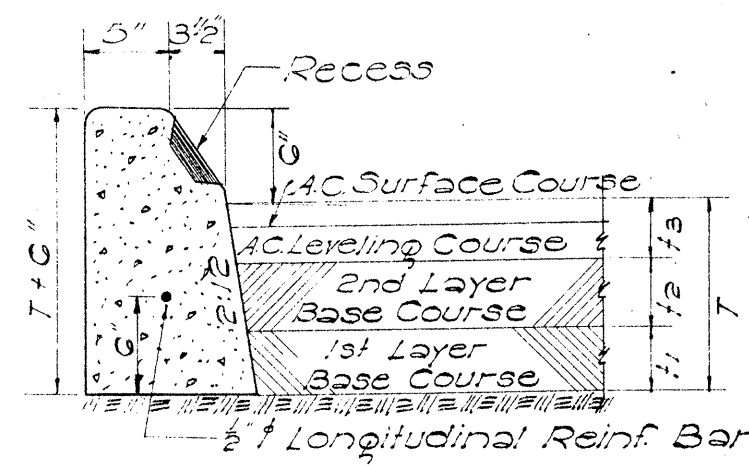
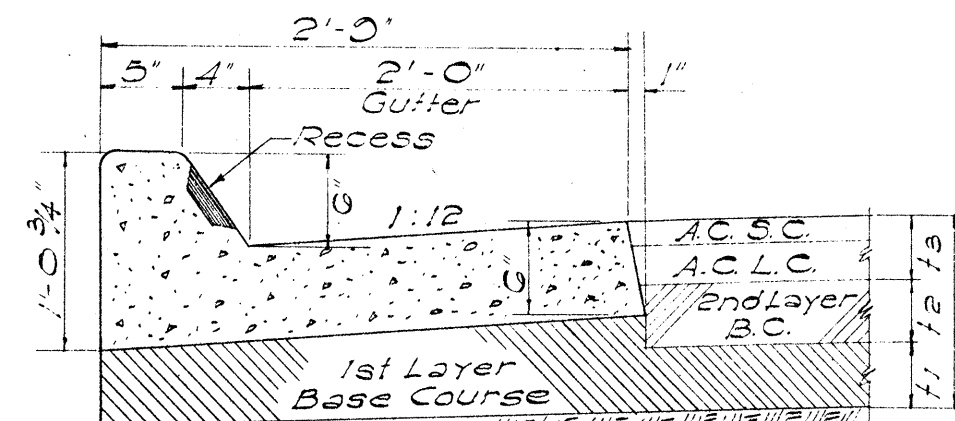


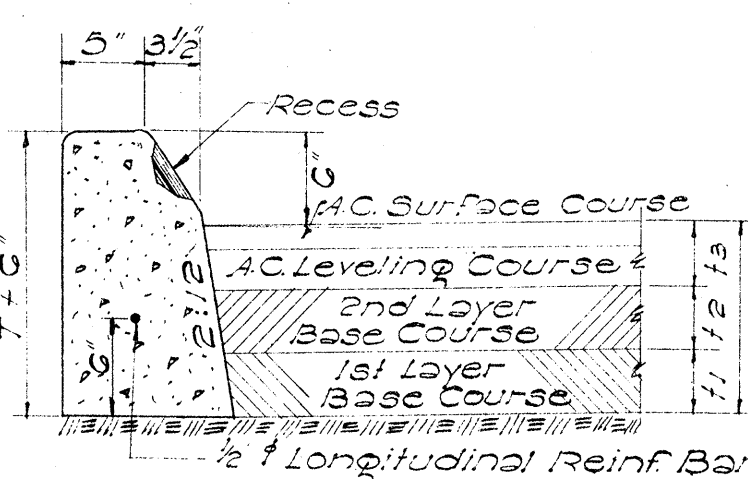
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	153-0722	DGO	66A	79
		UNITS			
		UNITS 10	DGO	101A	118
		UNITS 11	DGO	104A	115



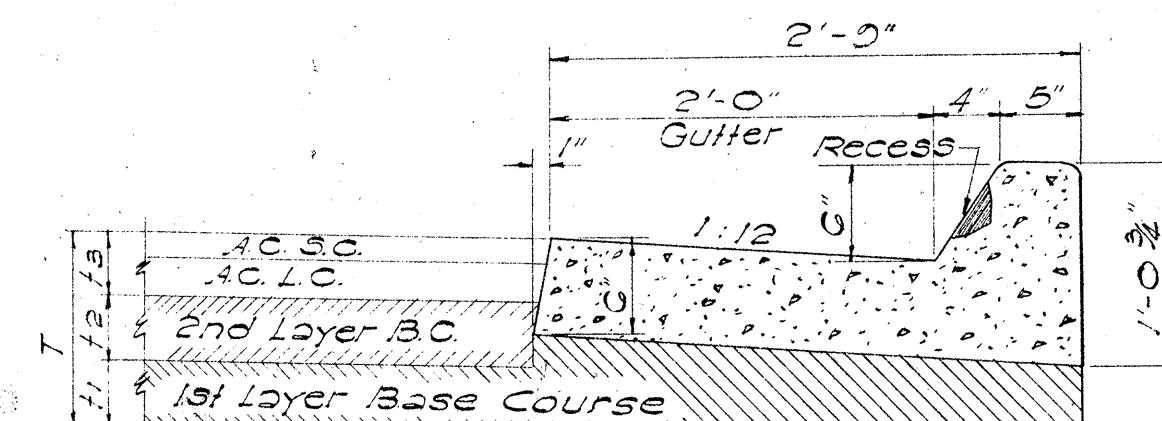
TYPE "A" & "B" CURB
SCALE: 1" = 1'-0"



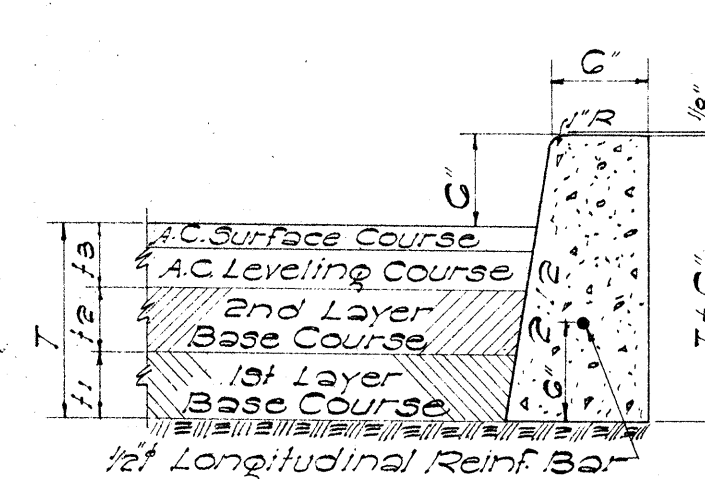
TYPE "AG" & "BG" CURB & GUTTER
SCALE: 1" = 1'-0"



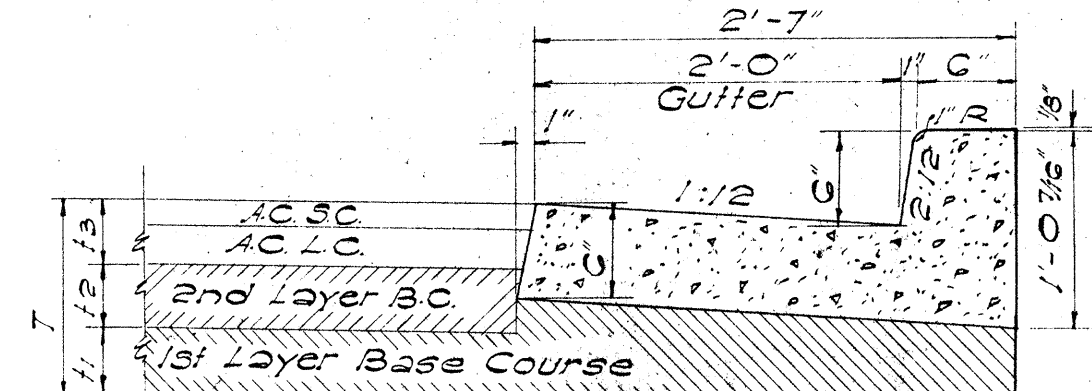
TYPE "C" CURB
SCALE: 1" = 1'-0"



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

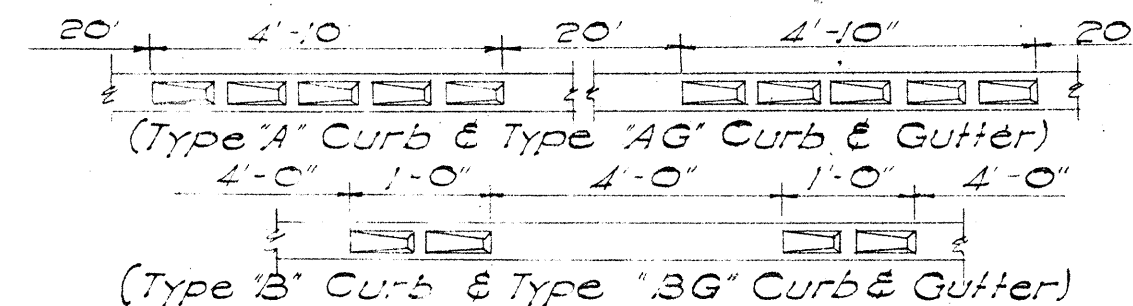


TYPE "D" CURB
SCALE: 1" = 1'-0"

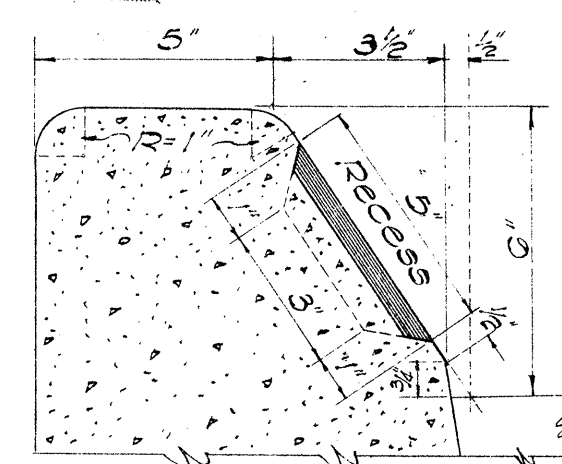


TYPE "DG" CURB & GUTTER
SCALE: 1" = 1'-0"

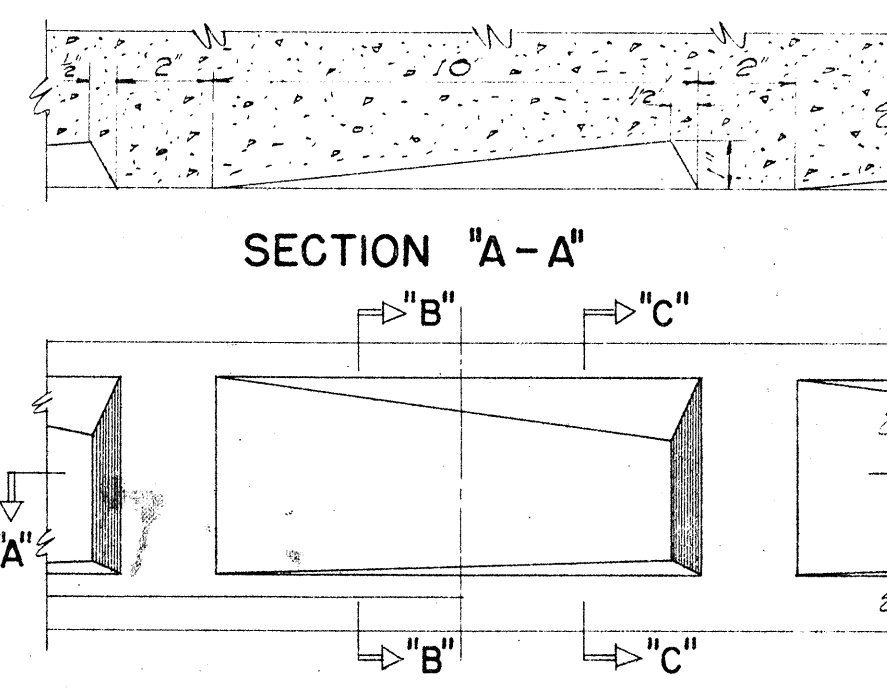
General Note Covering All Types of Curbs:
Occasionally curb rests on first layer of base course. See typical sections.



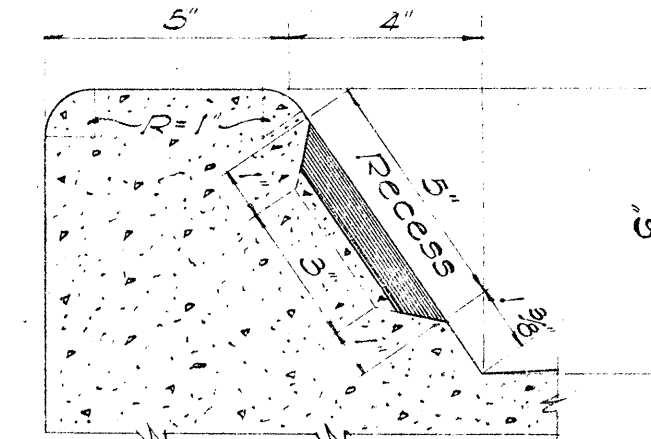
TYPE AND SPACING OF RECESSES



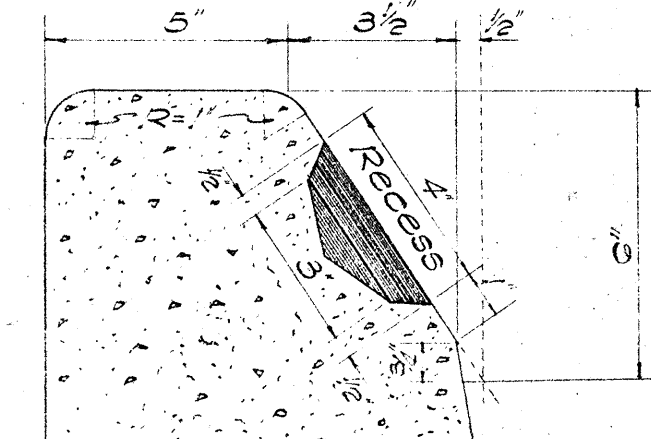
SECTION "B-B"
TYPE "A" & "B" CURB



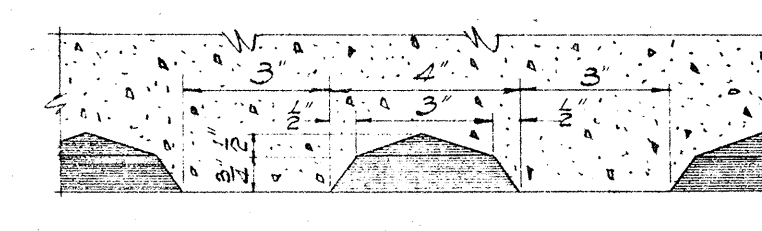
ELEVATION
SCALE: 3" = 1'-0"



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

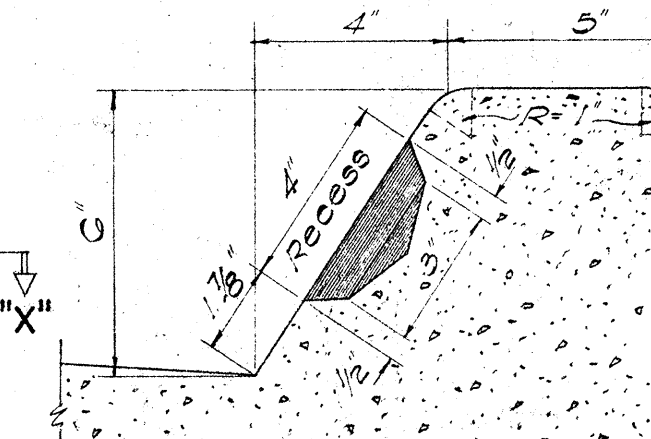


SECTION "Y-Y"
TYPE "C" CURB



SECTION "X-X"

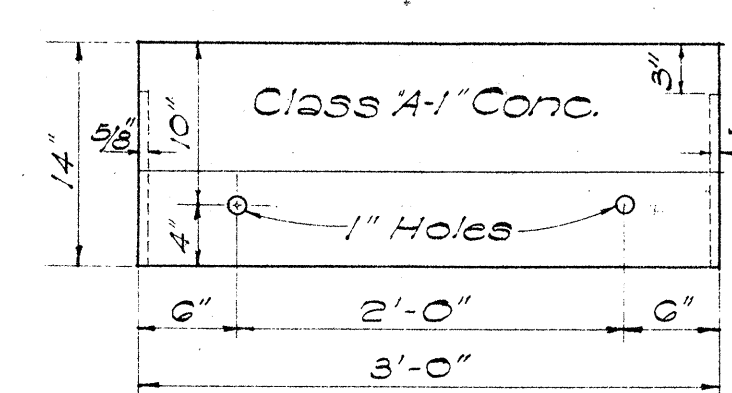
ELEVATION
SCALE: 3" = 1'-0"



SECTION "Z-Z"
TYPE "CG" CURB

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

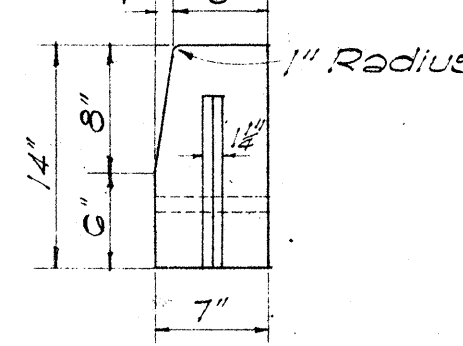
DETAILS OF CAST-IN-PLACE CONC. CURBS AND GUTTERS



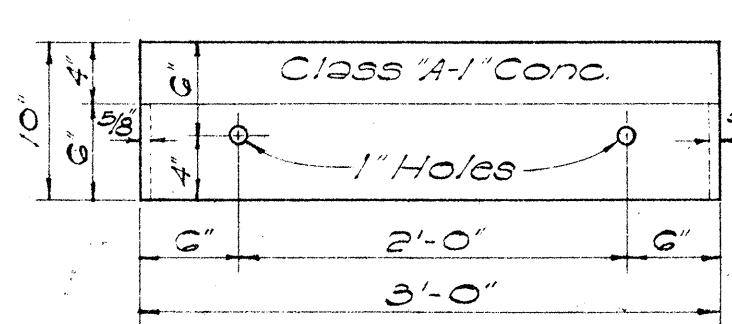
FRONT ELEV.

PRECAST CONC. CURB

SCALE: 1" = 1'-0"



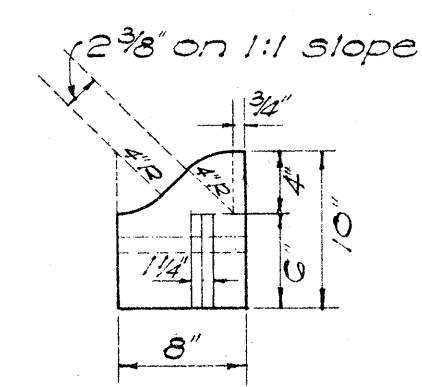
END ELEV.



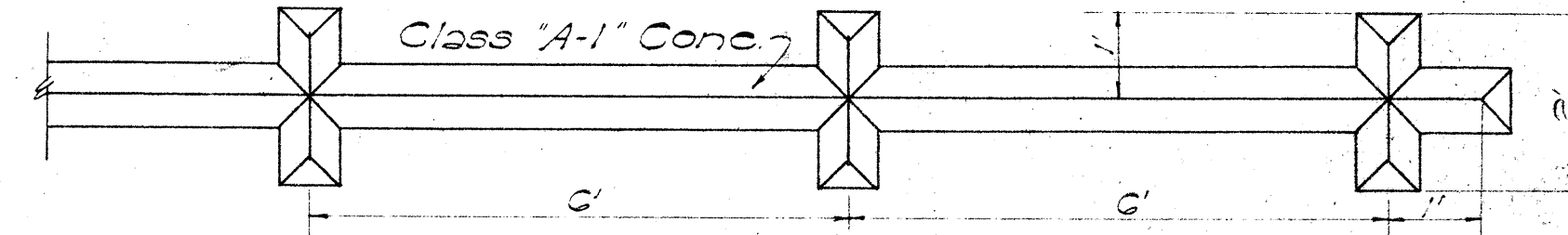
FRONT ELEV.

PRECAST CONC. ROLL CURB

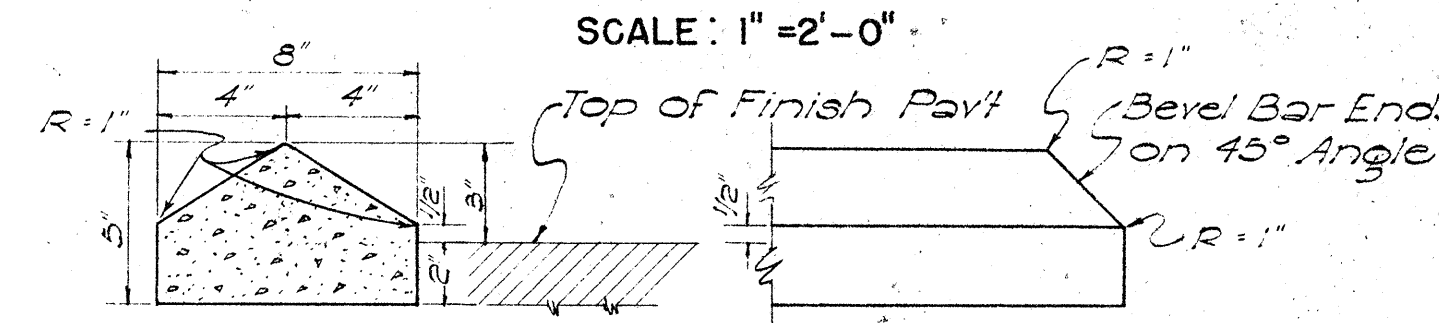
SCALE: 1" = 1'-0"



END ELEV.

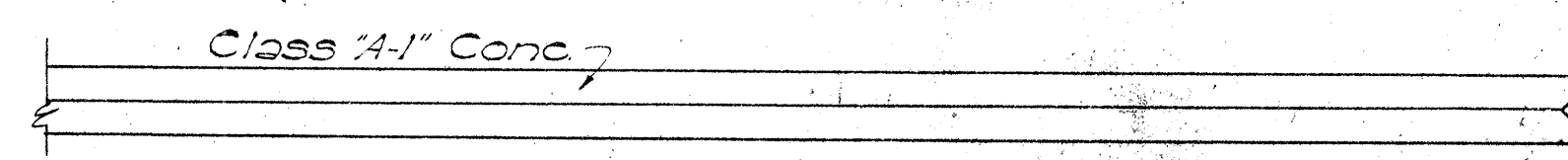


PLAN
SCALE: 1" = 2'-0"



SECTION
RAISED TRAFFIC BARS

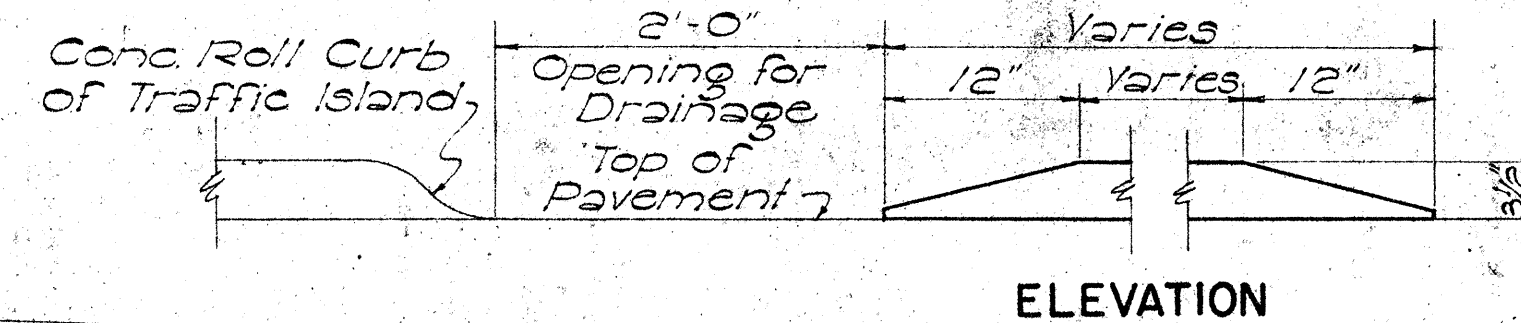
SCALE: 1" = 6"



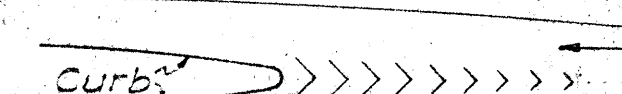
NOTE:
Section and Elevation for Jiggle Bars are same as the Traffic Bars.

RAISED JIGGLE BARS

SCALE: 1" = 2'-0"

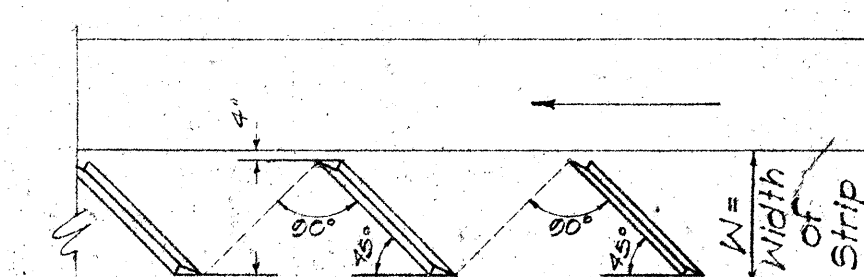


ELEVATION

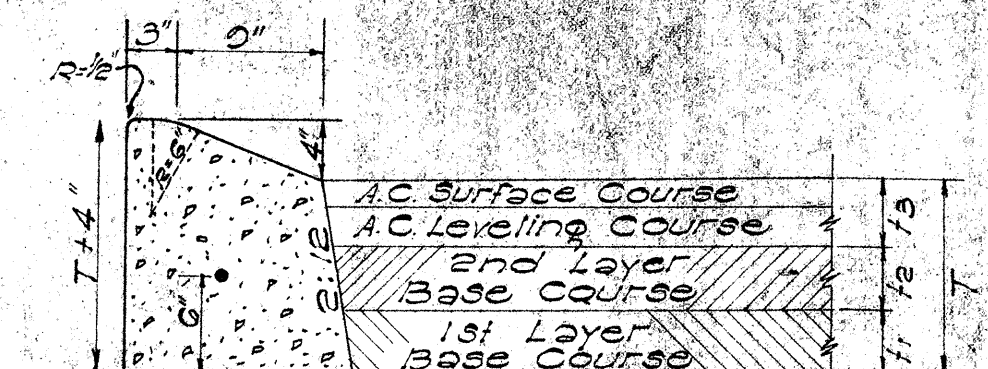


SECTION

A.C. TRAFFIC ROLL
NOT TO SCALE

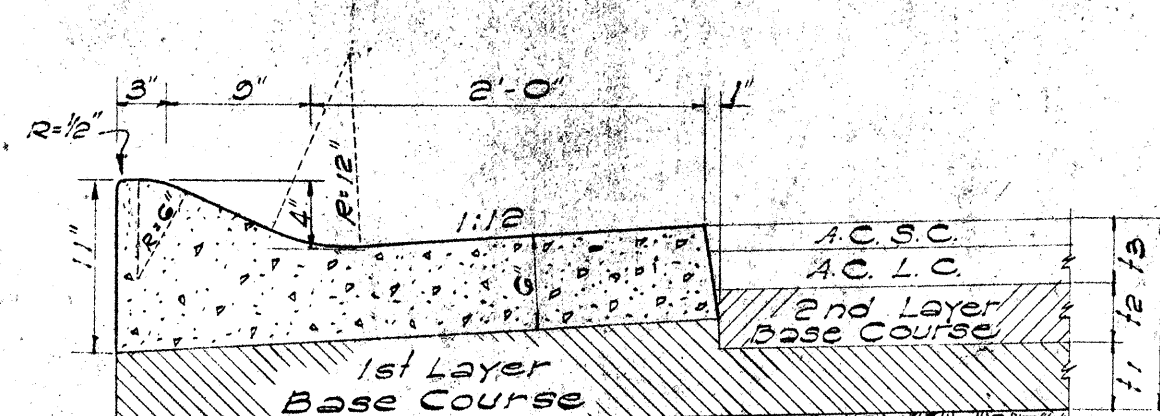


LAYOUT OF JIGGLE BARS
NOT TO SCALE



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. OF SHEETS

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

8526.66A 8174.1 8161.94A 173-A

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

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

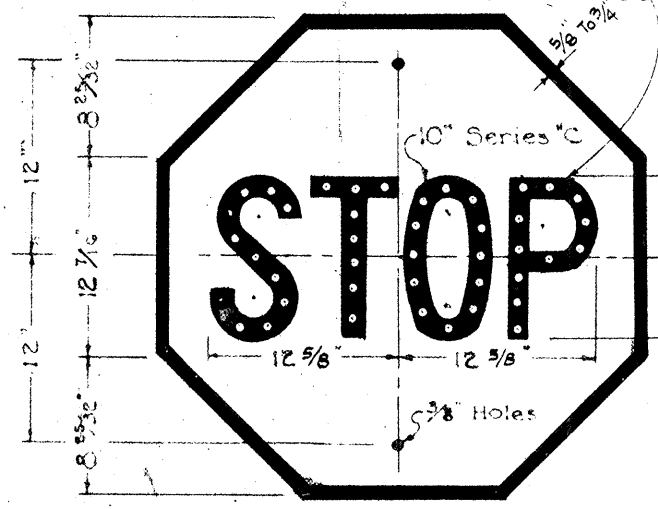
2/17/99
4/6/50
4/28/59

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

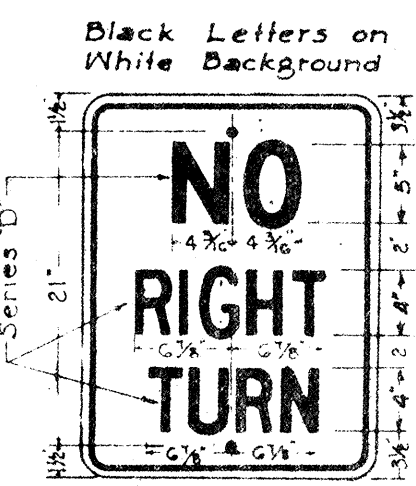
Note: All Regulatory and Warning Signs shall have 7/8" Bolt Holes.

