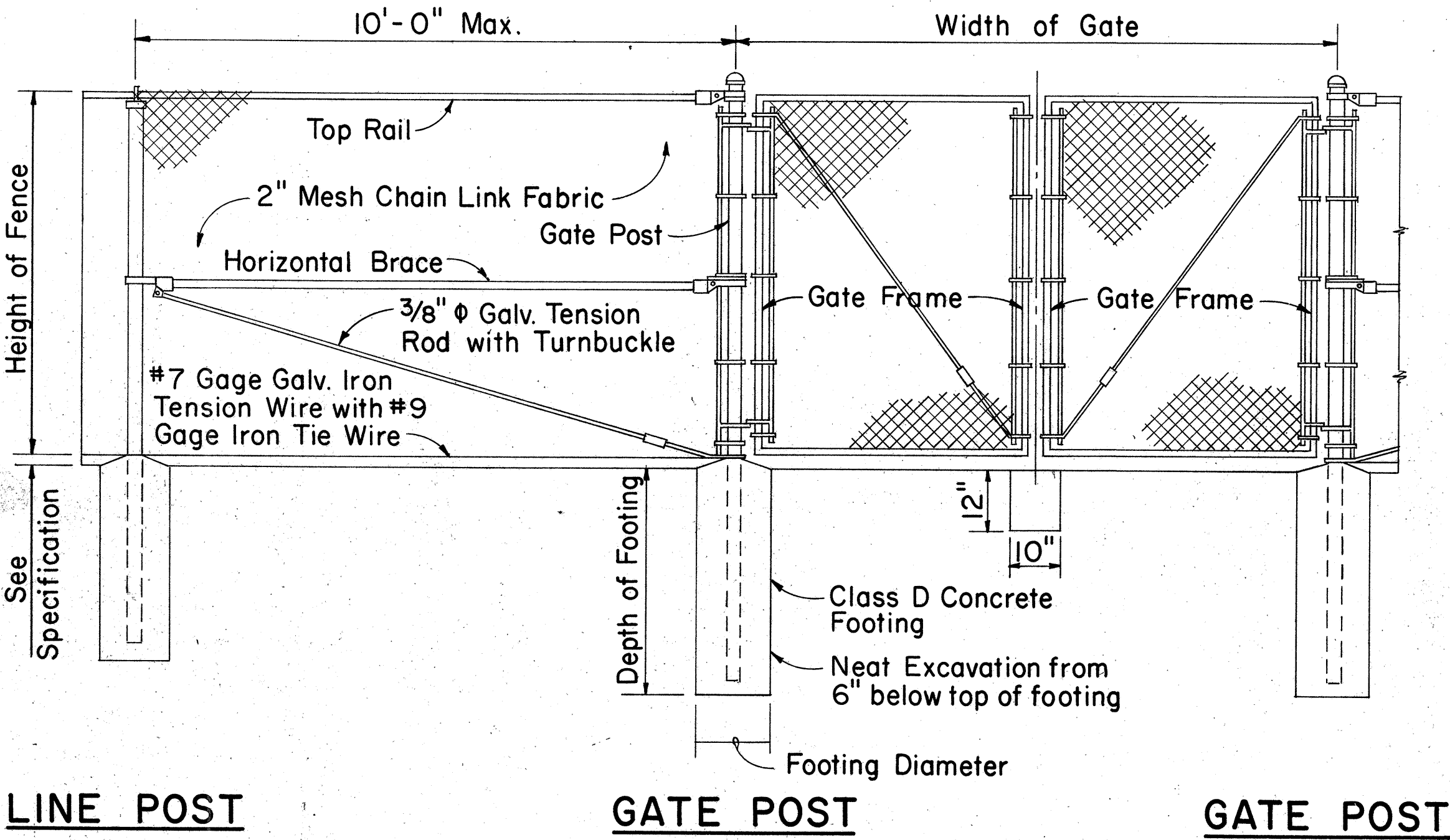
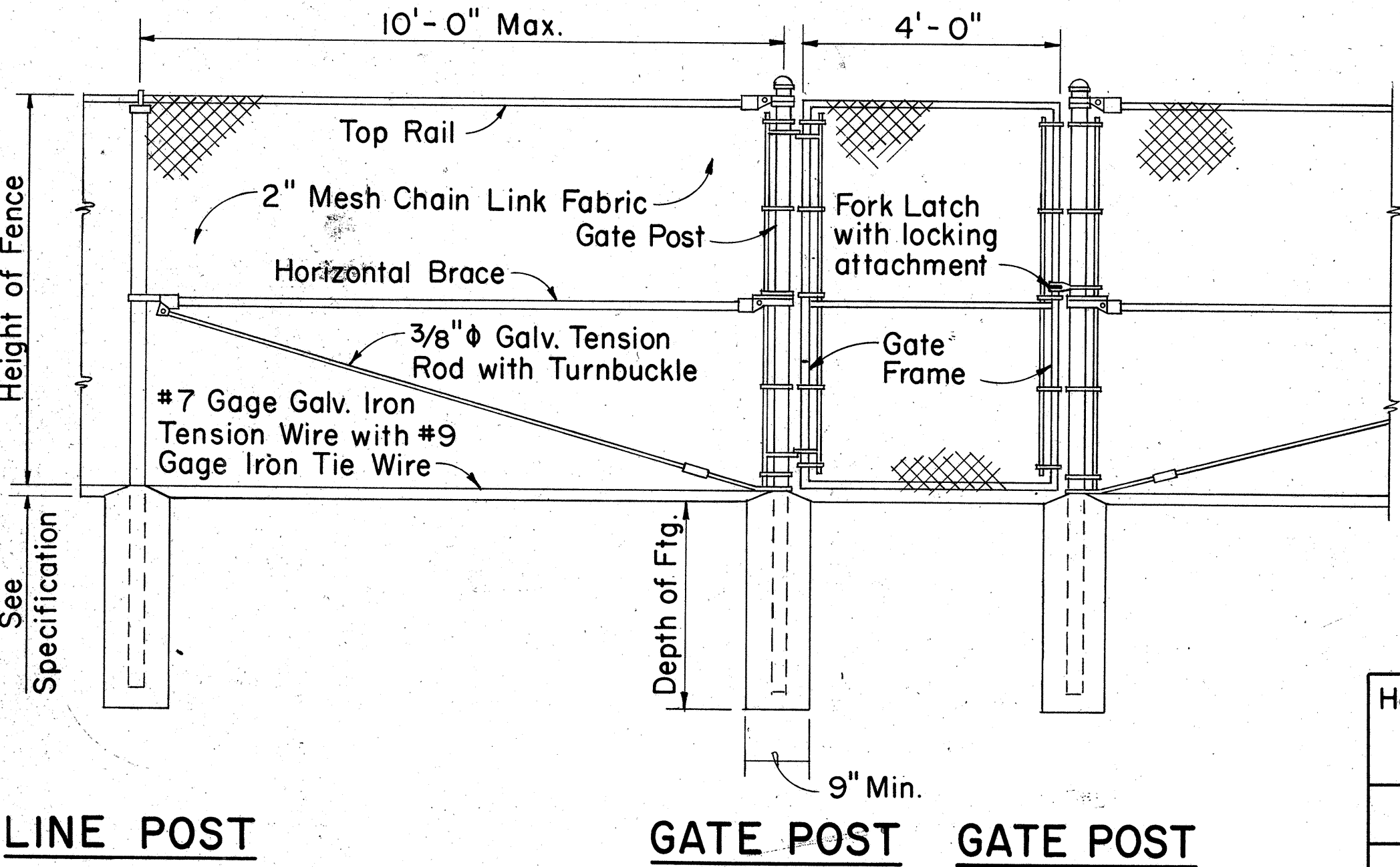


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-1(124)-16	1978	44	223

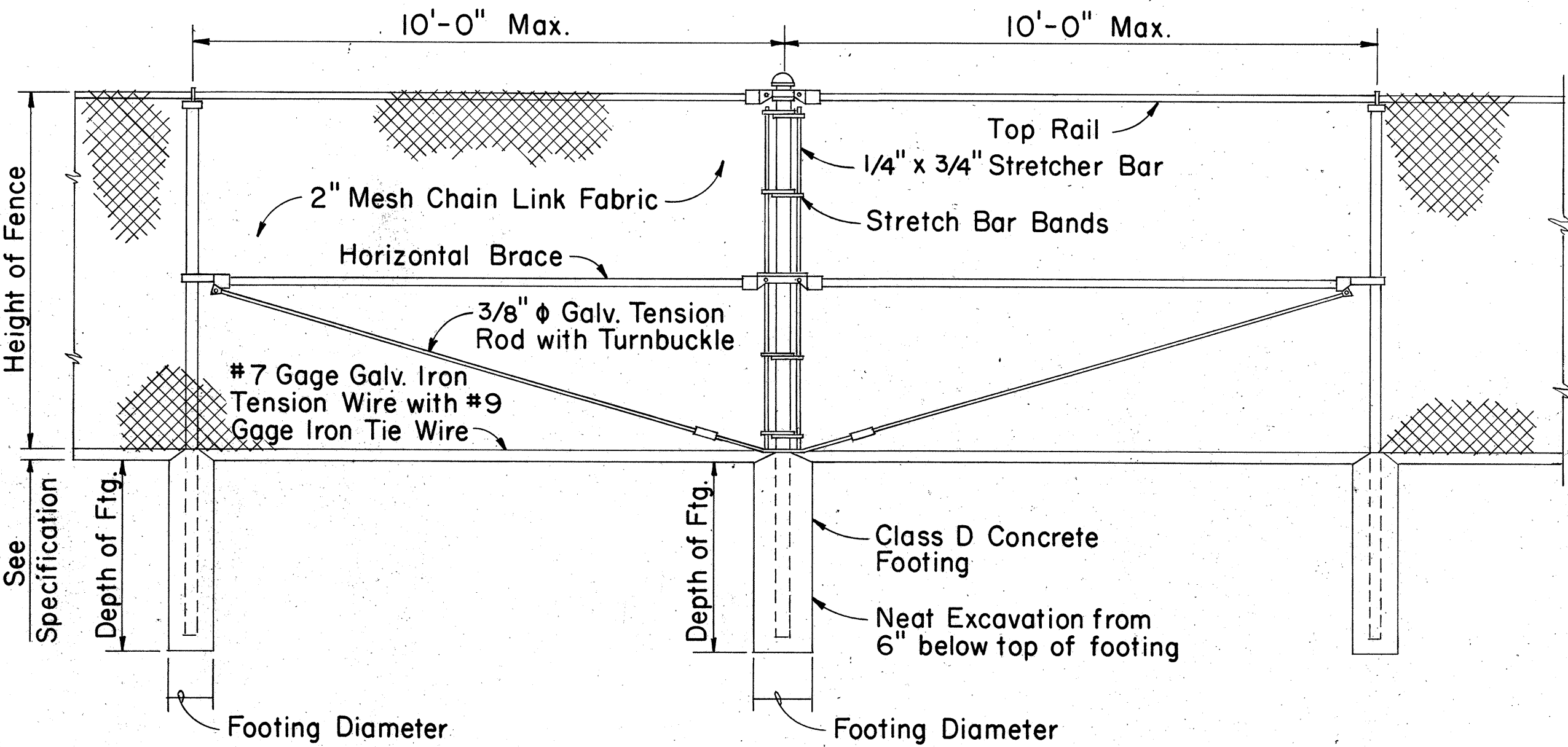


DETAIL OF CHAIN LINK GATE

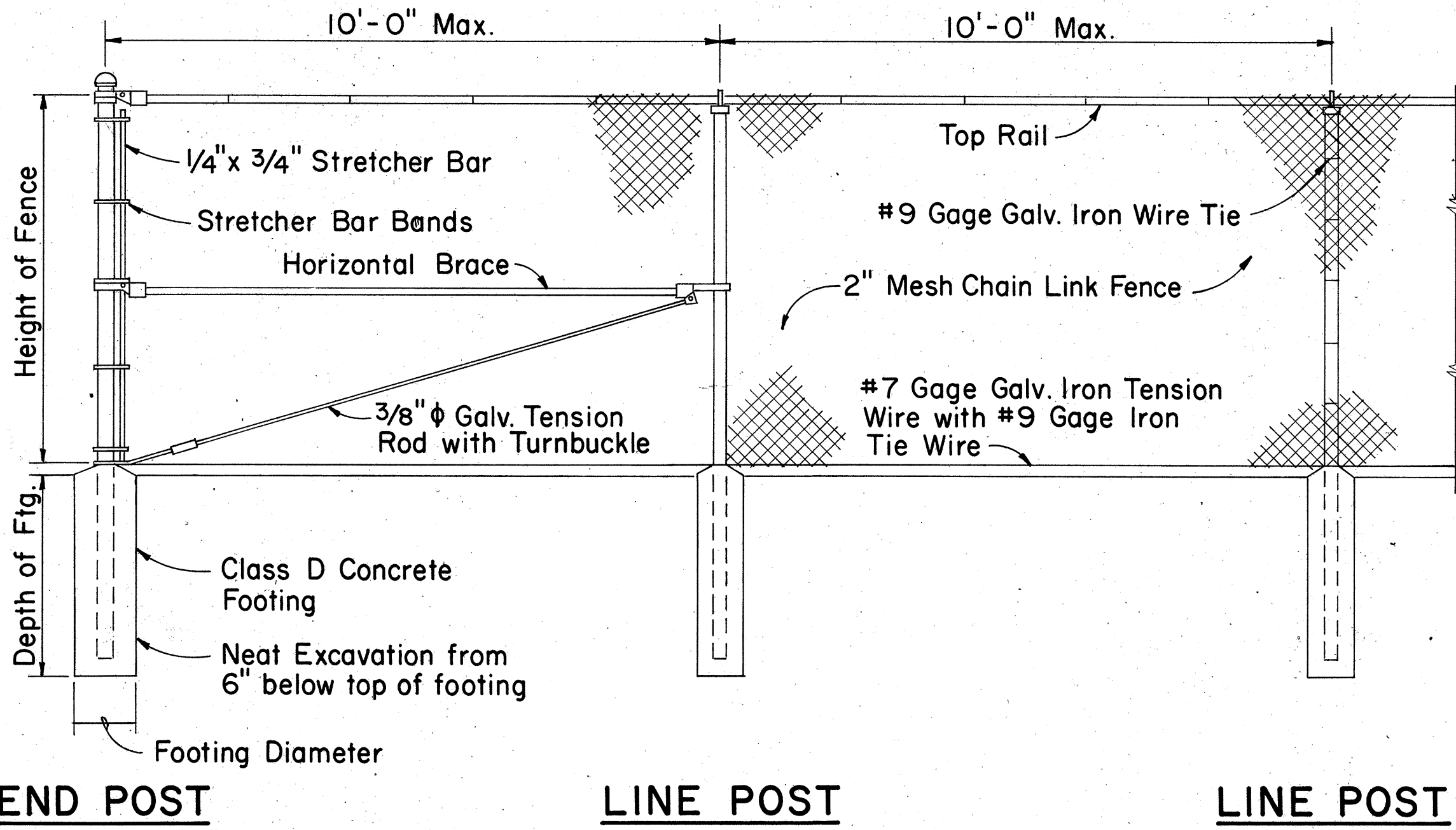
- NOTE: 1. Gate fork latch and lock, flush plate and anchor, and plunger shall be installed with Gates, and shall be considered as incidental to Chain Link Fence Gate.
2. Gate frames shall be mitered and welded at corners.
3. Fence detail not shown shall be in accordance with the Standard Specifications.



DETAIL OF 4 FT. CHAIN LINK GATE

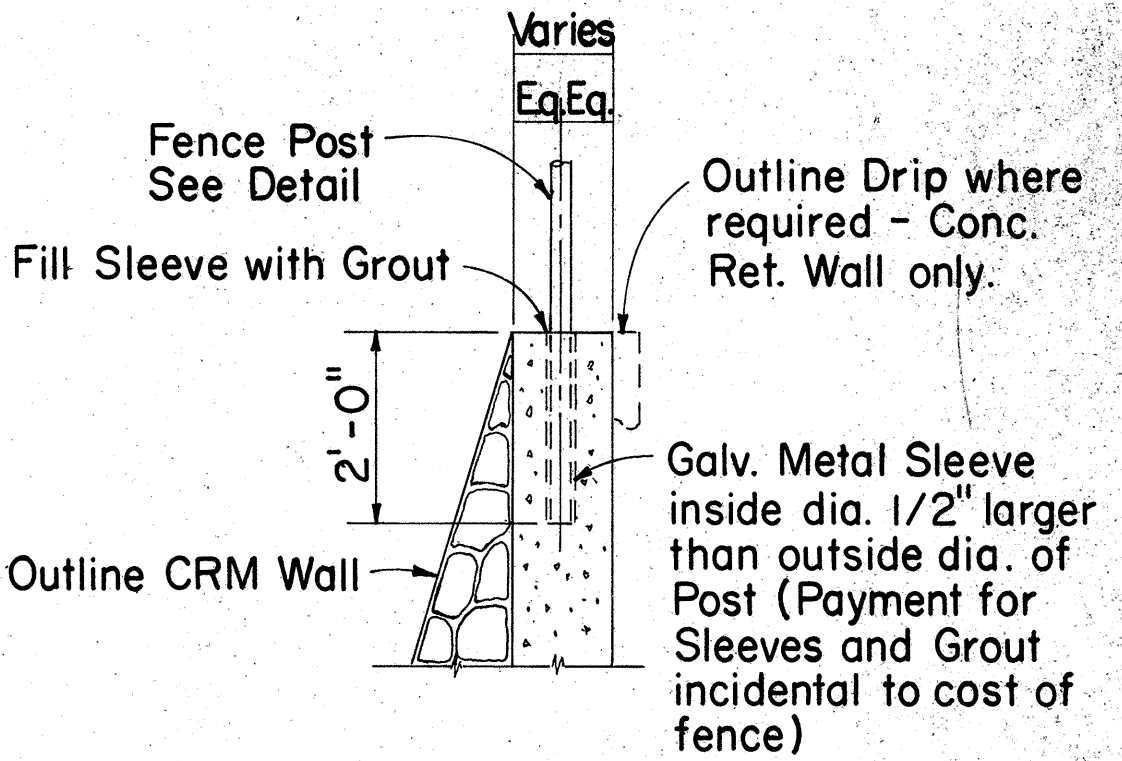


TYPICAL SECTION (WITH CONCRETE FOOTING)



CHAIN LINK FENCE DETAILS

Height of Fence	Minimum Depth of Footing		Minimum Footing Diameter	
	Line Post	Corner, Pull, End and Gate Posts	Line Post	Corner, Pull and End Posts
3'	2'-0"	2'-6"	8"	8"
4'	2'-6"	2'-6"	8"	8"
5'	3'-0"	3'-0"	8"	8"
6'	3'-0"	3'-0"	8"	9"



TYPICAL SECTION (ON CRM & CONC. RET. WALL)

APPROVAL RECOMMENDED: *[Signature]* 12-4-69
HIGHWAY DESIGN ENGINEER DATE

APPROVED: *[Signature]* 12-10-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS

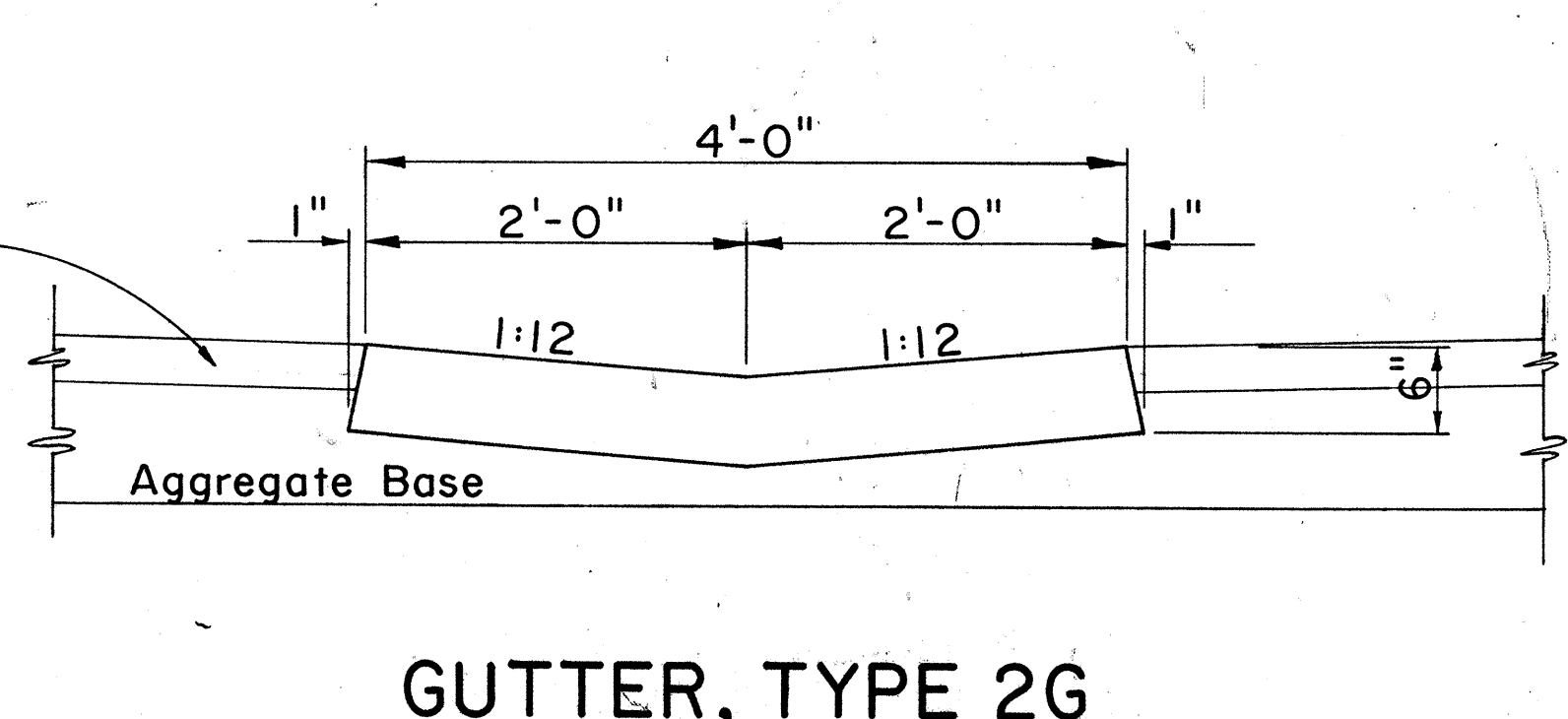
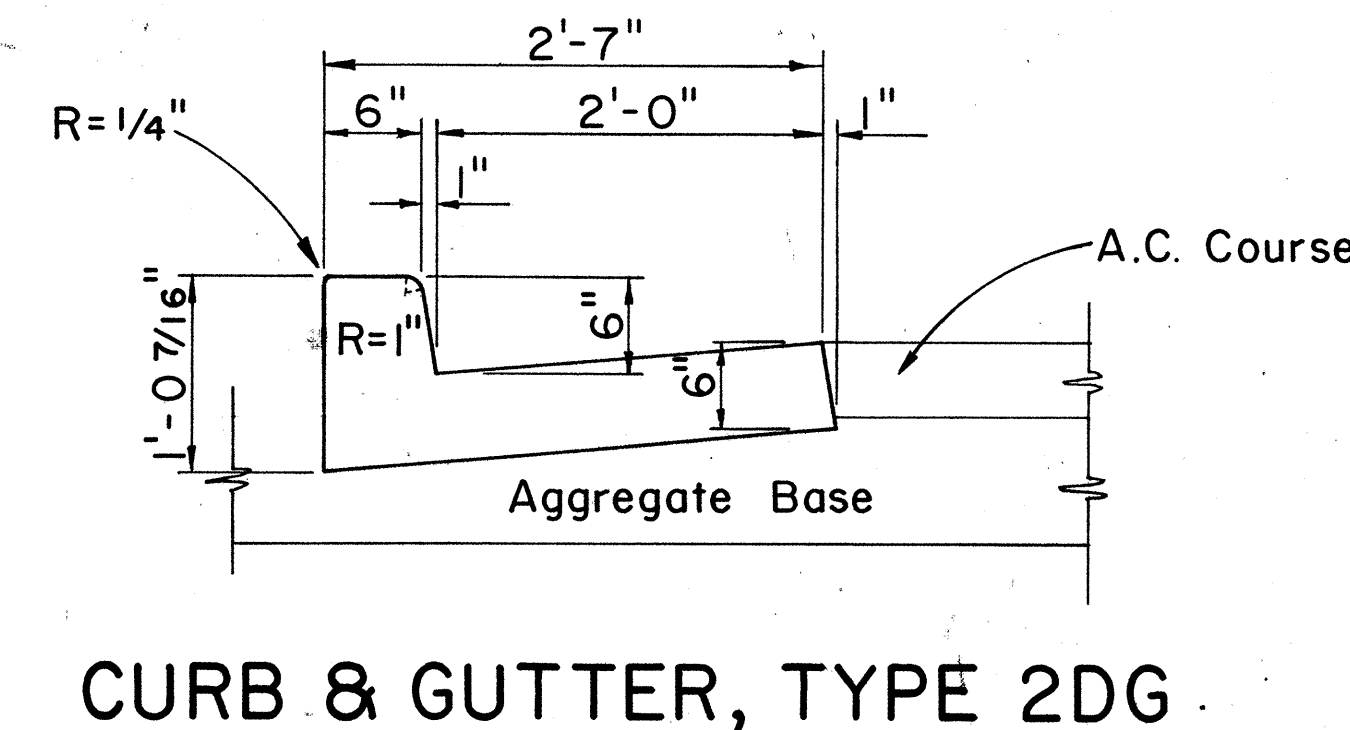
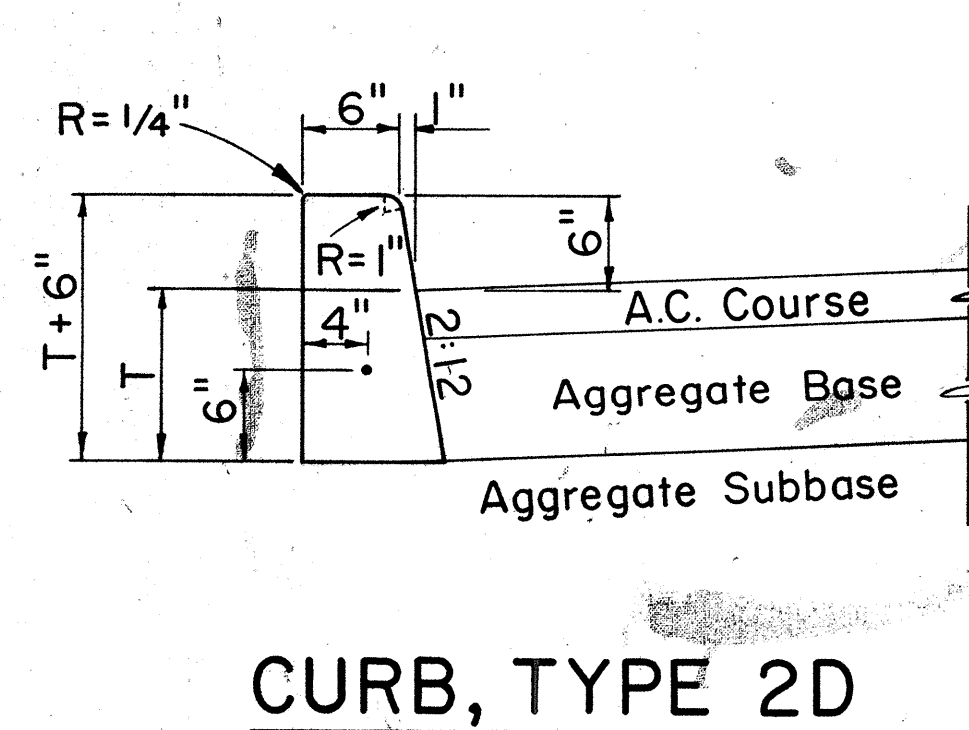
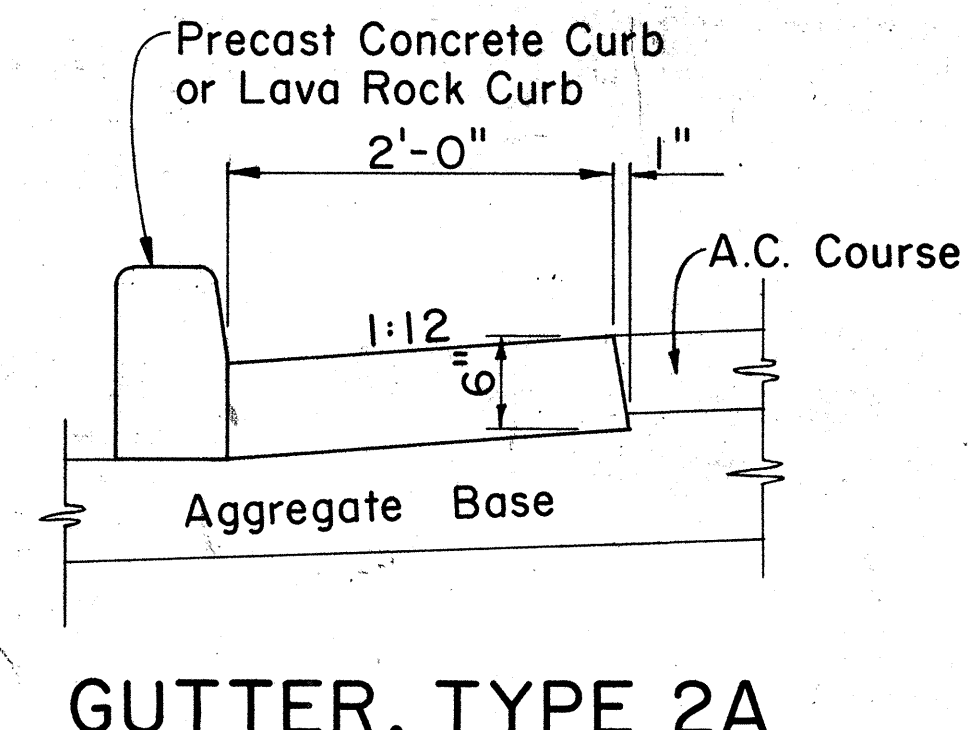
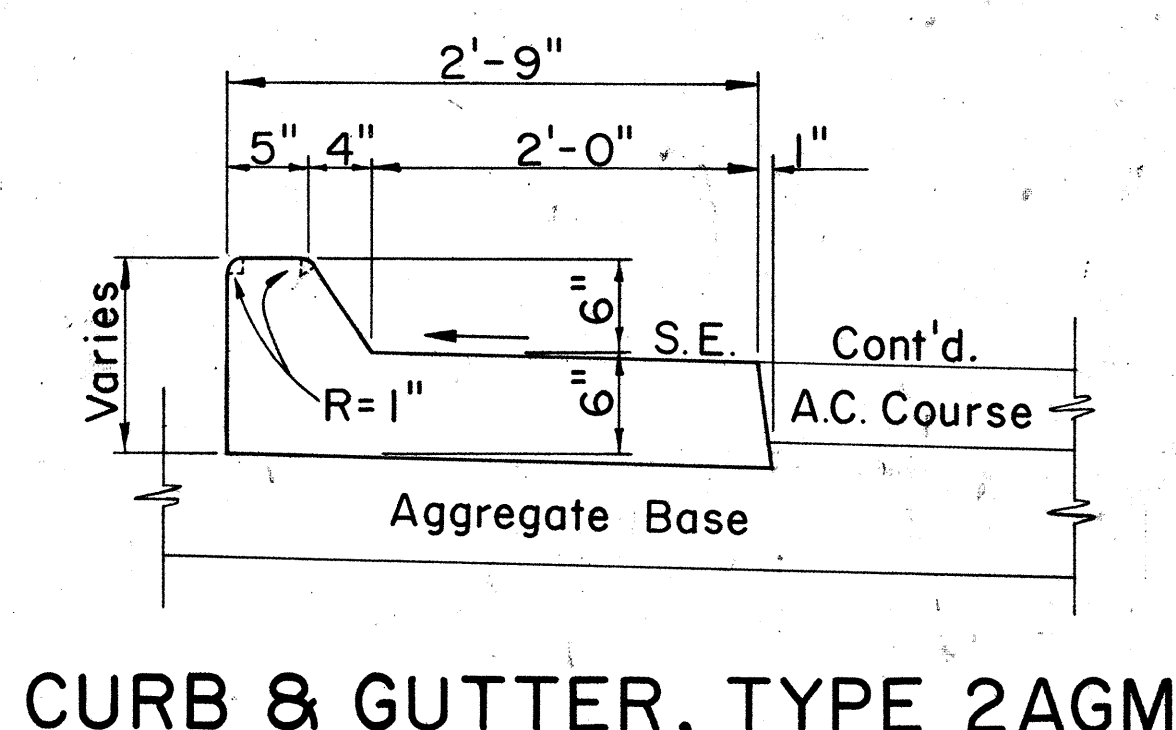
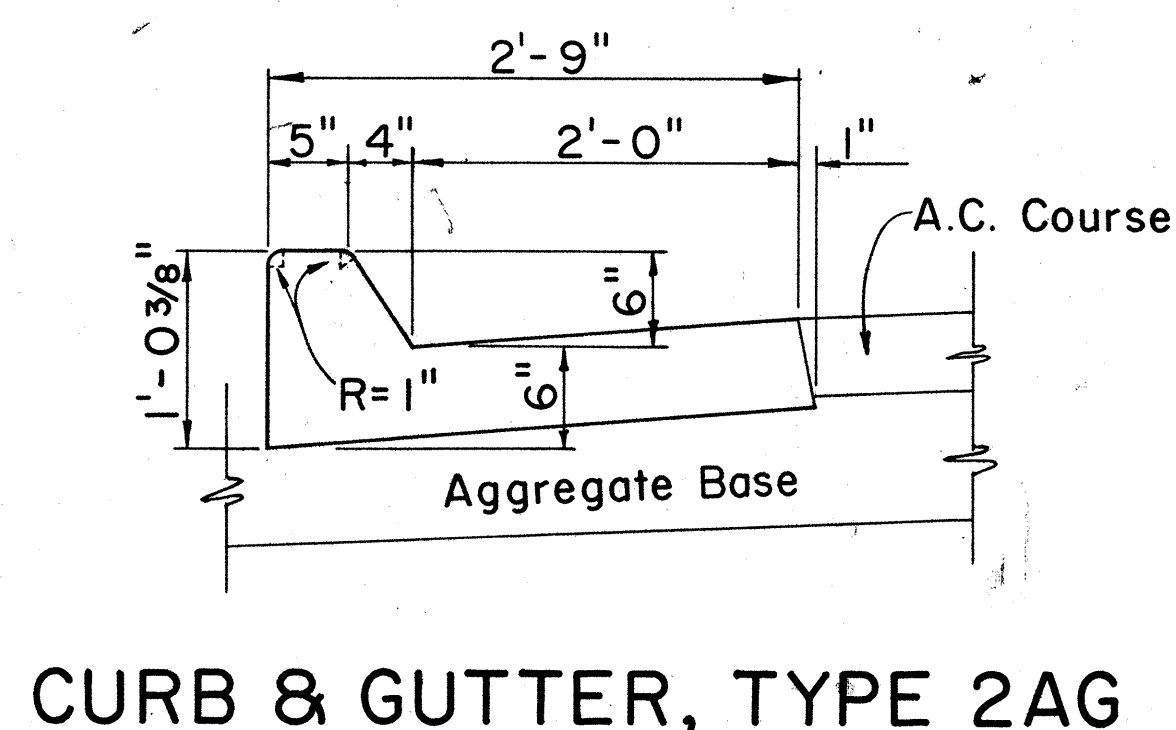
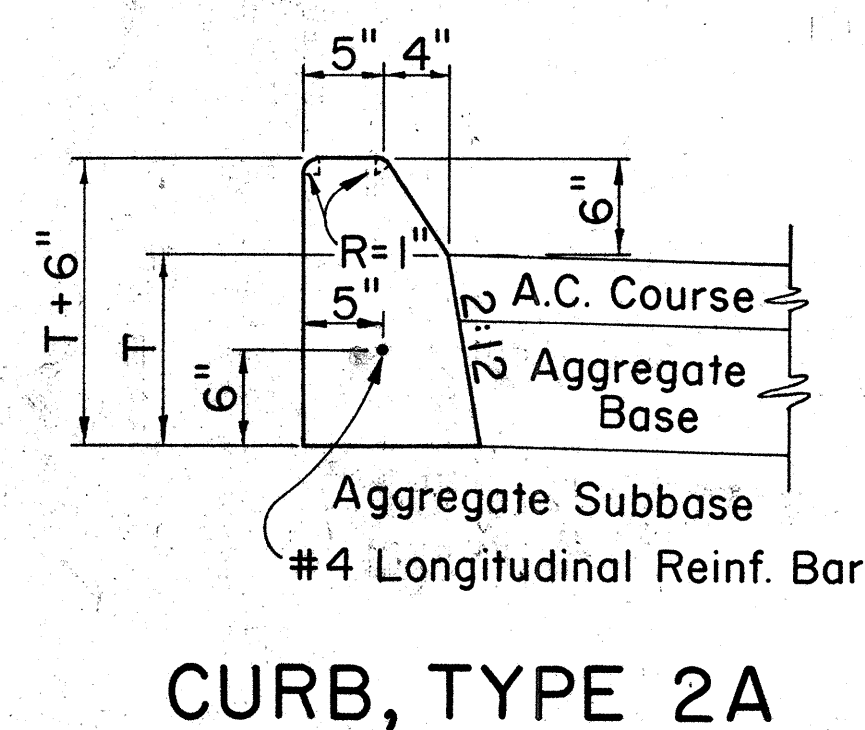
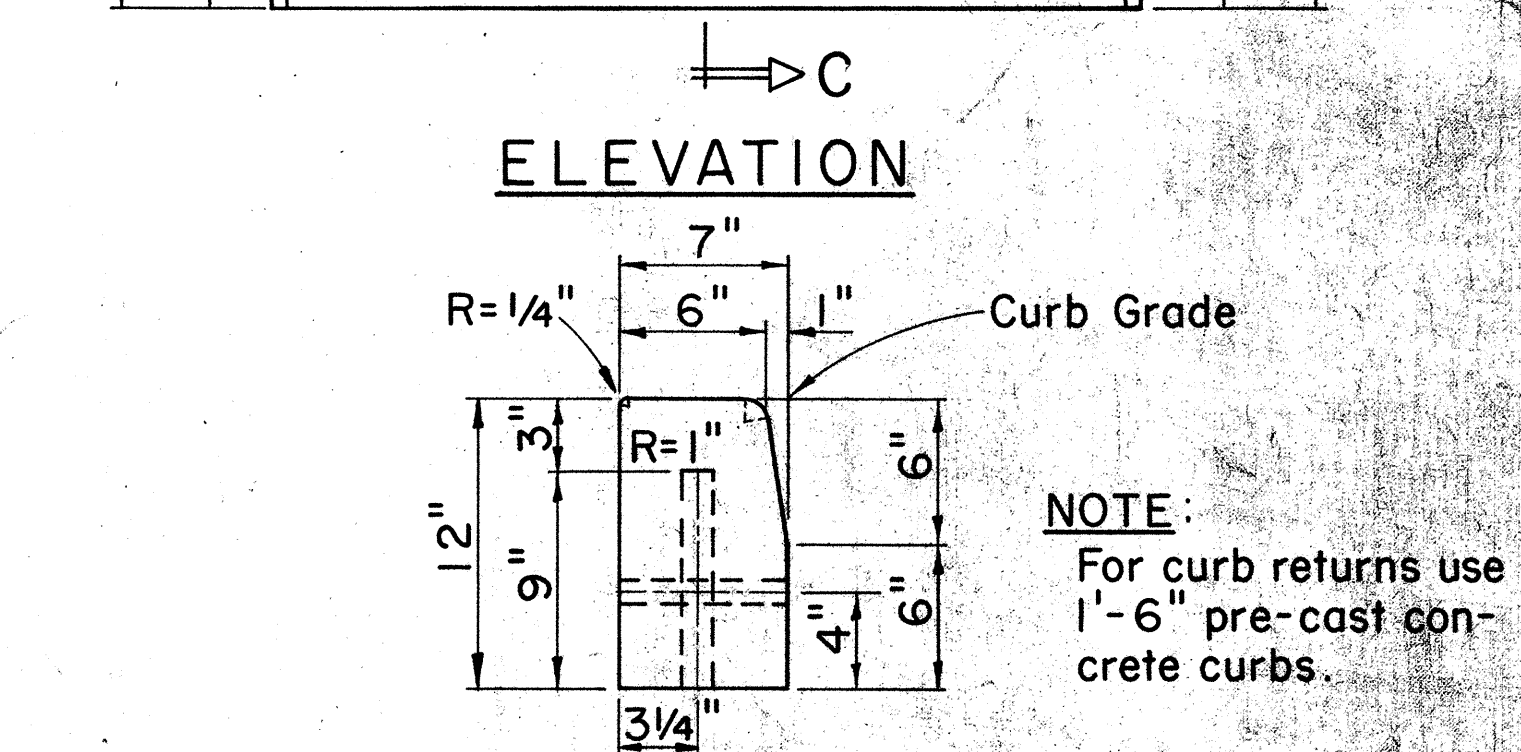
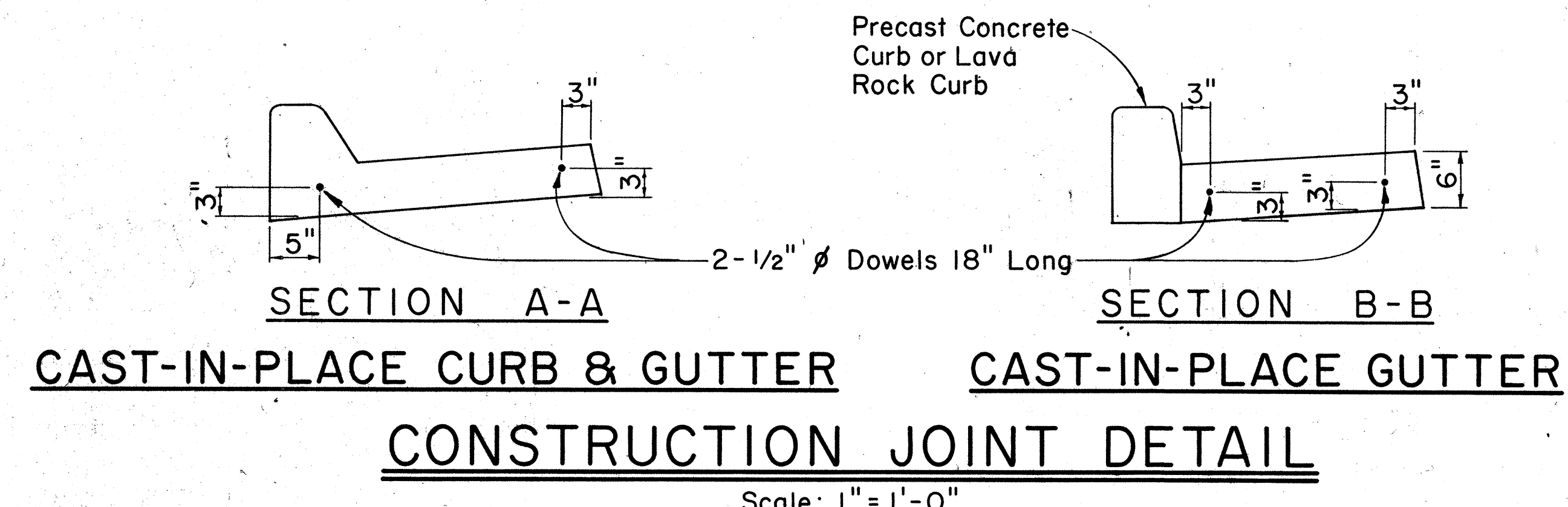
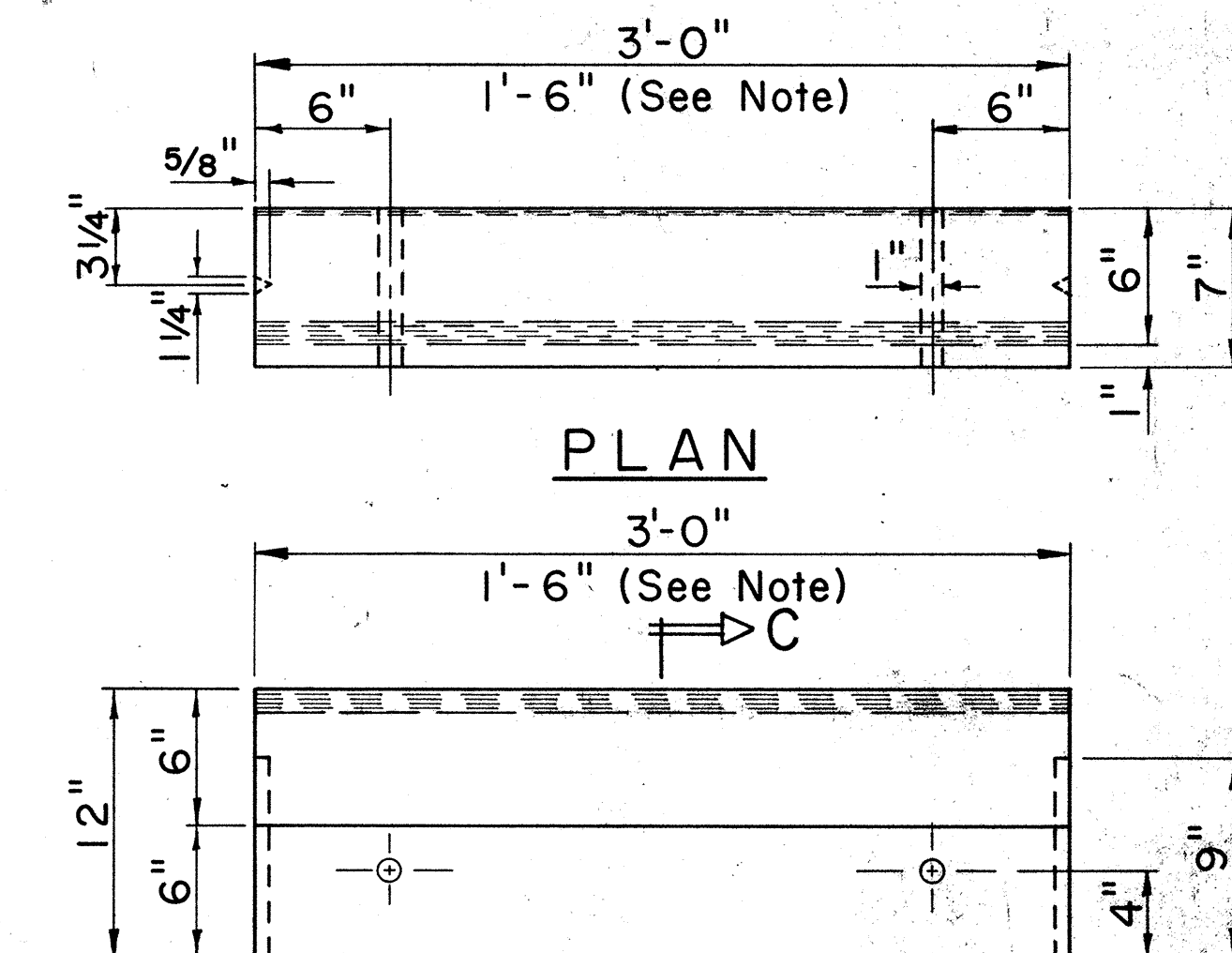
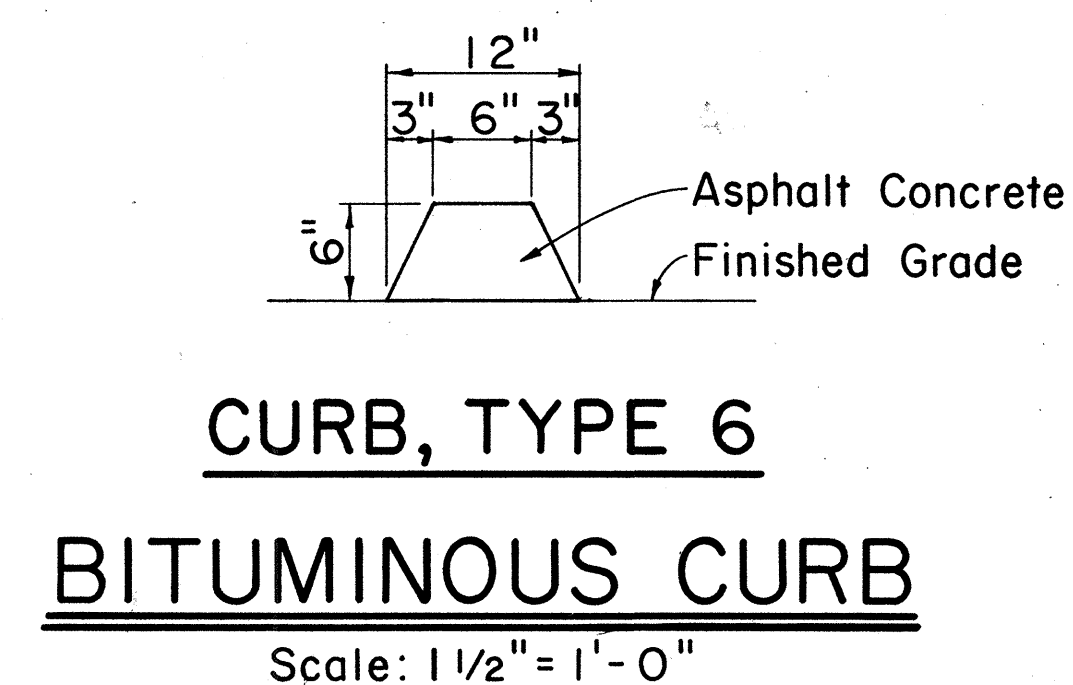
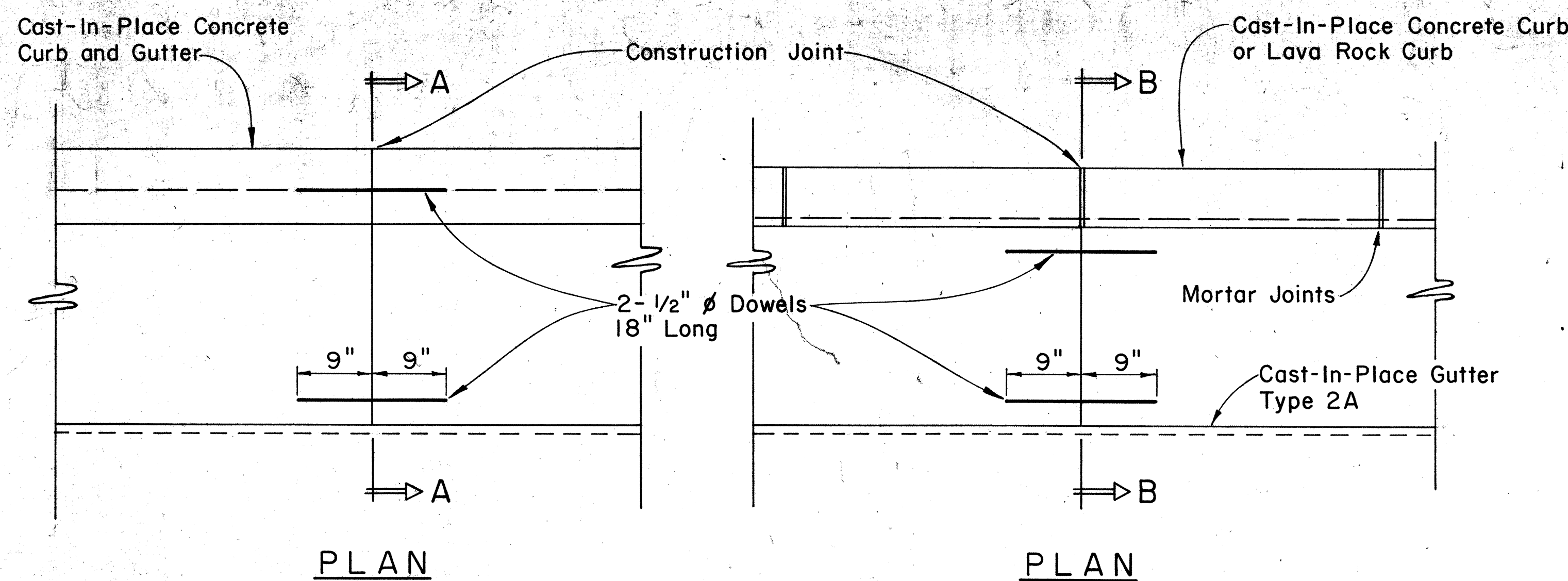
CHAIN LINK FENCE
(WITH TOPRAIL)

Scale: 1/2" = 1'-0" Date: AUG. 9, 1977

SHEET No. 44 OF 44 SHEETS DD 607.1

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HH-1(124)16	1978	15	223



CAST-IN-PLACE CONCRETE CURBS AND/OR GUTTERS

APPROVAL RECOMMENDED: M. Hironaka 12-4-69
HIGHWAY DESIGN ENGINEER DATE

APPROVED: Andrew P. Quinn 12-10-69
ASSISTANT CHIEF, ENGINEERING DATE

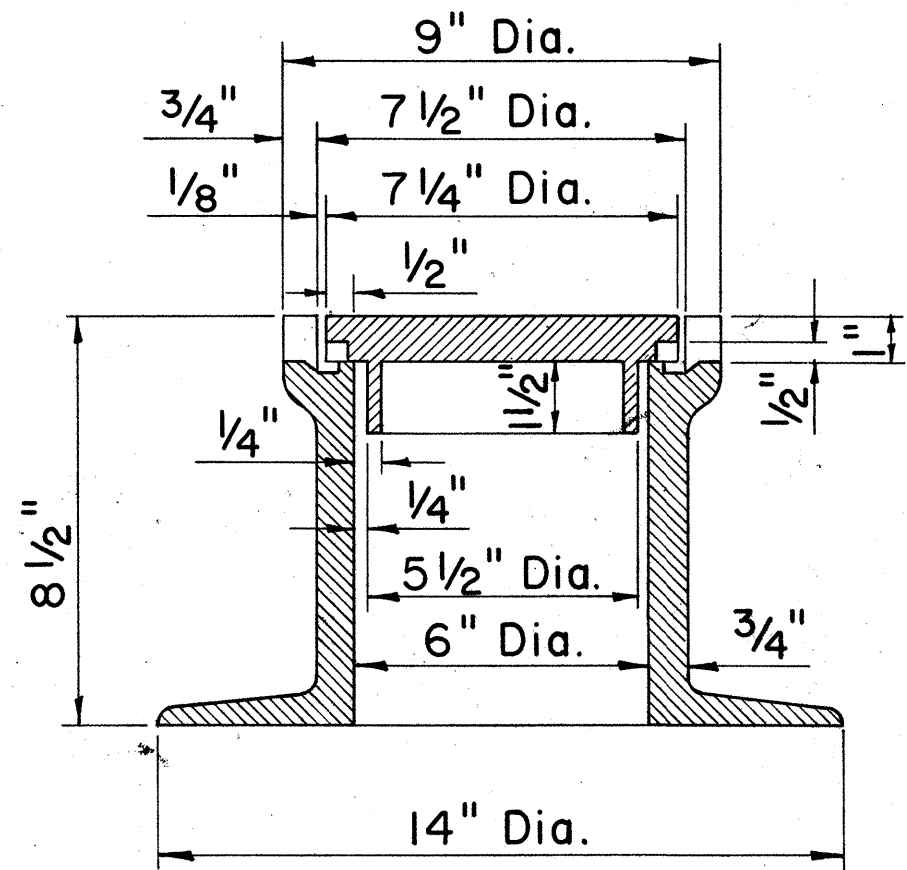
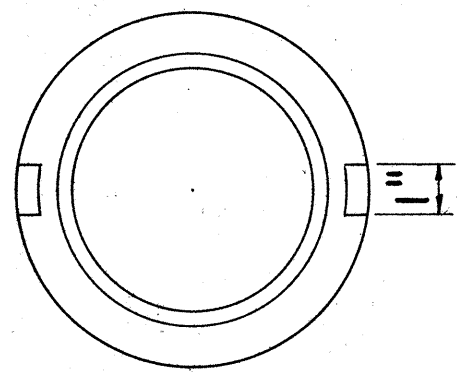
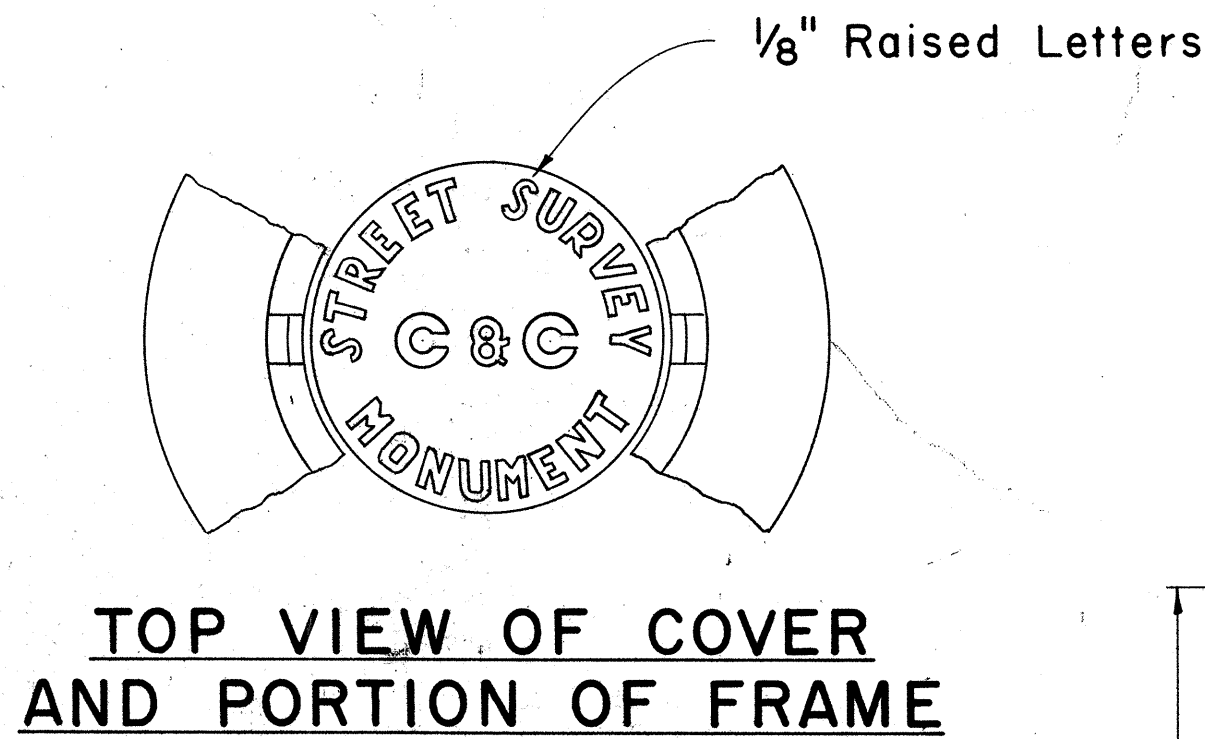
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
TYPICAL DETAILS OF CURB
AND/OR GUTTERS

Scale: As Shown
SHEET No. 45 OF SHEETS DD 6091

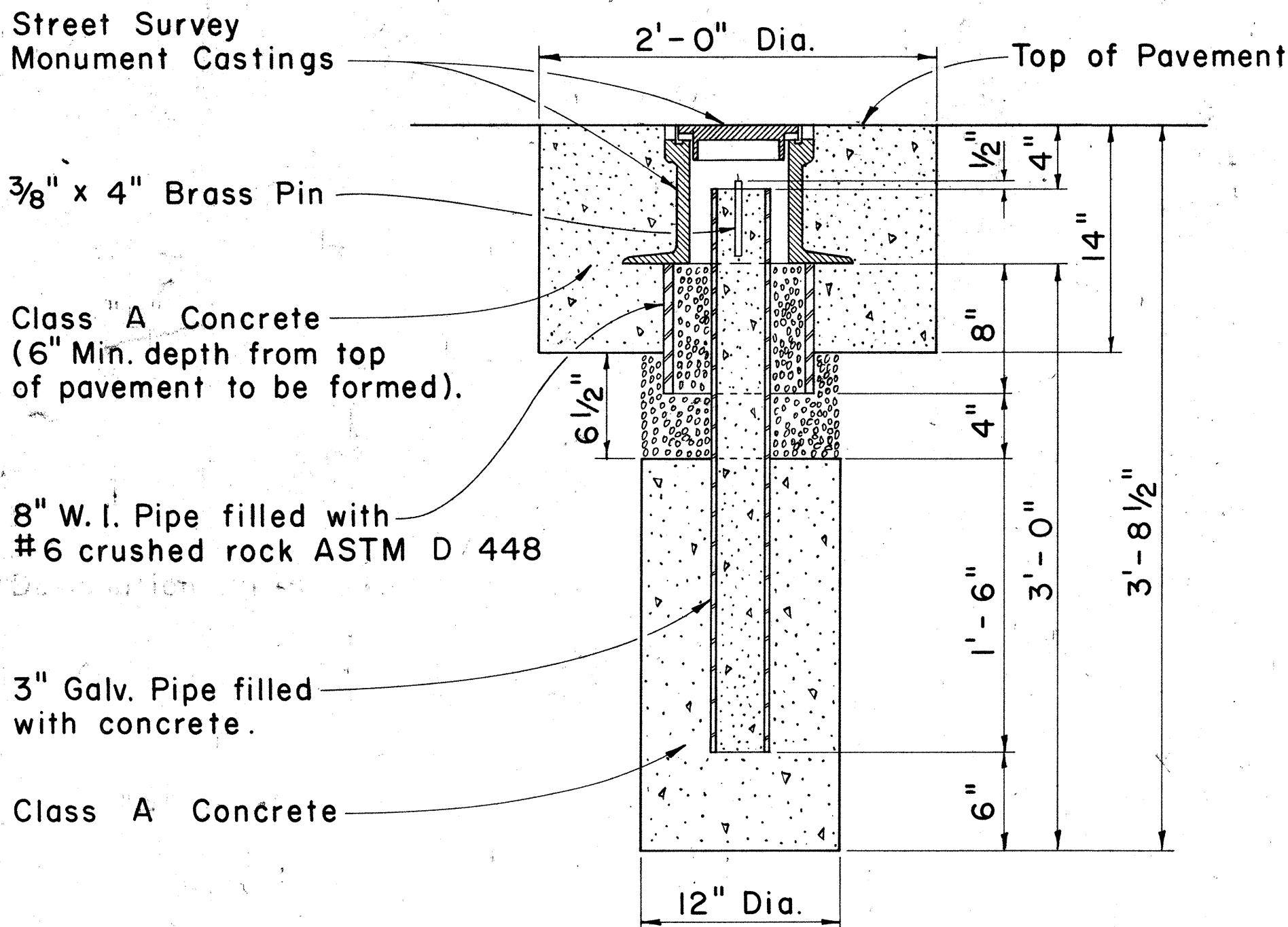
SURVEY PLOTTED BY: _____
DRAWN BY: _____
CHECKED BY: _____
DESIGNED BY: _____
QUANTITIES BY: _____
NOTED BY: _____
DATE: _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1(124)16	1973	47	223



STREET SURVEY MONUMENT CASTINGS

Scale: 3" = 1'-0"

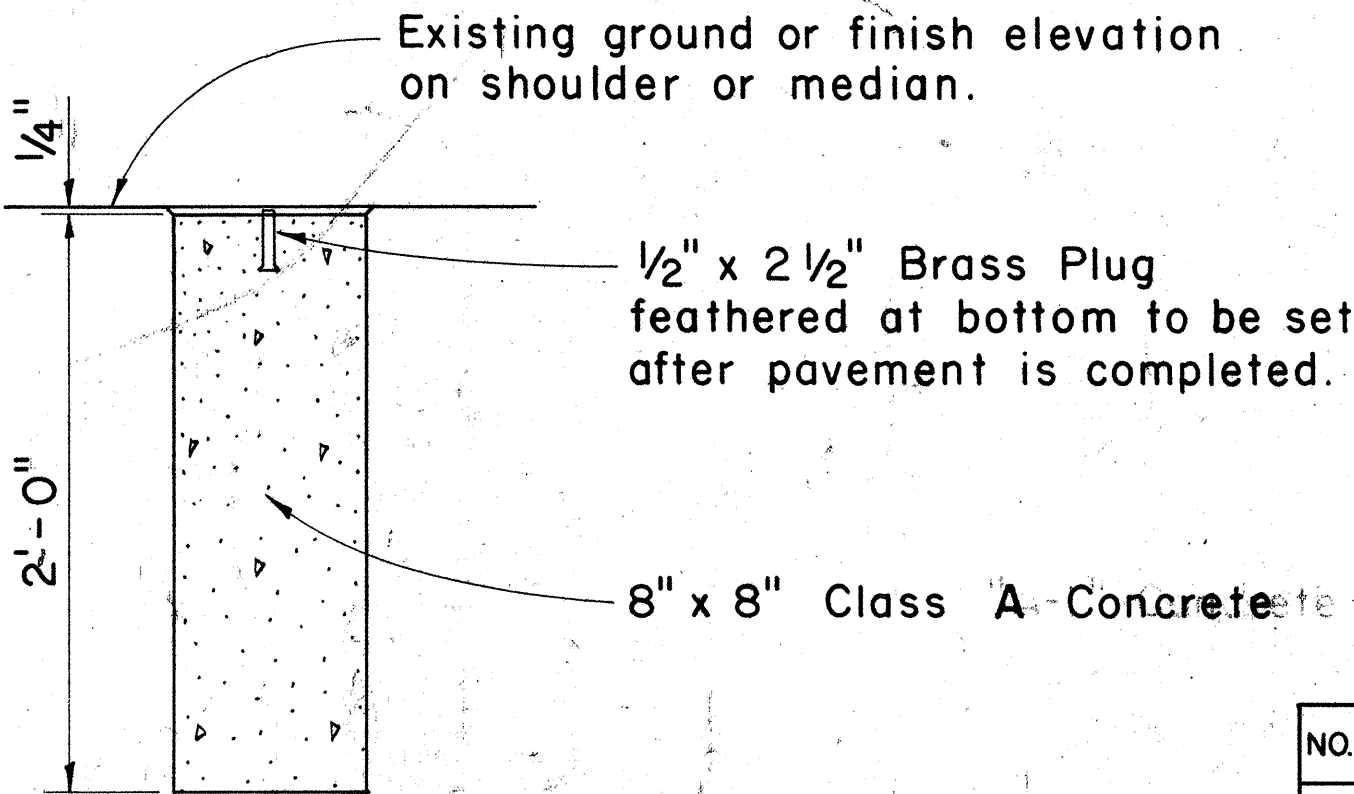


NOTE:

Where the excavation extends into solid rock the depth may be decreased if approved by the Engineer.

