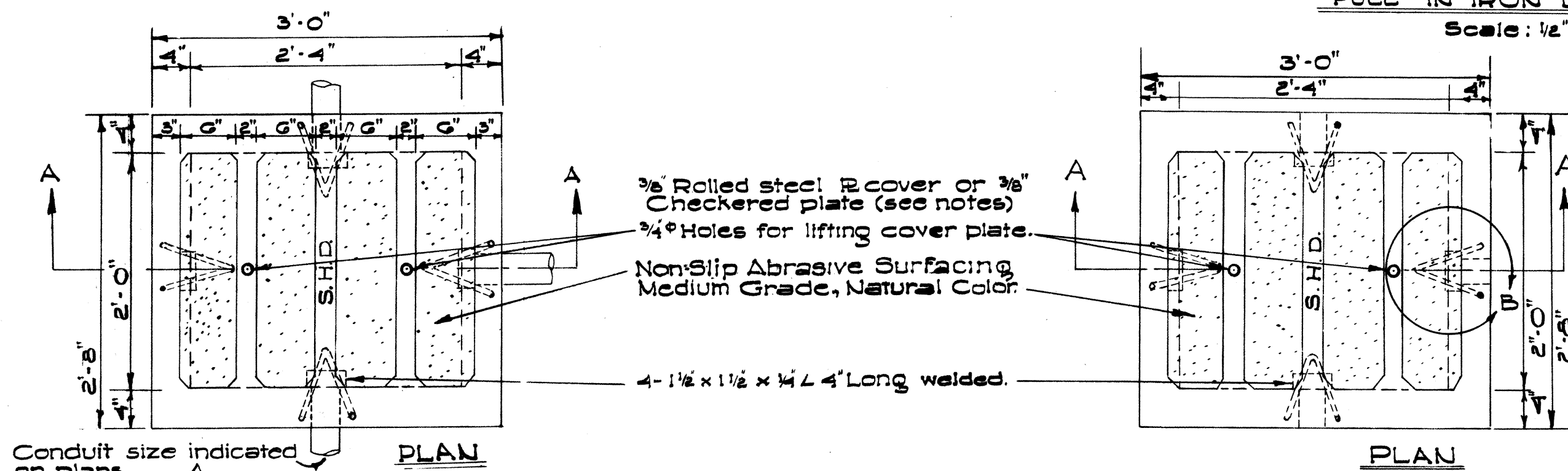
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FO90-16	1991	46	71



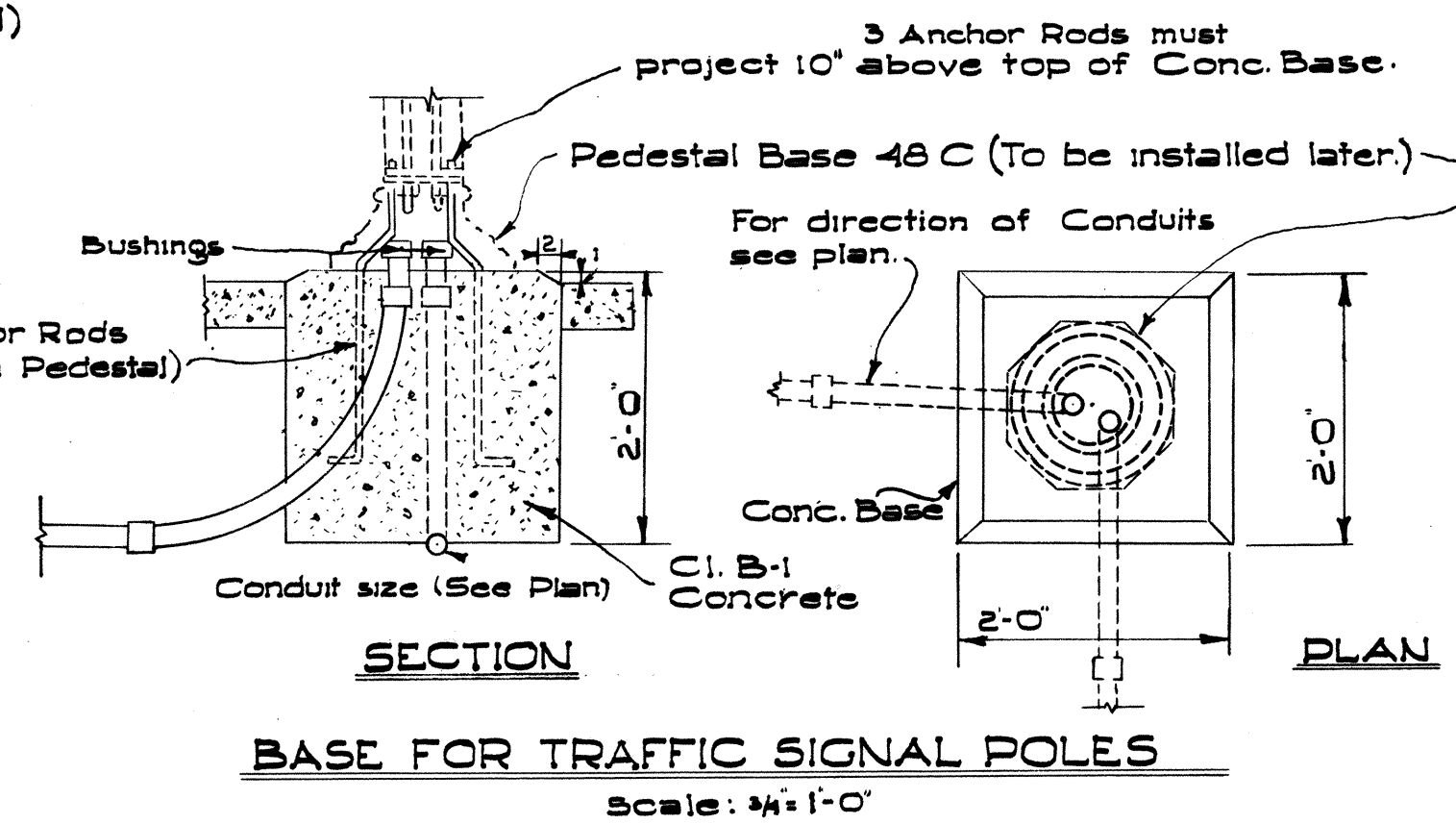
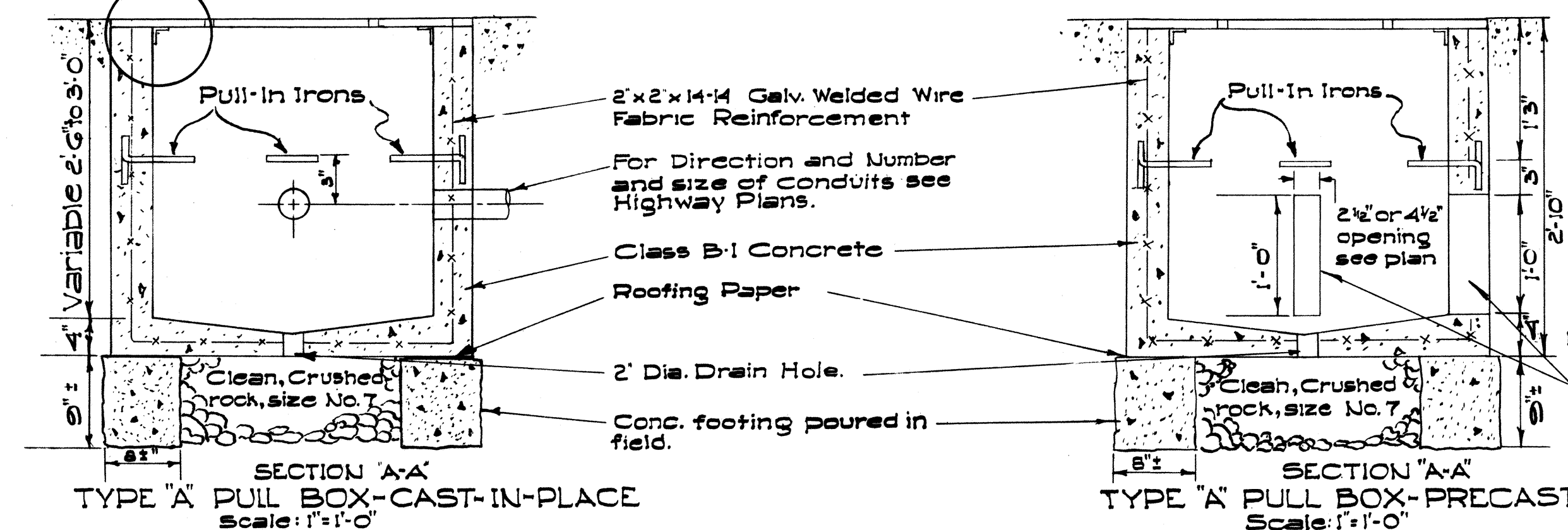
TYPICAL SECTION SHOWING CONDUITS PASSING THROUGH CATCH BASINS
Scale: 1/2" = 1'-0"