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

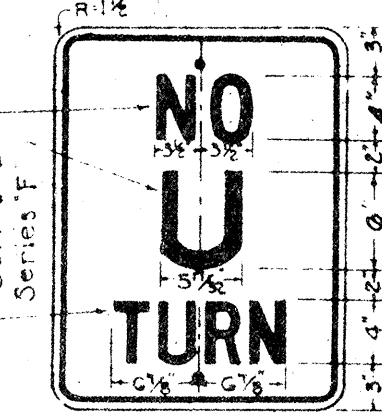
ROAD NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
100	HAWAII	100-00000	1960	66B	70
101	HAWAII	101-00000	1960	101B	118
102	HAWAII	102-00000	1960	D4B	115



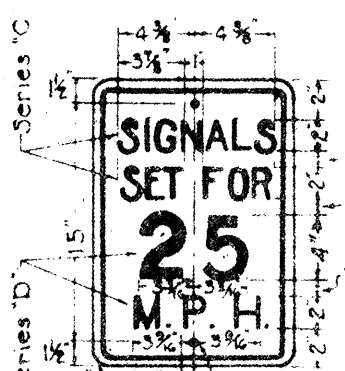
R-1
30" x 30"



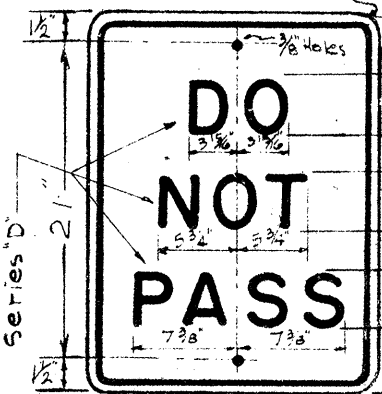
R-6
18" x 24"



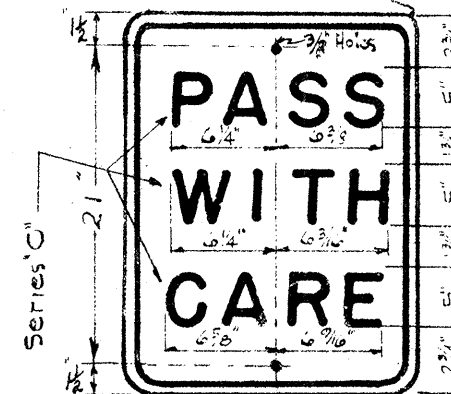
R-8
18" x 24"



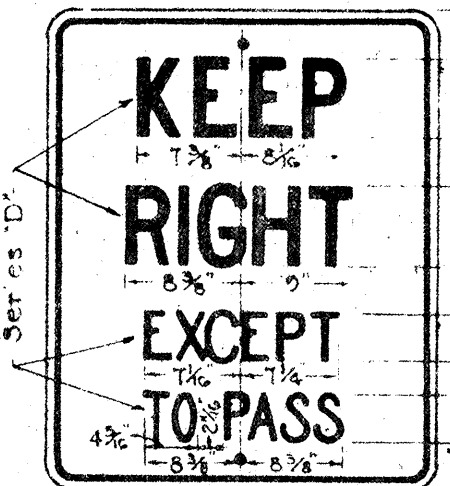
R-10
12" x 18"



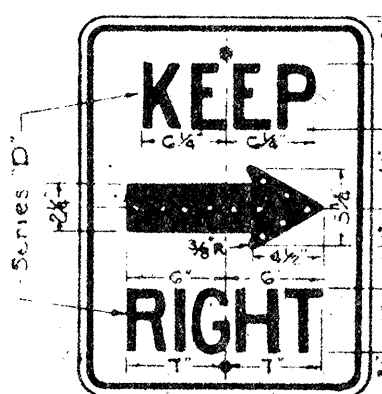
R-11
18" x 24"



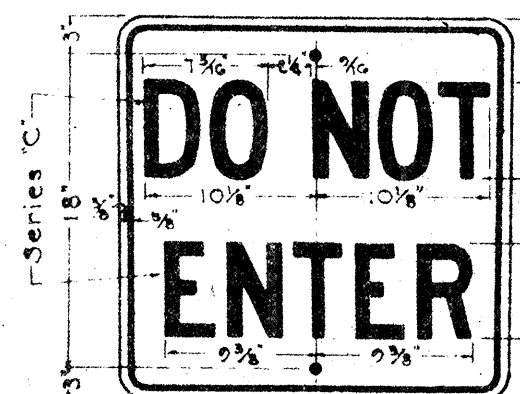
R-12
16" x 24"



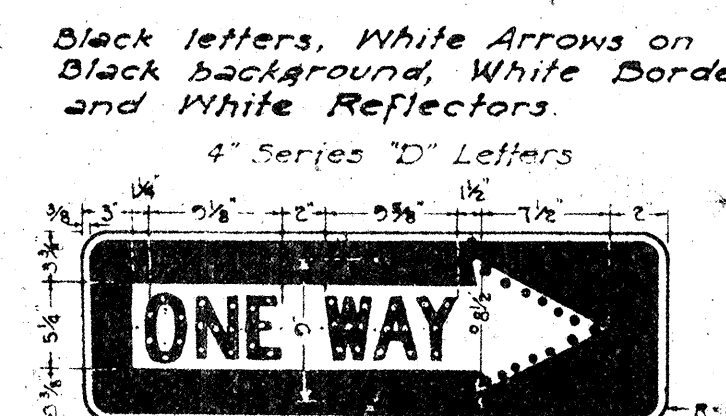
R-13
24" x 30"



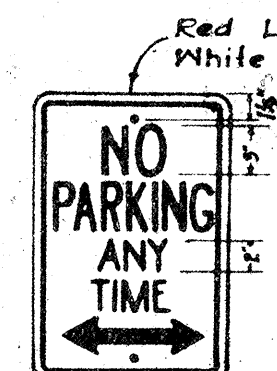
R-14 (R)
18" x 24"



R-15
24" x 24"



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



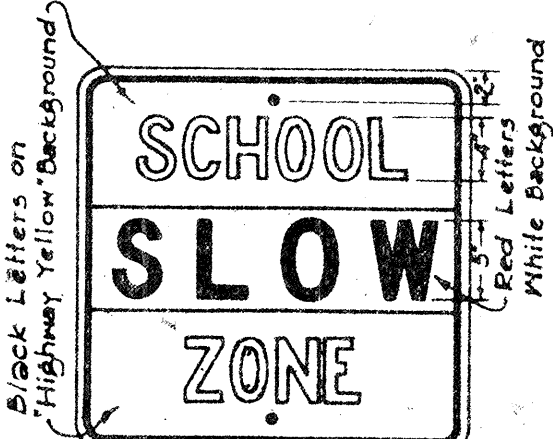
R-18
12" x 18"



R-26
12" x 18"



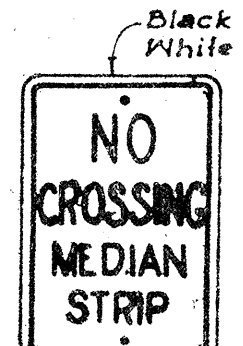
R-29
24" x 30"



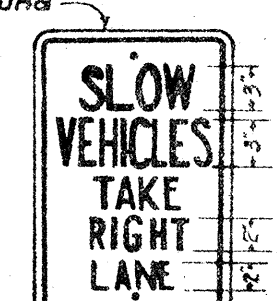
R-41-S
24" x 24"



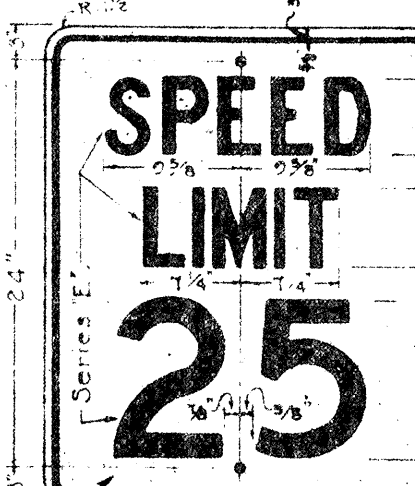
R-42-S
12" x 18"



R-43-S
12" x 18"



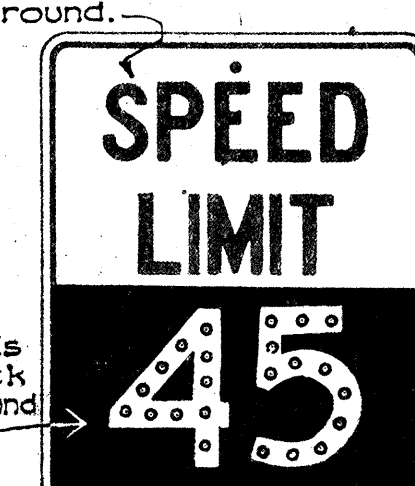
R-44-S
12" x 18"



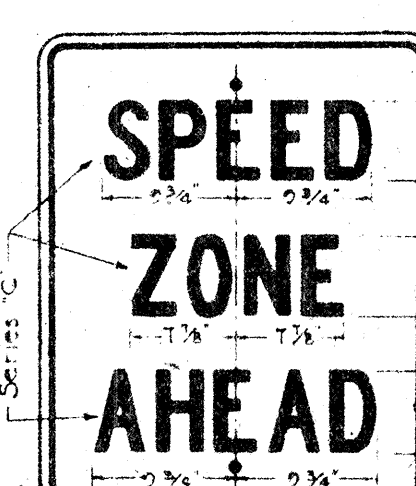
R-102-A
24" x 30"



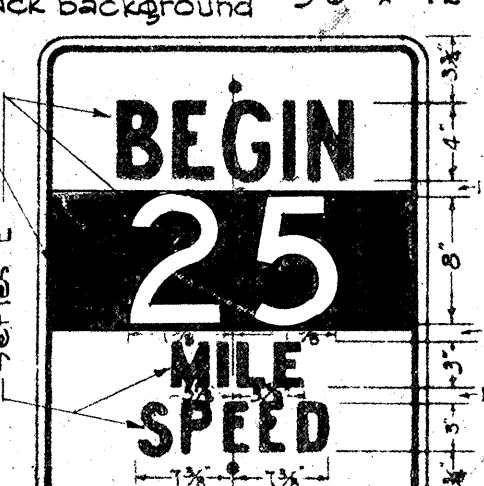
R-102-B
24" x 30"



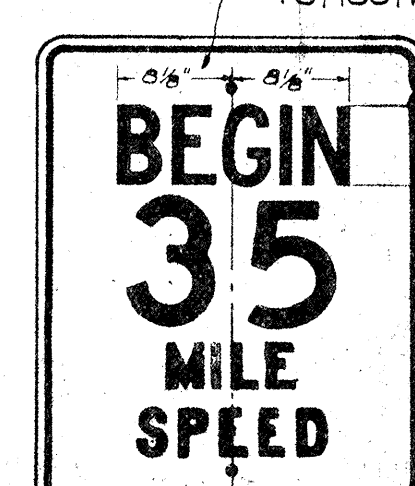
R-102-C (R)
24" x 30"



R-104
24" x 30"



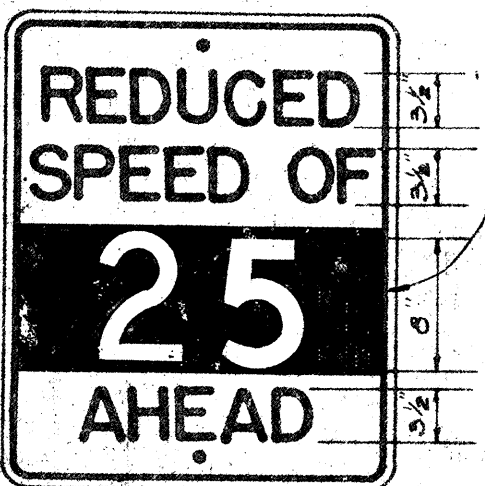
R-105-A (R)
24" x 30"



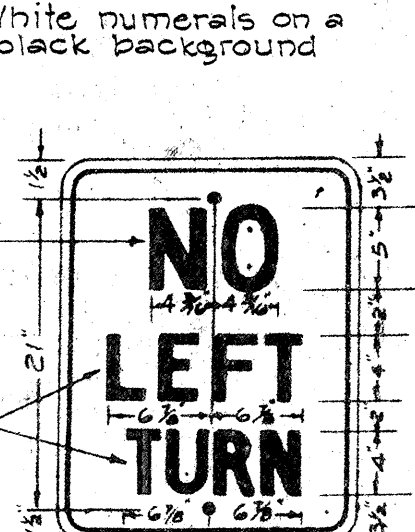
R-105-B
24" x 30"



R-105-C
24" x 30"



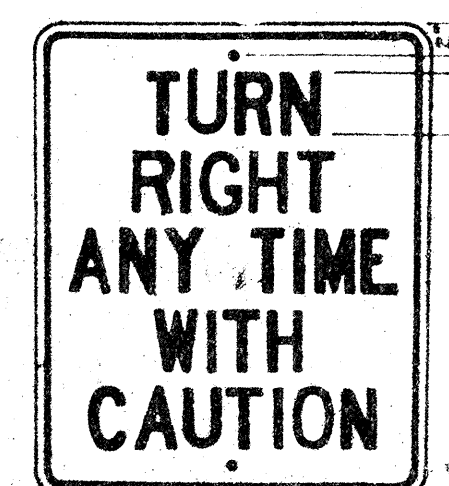
R-104-A
24" x 30"



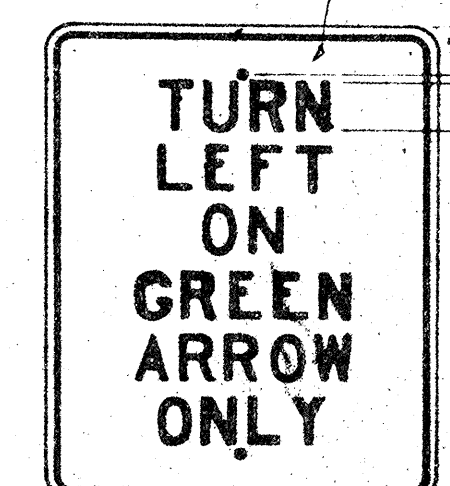
R-7
18" x 24"



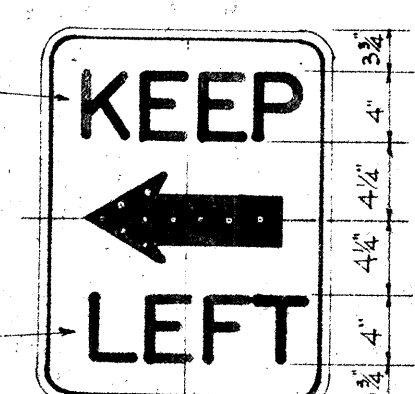
R-66
18" x 24"



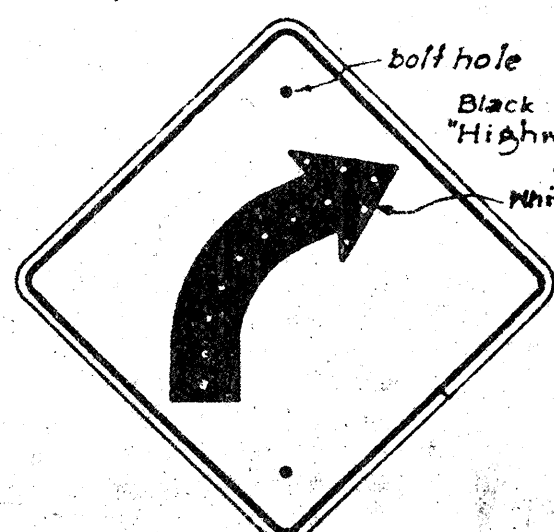
R-106
24" x 30"



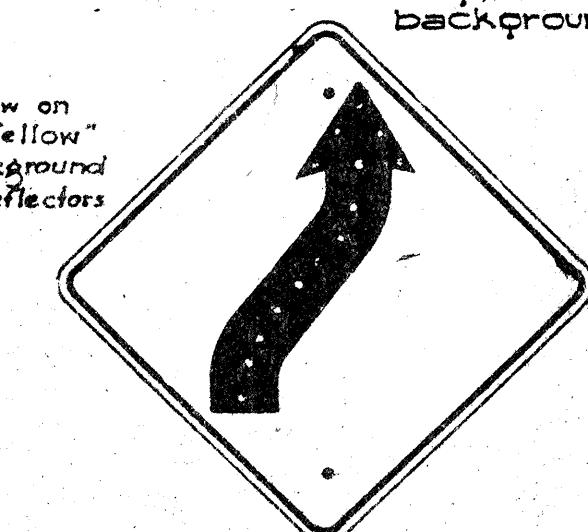
R-107-A
24" x 30"



R-14-A
24" x 24"



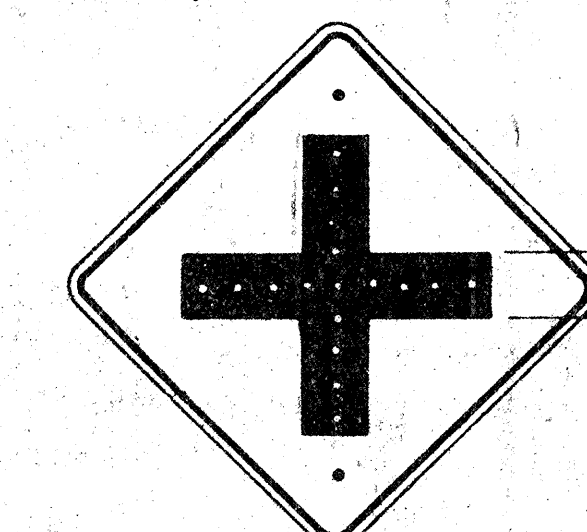
W-2-R
W-2-L
24" x 24"



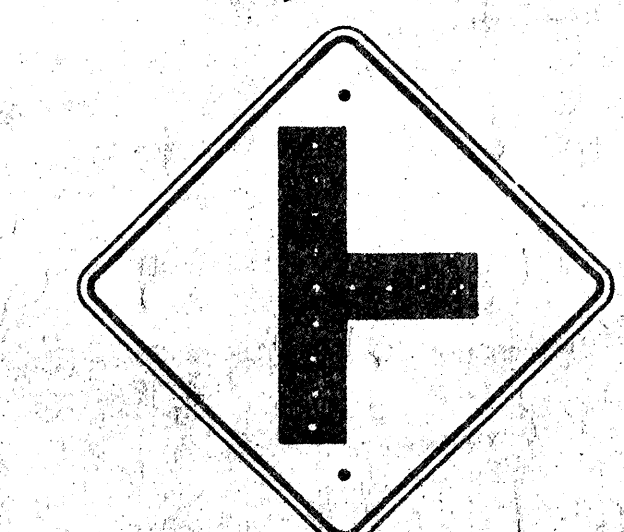
W-4-R
W-4-L
24" x 24"



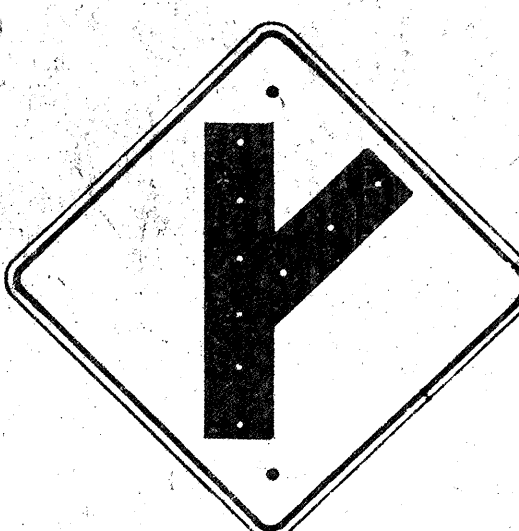
W-5-R
W-5-L
24" x 24"



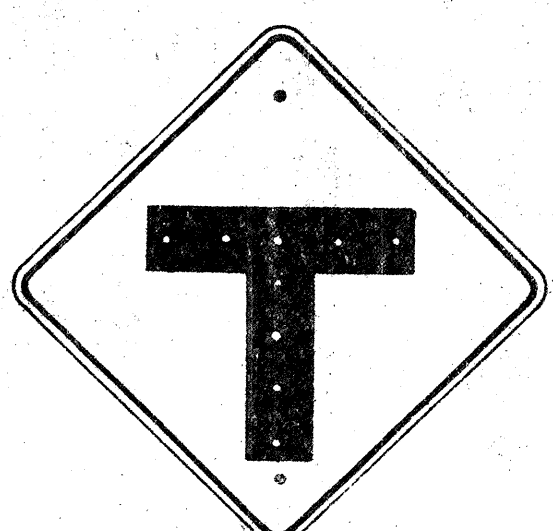
W-6
24" x 24"



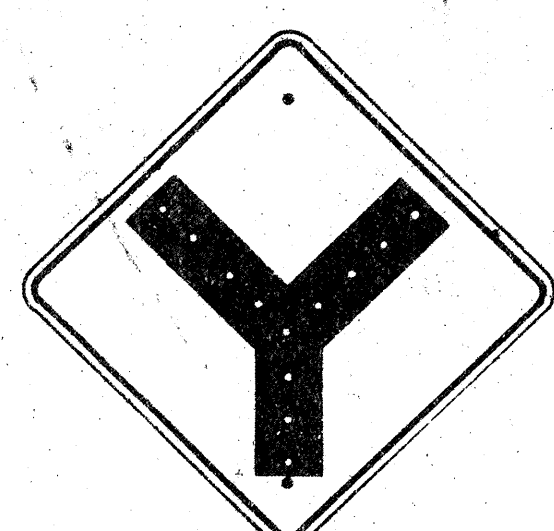
W-7
24" x 24"



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



W-9
24" x 24"



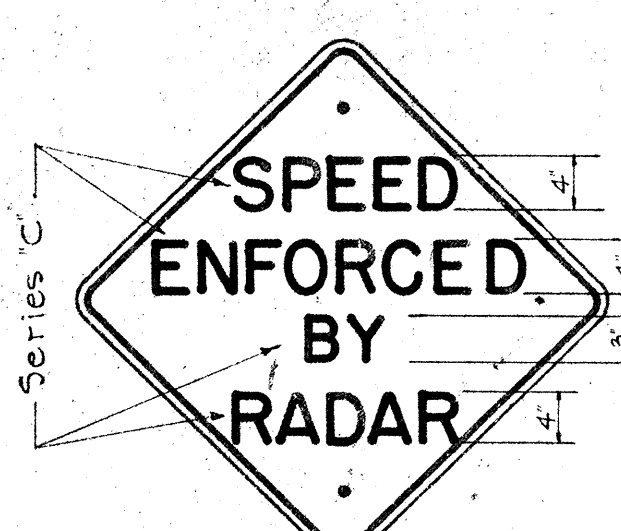
W-10
24" x 24"



W-13
24" x 24"



W-14
24" x 24"



W-40
24" x 24"



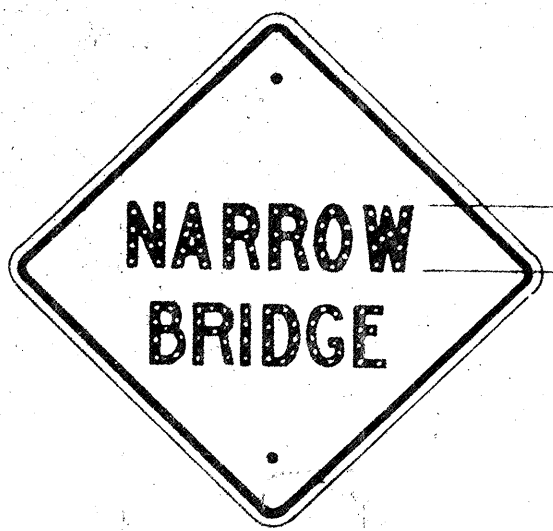
W-19
30" x 30"



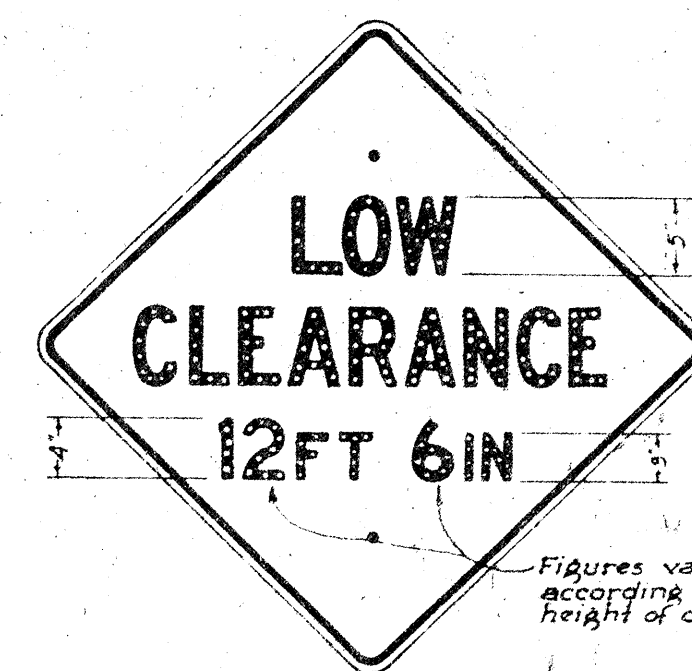
W-20
30" x 30"



W-21
30" x 30"



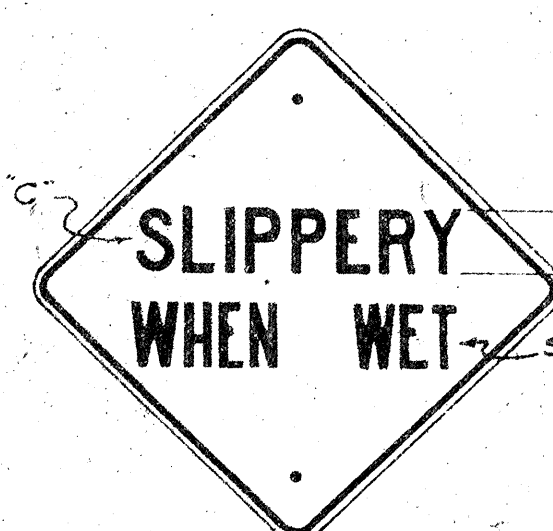
W-22
24" x 24"



W-24
30" x 30"



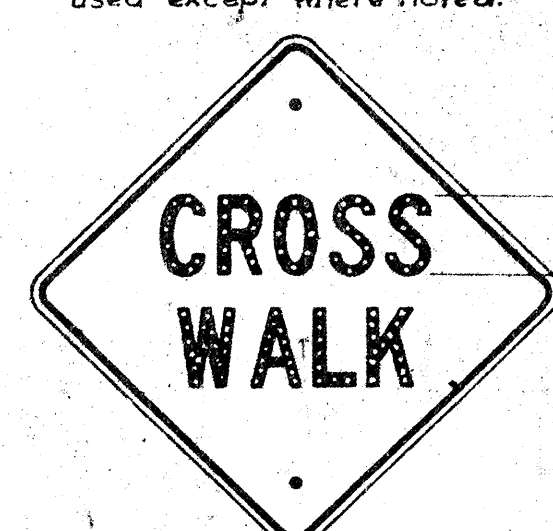
W-25
24" x 24"



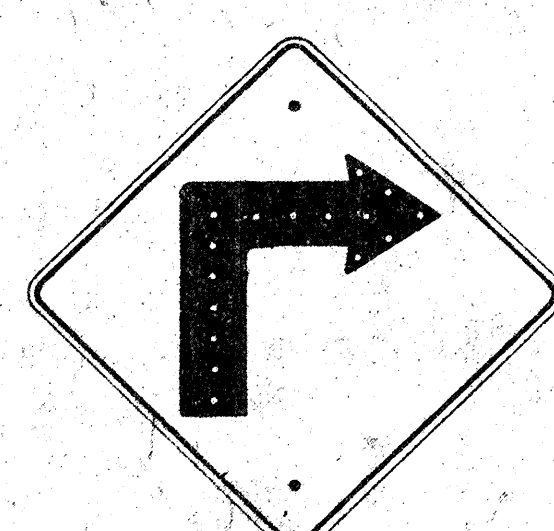
W-29
24" x 24"



W-59
24" x 24"



W-39
24" x 24"



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

NOTE: R-104 A,B,C signs with (R) designation shall have white numerals reflectorized with buttons or reflective sheeting on a black background.