STREET SURVEY MONUMENT

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



DETAIL FOR CENTERLINE AND REFERENCE SURVEY MONUMENT

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

APPROVAL RECOMMENDED:

[Signature] 12-4-69
HIGHWAY DESIGN ENGINEER DATE

APPROVED:

[Signature] 12-10-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

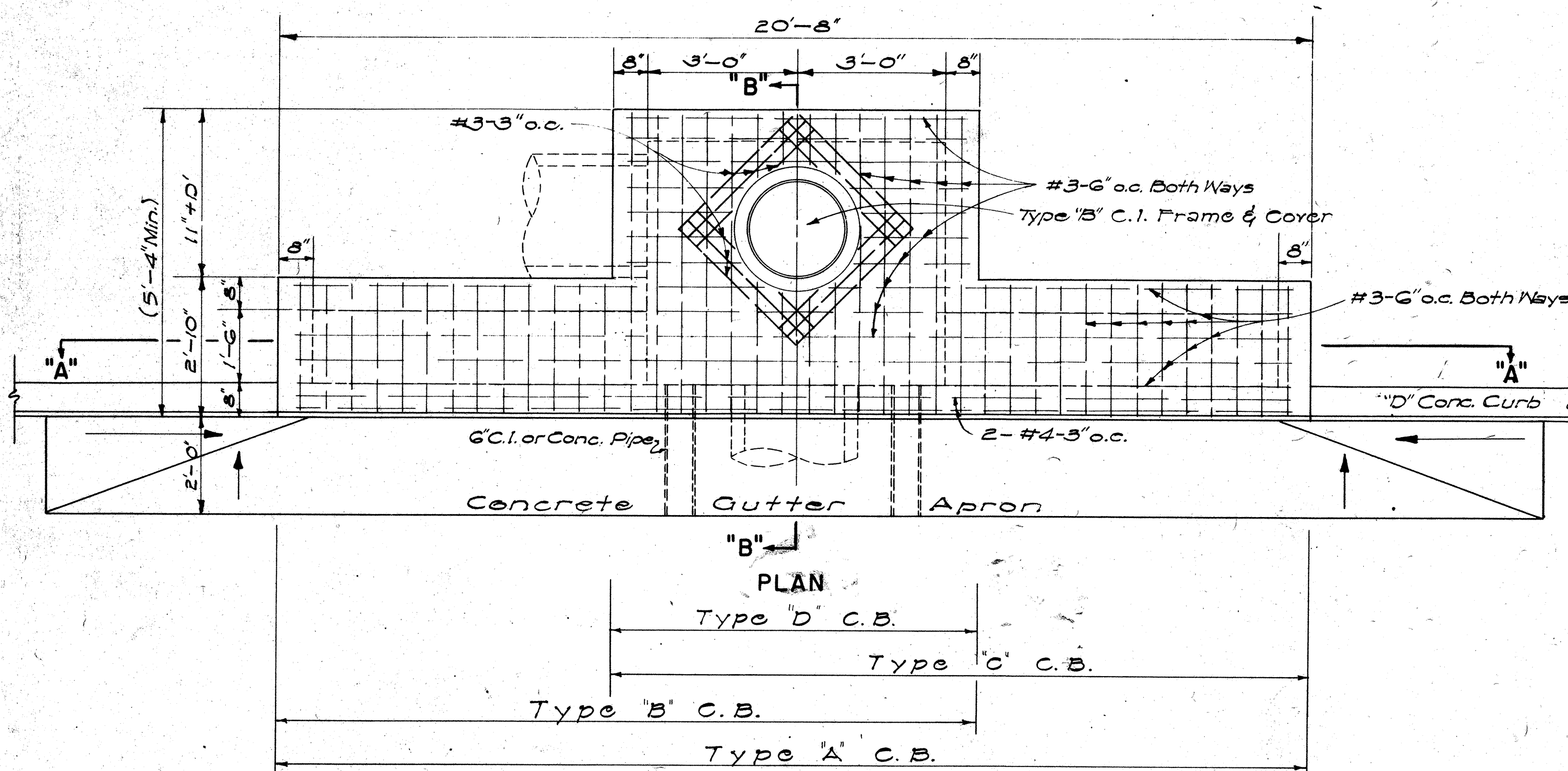
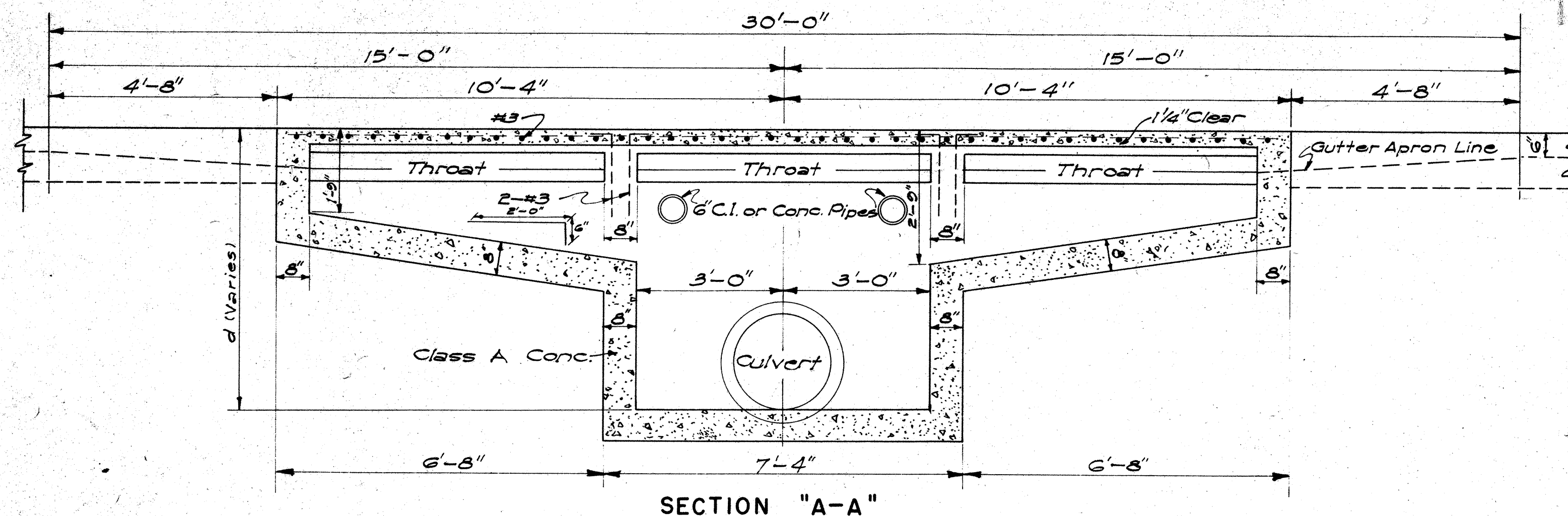
STANDARD DETAILS

CENTERLINE, REFERENCE SURVEY
AND C & C STREET SURVEY
MONUMENTS

Scale: As Shown

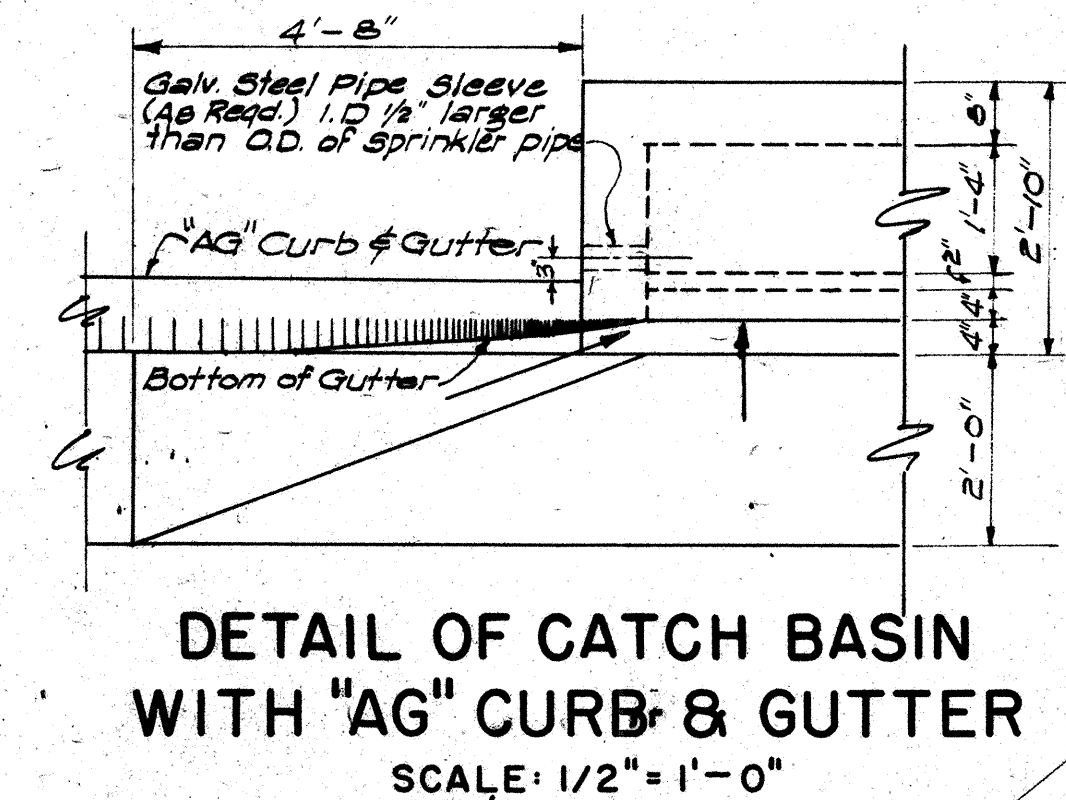
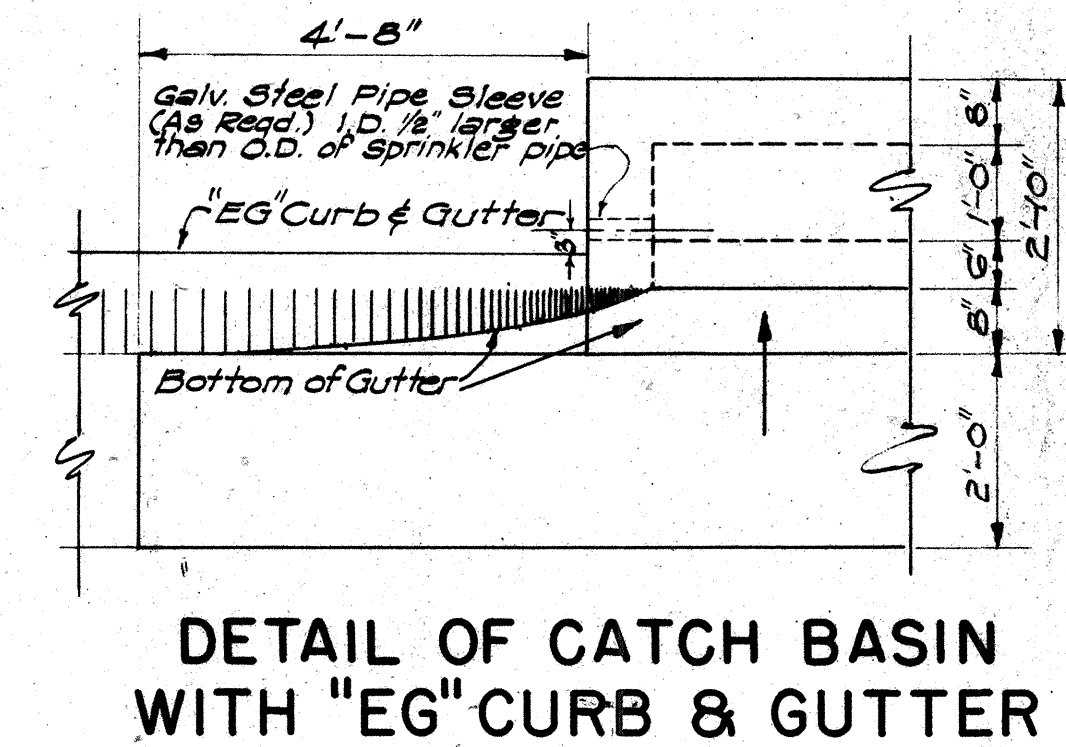
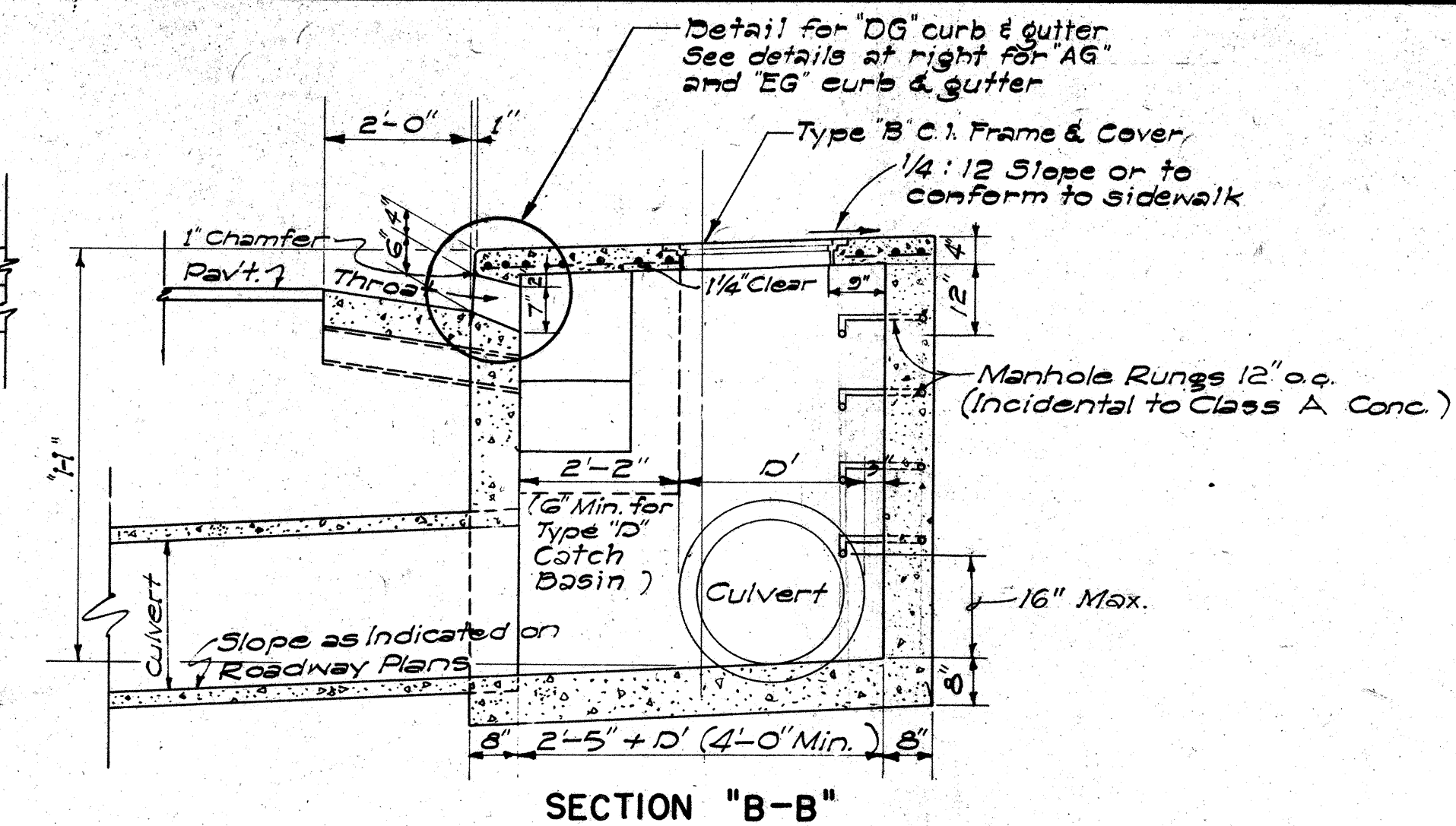
2/17/69

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	LRF(124)16	1978	18	223



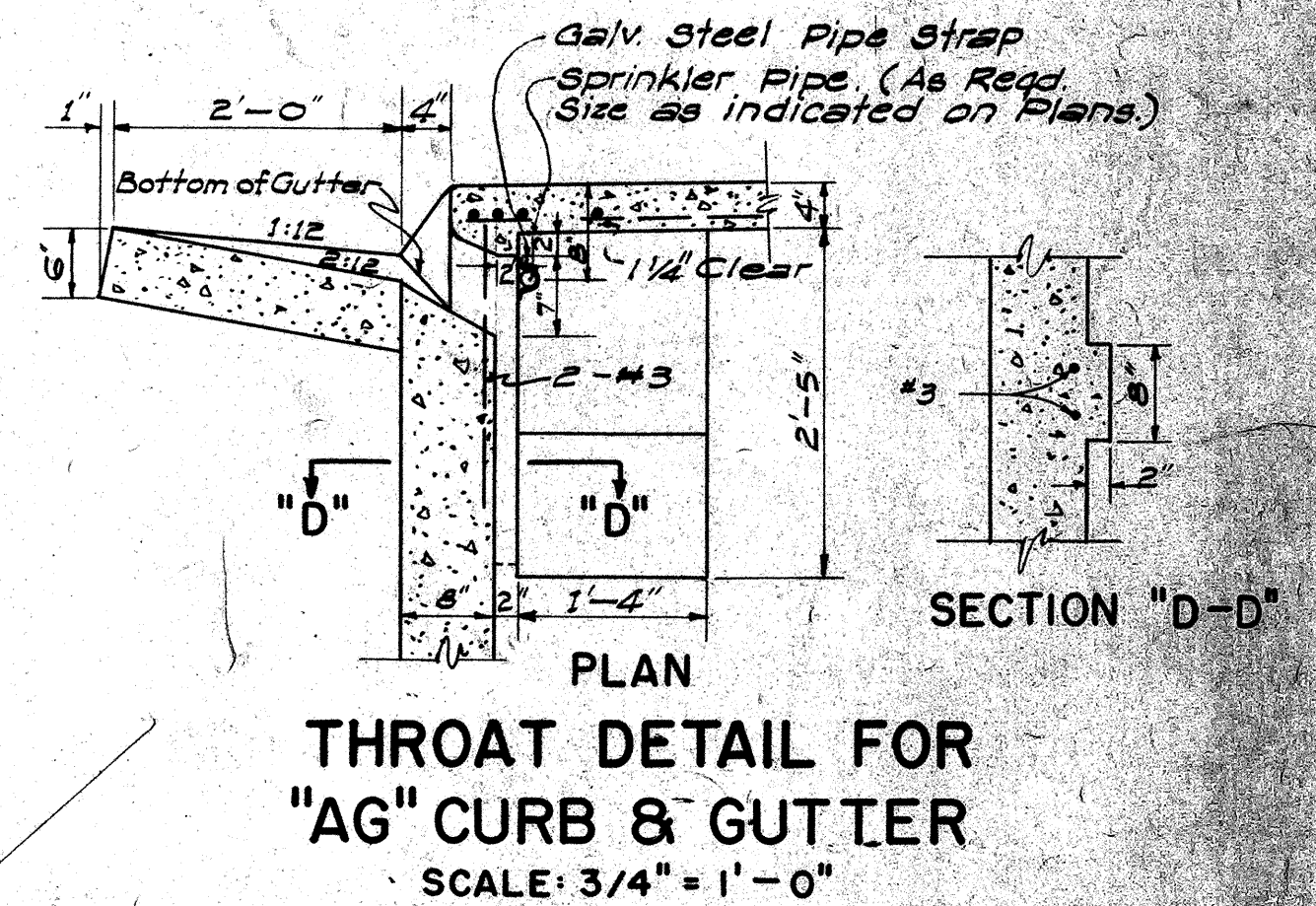
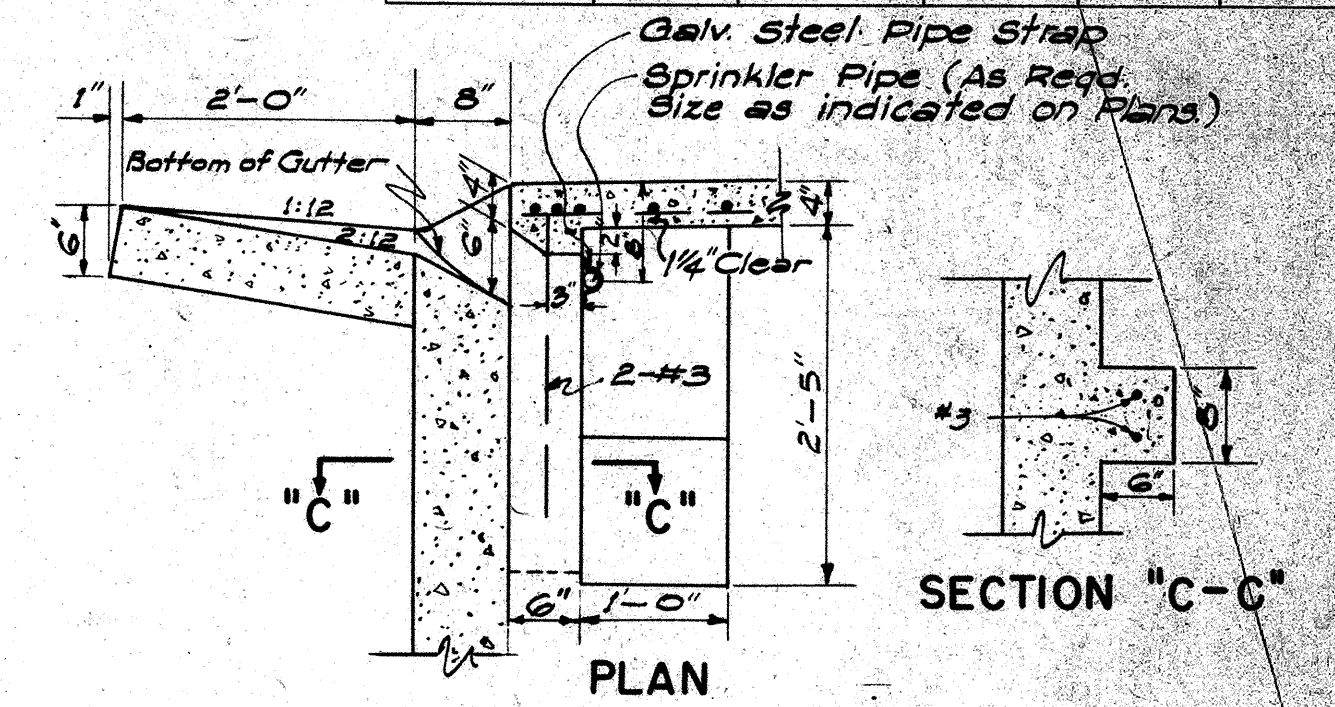
ESTIMATED QUANTITIES

Type	Class A Conc.	Struct. Exc.	Reinf. Steel	Gutter Length
"A"	7.5 c.y.	24.7 c.y.	145 lb.	30'-0"
"B"	6.0 c.y.	21.5 c.y.	108 lb.	23'-4"
"C"	6.0 c.y.	21.5 c.y.	108 lb.	23'-4"
"D"	4.0 c.y.	16.5 c.y.	77 lb.	16'-8"



GENERAL NOTES

- Quantities based on d = 5.75' and D = 30'.
- Quantities do not include concrete for Gutter Apron.
- The Contractor shall install two 6" Cast Iron or Concrete Pipes as incidental to Class A Concrete for Construction Drainage. The Engineer shall determine the exact location in the field.
- 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.
- The type of curb and/or gutter (Type 1, 2, 3, etc.) shall conform to the type specified on the roadway plans.
- Manhole Rungs (12" o.c.) are required when "H" is greater than 4 feet 6 inches. Only one rung (16 inches from the bottom) is required if "H" is 4 feet 6 inches or less. Type "B" Cast Iron Frame and Cover and Manhole Rungs may be placed at any location as ordered by the Engineer.



APPROVAL RECOMMENDED:

Hydraulic Design Engineer

APPROVED:

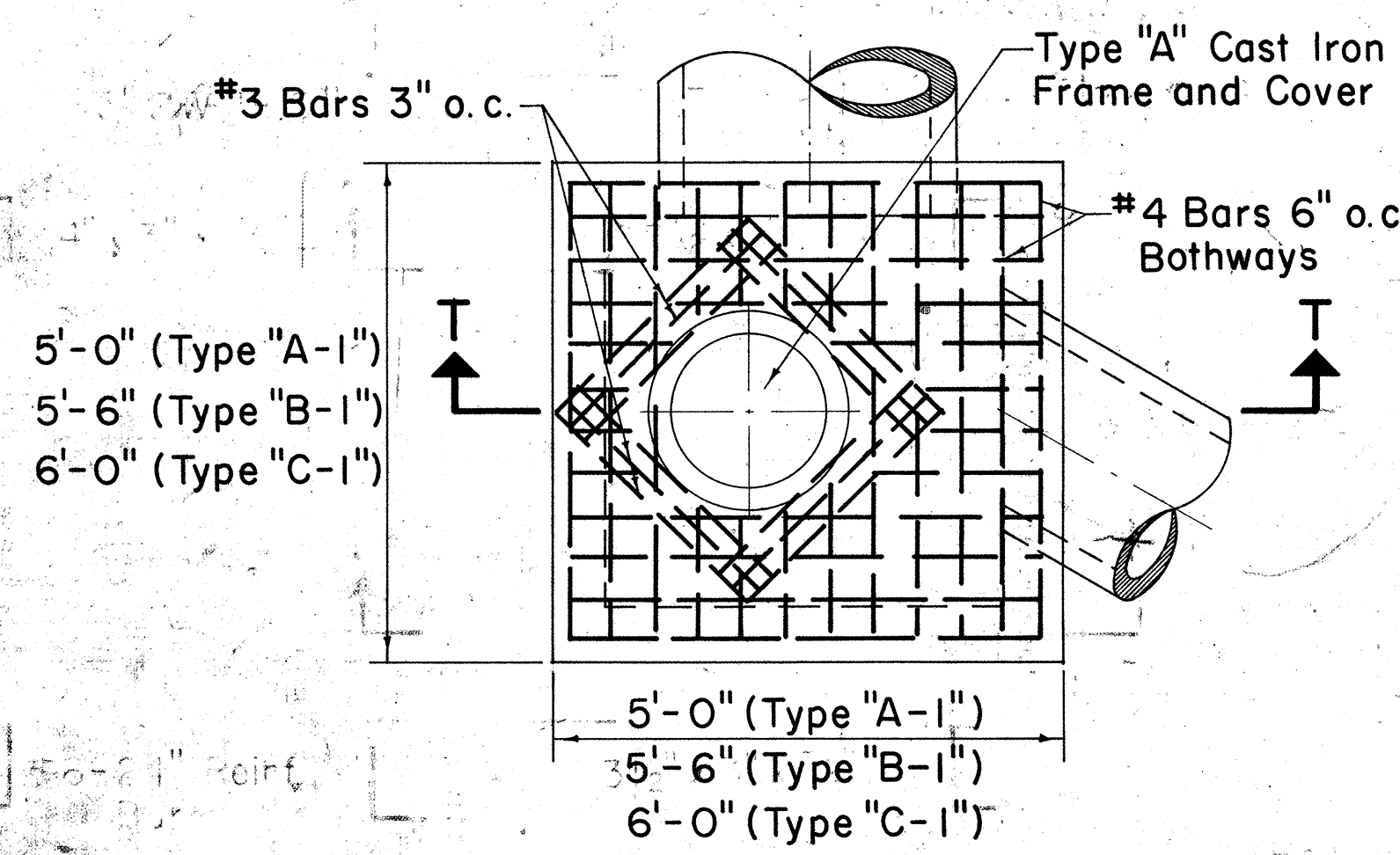
Assistant Chief, Engineering

NO.	REVISION	APPROVED BY	DATE
1	Spacing on Manhole Rungs to conform to OSHA.	H.T.	1-21-75

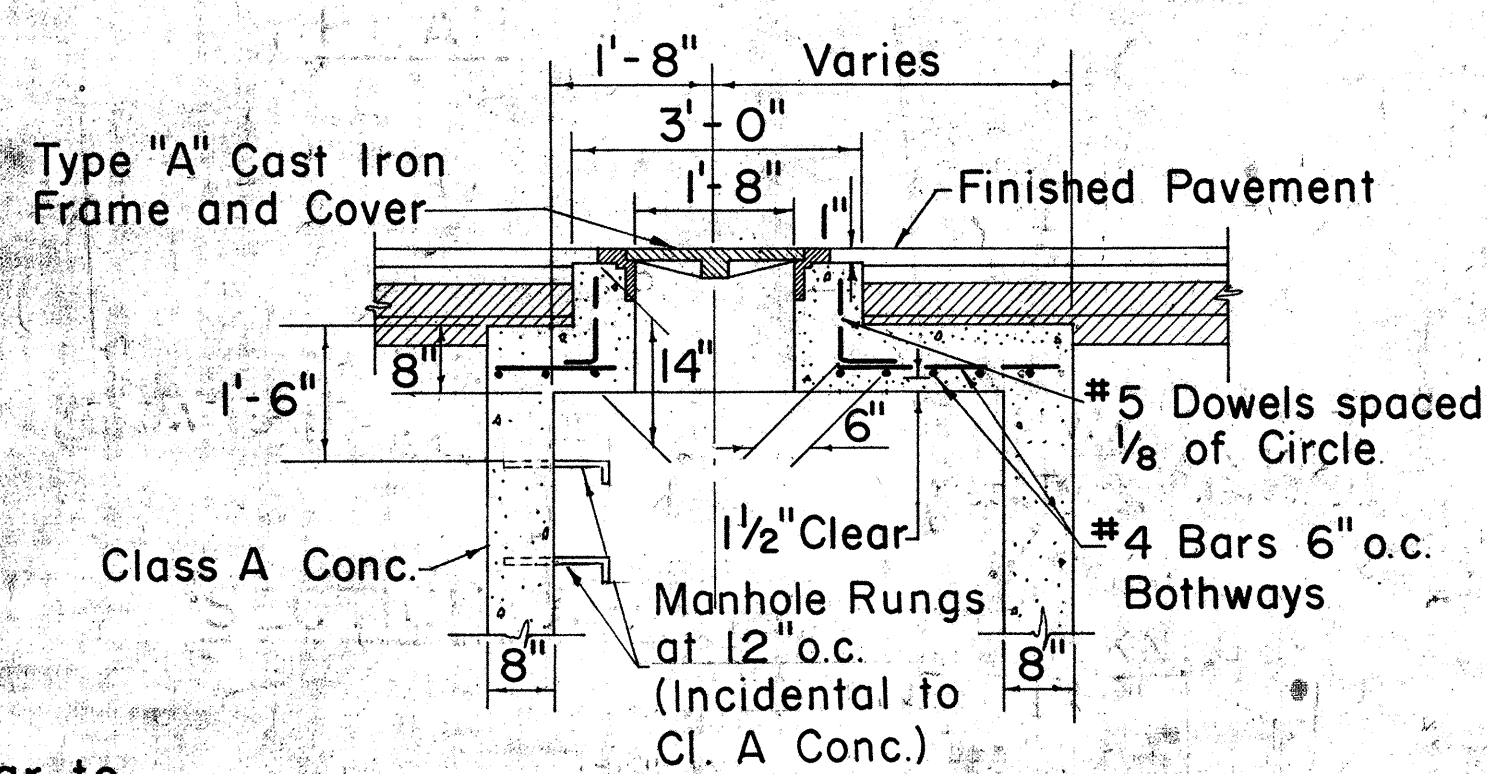
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CATCH BASINS

Scale: As Noted Date: July, 1969
SHEET NO. OF SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	CH-11(123)116	1978	50	223



PLAN



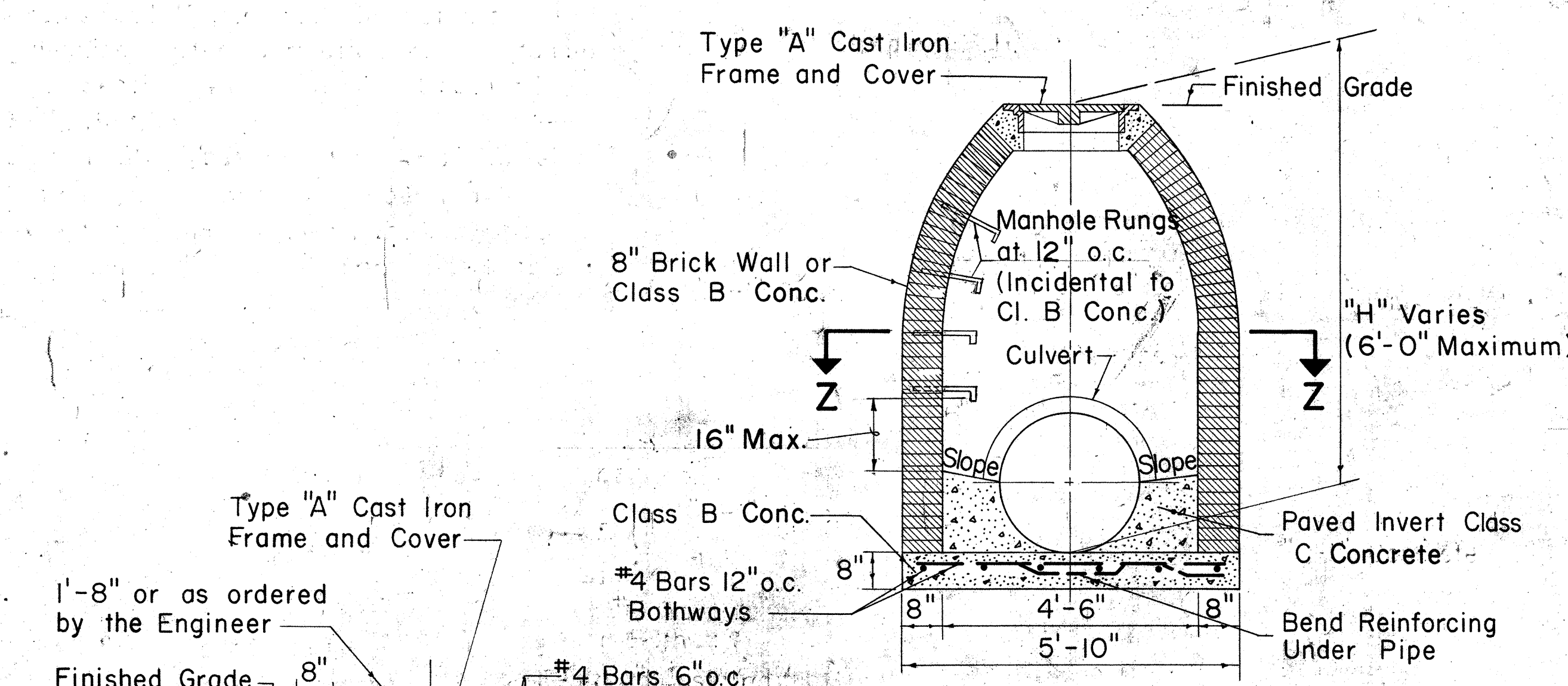
SECTION T-T

TYPE "A-1", "B-1", & "C-1"
STORM DRAIN MANHOLE
TOP DETAIL UNDER PAVEMENT
Scale: 1/2" = 1'-0"

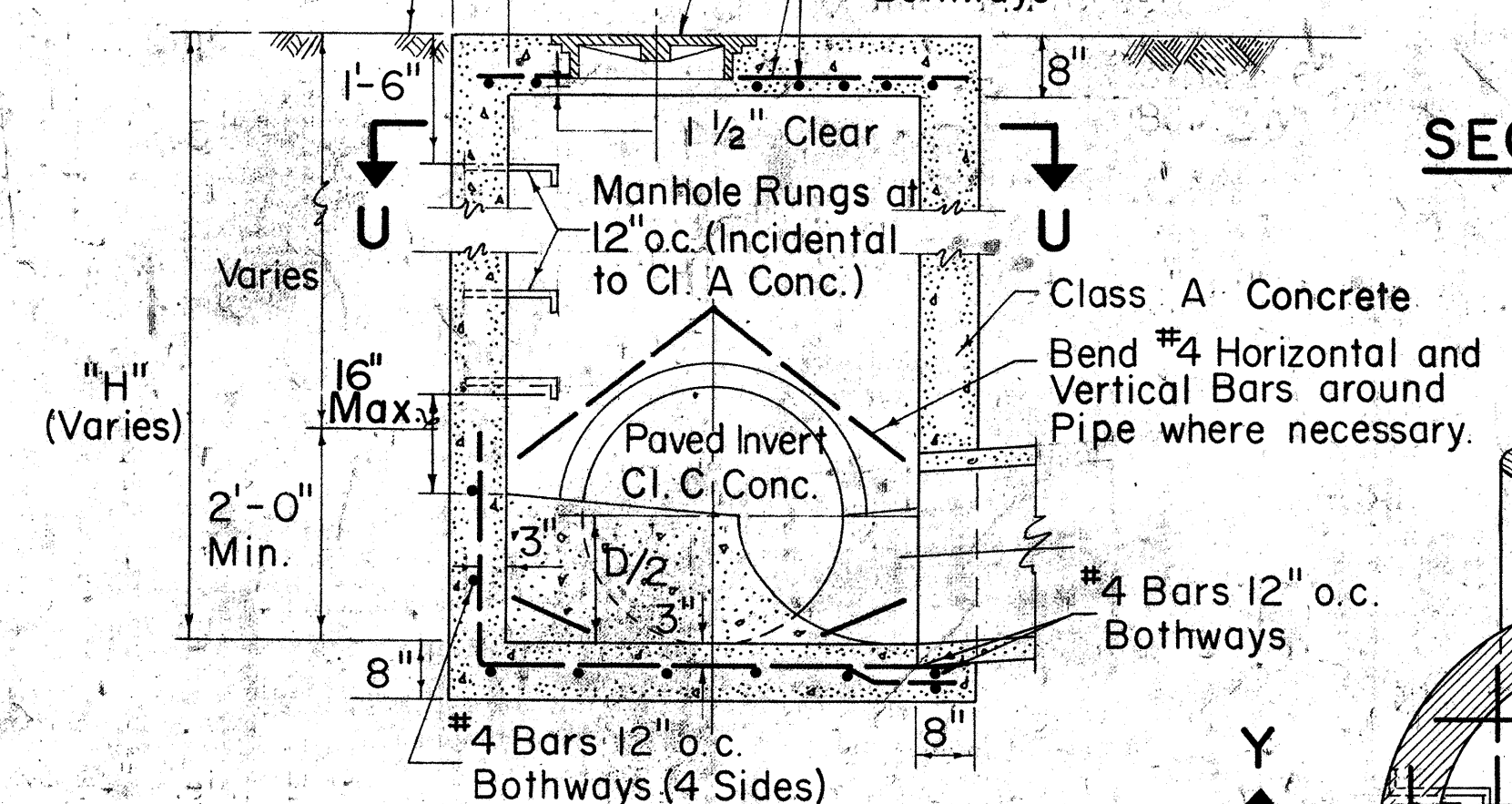
Note:
Bottom detail similar to Type "A", "B", & "C"

GENERAL NOTES

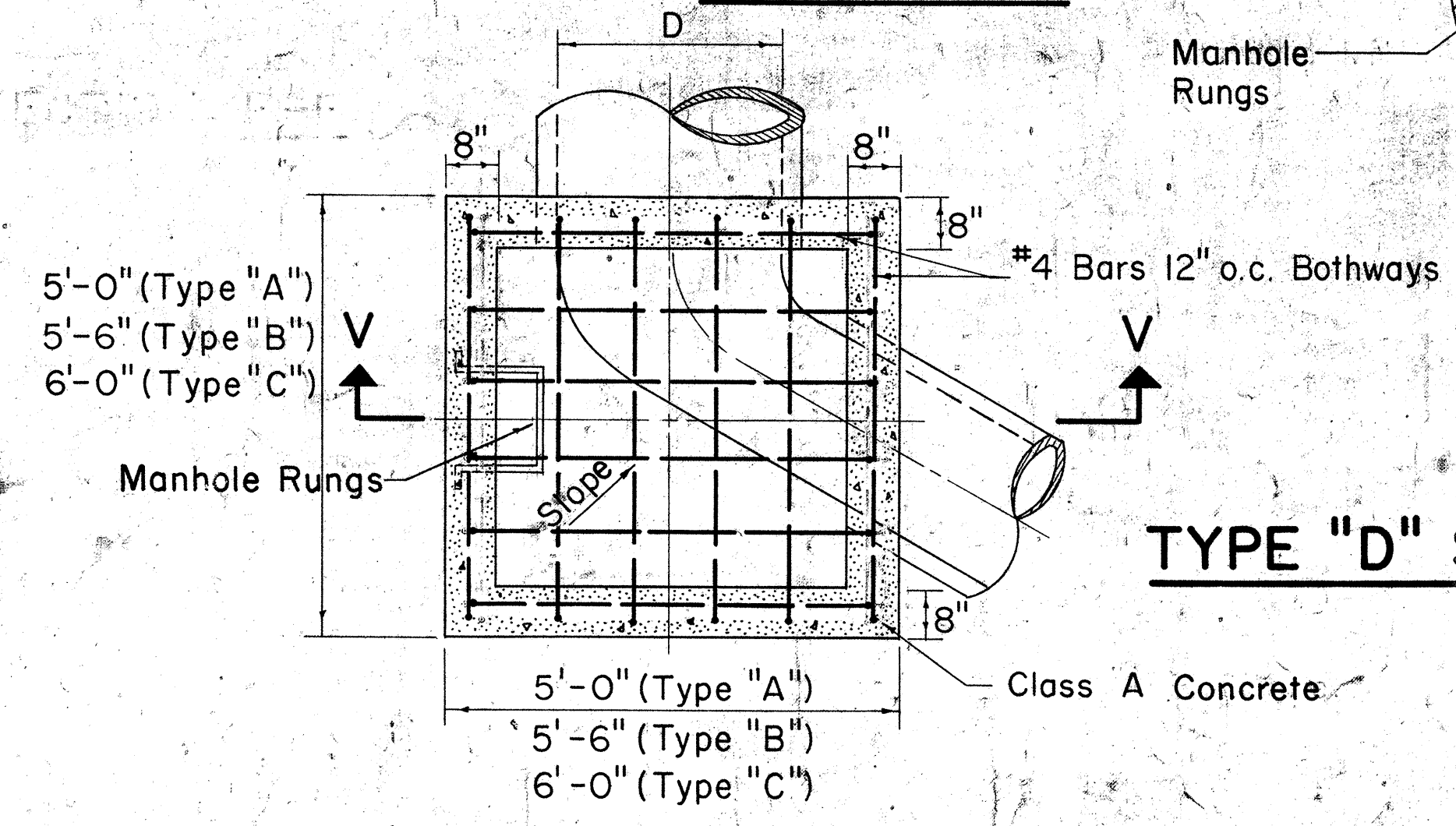
- Culvert shall enter and leave S.D.M.H. from any position and in the direction indicated by the plans or ordered by the Engineer.
- Manhole Rungs (12" o.c.) are required when "H" is greater than 4'-6". Only one rung (16" from the bottom) is required if "H" is 4'-6" or less. Type "A" C.I. Frame and Cover and Manhole Rungs may be placed at any location as ordered by the Engineer.



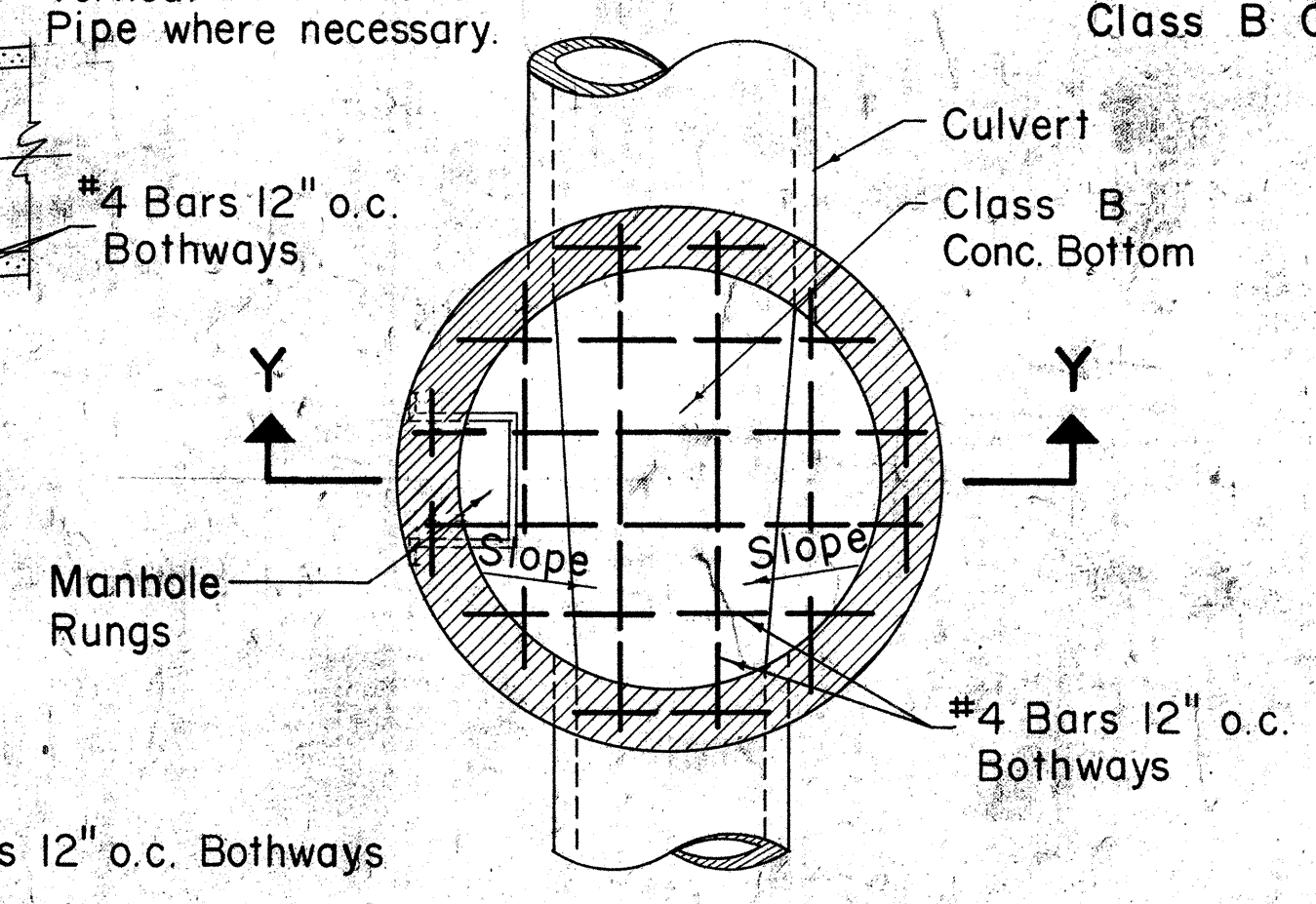
SECTION Y-Y



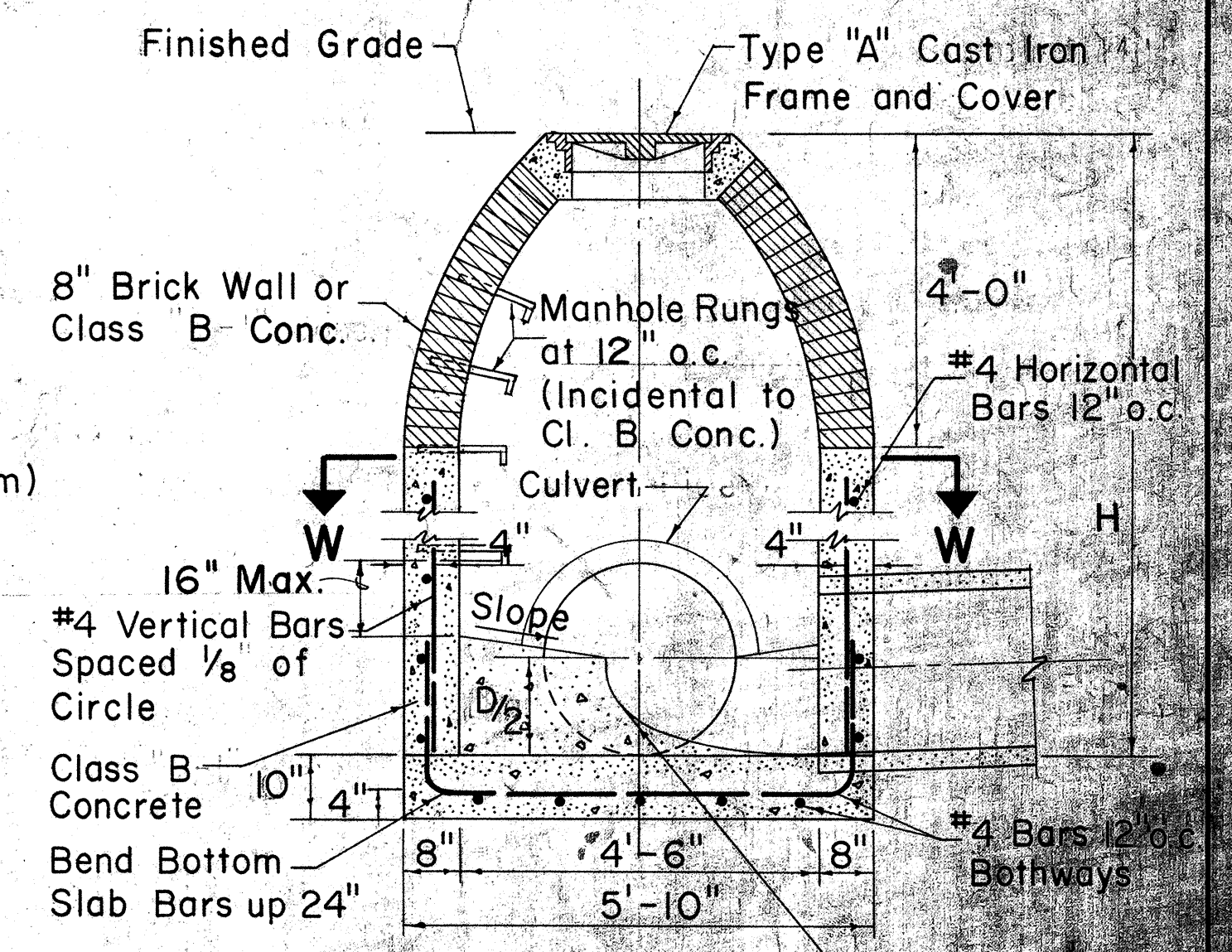
SECTION V-V



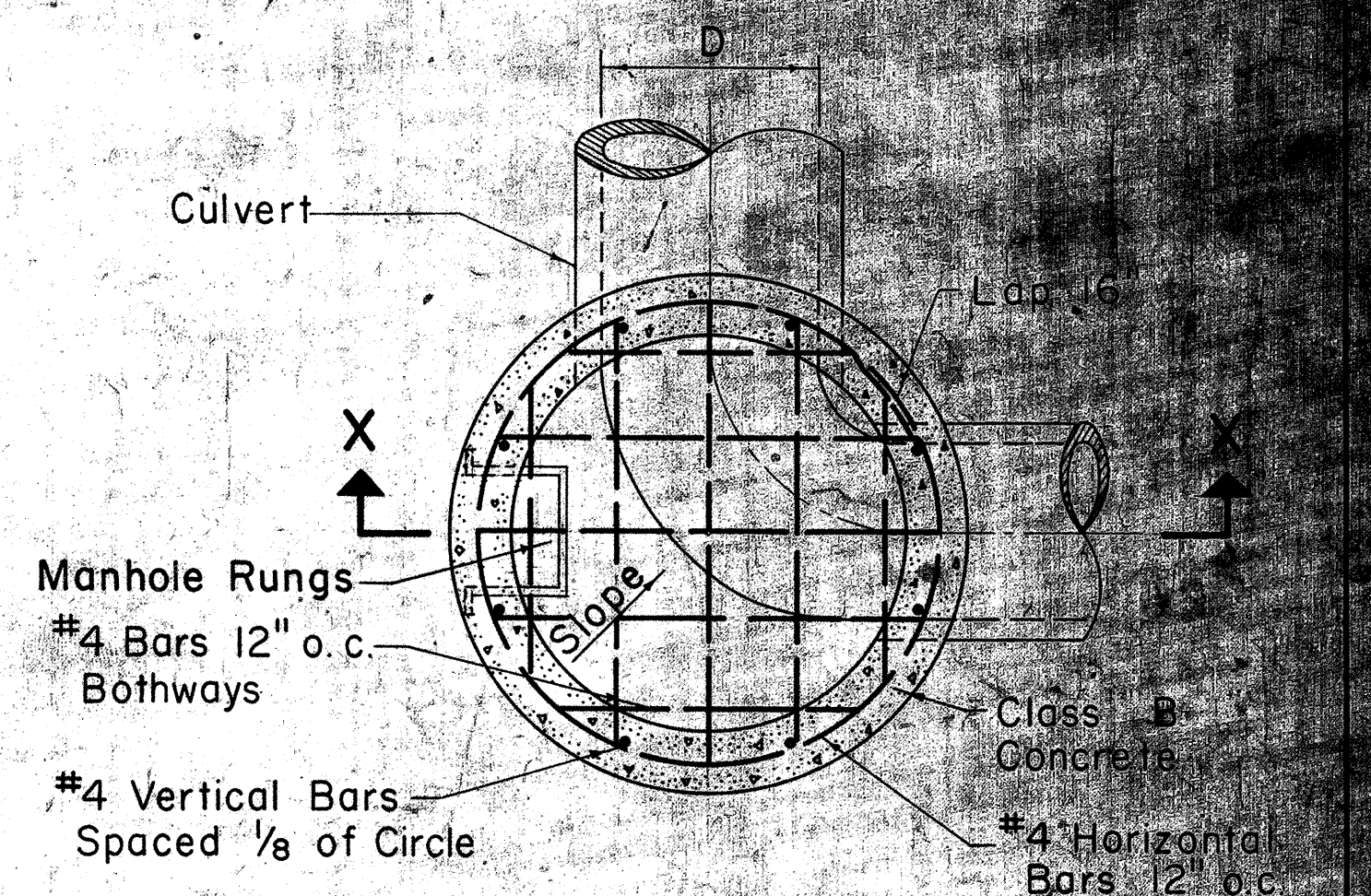
SECTION U-U
TYPE "A", "B", & "C"
S.D.M.H.
Scale: 1/2" = 1'-0"



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



SECTION X-X

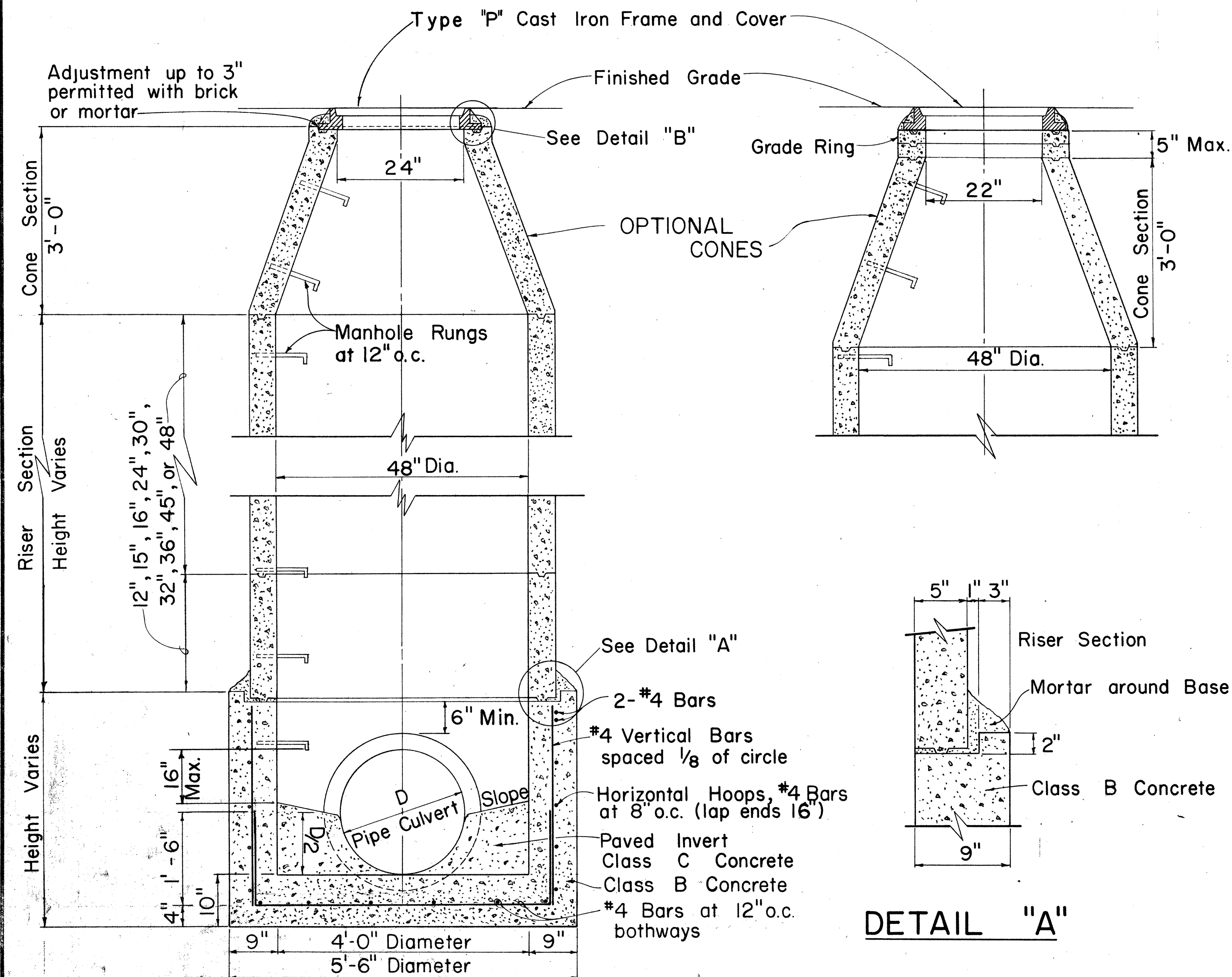


SECTION W-W
TYPE "E" STORM DRAIN MANHOLE
Scale: 1/2" = 1'-0"

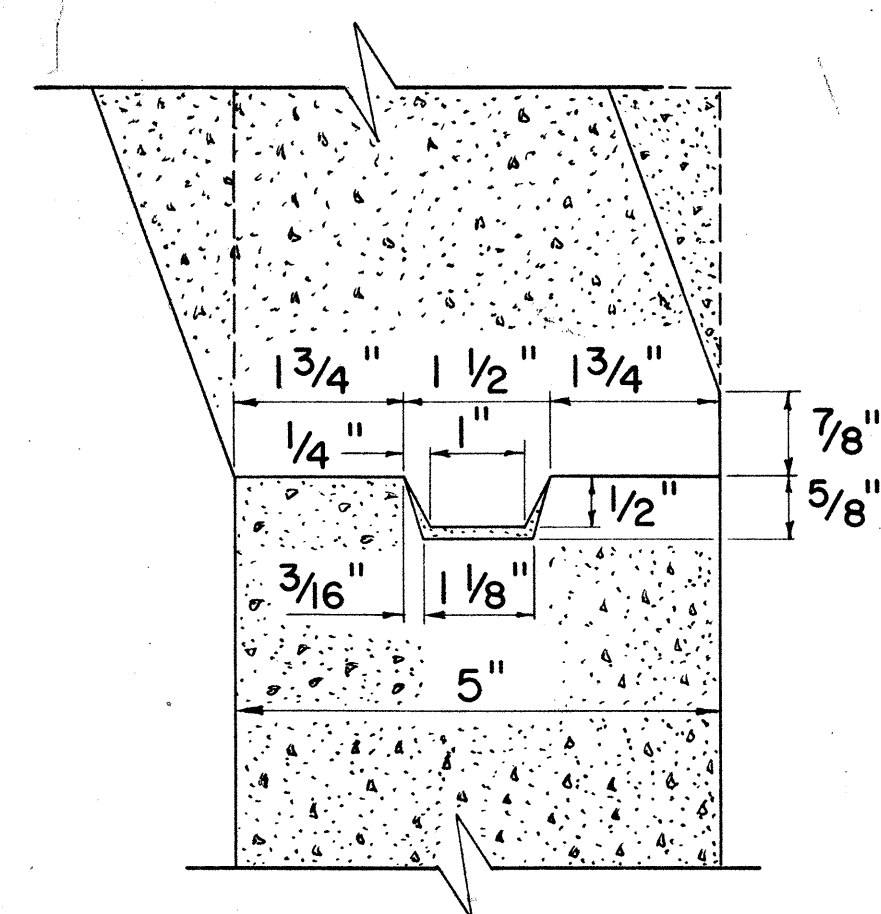
NO.	REVISION	APPROVED BY	DATE
1	Spacing on Manhole Rungs to conform to OSHA.	H.T.	1-21-78

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS STORM DRAIN MANHOLES	
Scales: As Noted	Date: July 1, 1969

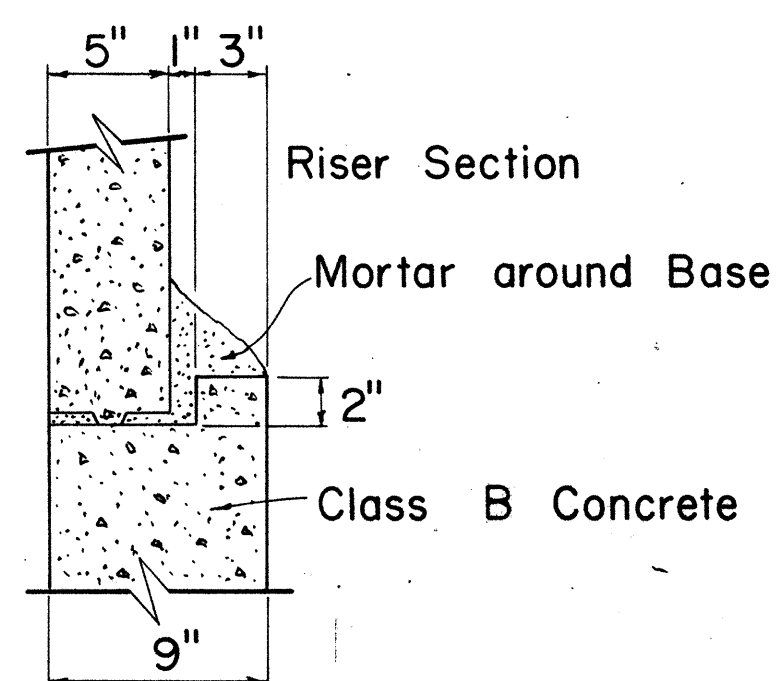
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(124)16	1978	51	223



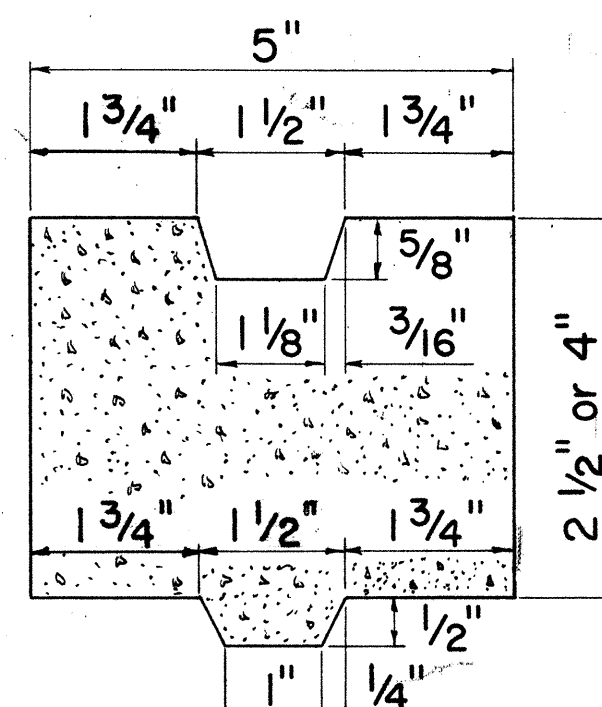
TYPICAL SECTIONS PRECAST CONCRETE MANHOLE
Not to Scale



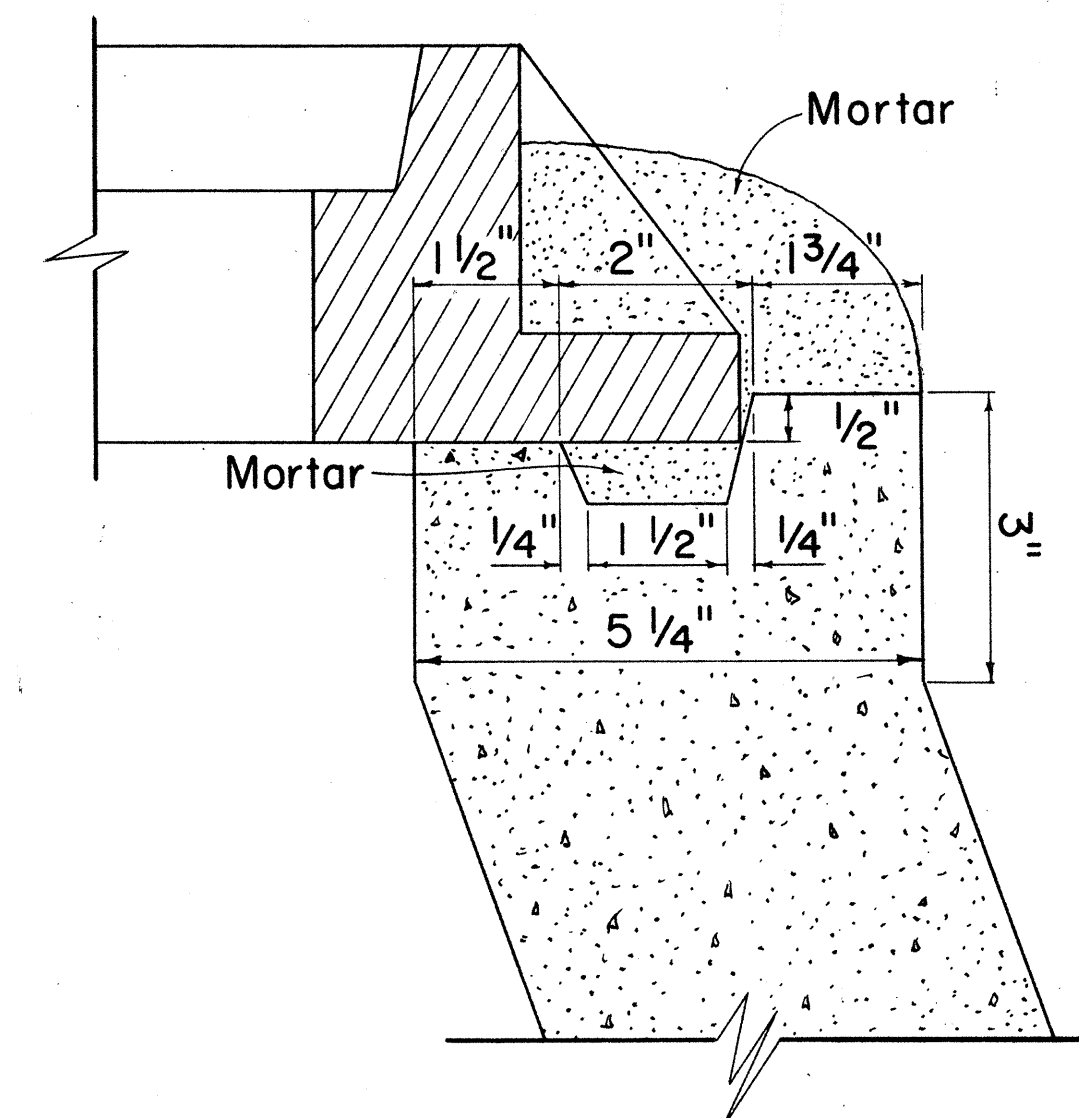
DETAIL FOR RISER JOINTS
Not to Scale



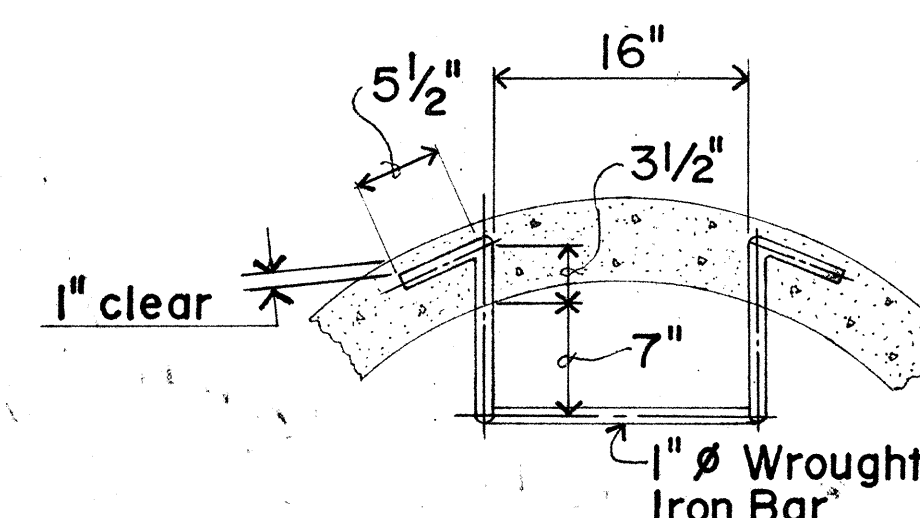
DETAIL "A"



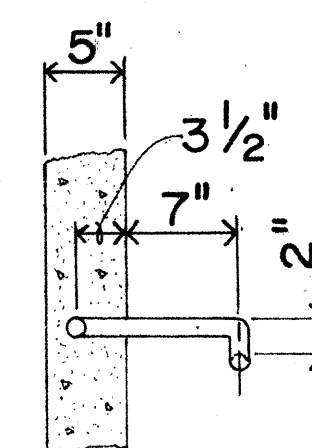
GRADE RING DETAIL
Not to Scale



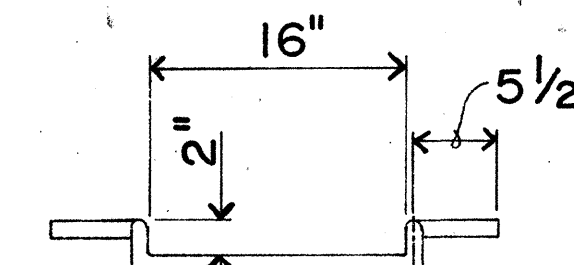
DETAIL "B"
Not to Scale



PLAN VIEW



SIDE VIEW



FRONT VIEW

DETAIL OF MANHOLE RUNGS
Not to Scale

GENERAL NOTES

1. Manhole Rungs to be placed at 12" o.c. (Manhole Rungs incidental to Class B Concrete)
2. Select appropriate combination of risers and grade rings for required height.
3. All joints to be grouted as set.
4. The precast sections shall be constructed in accordance with the details shown on the plans and to the requirements of ASTM C 478
5. Manufacturers may submit to the Engineer for approval, prior to manufacturing, designs other than those shown on this sheet.
6. Reinforcing steel for precast sections shall be placed in accordance with the requirements of ASTM C 478
7. All Class C Concrete to be incidental to Class B Concrete.