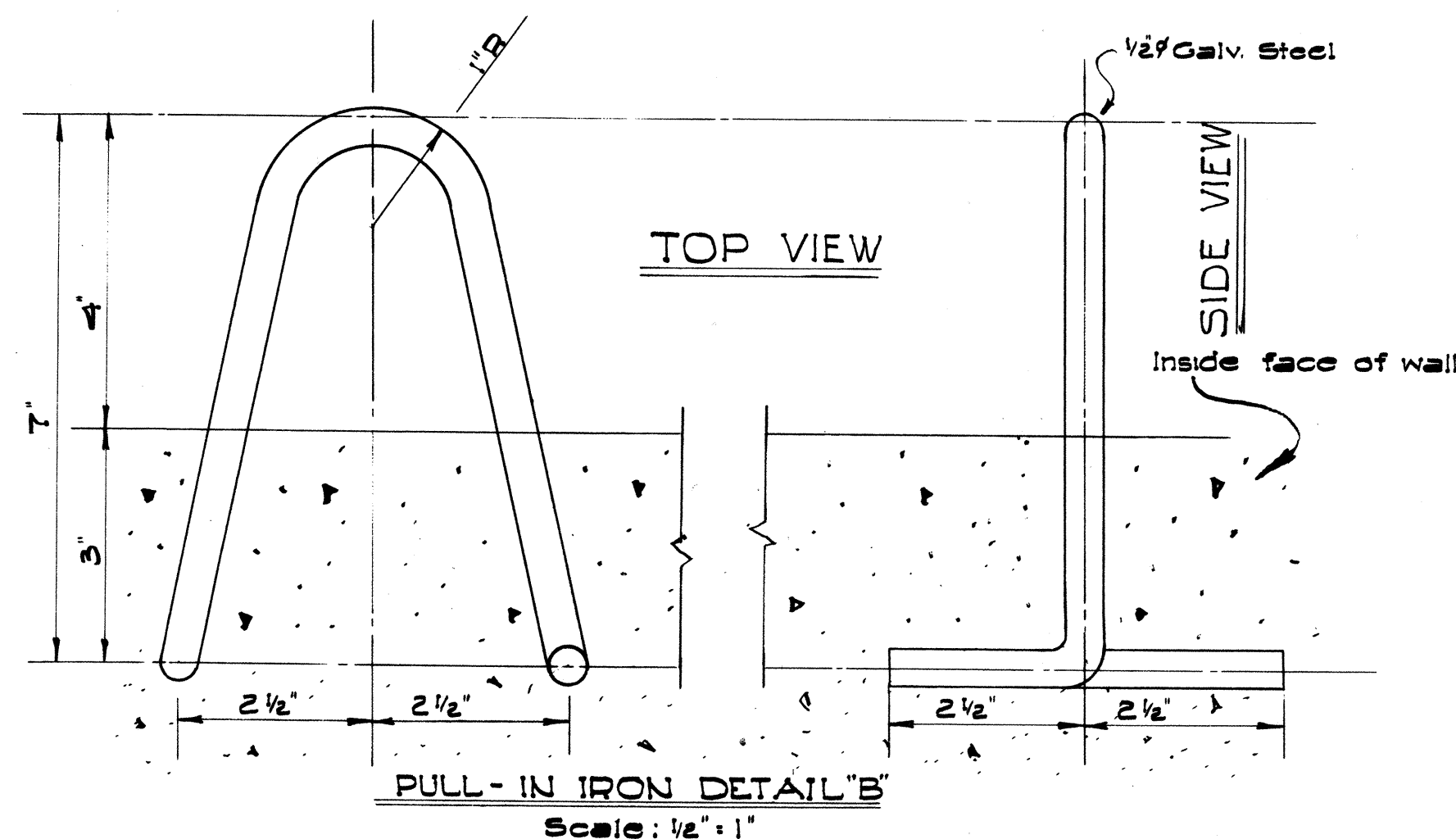
DETAIL "A"



Conduit size indicated on plans.



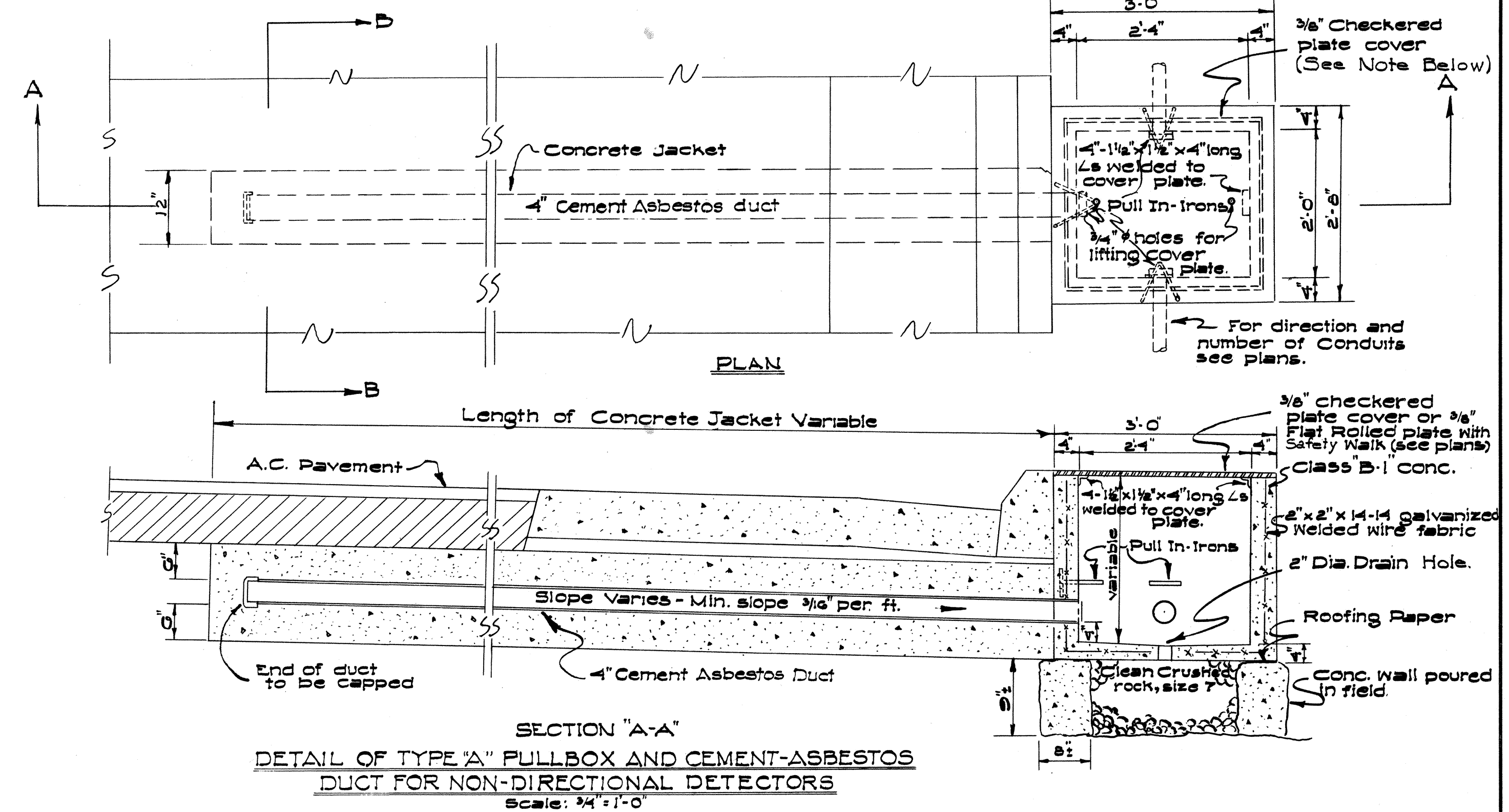
BASE FOR TRAFFIC SIGNAL POLES
Scale: 3/4" = 1'-0"