Note: R-102 A,B,C signs with (R) designation: Lower half with white numerals, reflectorized with buttons or reflective sheeting, on black background.

NOTE: R-105 A,B,C signs with (R) designation shall have white numerals, reflectorized with buttons or reflective sheeting on a black background.

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.

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'
DATE: AUG 26, 1959
APPROVED: _____
STATE HIGHWAY ENGINEER

SHEET NO. OF SHEETS

S 5 2 6 . 6 6 B S 1 7 4 . 1 0 1 B S 1 6 1 . 9 4 B 143-B

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

NOTE: Sign Post size has been revised 5/13/58

NOTE: Yield sign has been revised 11/1/57

NOTE: Stop sign has been revised 10/10/54

DATE

SURVEY PLOTTED BY

DESIGNED BY

TRACED BY

QUANTITIES BY

CHECKED BY

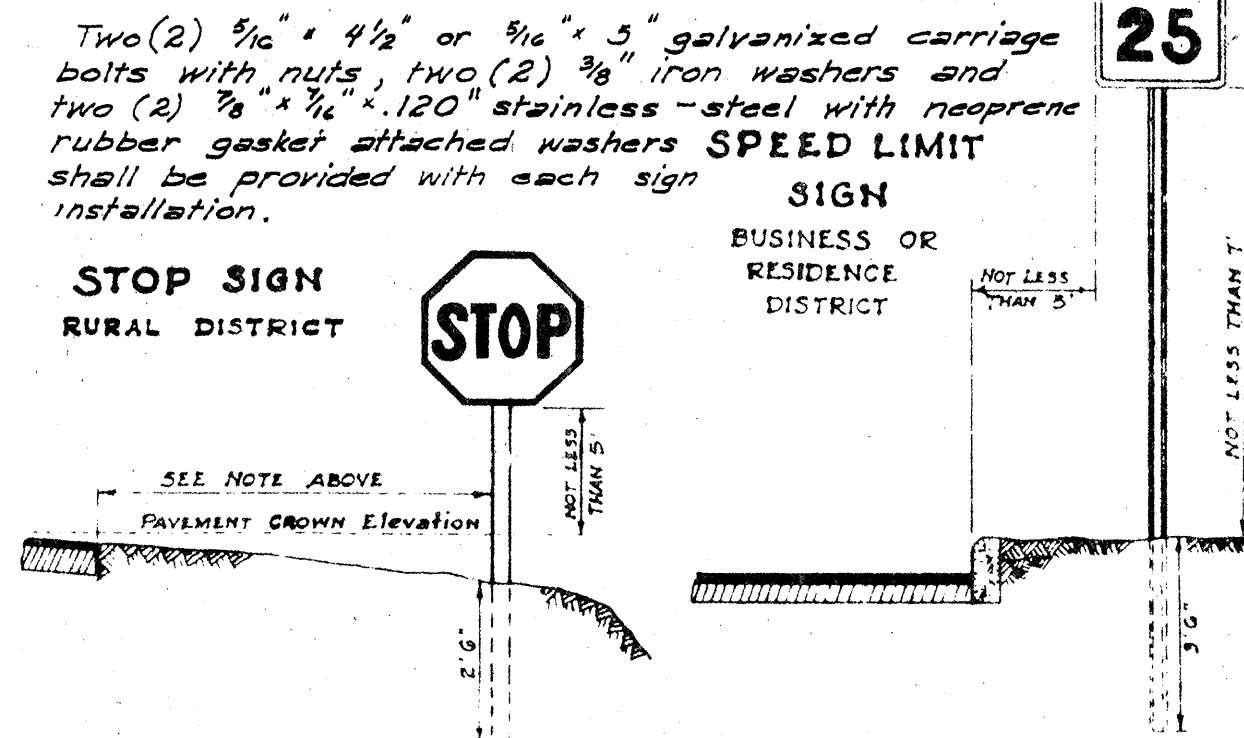
CLEANED BY

ORIGINAL

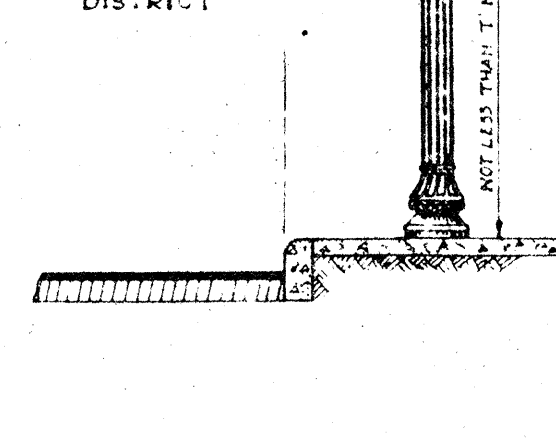
PLAN

No.

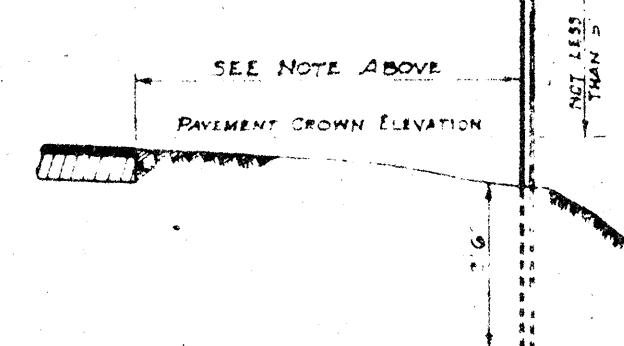
NOTE:
Sign Posts shall be 3" galv. std. pipe for signs larger than 24" in any dimension and 2" galv. std. pipe for signs not over 24" in any dimension.
Two (2) 3/8" bolt holes drilled at location shown.



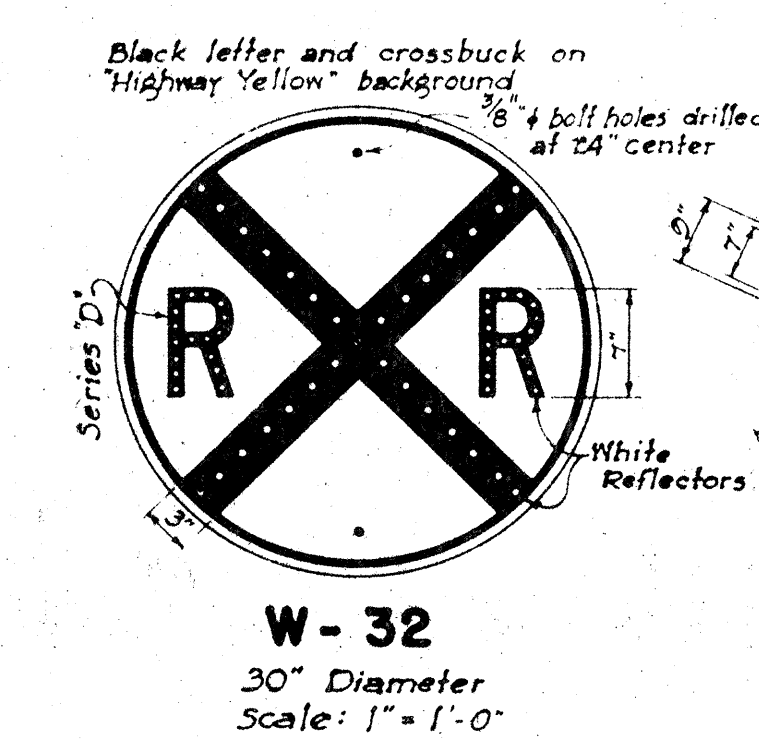
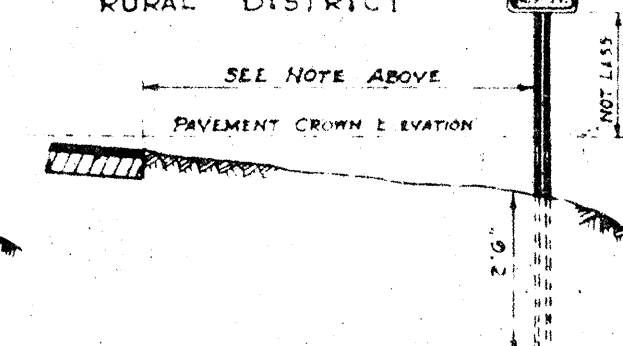
PARKING SIGN
BUSINESS OR RESIDENCE DISTRICT



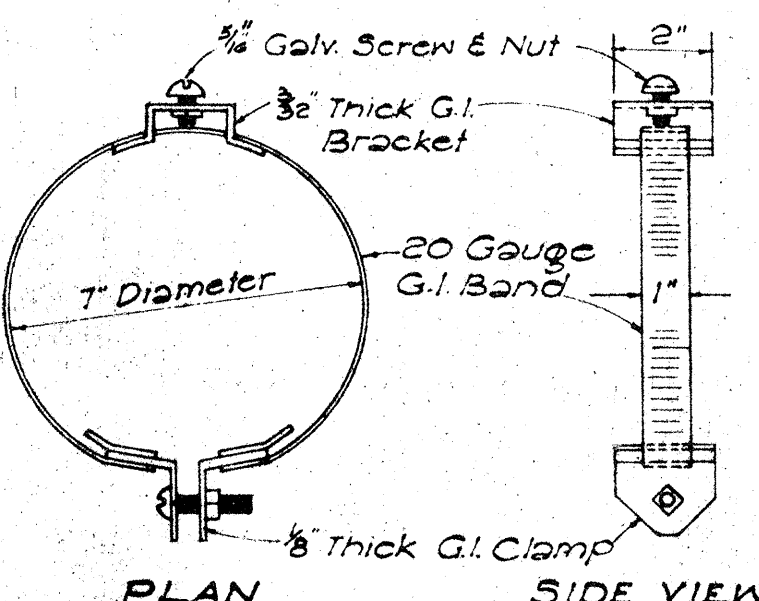
WARNING SIGN
RURAL DISTRICT



WARNING SIGN WITH ADVISORY SPEED SIGN
RURAL DISTRICT



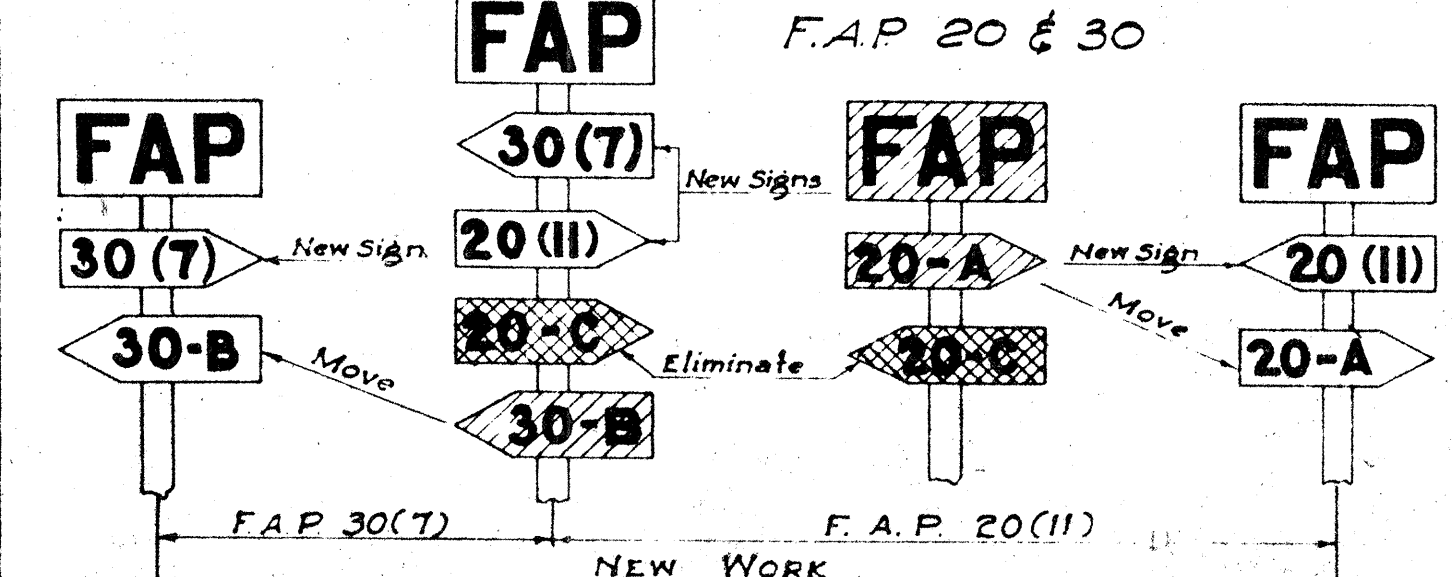
NOTE: This sign shall be placed from 300 to 500 feet from R. R. intersections in rural areas and a minimum distance of 100 feet from R. R. intersections in Residence or Business districts.



W-33
Scale: 1/2" = 1'-0"

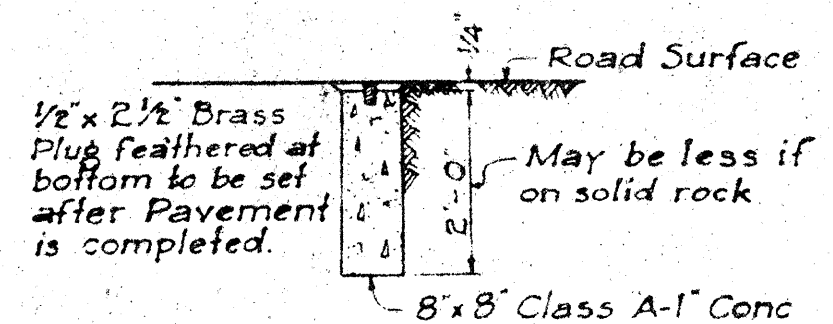
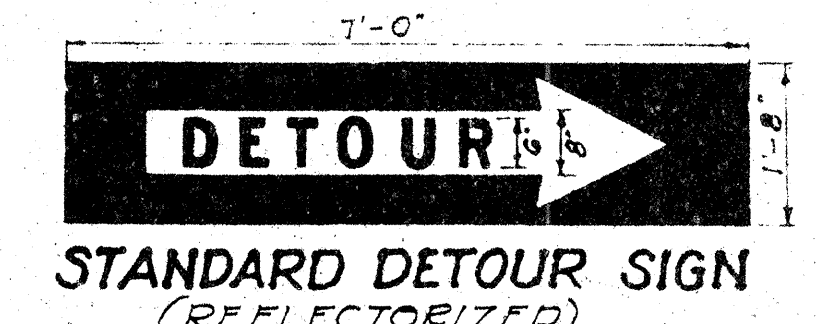
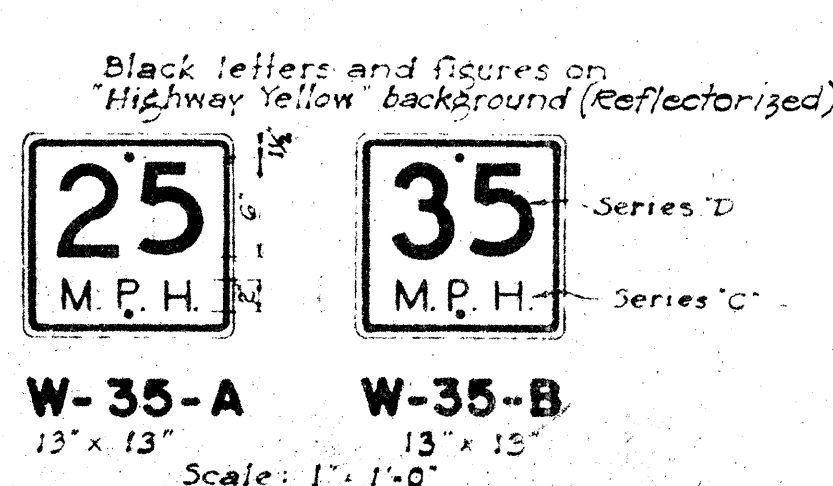
ADJUSTABLE BAND BRACKET FOR SUPPORTING TRAFFIC SIGNS ON MONOTUBE LIGHTING STANDARDS
Scale: 3/4" = 1'-0"

This product to be as shown in Catalogue No. 48 of Calphote Corp. or equal.



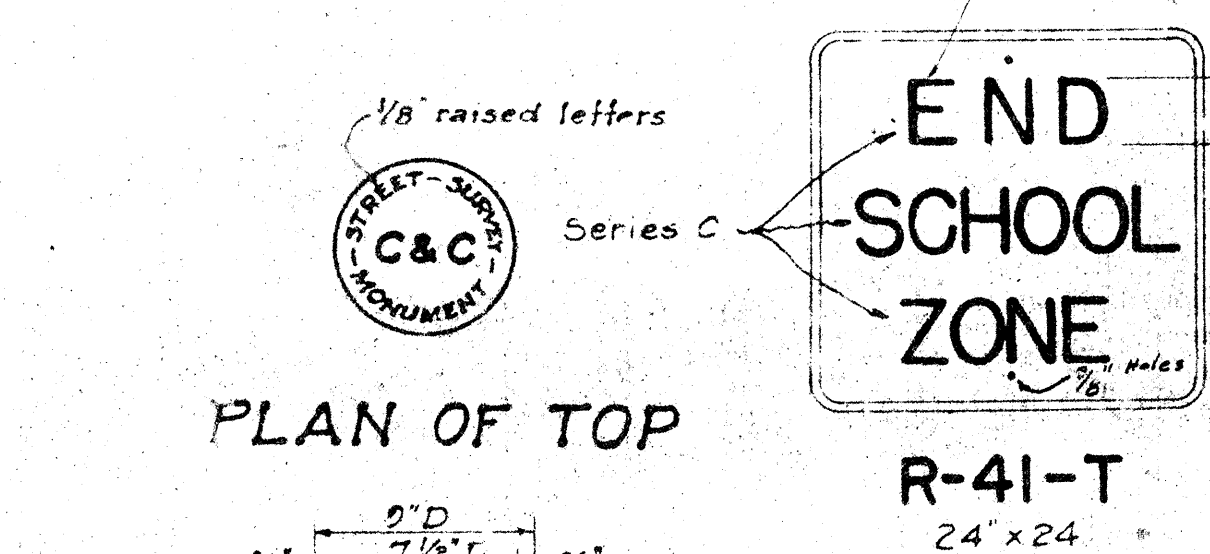
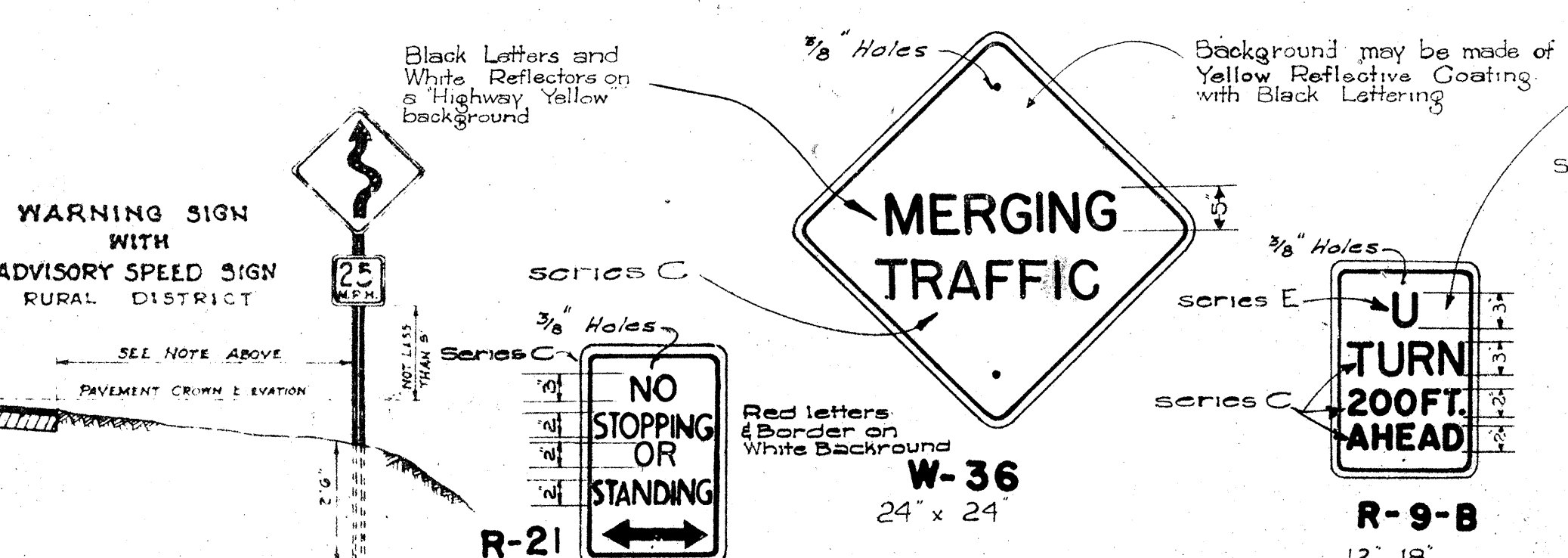
NOTE: Federal Aid Markers should be placed at the termini of suffix designated sections. Intermediate letter designated markers of adjacent sections located within the limits of new improvements should be moved to the termini of the new work.

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

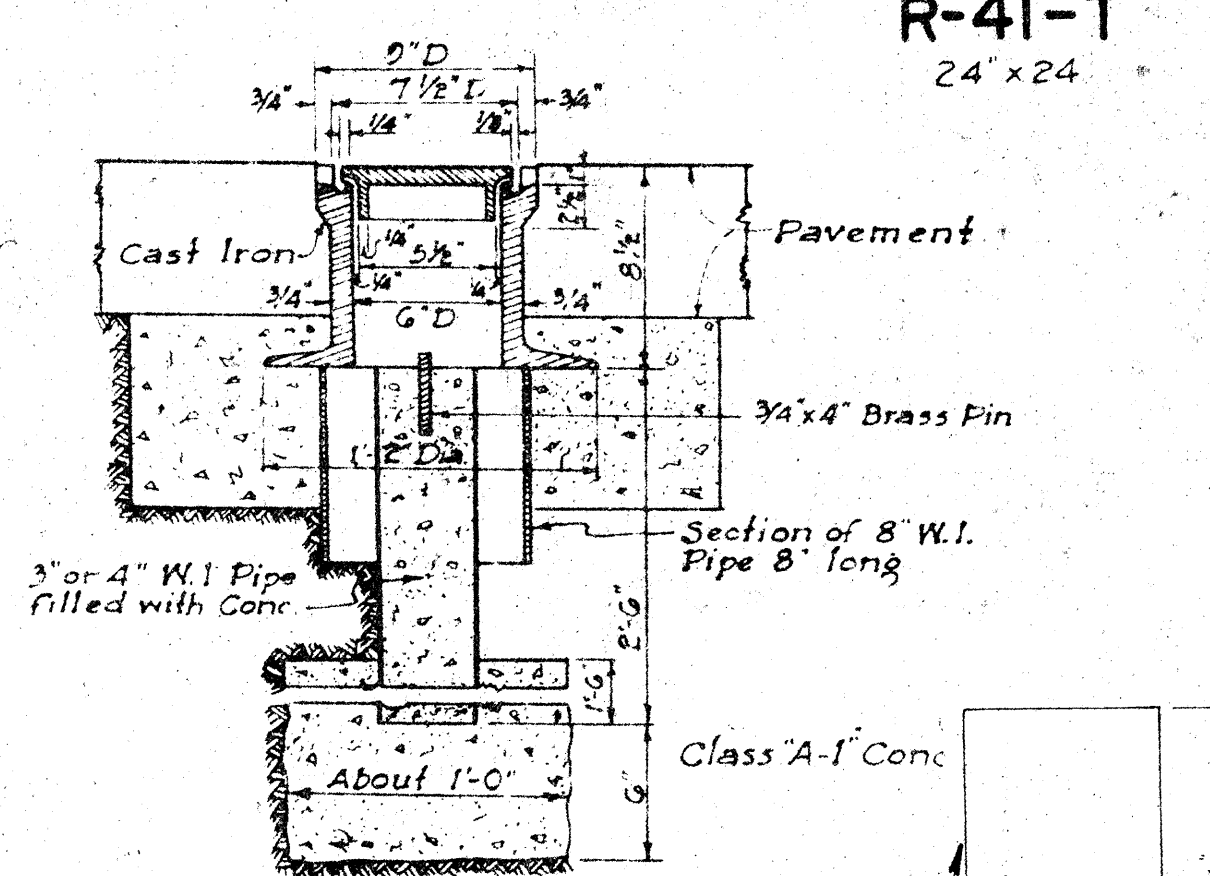


NOTE: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.