APPROVAL RECOMMENDED:

G. J. J. J.
HYDRAULIC DESIGN ENGINEER

2-2-71
DATE

APPROVED:

A. J. J. J.
ASSISTANT CHIEF, ENGINEERING

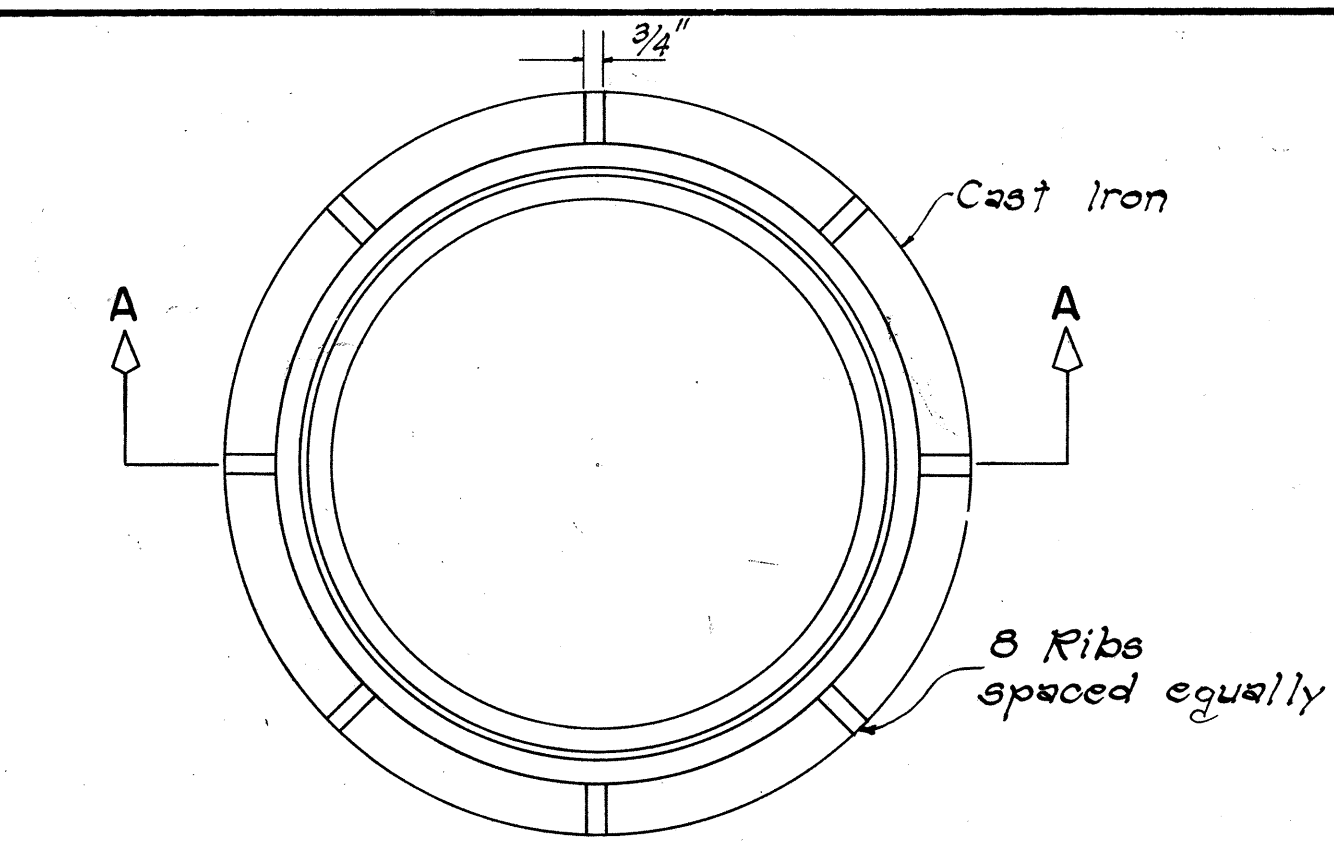
2-2-71
DATE

NO.	REVISION	APPROVED BY	DATE
1	Spacing and details of Manhole Rungs to conform to OSHA	H.T.	2/28/71

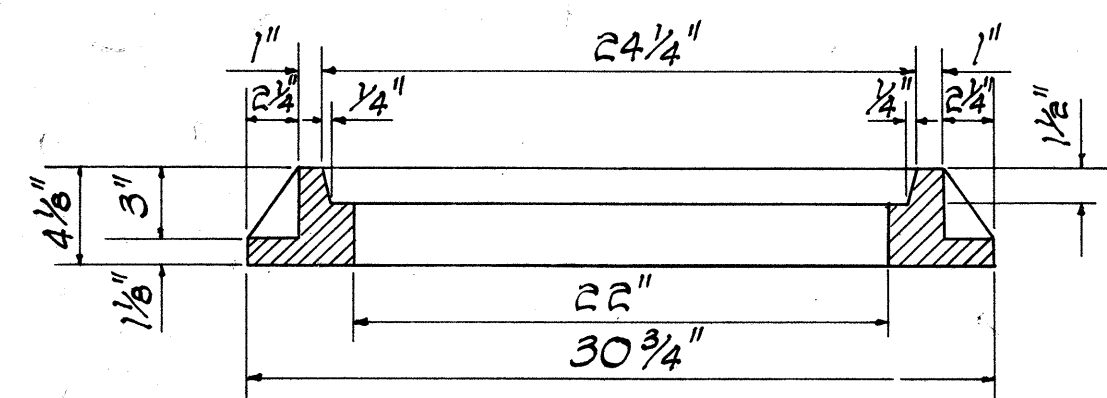
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
PRECAST CONCRETE
STORM DRAIN MANHOLES

Not to Scale Date: Nov., 1970
SHEET No. OF SHEETS DH 5A

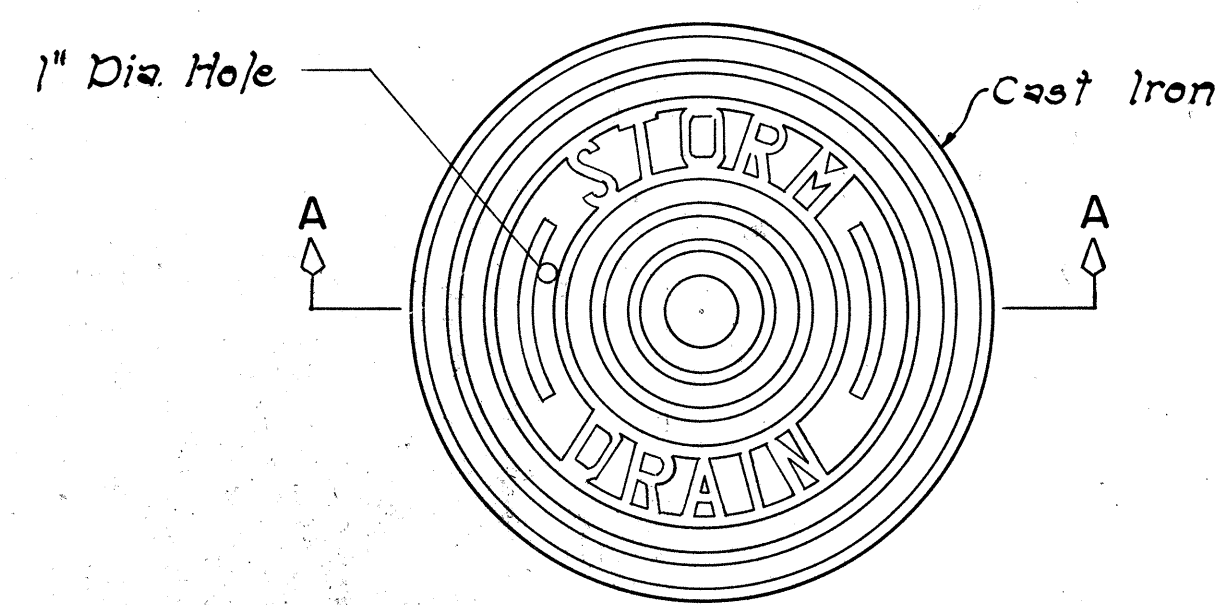
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(24)-16	1978	52	223



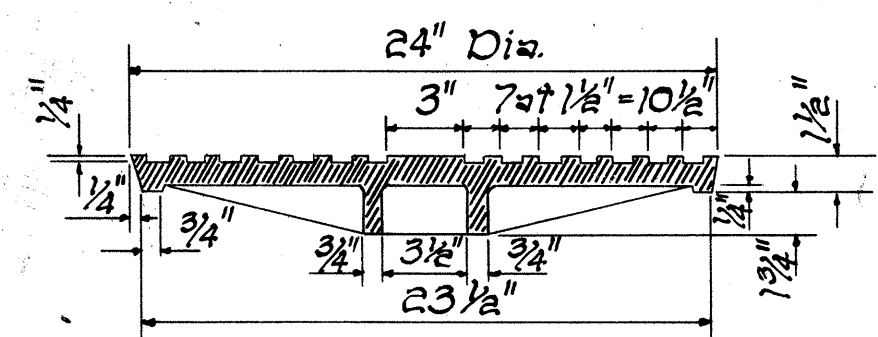
PLAN



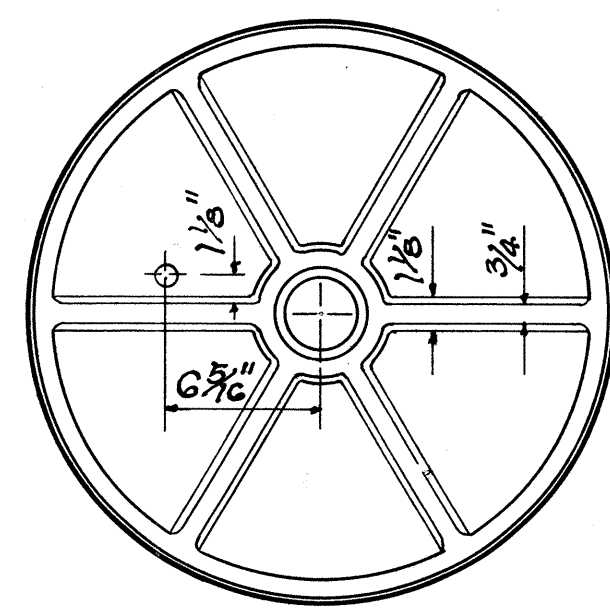
SECTION A-A



PLAN



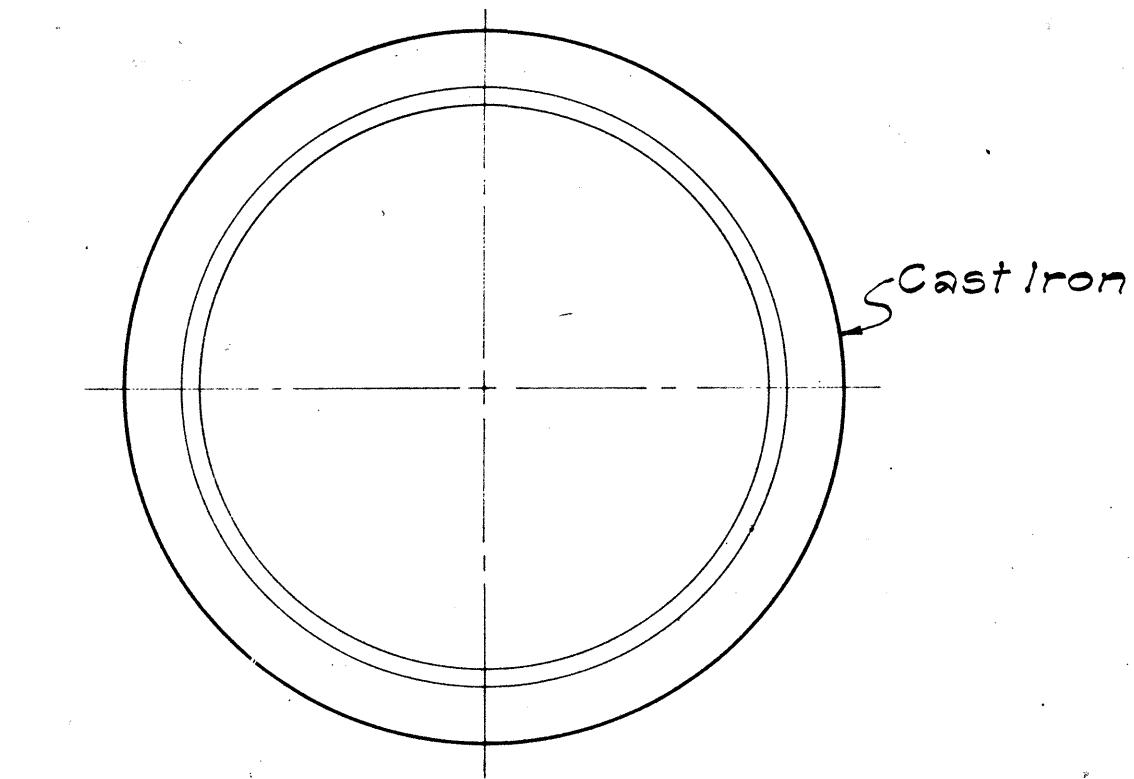
SECTION A-A



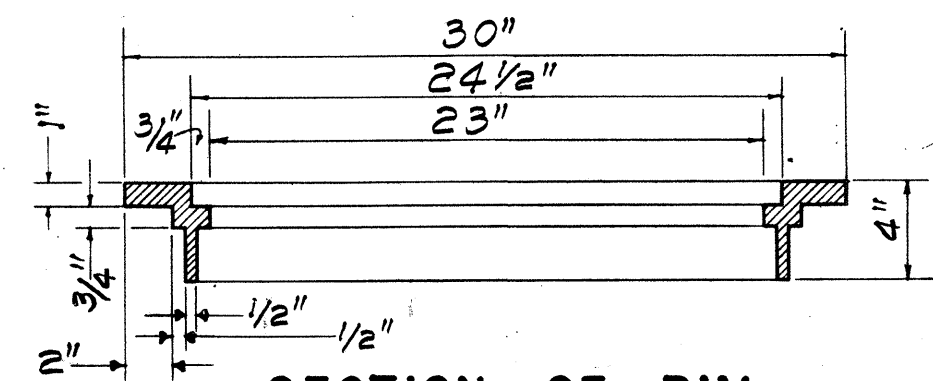
BOTTOM VIEW OF COVER

DETAILS OF TYPE "P"
CAST IRON FRAME AND COVER

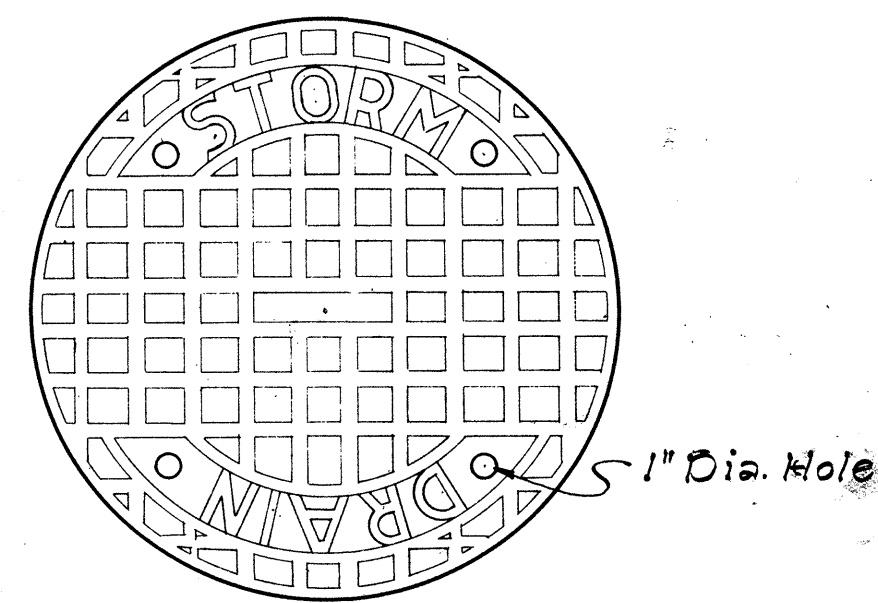
SCALE: 1-1/2" = 1'-0"



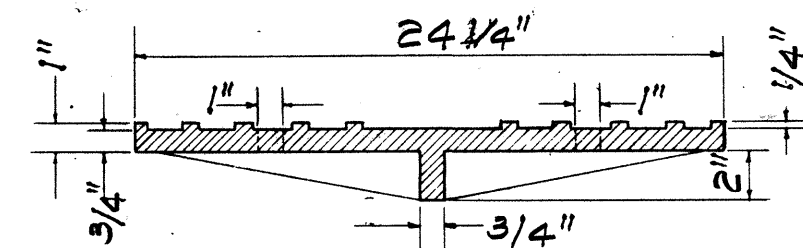
PLAN OF RIM



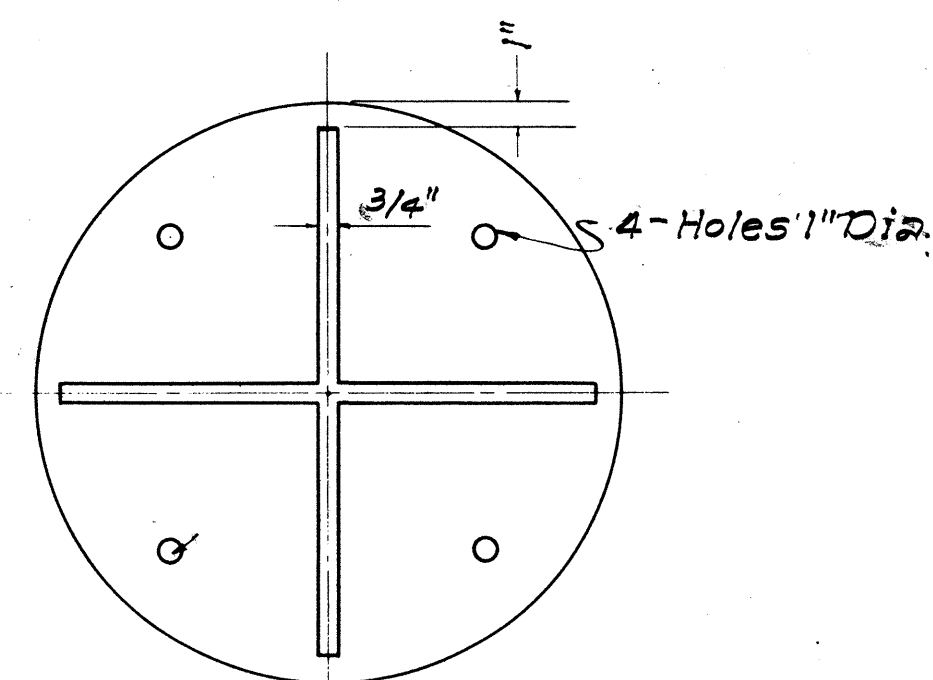
SECTION OF RIM



TOP VIEW OF COVER



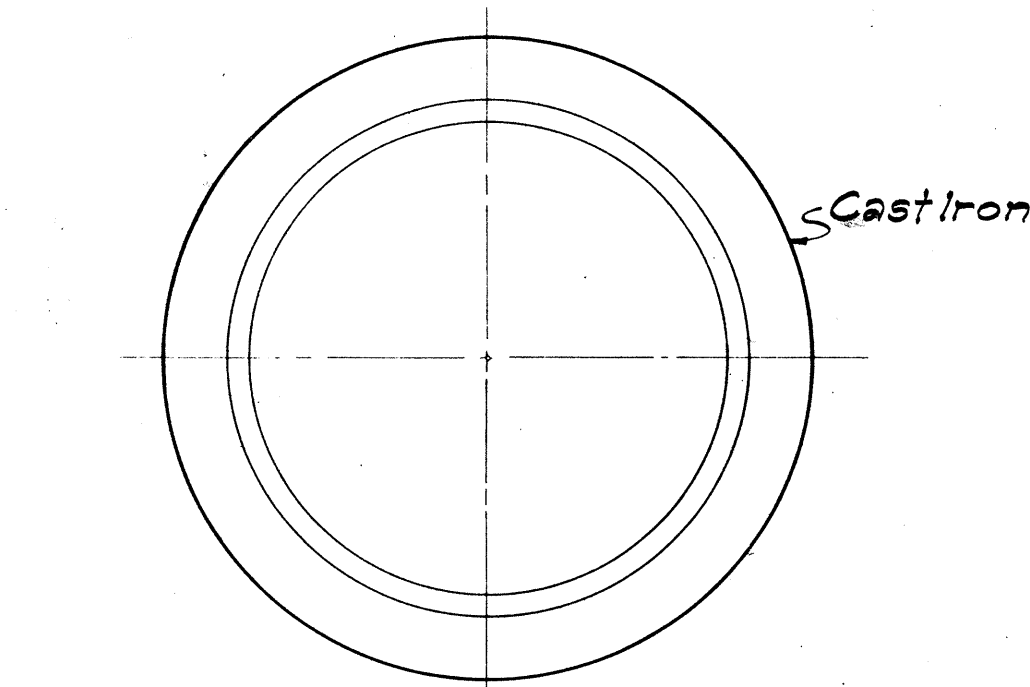
SECTION



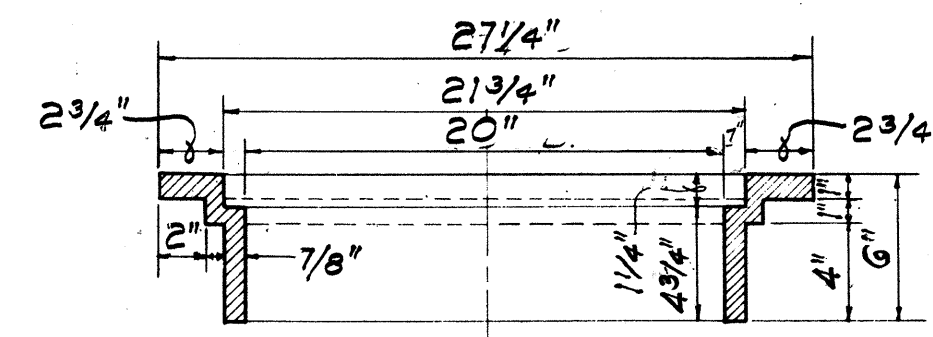
BOTTOM VIEW OF COVER

DETAILS OF TYPE "B"
CAST IRON FRAME AND COVER

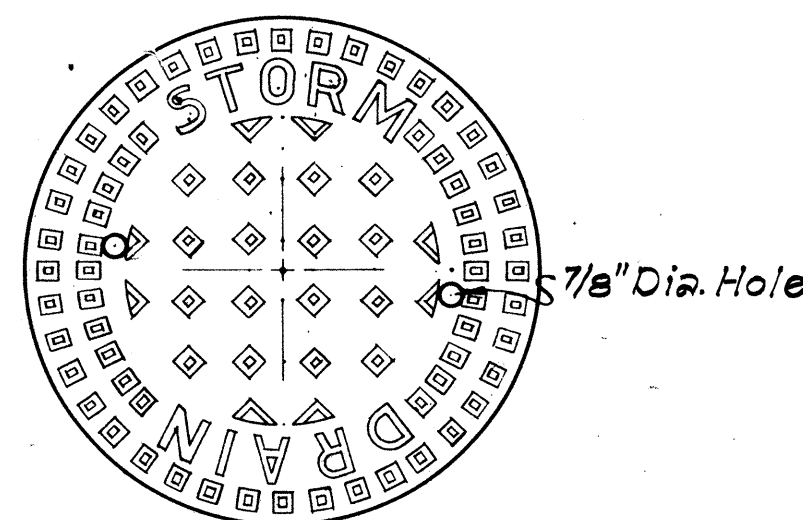
SCALE: 1-1/2" = 1'-0"



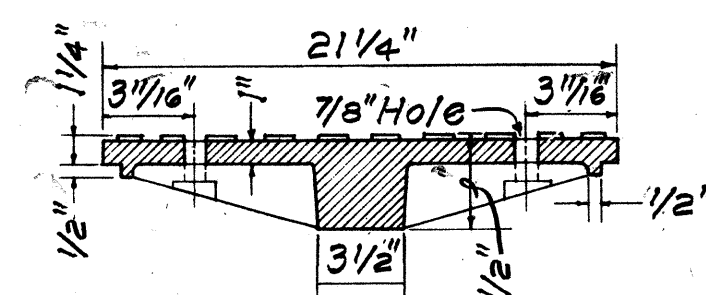
PLAN OF RIM



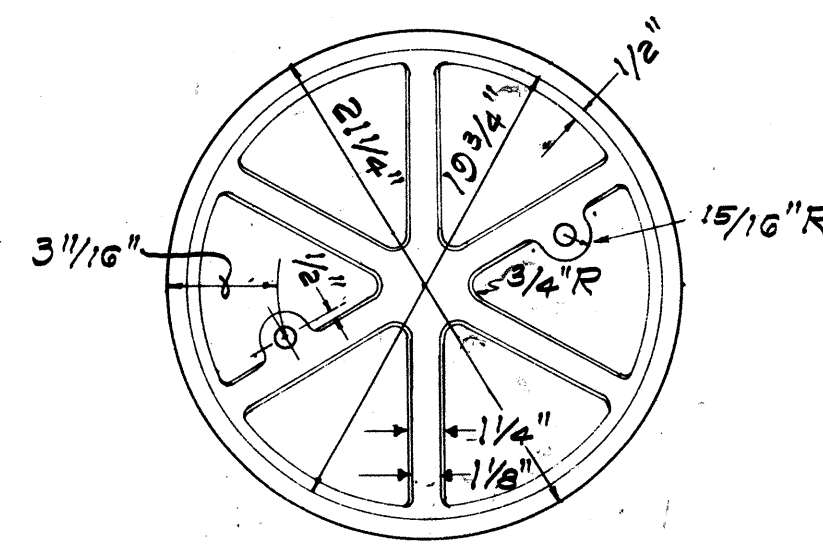
SECTION OF RIM



TOP VIEW OF COVER



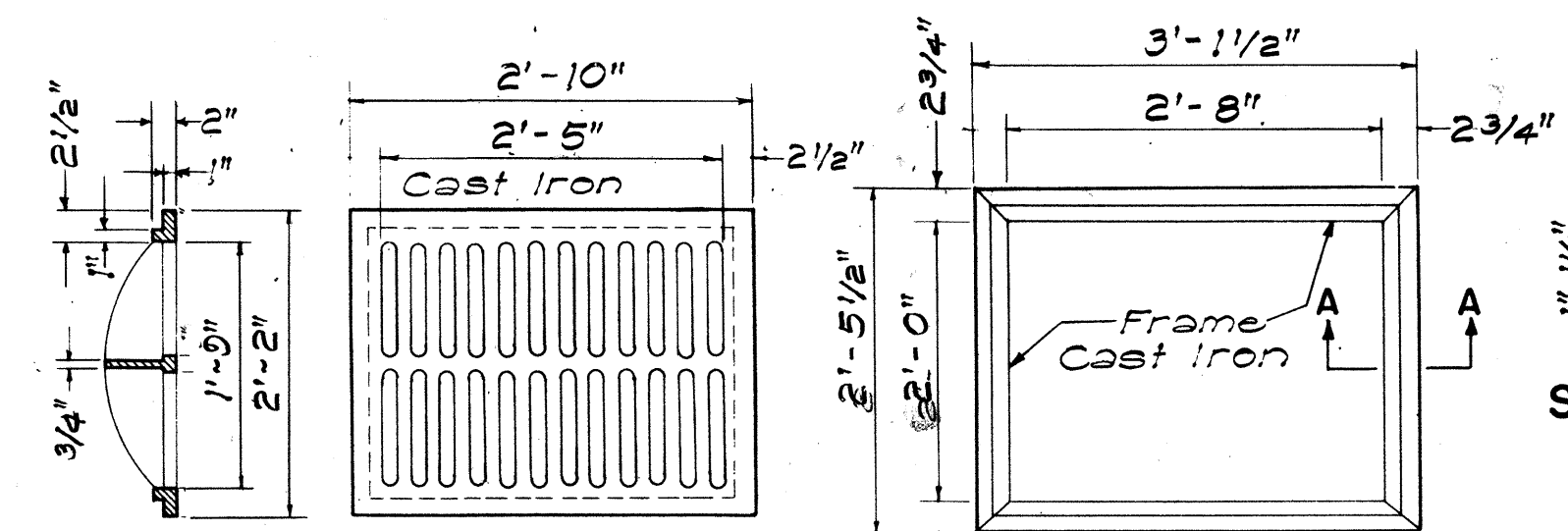
SECTION



BOTTOM VIEW OF COVER

DETAILS OF TYPE "A"
CAST IRON FRAME AND COVER

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



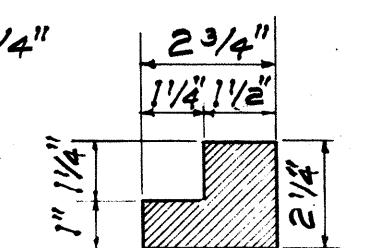
SECTION

TOP VIEW

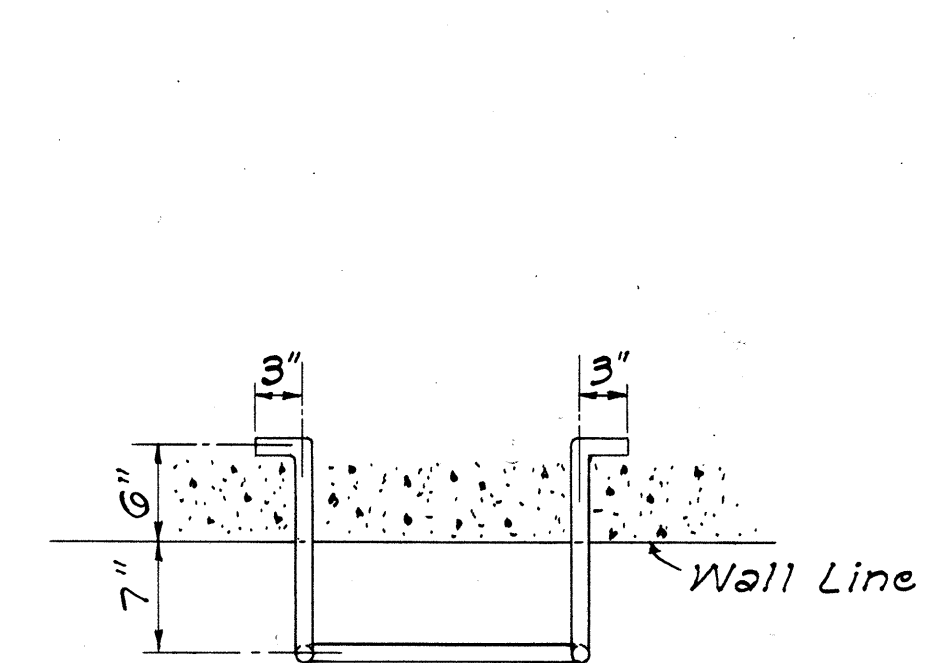
TOP VIEW

TYPE C C.I. FRAME AND GRATE

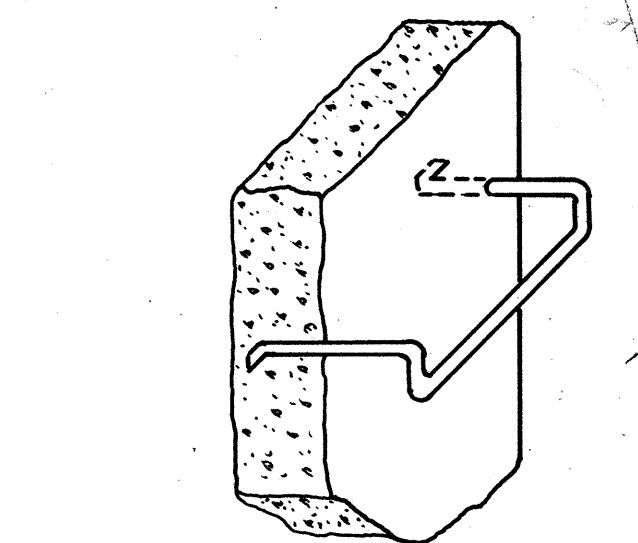
SCALE: 3/4" = 1'-0"



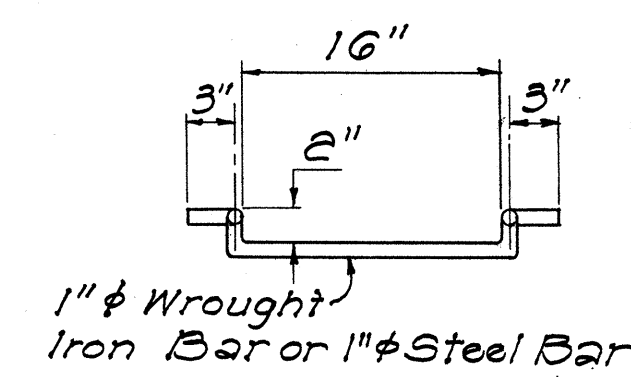
SECTION "A-A"
SCALE 3"=1'-0"



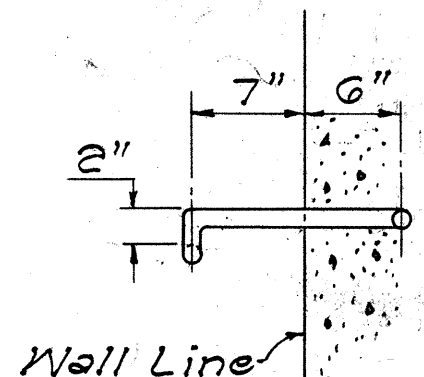
P L A N



PICTORIAL VIEW
NOT TO SCALE



FRONT VIEW



SIDE VIEW

DETAILS OF MANHOLE RUNG

SCALE: 1" = 1'-0"

APPROVAL RECOMMENDED:		
HYDRAULIC DESIGN ENGINEER	<i>[Signature]</i>	12-17-67 DATE
APPROVED:		
ASSISTANT CHIEF, ENGINEERING	<i>[Signature]</i>	12-17-67 DATE

NO.	REVISION	APPROVED BY	DATE
1.	Detail of Type "P" Cast Iron Frame and Cover	H.T.	1-6-71
2.	Details of Manhole Rungs to conform to OSHA.	H.T.	1-21-75
3.	Option for Manhole Rungs	H.T.	1-18-76

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS CATCH BASIN AND MANHOLE CASTINGS
Scale: As Noted
DATE: July, 1969
SHEET NO. 52 OF 223 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
DATE	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(124)-16	1978	53	223

GENERAL NOTES

- Contractor has the option of using cast malleable iron, cast steel, welded, bolted, cast malleable iron end block or cast steel end block grate.
- Grates and Frames shall be hot dip galvanized after fabrication, see specifications.
- All welds $\frac{3}{8}$ " unless otherwise noted.
- Center support assembly shall be used when two or more grates are specified. Incidental to Types A-9 or A-12 Frame and Grates.
- Refer to "Grate Bar Spacing Table" for Types A-9 and A-12 Grate dimensions.
- The various materials shall conform to the specifications of ASTM as listed in the following tabulation and the Std. Specifications.

Material	ASTM Designation
Structural Steel	A283, Grade D
Cast Steel	A27, Grade 65-35
Malleable Iron Casting	A47, Gr. No. 35018

GRATE BAR SPACING TABLE

TYPE	NO. BARS	CLEAR BAR SPACING - W	X
A-9	9	2"	$1\frac{9}{16}$ "
A-12	12	$1\frac{3}{8}$ "	$1\frac{1}{4}$ "

NOTE:

- Type A-9 - Use in locations off the roadbed on all types of highways.
- Type A-12 - Use within the roadbed on all types of highways.

APPROVAL RECOMMENDED:

HYDRAULIC DESIGN ENGINEER

APPROVED:

ASSISTANT CHIEF, ENGINEERING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

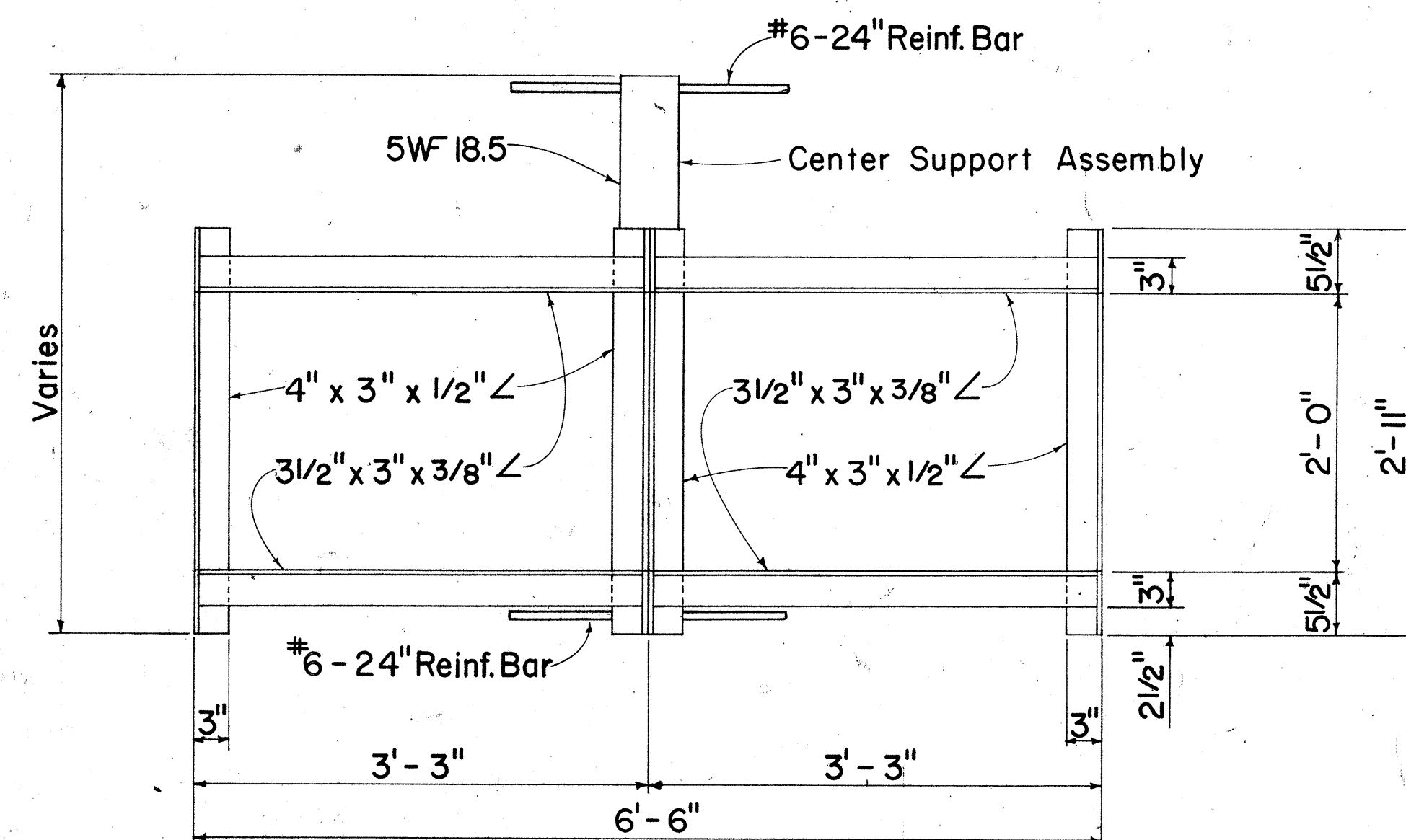
STANDARD DETAILS

TYPE A-9 AND A-12
FRAMES AND GRATES

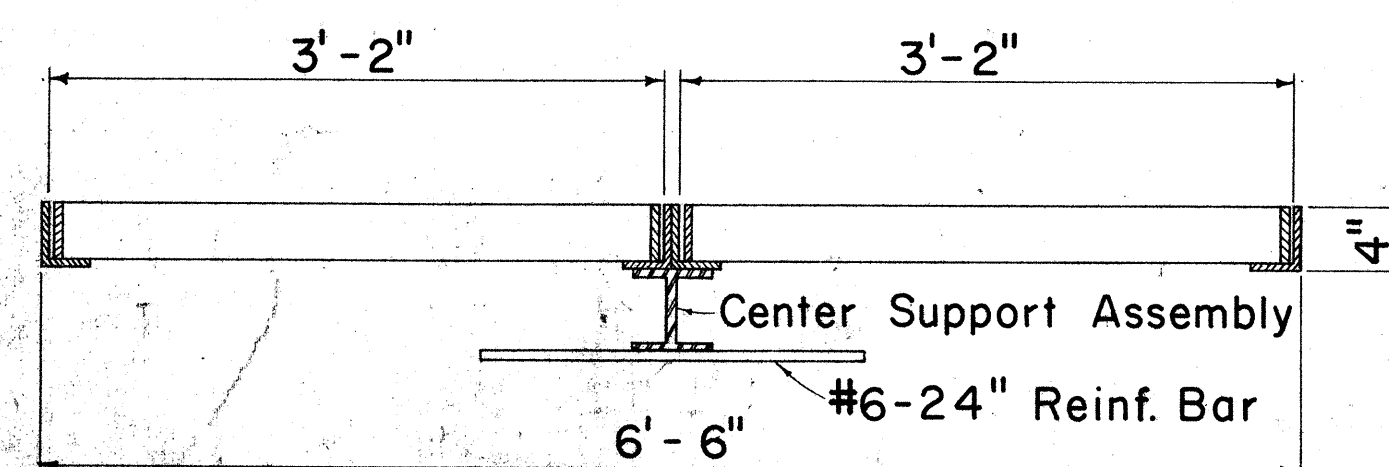
Scales: As Noted

Date: Aug. 1968

SHEET No. 53 OF 223 SHEETS



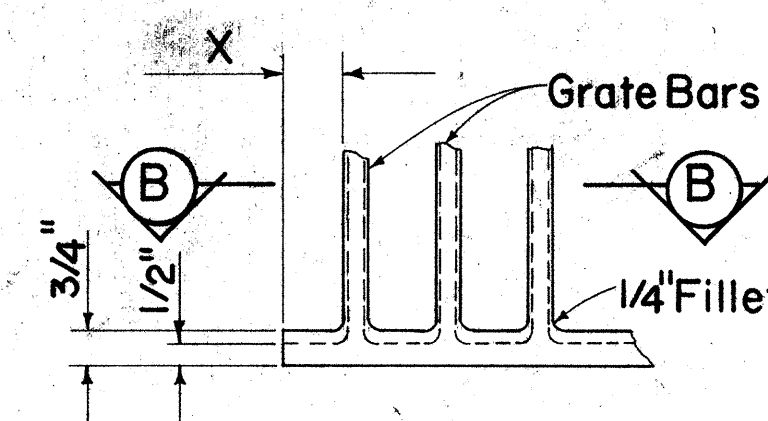
PLAN
(Two or More Grates)



LONGITUDINAL SECTION
(Thru Frame & Grate)

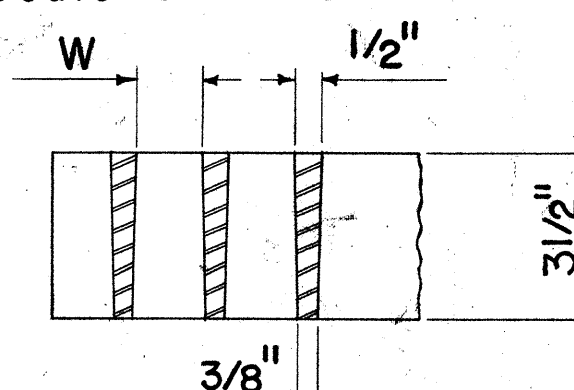
FRAME DETAILS

Scale: 1" = 1' - 0"



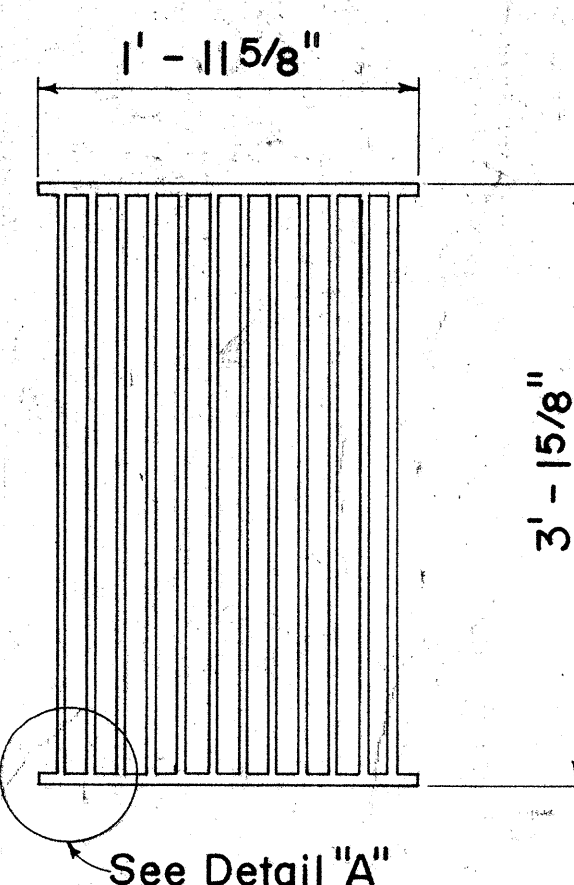
DETAIL "A"

Scale: 3" = 1' - 0"



SECTION "B-B"

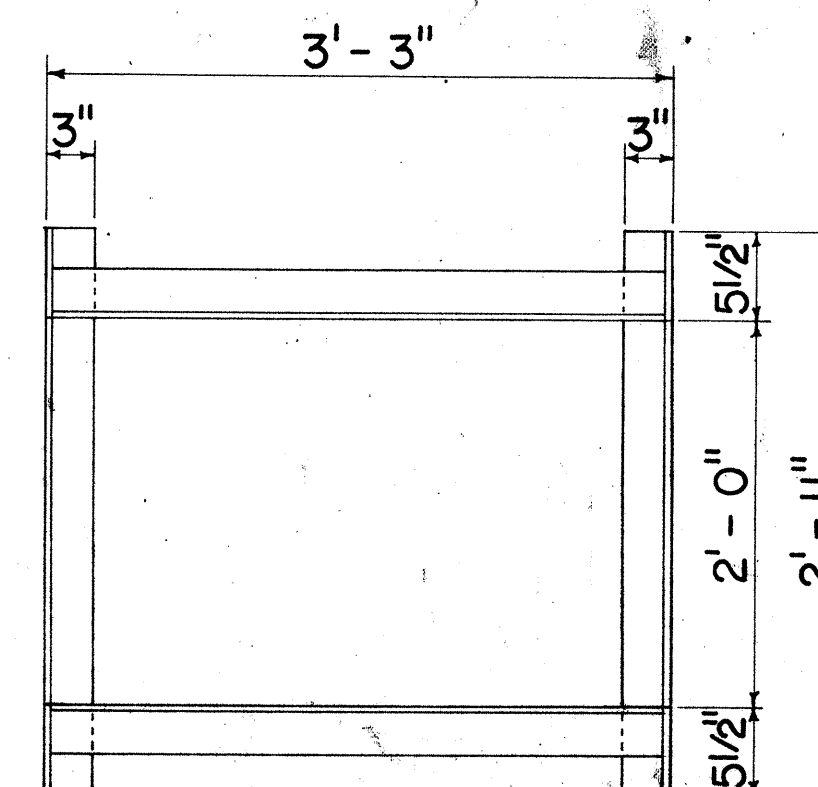
Scale: 3" = 1' - 0"



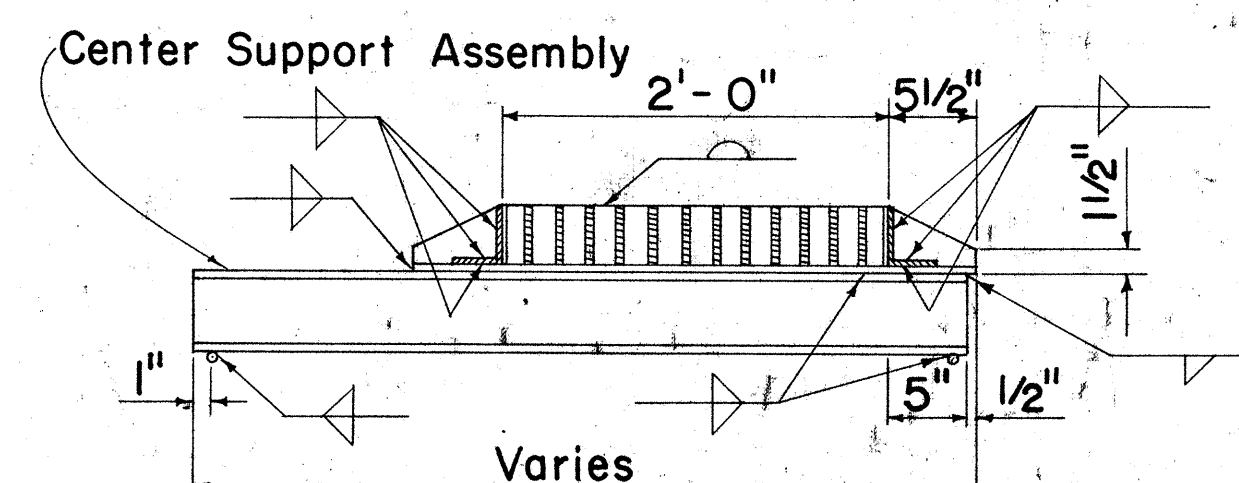
PLAN

Scale: 1" = 1' - 0"

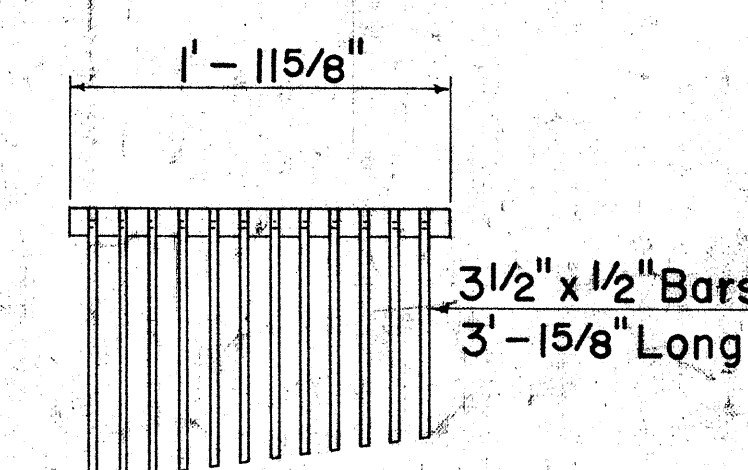
ALTERNATIVE CAST MALLEABLE IRON OR CAST STEEL GRATE



PLAN
(Single Grate)

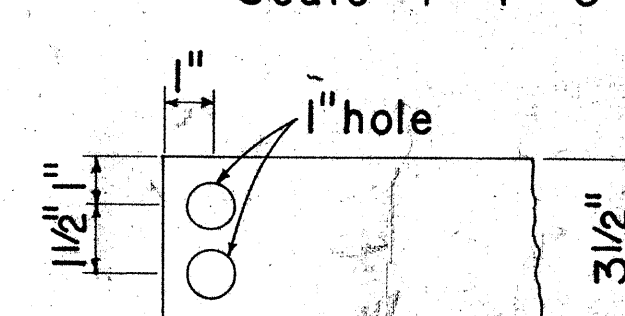


CROSS SECTION
(Thru Frame & Grate)



CAST END BLOCK

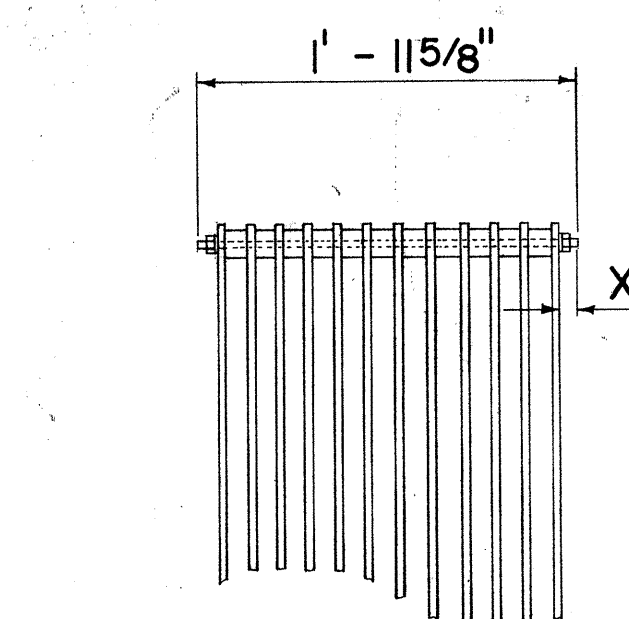
Scale: 1" = 1' - 0"



END OF BAR

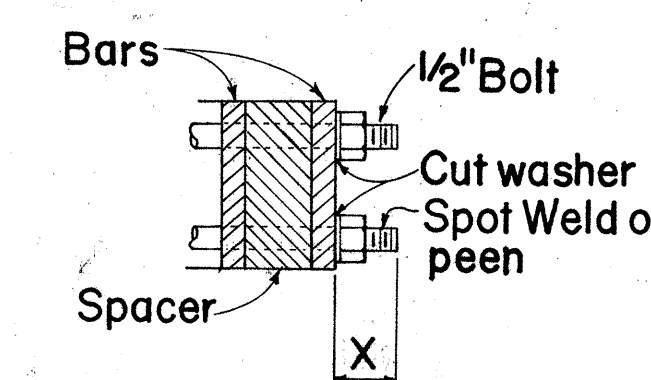
Scale: 3" = 1' - 0"

ALTERNATIVE CAST MALLEABLE IRON OR CAST STEEL END BLOCK GRATE



BOLTED END BLOCK

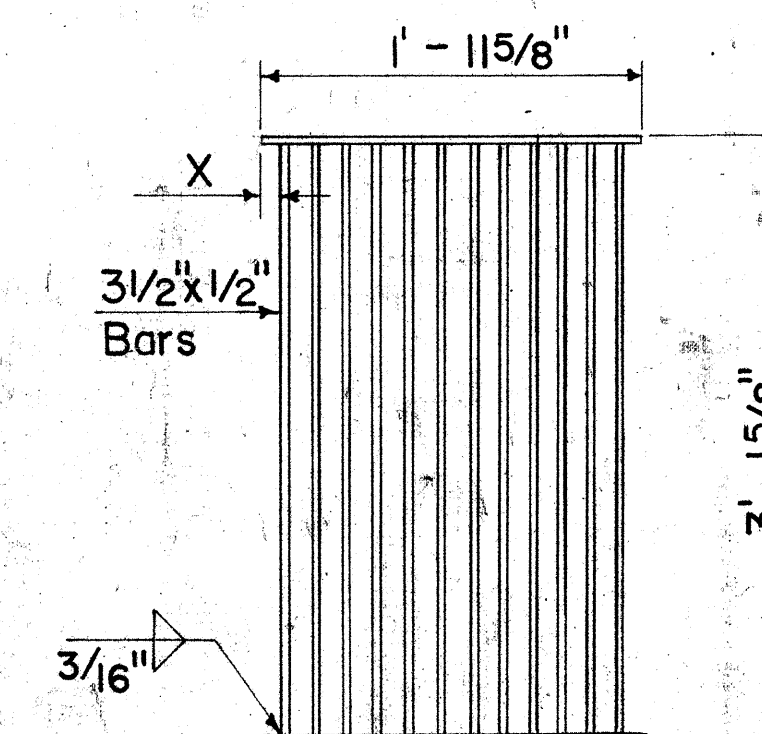
Scale: 1" = 1' - 0"



BOLTING DETAIL

Scale: 3" = 1' - 0"

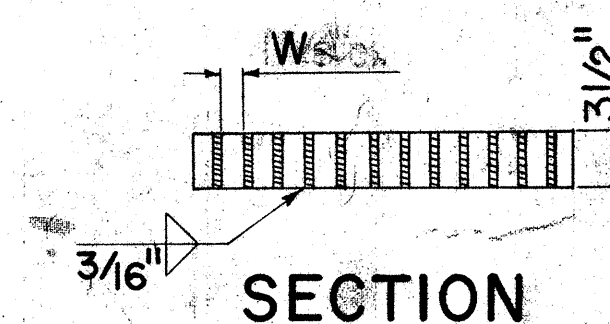
ALTERNATIVE BOLTED GRATE



PLAN

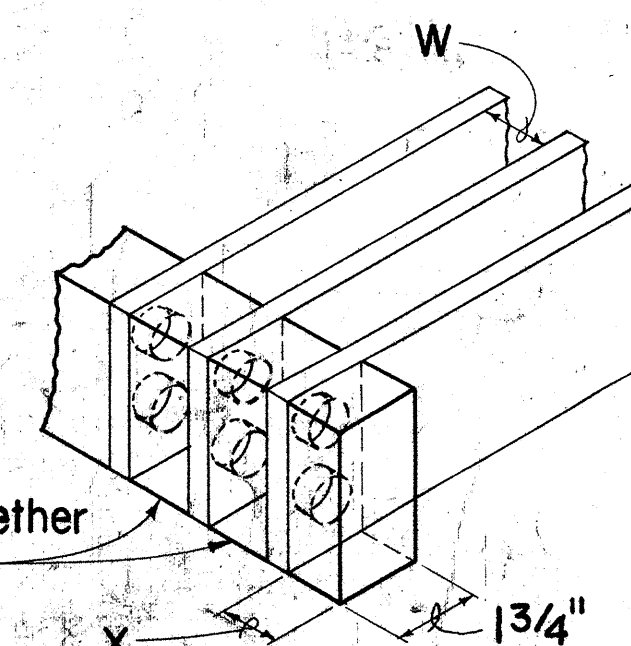
ALTERNATIVE WELDED GRATE

Scale: 1" = 1' - 0"



SECTION

Both ends held together by solid casting

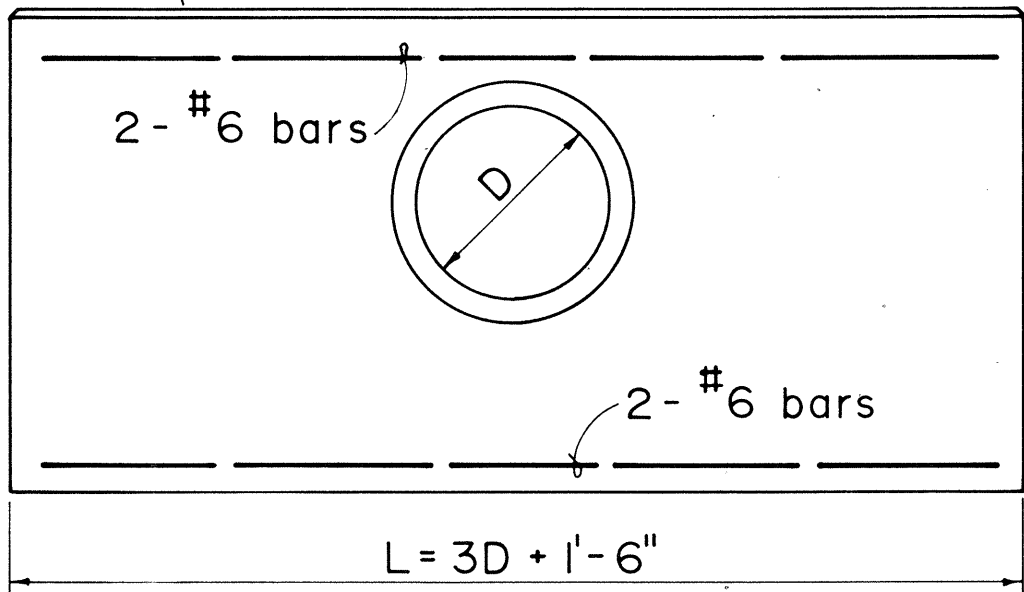


NO.	REVISION	APPROVED BY	DATE

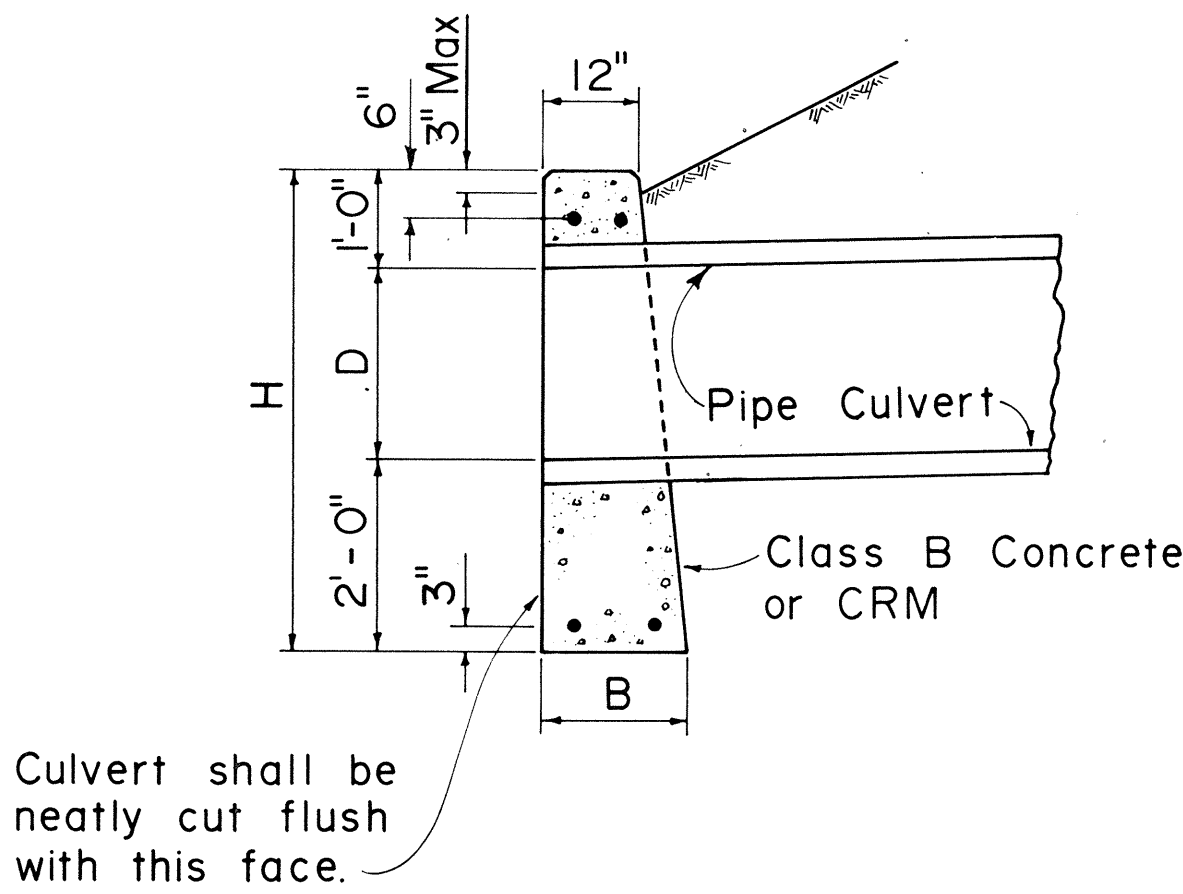
Scale: 1" = 1' - 0"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	EH14(24)16	1978	53A	223

Chamfer all exposed edges one inch



ELEVATION



SECTION

DATA FOR CONC. HDWL.			
D	B	L	H
18"	1'-6"	6'-0"	4'-6"
24"	1'-6"	7'-6"	5'-0"
30"	2'-0"	9'-0"	5'-6"
36"	2'-0"	10'-6"	6'-0"
42"	2'-6"	12'-0"	6'-6"
48"	2'-6"	13'-6"	7'-0"

DATA FOR CRM HDWL.			
D	B	L	H
18"	1'-9"	6'-0"	4'-6"
24"	2'-0"	7'-6"	5'-0"
30"	2'-3"	9'-0"	5'-6"
36"	2'-6"	10'-6"	6'-0"

CONCRETE OR CRM HEADWALL

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

APPROVAL RECOMMENDED:
T. Nakano
HYDRAULIC DESIGN ENGINEER DATE: 6-19-79
APPROVED:
Harbert Zakeishi
ASSISTANT CHIEF, ENGINEERING DATE: 6-22-79

NO.	REVISION	APPROVED BY	DATE
1.	Supersedes Sht. DH 10 approved 12-17-69	H.T.	6/22/79
2.	Added Sheet		8/26/80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAIL
CONCRETE OR CEMENT
RUBBLE MASONRY HEADWALLS