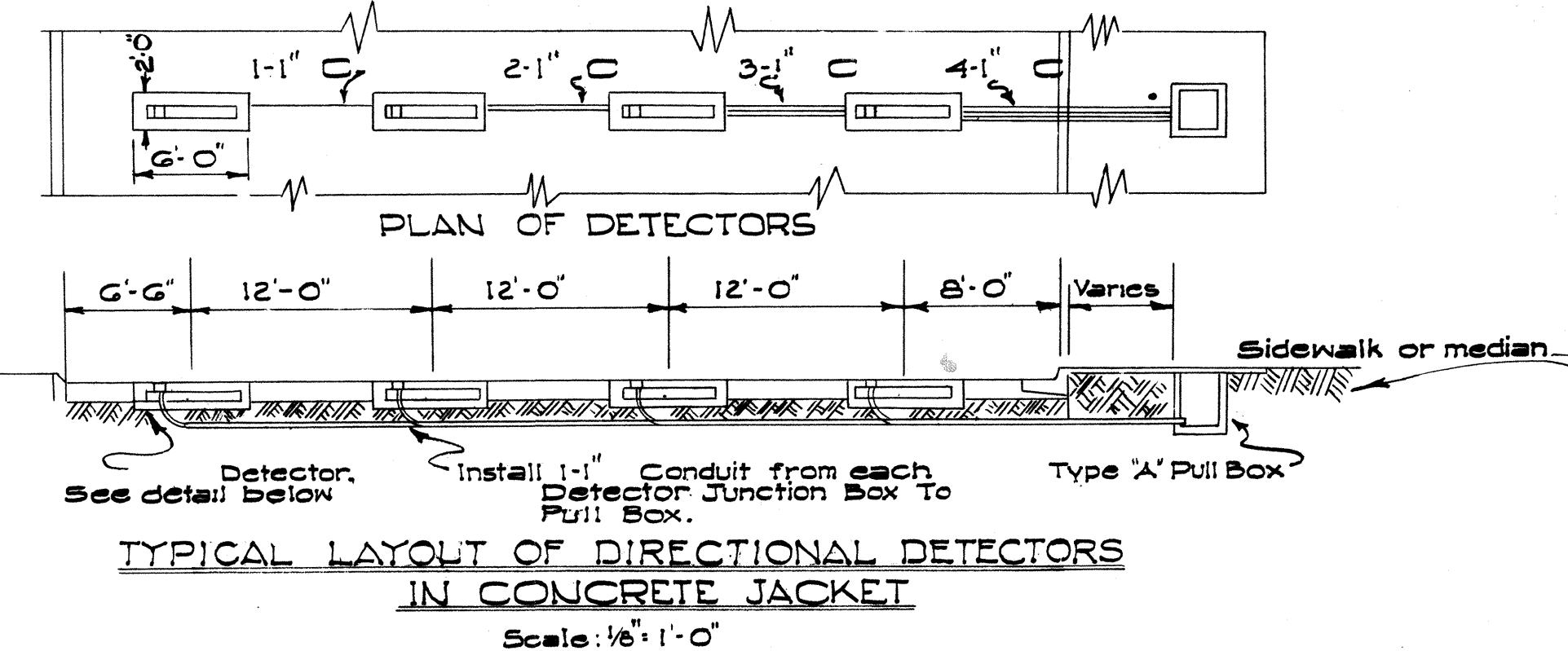
PULL-IN IRON DETAIL "B"
Scale: 1/2" = 1'-0"

- NOTE:
1. 3/8" Rolled steel Plate Cover with non-slip Abrasive Surfacing Medium Grade, Natural Color shall be used on all Pull Boxes located in median areas and other locations where there are no pedestrians walking.
 2. 3/8" Checkered Plate Cover shall be used on all Pull Boxes located in median areas and other locations where there are no pedestrians walking.
 3. Pull Irons shall be placed opposite each conduit slot.
 4. Covers on all Pull Boxes located in sidewalk areas shall be set flush with the concrete sidewalk.
 5. Each Pull Box shall have a pair of pull irons opposite each other for lifting purposes.

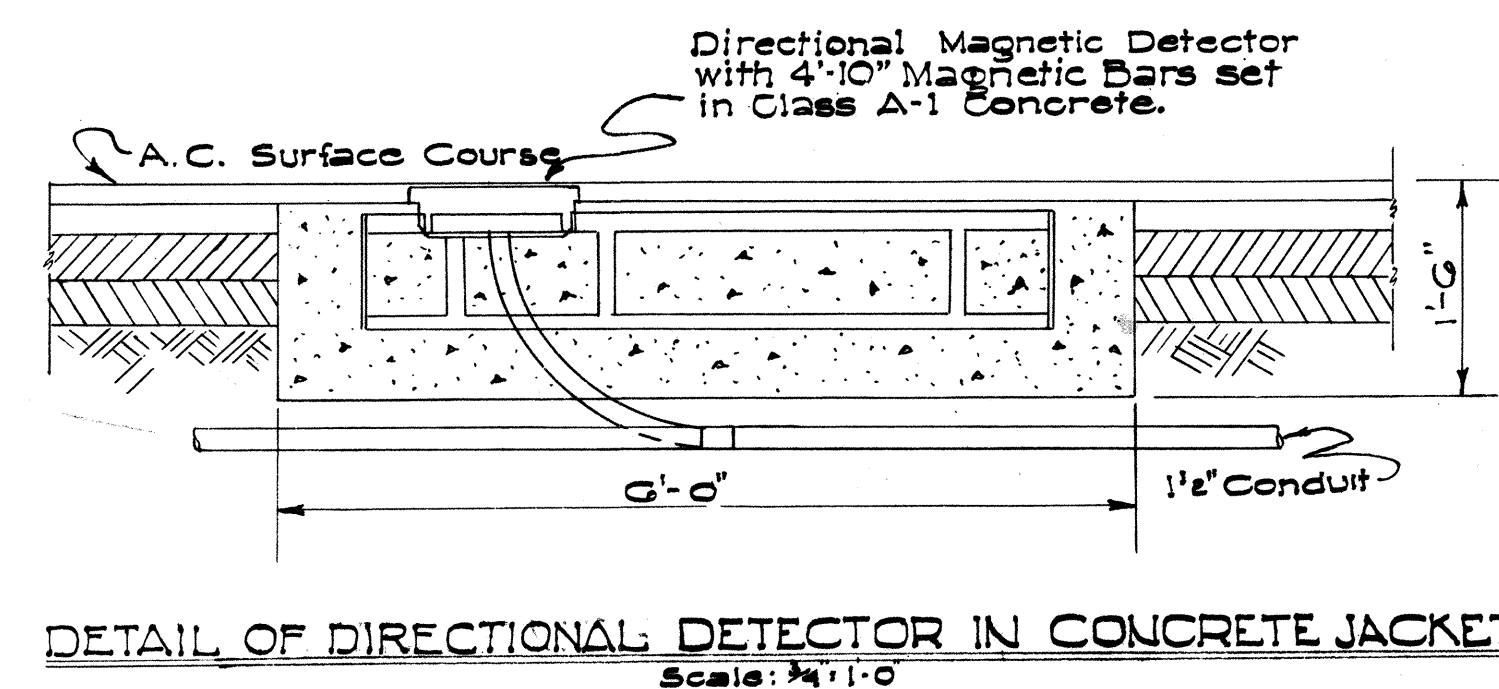
For direction and number and size of slots for conduits (see plan)
Grout Conduit Slot with 1:3 Cement Mortar after conduit is placed.