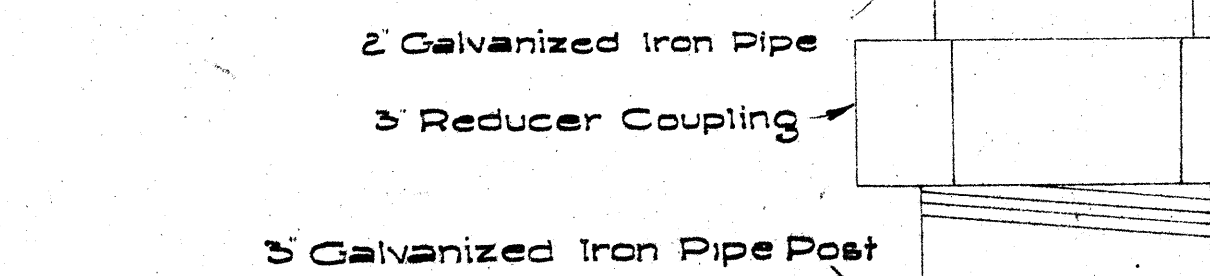
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



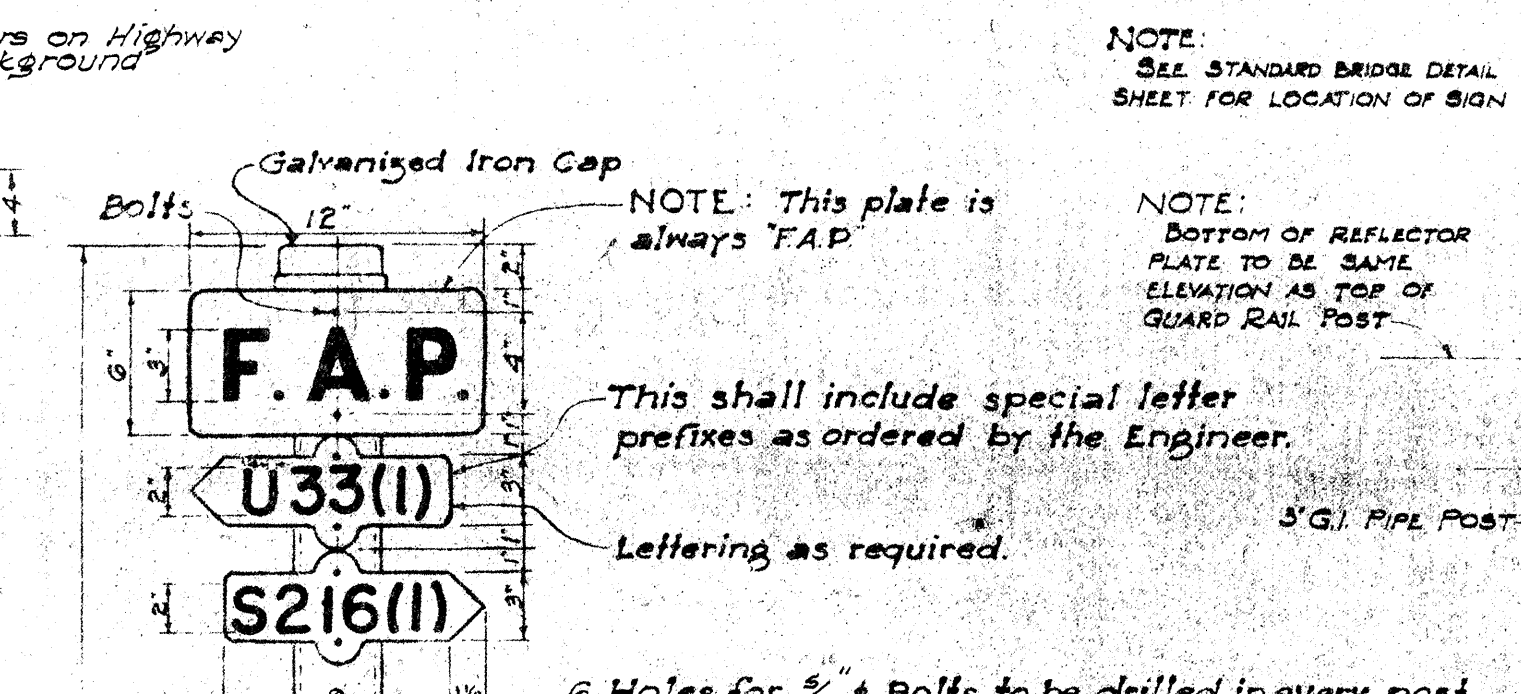
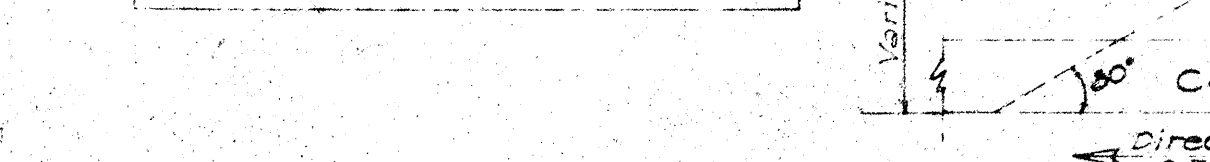
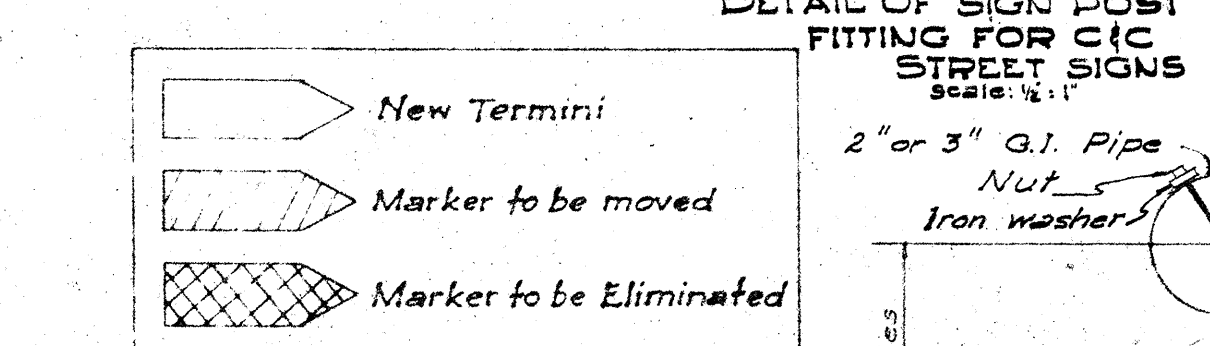
PLAN OF TOP



STANDARD C&C STREET SURVEY MONUMENT

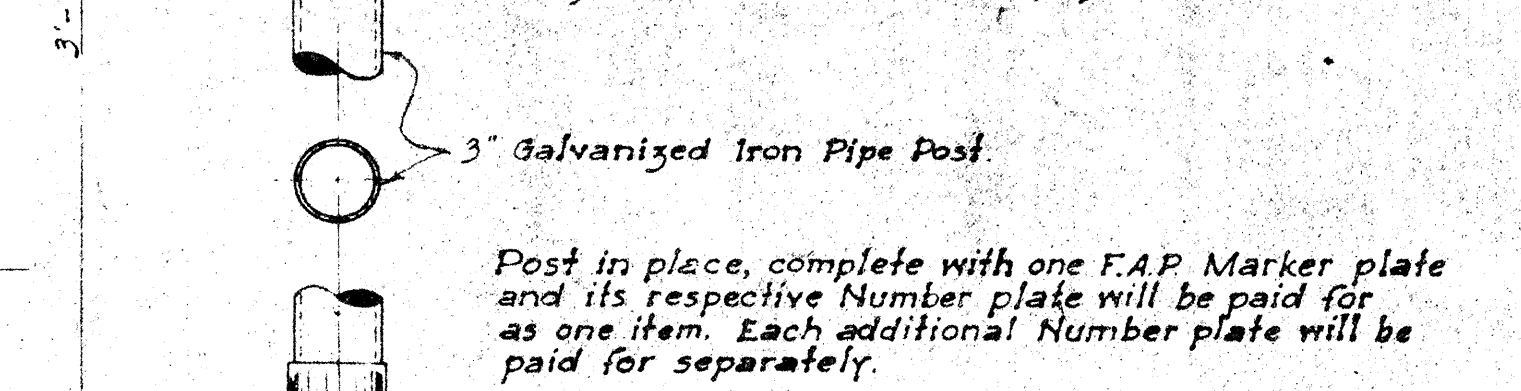


NOTE: The fitting at right, to be installed on sign posts as shown on plans.



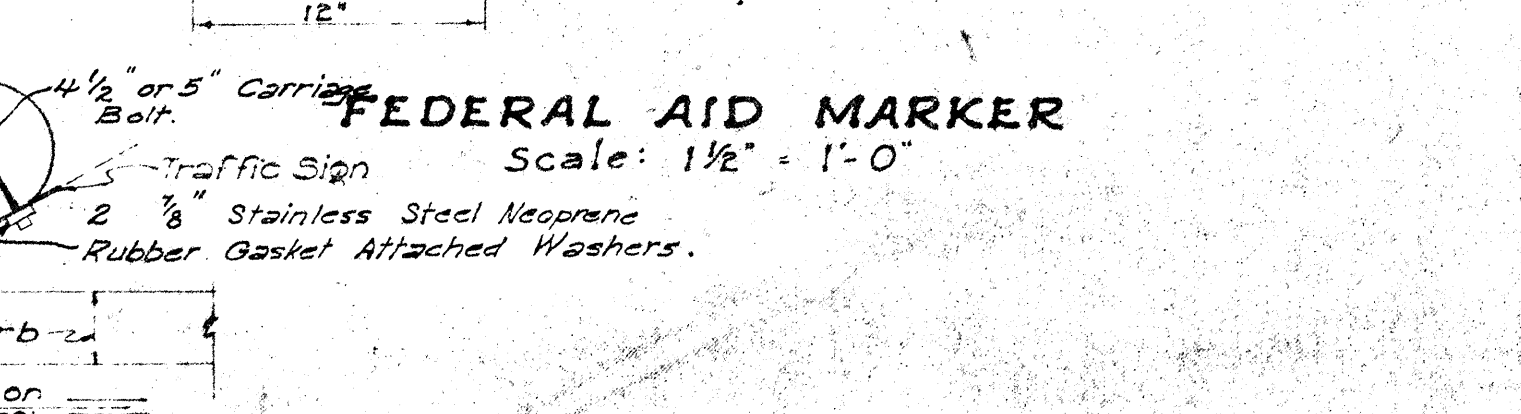
ARRANGEMENT OF MARKERS

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.

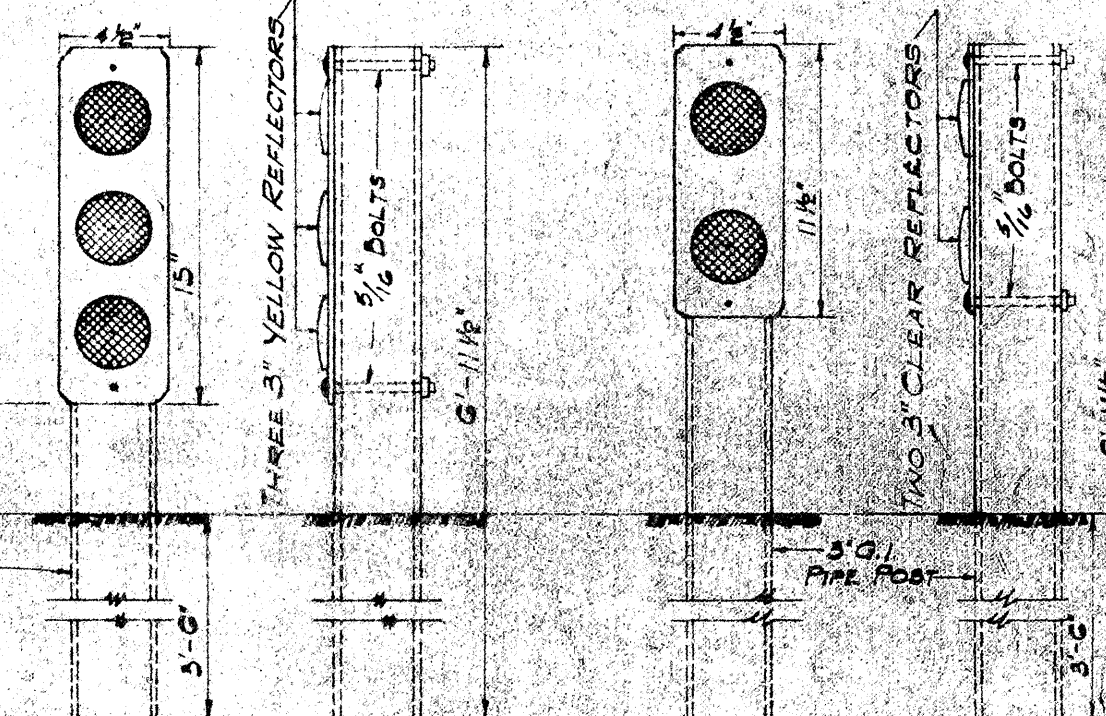


Markers and Number plates shall be No. 16 Ga. galvanized iron with 3/8" holes for fastening as shown on sketch. Markers and Number plates shall be given one coat of best chrome primer and two coats of White Marine Enamel. Before painting they shall be given a wash of 8 ounces of Copper Sulphate in one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

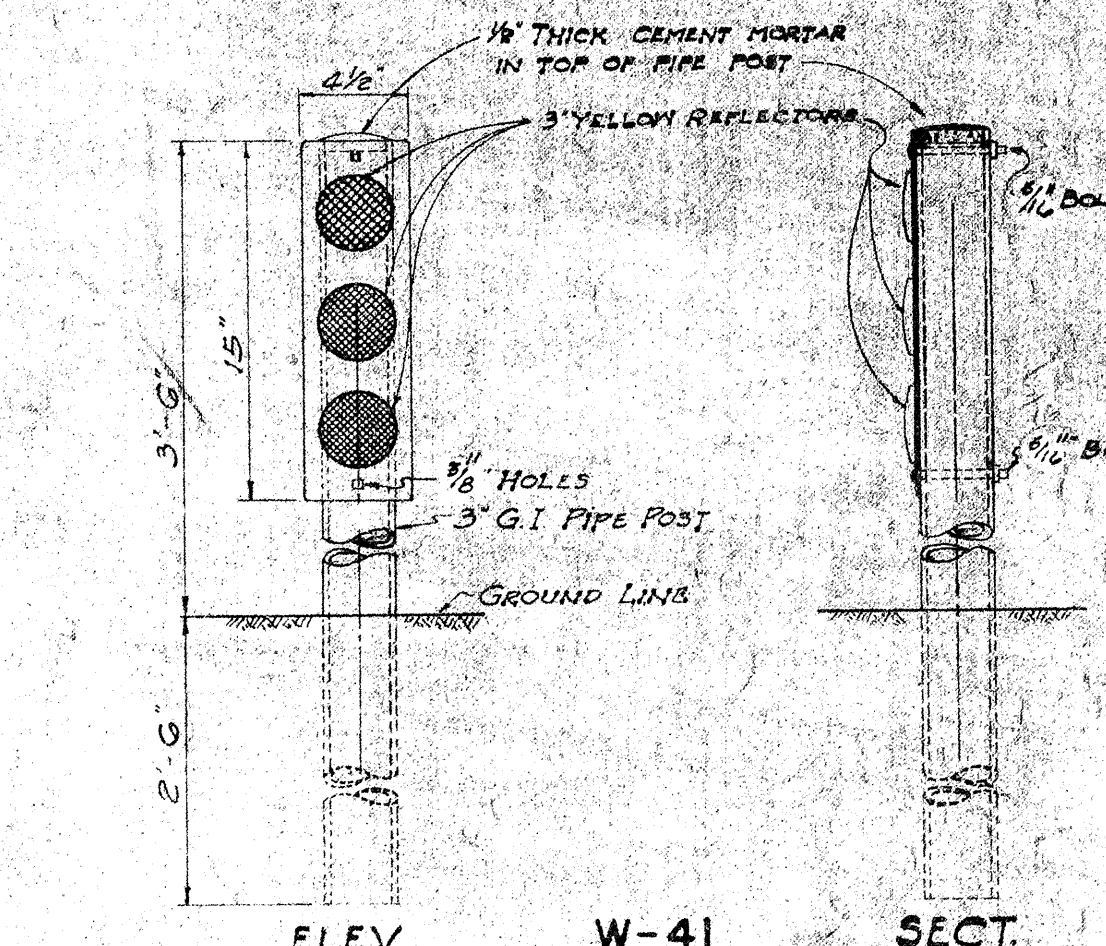
All letters and figures shall be of size and design shown and shall conform with Standard Alphabet for Highway signs as set forth by the Public Roads Administration Federal Works Agency Series C letters and Series D numerals shall be used except where noted.



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



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 OF SHEETS

DATA FOR OUTLET DITCH			
D	W	H	T=H+H
18"	24"	2'-0"	4'-0"
24"	30"	2'-0"	4'-6"
30"	36"	2'-0"	5'-0"
36"	42"	2'-0"	5'-6"

DETAIL OF OUTLET DITCH

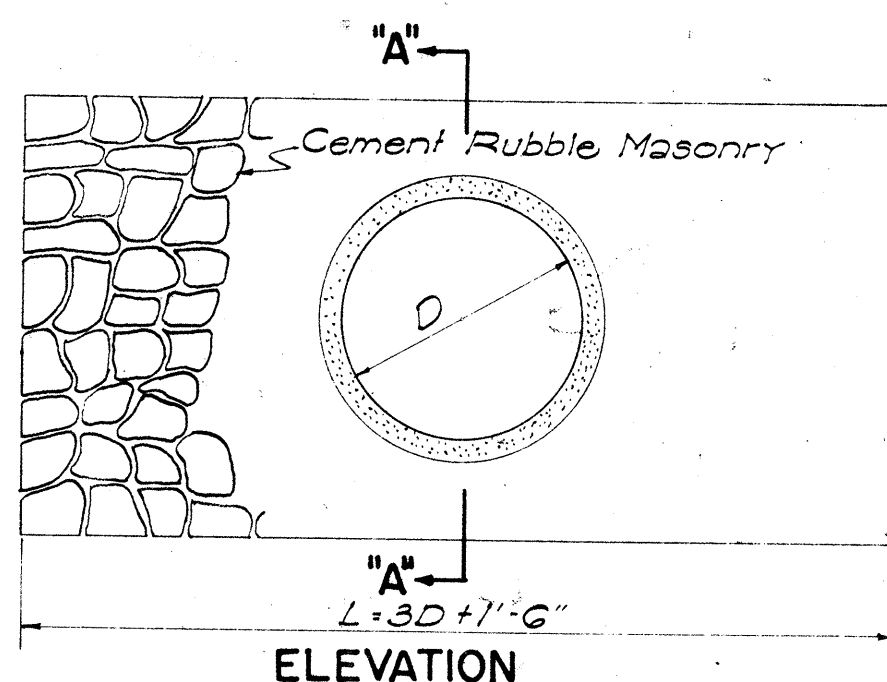
Scale: 1/2" = 1'-0"

DATA FOR MASONRY DROP INTAKE				Where Variables Equal
D	H	L	Cu Yds	
23"	18"	2'-5"	3.02	4'-6"
30"	24"	3'-0"	3.61	5'-0"
37"	30"	3'-7"	4.21	5'-6"
44"	36"	4'-2"	4.85	6'-0"

NOTE:

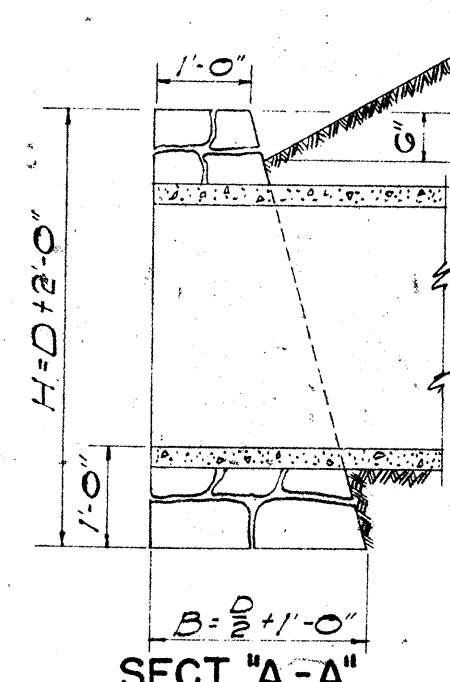
Dimension "X" is assumed as 2'-4" in figuring the above quantities.

DATA - MASONRY HEADWALL				Cost in Place Conc. Culvert	Cost in Place Conc. Pipe	Corrugated Pipe Culvert
D	H	B	L	Cu Yds	Cu Yds	Cu Yds
18"	3'-6"	1'-0"	6'-0"	0.83	0.05	0.03
24"	4'-0"	2'-0"	7'-6"	1.28	1.42	1.41
30"	4'-6"	2'-3"	9'-0"	1.83	2.06	2.00
36"	5'-0"	2'-6"	10'-6"	2.40	2.84	2.72



DETAIL OF MASONRY HEADWALL

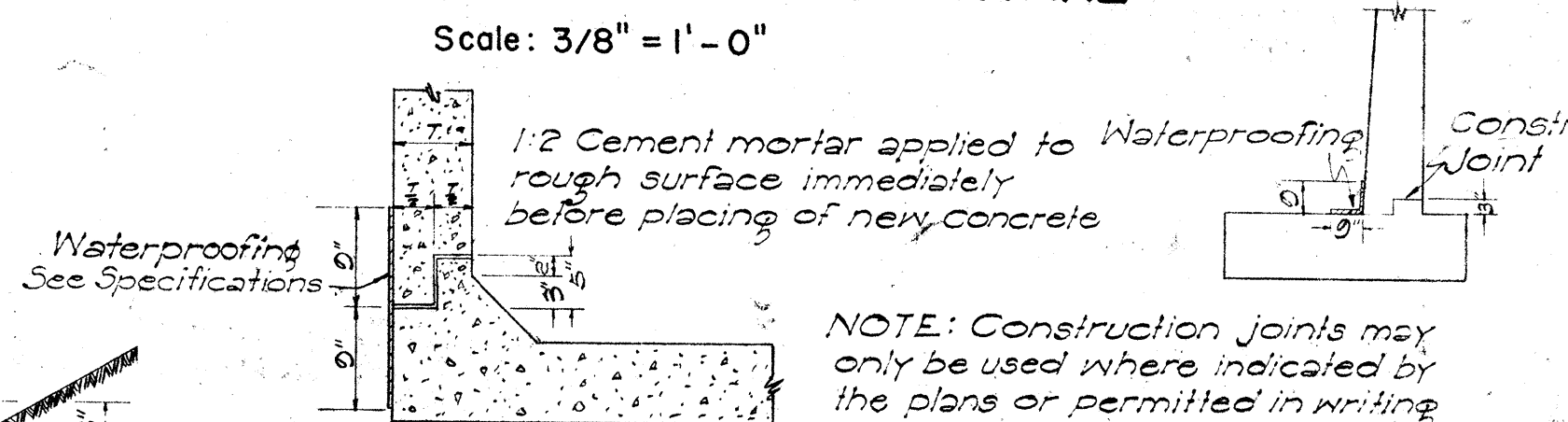
Scale: 1/2" = 1'-0"



SECT. "A-A"

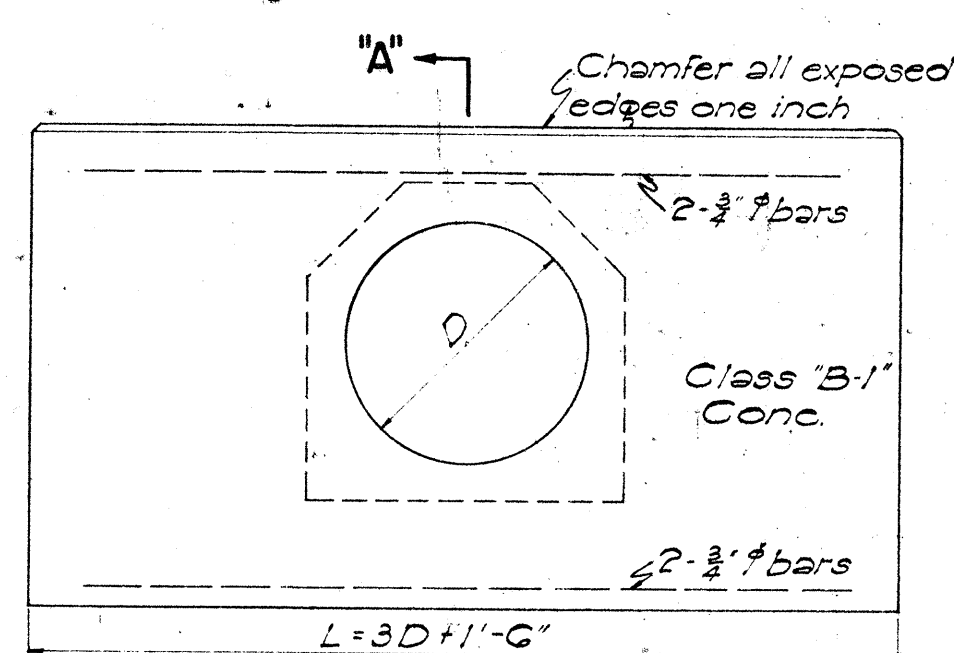
DETAIL OF MASONRY DROP INTAKE

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

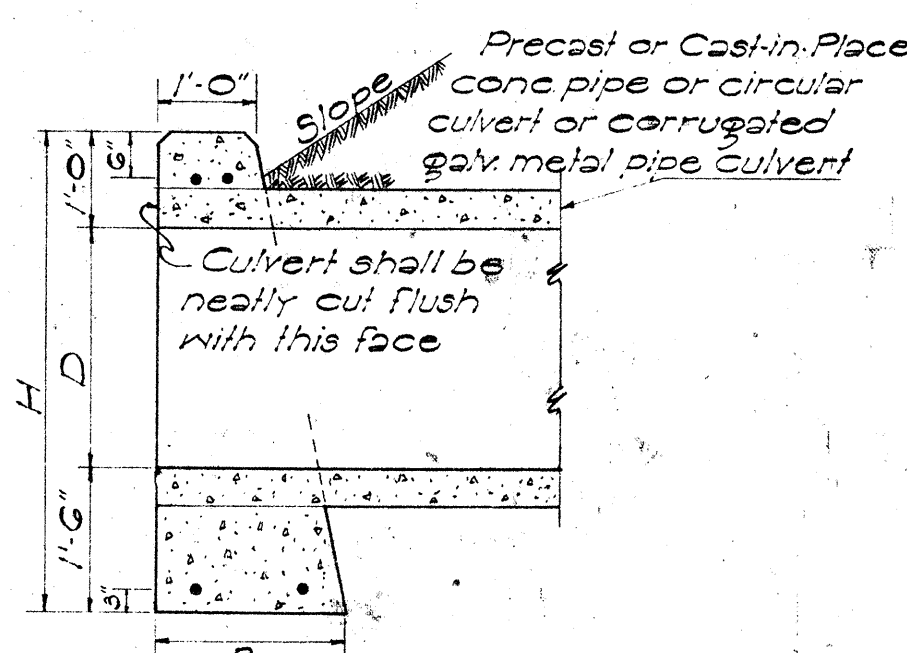


CONSTR. JOINT DETAILS

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



ELEVATION



SECT. "A-A"

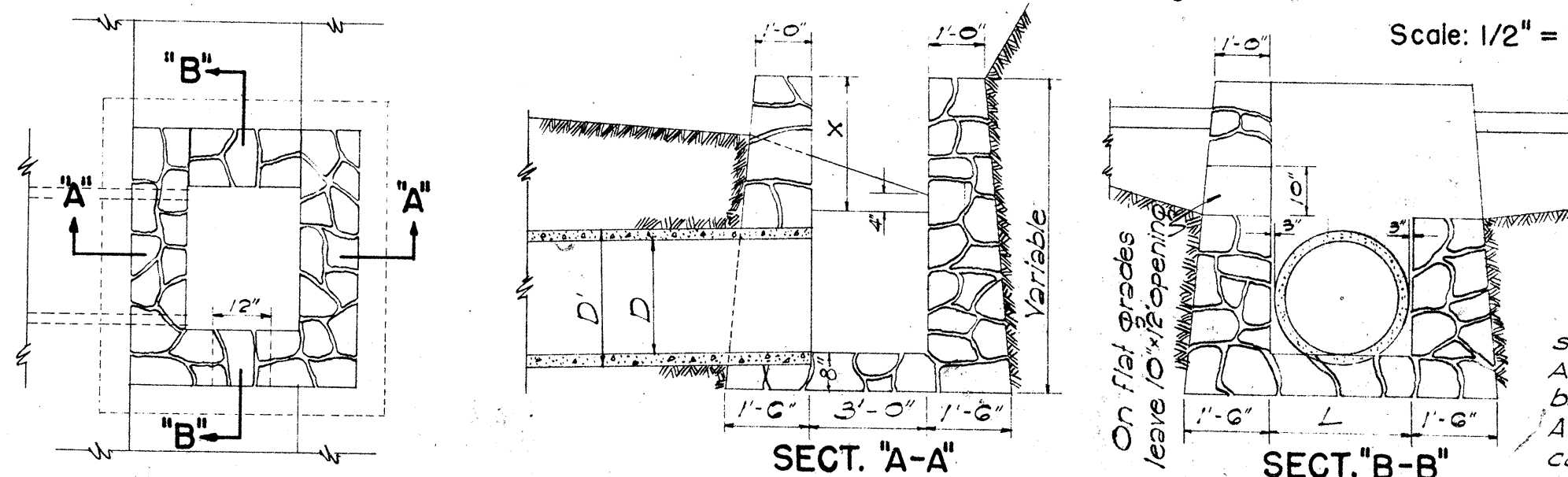
DATA FOR CONC. HEADWALL				Cost in Place Conc. Culvert	Cost in Place Conc. Pipe	Steel For One Headwall
D	B	L	H	Cu Yds	Cu Yds	No. of Bars Size Length Lbs.
18"	1'-6"	6'-0"	4'-0"	0.02	1.00	4 #4' 5'-6" 33
24"	1'-6"	7'-6"	4'-6"	1.23	1.38	4 #4' 7'-0" 42
30"	2'-0"	9'-0"	5'-0"	1.03	2.17	4 #4' 8'-6" 51
36"	2'-0"	10'-6"	5'-6"	2.43	2.74	4 #4' 10'-0" 60
42"	2'-6"	12'-0"	6'-0"	3.87	3.87	4 #4' 11'-6" 69
48"	2'-6"	13'-6"	6'-6"	4.66	4.66	4 #4' 13'-0" 78

DETAIL OF CONCRETE HEADWALL

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

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

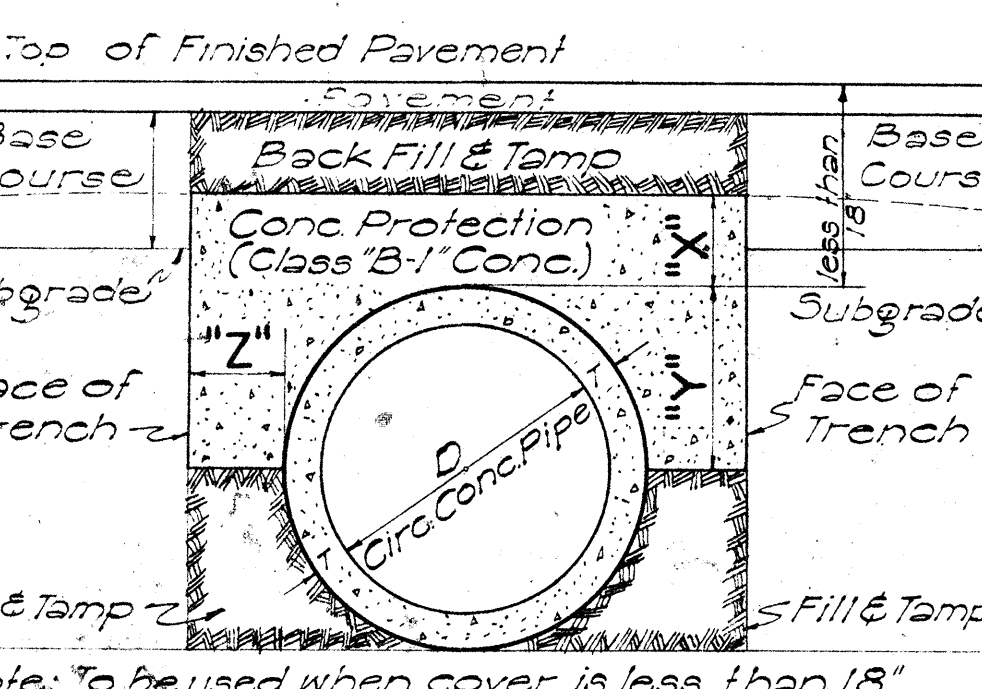
Scale: 1/2" = 1'-0"