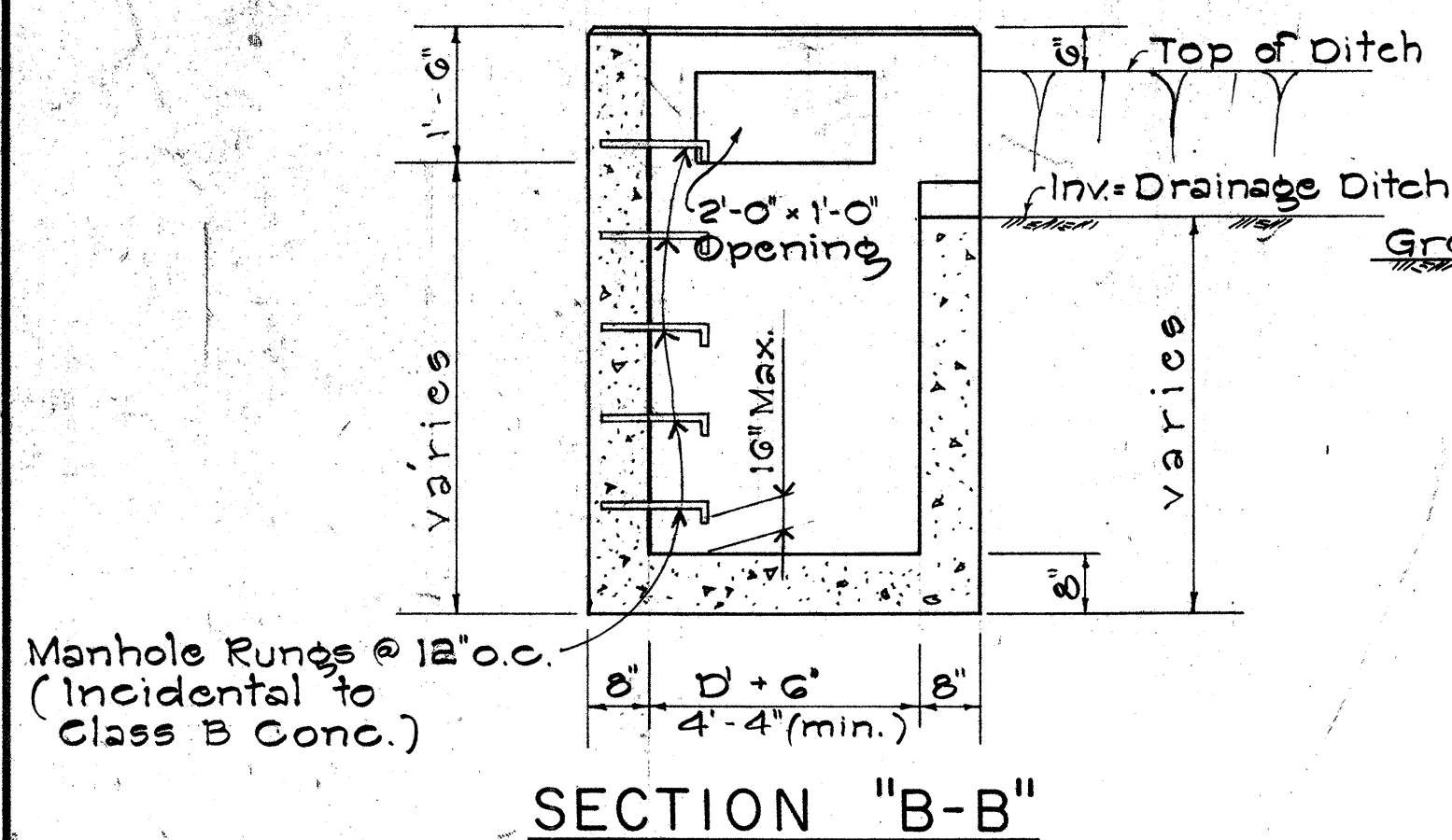
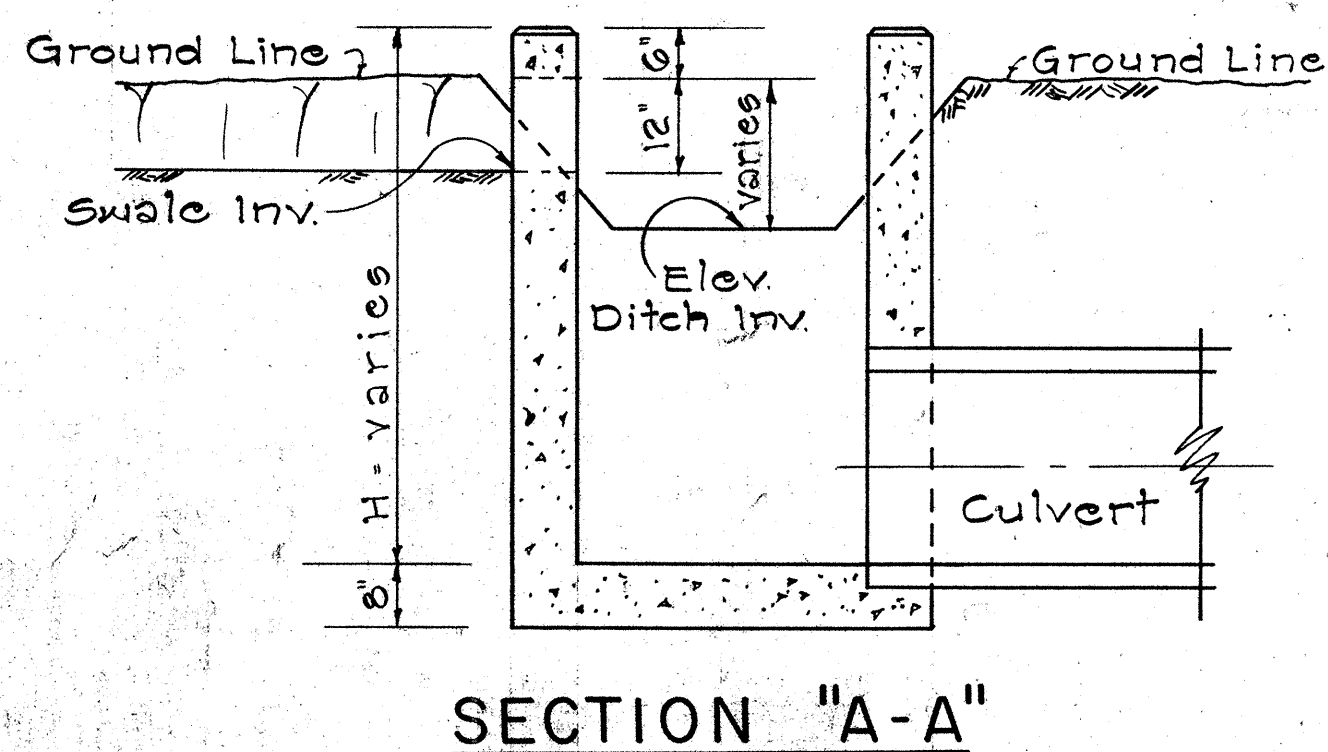
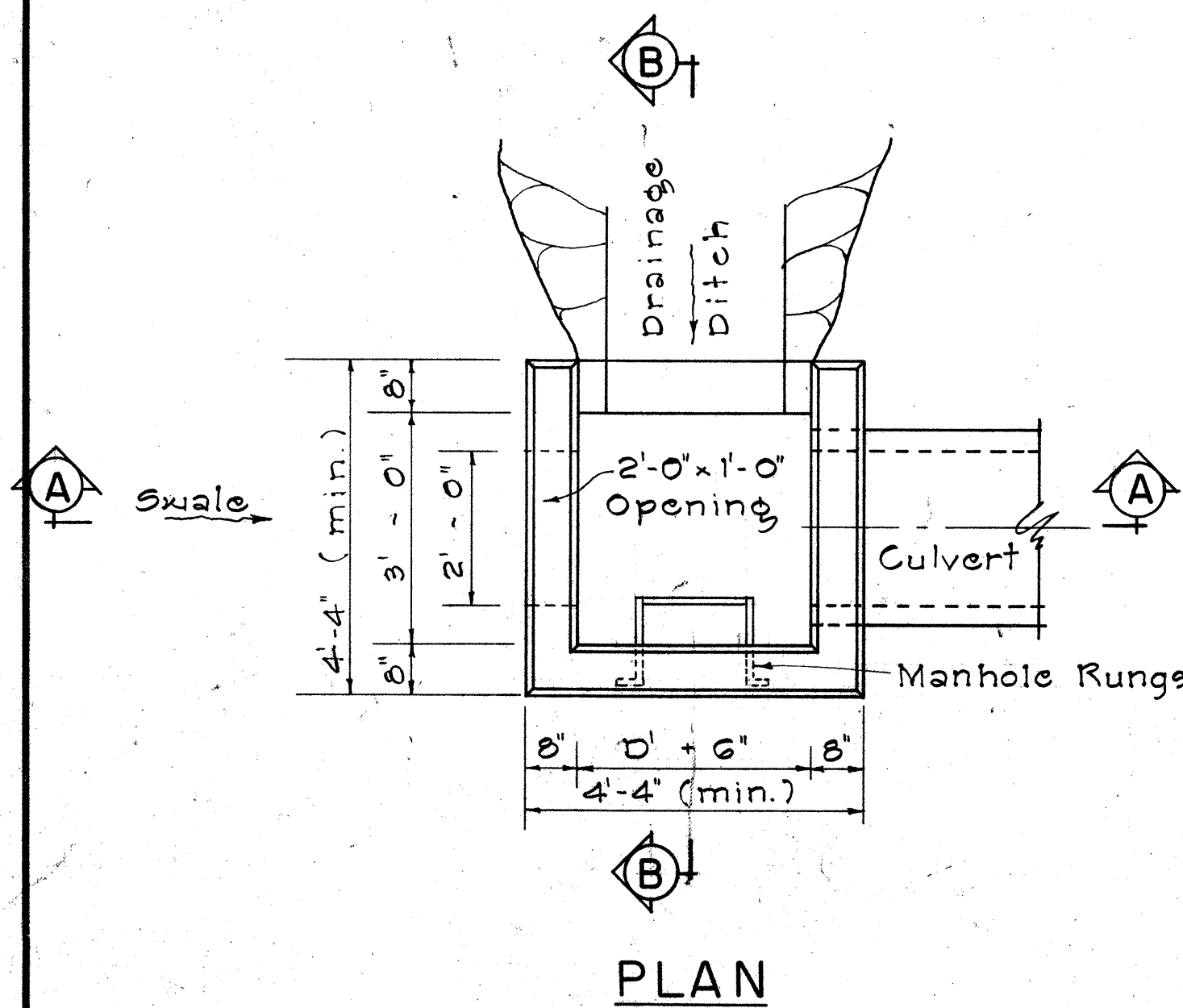
Not To Scale
Date: June 1979

SHEET NO. OF SHEETS DH10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FHH(124)-16	1978	54	223

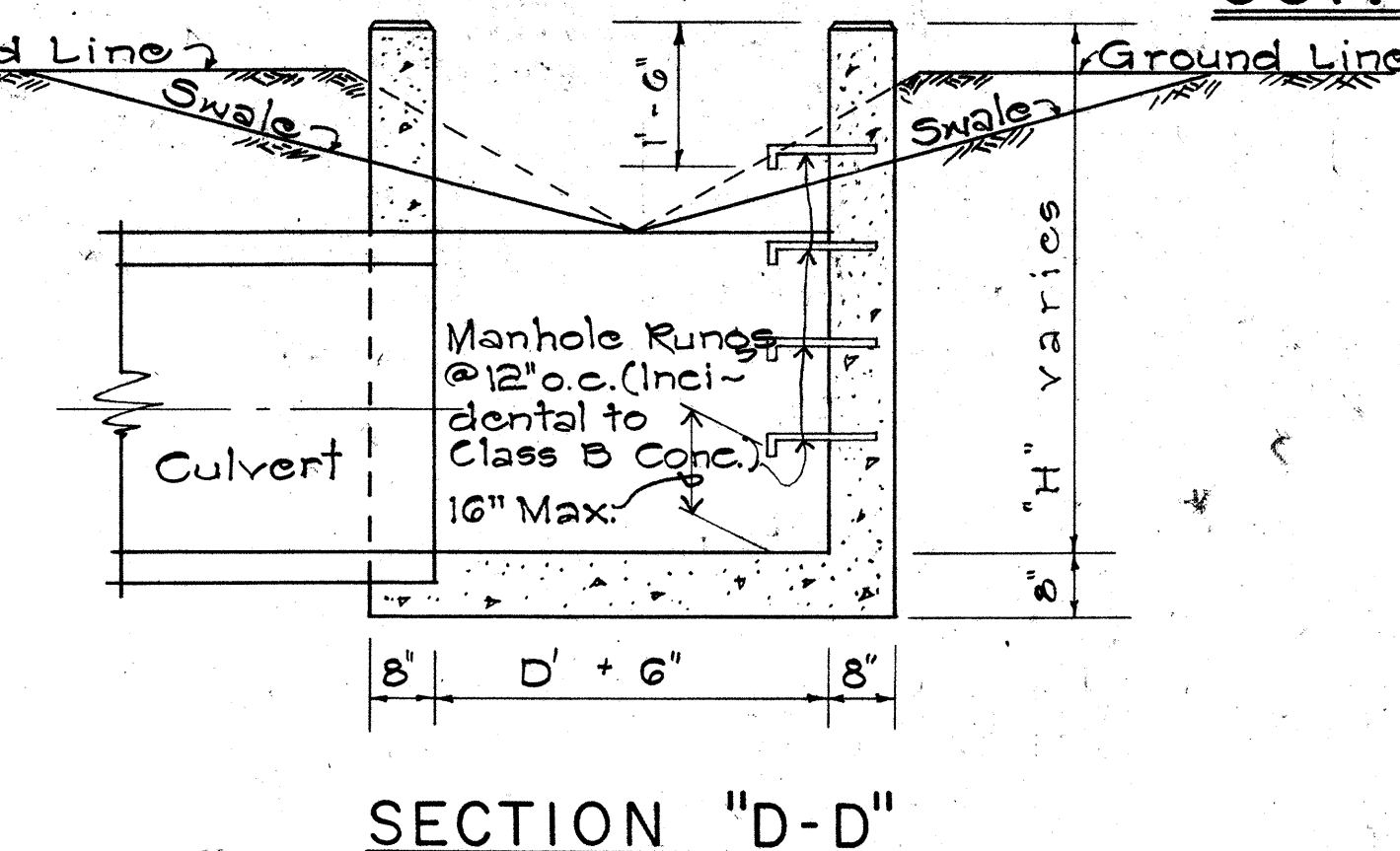
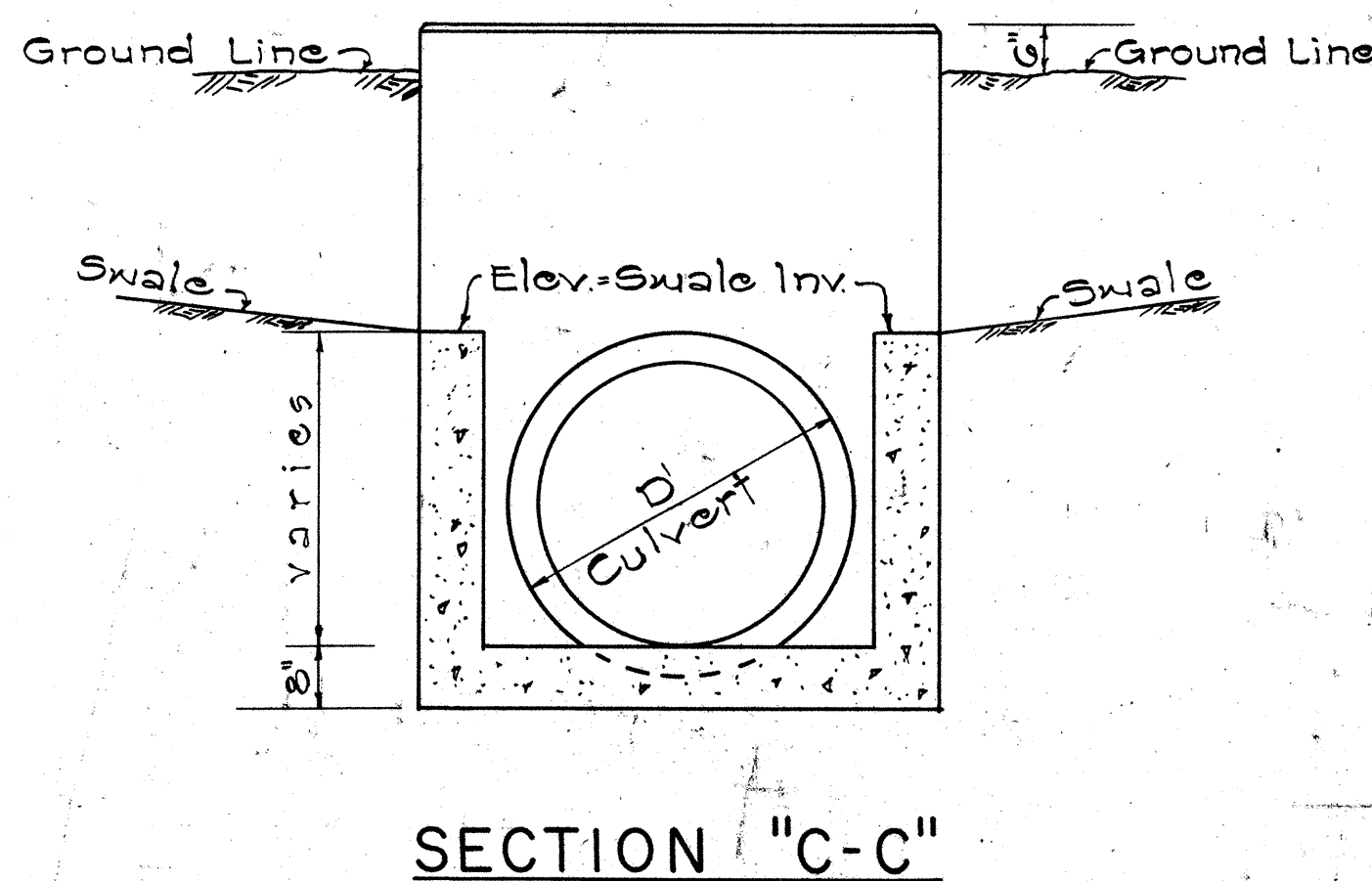
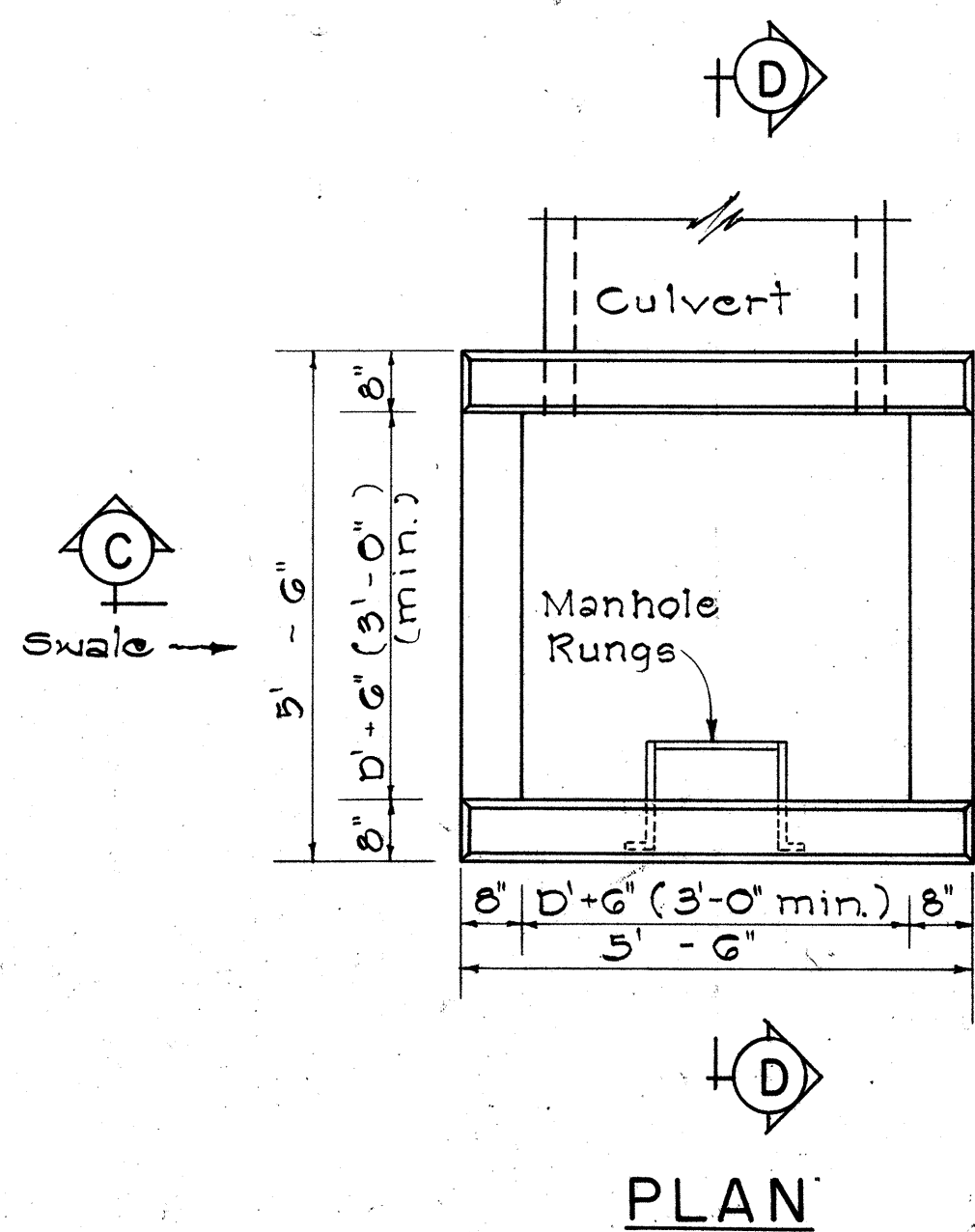
GENERAL NOTES

1. All concrete shall be Class "B" unless otherwise noted.
2. Exposed edges of all drainage structures shall be chamfered one inch.
3. Culvert shall enter and leave Drop Intake from any position and in the direction indicated by the plans or ordered by the Engineer.
4. Manhole Rungs (12" o.c.) are req'd when "H" is greater than 4'-6". Only one rung (16 inches from the bottom) is required if "H" is 4'-6" or less. Manhole Rungs may be placed at any location as ordered by the Engineer.



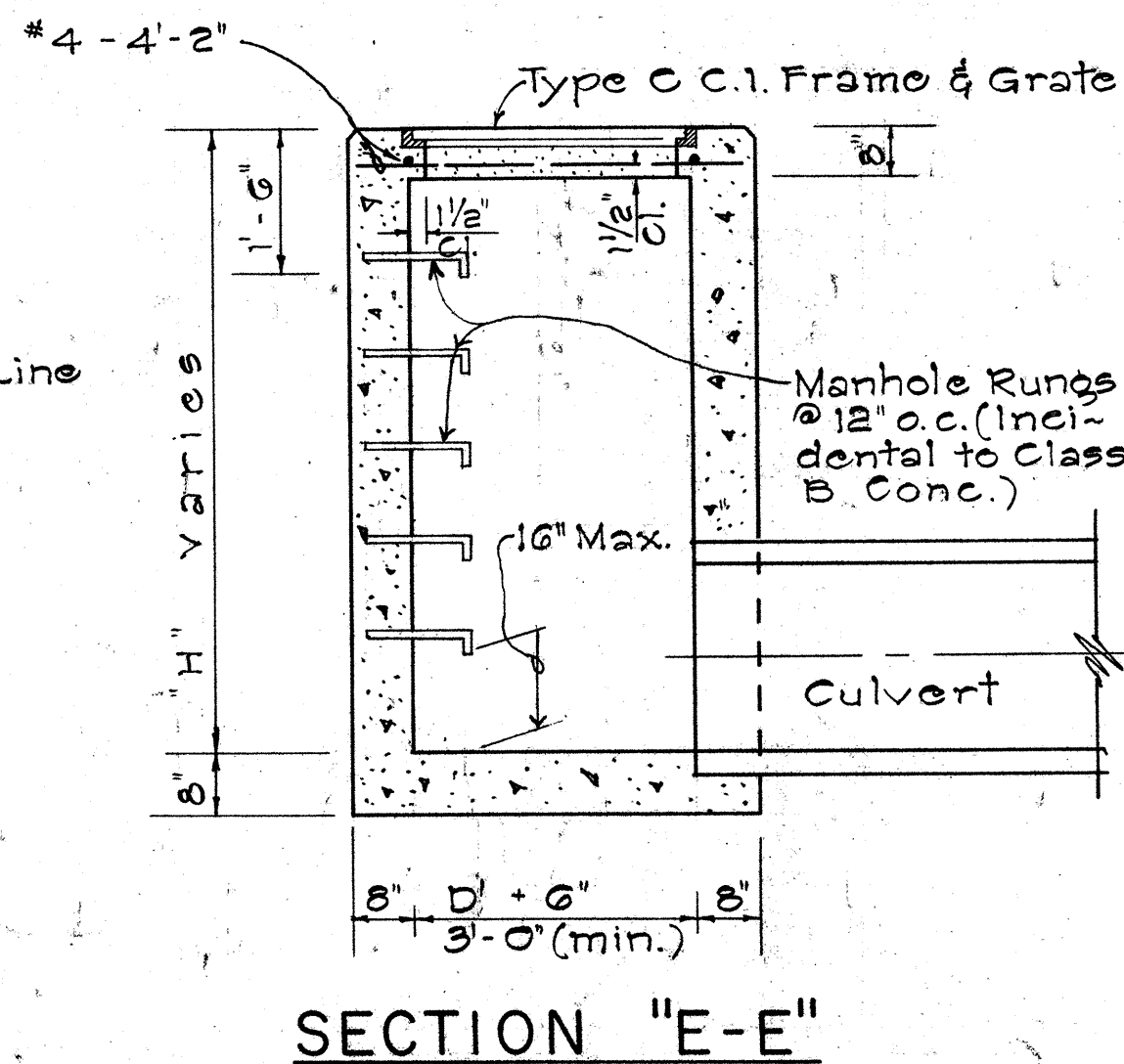
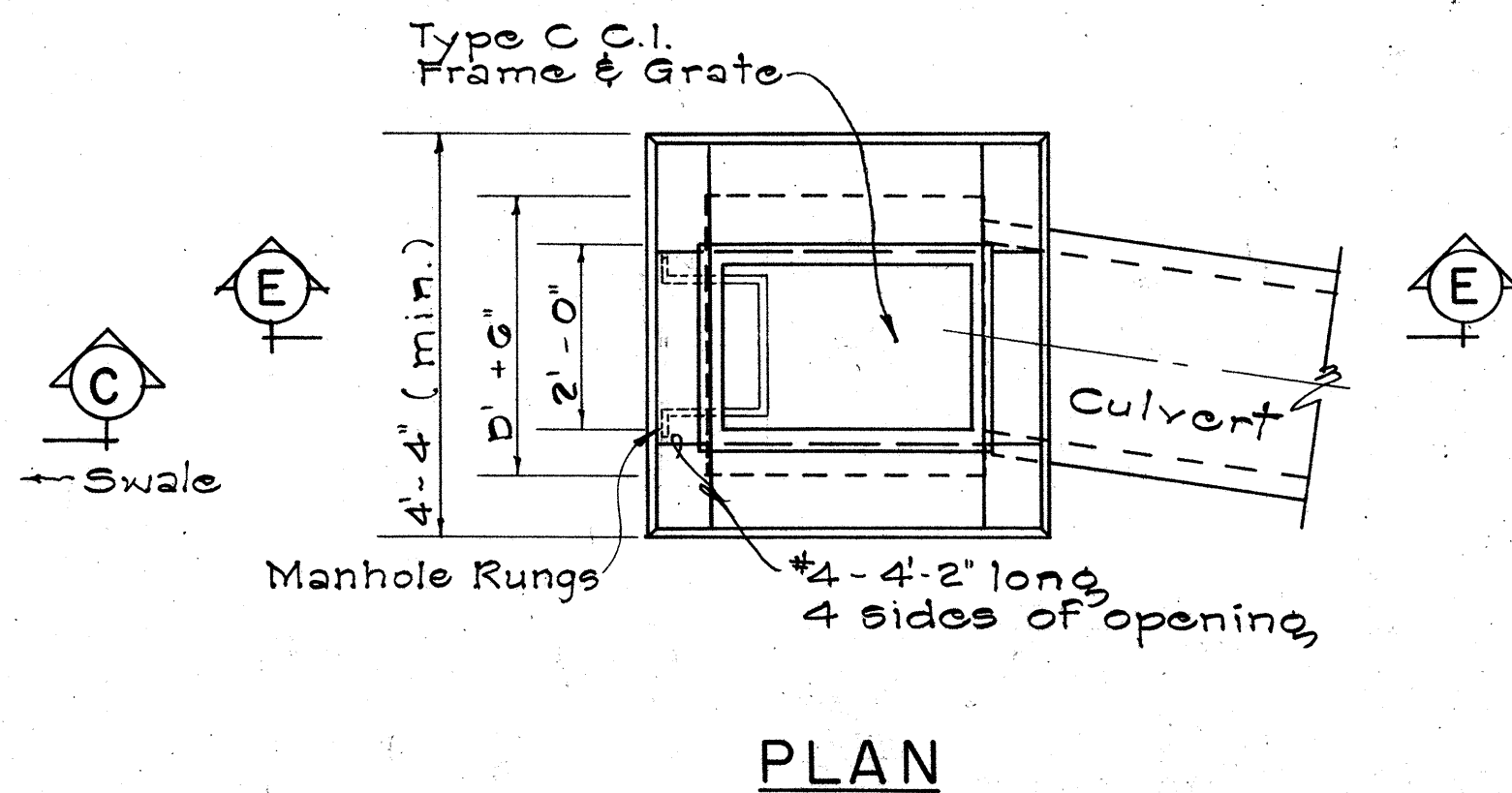
TYPE "A" CONCRETE DROP INTAKE

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



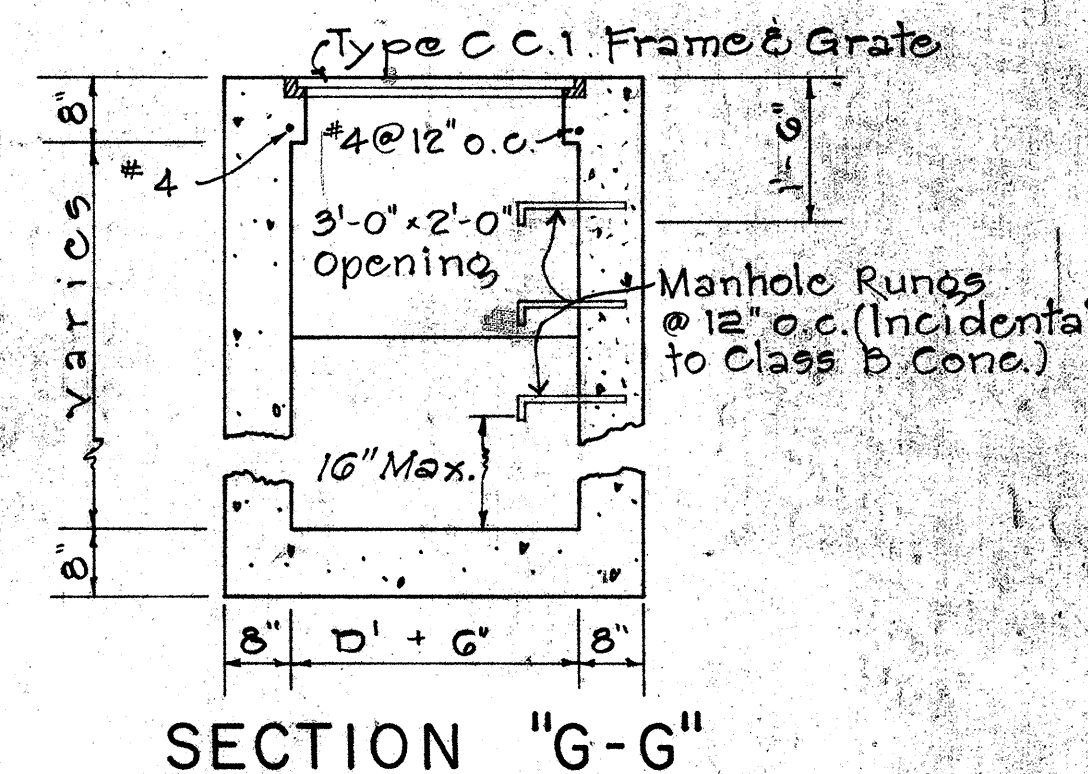
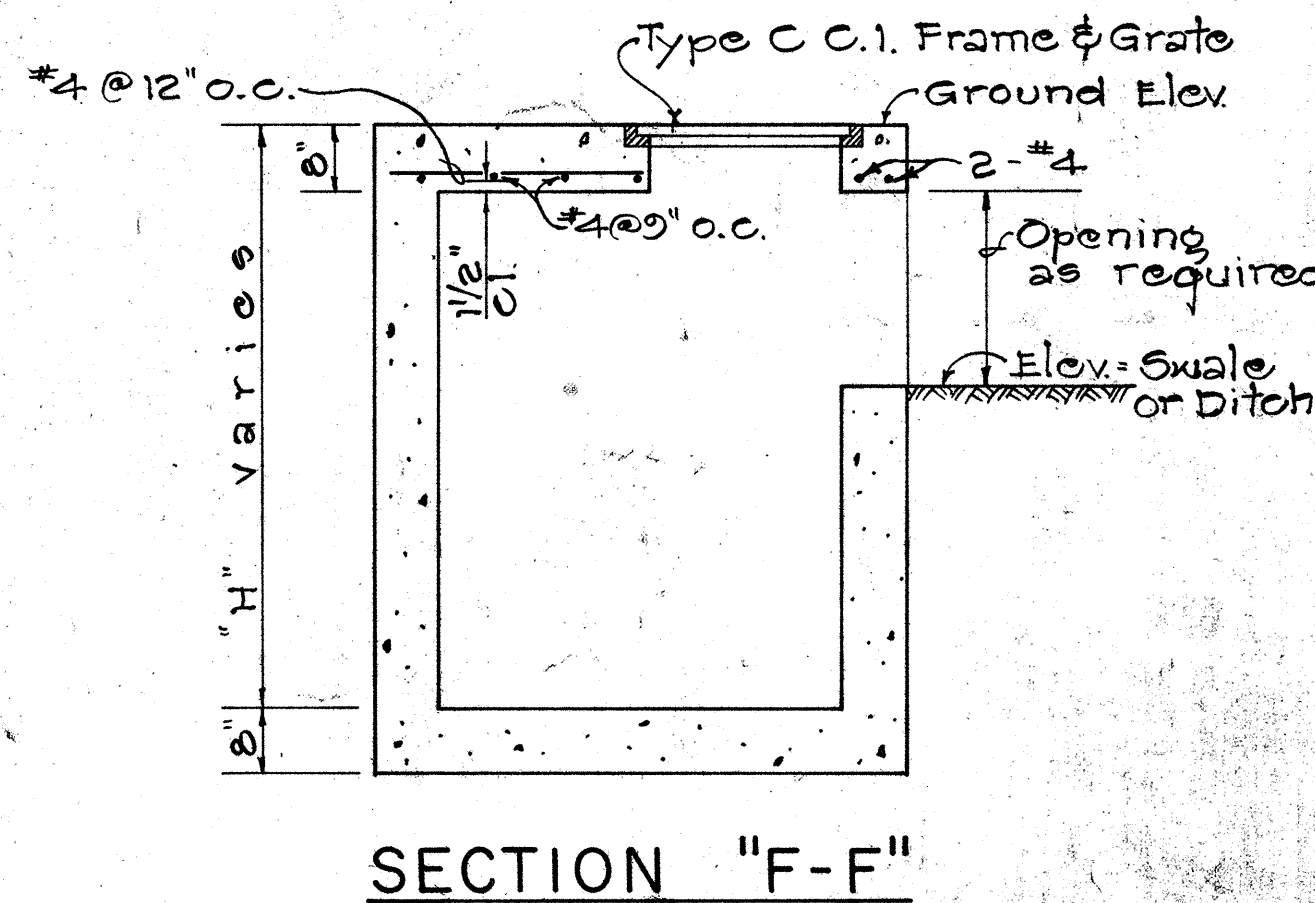
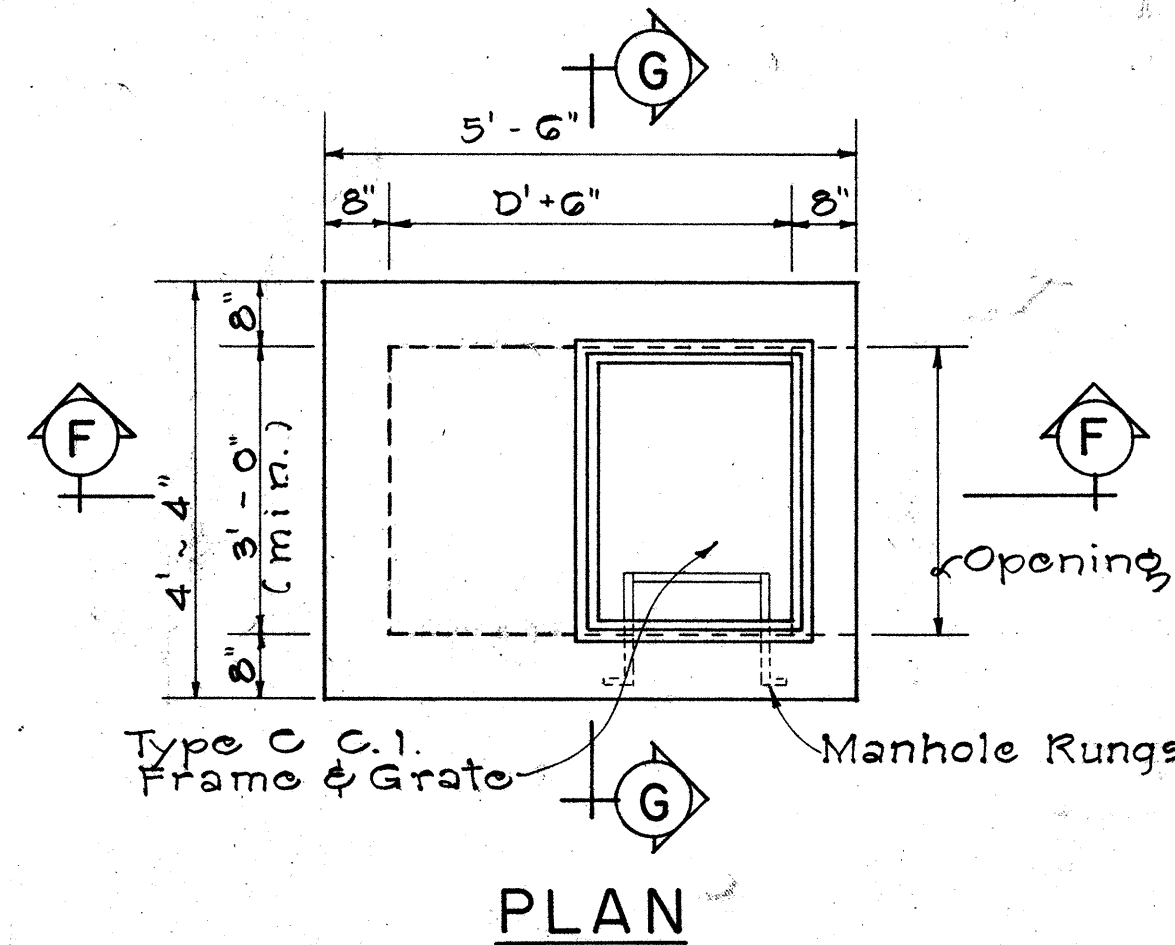
TYPE "B" CONCRETE DROP INTAKE

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



TYPE "C" GRATED CONCRETE DROP INTAKE

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



TYPE "D" GRATED CONCRETE DROP INTAKE

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

APPROVAL RECOMMENDED:
HYDRAULIC DESIGN ENGINEER
DATE: 12-11-69

APPROVED:
ASSISTANT CHIEF, ENGINEER
DATE: 12-11-69

NO.	REVISION	APPROVED BY	DATE
1	Spacing on Manhole Rungs to conform to OSHA.	H.T.	12-11-69

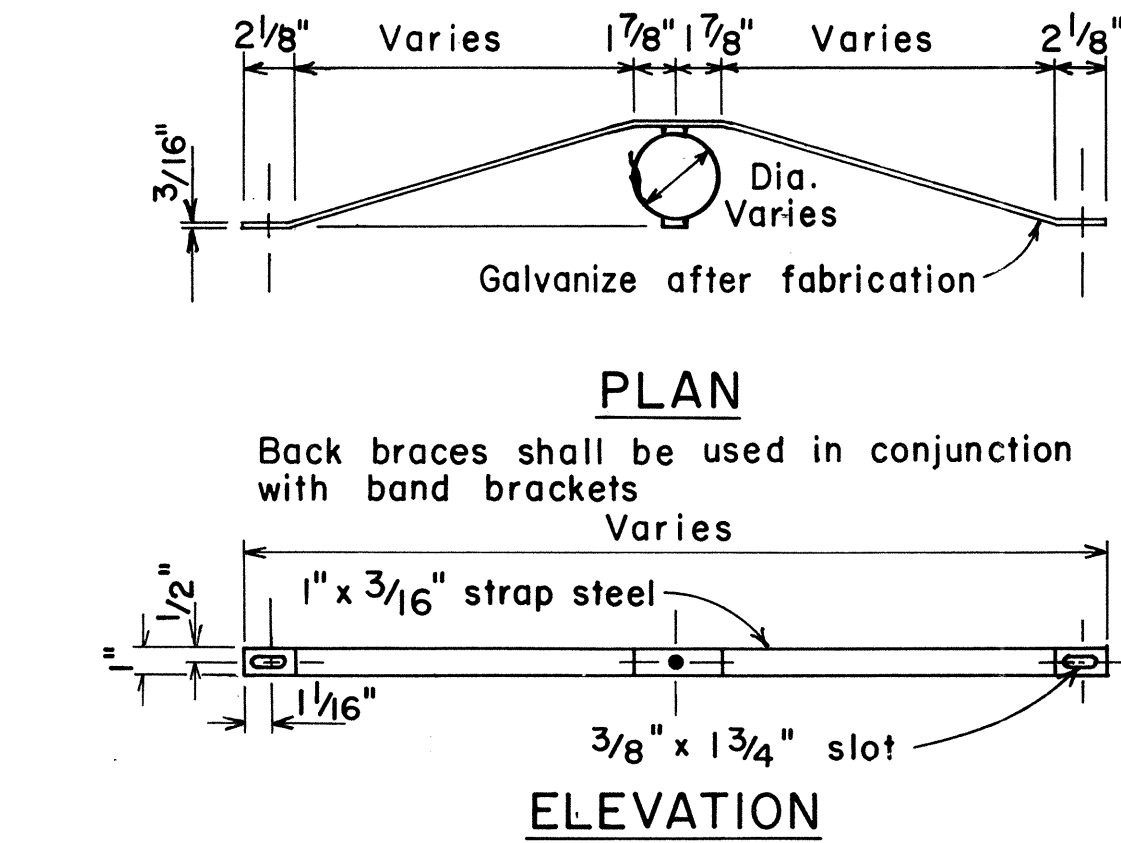
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
TYPE "A", "B", "C", AND "D"
CONCRETE DROP INTAKE

Scale: As Noted Date: July, 1969
SHEET No. OF SHEETS 54

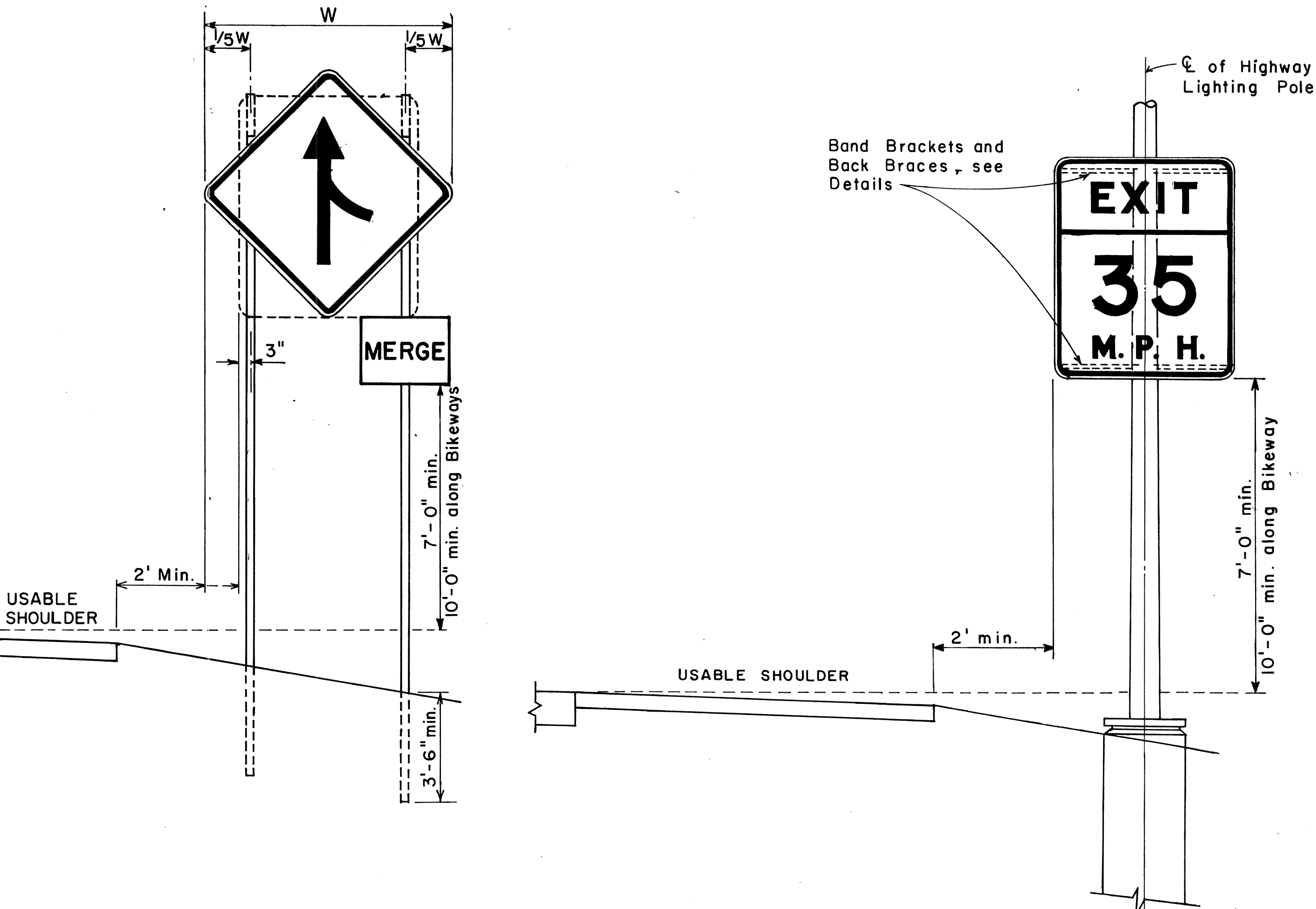
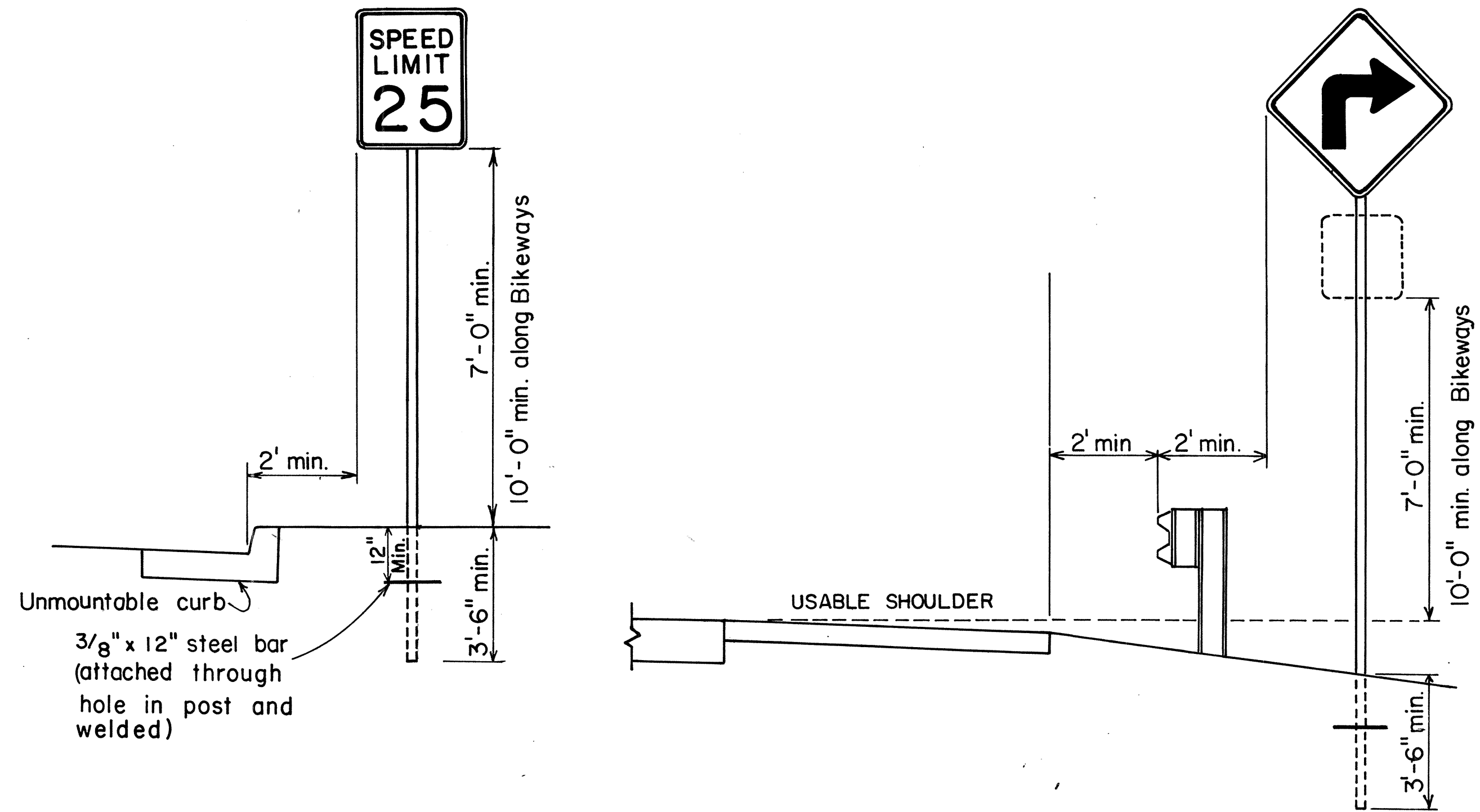
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(129)16	1978	55	223

GENERAL NOTES

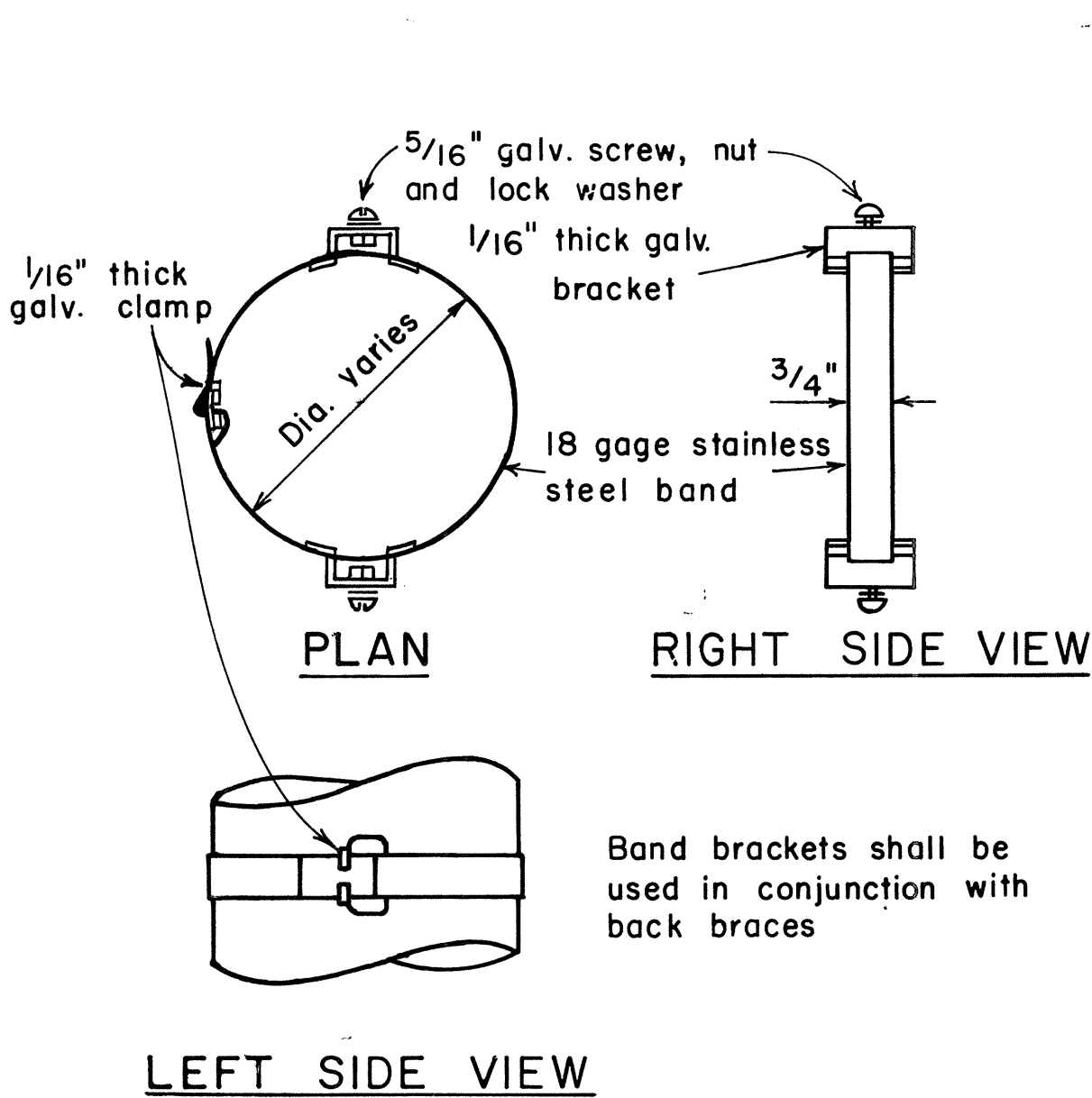
- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts.
- All signs larger than 10 sq. ft. in area or 48" inches and wider, and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least two sets of band brackets and back braces.
- All signs 28 sq. ft. in area or larger and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least three sets of band brackets and back braces.
- Signs shall be attached to post with 5/16" galv. bolts with nuts and 7/8" x 0.06" stainless steel washers with neoprene rubber gasket.
- Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
- (R) or (L) indicates right or left and shall be as shown on the plans.



BACK BRACE DETAILS FOR BALANCED SIGN INSTALLATION



HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION



TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

APPROVAL RECOMMENDED:
Enishi Tanaka 11/10/77
 TRAFFIC ENGINEER DATE

APPROVED:
Robert J. Delichio 11/15/77
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT-100 approved 12/30/69	H.T.	11/15/77

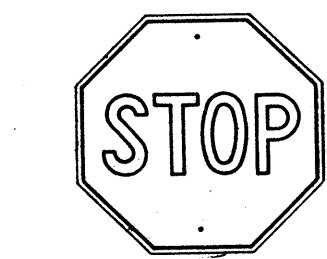
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
 MISCELLANEOUS SIGN DETAILS

Not to scale June, 1977

SHEET NO. OF SHEETS DT 100

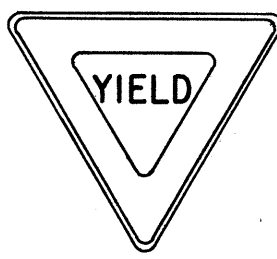
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1(24)16	1978	56	223



R1-1 30" x 30"
R1-1-A 36" x 36"

4-WAY

R1-3 12" x 6"
R1-3-A 18" x 9"



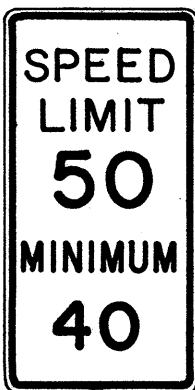
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



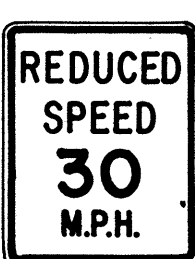
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



R2-2(40) 24" x 24"
R2-2(40)-A 48" x 48"



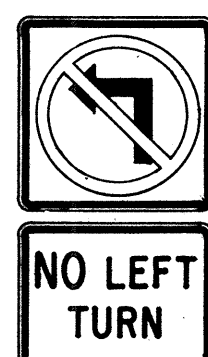
R2-4a(50/40) 24" x 48"
R2-4a(50/40)-A 48" x 96"



R2-5b(30) 24" x 30"
R2-5b(30)-A 48" x 60"



R3-1 24" x 24"
24" x 18"
R3-1-A 48" x 48"
48" x 36"



R3-2 24" x 24"
24" x 18"
R3-2-A 48" x 48"
48" x 36"



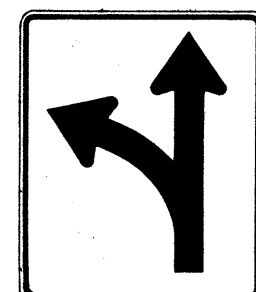
R3-3 24" x 24"
R3-3-A 48" x 48"



R3-4 24" x 24"
24" x 18"
R3-4-A 48" x 48"
48" x 36"



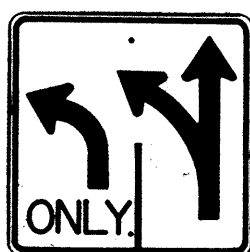
R3-5(L) 30" x 36"
R3-5(L)-A 48" x 60"



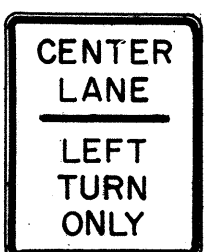
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



R3-7(R) 30" x 30"
R3-7(R)-A 48" x 48"



R3-8(L) 30" x 30"
R3-8(L)-A 36" x 36"
R3-8(L)-B 48" x 48"



R3-9 24" x 30"



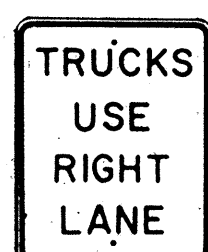
R4-1 24" x 30"



R4-2 24" x 30"



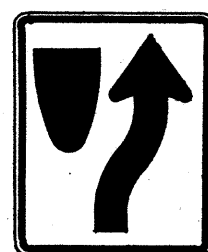
R4-3 24" x 30"
R4-3-A 48" x 60"



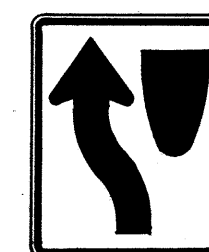
R4-5 24" x 30"



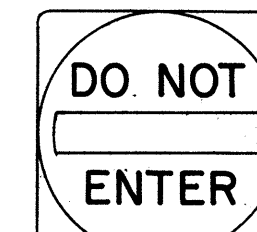
R4-6(500) 24" x 30"



R4-7 24" x 30"
24" x 18"



R4-8 24" x 30"
24" x 18"



R5-1 30" x 30"
R5-1-A 48" x 48"



R5-2 24" x 24"
24" x 18"



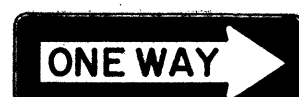
R5-4 24" x 30"



R5-6 24" x 24"
24" x 18"



R5-9 36" x 24"



R6-1(R) 36" x 12"



R6-2(R) 18" x 24"



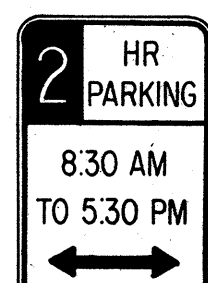
R7-1 12" x 18"
R7-1-A 24" x 30"



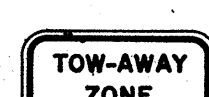
R7-4 12" x 18"
R7-4-A 24" x 30"



R7-107(R) 12" x 18"



R7-108 12" x 18"



R7-201 12" x 6"
R7-201-A 24" x 12"



R8-1 24" x 30"



R8-2 24" x 30"



R8-3 24" x 30"



R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



R8-6 24" x 30"



R8-7 30" x 24"
R8-7-A 48" x 36"



R9-1 18" x 24"



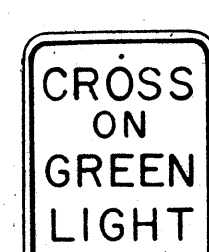
R9-2 12" x 18"



R9-3 12" x 18"



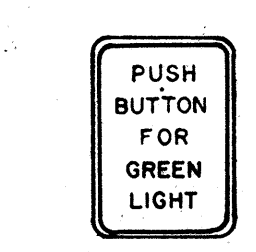
R9-4 18" x 24"



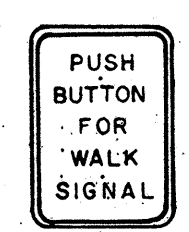
R10-1 12" x 18"



R10-2 12" x 18"



R10-3 9" x 12"



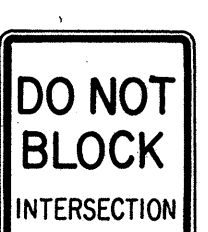
R10-4 9" x 12"



R10-5 24" x 30"



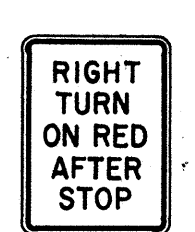
R10-6 24" x 36"



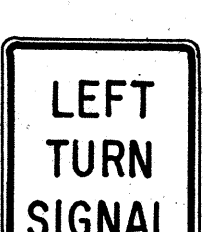
R10-7 24" x 30"



R10-8 24" x 30"



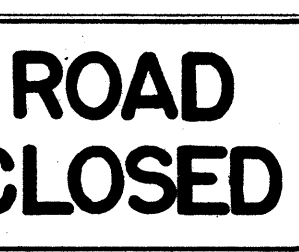
R10-9 24" x 30"



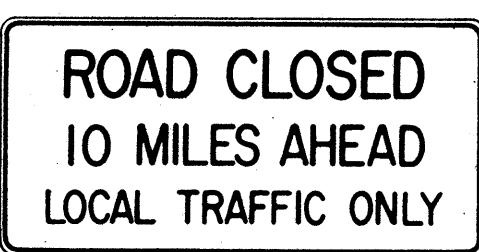
R10-10 24" x 30"



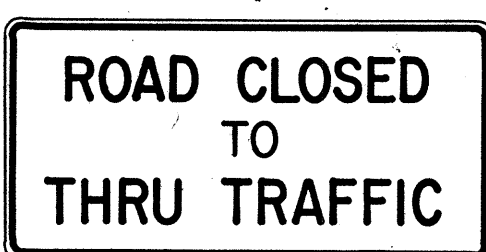
R11-1 24" x 30"



R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

APPROVAL RECOMMENDED:

Eishi Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:

Robert D. S. S.
ASSISTANT CHIEF, ENGINEERING

3-28-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.C.	3/20/72
2	Revised General Note 1.	H.C.	10/14/74

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

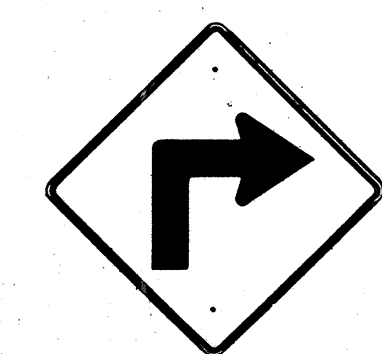
STANDARD DETAILS REGULATORY SIGNS

NOT TO SCALE

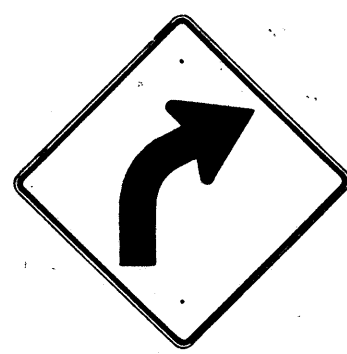
SHEET No. OF SHEETS DT 101

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
NO.	