SECTION "A-A"
DETAIL OF TYPE "A" PULL BOX AND CEMENT-ASBESTOS DUCT FOR NON-DIRECTIONAL DETECTORS
Scale: 3/4" = 1'-0"



TYPICAL LAYOUT OF DIRECTIONAL DETECTORS IN CONCRETE JACKET
Scale: 1/8" = 1'-0"



Note: Class 'A-1' Concrete shall be used for Concrete Block.

APPROVED..... DATE Aug. 26, 1999
STATE HIGHWAY ENGINEER

REDUCED PLANS
SCALES REDUCED
ACCORDINGLY

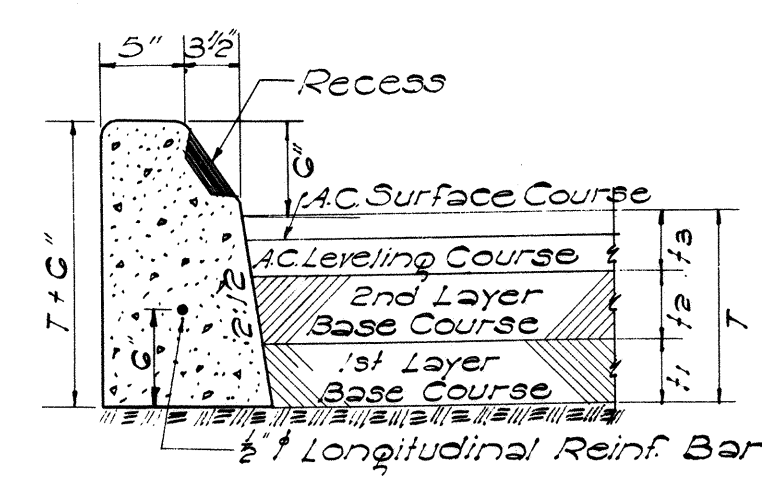
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
STANDARD DETAILS
TRAFFIC SIGNAL SYSTEM
BASE, PULLBOX,
MAGNETIC DETECTORS

SHEET NO. OF SHEETS

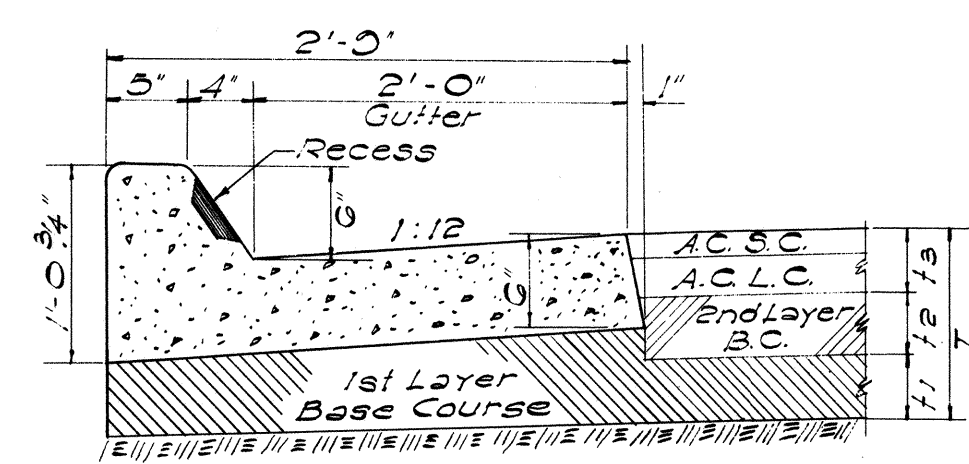
2/17/57

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FC00-16	1961	464	71

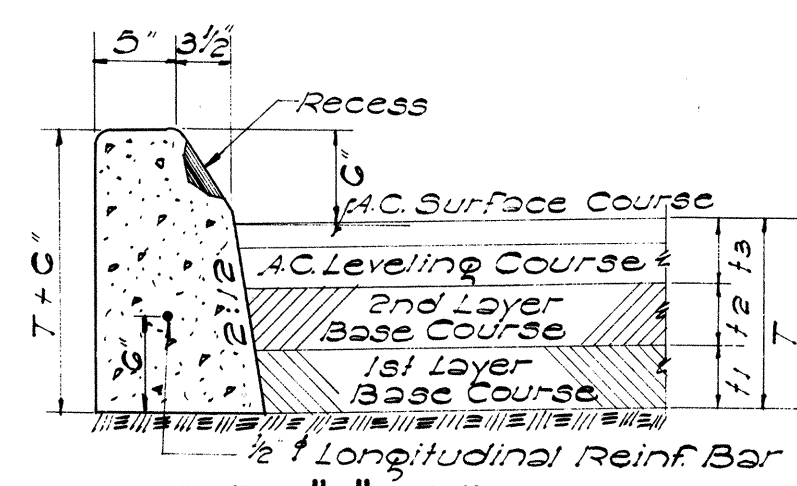
AUG. 1957



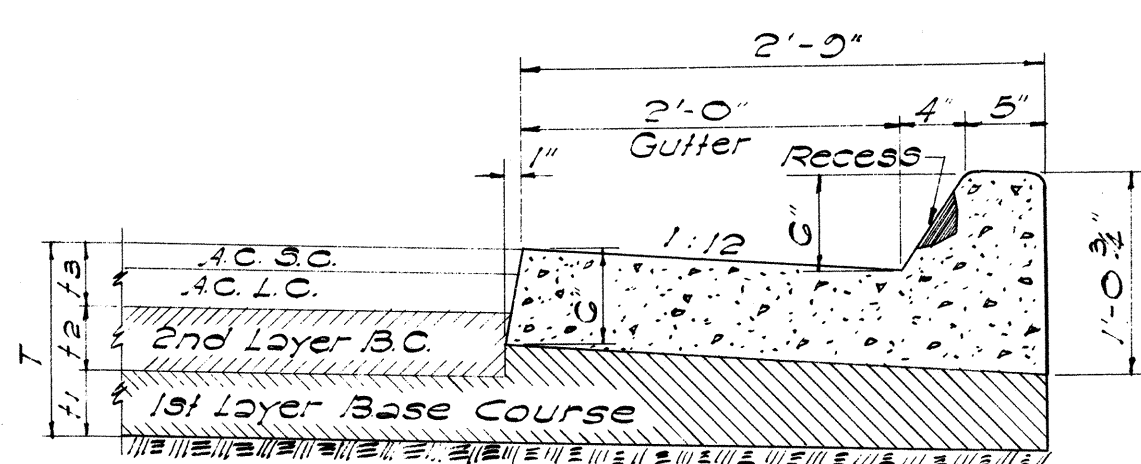
TYPE "A" & "B" CURB
SCALE: 1" = 1'-0"