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



DATA FOR CONCRETE PROTECTION OVER CULVERTS			
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

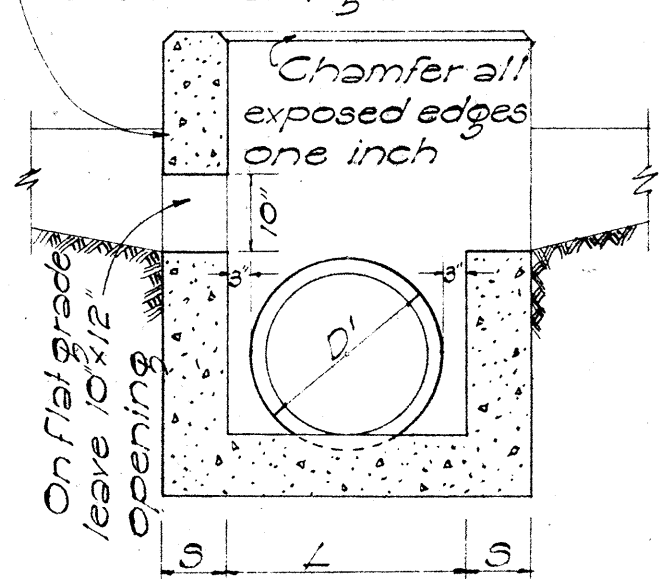
Scale: 1" = 1'-0"

SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

DATA - CONC. DROP INTAKE				Where Variables Equal
D	H	L	Cu Yds	
23"	18"	2'-5"	3.02	4'-6"
30"	24"	3'-0"	3.61	5'-0"
37"	30"	3'-7"	4.21	5'-6"
44"	36"	4'-2"	4.85	6'-0"
51"	42"	4'-9"	5.54	6'-6"
58"	48"	5'-4"	6.31	7'-0"

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

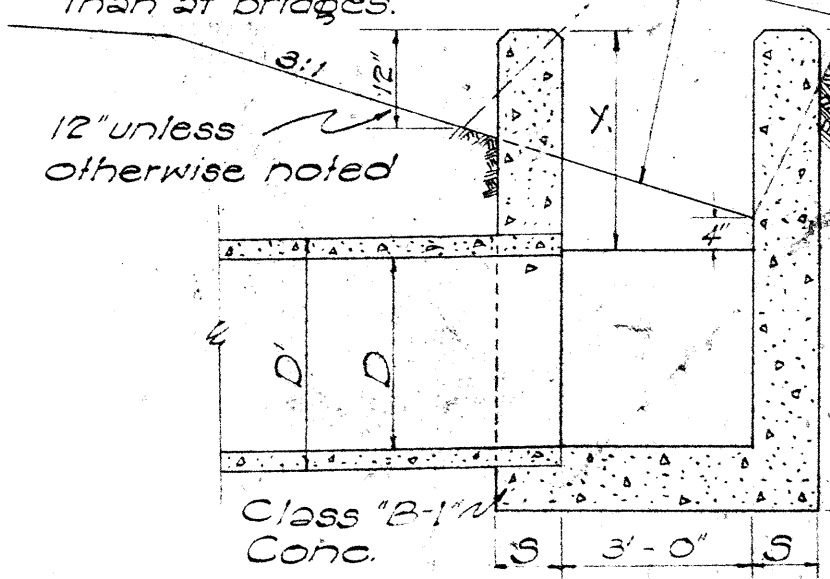
Note: This type of structure shall also be used for the Drop Intakes of Siphons connected with Irrigation Ditches or Flumes with appropriate changes to dimensions. In this case all joints must be made water tight.



SECT. "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 designed by Engineer. This is 'Unclassified' Excavation. Top limits of structure excavation other than at bridges.



SECT. "A-A"

DETAIL OF CONCRETE DROP INTAKE

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

CONC. PIPE CULVERT

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

CAST-IN-PLACE CONC. CULVERT

DATA - CAST-IN-PLACE CONC. CULVERT			
D	d	W	Cu Yds per Ft.
18"	4"	2'-2"	0.11
24"	4 1/2"	2'-0"	0.14
30"	5"	3'-4"	0.19
36"	5 1/2"	3'-11"	0.26

DATA FOR CONC. HEADWALL				Cost in Place Conc. Culvert	Cost in Place Conc. Pipe	Steel For One Headwall
D	B	L	H	Cu Yds	Cu Yds	No. of Bars Size Length Lbs.
18"	1'-6"	6'-0"	4'-0"	0.02	1.00	4 #4' 5'-6" 33
24"	1'-6"	7'-6"	4'-6"	1.23	1.38	4 #4' 7'-0" 42
30"	2'-0"	9'-0"	5'-0"	1.03	2.17	4 #4' 8'-6" 51
36"	2'-0"	10'-6"	5'-6"	2.43	2.74	4 #4' 10'-0" 60
42"	2'-6"	12'-0"	6'-0"	3.87	3.87	4 #4' 11'-6" 69
48"	2'-6"	13'-6"	6'-6"	4.66	4.66	4 #4' 13'-0" 78

DETAIL OF CONCRETE HEADWALL

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

SHEET NO OF SHEETS

1/43-D

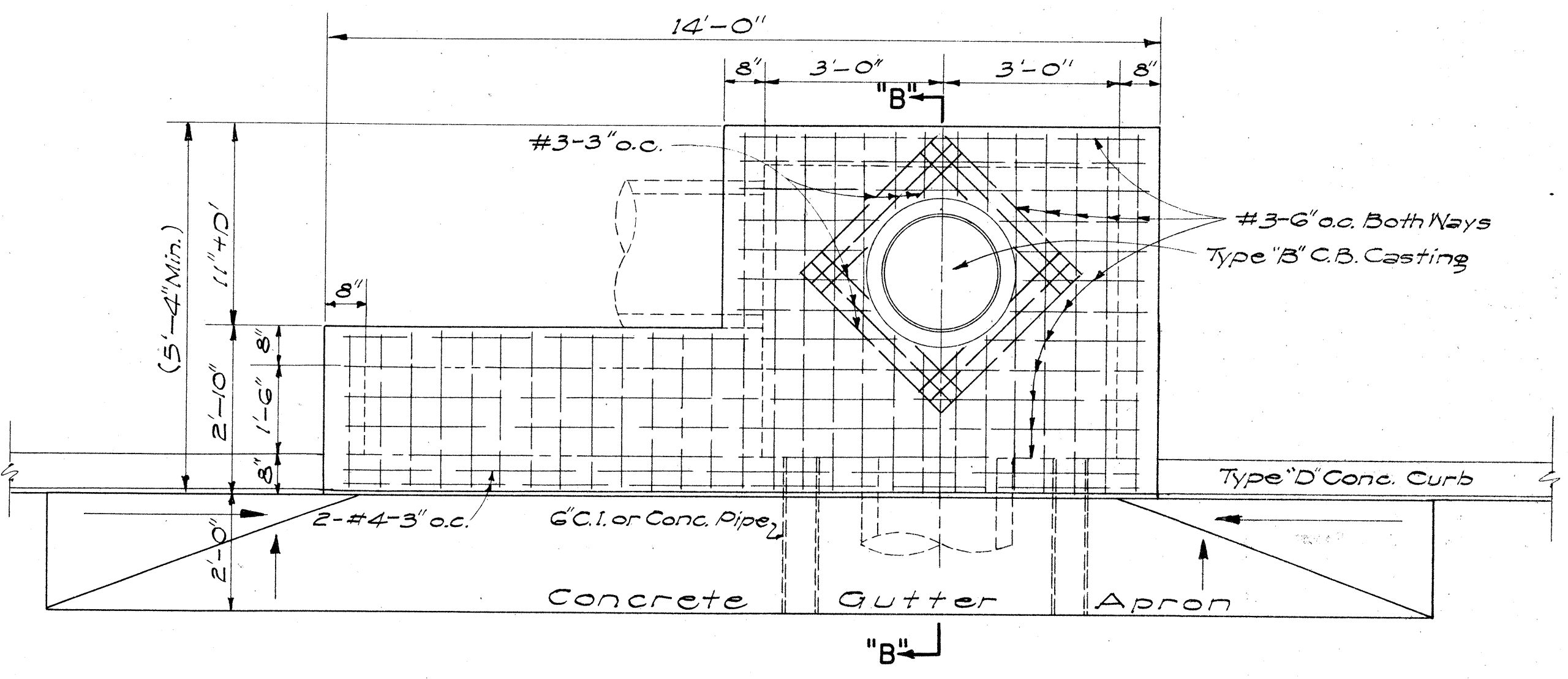
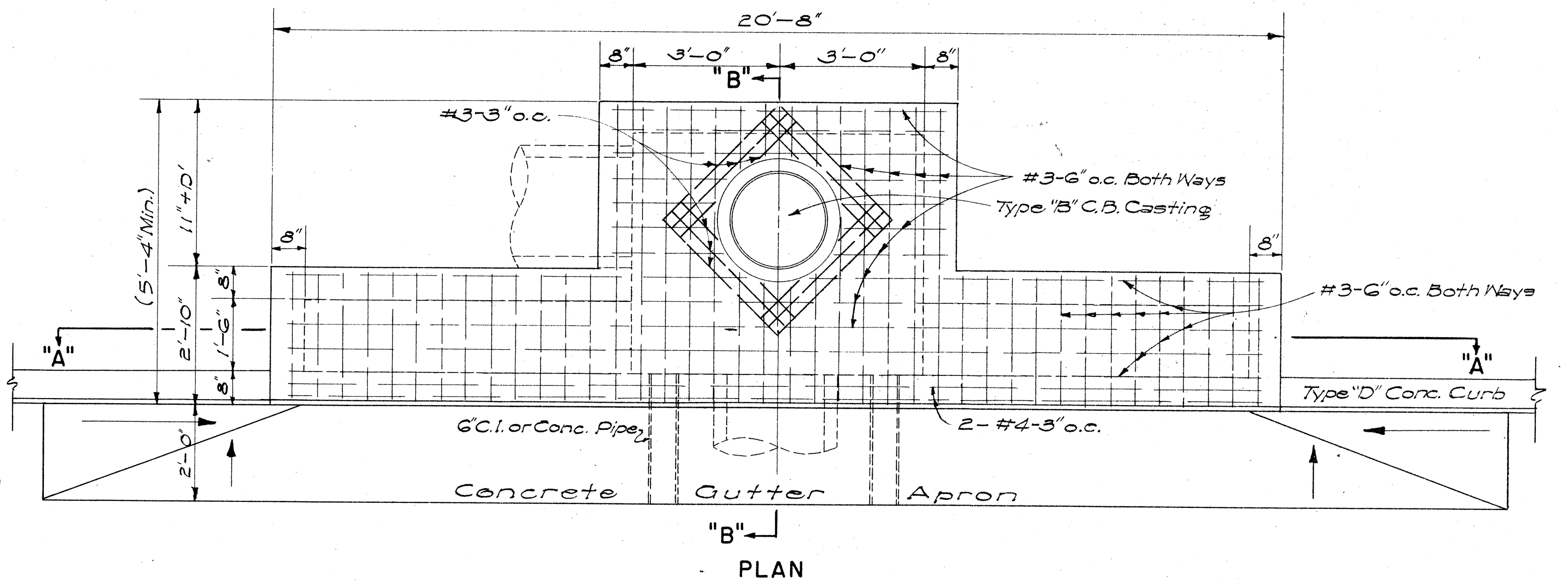
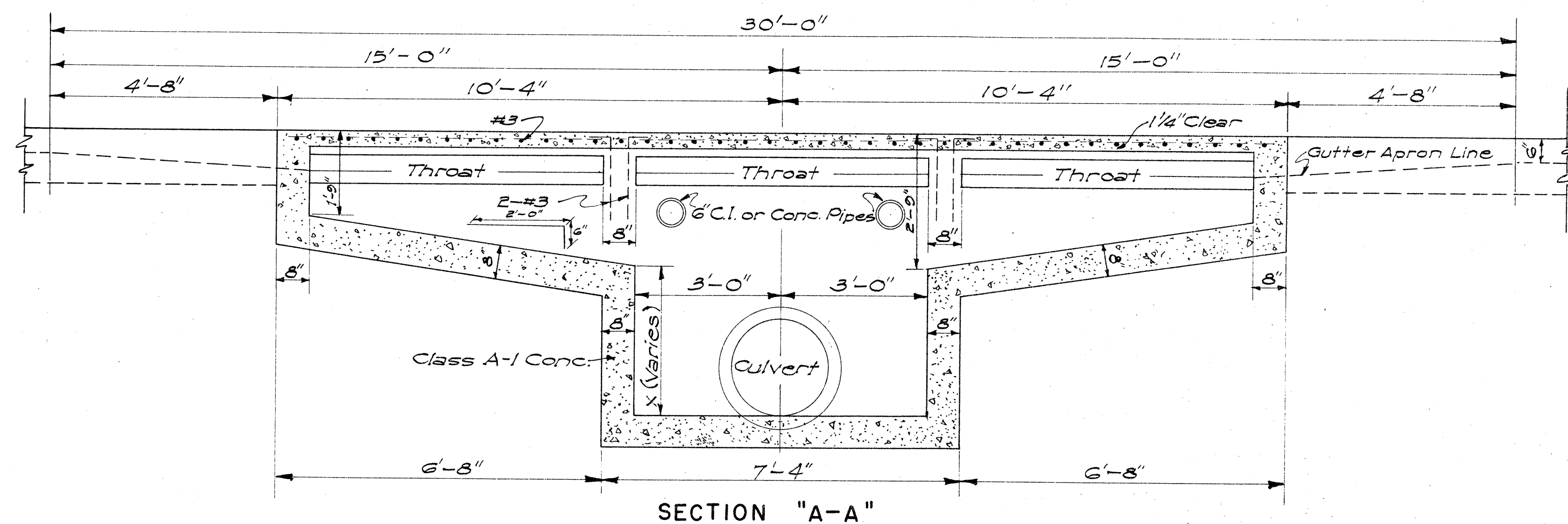
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	155-0789	1960	46D	70
		155-0790	1960	101D	118
		155-0791	1960	34D	115

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.

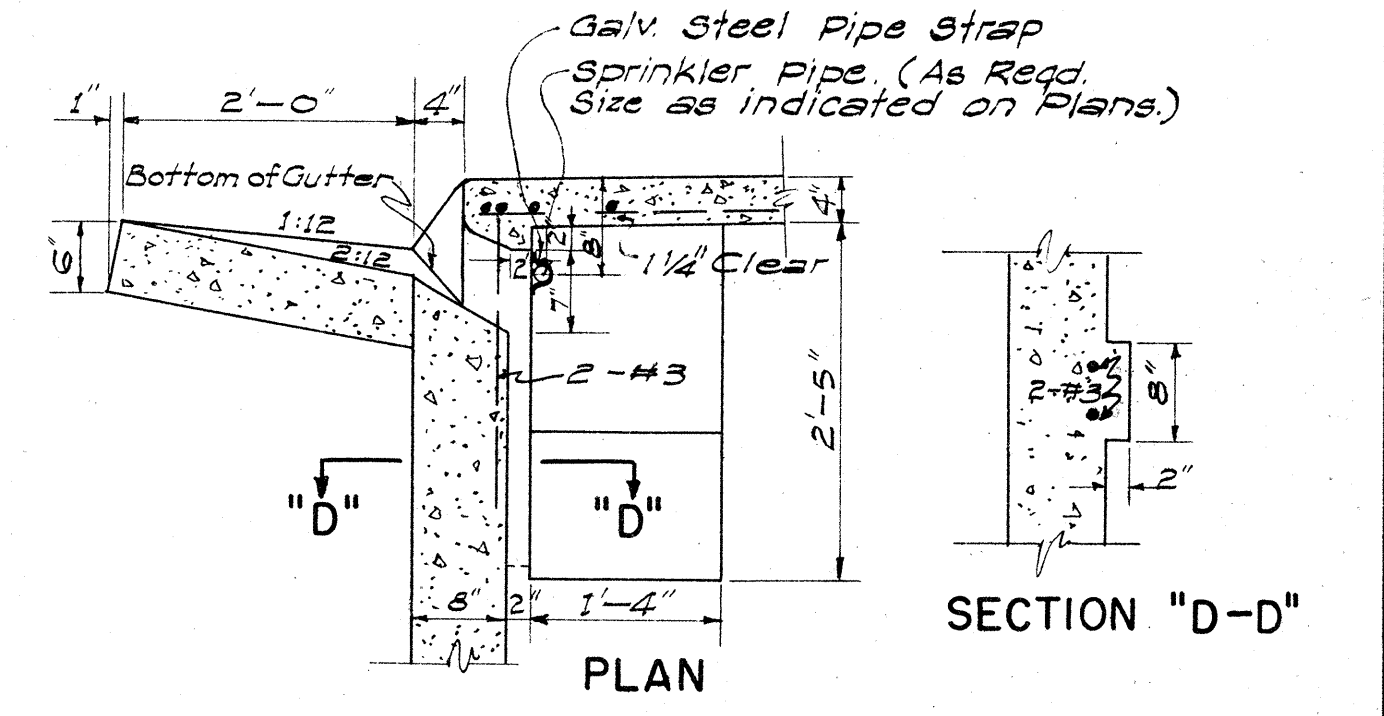
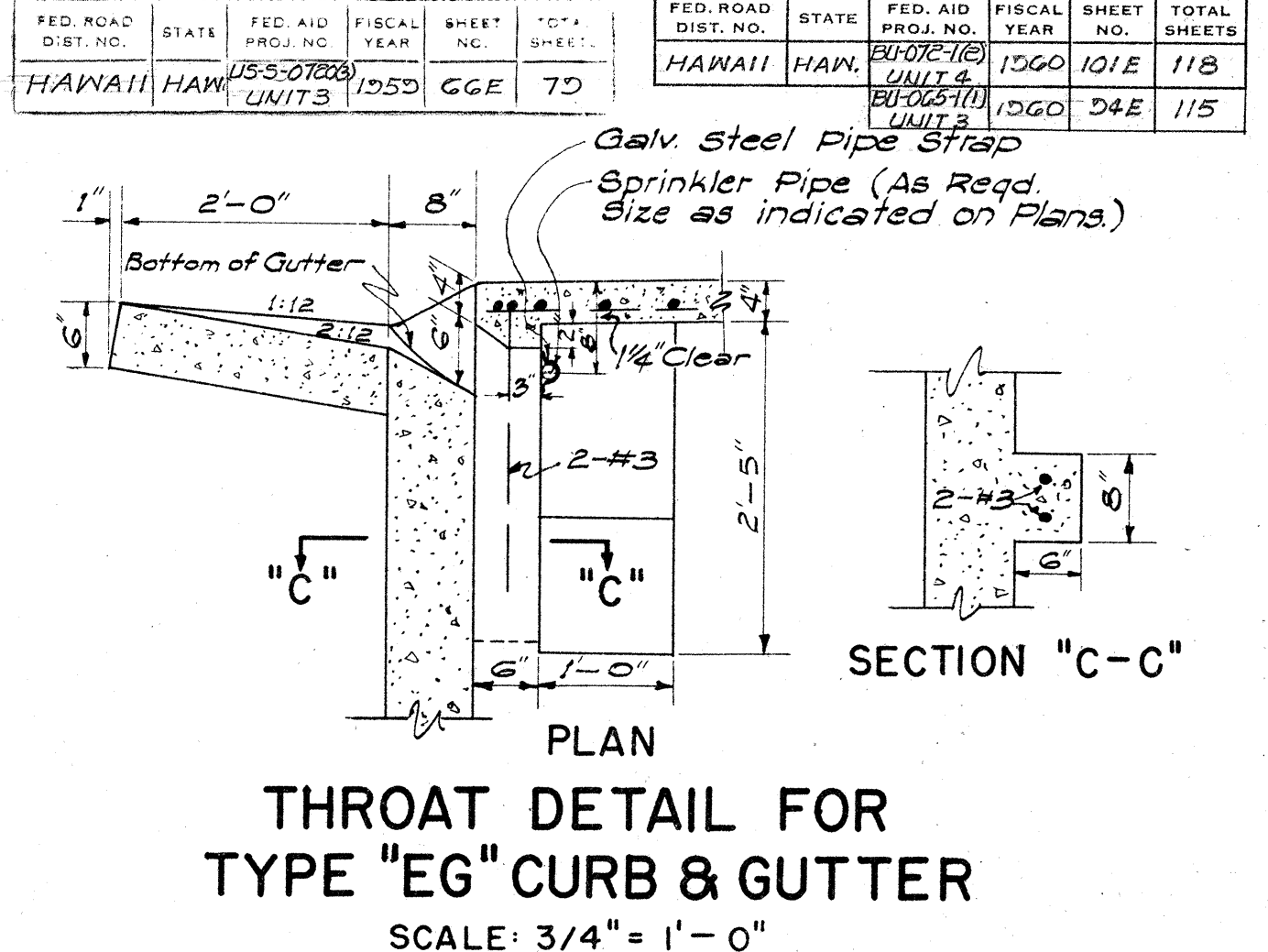
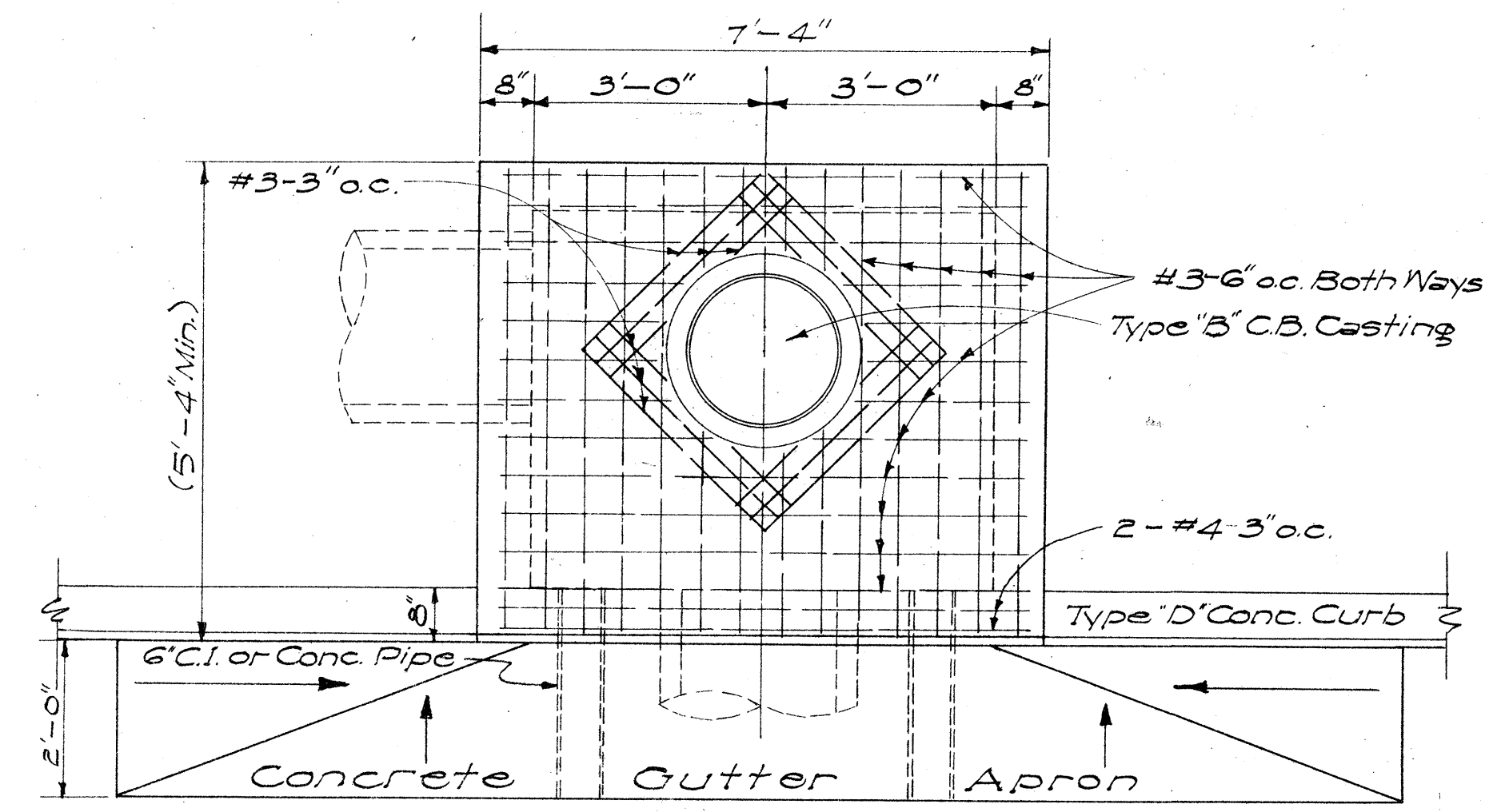
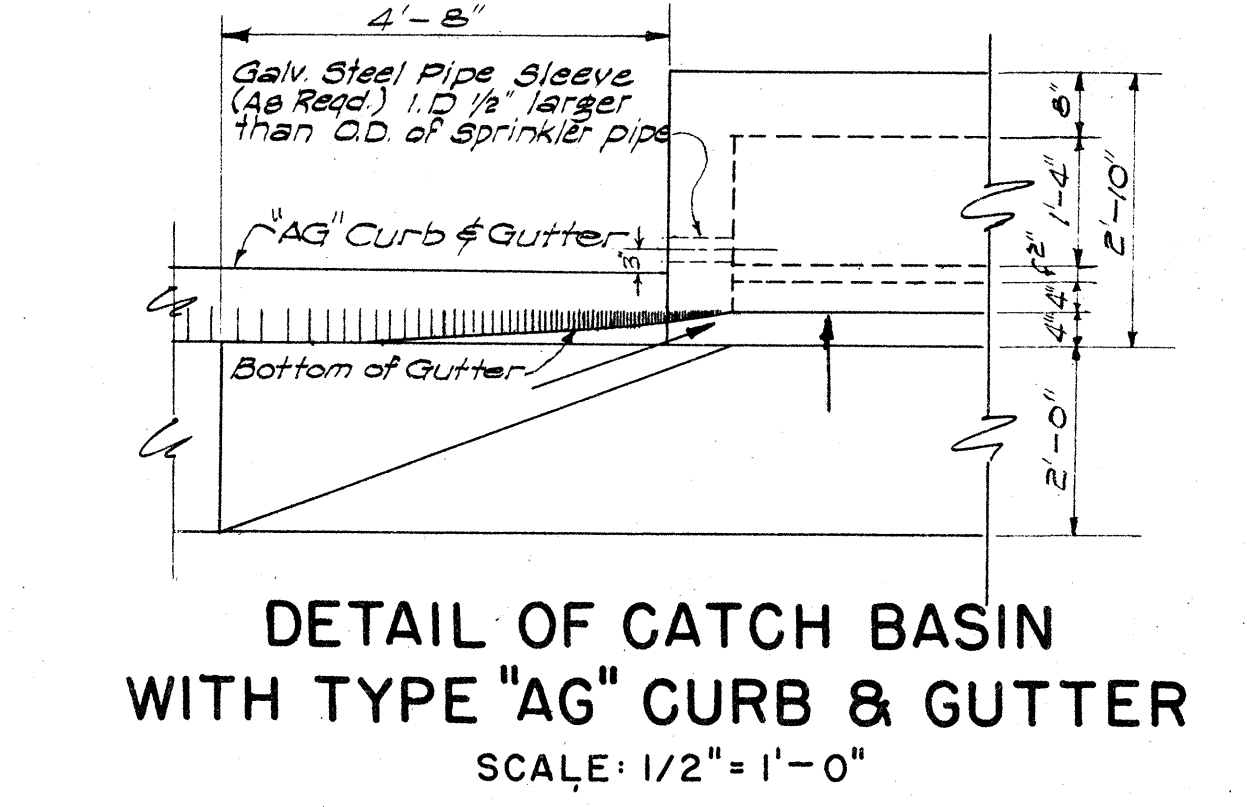
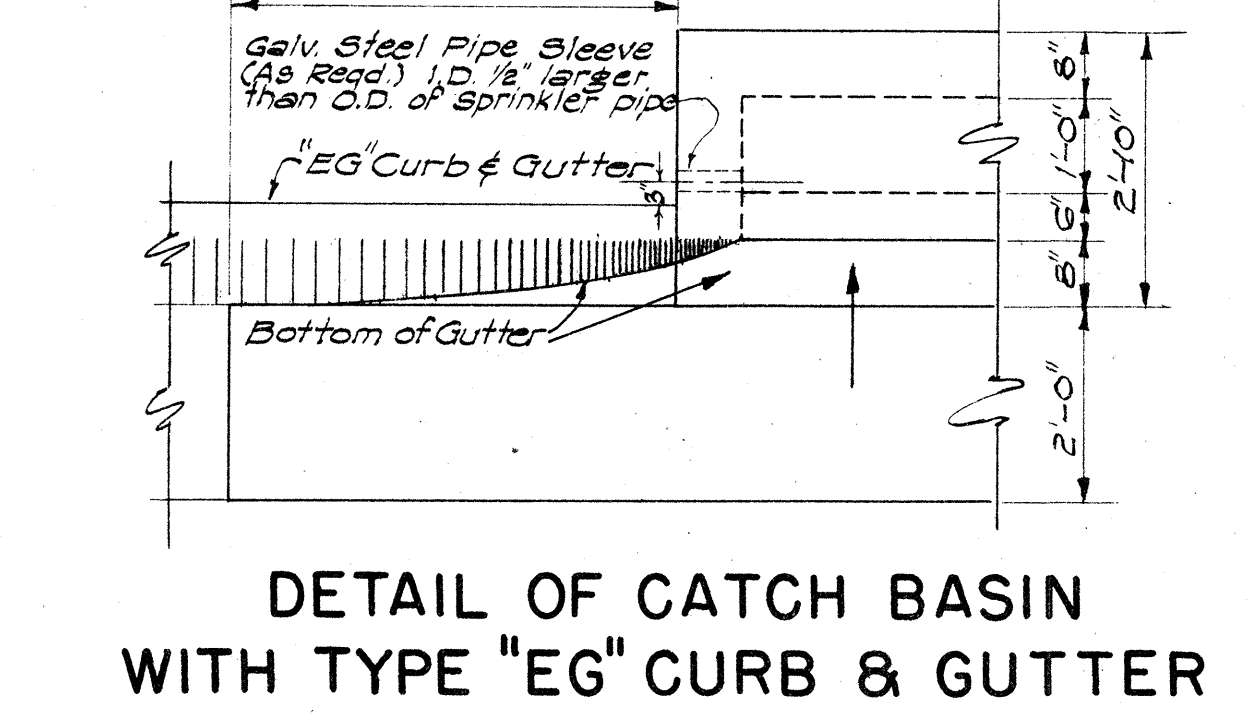
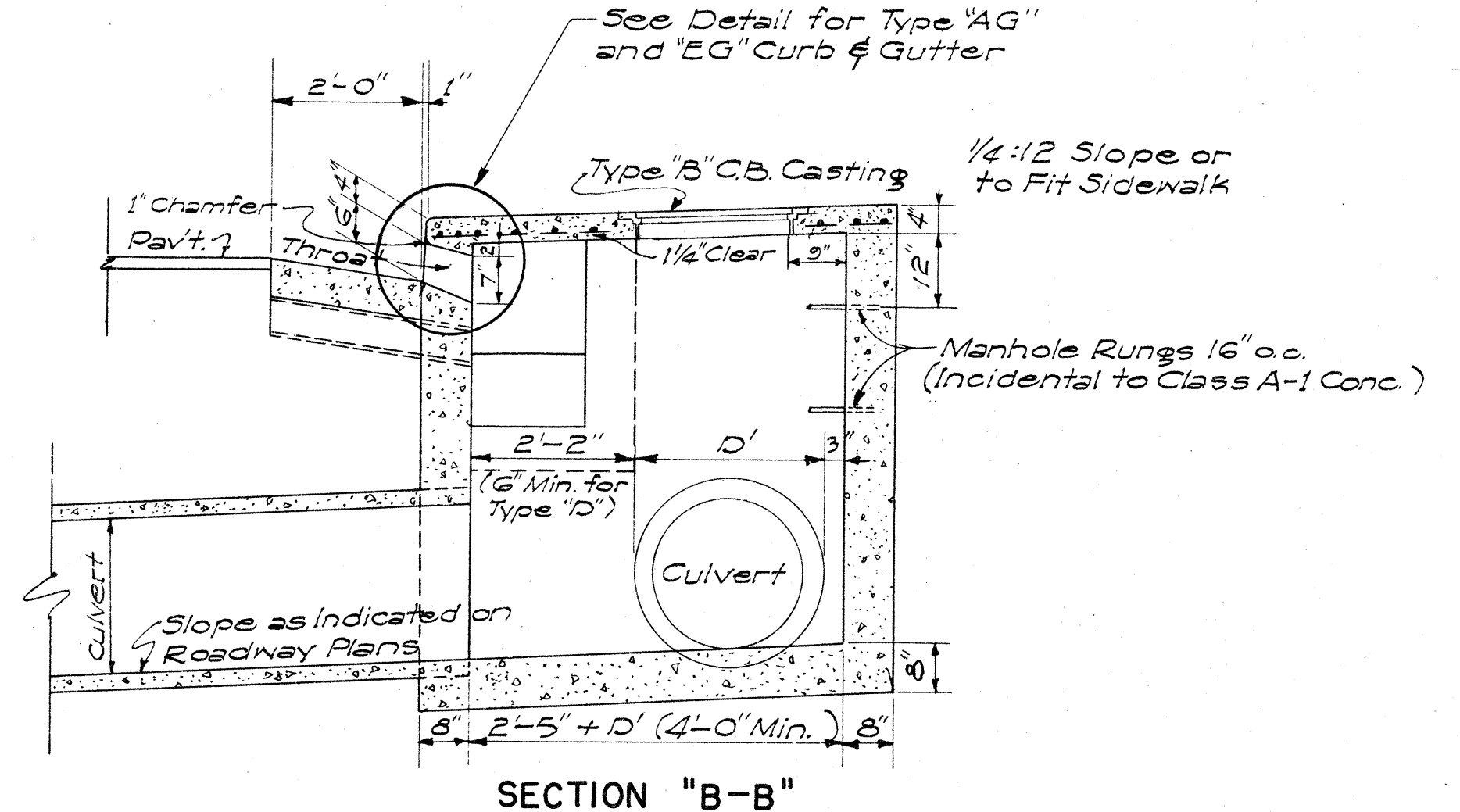
APPROVED: DATE: Aug. 29, 1959
 STATE HIGHWAY ENGINEER