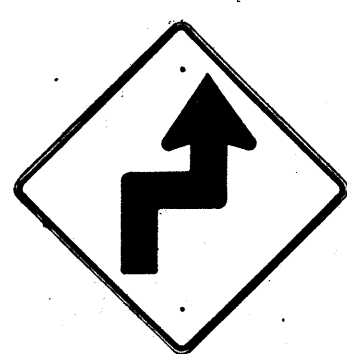
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII*	HAW.	1-HI-1(124)-16	1978	57	223



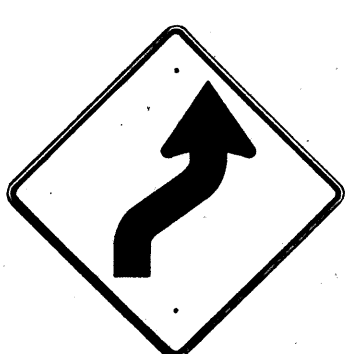
W1-1(R) 30"x 30"
W1-1(R)-A 48"x 48"



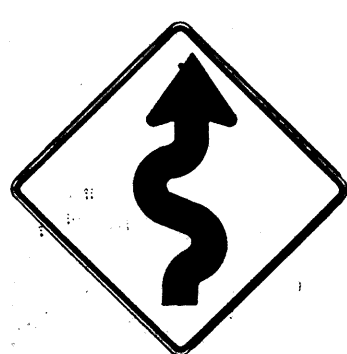
W1-2(R) 30"x 30"
W1-2(R)-A 48"x 48"



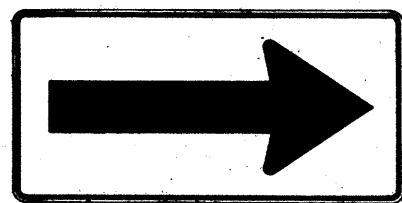
W1-3(R) 30"x 30"
W1-3(R)-A 48"x 48"



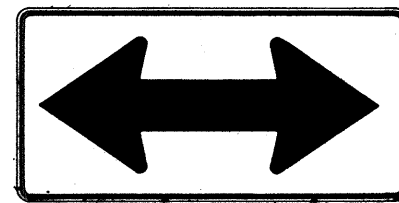
W1-4(R) 30"x 30"
W1-4(R)-A 48"x 48"



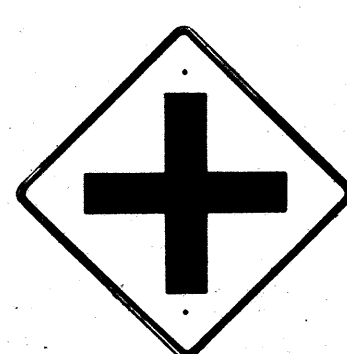
W1-5(R) 30"x 30"
W1-5(R)-A 48"x 48"



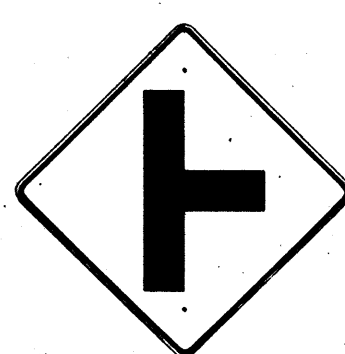
W1-6 48"x 24"



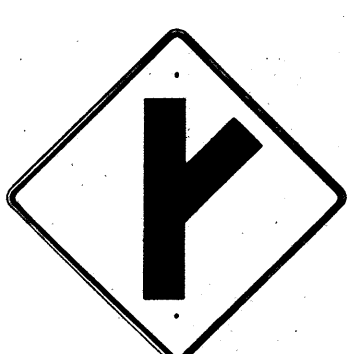
W1-7 48"x 24"



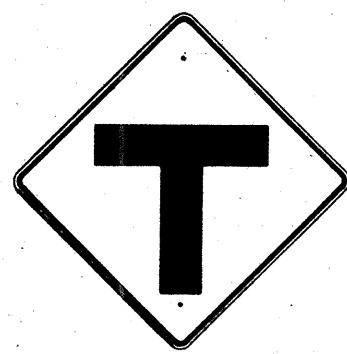
W2-1 30"x 30"
W2-1-A 48"x 48"



W2-2 30"x 30"
W2-2-A 48"x 48"



W2-3(R) 30"x 30"
W2-3(R)-A 48"x 48"



W2-4 30"x 30"
W2-4-A 48"x 48"



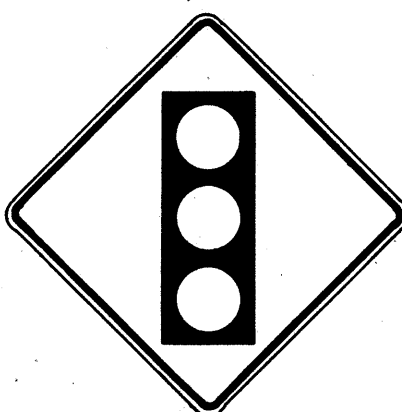
W2-5 30"x 30"
W2-5-A 48"x 48"



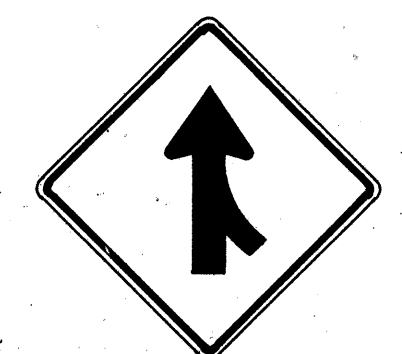
W3-1 30"x 30"
W3-1-A 36"x 36"



W3-2 30"x 30"
W3-2-A 36"x 36"

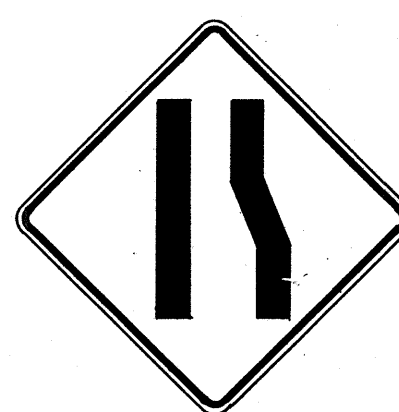


W3-3 36"x 36"
24"x 18"



W4-1(R) 30"x 30"
24"x 18"

W4-1(R)-A 48"x 48"
24"x 18"



W4-2(R) 36"x 36"
W4-2(R)-A 48"x 48"



W5-1 36"x 36"



W5-2 30"x 30"
W5-2-A 36"x 36"



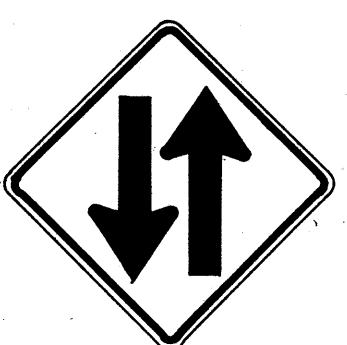
W5-3 36"x 36"



W6-1 36"x 36"
24"x 18"



W6-2 36"x 36"
24"x 18"



W6-3 30"x 30"
24"x 18"
W6-3-A 36"x 36"
24"x 18"
W6-3-B 48"x 48"
24"x 18"



W7-1 30"x 30"
24"x 18"
W7-1-A 36"x 36"
24"x 18"



W7-2 24"x 18"



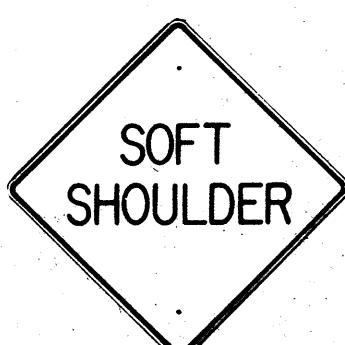
W8-1 30"x 30"
W8-1-A 36"x 36"



W8-2 30"x 30"
W8-2-A 36"x 36"



W8-3 30"x 30"
W8-3-A 36"x 36"



W8-4 30"x 30"
W8-4-A 36"x 36"



W8-5 30"x 30"
24"x 18"
W8-5-A 36"x 36"
24"x 18"



W9-1(R) 30"x 30"
W9-1(R)-A 36"x 36"
W9-1(R)-B 48"x 48"



W9-2(L) 36"x 36"
W9-2(L)-A 48"x 48"



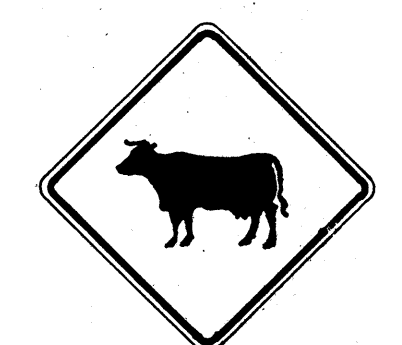
W10-1 36" Diameter



W11-1 30"x 30"
24"x 18"
W11-1-A 36"x 36"
24"x 18"



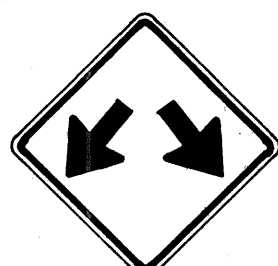
W11-2 30"x 30"
24"x 18"
W11-2-A 36"x 36"
24"x 18"



W11-4 30"x 30"
24"x 18"
W11-4-A 36"x 36"
24"x 18"



W11-5 30"x 30"
24"x 18"
W11-5-A 36"x 36"
24"x 18"



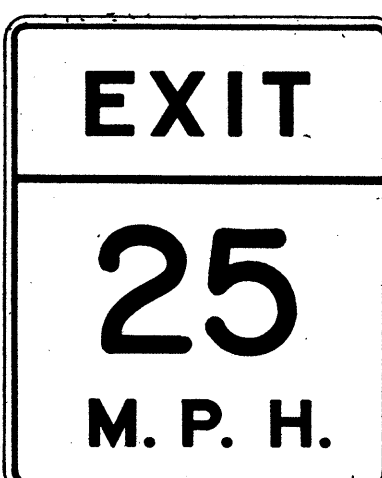
W12-1 24"x 24"
W12-1-A 36"x 36"
W12-1-B 48"x 48"



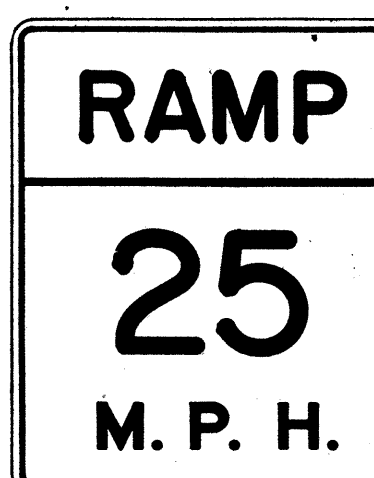
W12-2(12'-6") 36"x 36"
24"x 18"



W13-1(25) 18"x 18"
W13-1(25)-A 24"x 24"



W13-2(25) 48"x 60"



W13-3(25) 48"x 60"



W14-1 30"x 30"



W14-3 36"x 48" x 48"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All warning signs shall be reflectorized unless otherwise specified.
- All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized.

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER

3/17/12
DATE

APPROVED:
ASSISTANT CHIEF, ENGINEERING

3-20-12
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.T.	3/20/12
2	Revised General Note 1	H.T.	10/16/14
3	Revised General Note 5	M.T.	9-16-75
4	Revised General Note 5	H.T.	9-14-76

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS WARNING SIGNS

NOT TO SCALE

SHEET No. OF SHEETS DT 102

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-41-1(124)16	1978	58	223

General Notes

- Sign details shall conform to the latest editions of the following FHWA publications:
 - "Standard Alphabets for Highway Signs," and as amended.
 - "Standard Highway Signs," and as amended.
 - "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- All signs shall be reflectorized with reflective sheeting, unless otherwise specified.
- All signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations.
- Numerals in () indicate numerals to be inserted for sign message. (R) or (L) indicates right or left.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized with reflective sheeting.

APPROVAL RECOMMENDED:
Eishi Tanaka
 TRAFFIC ENGINEER 5/2/78
 DATE

APPROVED:
Robert S. Dakeishi
 ASSISTANT CHIEF, ENGINEERING 5/3/78
 DATE

NO.	REVISION	APPROVED BY	DATE
	Supersedes Sht DT103 approved 3/20/72	H.T.	5/3/78

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGNS

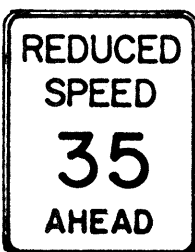
NOT TO SCALE
DATE: MAY, 1978

SHEET No. 58 OF 58 SHEETS DT 103

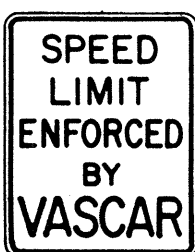
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

ALL WAY

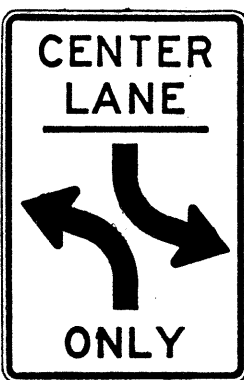
R1-4 18"x 6"



R2-5d(35) 24" x 30"
R2-5d(35)-A 48" x 60"



R2-10 24"x 30"



R3-9b 24"x 36"



R7-107(R) 12" x 24"



R7-8 12"x 18"
R7-8-A 24"x 30"



ANY TIME - 4" Series C
1 1/2"
R8-3a 24" x 24"
24" x 18"
R8-3a-A 48" x 48"



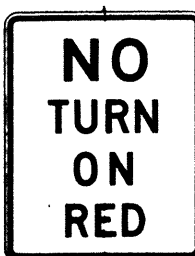
R9-3a 18"x 18"
18"x 12"
R9-3a-A 24"x 24"
24"x 18"



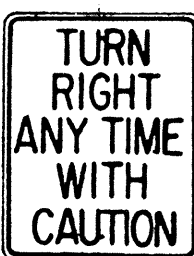
R9-3b(R) 18" x 12"



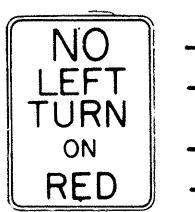
R9-3b(L) 18" x 12"



R10-11a 24" x 30"



R16-1 24" x 30"



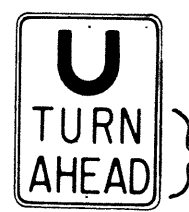
R16-3 18" x 24"



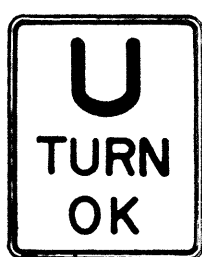
R16-4 18" x 24"



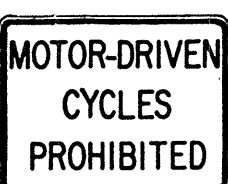
R16-5 36" x 42"



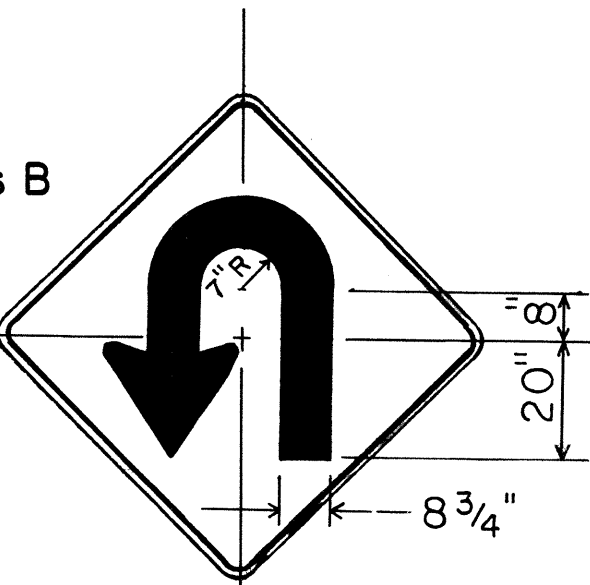
R16-6 24" x 30"



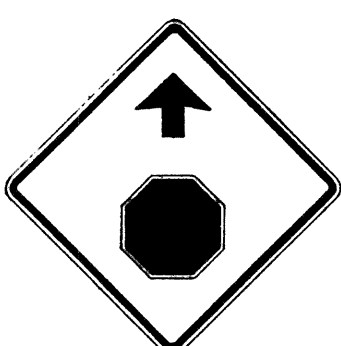
R16-7 24" x 30"



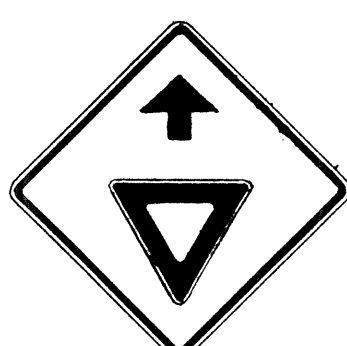
R5-8 30" x 24"



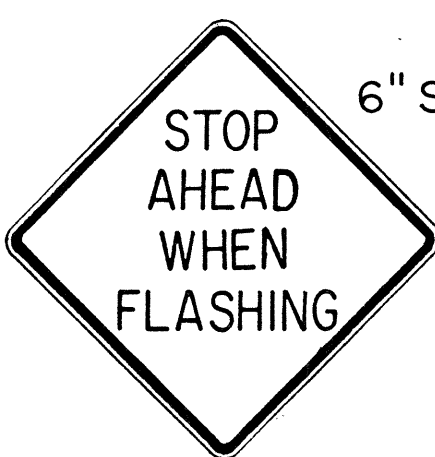
W17-1(L) 60" x 60"



W3-1a 36" x 36"
24" x 18"
W3-1a-A 48" x 48"
24" x 18"



W3-2a 36" x 36"
24" x 18"
W3-2a-A 48" x 48"
24" x 18"



W3-4 48" x 48"



W8-6 30" x 30"
W8-6-A 36" x 36"



W9-3(L) 48" x 48"



W11-7 36" x 36"
24" x 18"
W11-7-A 48" x 48"
24" x 18"



W11-8 36" x 36"
24" x 18"
W11-8-A 48" x 48"
24" x 18"



W11-9 36" x 36"
48" x 48"



W14-4 36" x 36"
48" x 48"



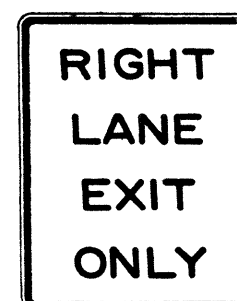
W15-1 24" x 24"



W15-2 24" x 24"



CW16-1(1/2) 60" x 60"



W18-1 48" x 60"



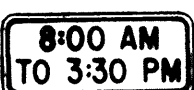
S1-1 36" x 36"



S2-1 36" x 36"



S3-1 30" x 30"



S4-1 24" x 10"



S4-2 24" x 10"



S4-3 24" x 8"



S4-4 24" x 10"



CW23-4 48" x 48"



R18-1 24" x 18"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(124)-16	1978	59	223



CW20-1a 48" x 48"



CW20-2d 48" x 48"



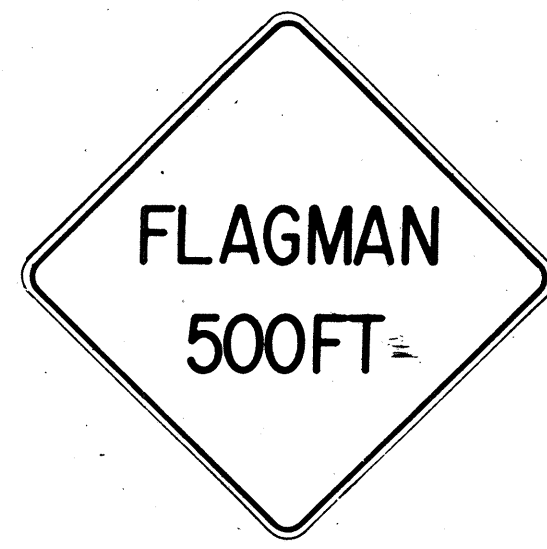
CW20-3b 48" x 48"



CW20-4d 48" x 48"



CW20-5d(L) 48" x 48"



CW20-7c 48" x 48"



CW21-1 30" x 30"



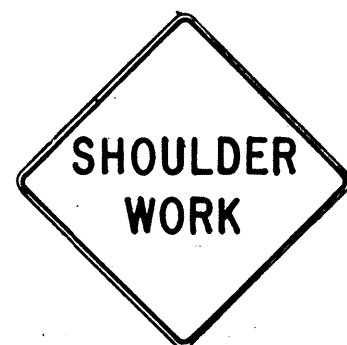
CW21-2 30" x 30"



CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



CW21-6 30" x 30"



CW22-1b 48" x 48"



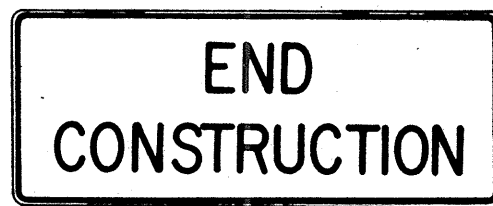
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



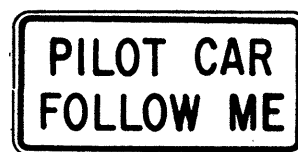
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



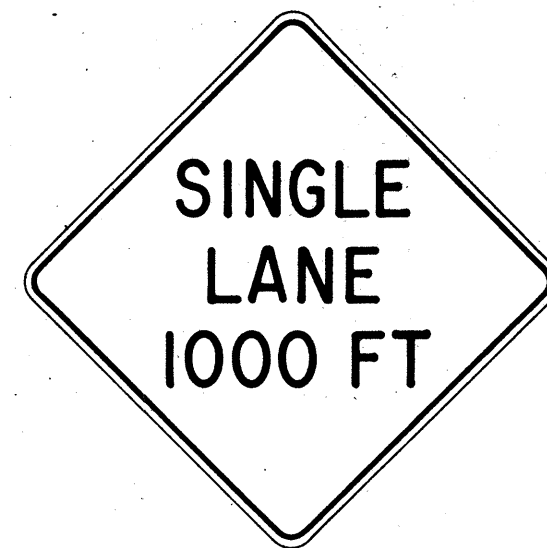
CM4-10(R) 48" x 18"



CG20-4 36" x 18"



CW23-1 36" x 36"



CW23-2b 48" x 48"



CW23-3(R) 48" x 48"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All construction signs shall be reflectorized.
- All construction signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- For "CW" series signs, suffixes a, b, c and d are as follows:
a-1500 FT, b-1000 FT, c-500 FT and d-AHEAD.

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.T.	3/23/72
2	Revised General Note 1	H.T.	10/10/74
3	Revised General Note 2	H.T.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.T.	9-14-76

APPROVAL RECOMMENDED:
Erich Tanaka 3/21/72
TRAFFIC ENGINEER DATE

APPROVED:
Walter S. S. S. 3/23/72
ASSISTANT CHIEF, ENGINEERING DATE

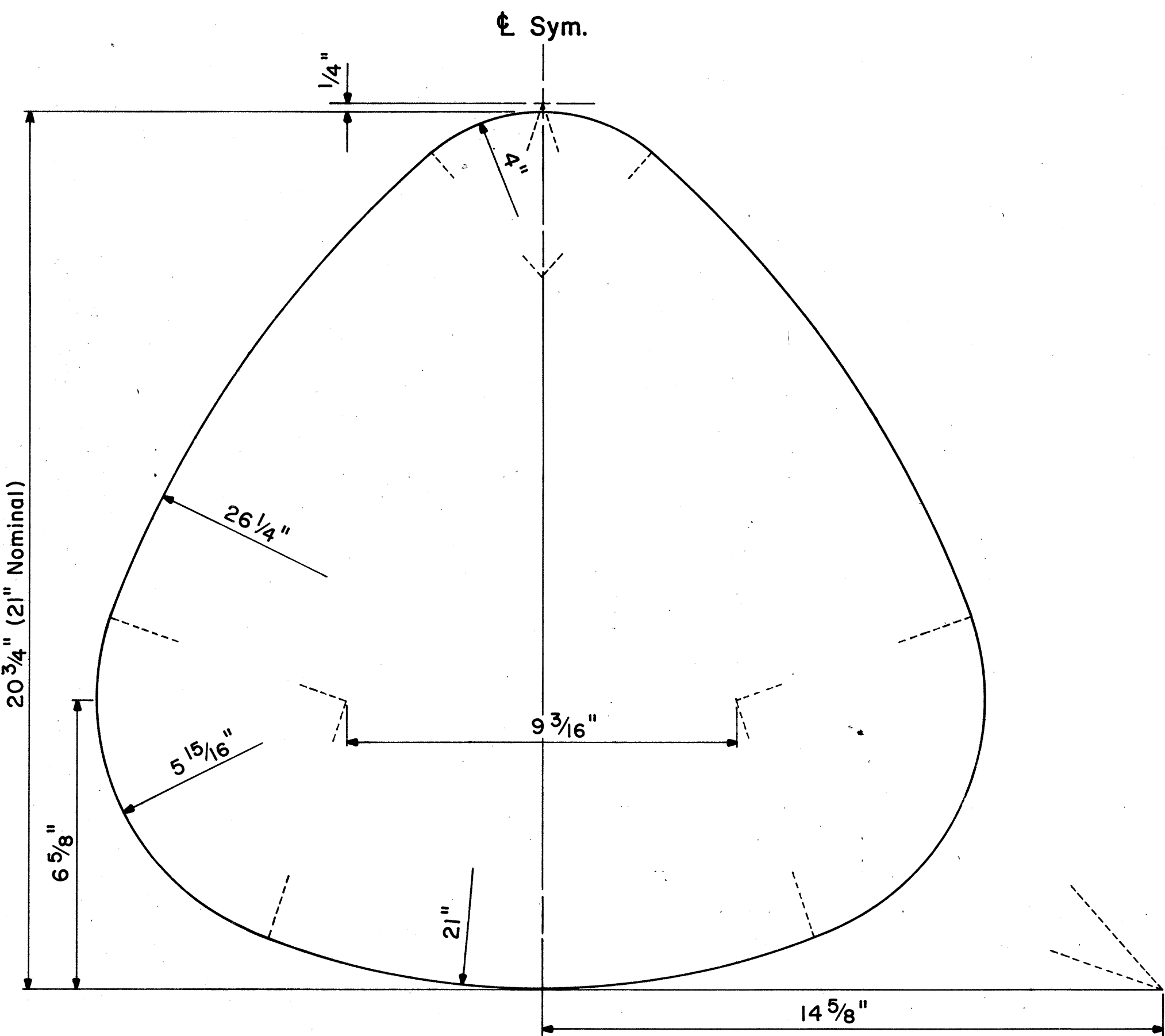
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS CONSTRUCTION SIGNS
NOT TO SCALE
SHEET No. OF SHEETS DT 104

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HH-1(124)-16	1978	60	223

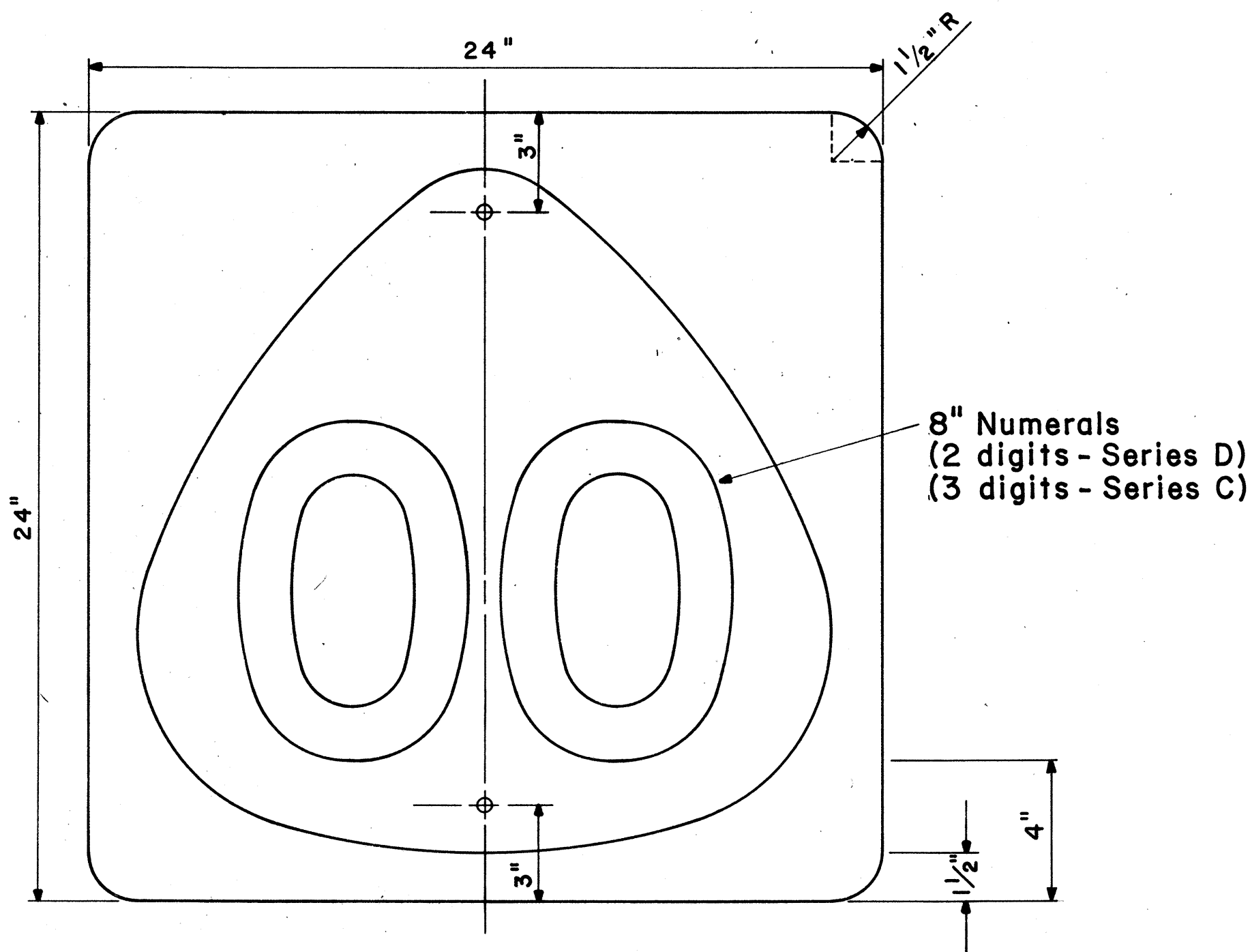
GENERAL NOTES

- Marker details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, "Standard Alphabets for Highway Signs," 1966, and "Standard Highway Signs," 1972, and as amended.
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for marker message. (R) or (L) indicates right or left.
- Sign message of Cardinal Direction Marker (M3 series) shall be denoted by the following:

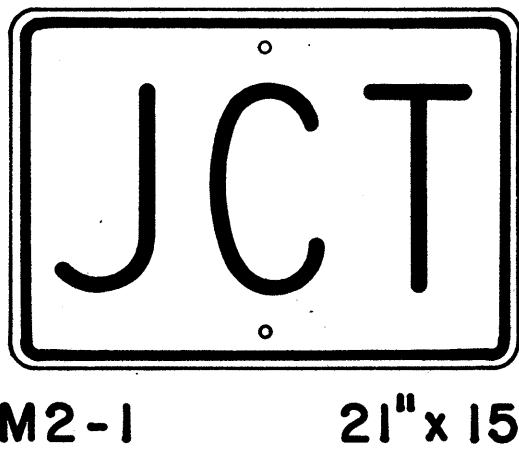
M3-1 : NORTH
 M3-2 : EAST
 M3-3 : SOUTH
 M3-4 : WEST
- Markers prefixed with "IM" on the plans shall have a white legend on a blue background.



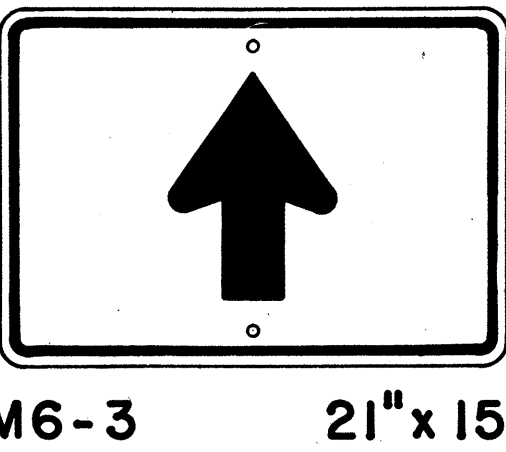
STATE ROUTE MARKER DETAIL
Not to Scale



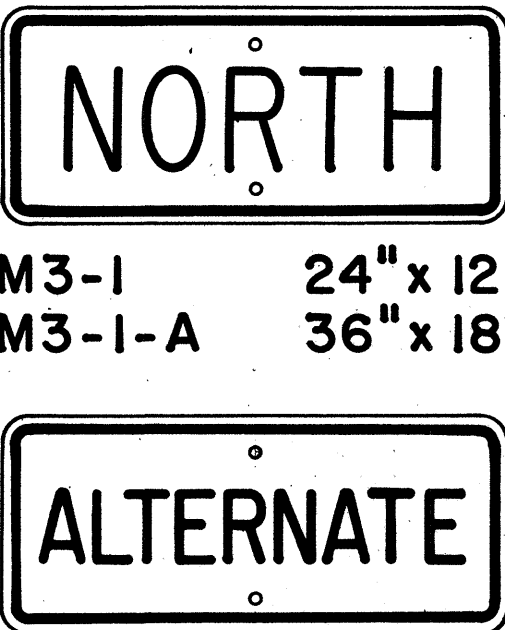
STATE ROUTE MARKER
MI-6 (00) 24"x 24"
Scale: 1/4" = 1"



M2-1 21"x 15"



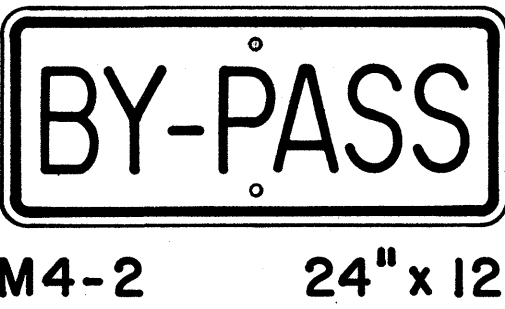
M6-3 21"x 15"



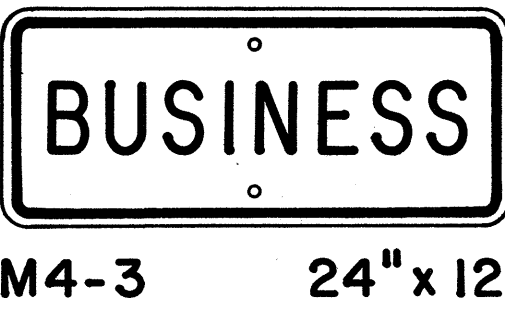
M3-1 24"x 12"
M3-1-A 36"x 18"



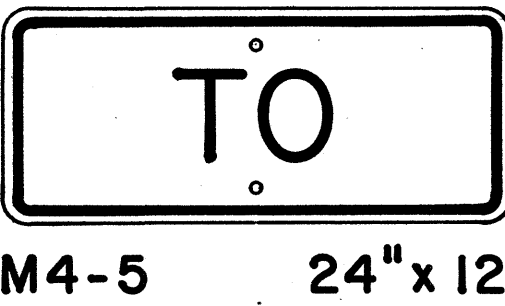
M4-1 24"x 12"



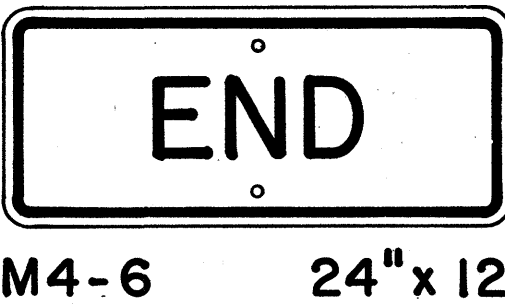
M4-2 24"x 12"



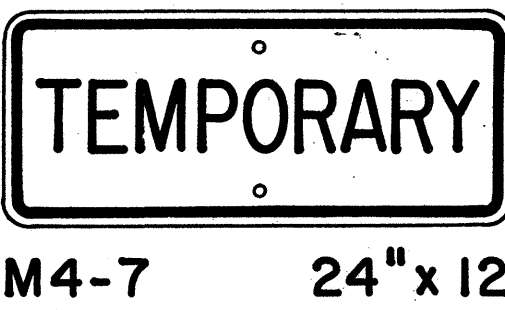
M4-3 24"x 12"



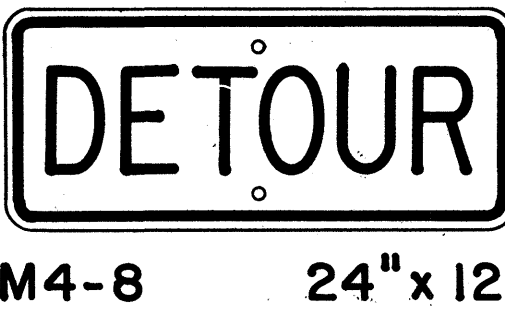
M4-5 24"x 12"



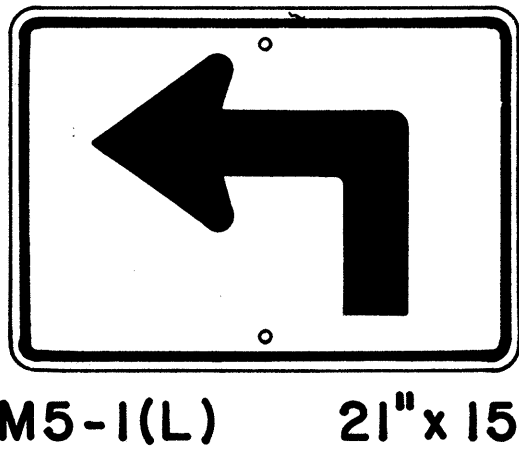
M4-6 24"x 12"



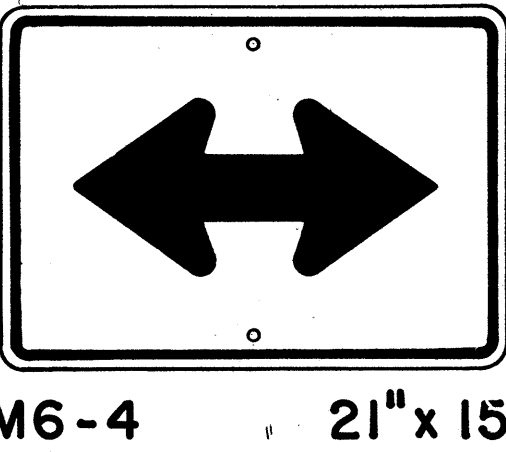
M4-7 24"x 12"



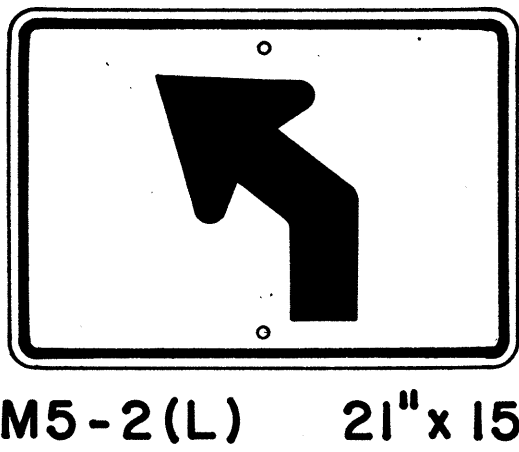
M4-8 24"x 12"



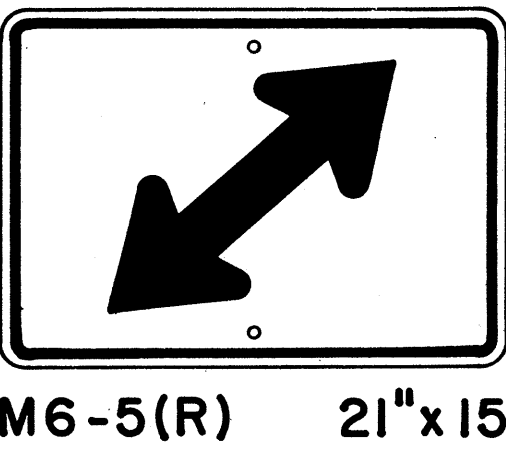
M5-1(L) 21"x 15"



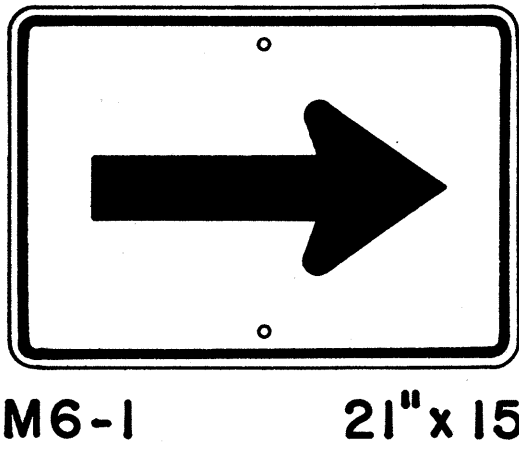
M6-4 21"x 15"



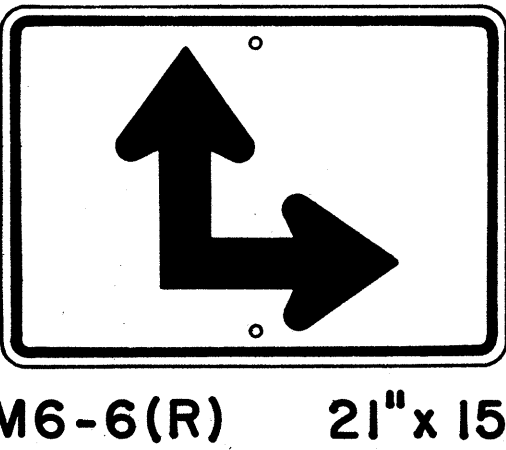
M5-2(R) 21"x 15"



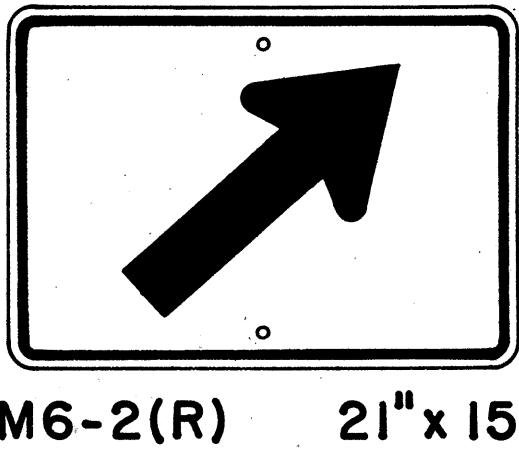
M6-5(R) 21"x 15"



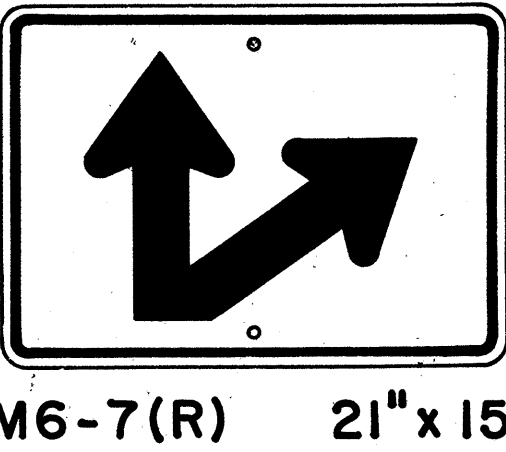
M6-1 21"x 15"



M6-6(R) 21"x 15"



M6-2(R) 21"x 15"



M6-7(R) 21"x 15"

AUXILIARY MARKERS

Not to Scale

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 105 Approved 12-30-69	H.T.	6/1/72
2	Revised General Note 1	H.T.	10/16/74

APPROVAL RECOMMENDED:
Erich Tanaka
 TRAFFIC ENGINEER 6/6/72
 DATE

APPROVED:
Abdur 2. Salami
 ASSISTANT CHIEF, ENGINEERING 6-1-72
 DATE

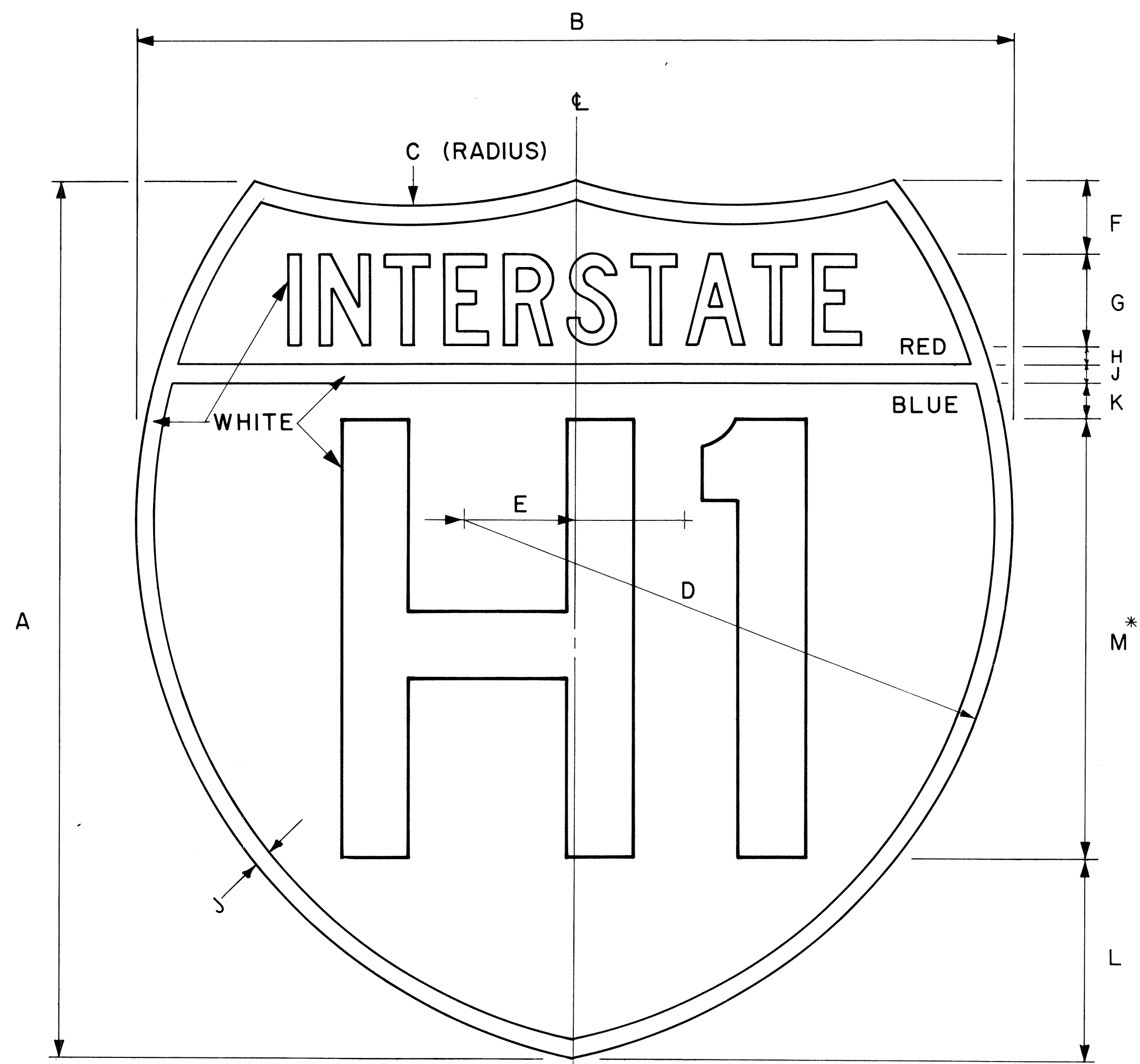
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
STATE ROUTE MARKER
AND AUXILIARY MARKERS

Scale: As Shown
 SHEET NO. 60 OF SHEETS DT 105

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DRAWN BY	DRAWN BY	
CHECKED BY	CHECKED BY	
NOTED BY	NOTED BY	
QUANTITIES BY	QUANTITIES BY	
CHECKED BY	CHECKED BY	
NO.	NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-(124)16	1978	61	223



INTERSTATE ROUTE MARKER
IM-1()

Scale: 3/8" = 1"

GENERAL NOTES

- Interstate route marker details shall conform to the latest FHWA publications:
 - "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
 - "Standard Alphabets for Highway Signs," and as amended.
 - "Standard Highway Signs," and as amended.
- All Interstate route markers shall be reflectorized with reflective sheeting.
- All Interstate route markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
- The Interstate route marker shall be a cut-out shield in a red, white and blue design as shown on the plans.

INTERSTATE ROUTE MARKER SCHEDULE
(INCHES)

SIZE ()	A	B	C	D	E	F	G	H	J	K	L	M
1	24	24	15	15	3	2	2 1/2 C	1/2	1/2	1	5 1/2	12D
2	36	36	22 1/2	22 1/2	4 1/2	3	3 3/4 C	3/4	3/4	1 1/2	8 1/4	18D
3	48	48	30	30	6	4	5 C	1	1	2	11	24D

* If letters and numerals cannot be accommodated within available space, Series C letters may be used.

APPROVAL RECOMMENDED:

Erich Tanaka 4/17/78
TRAFFIC ENGINEER DATE

APPROVED:

Herbert S. Zalewski 4/18/78
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Replaces DT106 Approved 12/30/69.	H.T.	4-18-78

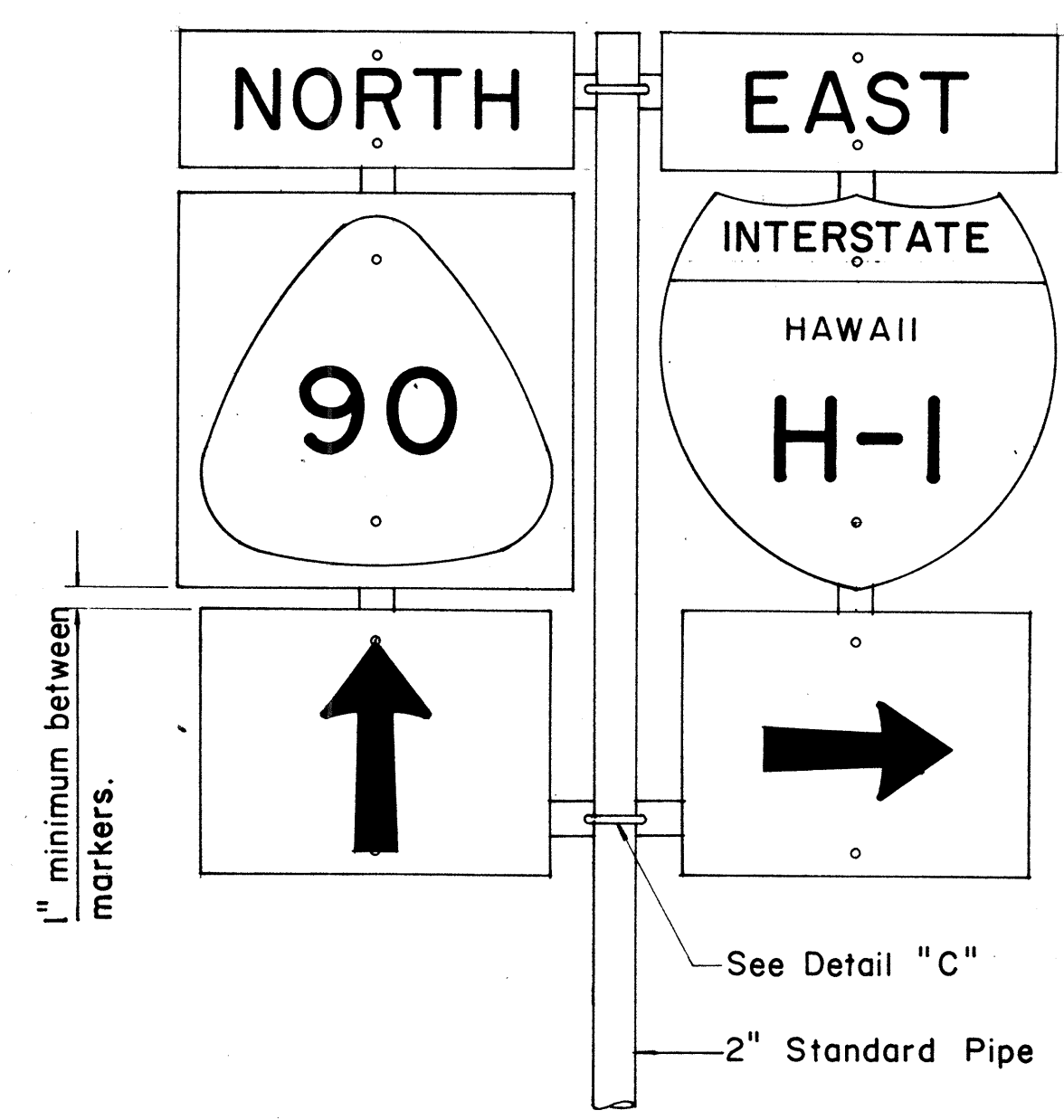
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
INTERSTATE ROUTE MARKER

Scale: 3/8" = 1" Date: January, 1978

SHEET NO. OF SHEETS DT106

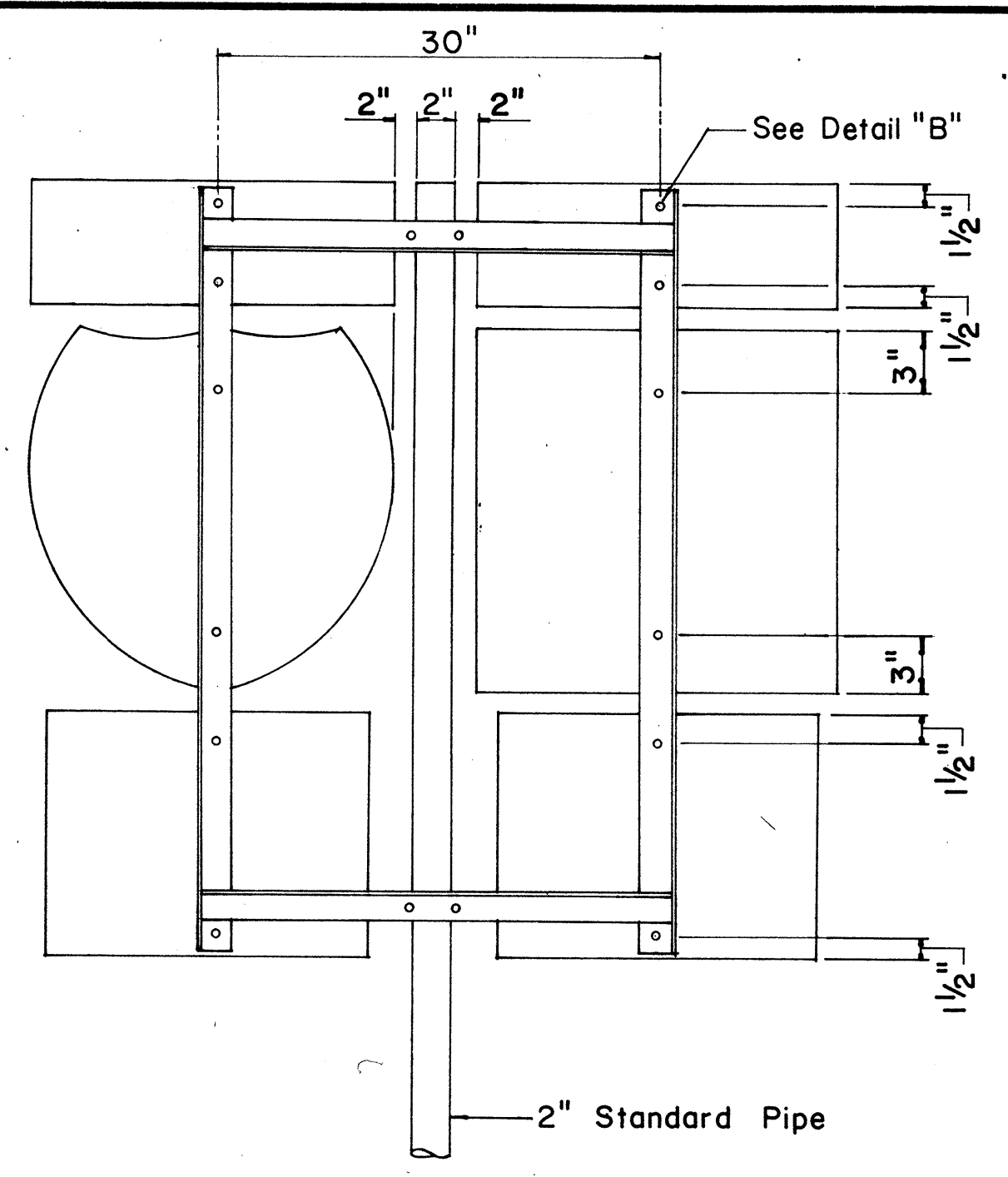
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-1(124)-16	1978	62	223



FRONT ELEVATION

TYPE "B" ASSEMBLY

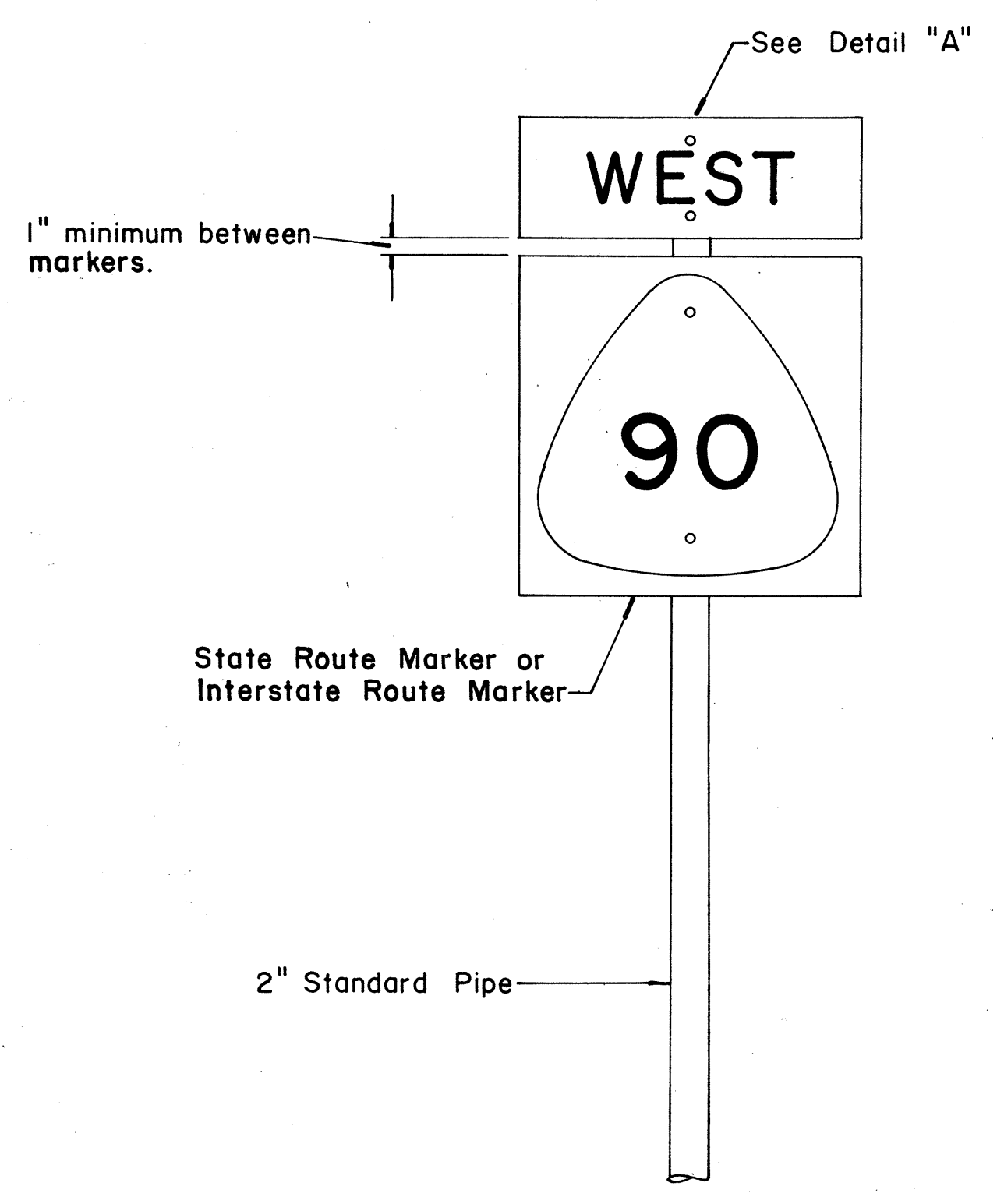
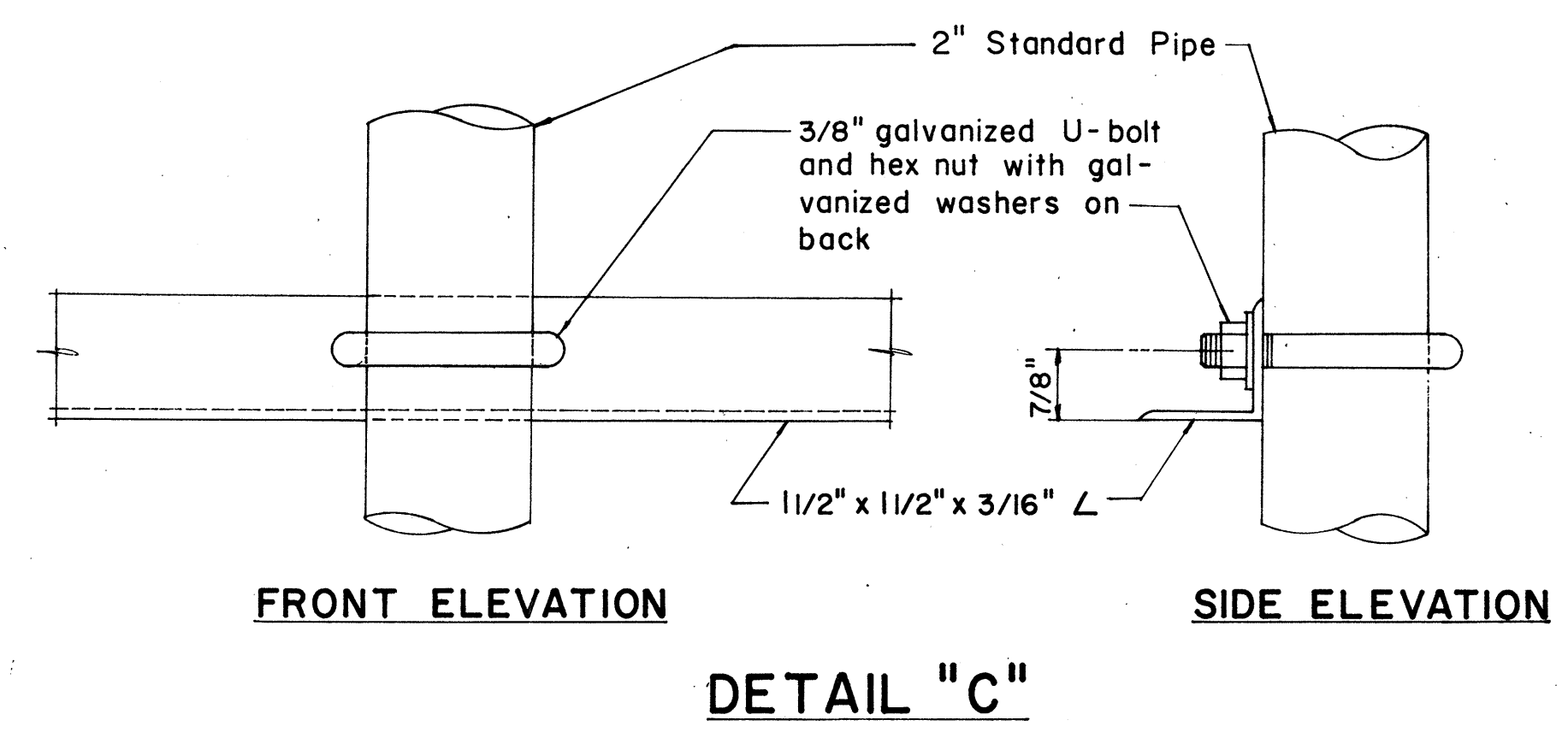
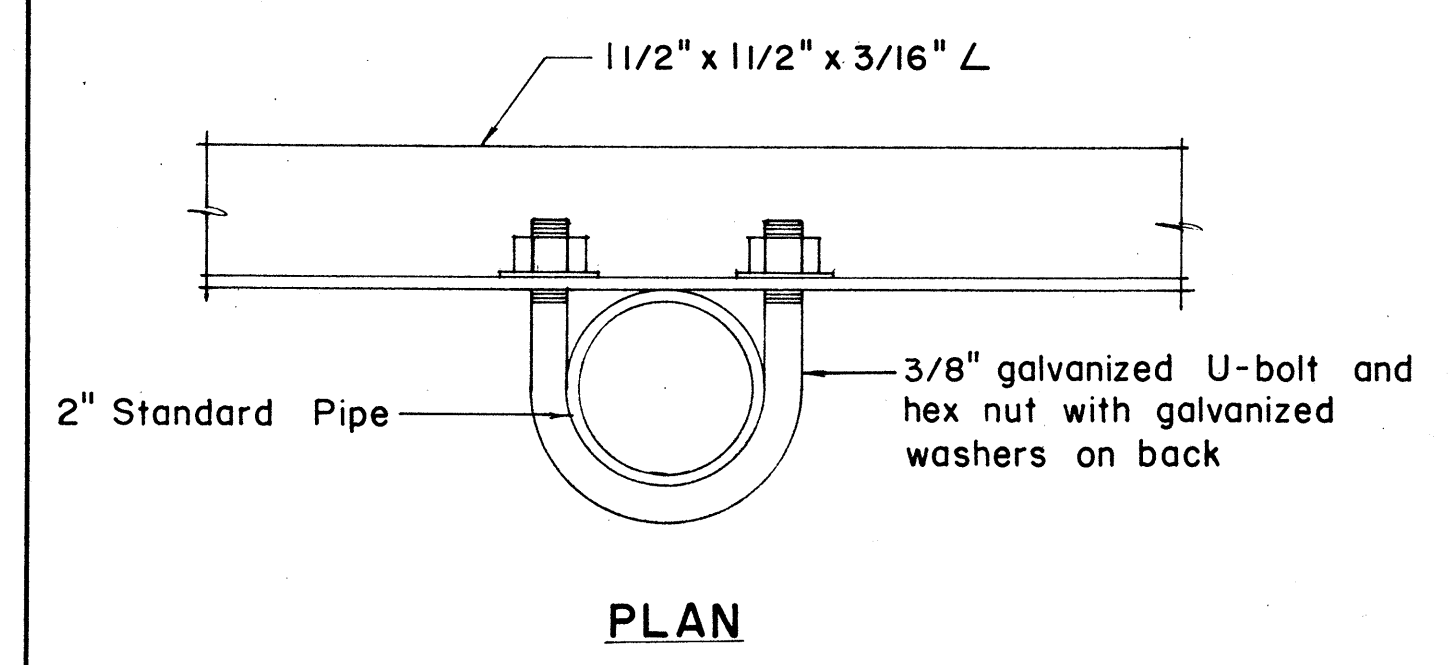
Not to Scale



REAR ELEVATION

NOTE:

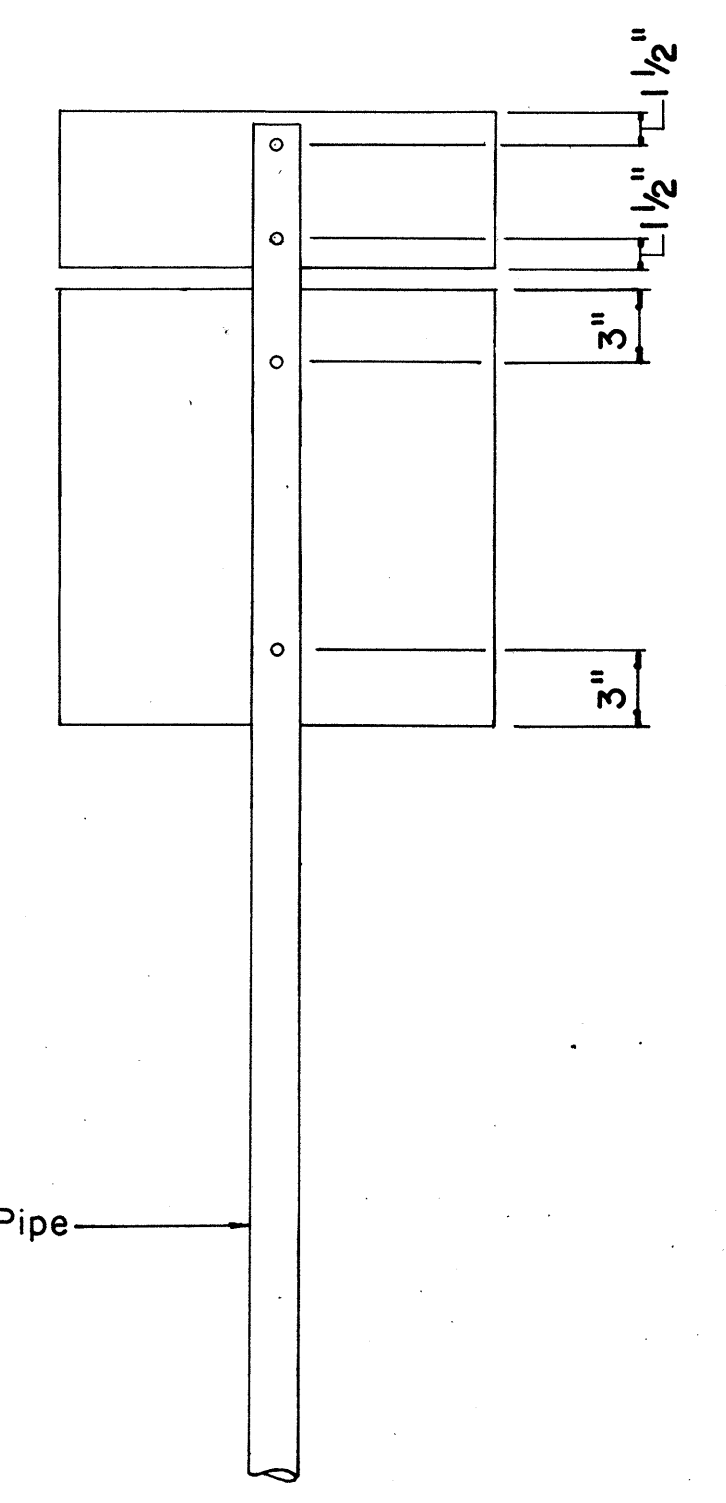
- Minimum clearance between markers shall be one inch. (Larger clearances shall be in multiples of one inch.)
- Pipe post for Type "A" & Type "B" Assembly shall be 2" Standard Pipe.