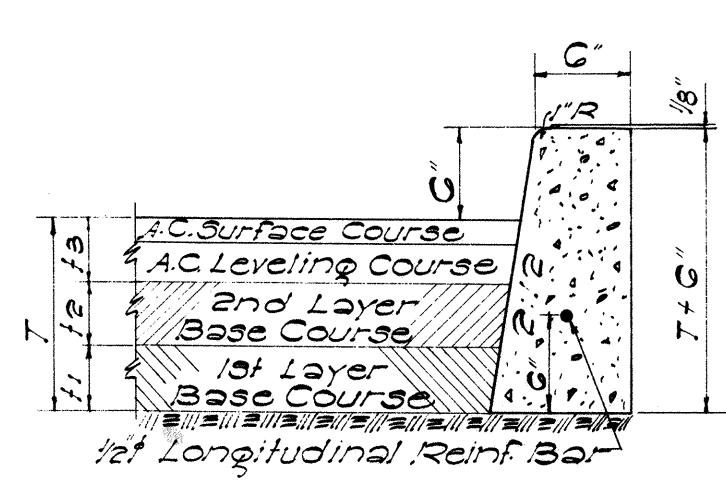
TYPE "AG" & "BG" CURB & GUTTER
SCALE: 1" = 1'-0"



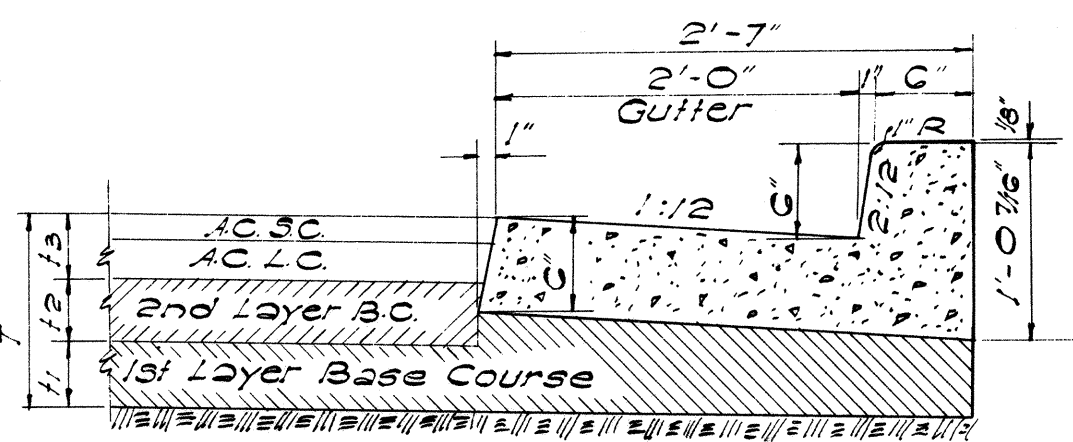
TYPE "C" CURB
SCALE: 1" = 1'-0"



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

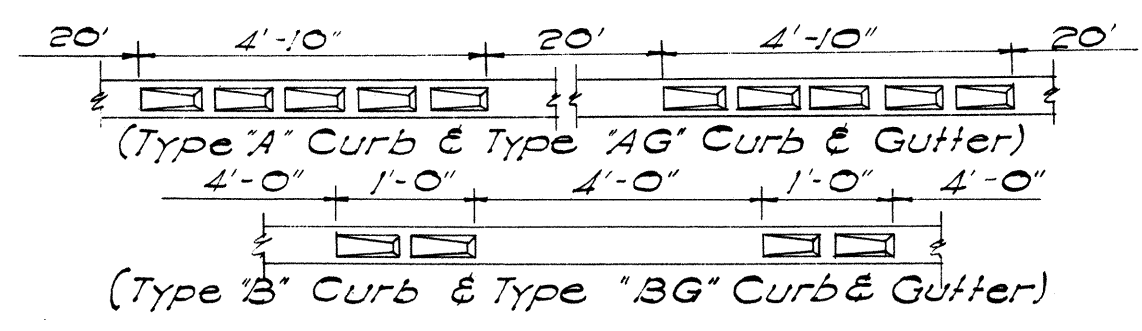


TYPE "D" CURB
SCALE: 1" = 1'-0"

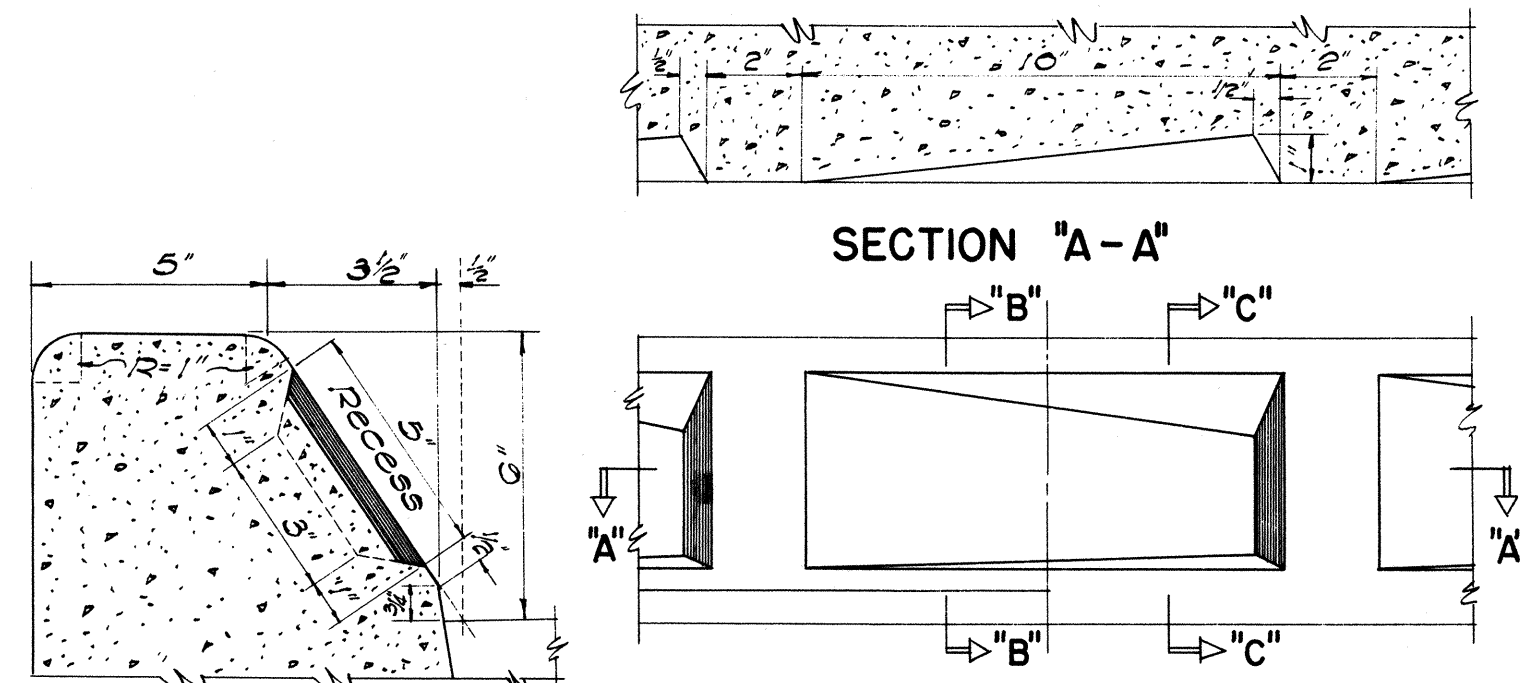


TYPE "DG" CURB & GUTTER
SCALE: 1" = 1'-0"