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

2/17/59



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



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.

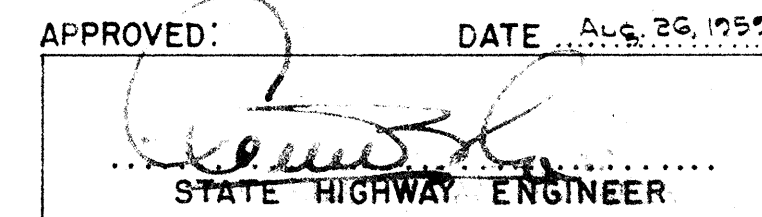
APPROVED: _____ DATE: _____
STATE HIGHWAY ENGINEER

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

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

SHEET NO. OF SHEETS

\$ 526.66 F \$ 174.101 F \$ 161.94 F 143 F

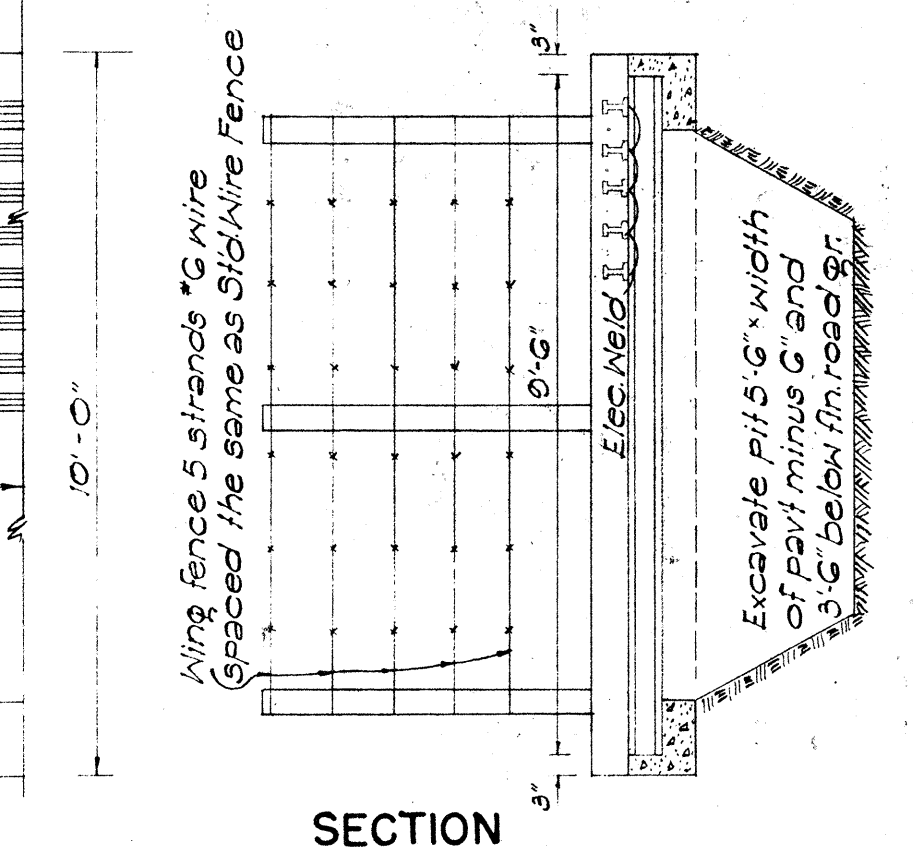
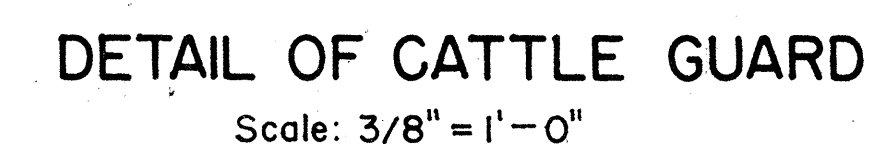
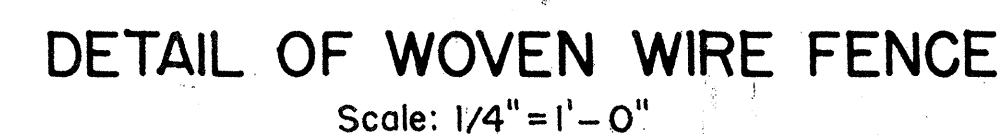
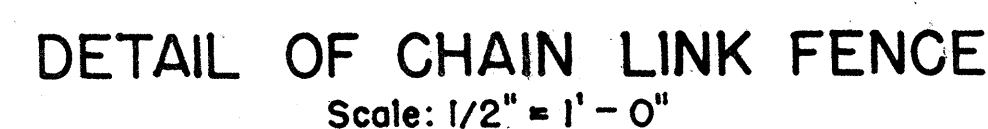
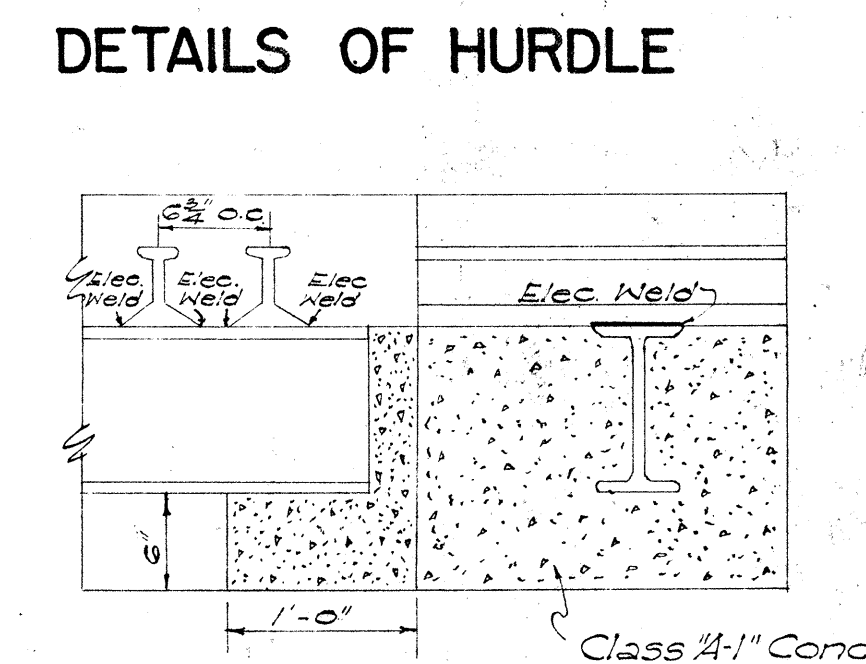
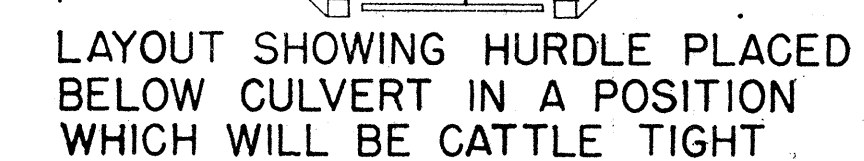
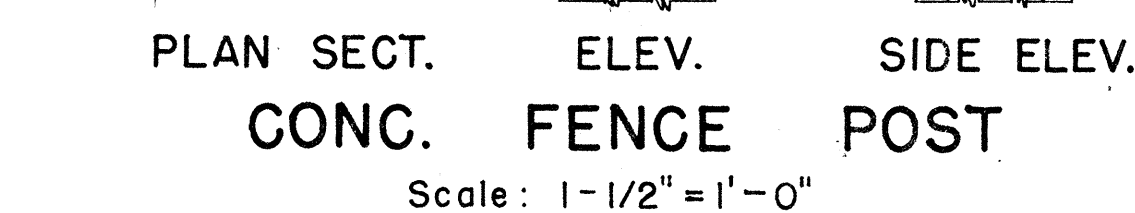
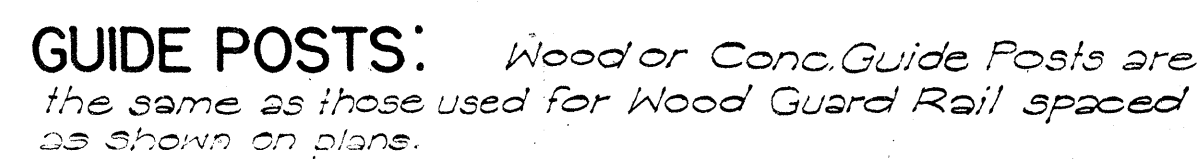
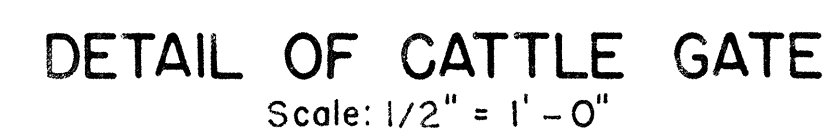


APPROVED: _____ DATE AUG. 26, 1959

DATE AUG. 26, 1959

STATE HIGHWAY ENGINEER

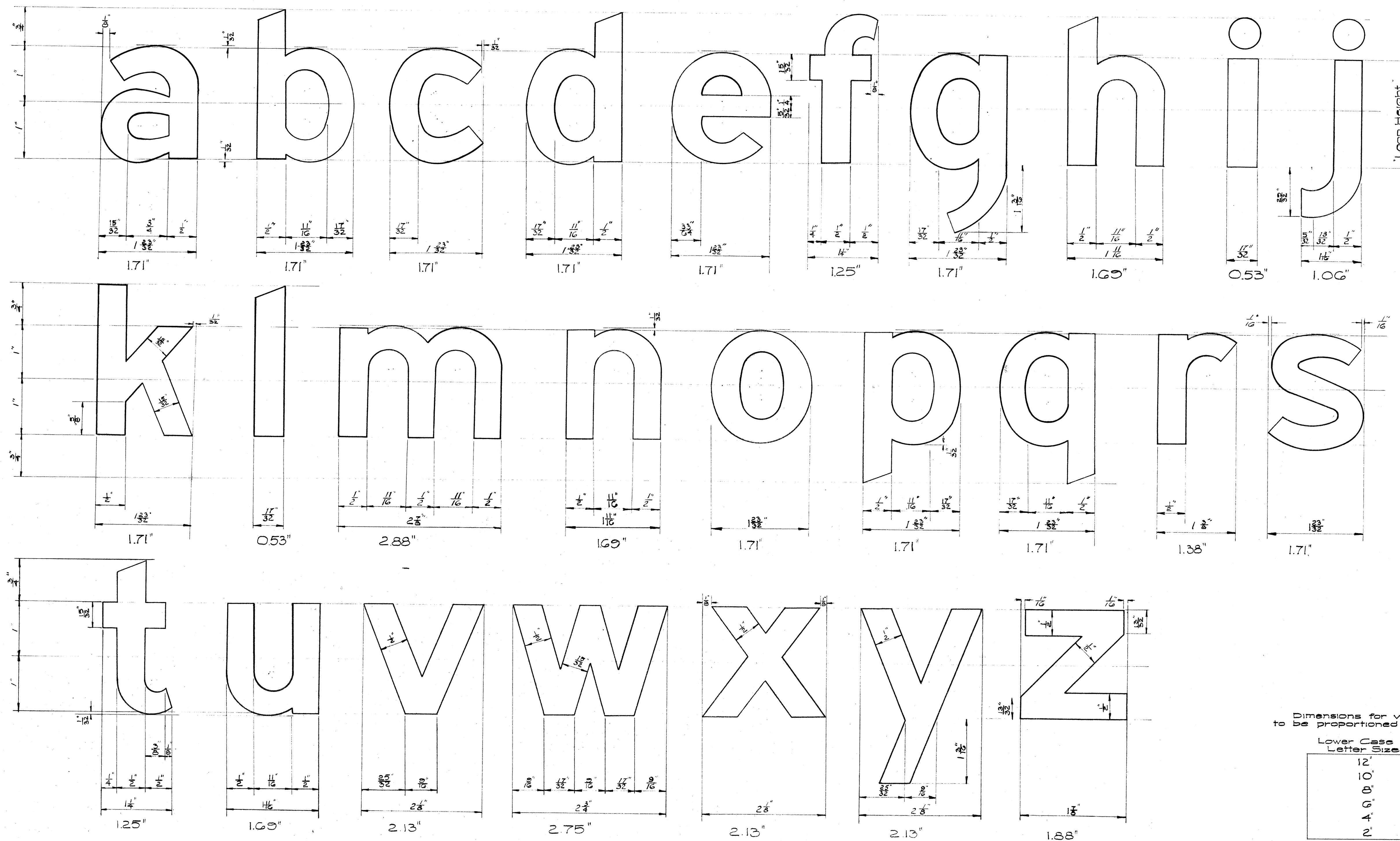
SHEET N^o OF SHEETS



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

2/17/57
4/6/59
4/28/59

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	15-5-0000	1960	66H	70
		UNIT 3			
		BU 072-10	1960	101H	118
		UNIT 4			
		BU 072-11	1960	104H	115
		UNIT 5			



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 1952.

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

ORIGINAL PLAN
DESIGNED BY
DRAWN BY
NOTE BOOK
QUANTITIES BY
CHECKED BY
No.

APPROVED
DATE: Aug. 29, 1957
STATE HIGHWAY ENGINEER

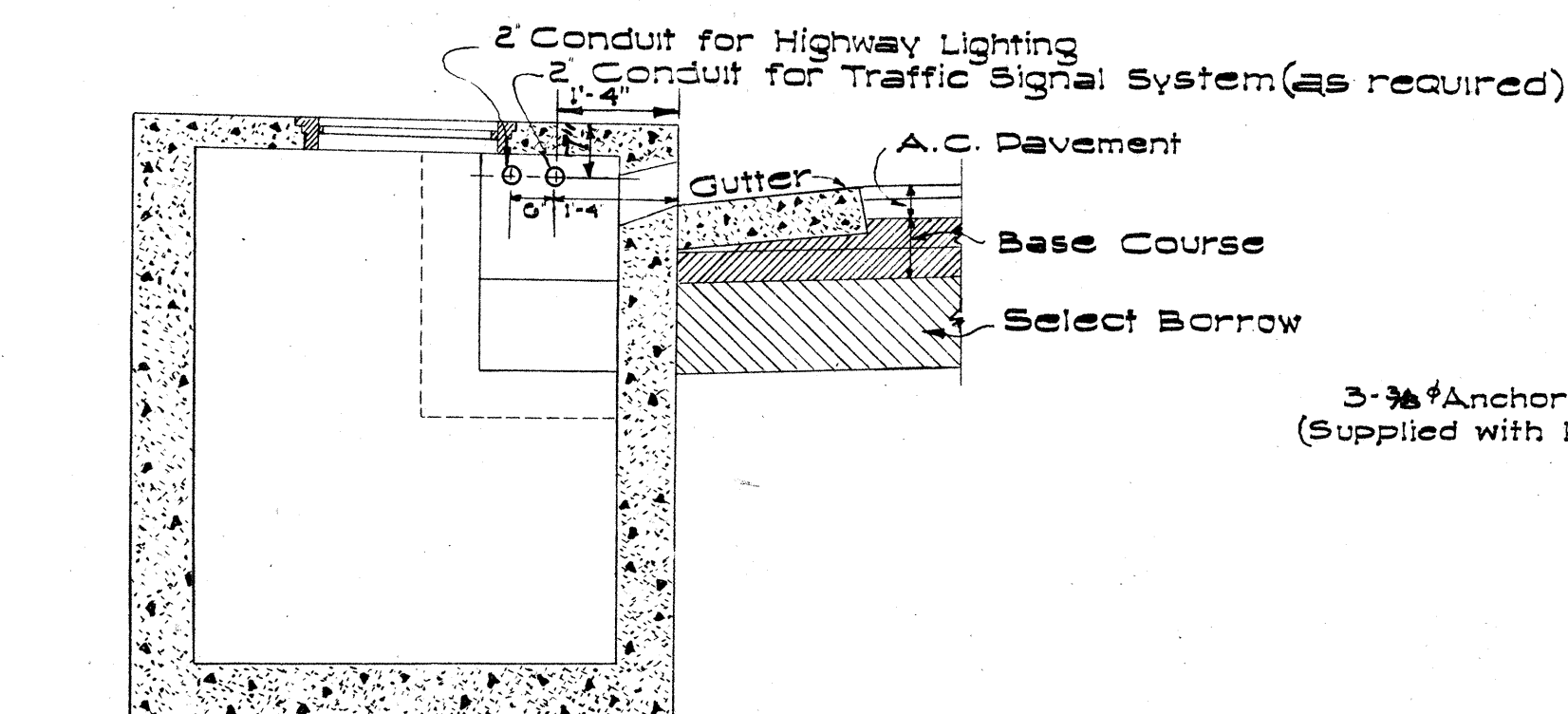
HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
**STANDARD DETAILS
LOWER CASE LETTERS**
SCALE AS NOTED

SHEET NO. OF SHEETS

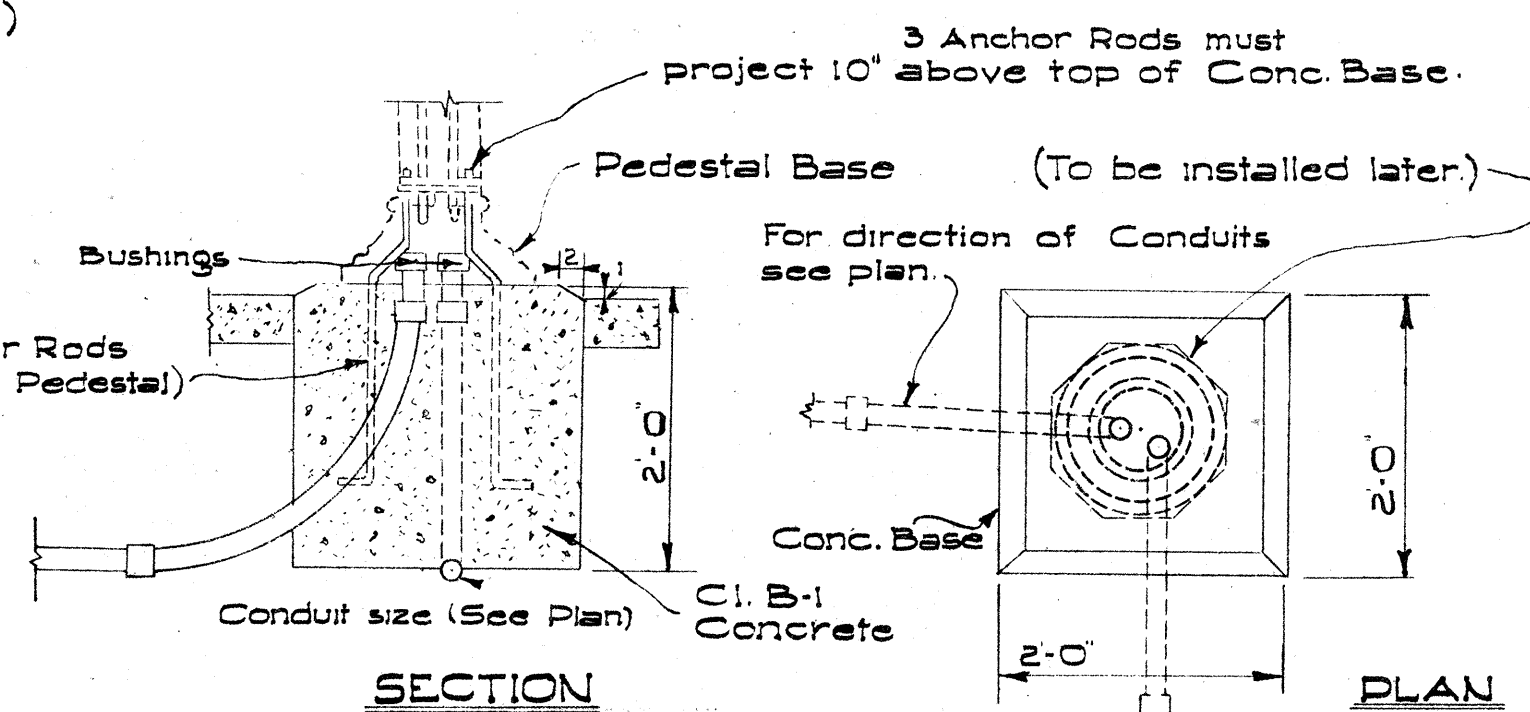
S 5 2 6 . 6 6 H S 1 7 4 . 1 0 1 H S 1 6 1 . 9 4 H 143-H