FRONT ELEVATION

TYPE "A" ASSEMBLY

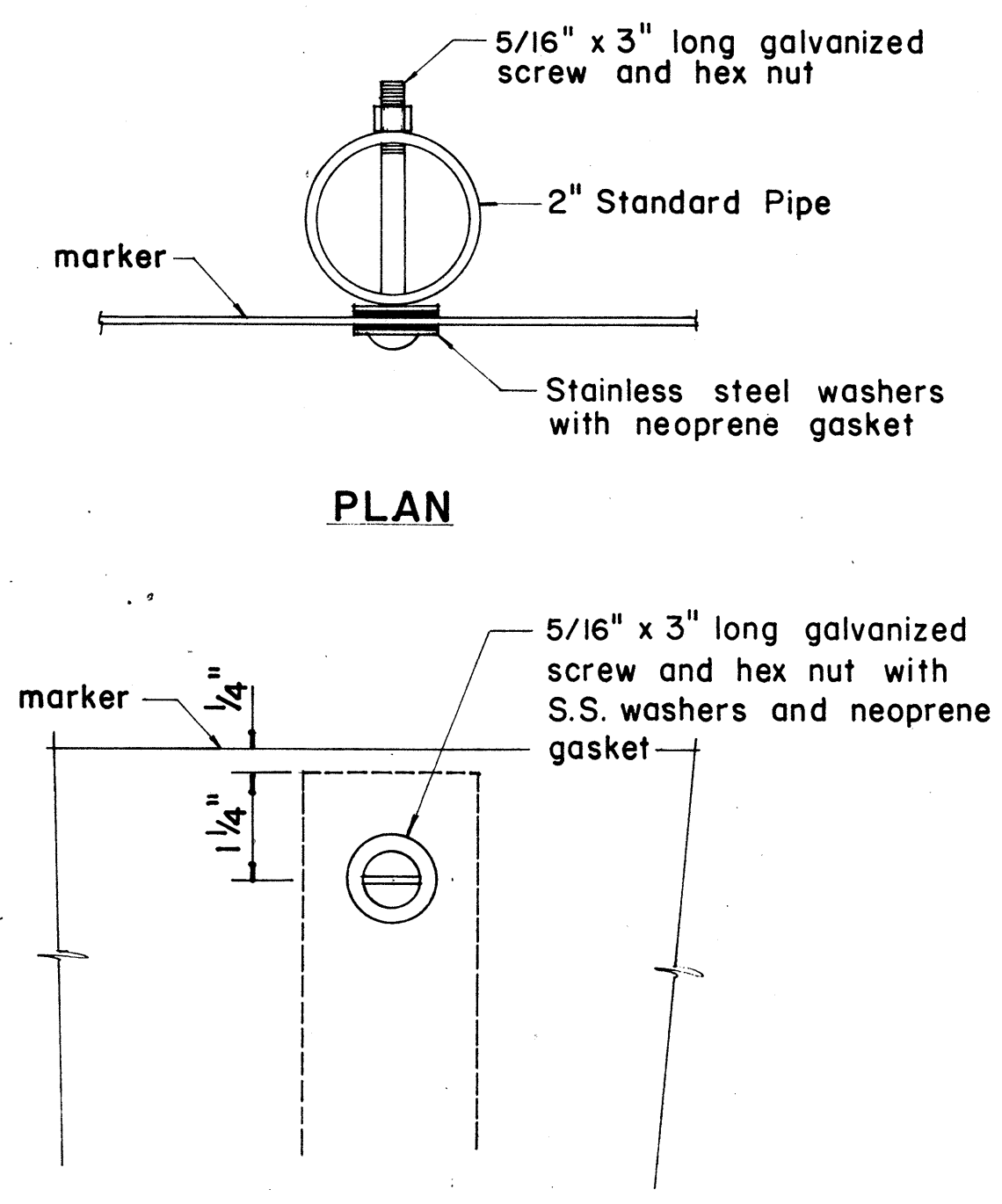
Not to Scale



REAR ELEVATION

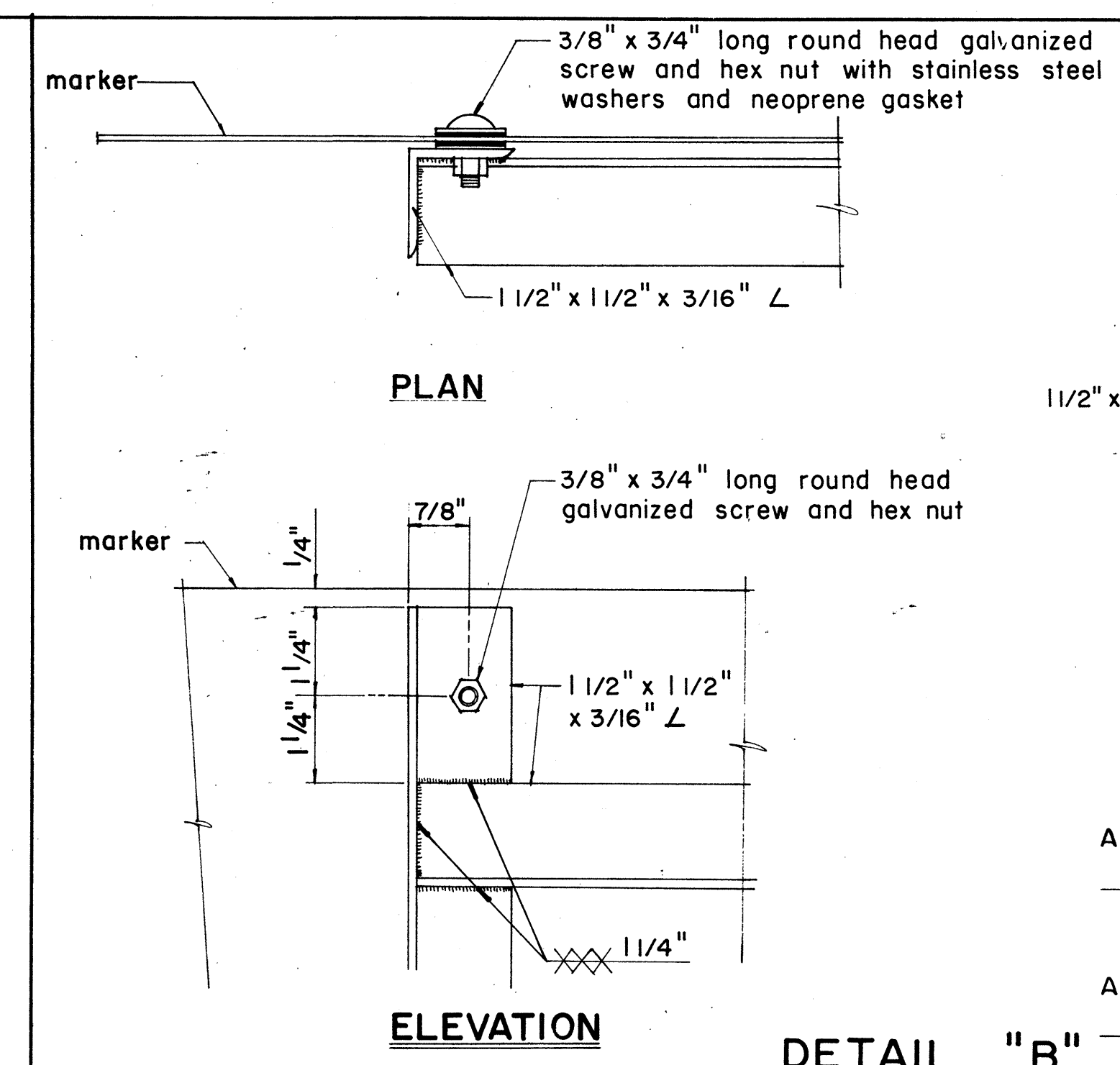
NOTE:

For height and lateral location of Route Marker Assembly, see plan sheet DT 100.

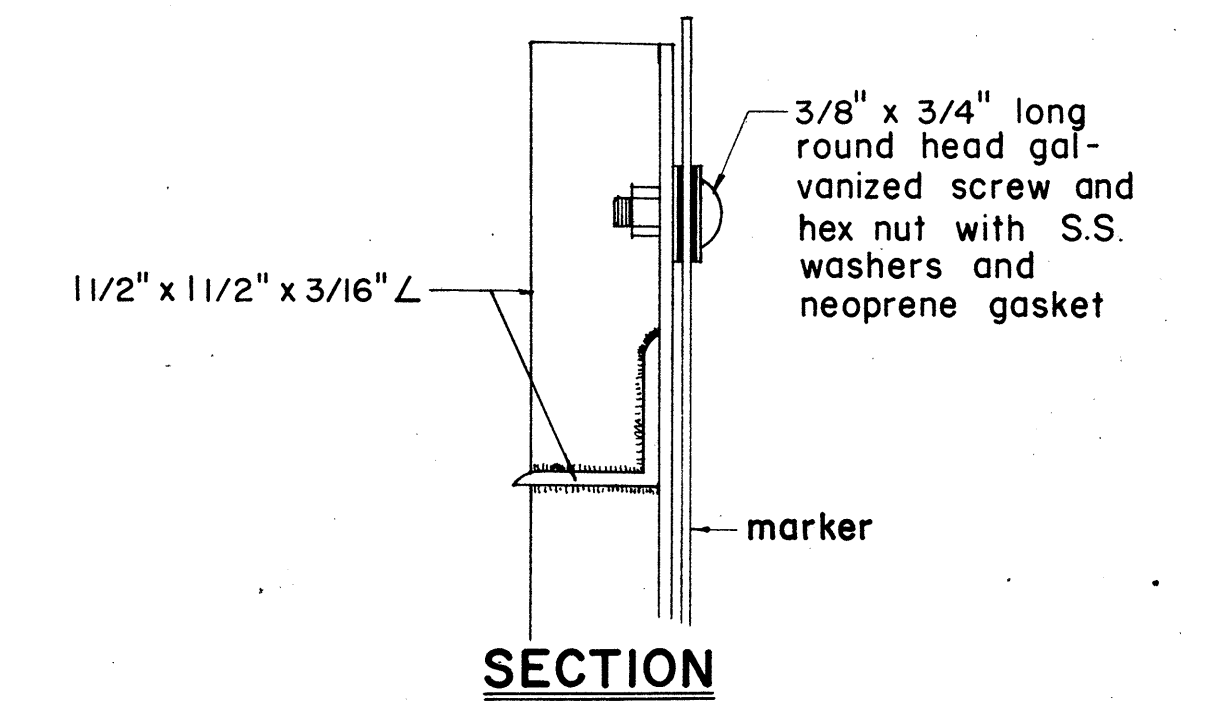


FRONT ELEVATION

DETAIL "A"



NO.	REVISION	APPROVED BY	DATE
1	Revisions to Route Marker Assemblies.	H.T.	6/1/72



APPROVAL RECOMMENDED:

Erich Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

John J. Sabel 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
ROUTE MARKER ASSEMBLIES

Scale: As Shown

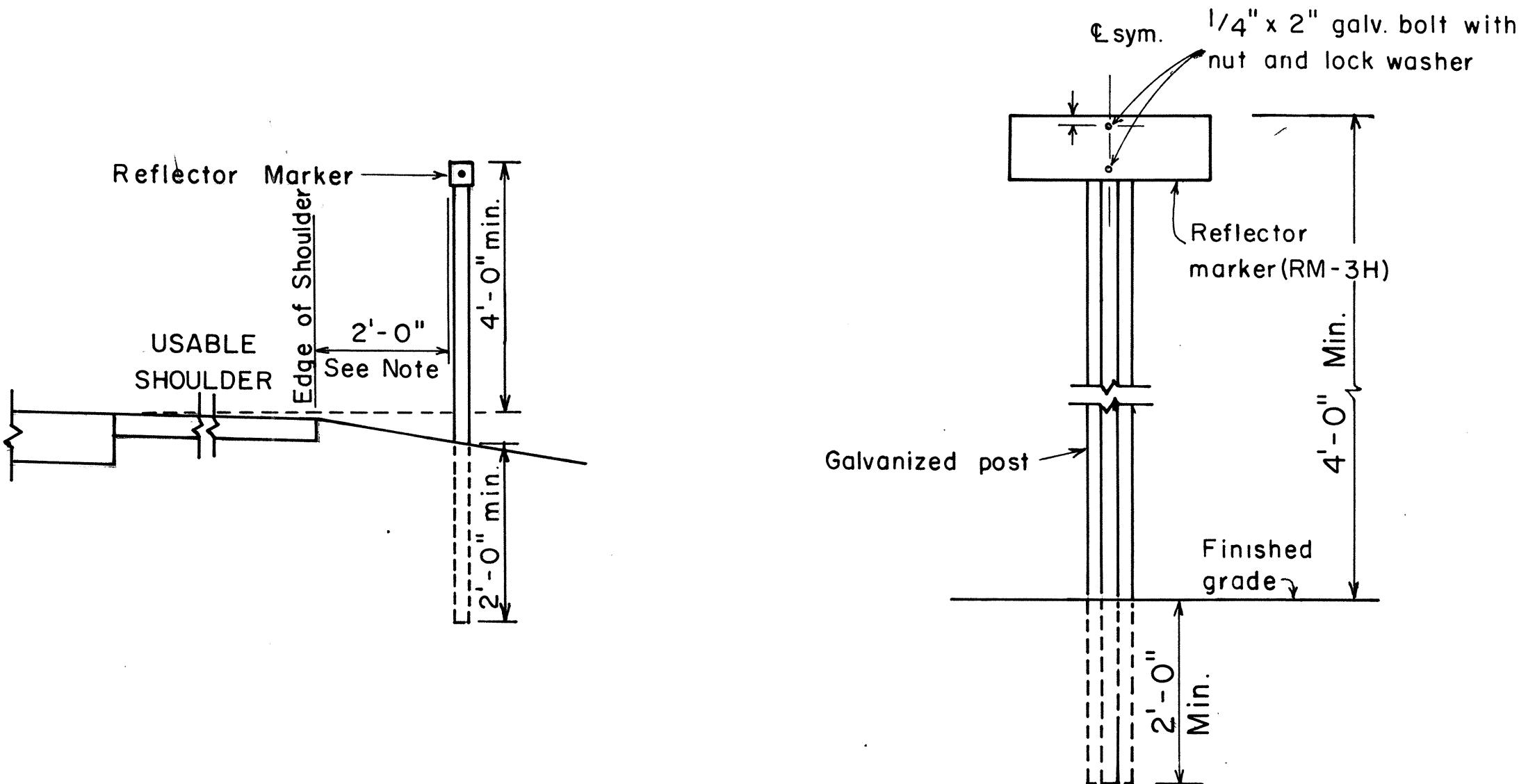
SHEET No. 62 OF 107 SHEETS DT 107

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

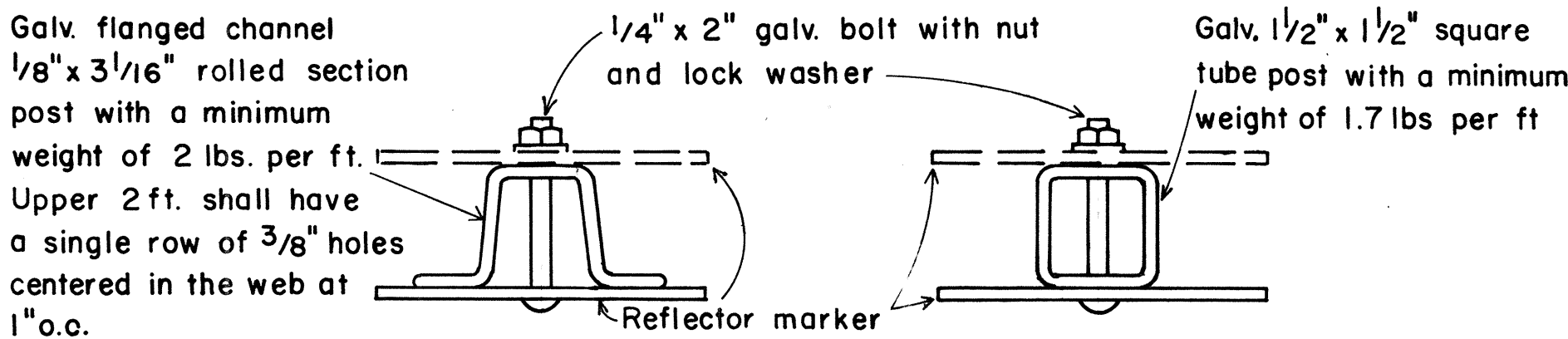
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H11(124)6	1978	63	223

GENERAL NOTES:

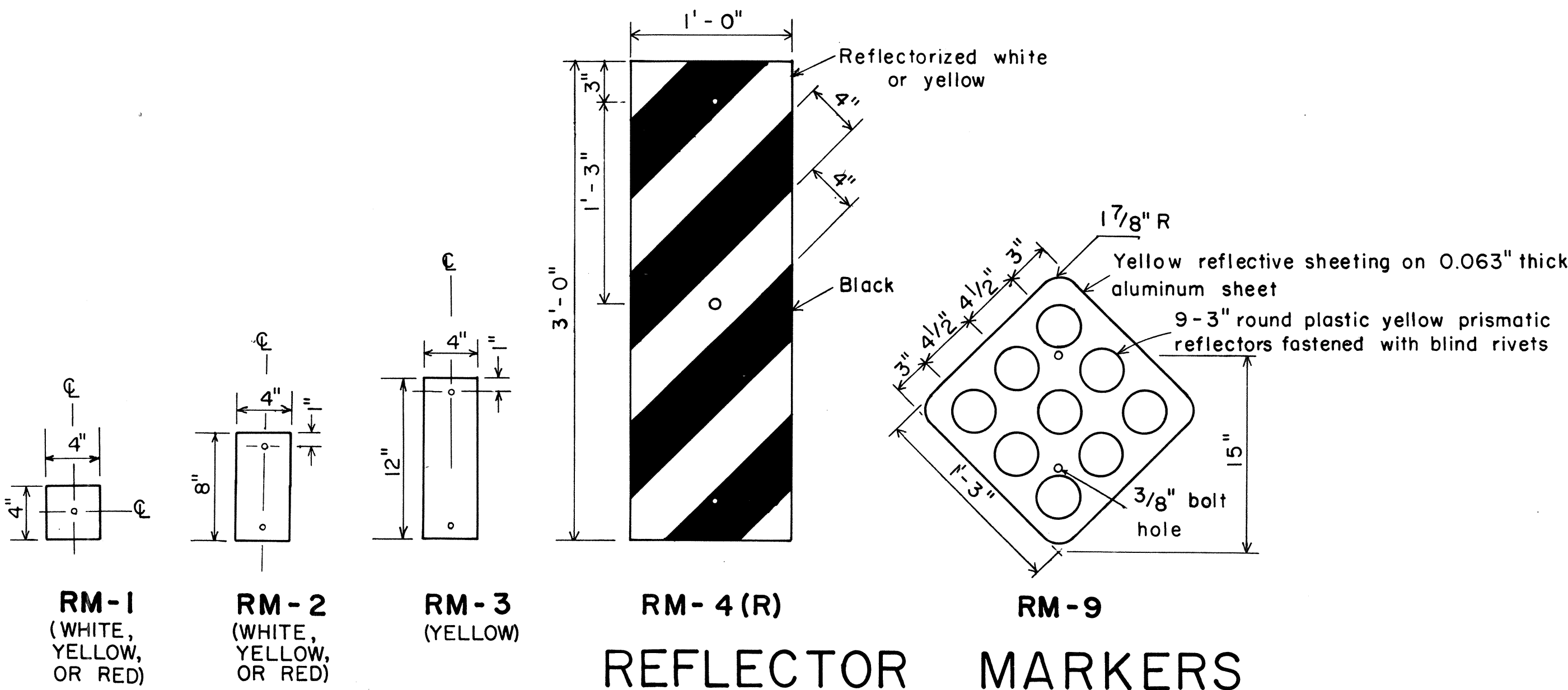
- Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
- (R) or (L) indicates right or left and shall be as shown on the plans.
- Reflector markers RM-1 and RM-2 shall be:
 - Yellow if placed along the left edge of divided roadways, one-way roadways, and ramps in the direction of travel.
 - White if placed along the right edge of divided roadways, one-way roadways, and ramps in the direction of travel.
- For reflector marker RM-9, reflective sheeting material may be used as an alternate.
- For RM-4, the stripes shall slope downward at an angle of 45° in the direction of traffic.



REFLECTOR MARKER MOUNTING DETAIL



TYPICAL SECTION OF ROAD DELINEATOR



APPROVAL RECOMMENDED:
Enishi Tanaka 11/7/77
 TRAFFIC ENGINEER DATE
 APPROVED:
Herbert B. Sakai 11/15/77
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
 MISCELLANEOUS REFLECTOR MARKERS

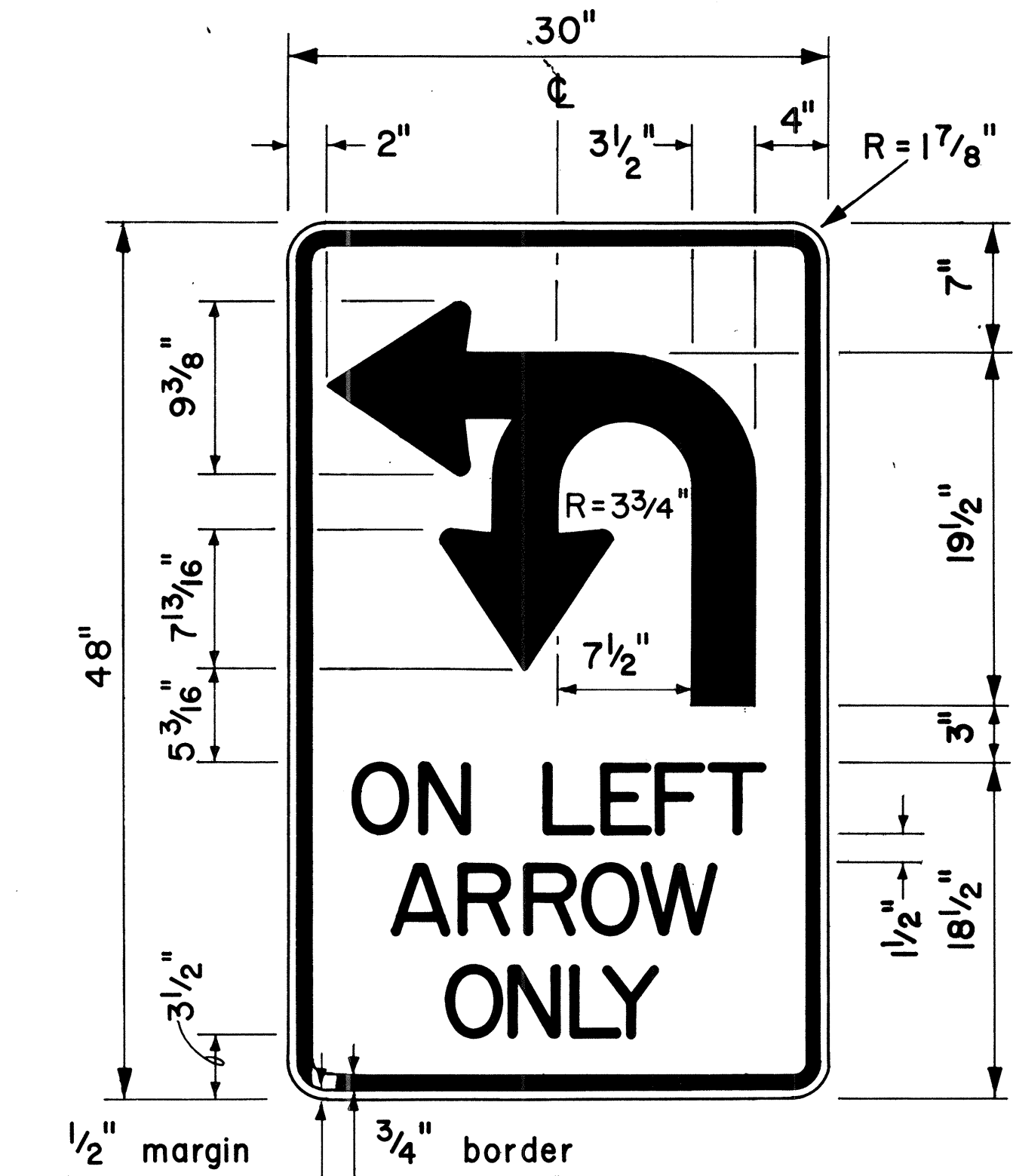
Not to scale June, 1977

SHEET NO. OF SHEETS DT 110

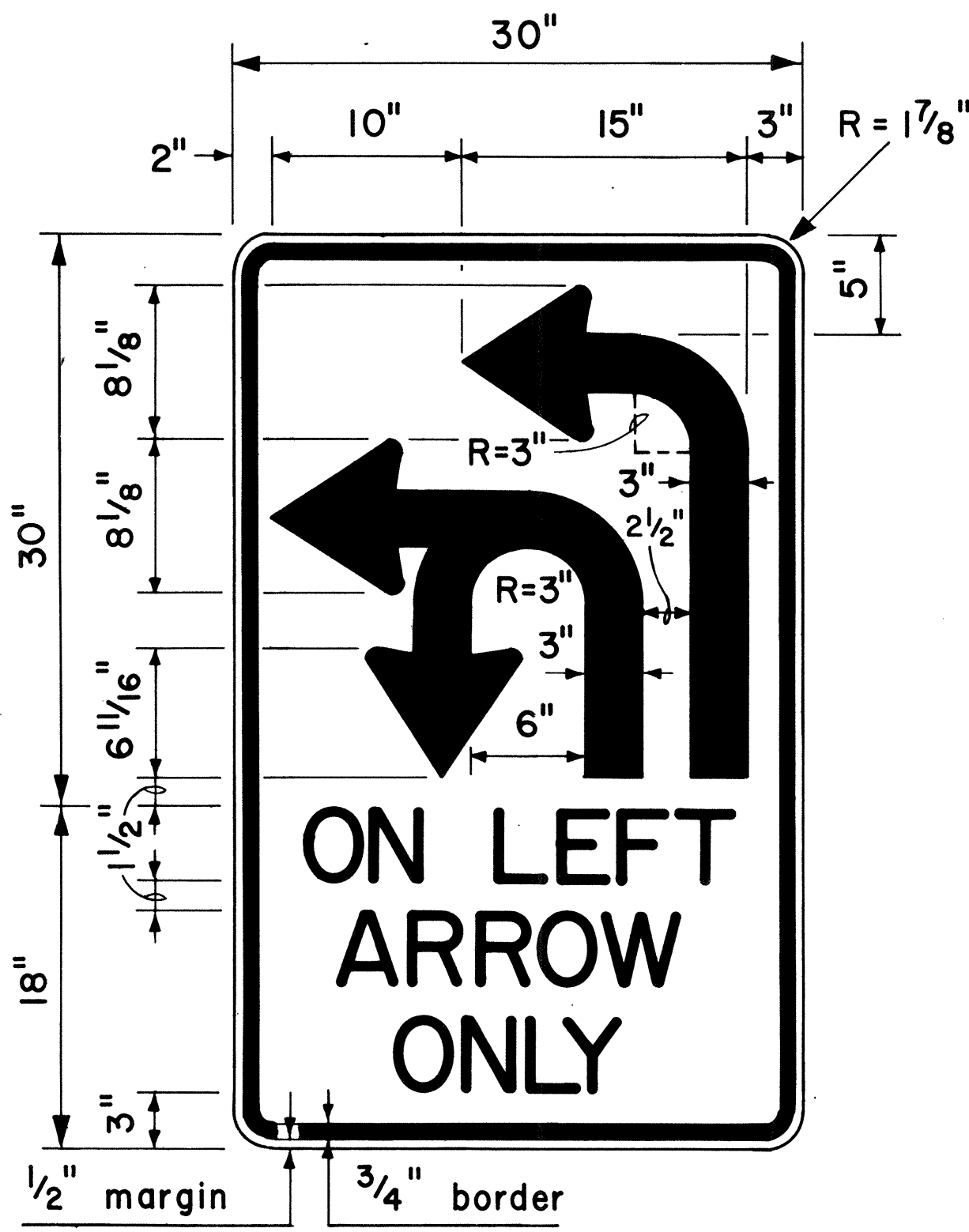
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HA-1(124)16	1978	64	223

GENERAL NOTES

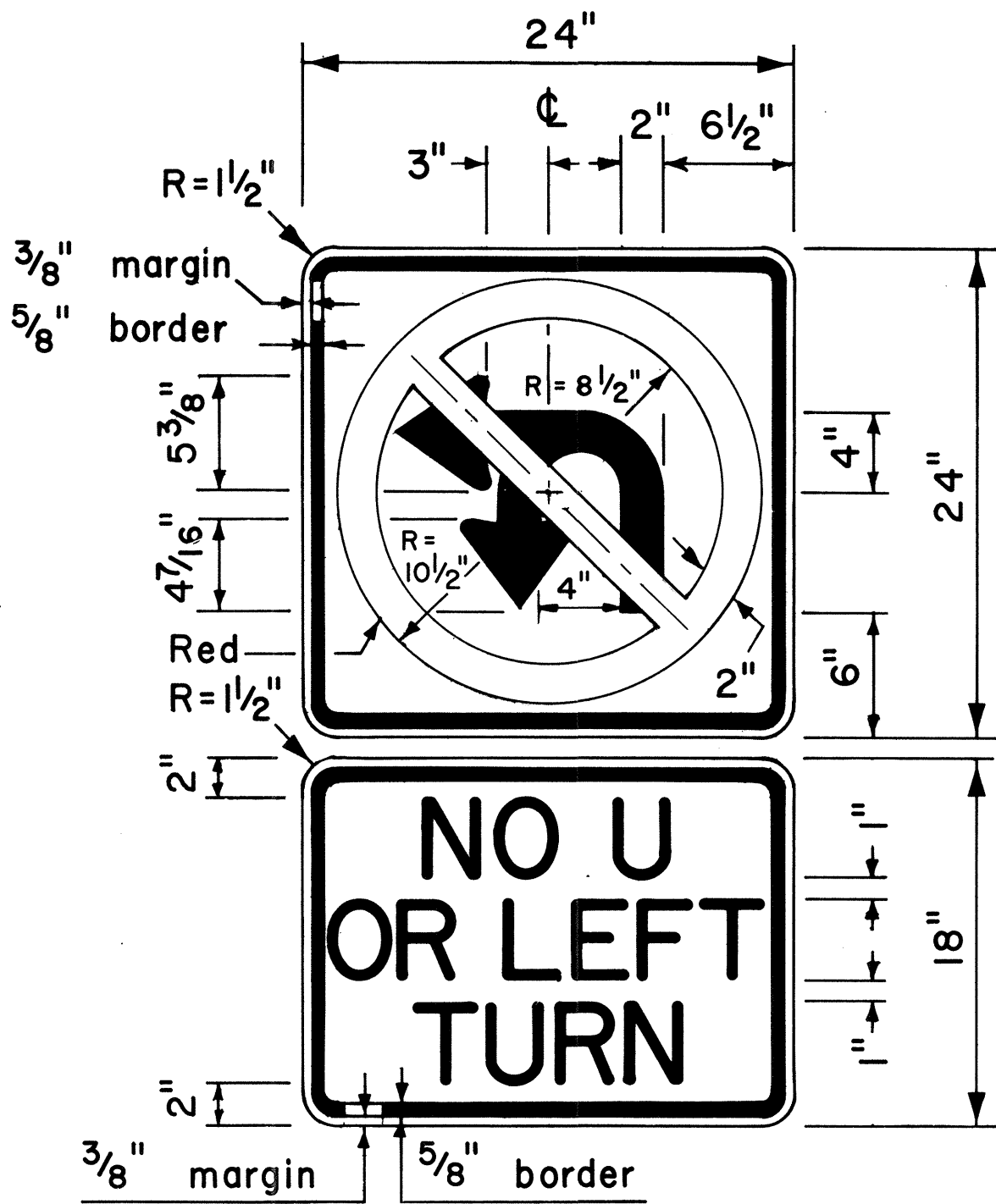
- Sign details shall conform to the latest editions of the following FHWA publications: "Manual on Uniform Traffic Control Devices for Streets and Highways," and "Standard Highway Signs," and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.



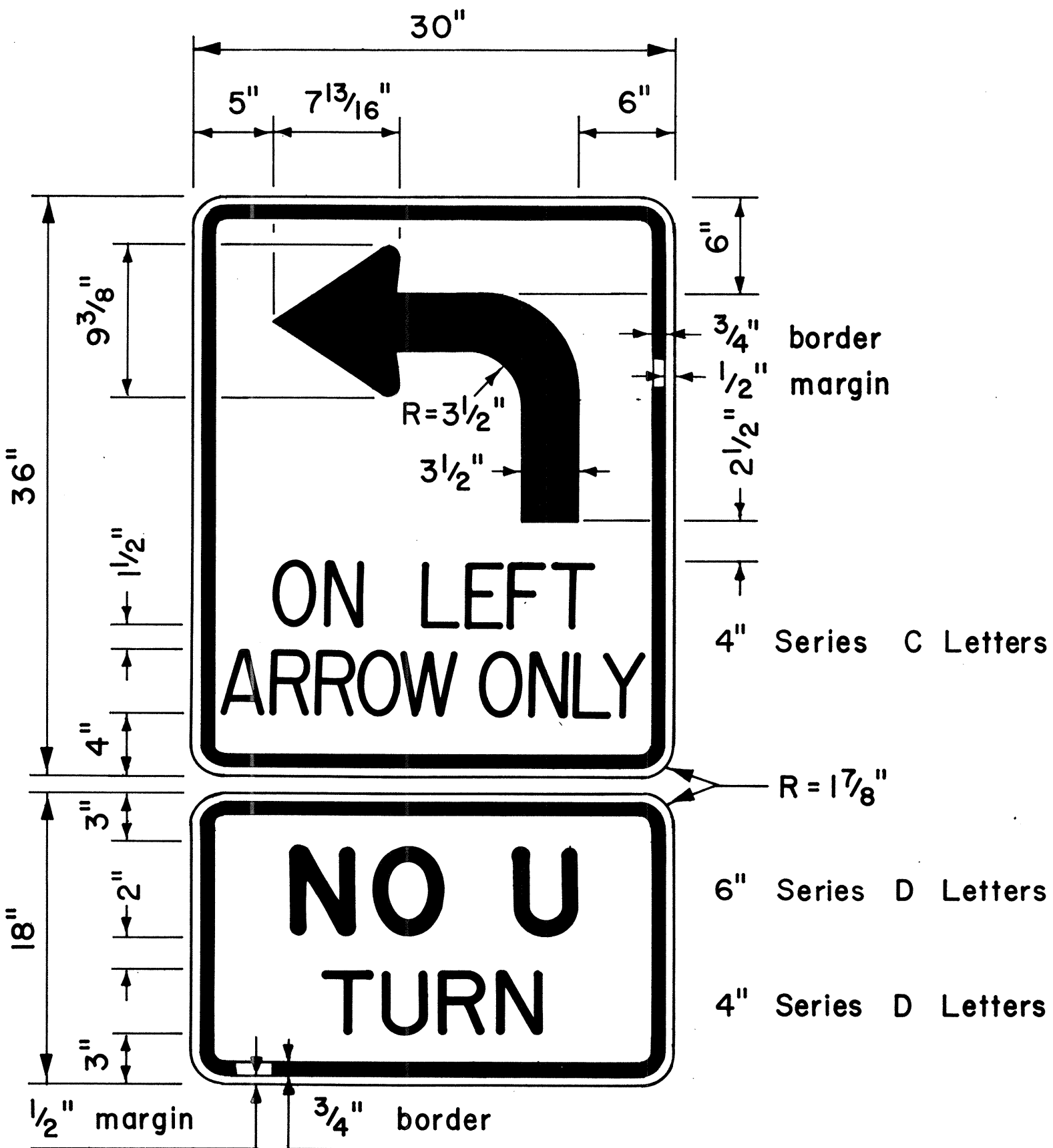
4" Series D Letters
R17-1



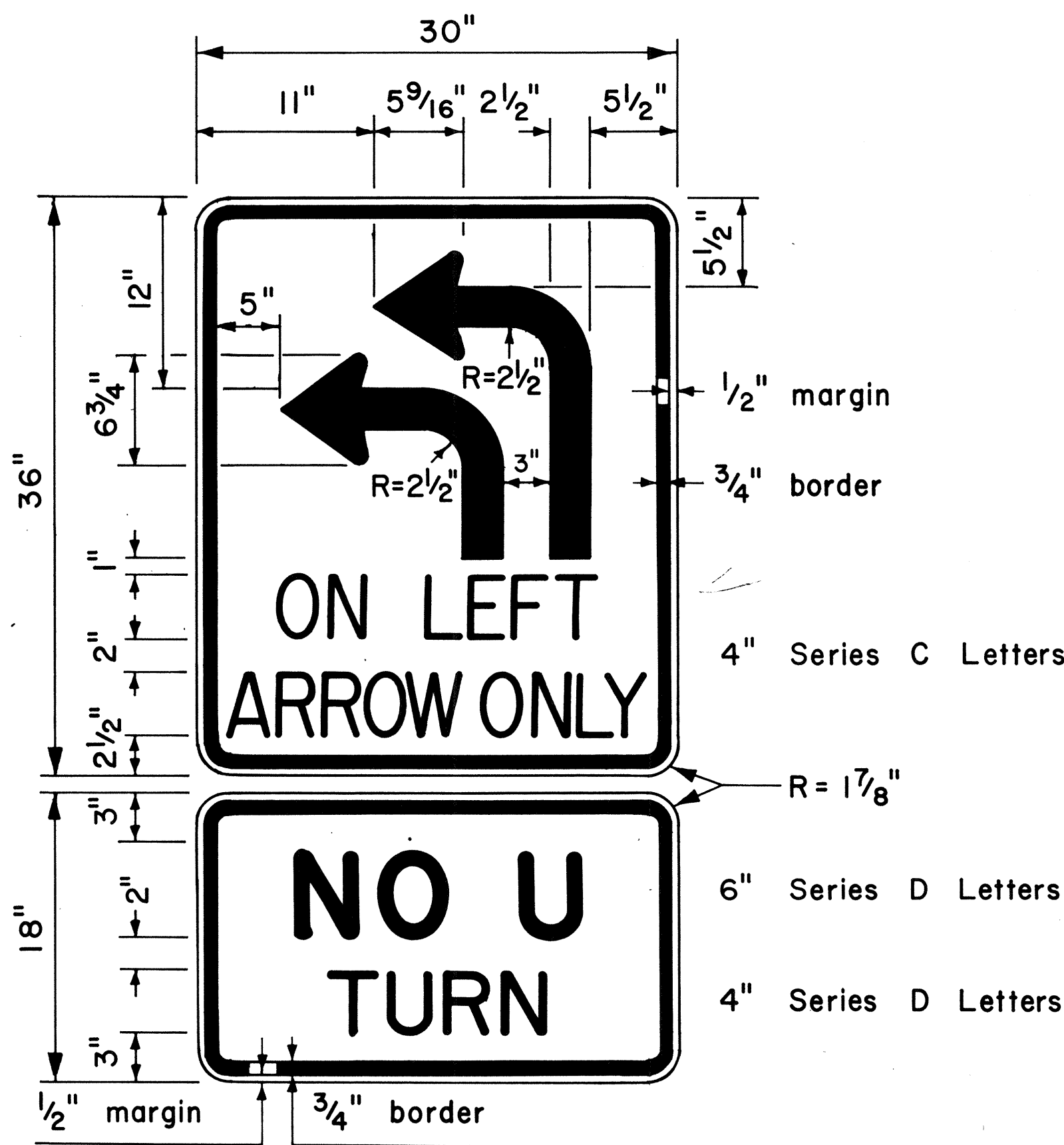
4" Series D Letters
R17-2



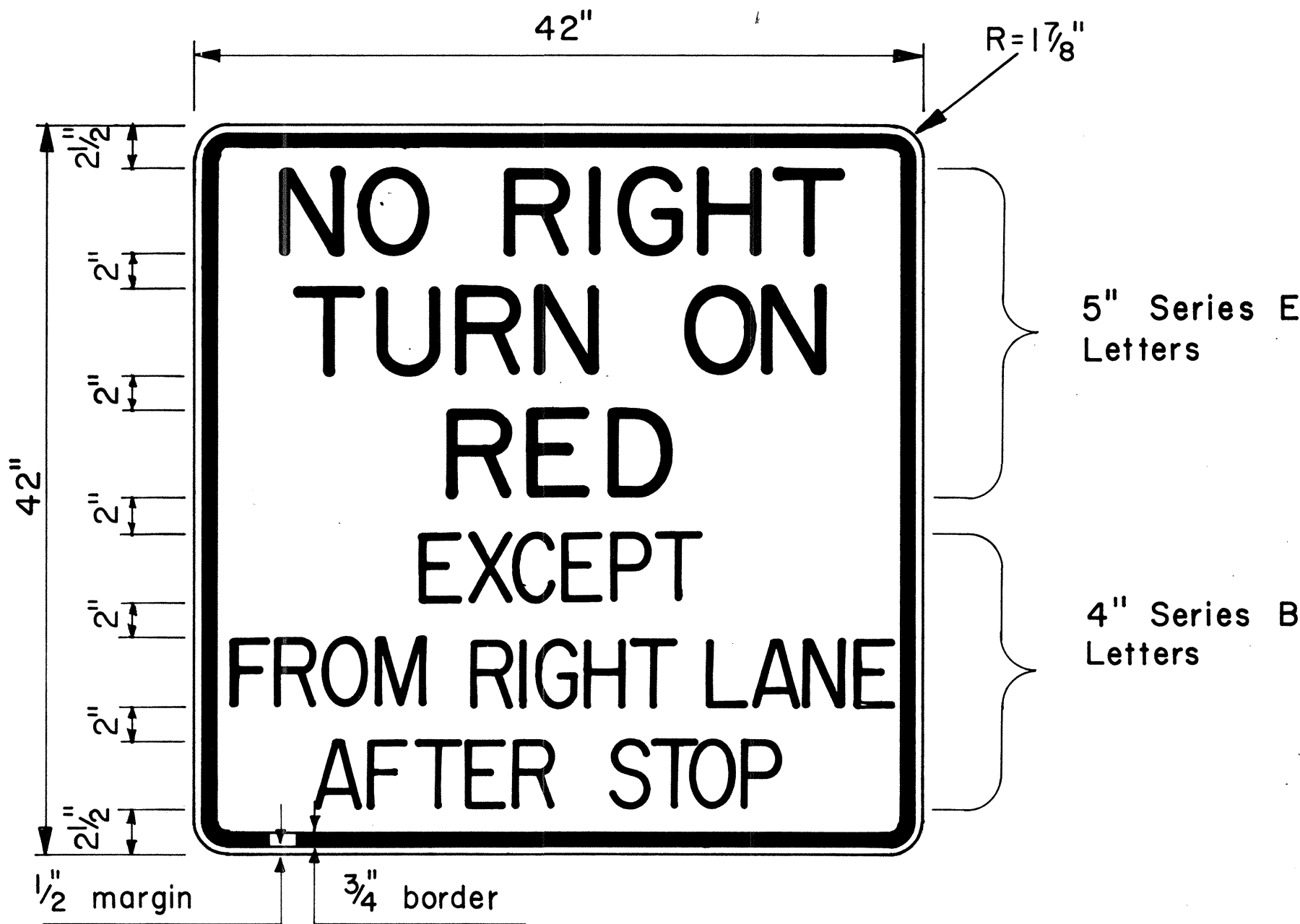
4" Series D Letters
R3-4b



R17-3



R17-4



R10-11d

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
Eishi Tanaka 8/1/77
 TRAFFIC ENGINEER DATE
 APPROVED:
Harbor Sakai 8/16/77
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
 MISCELLANEOUS
 INTERSECTION SIGNS

Scale: 1/2" = 1'-0" Date: Aug., 1977

SHEET NO. OF SHEETS DT 112

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HA-1(124)16	1978	65	223

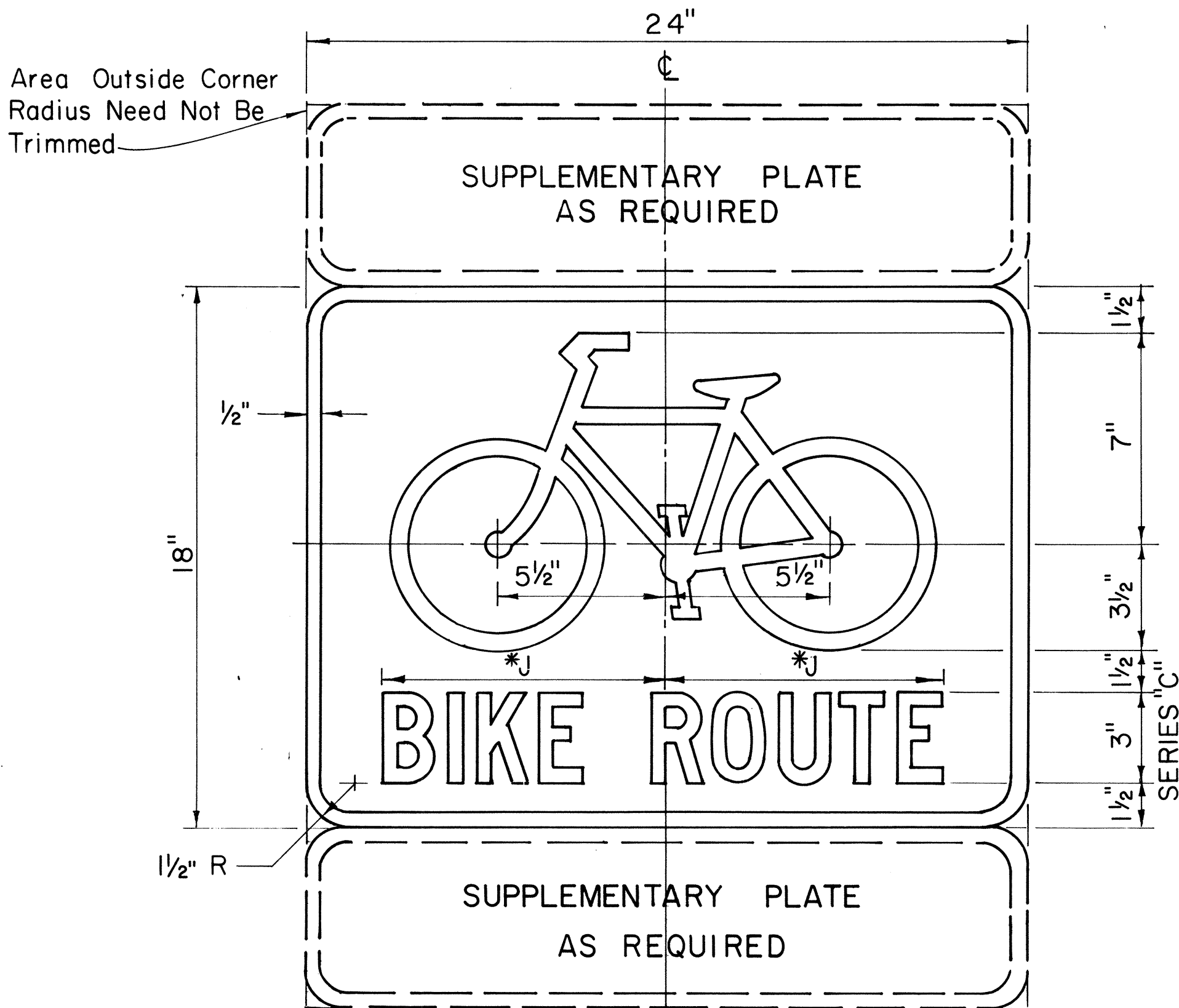
GENERAL NOTES BIKE ROUTE SIGN & SUPPLEMENTARY PLATES

- Sign details shall conform to the latest edition of the following FHWA publications: "Manual on Uniform Traffic Control Devices for Streets and Highways", "Standard Highway Signs" and "Standard Alphabets for Highway Signs" and as amended.
- Legend and borders shall be white (reflectorized) on a green (reflectorized) background.
- Drill $\frac{3}{8}$ " ϕ bolt holes (for mounting) at appropriate locations.
- When Supplementary Plates (DII-2 to DII-6 only) are required with Bike Route Sign (DII-1 or Alternate), the Sign Assembly shall be mounted on a single metal plate (24" x 24" or 24"x30") and shall be arranged as shown on the plans.

*5. Alternate sign messages shall be denoted by the following:

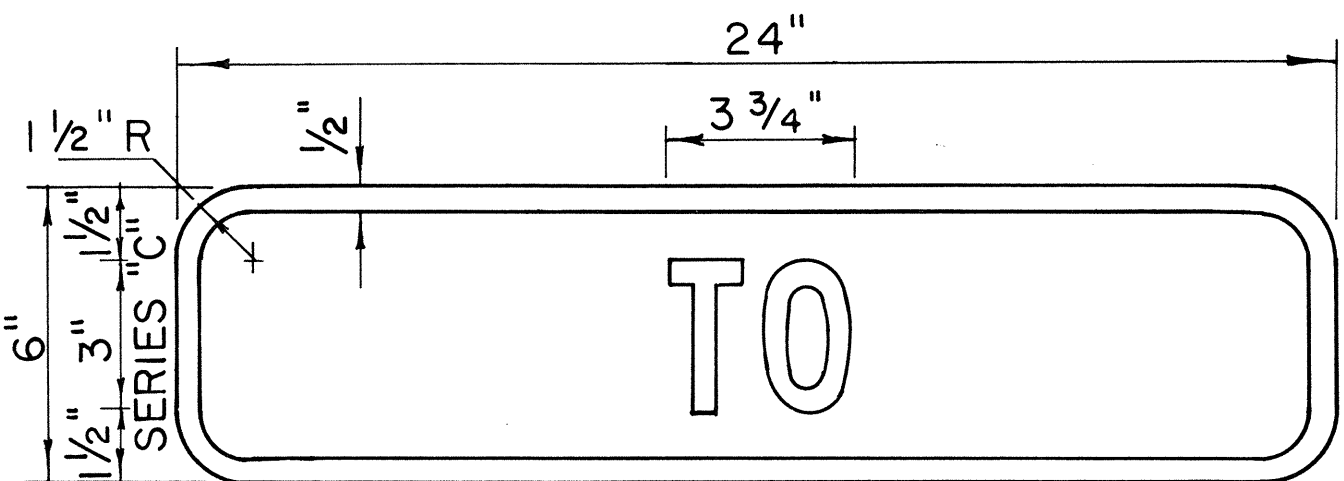
DII-1a: Bike Lane
DII-1b: Bike Path
DII-1c: Bikeway

Dimension "J" varies. Visually center Alternate message.

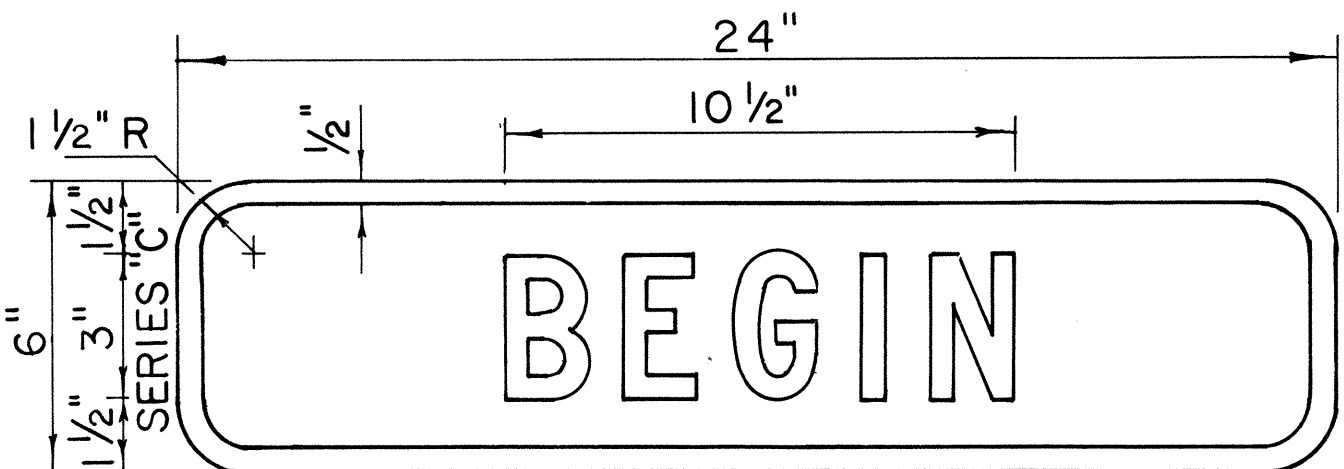


DII-1
BIKE ROUTE SIGN

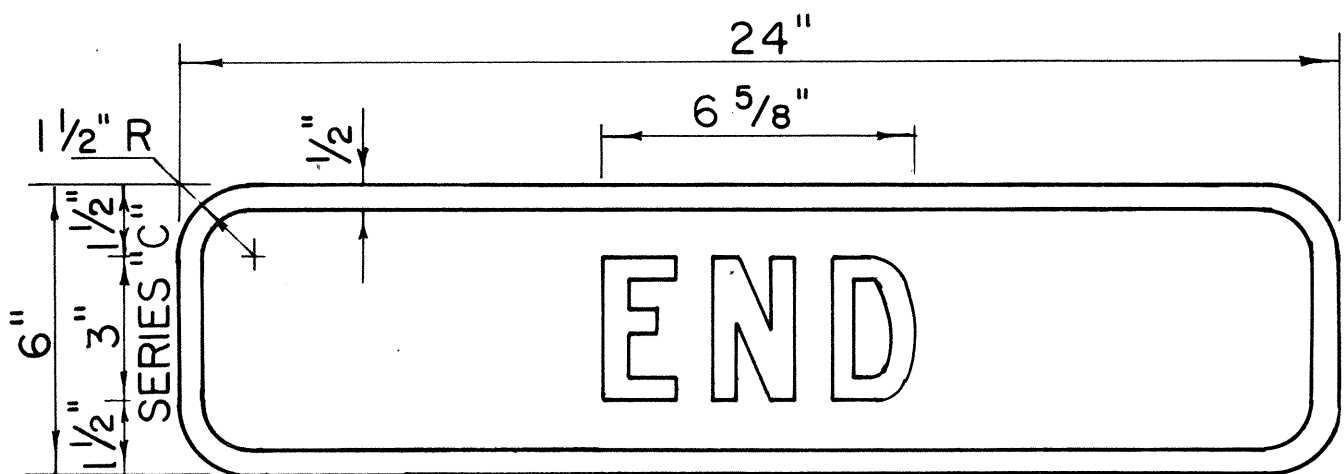
Scale: 3" = 1' - 0"



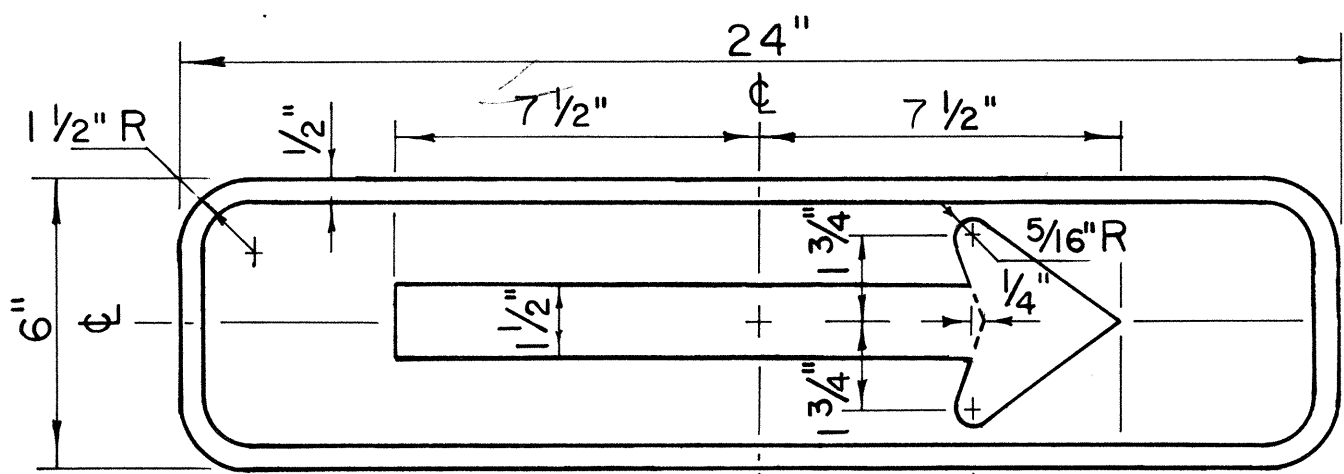
DII-2



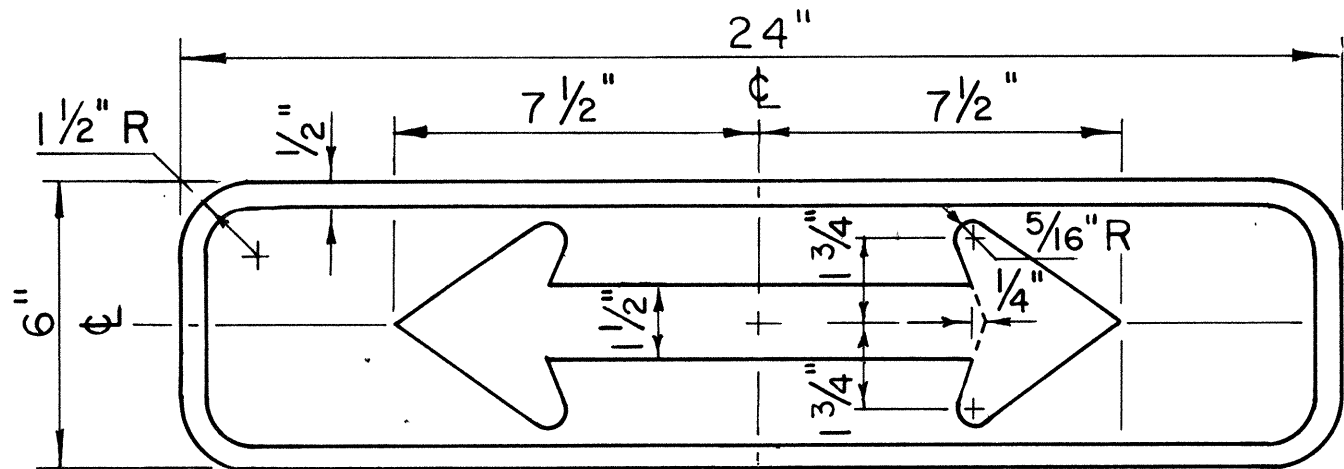
DII-3



DII-4



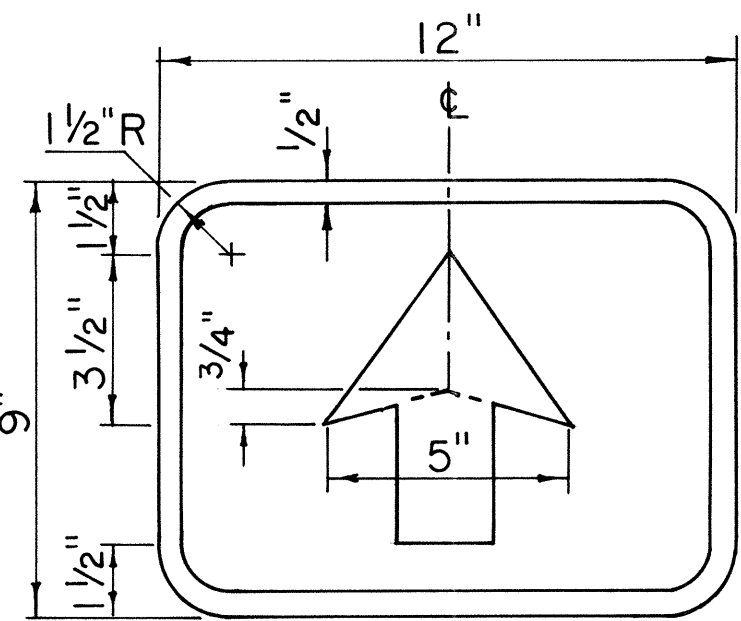
DII-5(R)



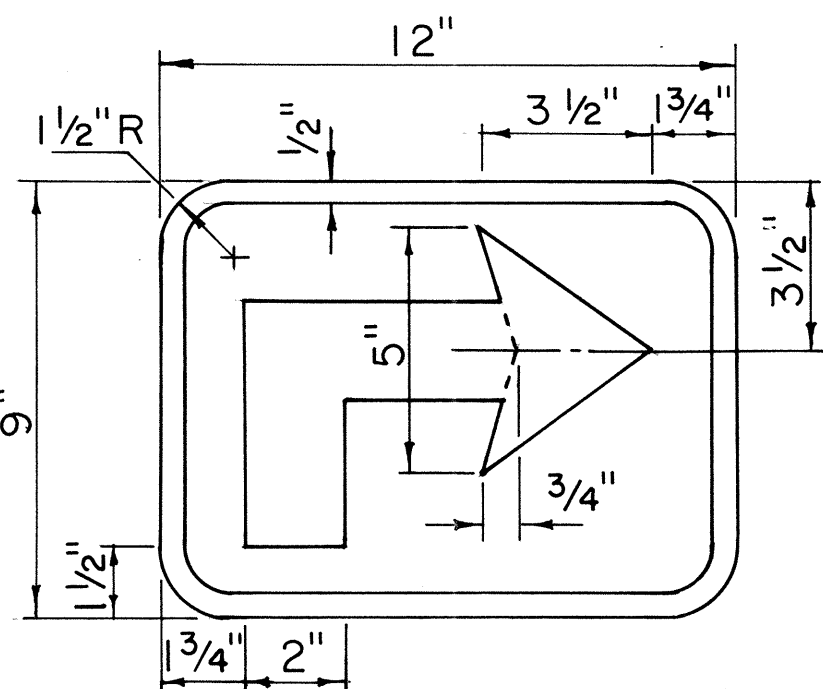
DII-6

SUPPLEMENTARY PLATES

Scale: 3" = 1' - 0"



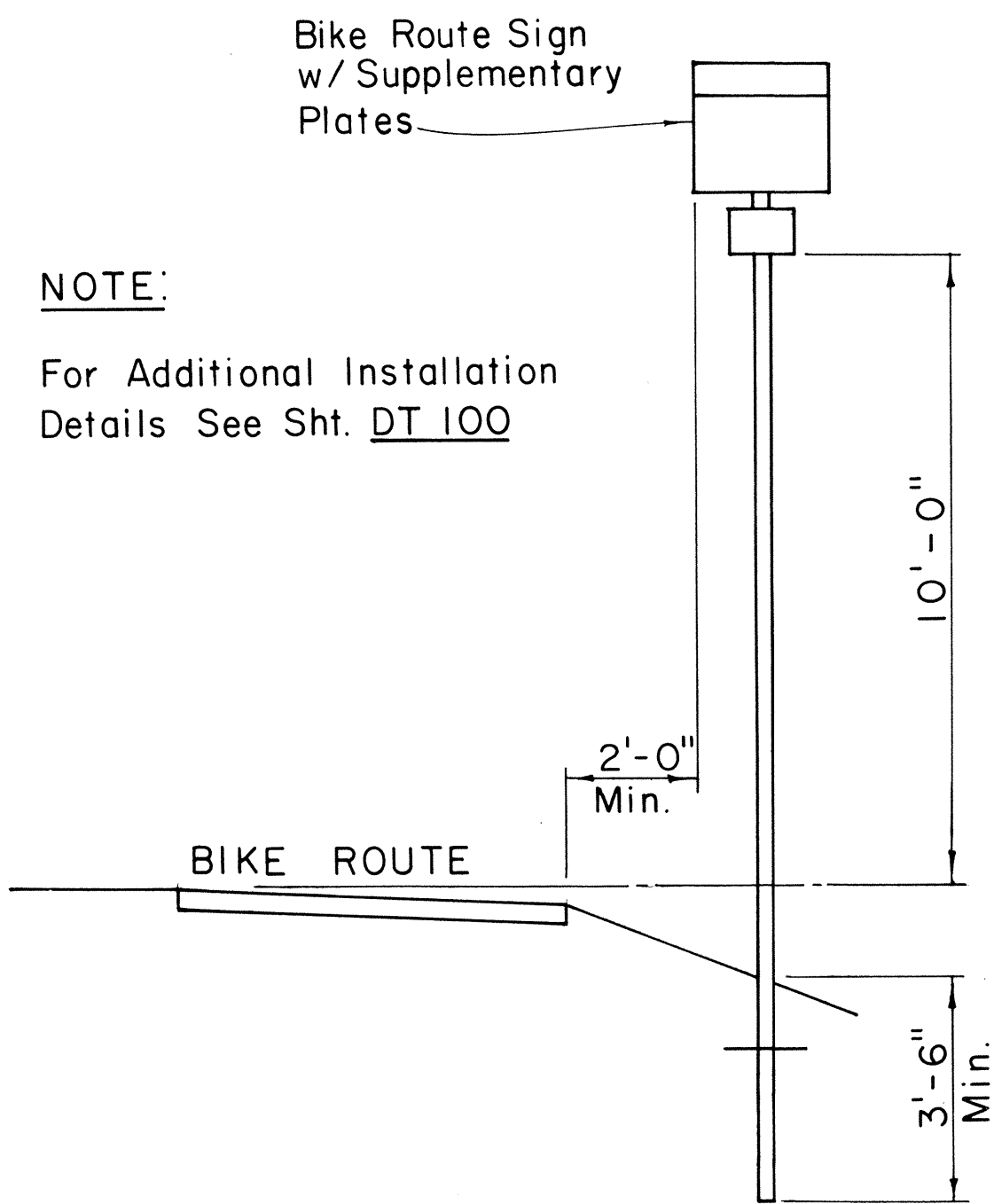
DII-7



DII-8(R)

NOTE:

For Additional Installation Details See Sht. DT 100



TYPICAL INSTALLATION

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

ORIGINAL	DATE
PLAN	
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

APPROVAL RECOMMENDED:

Ernie Tanaka
TRAFFIC ENGINEER

11/3/77
DATE

APPROVED:

Herbert Salehi
ASSISTANT CHIEF, ENGINEERING

11/3/77
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS BIKE ROUTE SIGN & SUPPLEMENTARY PLATES