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

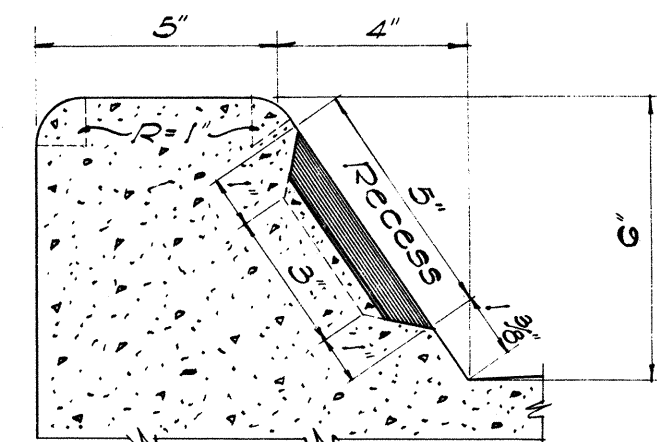


TYPE AND SPACING OF RECESSES

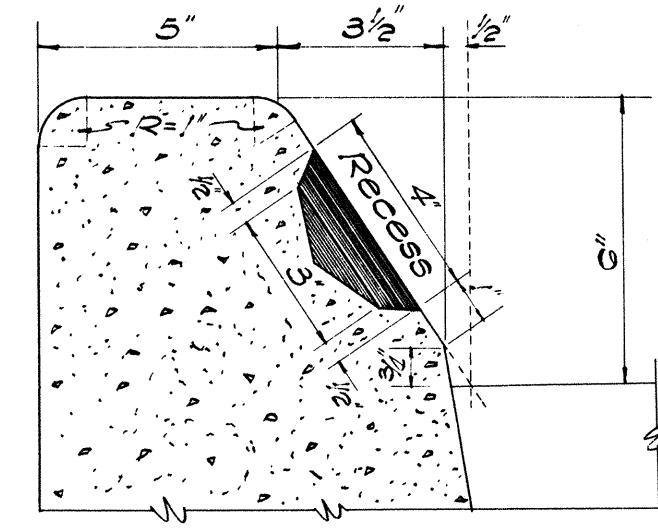


SECTION "B-B"
TYPE "A" & "B" CURB

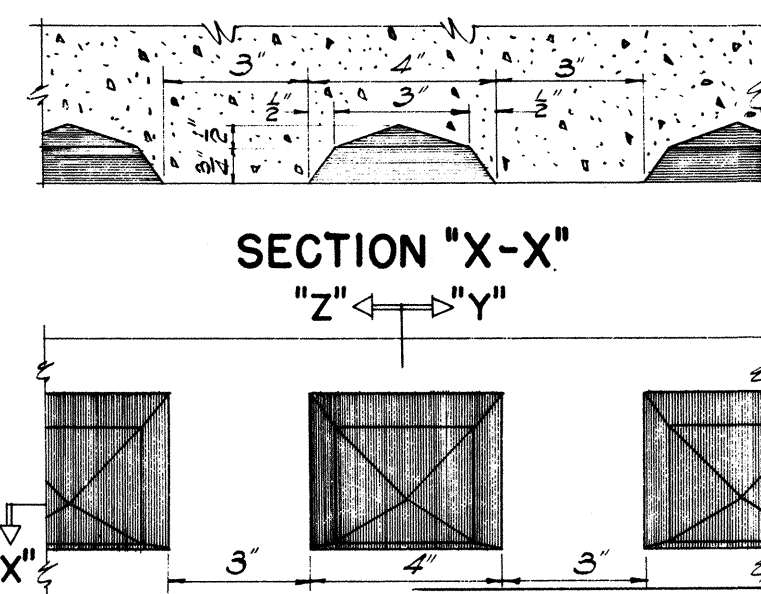
ELEVATION
SCALE: 3" = 1'-0"



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



SECTION "Y-Y"
TYPE "C" CURB

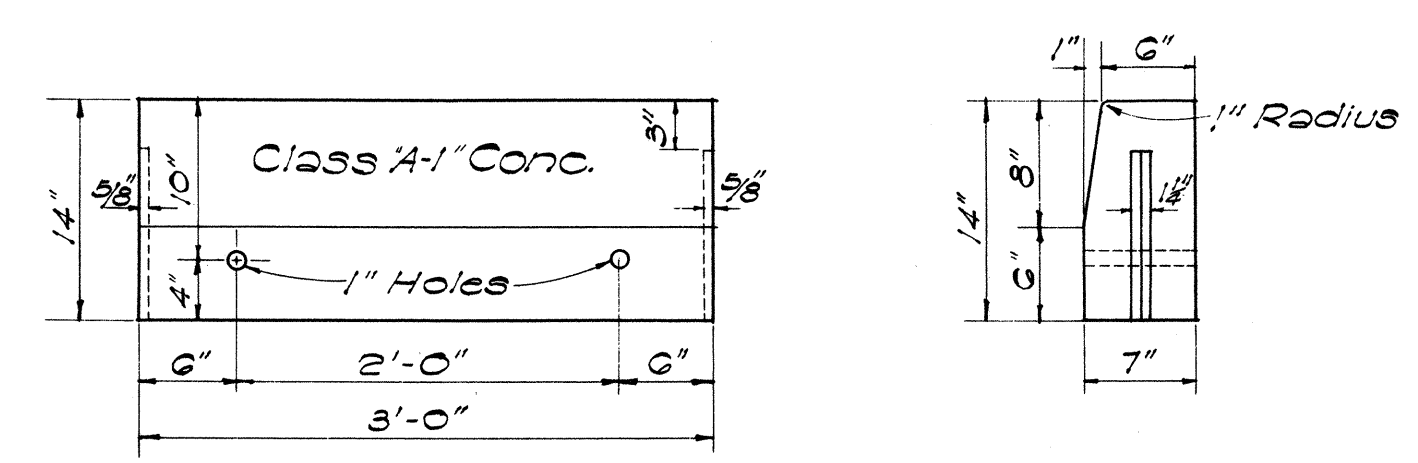


ELEVATION
SCALE: 3" = 1'-0"

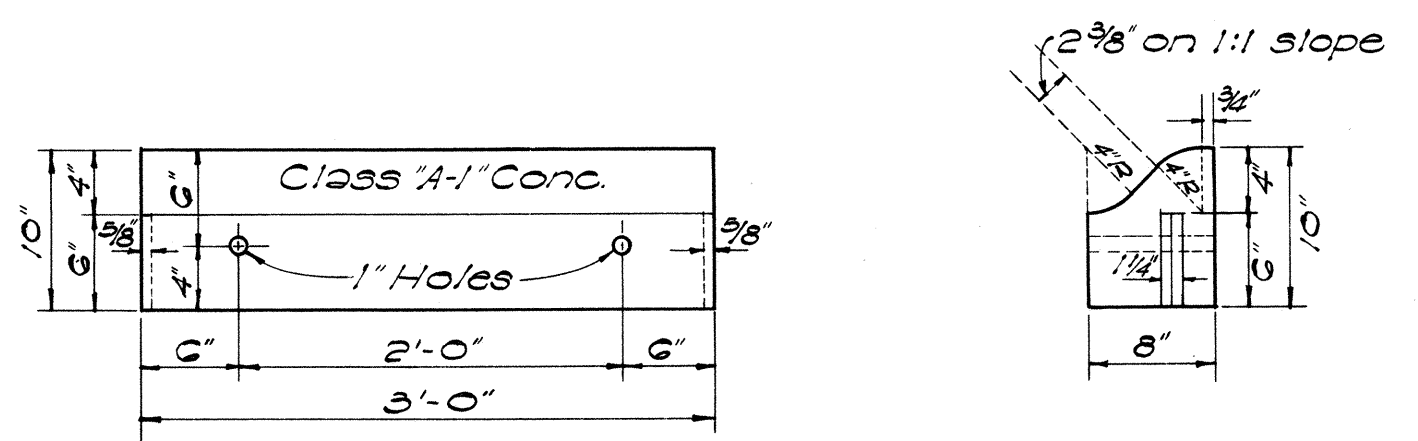
SECTION "Z-Z"
TYPE "CG" CURB

- 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.