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

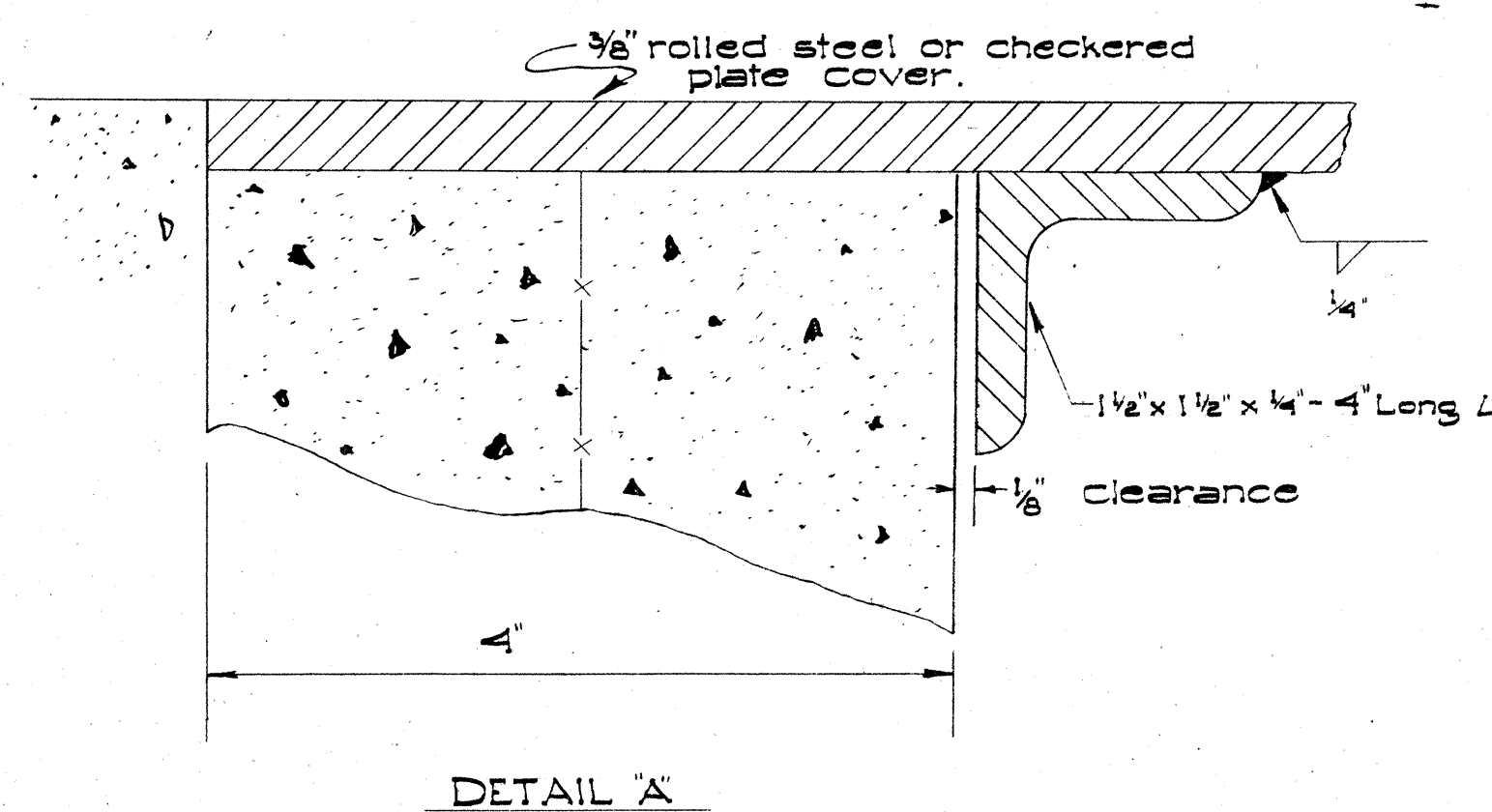
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	15-00000	1990	661	79
		15-00000	1990	1011	118
		15-00000	1990	1011	118



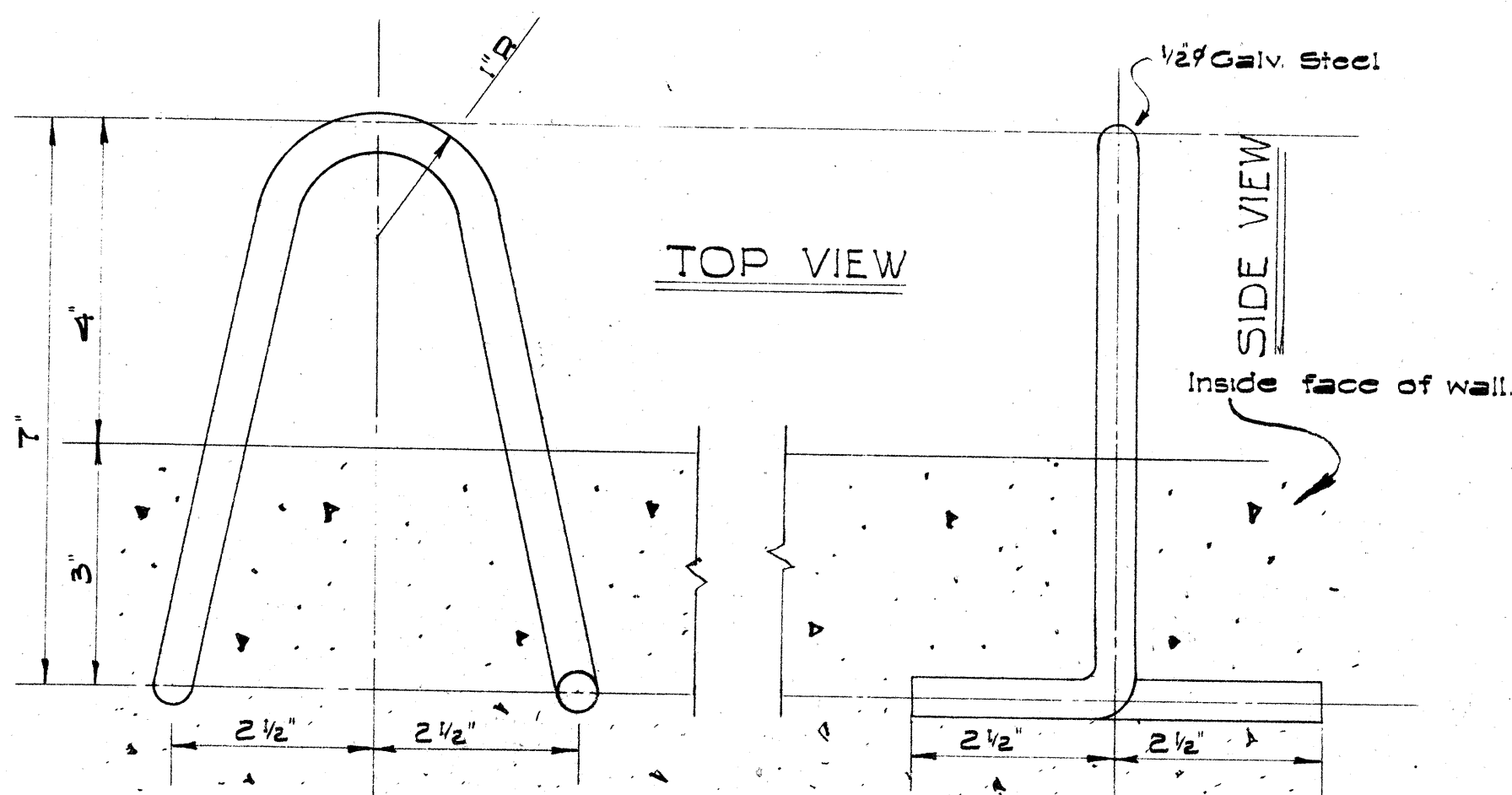
TYPICAL SECTION SHOWING CONDUITS PASSING THROUGH CATCH BASINS
Scale: 1/2" = 1'-0"



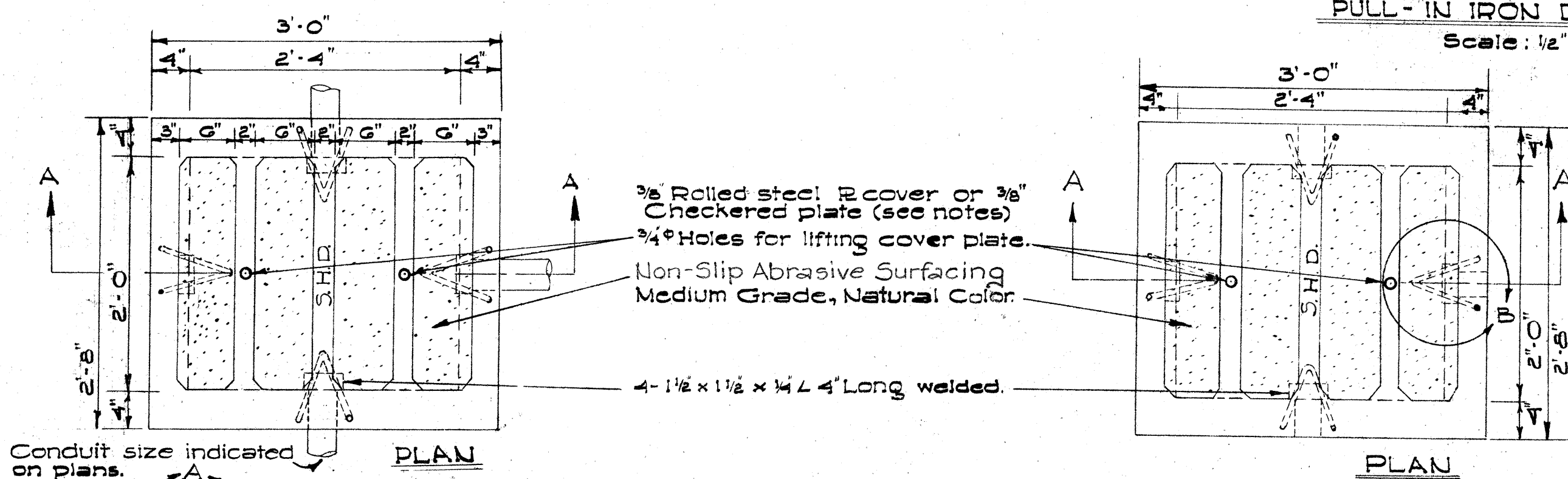
BASE FOR TRAFFIC SIGNAL POLES
Scale: 3/4" = 1'-0"



DETAIL 'A'

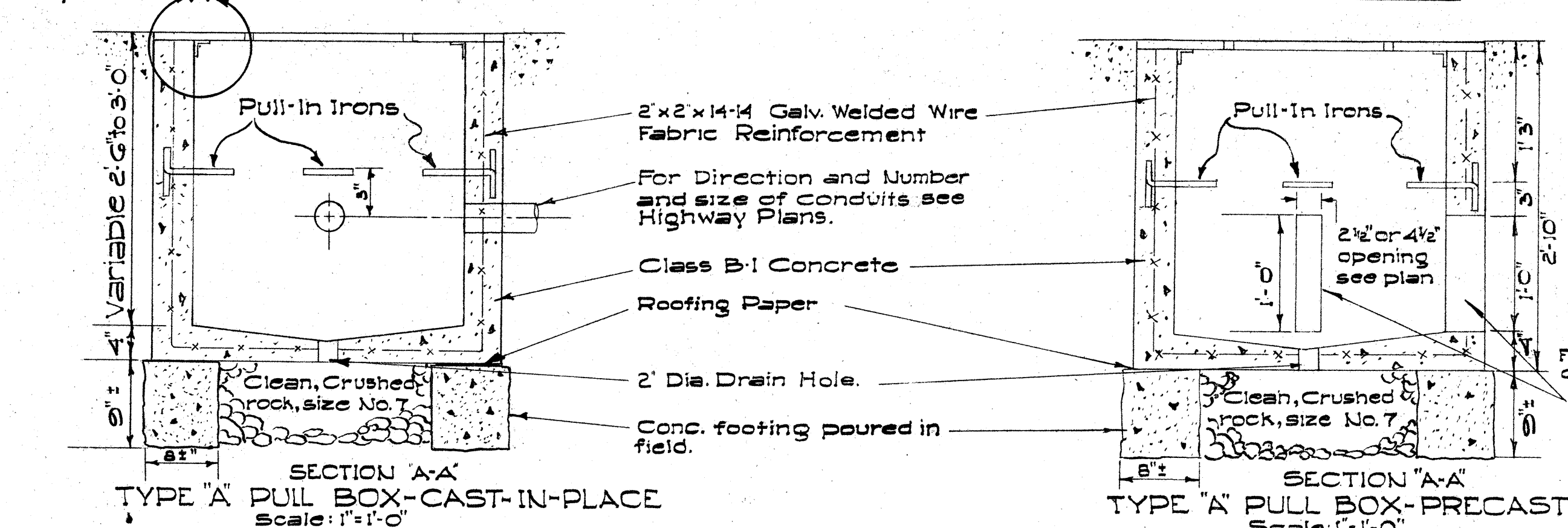


PULL-IN IRON DETAIL 'B'
Scale: 1/2" = 1'-0"

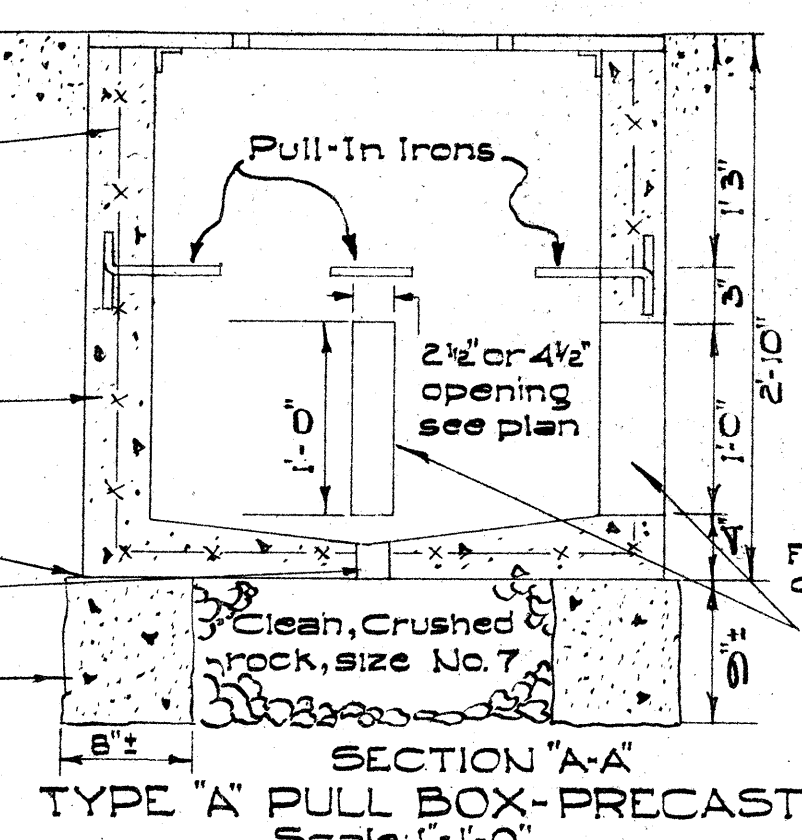


Conduit size indicated on plans.

PLAN



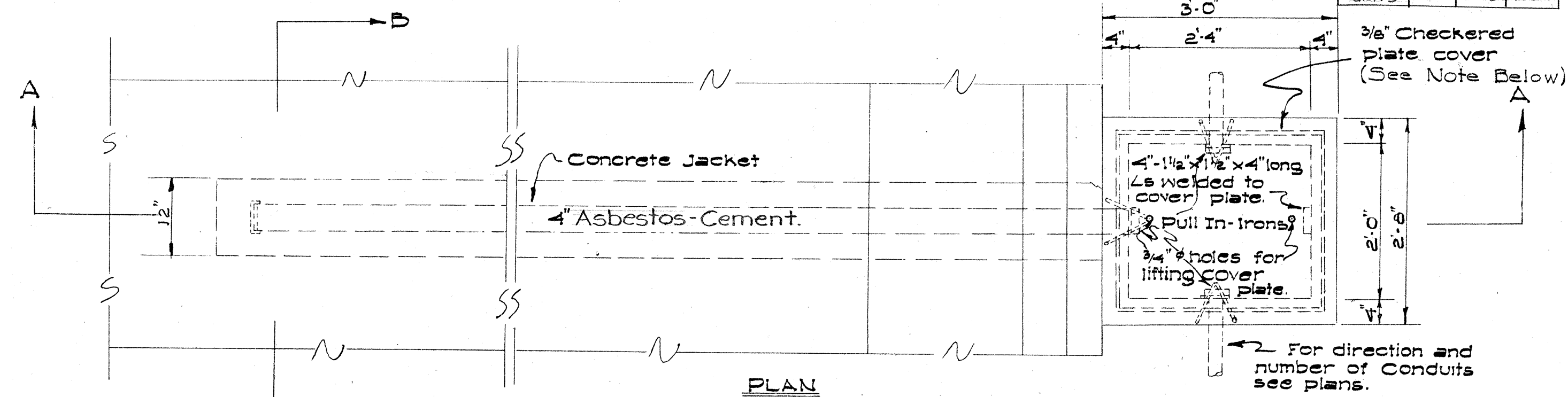
SECTION 'A-A'
TYPE 'A' PULL BOX-CAST-IN-PLACE
Scale: 1" = 1'-0"



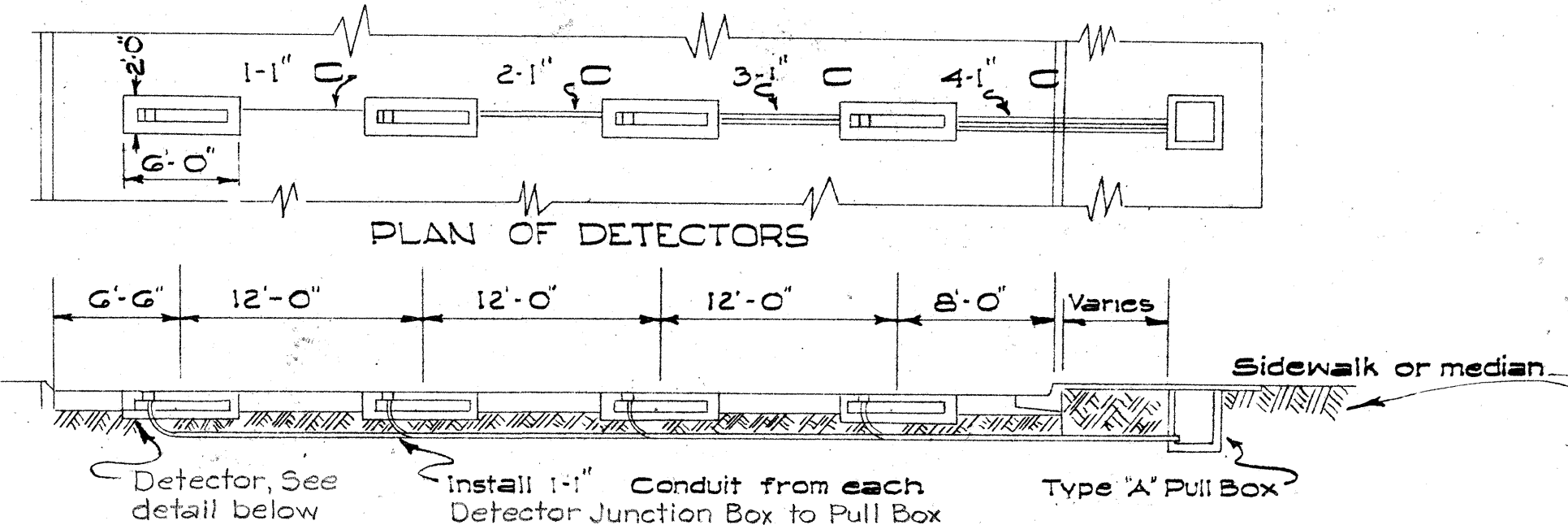
SECTION 'A-A'
TYPE 'A' PULL BOX-PRECAST
Scale: 1" = 1'-0"

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 on sidewalk areas where pedestrians are 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.

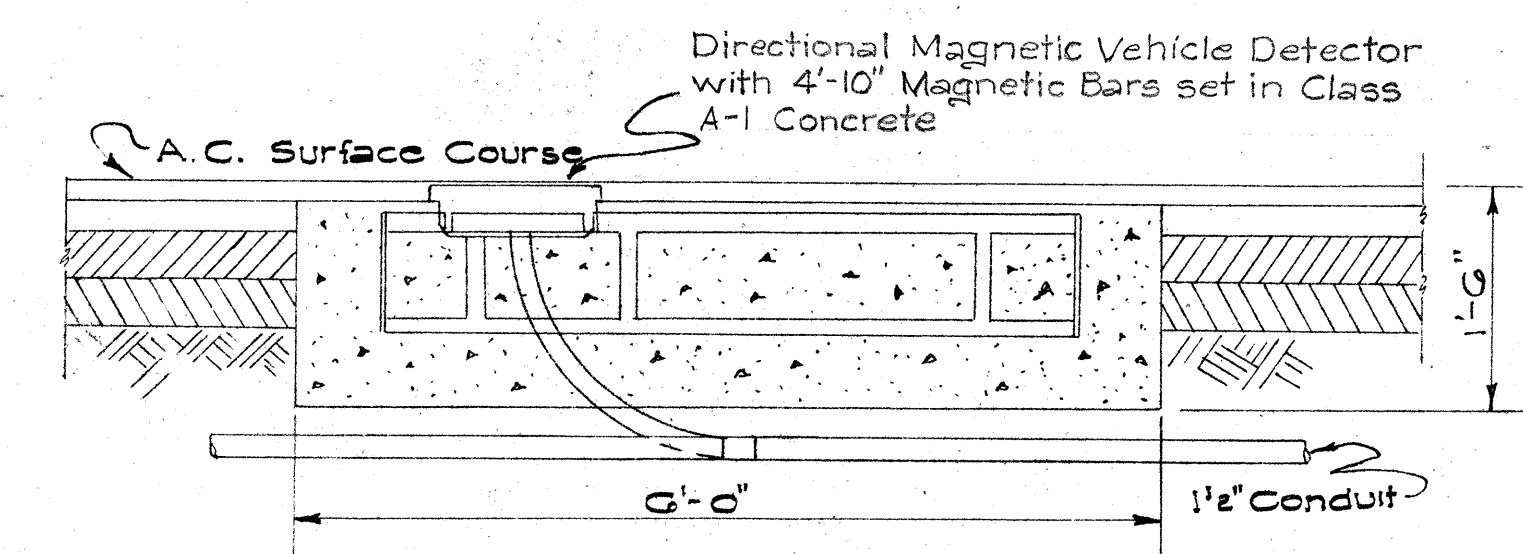
For direction and number and size of slots for conduits (see plan)
Grout Conduit Slot with 1:3 Cement Mortar after Conduit is placed.



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



TYPICAL LAYOUT OF DIRECTIONAL MAGNETIC DETECTORS IN CONCRETE JACKET
Scale: 1/2" = 1'-0"



DETAIL OF DIRECTIONAL MAGNETIC VEHICLE DETECTOR IN CONCRETE JACKET
Scale: 3/4" = 1'-0"

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

APPROVED DATE Aug. 29, 1990
STATE HIGHWAY ENGINEER

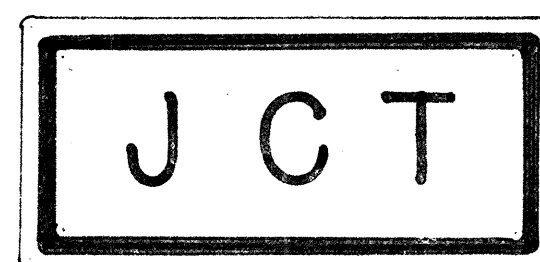
HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
TRAFFIC SIGNAL SYSTEM
BASE, PULLBOX,
MAGNETIC DETECTORS

SHEET NO. OF SHEETS

\$526.661 \$174.1011 \$161.941

2/17/50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	US-00000	1950	66J	7D
		UNIT 3			
		UNIT 4	1950	101J	118
		UNIT 5	1950	94J	115



M-3
16 1/2 x 8"



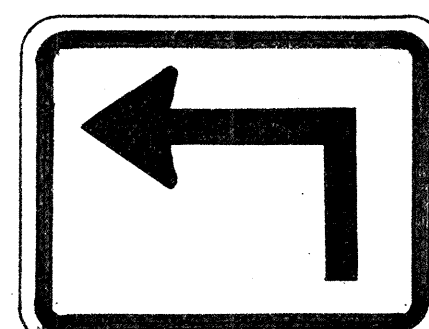
M-21-N
16 1/2 x 8"

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

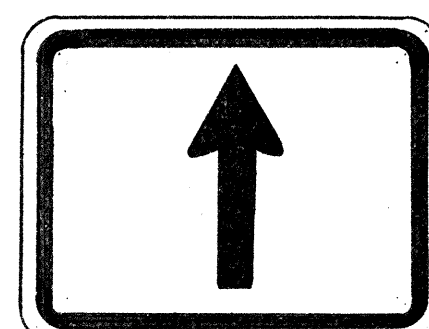
Notes:

M-SERIES SIGNS

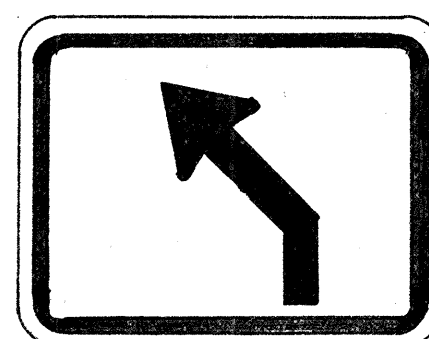
1. Black letters or arrows on a white background
2. Embossed, reflectorized if stated on plans.
3. Size of arrows, spacing, etc. shall conform to the booklet "Standard Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1957



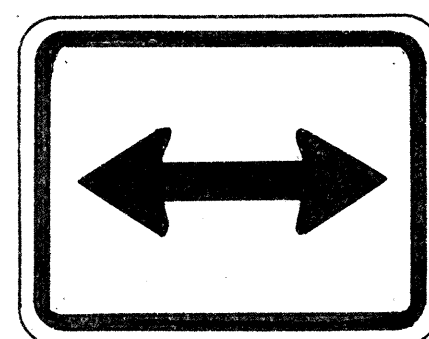
M-7-L
* M-7-R (↗)
13 x 10"



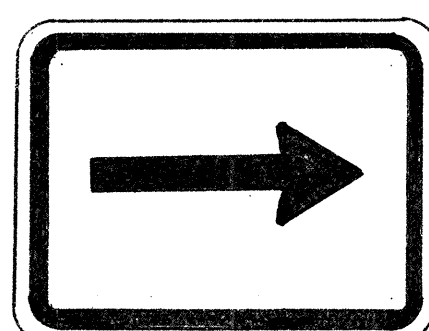
M-11
13 x 10"



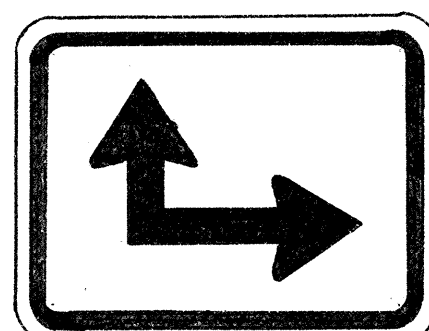
M-8-L
* M-8-R (↗)
13 x 10"



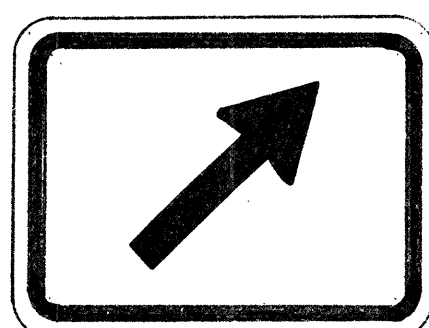
M-12
13 x 10"



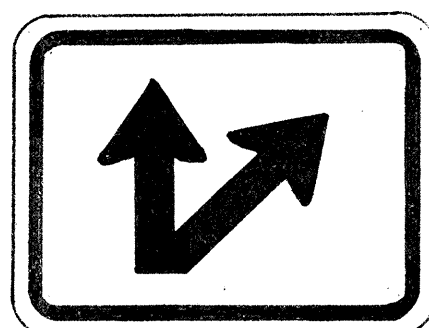
M-9
13 x 10"



M-13-R
* M-13-L (↙)
13 x 10"

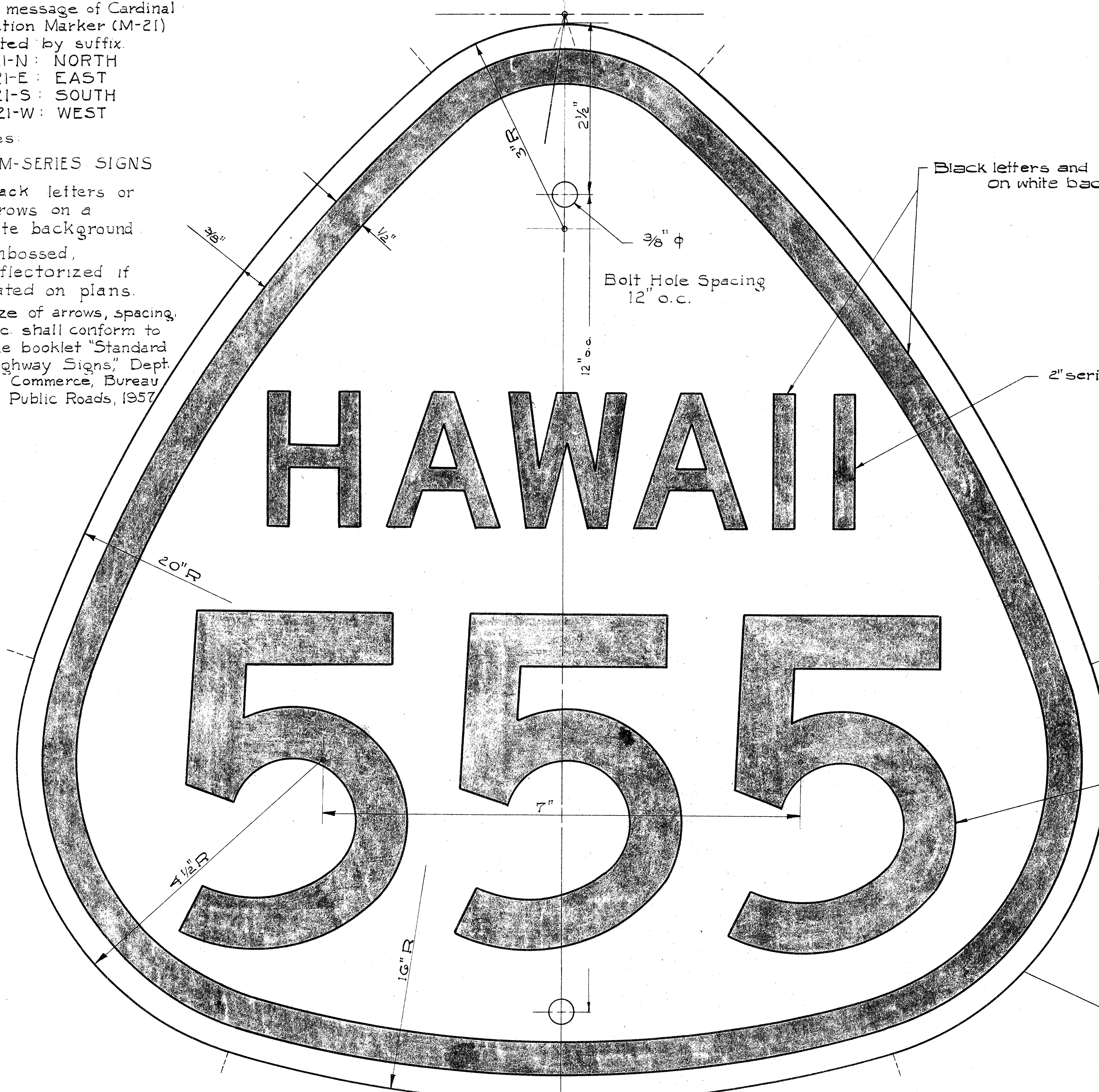


M-10-R
* M-10-L (↙)
13 x 10"



M-14-R
* M-14-L (↙)
13 x 10"

* Signs shall be similar
but opposite in direction.