Scale: As Shown June 1977

SHEET NO. OF SHEETSDT114

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(124)6	1978	60	223

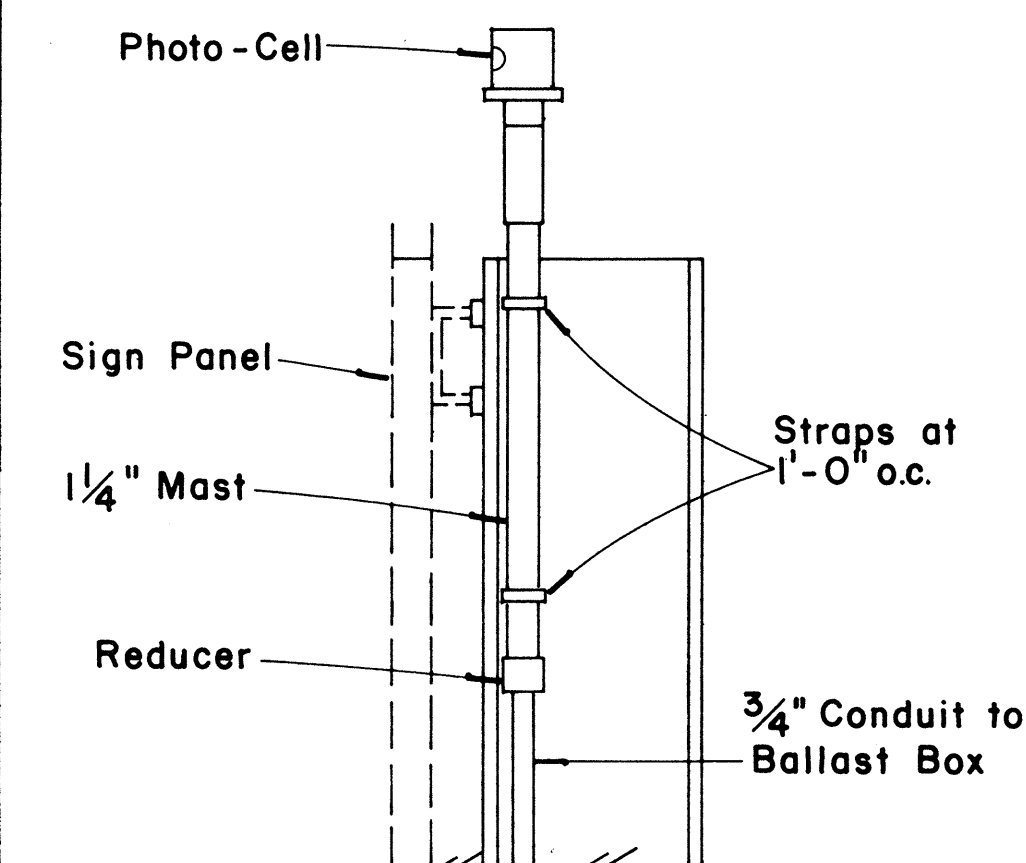
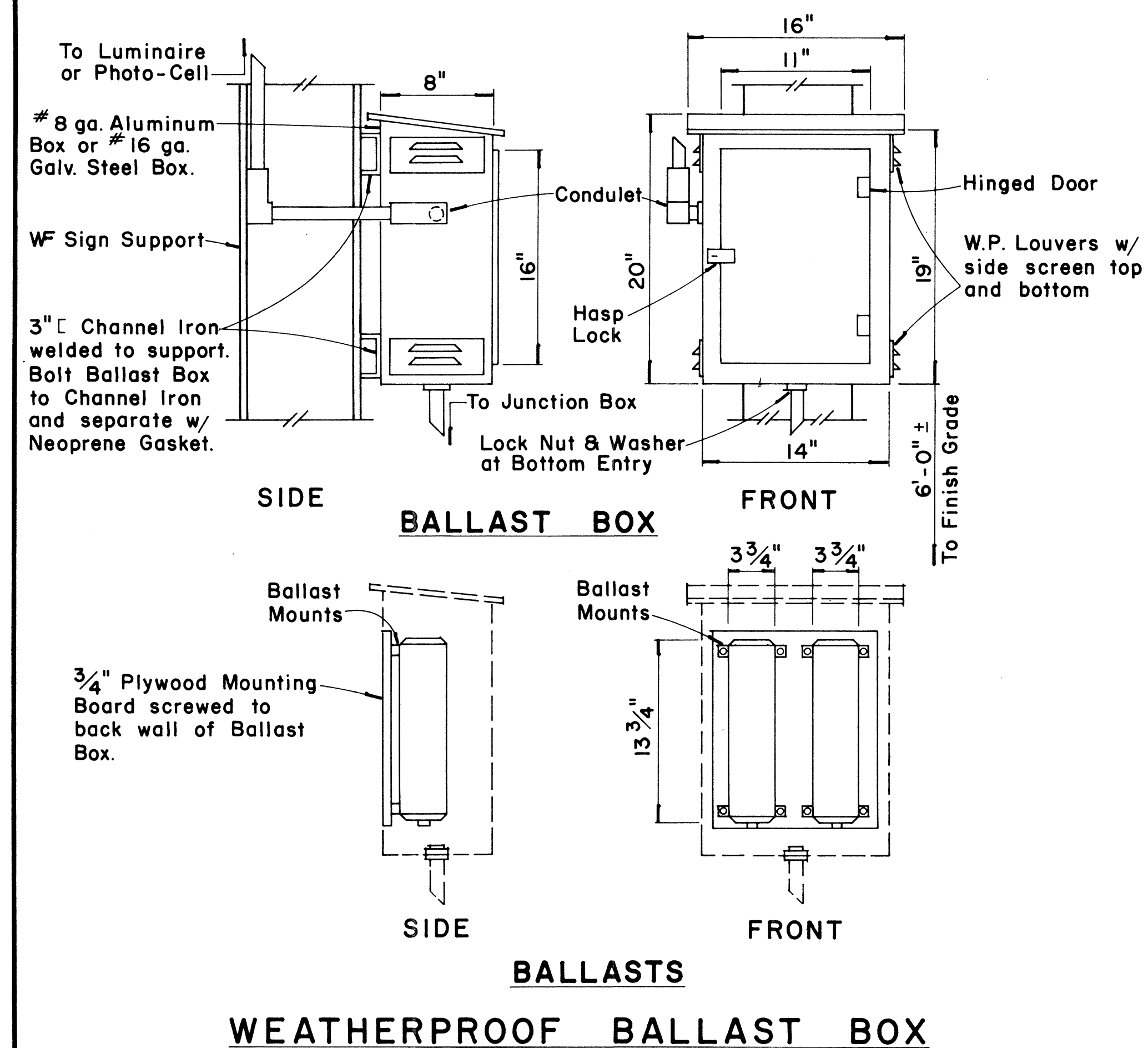
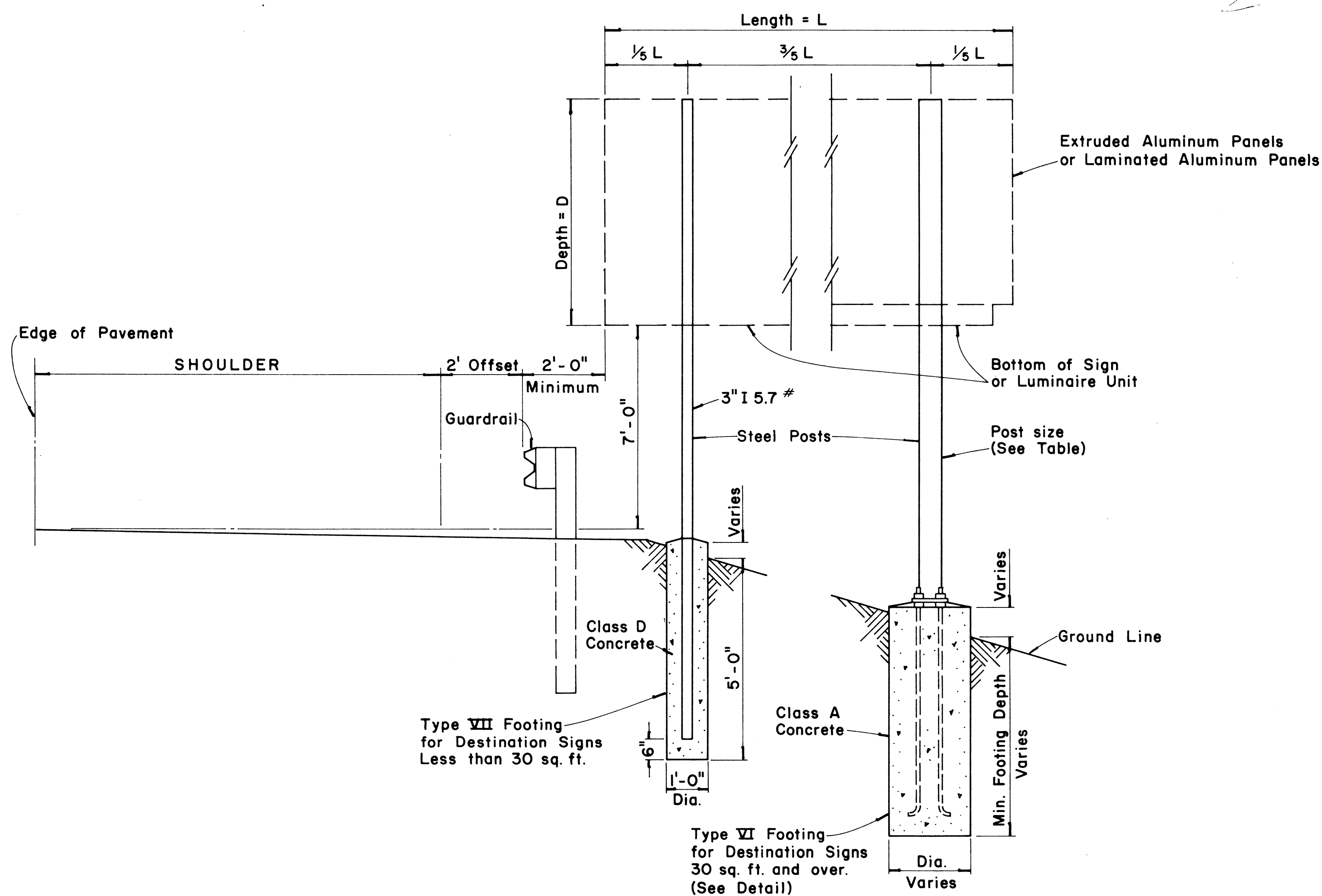
[illegible]

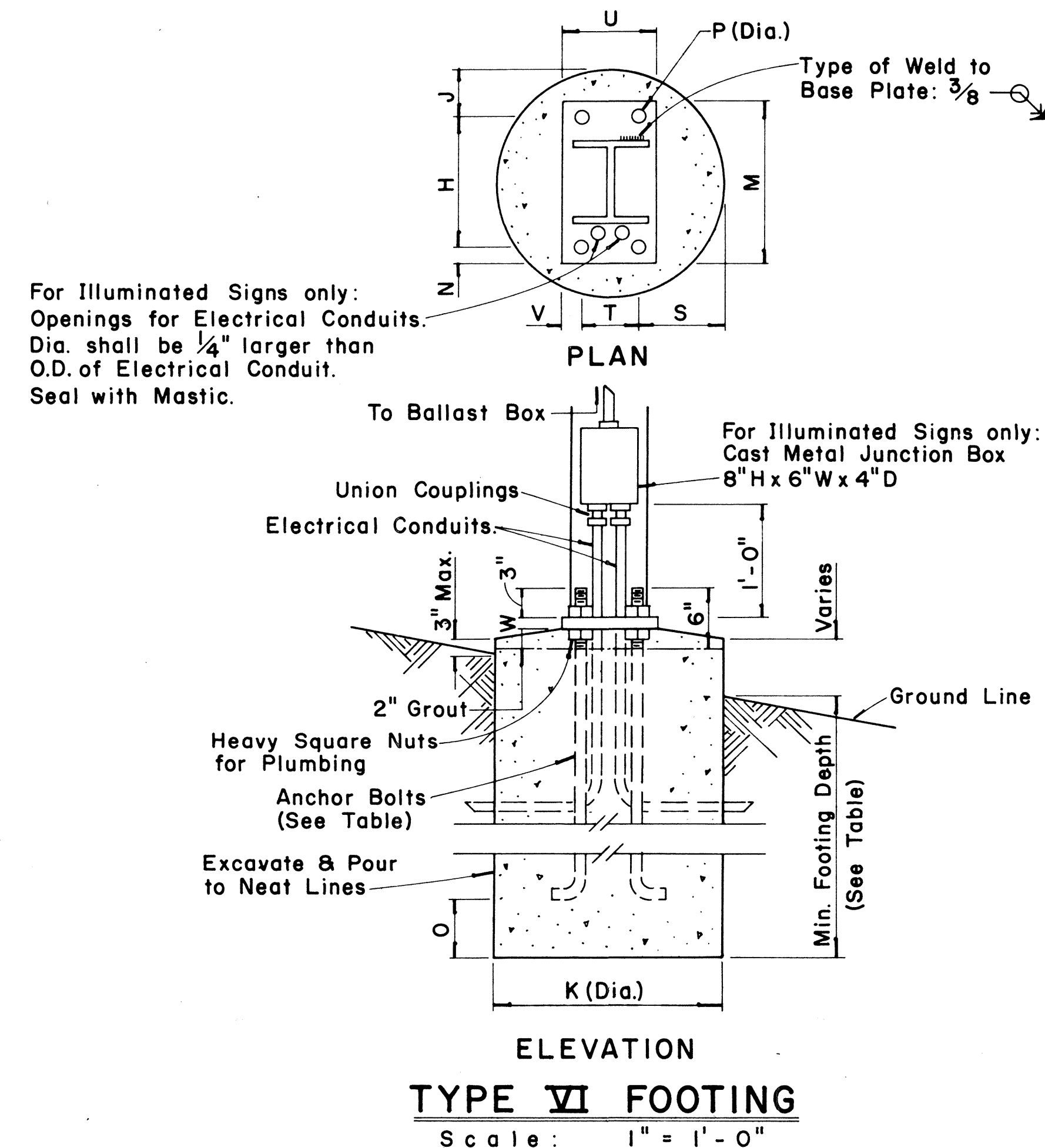
PHOTO - CELL DETAIL

Scale: $1\frac{1}{2}" = 1' - 0"$



TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

Not to Scale



APPROVAL RECOMMENDED:

Eiichi Tanaka 12/29/69
TRAFFIC ENGINEER. DATE

APPROVED:

Julius S. Salas 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS DESTINATION & GROUND MOUNTED EXPRESSWAY SIGNS

Scale: As Shown

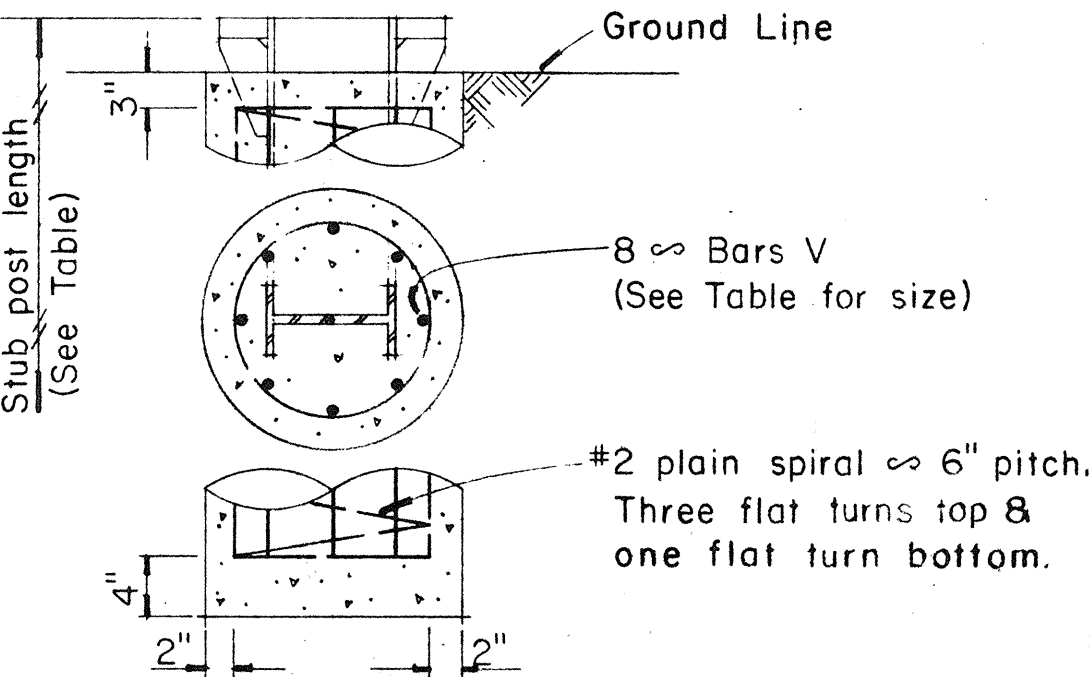
SHEET No. OF SHEETS DT 203

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IHI-1(104)16	1978	0066A	223

H.S. bolts (Bearing Type) with hex. hd, nut and one flat washer under each bolt head and bevel or flat washer (where required) under nut.

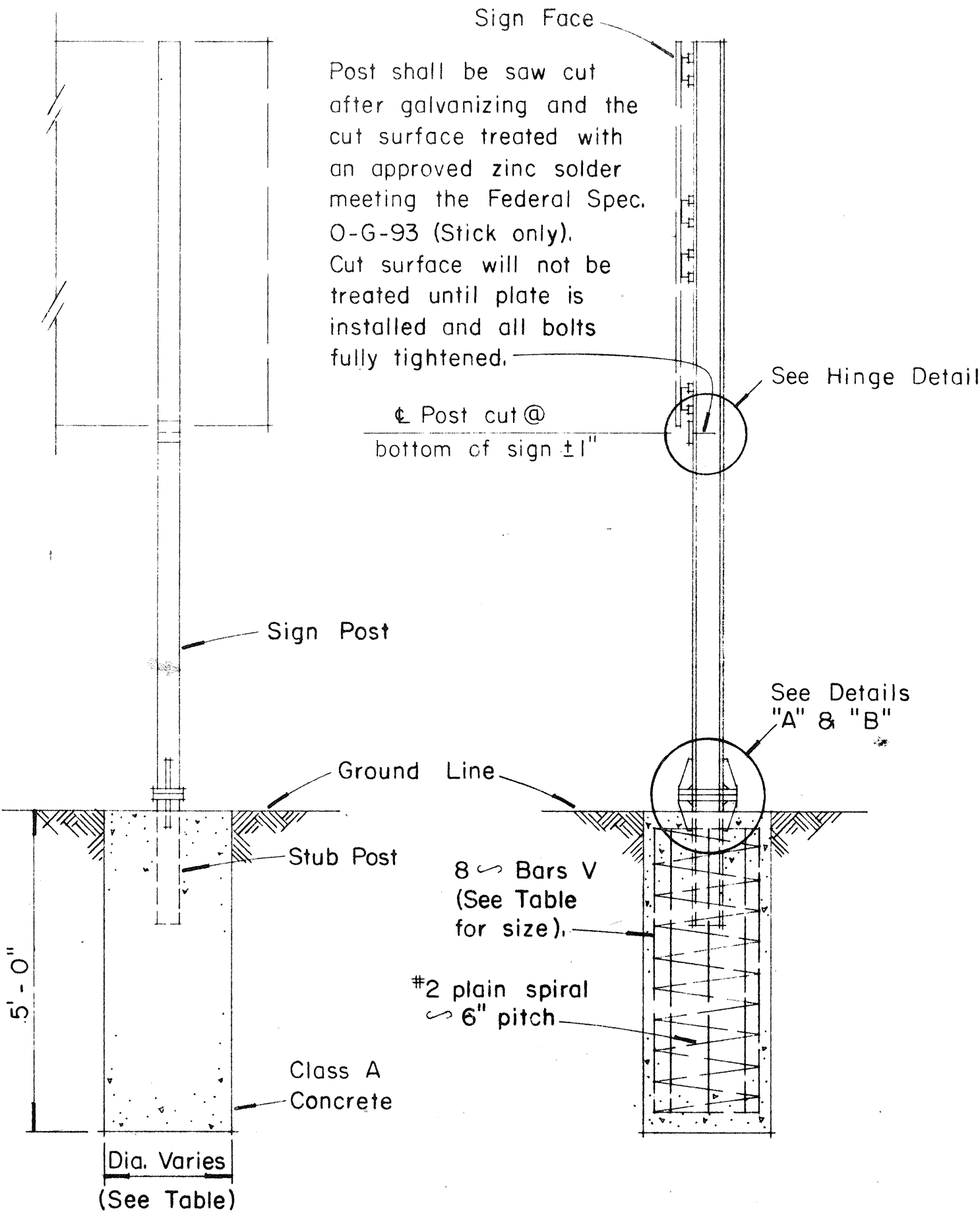
Flange holes for hinge shall be drilled or sub-punched and reamed. Beveled washers for all I-shaped posts. Flat washers for others.

HINGE DETAIL



FOUNDATION DETAIL

BASE CONNECTION DATA TABLE											FUSE PLATE DATA TABLE											FOUNDATION DATA				
Post Size	Bolt Size & Torque	A	B	C	D	E	t1	t2	W	R	F	G	H	J	K	L	N	d1	t3	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size	
6 B 8.5	5/8" ϕ x 2 3/4" Torque = 450" #	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	1 1/32"	3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2" ϕ	1.09 #	2'-0"	3"	2'-0"	#5	
6 B 12											3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	1 1/16"	3/8"	5/8" ϕ	1.60 #	2'-0"	3"	2'-0"	#5	
6 B 15.5											4 1/2"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	13/16"	1/2"	3/4" ϕ	3.75 #	2'-6"	3"	2'-0"	#6	
8 WF 17											4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	13/16"	1/2"	3/4" ϕ	3.27 #	2'-6"	3"	2'-0"	#7	
8 WF 20	3/4" ϕ x 3 1/2" Torque = 750" #	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	13/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	9/16"	7/8" ϕ	3.93 #	3'-0"	2 1/2"	2'-0"	#8	
10 WF 21											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" ϕ	4.75 #	3'-0"	2 1/2"	2'-0"	#9	
10 WF 25											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" ϕ	4.79 #	3'-0"	2 1/2"	2'-0"	#10	
12 WF 27											5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	15/16"	9/16"	7/8" ϕ	5.42 #	3'-0"	2 1/2"	2'-0"	#11	
3 I 5.7	1/2" ϕ x 2 1/2" Torque = 200" #	SEE DETAIL "A"									3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64 #	1'-6"	3 1/2"	1'-6"	#5	
4 I 7.7		3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64 #	1'-6"	3 1/2"	1'-6"	#5										



GENERAL NOTES

- Design shall conform with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however, flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM A 307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform to the requirements of ASTM A 441.
- Galvanize all of the post projecting above the concrete plus 6 inches minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

Bolt Size	Min. Tension	Bolt Size	Min. Tension
1/2" ϕ	12050 Lbs.	3/4" ϕ	28400 Lbs.
5/8" ϕ	19200 Lbs.	7/8" ϕ	36050 Lbs.
- Supplemental Sign shall not be installed below the Breakaway Hinges.

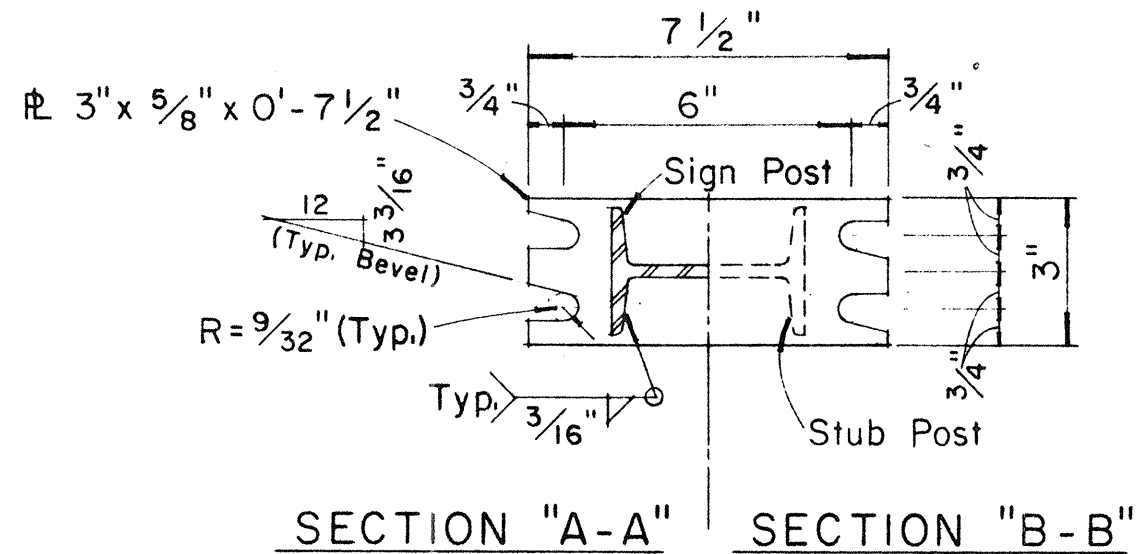
APPROVAL RECOMMENDED:
Erich Tanaka
TRAFFIC ENGINEER
12/29/69
DATE

APPROVED:
John J. [Signature]
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

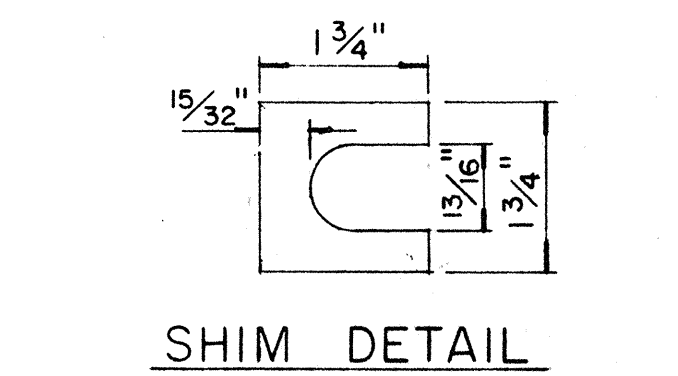
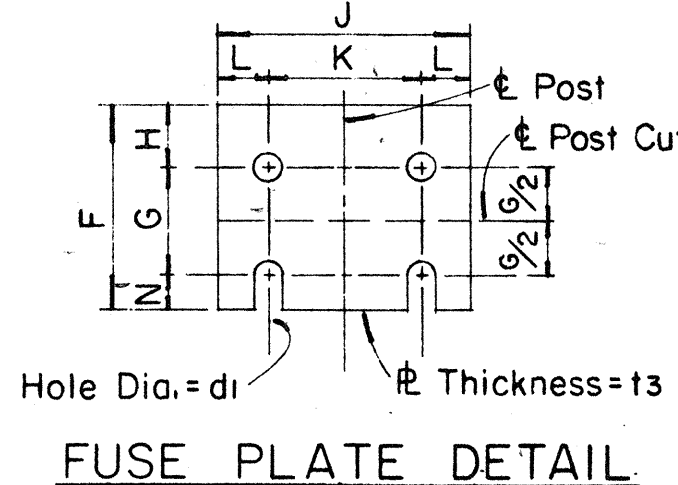
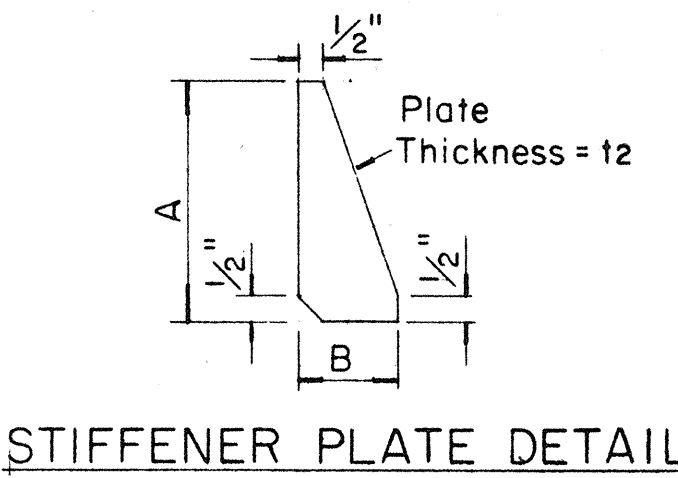
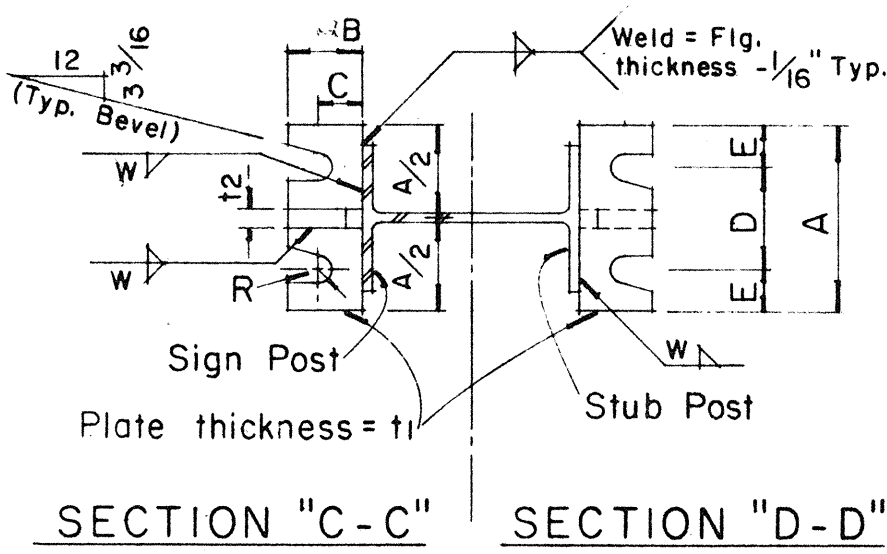
NO.	REVISION	APPROVED BY	DATE
1	Added General Note No. 9	H.T.	6/3/80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
BREAK-AWAY SIGN SUPPORTS
FOR
GROUND MOUNTED GUIDE SIGNS

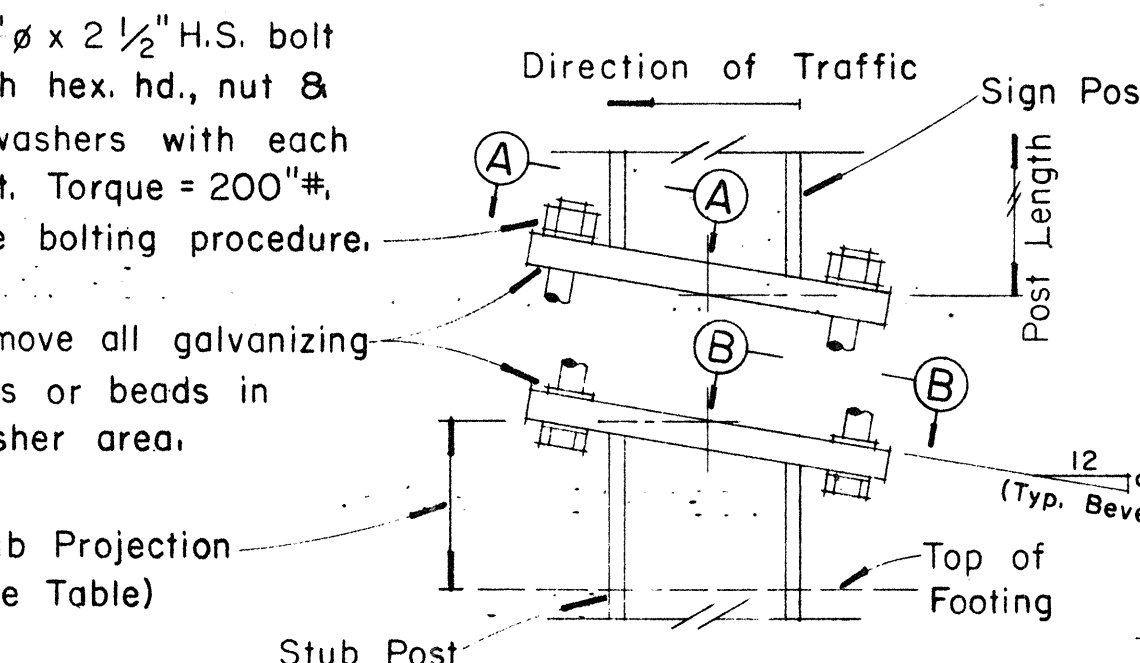
Not to Scale
SHEET No. OF SHEETS DT204
0066A



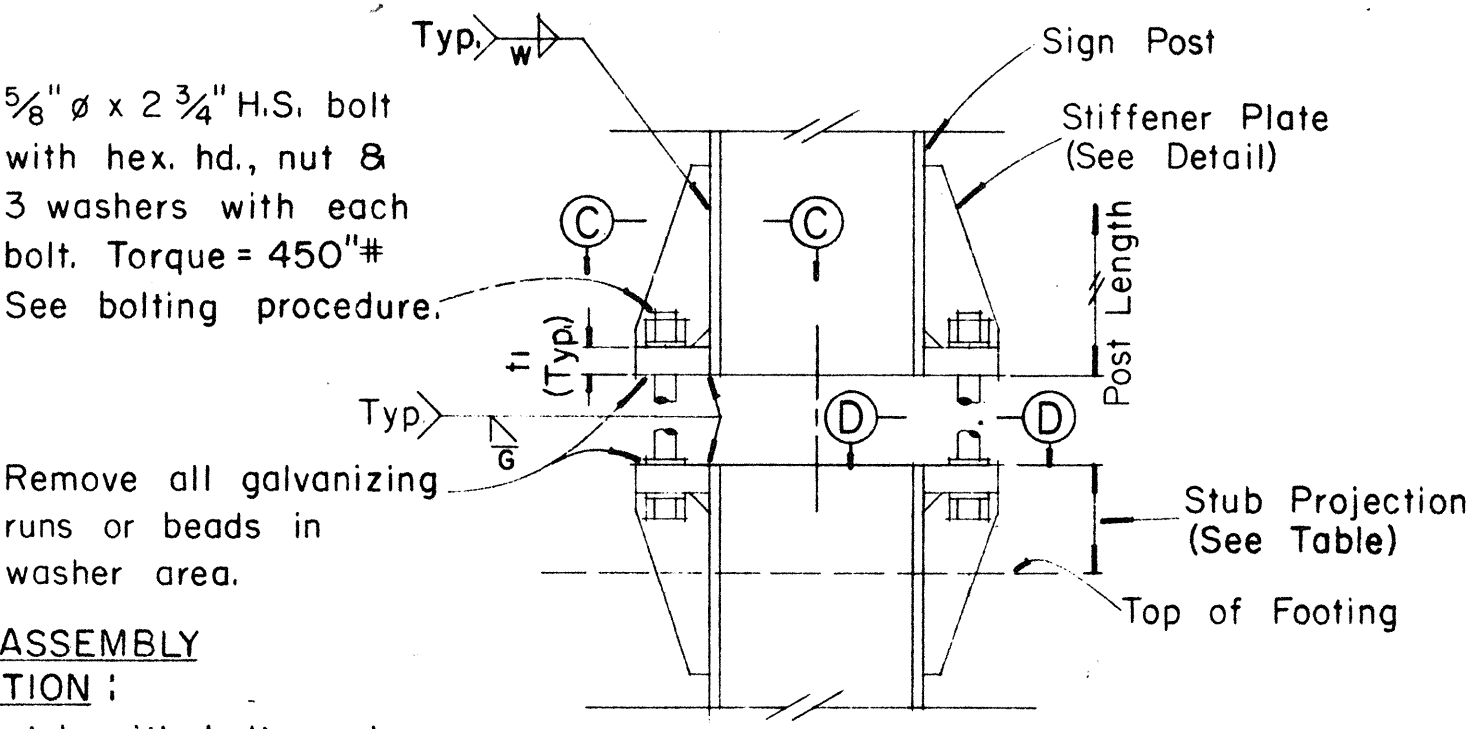
NOTE:
Sections shown are for installations on right shoulder and in gore. Reverse plate slot bevels for installations on left shoulder.



Furnish 2-.0012" $\pm$ thick and 2-.0032" $\pm$ thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to ASTM -B 36.



DETAIL "A"
SIGN POST & STUB POST
(For 4I7.7 and 3I5.7 Shapes)



DETAIL "B"
SIGN POST & STUB POST
(For WF and B Shapes)

- PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:
- Assemble post to stub with bolts and with one flat washer on each bolt between plates.
 - Shim as required to plumb post.
 - Tighten all bolts the max. possible with 12" to 15" wrench to bed washers & shims and to clean bolt threads then loosen each bolt in turn & retighten bolts in systematic order to prescribed torque. (See Table)
 - Burr threads at junction with nut using a center punch to prevent nut loosening.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-1(24)16	1978	67	223

(OVERHEAD SIGNS)
SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG	SUPPORT SPACING
	A		B	C or C ₁
1"	6'-0"	2	12"	48"
1"	6'-6"	2	15"	48"
1"	7'-0"	2	15"	54"
1"	7'-6"	2	18"	54"
1"	8'-0"	2	18"	60"
1"	8'-6"	2	20"	62"
1"	9'-0"	2	22"	64"
1"	9'-6"	2	23"	68"
1"	10'-0"	2	24"	72"
1"	10'-6"	2	24"	78"
1"	11'-0"	2	24"	84"
1"	11'-6"	2	27"	84"
1"	12'-0"	2	30"	84"
1"	12'-6"	2	30"	90"
1"	13'-0"	2	30"	96"
1"	13'-6"	2	30"	102"
1"	14'-0"	2	30"	108"
1"	14'-6"	2	36"	102"
1"	15'-0"	2	36"	108"
1"	15'-6"	3	24"	69"
1"	16'-0"	3	24"	72"
1"	16'-6"	3	24"	75"
1"	17'-0"	3	24"	78"
1"	17'-6"	3	24"	81"
1"	18'-0"	3	24"	84"
1"	18'-6"	3	27"	84"
1"	19'-0"	3	27"	87"
1"	19'-6"	3	27"	90"
1"	20'-0"	3	30"	90"
1"	20'-6"	3	30"	93"
1"	21'-0"	3	30"	96"
1"	21'-6"	3	33"	96"
1"	22'-0"	3	36"	96"
1"	22'-6"	3	36"	99"
1"	23'-0"	3	36"	102"
1"	23'-6"	3	36"	105"
1"	24'-0"	3	36"	108"

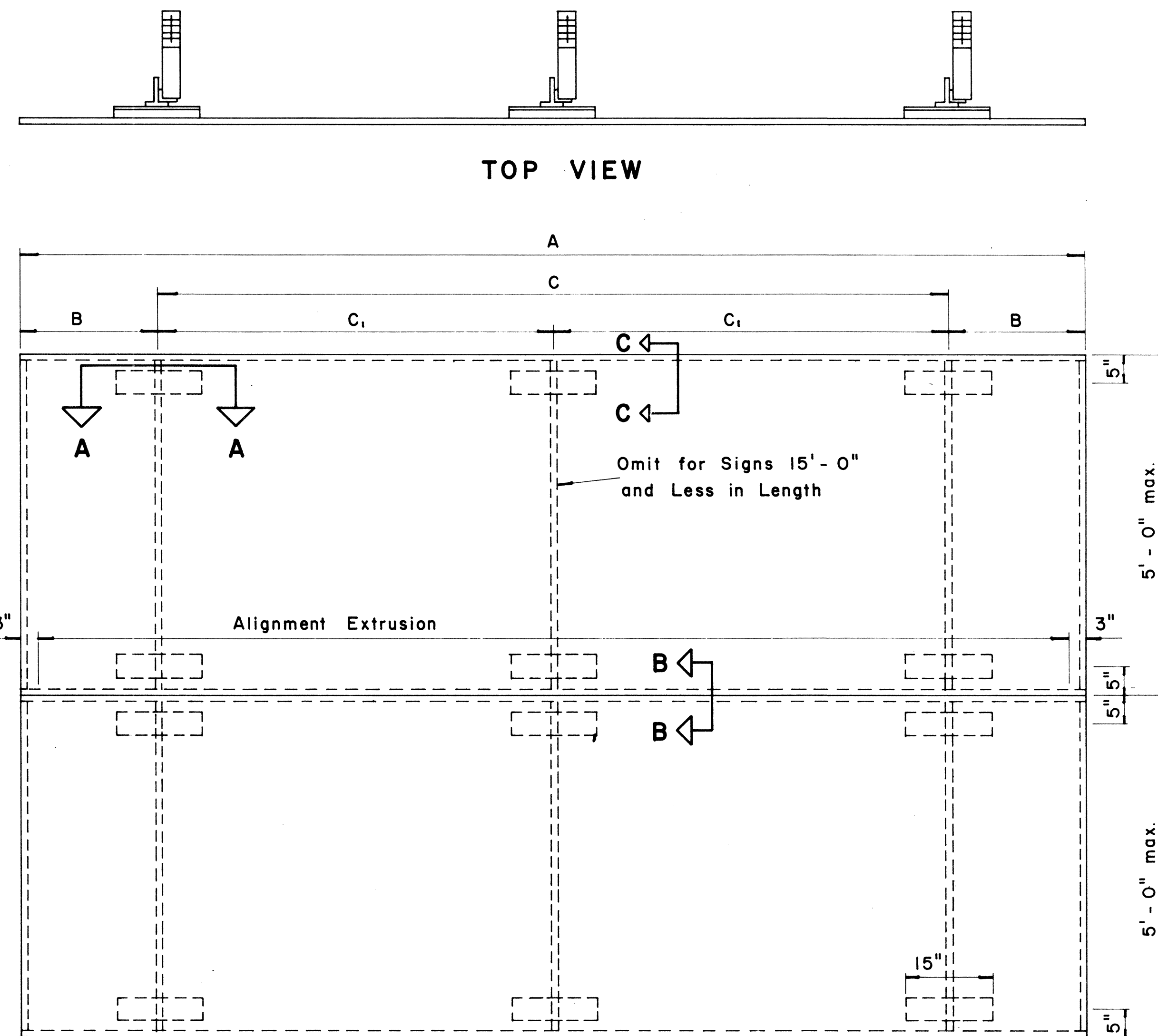
APPROVAL RECOMMENDED:
Eishi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:
[Signature] 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

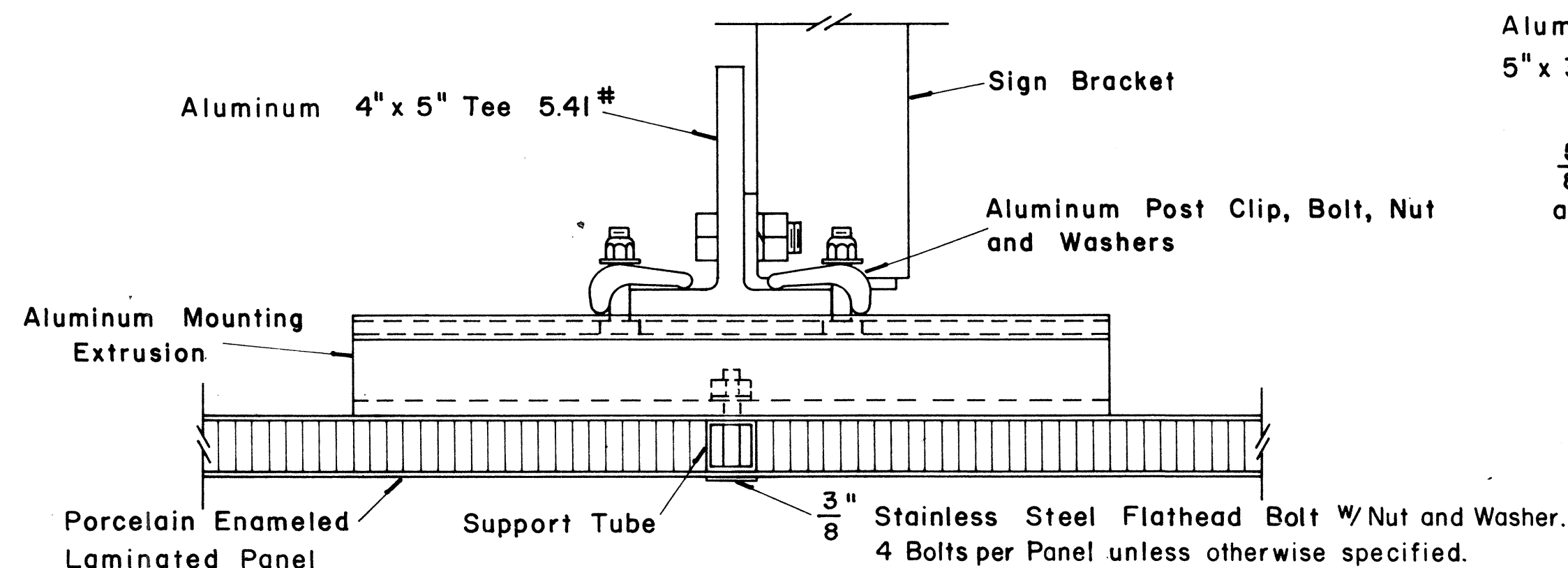
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(OVERHEAD)
Scale: As Shown

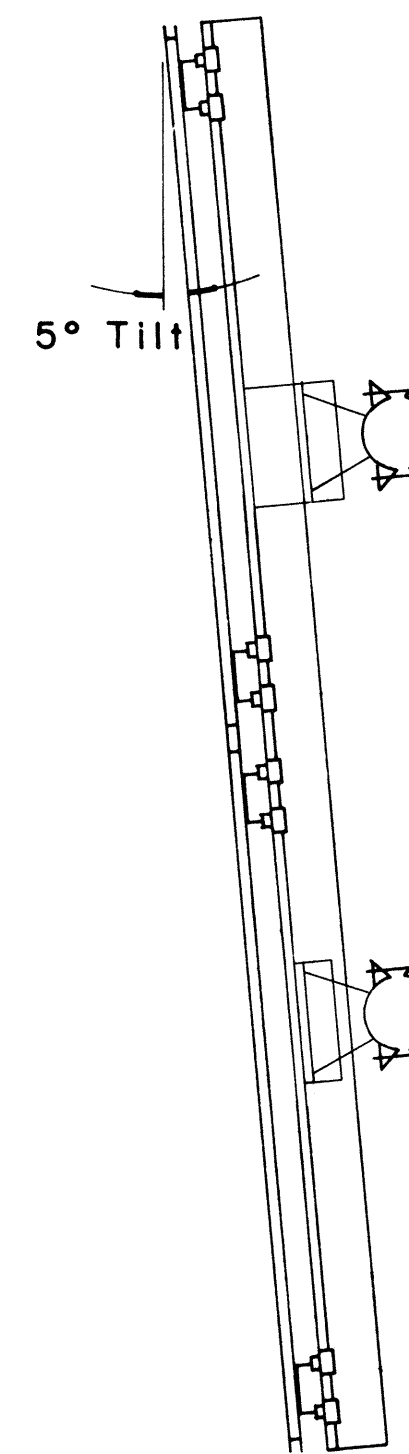
SHEET No. OF SHEETS DT 205



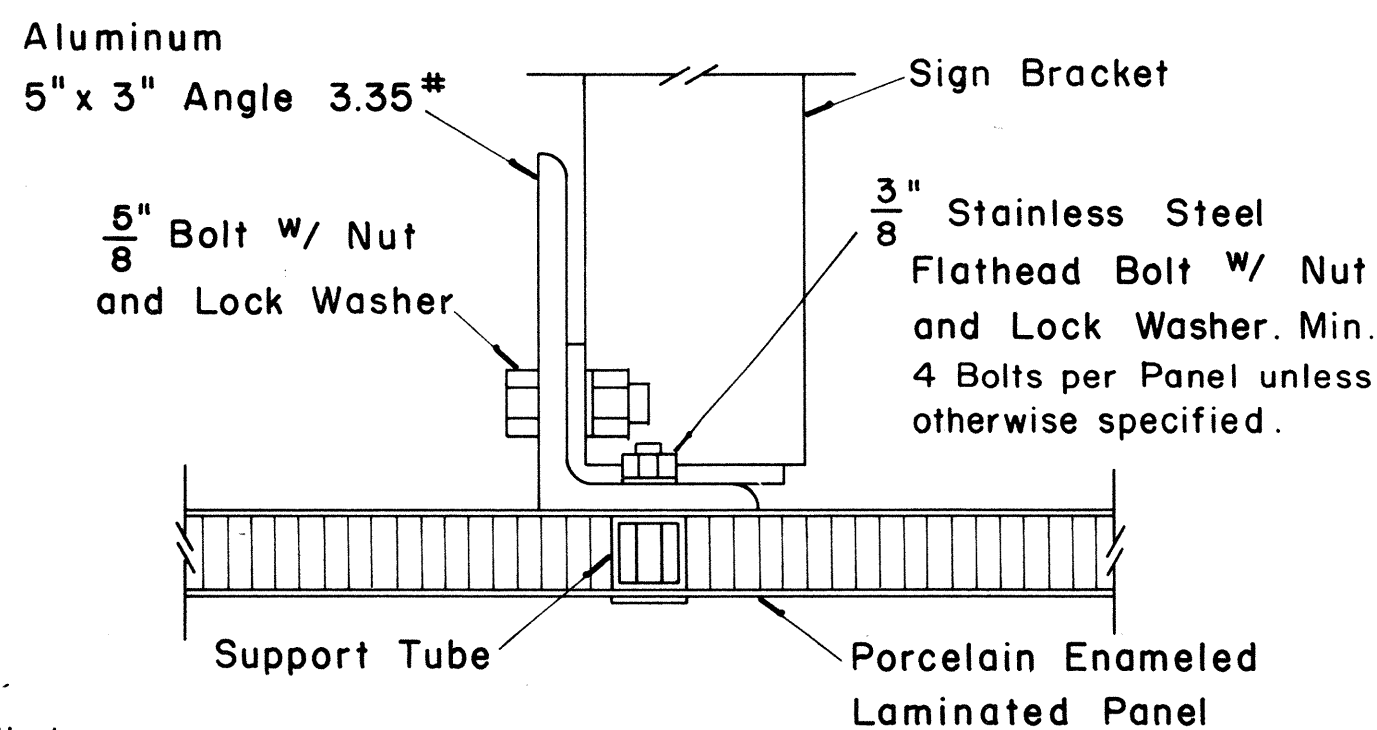
ELEVATION
TYPICAL SIGN ASSEMBLY
Scale: $\frac{3}{4}$ " = 1' - 0"



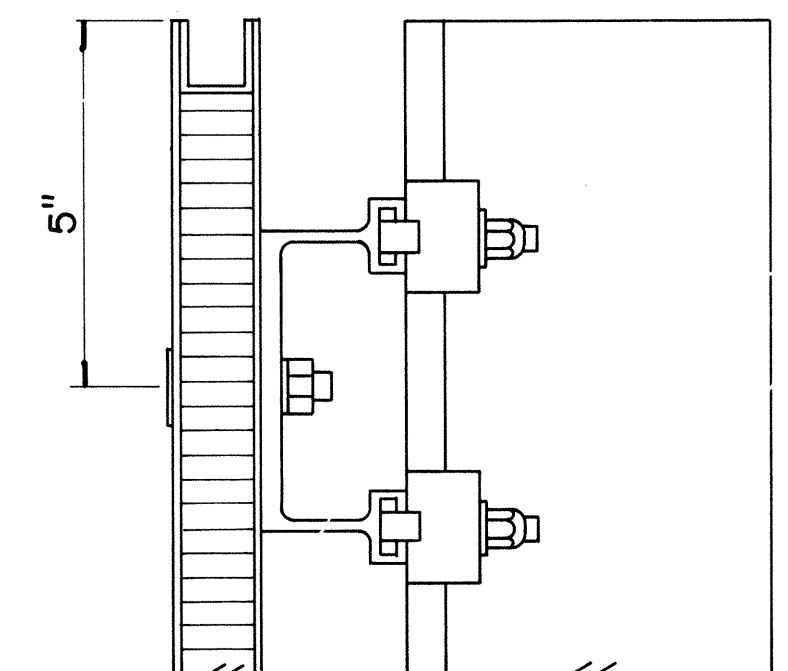
SECTION "A-A"
Scale: $\frac{3}{8}$ " = 1"



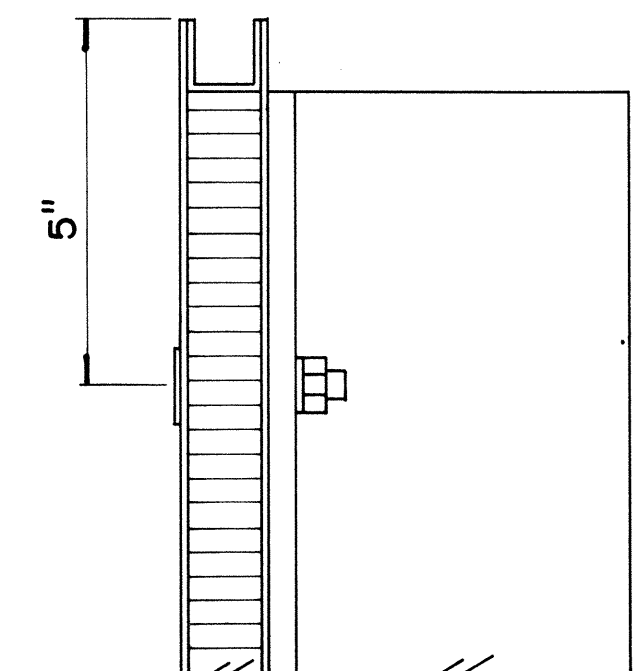
SIDE VIEW



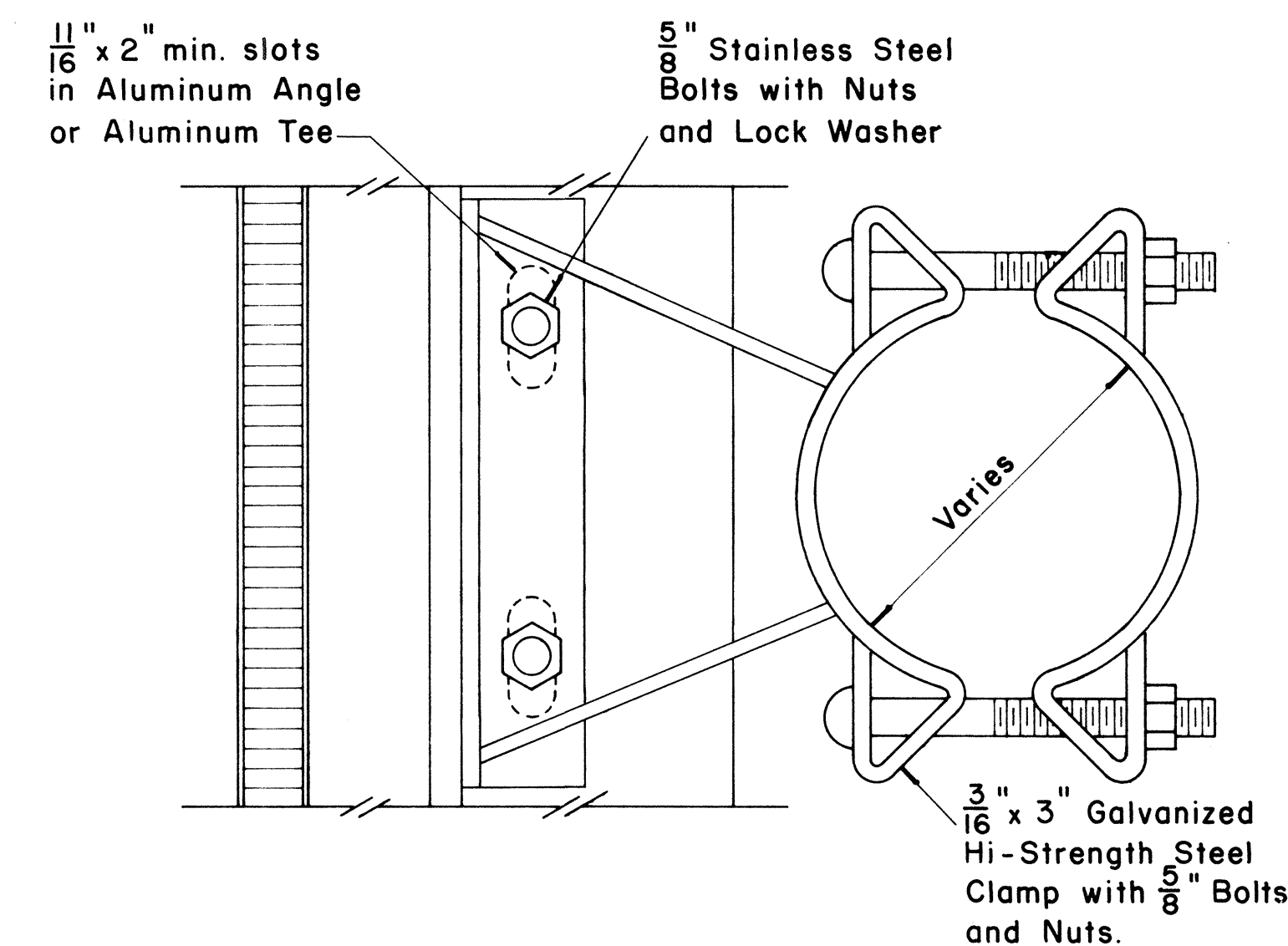
SECTION "A-A"
(Alternate)
Scale: $\frac{3}{8}$ " = 1"



SECTION "C-C"
Scale: $\frac{3}{8}$ " = 1"

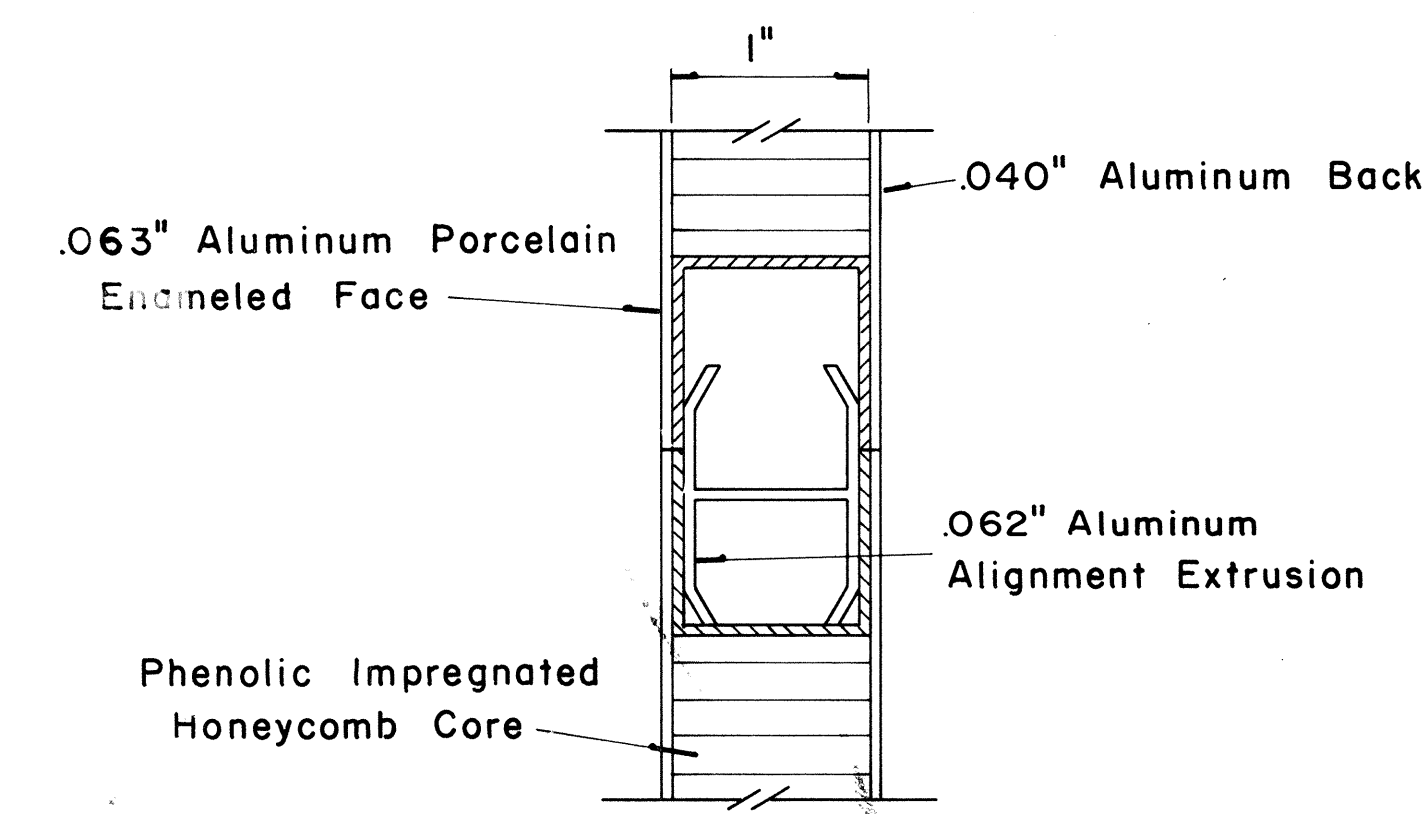


SECTION "C-C"
(Alternate)
Scale: $\frac{3}{8}$ " = 1"



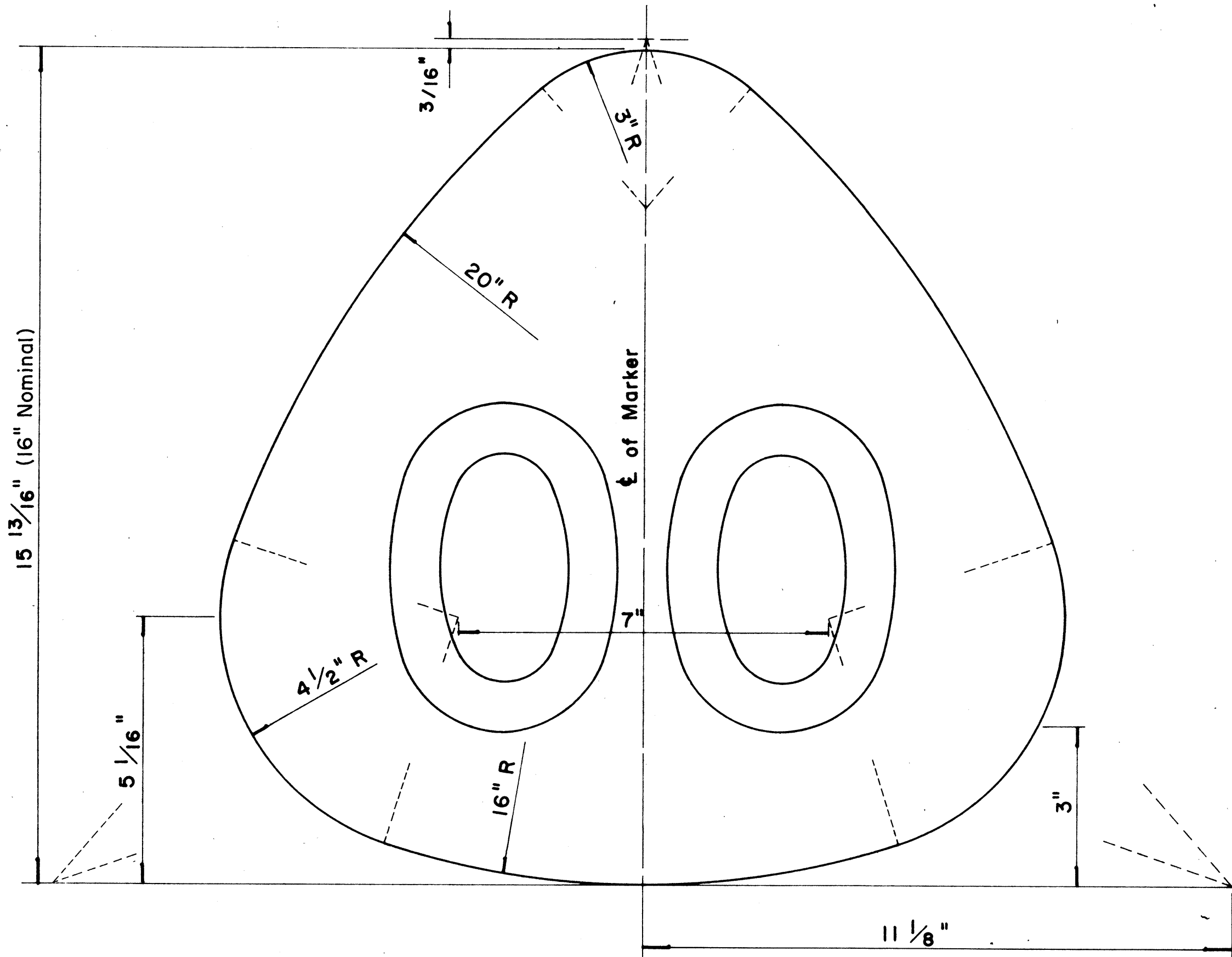
SIGN BRACKET ASSEMBLY
Scale: $\frac{3}{8}$ " = 1"

NOTE: For additional details of Sign Bracket Assembly, see Standard Detail Sheet "Overhead Sign Supports."



CLOSURE DETAIL
SECTION "B-B"
FULL SCALE

MARKER SIZE	MULTIPLY DIMENSIONS BY	NUMERAL SIZE	
		2 Digit - Series D	3 Digit - Series C
21"	1.3	8"	
32"	2.0	12"	
42"	2.63	16"	



STATE ROUTE MARKER FOR GUIDE SIGNS

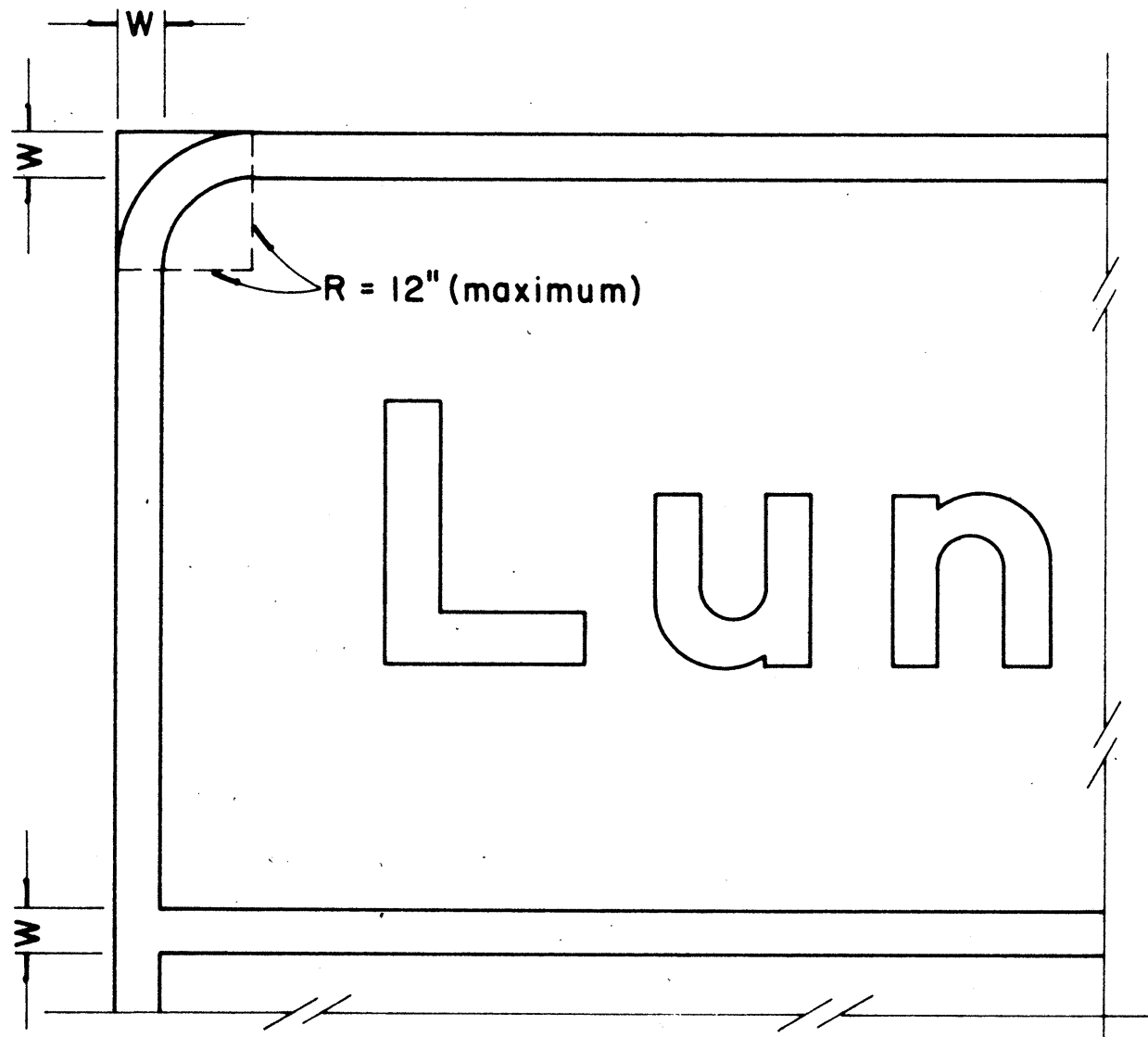
Scale: Half Size

NOTE:

- State Route Markers on Guide signs shall have black numerals on a white reflectorized background mounted on a flat aluminum cut-out.
- Numerals shall conform to the FHWA publication "Standard Alphabets for Highway Signs," 1966.
- Cut-outs shall be fastened on sign panel with aluminum blind rivets. See Standard Specifications.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1/(124)16	1978	68	223

RADII FOR SIGNS		
Least Dimension of Sign	W	R
2' - 0" to 4' - 6"	2"	3"
4' - 9" to 5' - 6"	2"	6"
5' - 9" to 7' - 6"	2"	9"
7' - 9" and greater	2"	12"



BORDER DETAIL FOR GUIDE SIGNS

Not to Scale

NOTE:

- Area outside corner radius need not be trimmed.
- All borders shall be white reflectorized cut-outs.
- All Guide signs shall have borders.