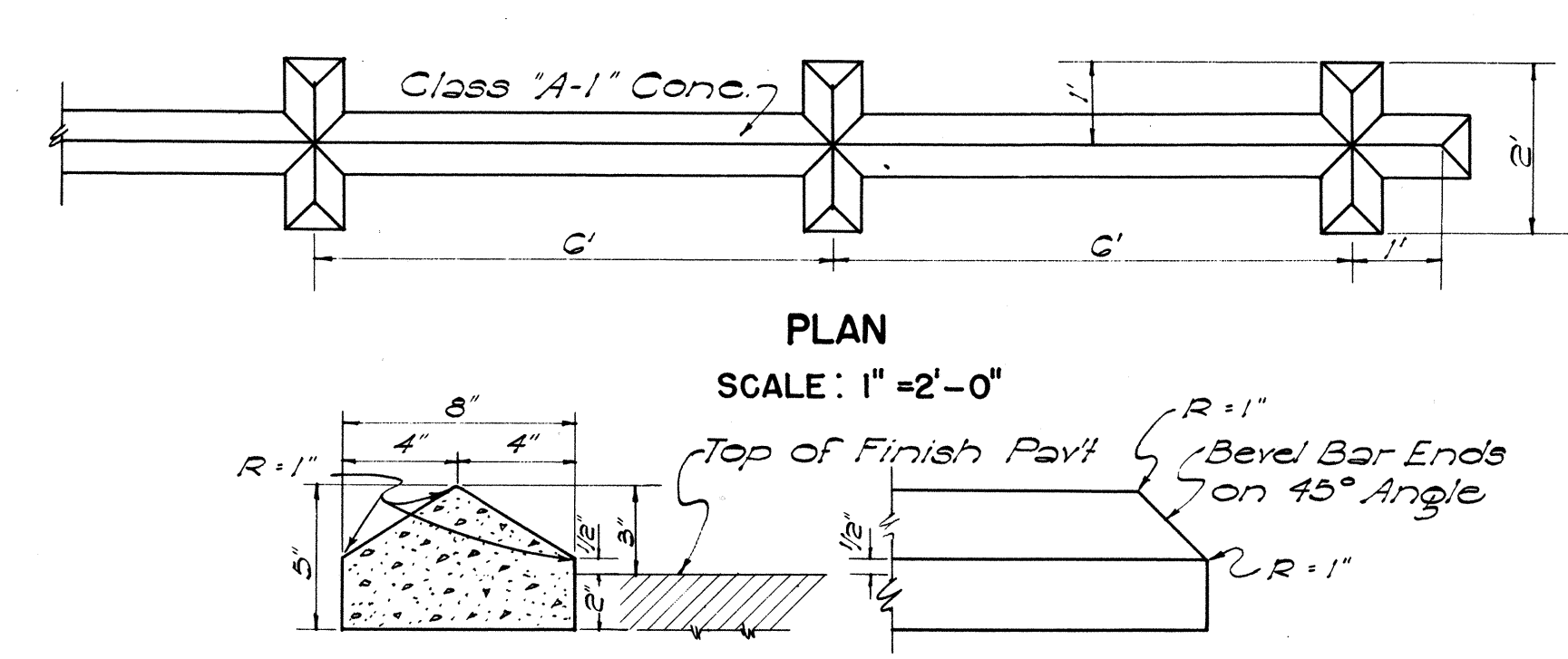
DETAILS OF CAST-IN-PLACE CONC. CURBS AND GUTTERS



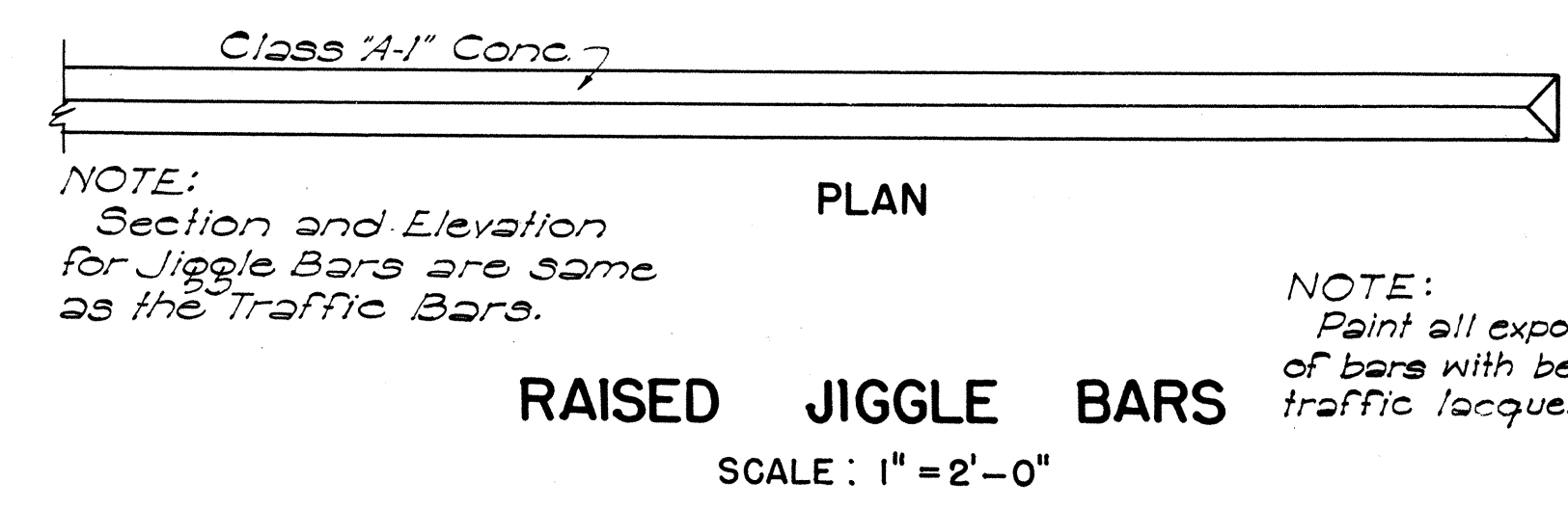
FRONT ELEV. END ELEV.
PRECAST CONC. CURB
SCALE: 1" = 1'-0"