Black letters and border
on white background.

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.

2" series "D" letters

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 "E" numerals shall be used.

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

5" series "E" letters

STATE ROUTE MARKER
M-2
Scale: Full Size

APPROVED:
DATE: AUG. 26, 1950
STATE HIGHWAY ENGINEER

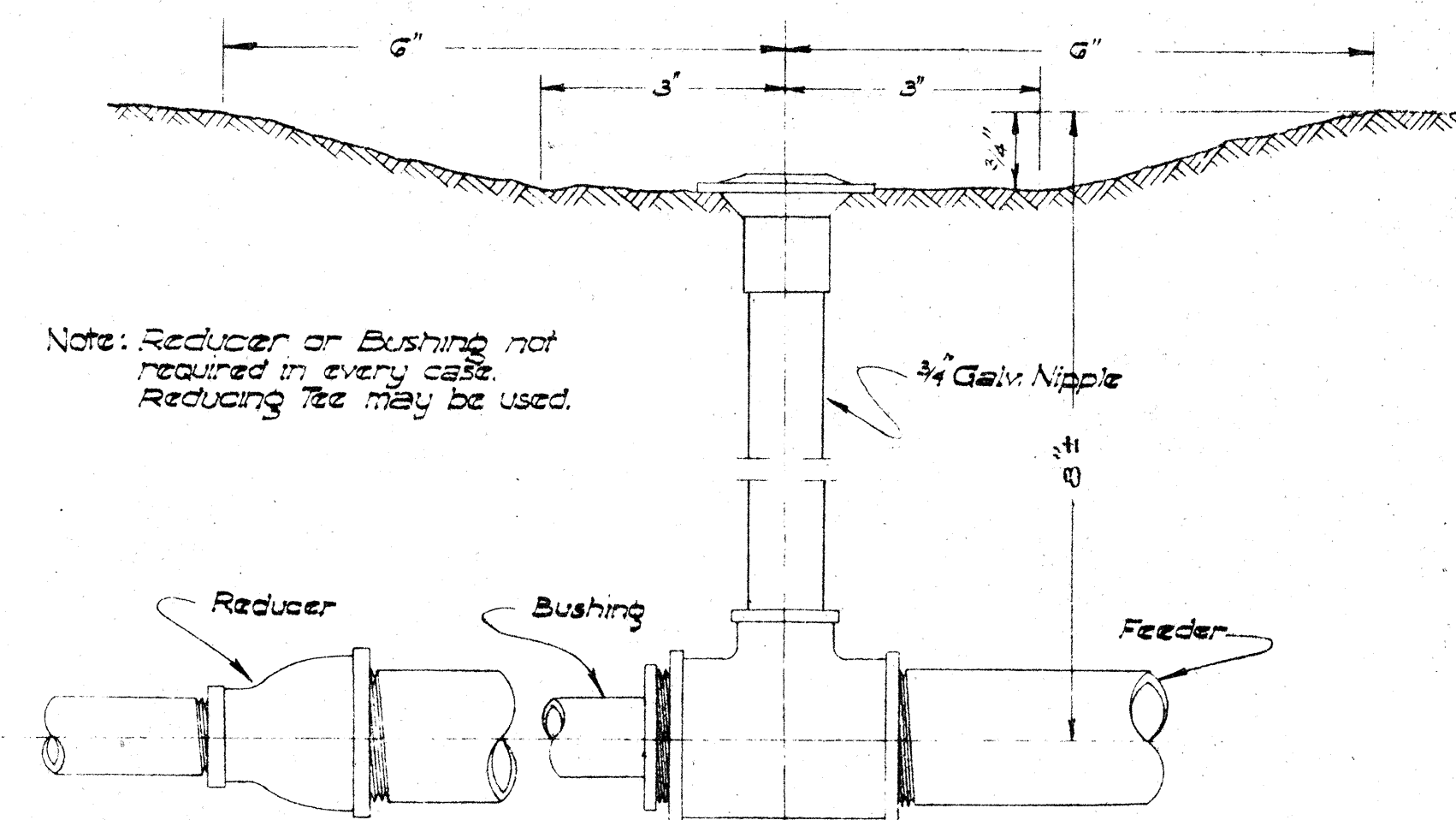
HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
STATE
ROUTE NUMBER
AND DIRECTIONAL
MARKER SIGNS

SCALE: AS NOTED
SHEET NO. OF SHEETS

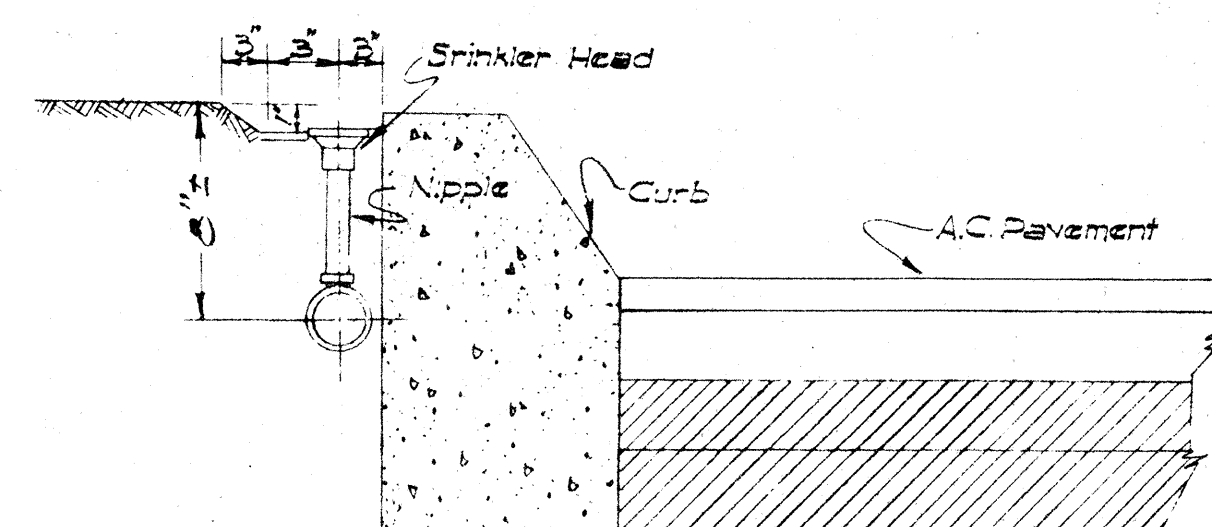
NOT TO SCALE

\$ 5 2 6 . 6 6 J \$ 1 7 4 . 1 0 1 J \$ 1 6 1 . 9 4 J 193J

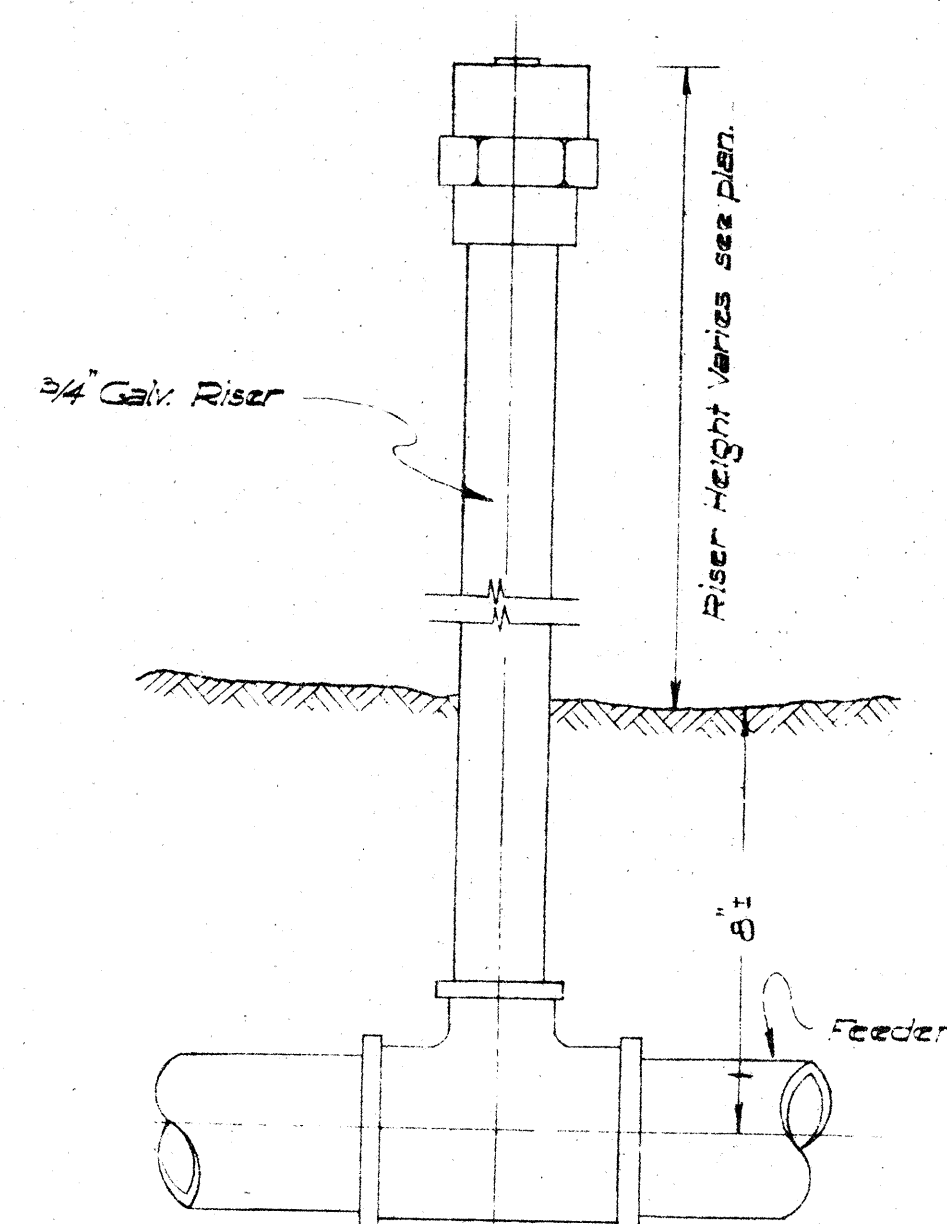
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW	052-00000	1960	66 K	70
		UNIT 3	1960	101 K	118
		UNIT 4	1960	101 K	118
		UNIT 5	1960	101 K	118
		UNIT 6	1960	101 K	118
		UNIT 7	1960	101 K	118
		UNIT 8	1960	101 K	118
		UNIT 9	1960	101 K	118
		UNIT 10	1960	101 K	118
		UNIT 11	1960	101 K	118
		UNIT 12	1960	101 K	118
		UNIT 13	1960	101 K	118
		UNIT 14	1960	101 K	118
		UNIT 15	1960	101 K	118



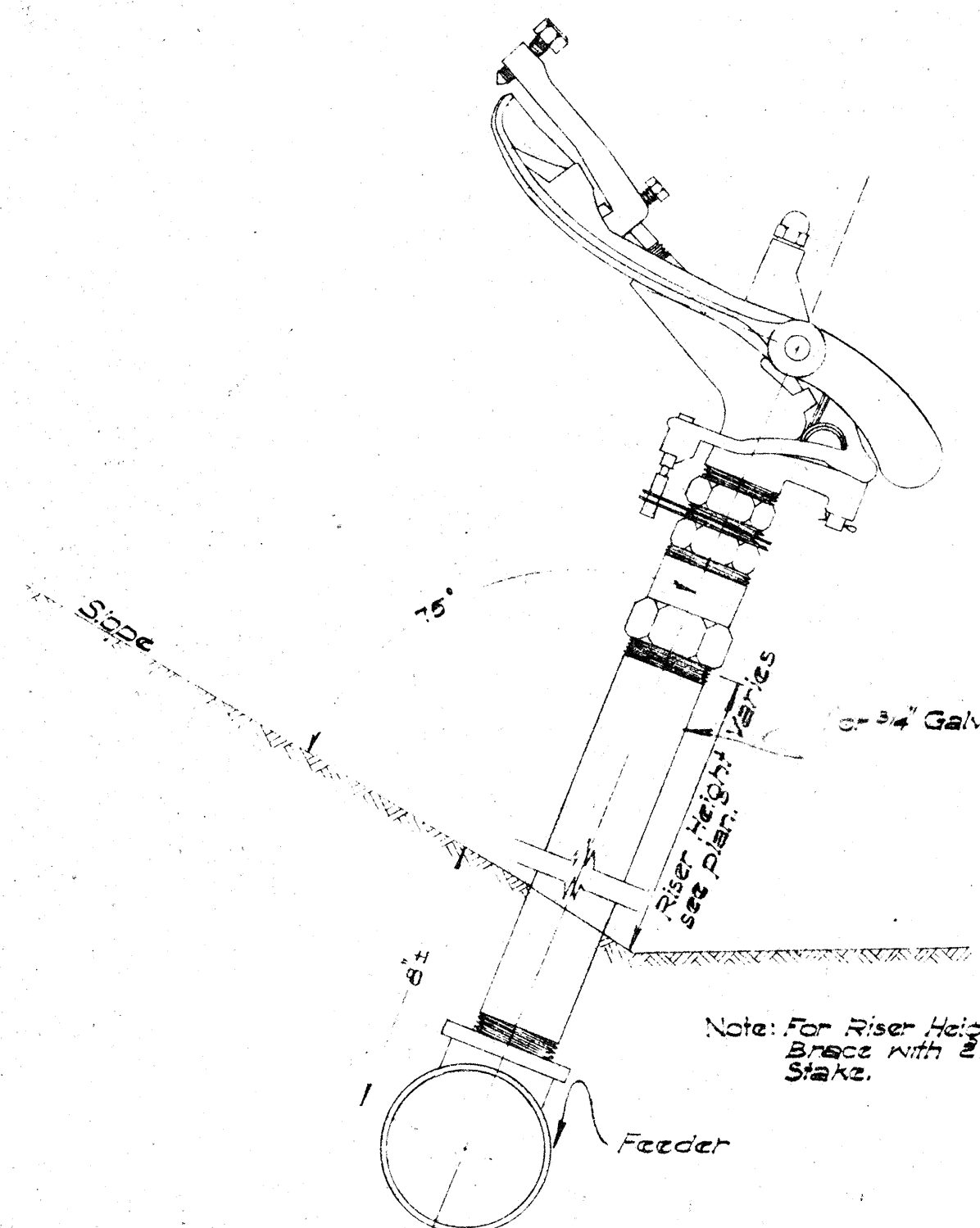
CONNECTION OF SPRINKLER HEAD TO FEEDER PIPE
Not to Scale



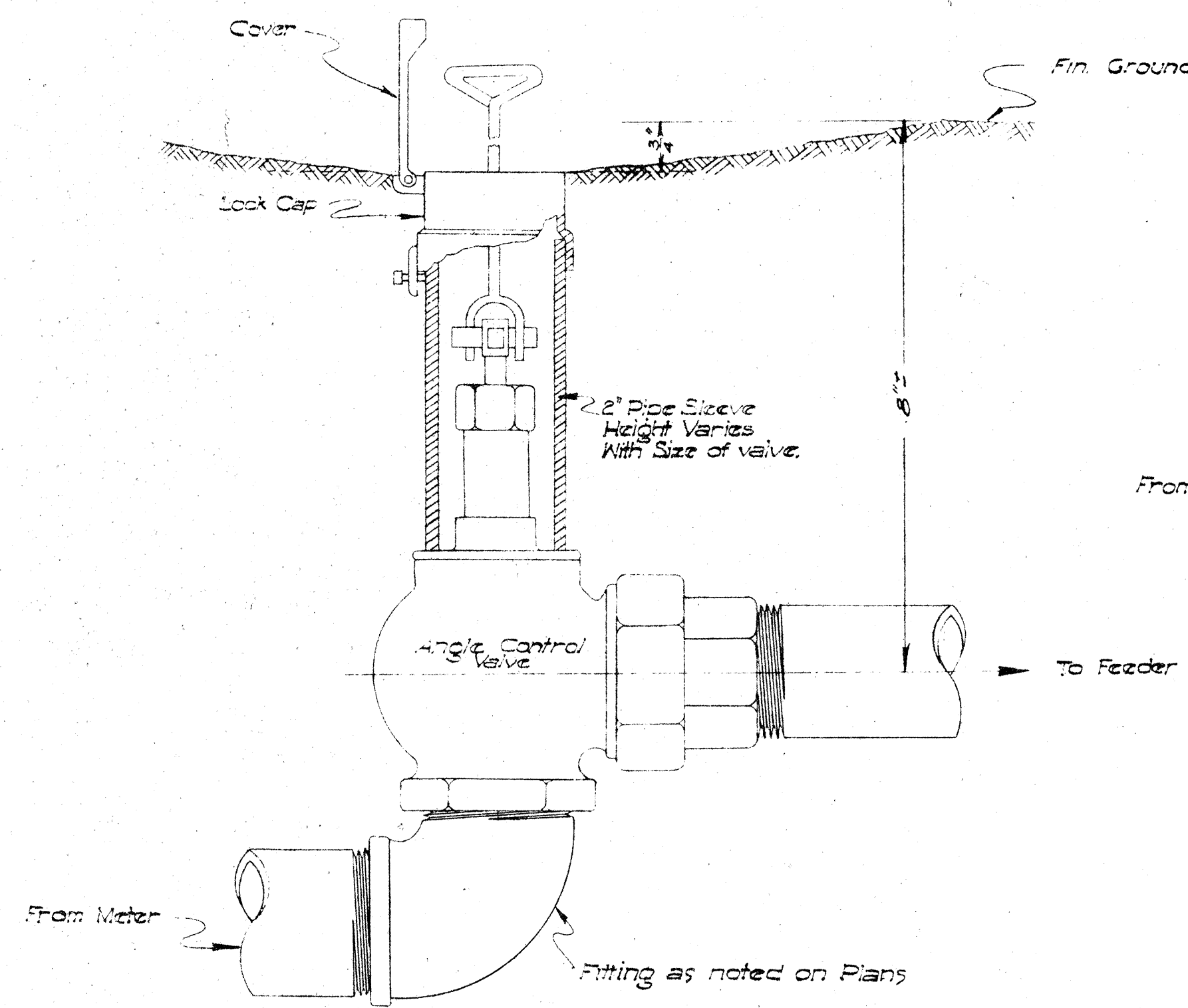
TYPICAL DETAIL OF SPRINKLER AT CONC. CURB
Not to Scale



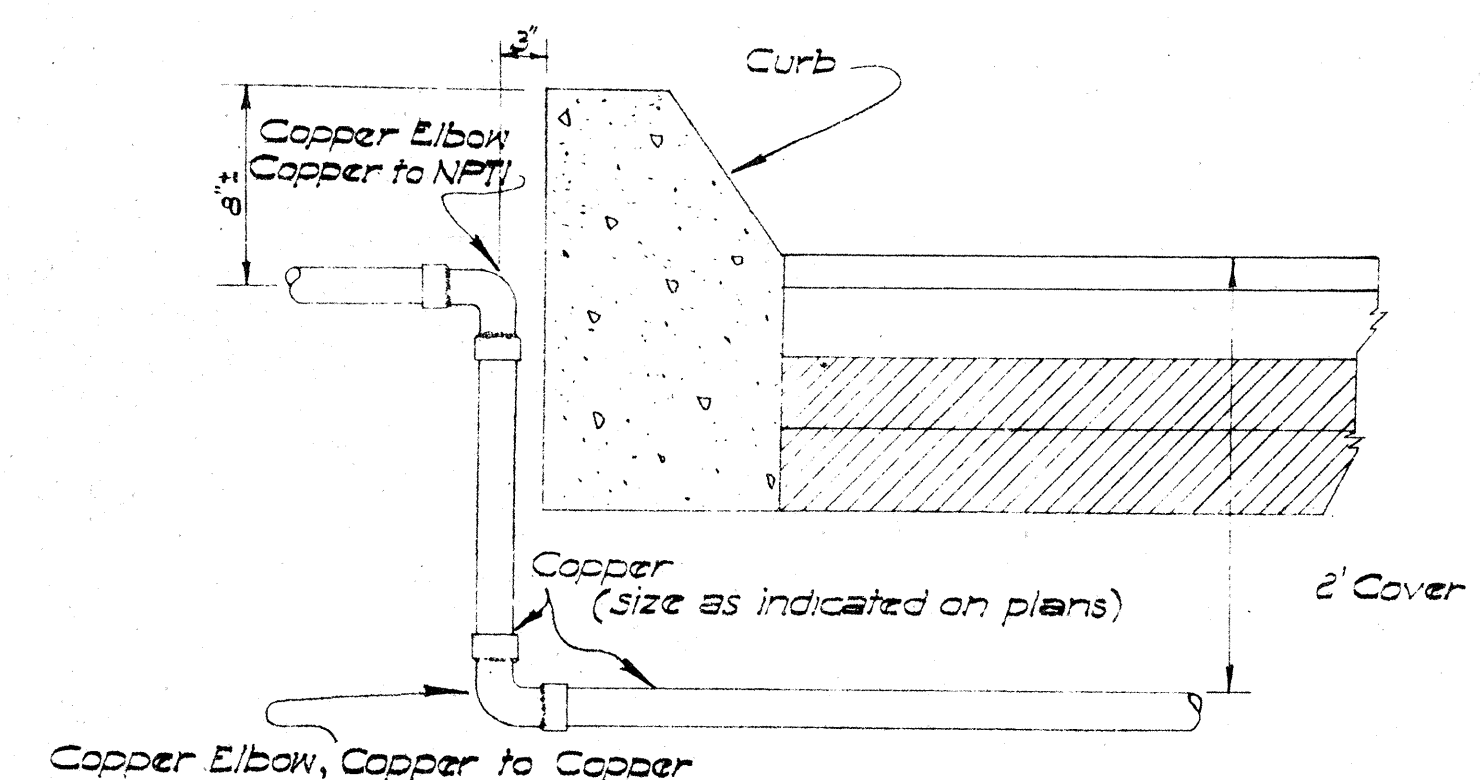
DETAIL OF SHRUBBERY HEAD
Not to Scale



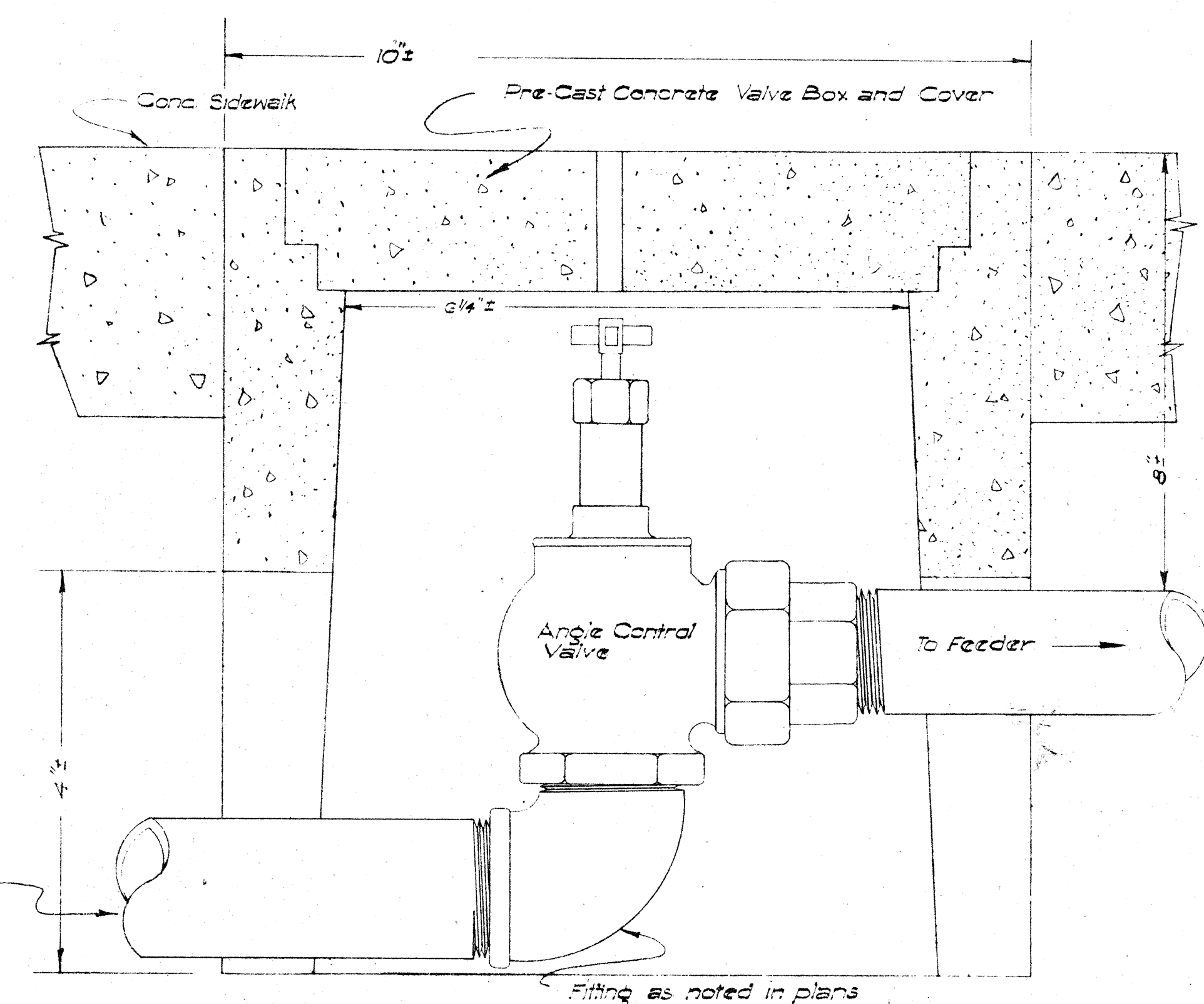
INSTALLATION OF JET SPRINKLER ON SLOPE
Not to Scale



ANGLE CONTROL VALVE HOUSING & CAP
Not to Scale



TYPICAL DETAIL OF ROADWAY CROSSING
Not to Scale



ANGLE CONTROL VALVE IN SIDEWALK AREA
Not to Scale

GENERAL NOTES

1. All copper pipes shall be connected with solder type fittings of bronze castings or wrought copper. Solder type fittings and copper pipes shall be "Streamline" or approved equal.
2. Pipes not noted "Copper" are to be Galvanized Iron. Screw Pipes, and fittings not noted "Copper" are to be Galvanized Malleable Iron Fittings.
3. After complete installation of the sprinkler system, each sprinkler head shall be adjusted to the satisfaction of the Engineer.

APPROVED DATE Aug. 26, 1959

STATE HIGHWAY ENGINEER

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII

STANDARD DETAILS
SPRINKLER SYSTEM

Not to Scale

SHEET No. OF SHEETS

8526.66K \$174.101K \$161.94K 143K

ORIGINAL PLAN	DESIGNED BY	DATE
NOTE BOOK	DRAWN BY	4/12/59
No.	QUANTITIES CHECKED BY	
	CREATED BY	