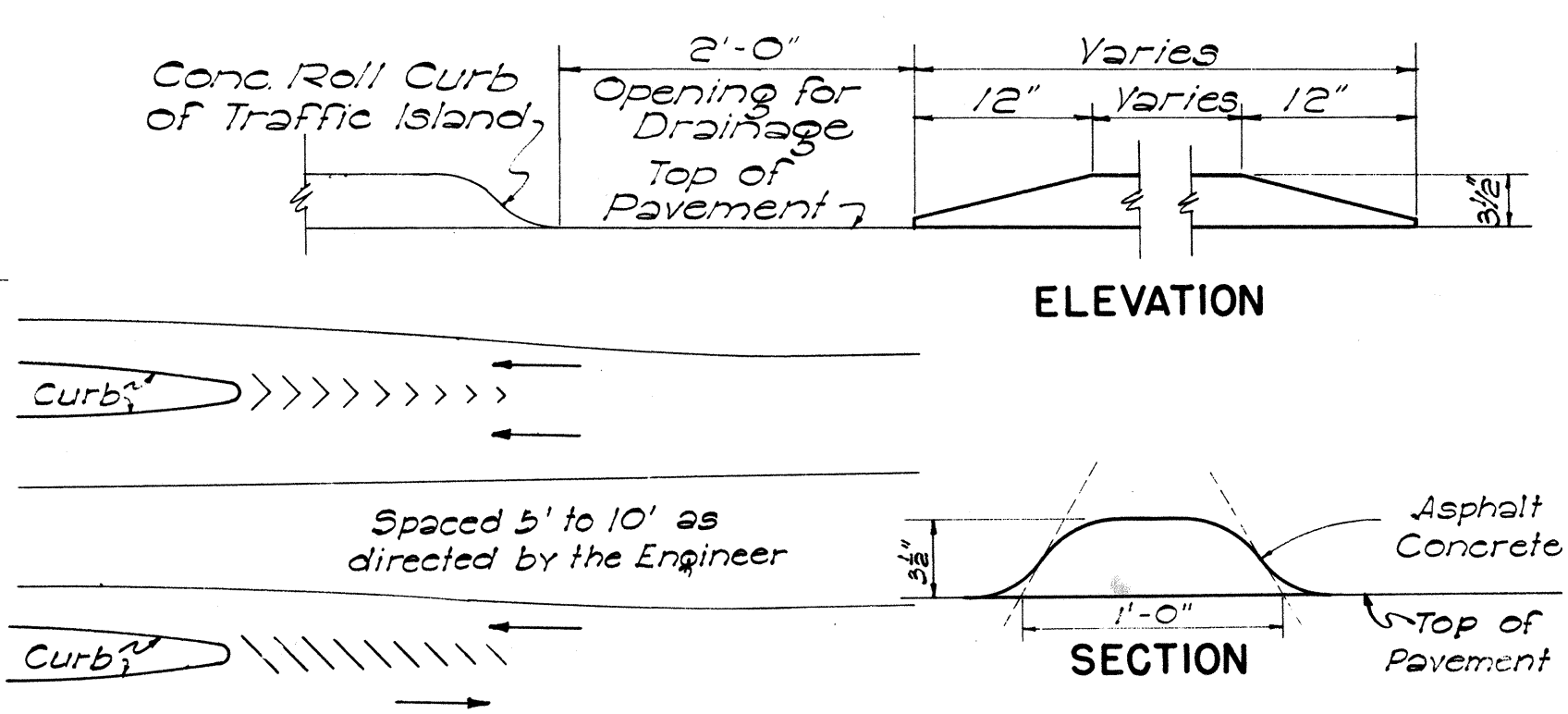
FRONT ELEV. END ELEV.
PRECAST CONC. ROLL CURB
SCALE: 1" = 1'-0"



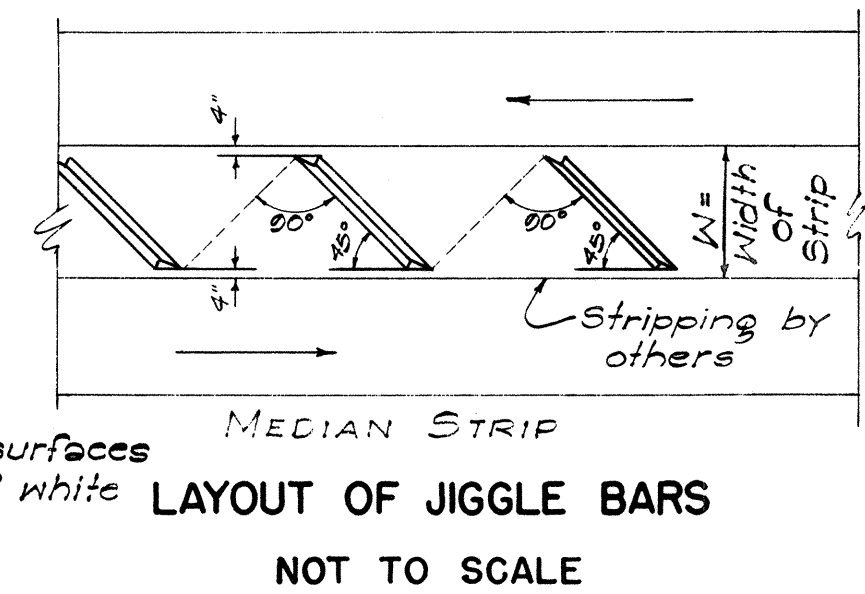
PLAN SECTION
SCALE: 1" = 2'-0"
RAISED TRAFFIC BARS
SCALE: 1" = 6"



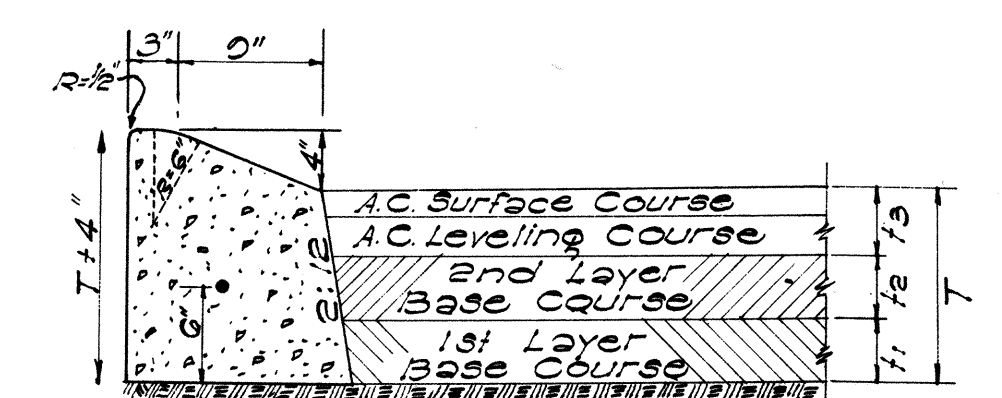
NOTE:
Section and Elevation for Jiggle Bars are same as the Traffic Bars.
PLAN
RAISED JIGGLE BARS
SCALE: 1" = 2'-0"



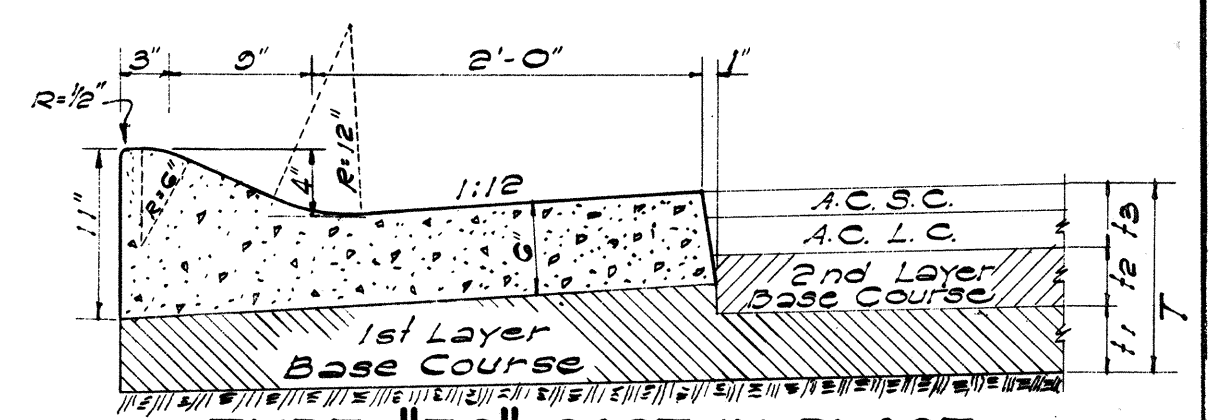
ELEVATION SECTION
A.C. TRAFFIC ROLL
NOT TO SCALE



PLAN
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"

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
STANDARD DETAILS
CONCRETE CURBS,
CONCRETE CURBS & GUTTERS
SCALES AS NOTED

SHEET NO. OF SHEETS

"E" and "EG" Curbs have been revised 7-26-57

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

REDUCED PLANS
SCALES REDUCED
ACCORDINGLY
APPROVED: [Signature] DATE: Aug. 26, 1957
STATE HIGHWAY ENGINEER