APPROVAL RECOMMENDED:		
<i>Eishi Tanaka</i>	TRAFFIC ENGINEER	4/11/72 DATE
APPROVED:		
<i>Shirley Z. Sakai</i>	ASSISTANT CHIEF, ENGINEERING	4/12/72 DATE

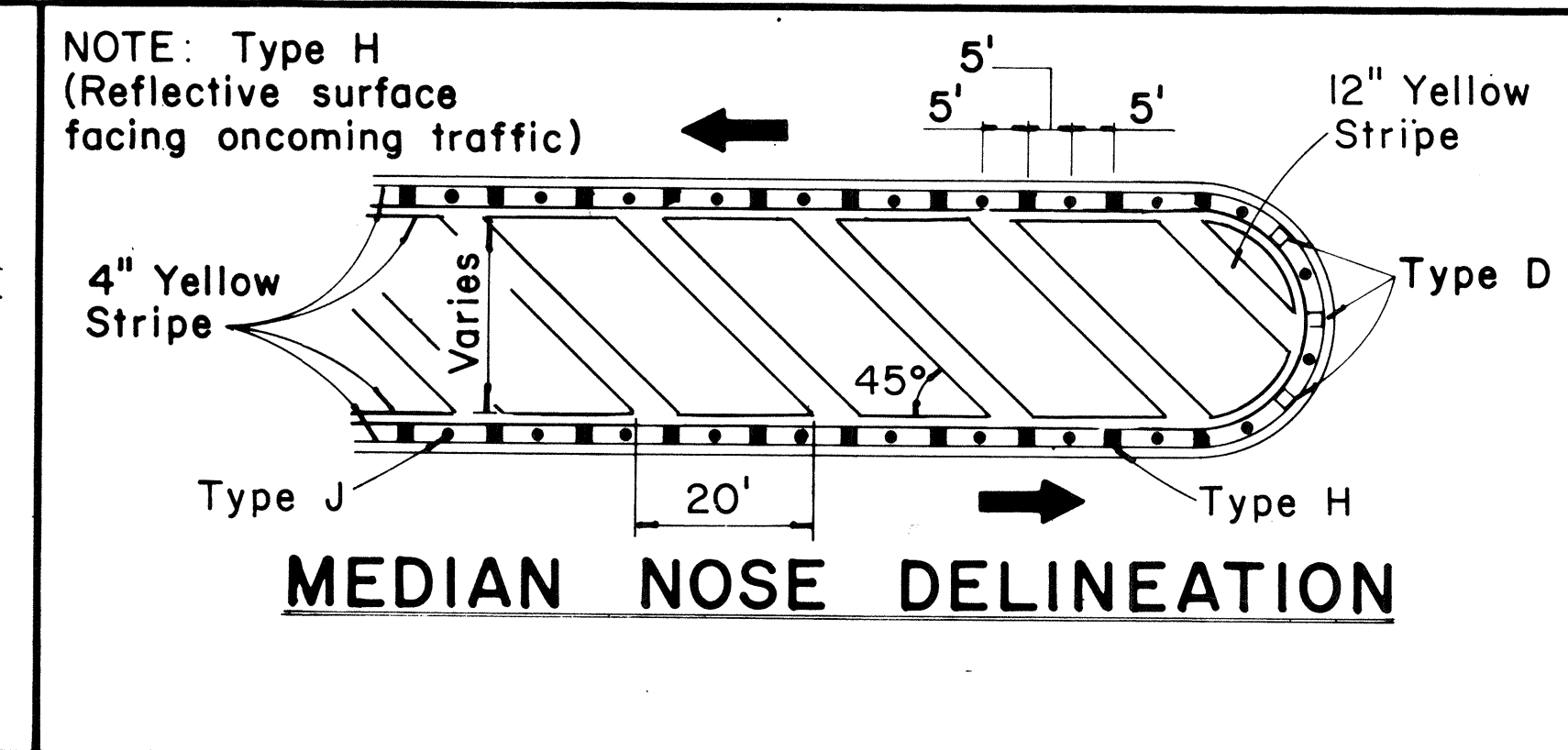
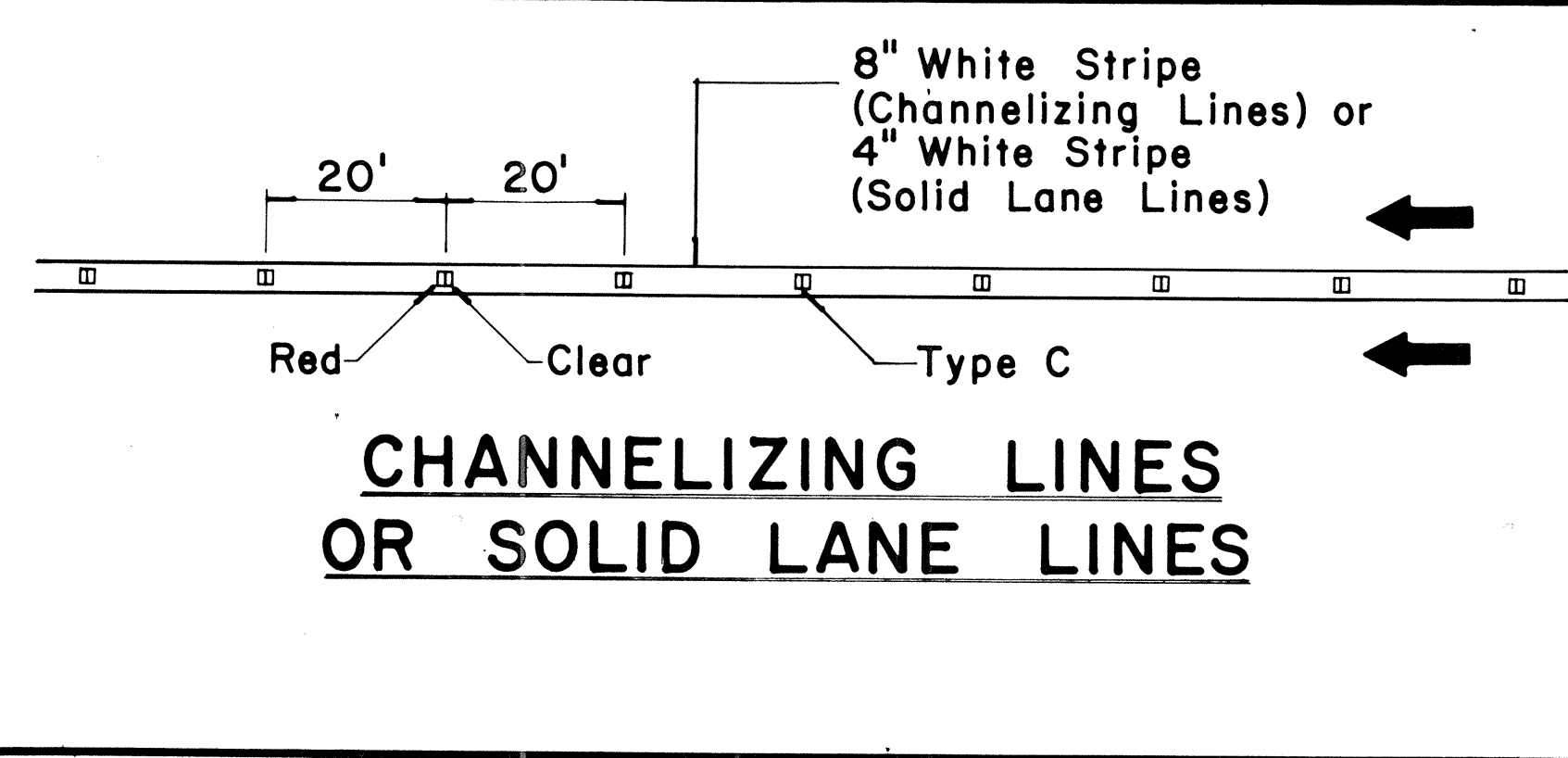
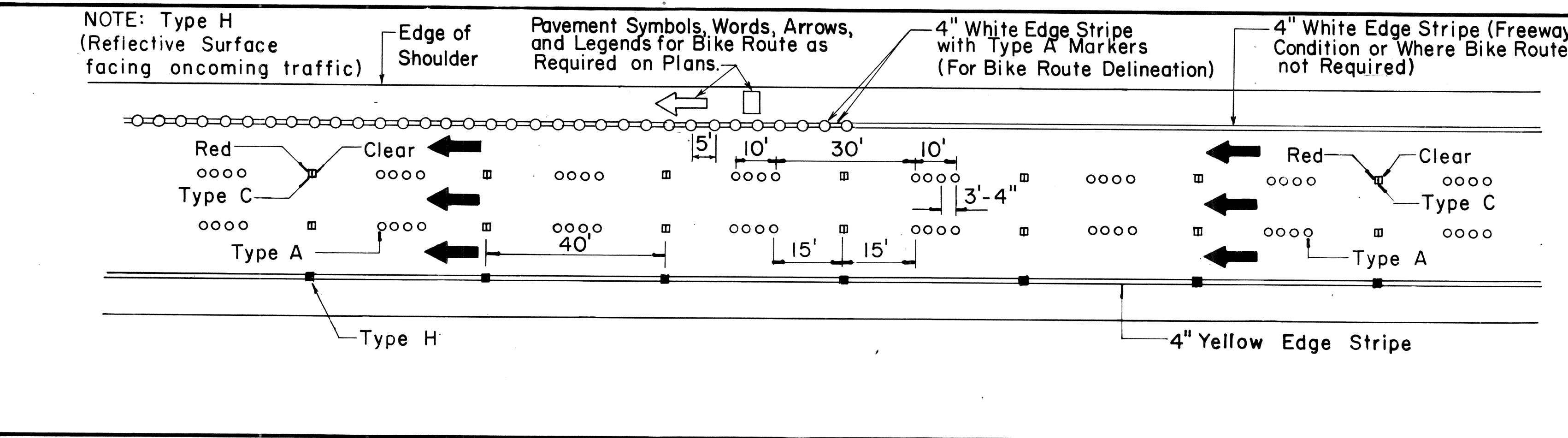
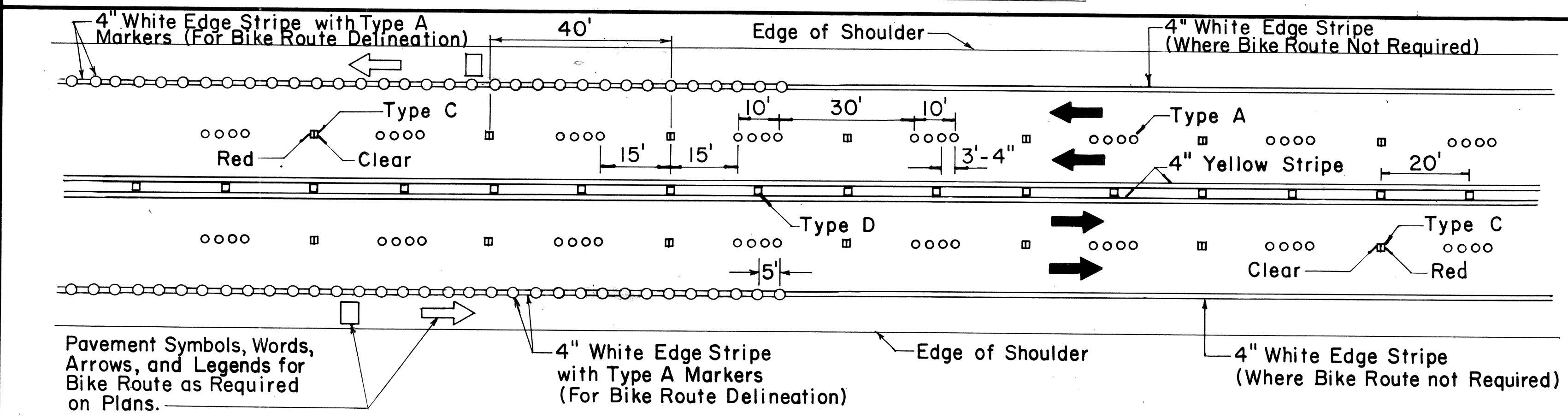
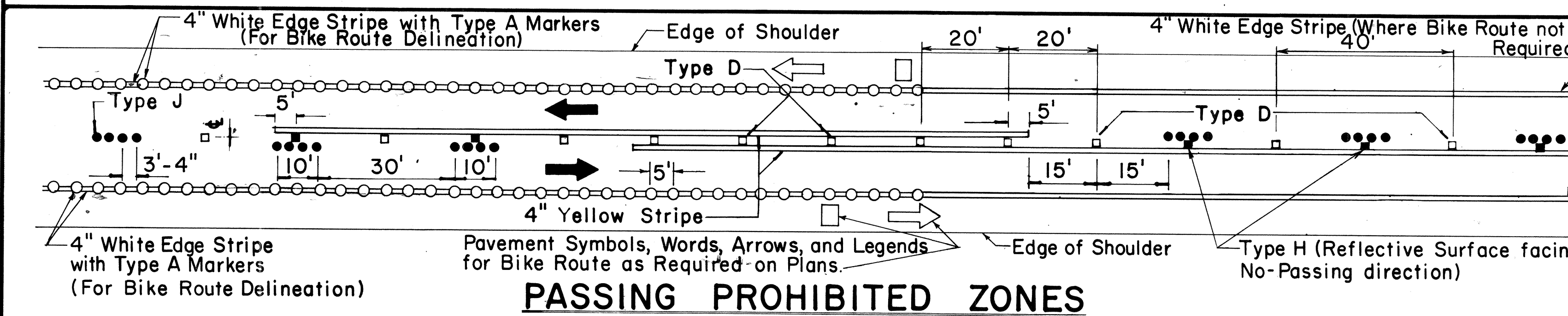
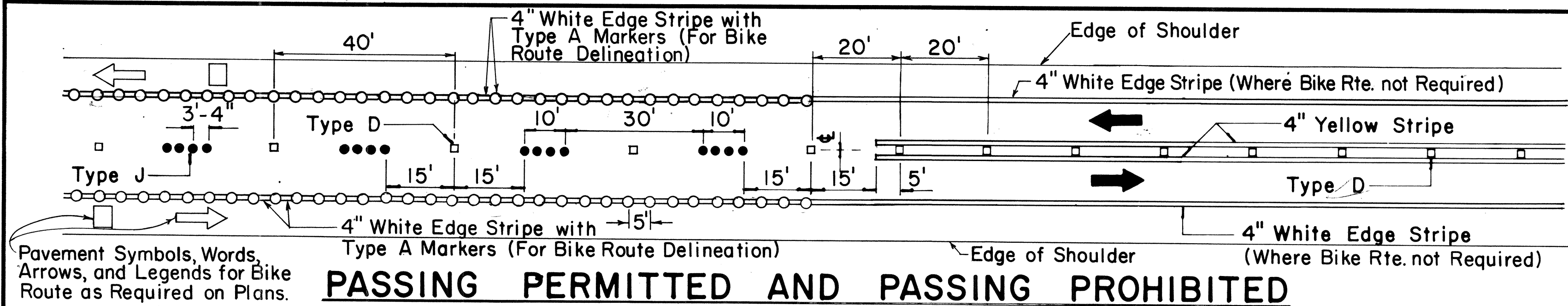
NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 209 Approved 12-30-69	H.T.	4/12/72
2	Revised Notes and Schedules	H.T.	9-14-76

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND TRANSPORTATION FACILITIES DIVISION STANDARD DETAILS STATE ROUTE MARKER AND BORDER DETAIL FOR GUIDE SIGNS
--

Scale: As Shown

SHEET No. OF SHEETS DT 209

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-1(124)16	1978	69	223

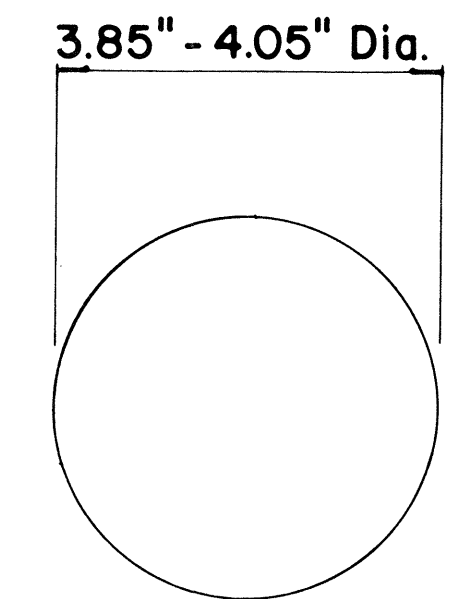


TWO - LANE

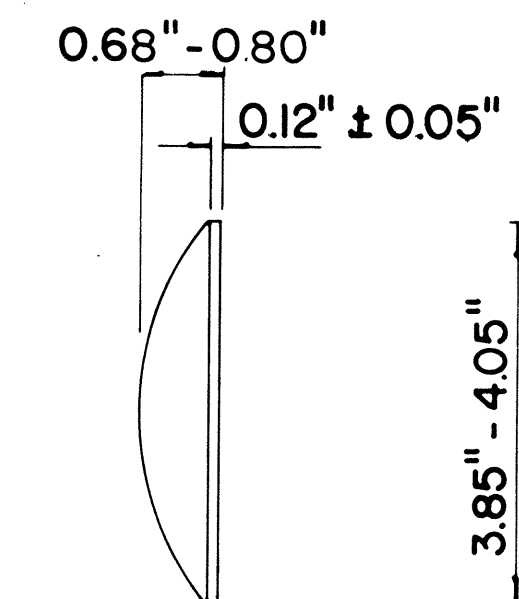
MULTI - LANE

DIVIDED HIGHWAY AND FREEWAY

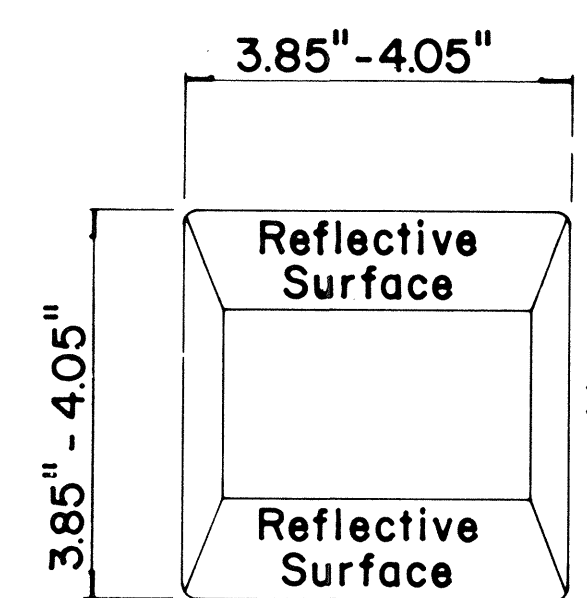
MISCELLANEOUS



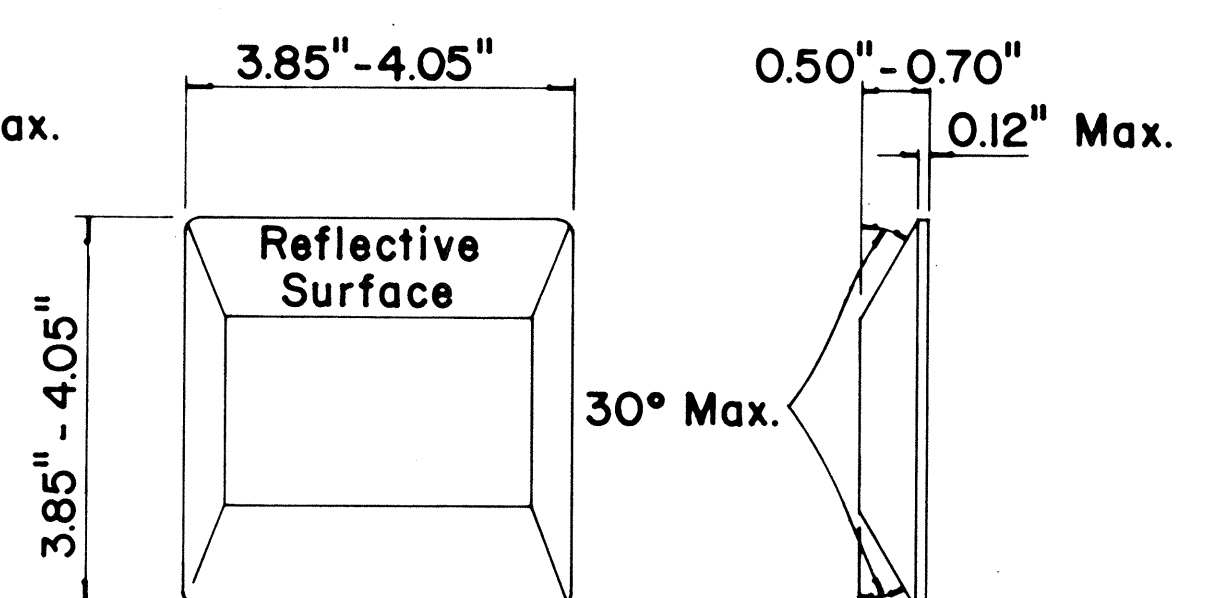
TYPE A
NON-REFLECTIVE WHITE MARKER
TYPE J
NON-REFLECTIVE YELLOW MARKER



TYPE C
RED-CLEAR REFLECTIVE MARKER



TYPE D
TWO-WAY YELLOW REFLECTIVE MARKER



TYPE H
ONE-WAY YELLOW REFLECTIVE MARKER

GENERAL NOTES

- Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Layout and installation of pavement marking and striping shall be done by the Contractor. The Contractor shall check the layouts with the Engineer prior to performing work.

LEGEND

- Type A
- Type C
- Type D
- Type H
- Type J

APPROVAL RECOMMENDED:

Erich Tanaka
TRAFFIC ENGINEER

7/21/78
DATE

APPROVED:

Robert S. Zelenka
ASSISTANT CHIEF, ENGINEERING

1/24/78
DATE

No.	REVISION	APPROVED BY	DATE
1	Supersedes DT 300 approved 11/18/71.	H.T.	1/24/78

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
RAISED PAVEMENT MARKERS
AND STRIPING

Not to Scale July 1978
SHEET No. OF SHEETS DT 300

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-11(24)6	1978	70	223

GENERAL NOTES:

1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.

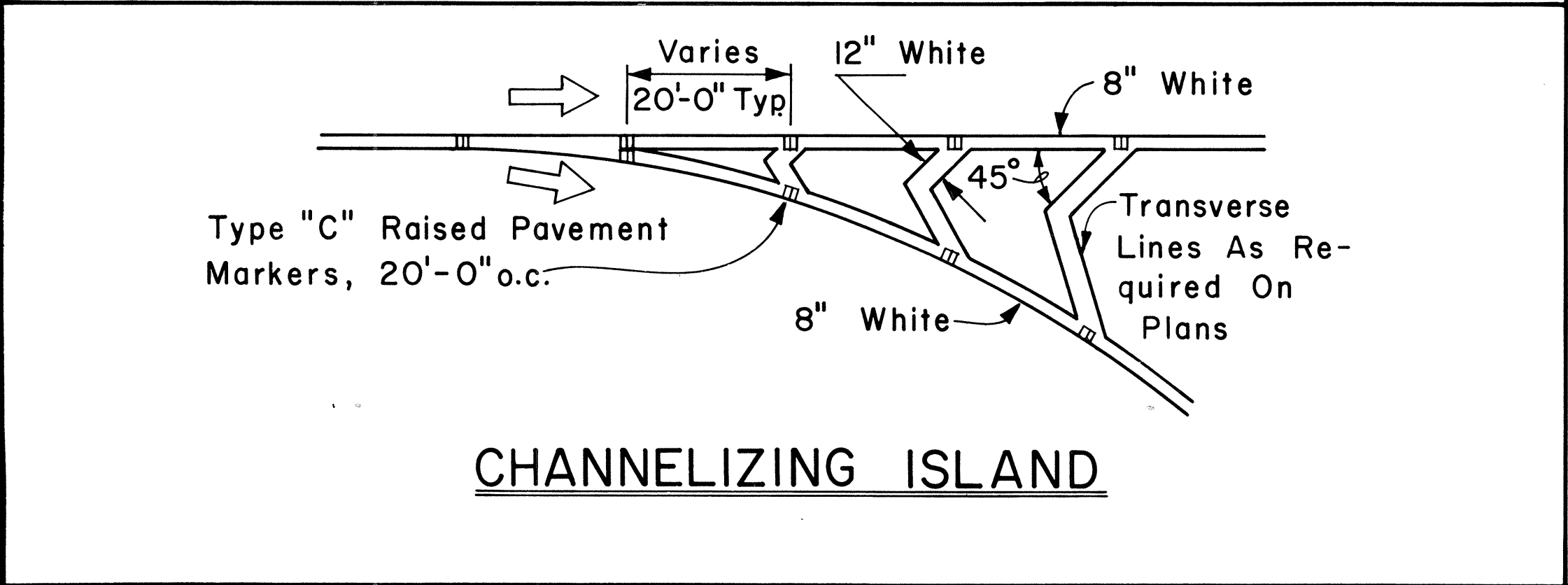
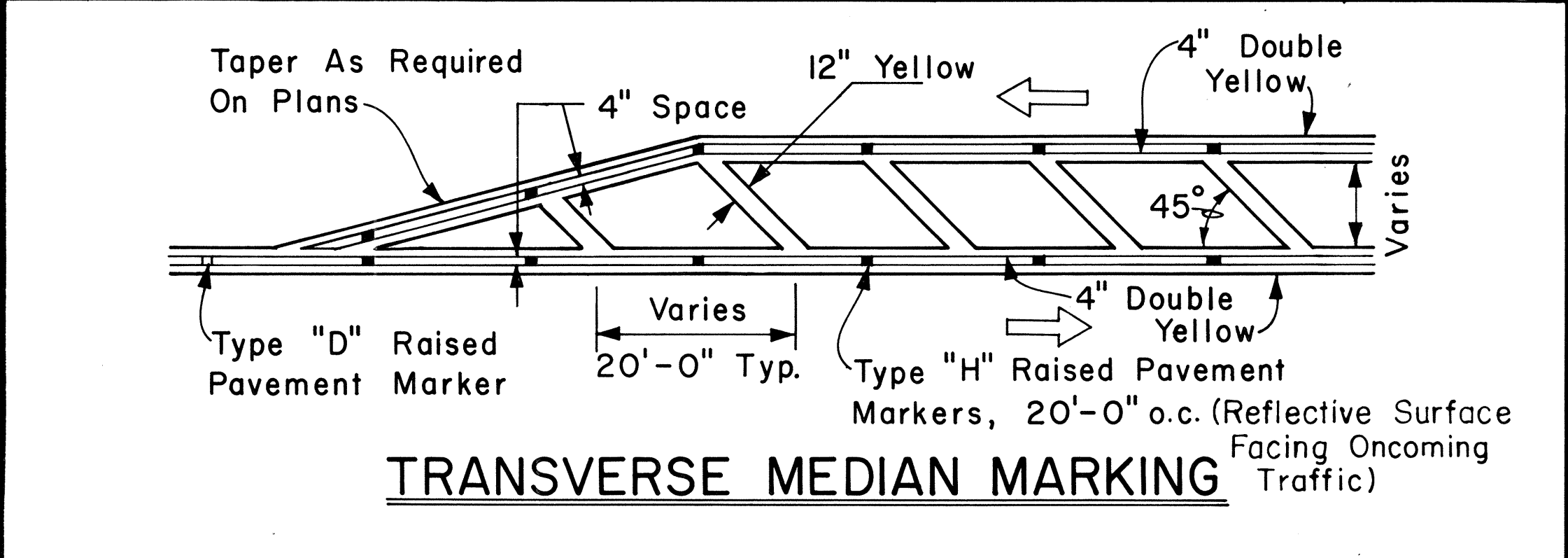
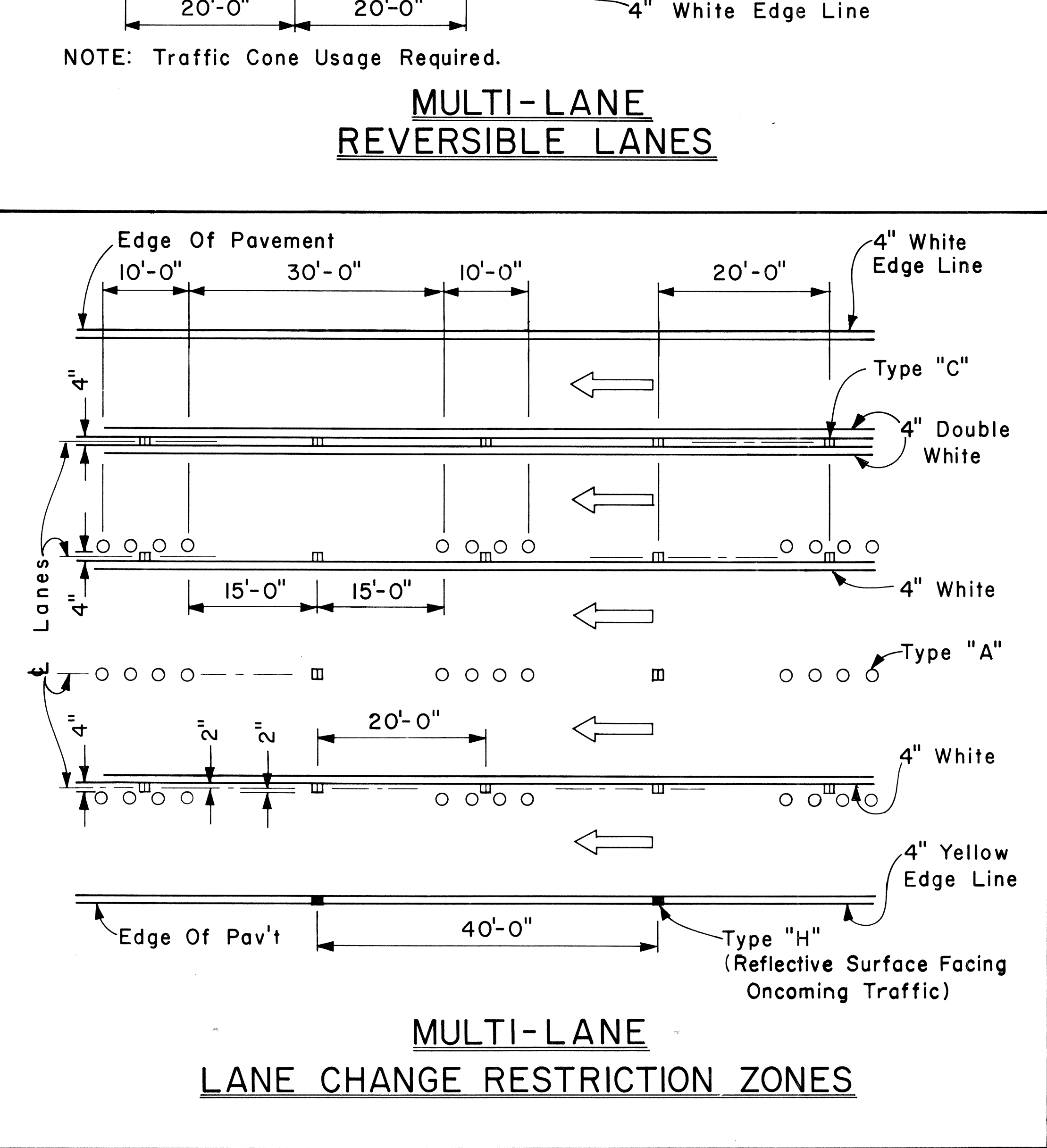
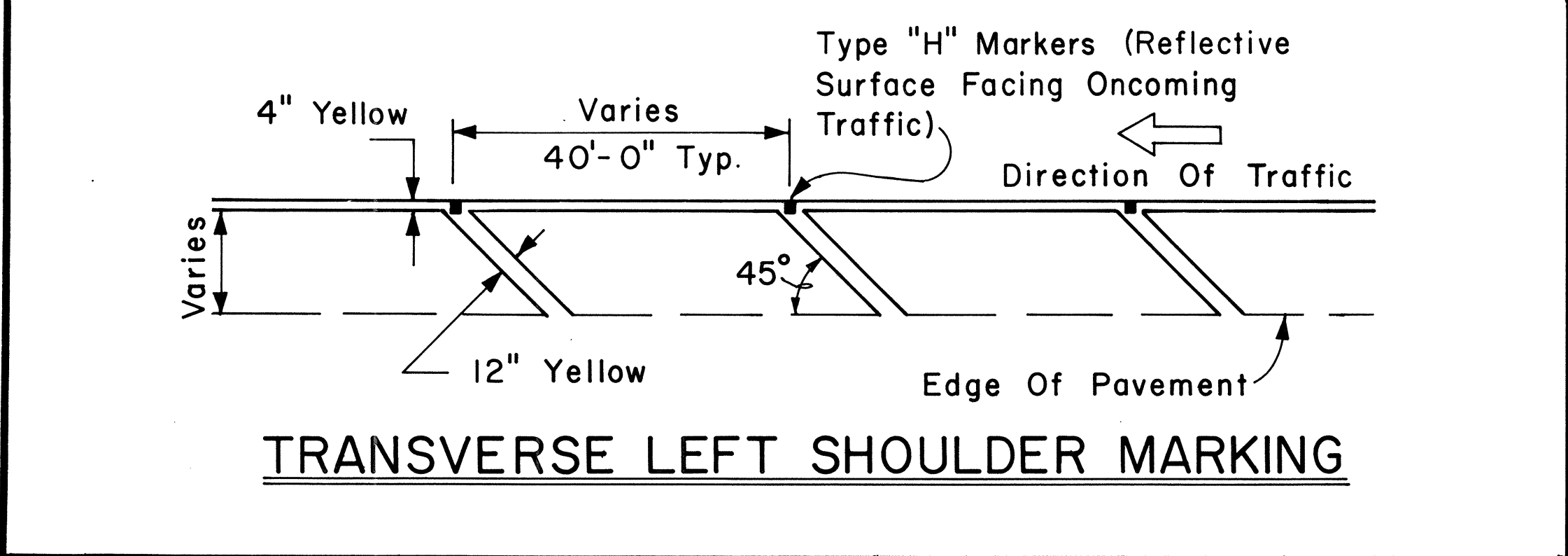
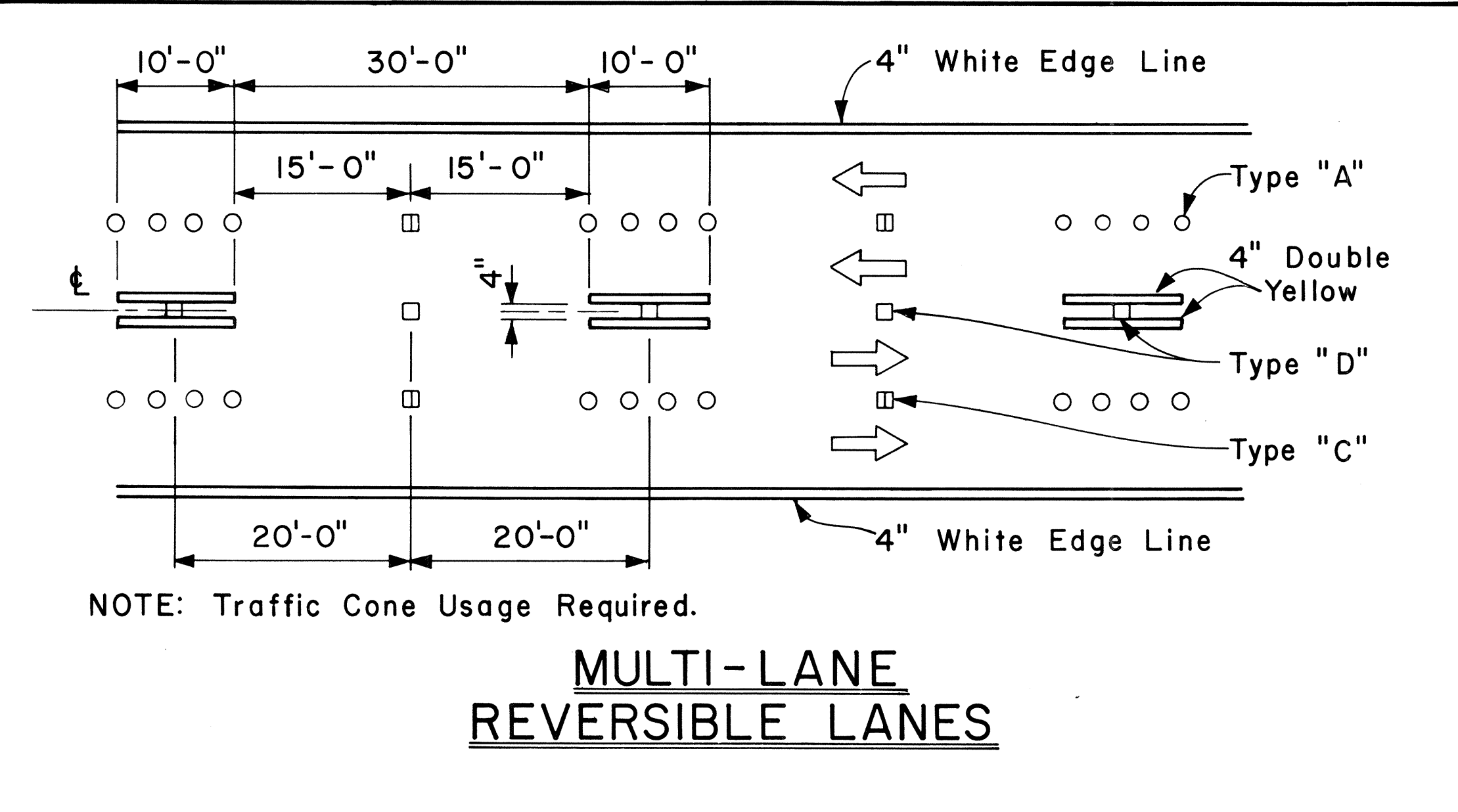
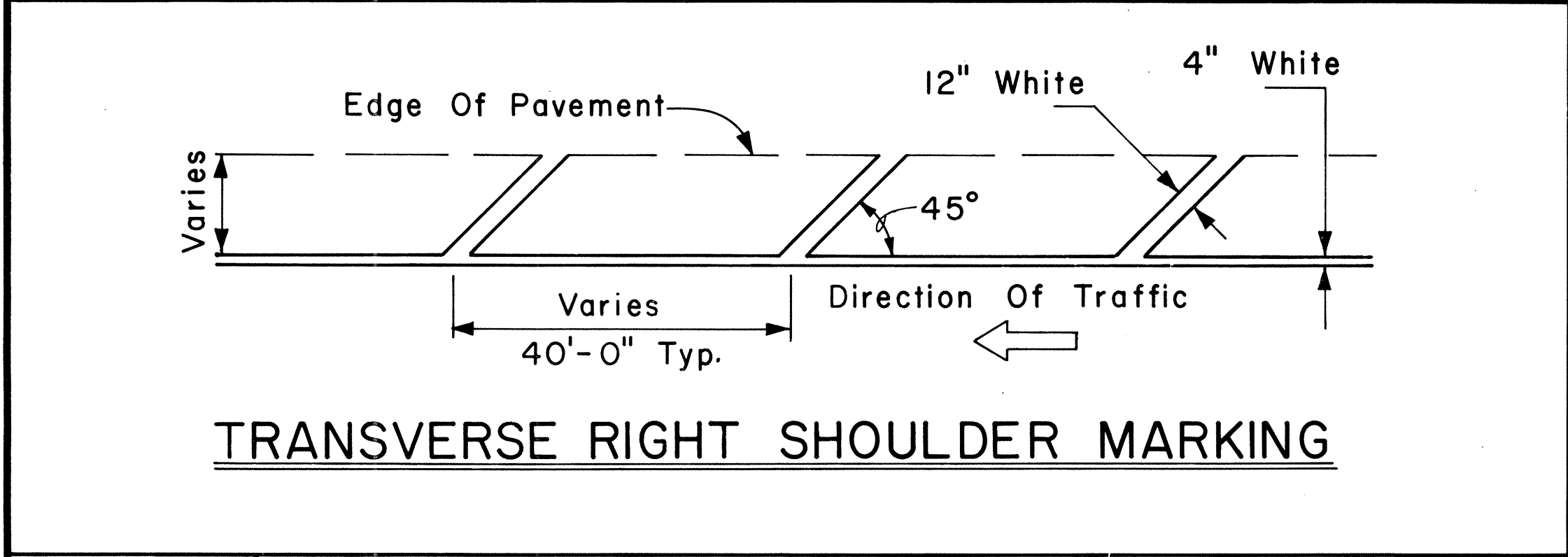
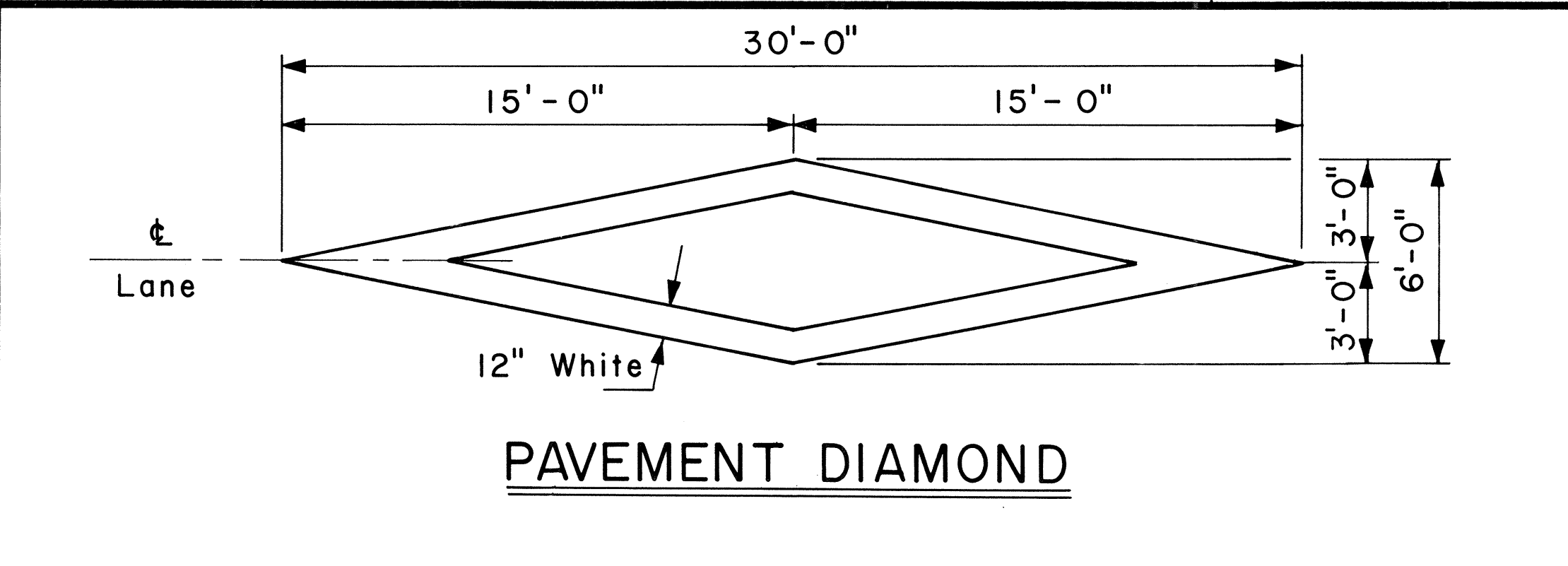
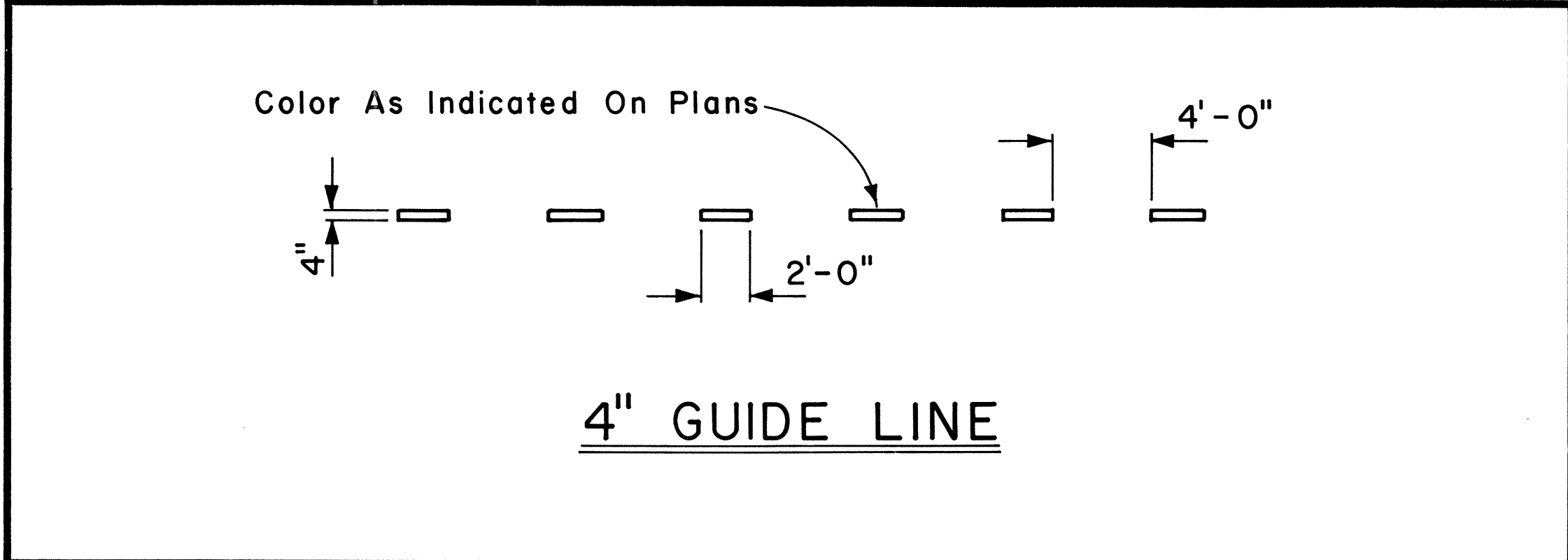
APPROVAL RECOMMENDED:
E. Ishii Tanaka
TRAFFIC ENGINEER
5/2/78
DATE

APPROVED:
Herbert Z. Zafraichu
ASSISTANT CHIEF, ENGINEERING
5/3/78
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
MISCELLANEOUS
PAVEMENT MARKINGS

Scale: Not to Scale Date: April, 1978
SHEET No. OF SHEETS DT 302



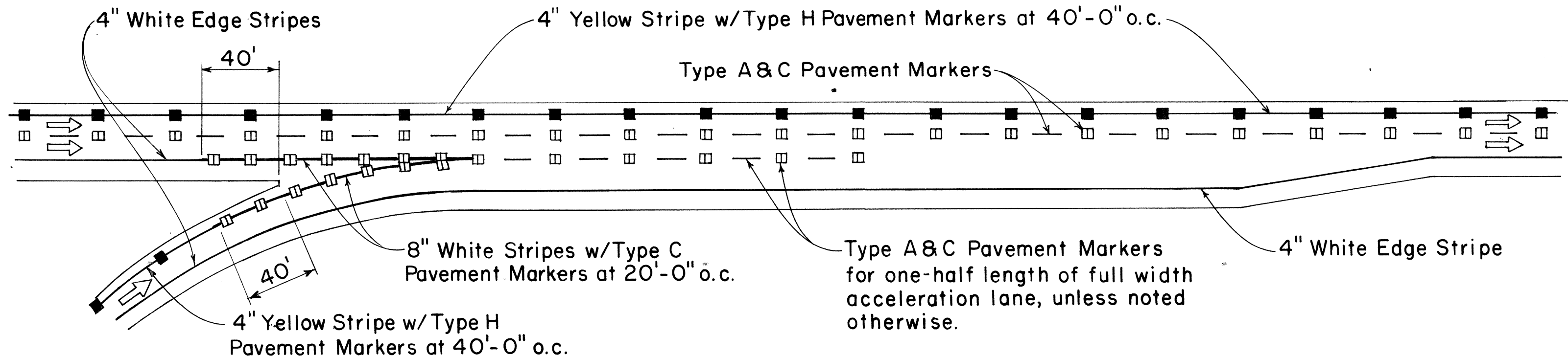
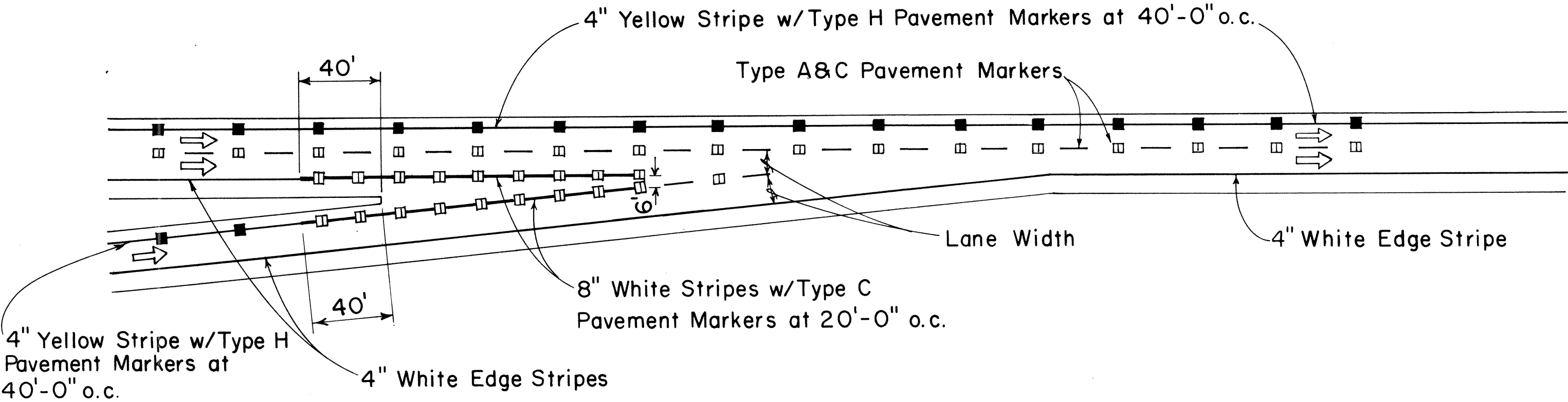
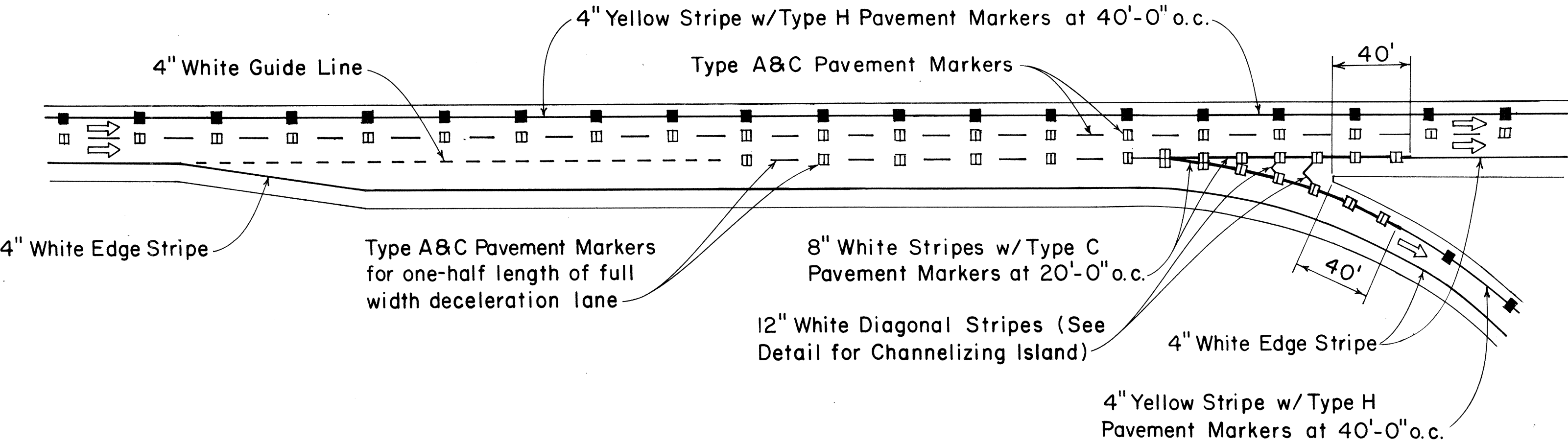
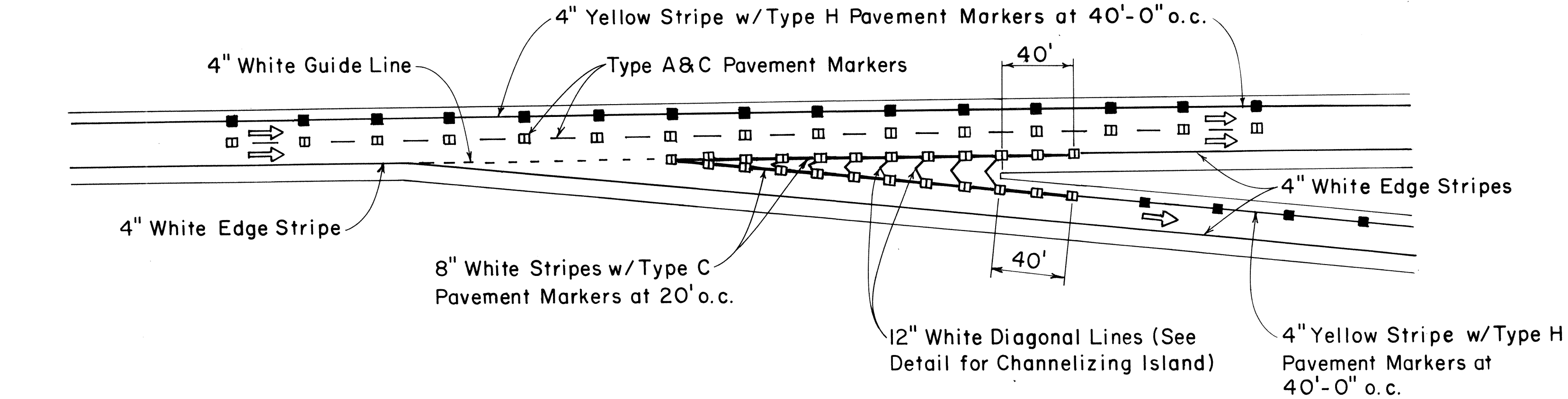
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-1(124)16	1978	71	223

GENERAL NOTES:

1. Pavement Markings and Striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of Pavement Markings and Striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional details, see sheet DT 300.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DESIGNED BY	DRAWN BY	
CHECKED BY	TRACED BY	
NO.	QUANTITY BY	
	CHECKED BY	



TAPERED DECELERATION LANE

PARALLEL DECELERATION LANE

TAPERED ACCELERATION LANE

PARALLEL ACCELERATION LANE

TYPICAL ROADWAY EXIT MARKINGS

TYPICAL ROADWAY ENTRANCE MARKINGS

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
Erich Tanaka 7/21/78
 TRAFFIC ENGINEER DATE

APPROVED:
Robert S. Rakeishi 7/24/78
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

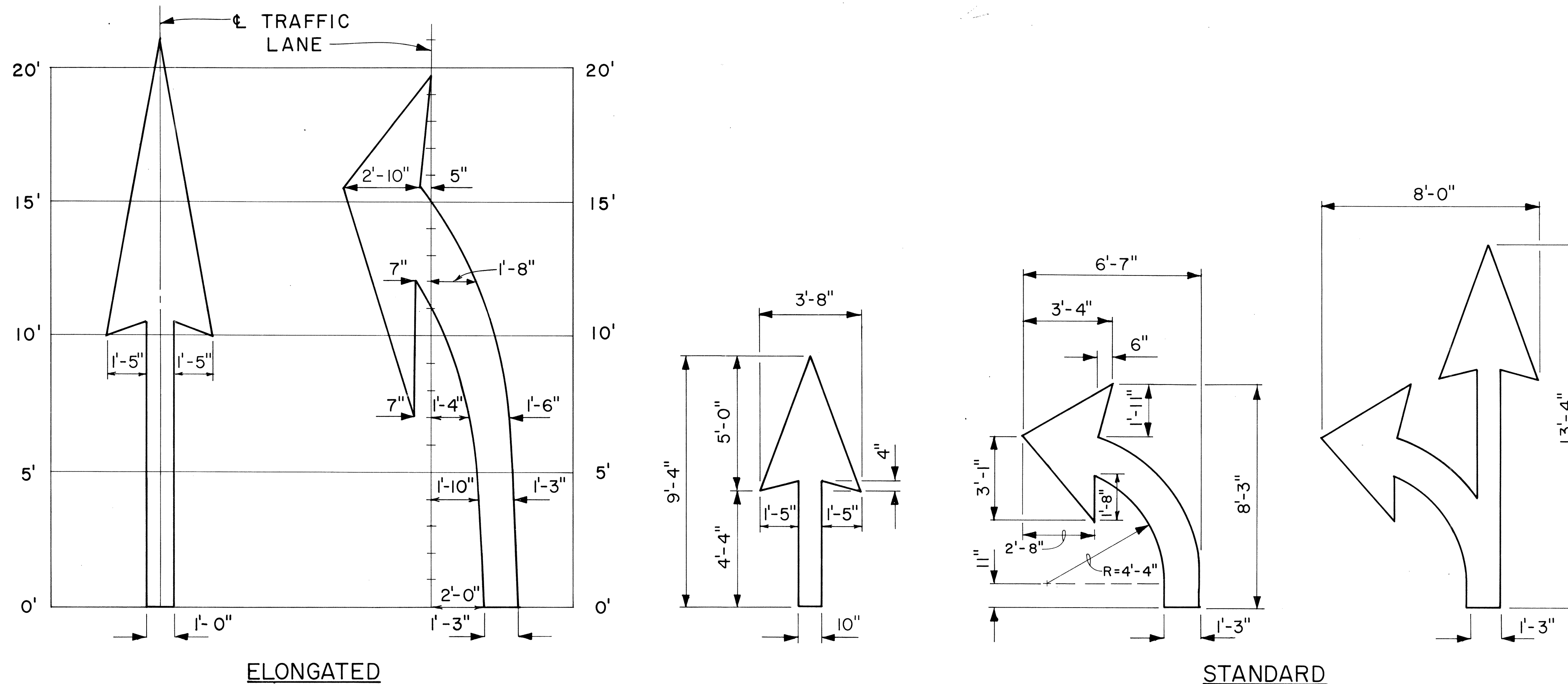
STANDARD DETAILS
 MISCELLANEOUS
 PAVEMENT MARKINGS

Not to Scale July 1978
 SHEET NO. 71 OF SHEETS DT 304

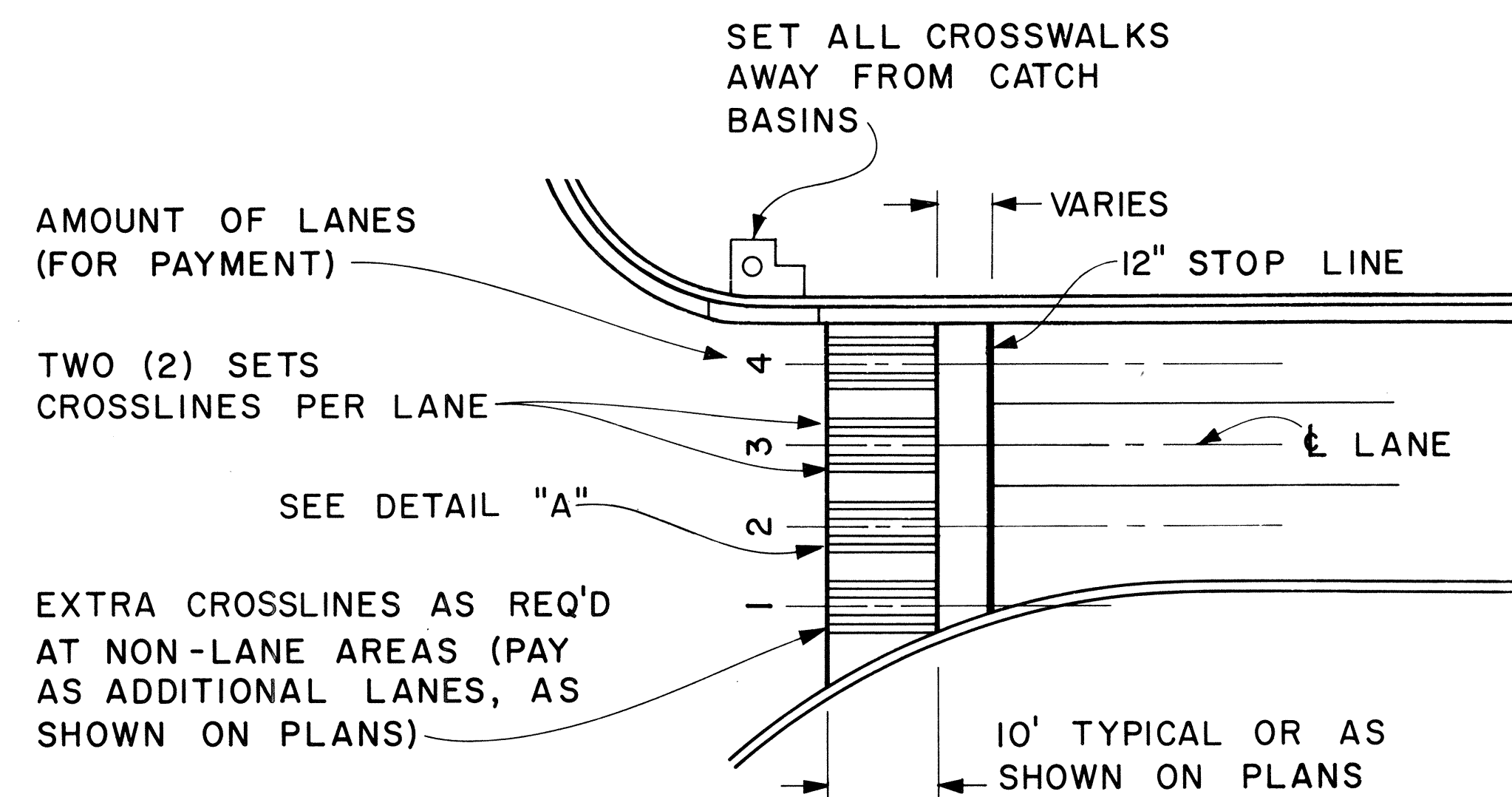
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(24)10	1978	72	223

GENERAL NOTES:

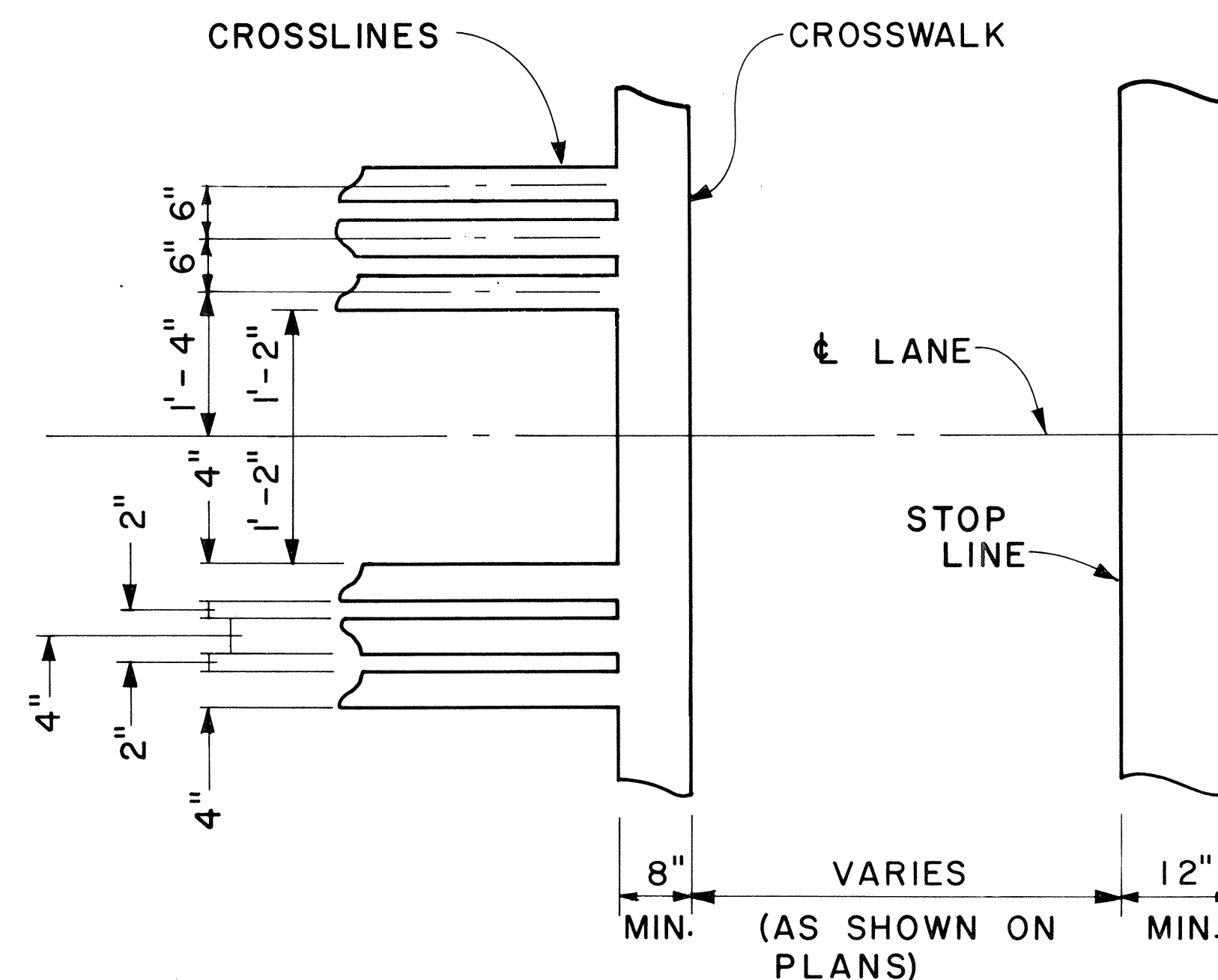
1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.



PAVEMENT ARROWS
Scale: 3/8" = 1'



PLAN



DETAIL "A"

CROSSWALK & STOP LINE
Scale: Not to Scale

APPROVAL RECOMMENDED:
Erichi Tanaka 5/2/78
TRAFFIC ENGINEER DATE

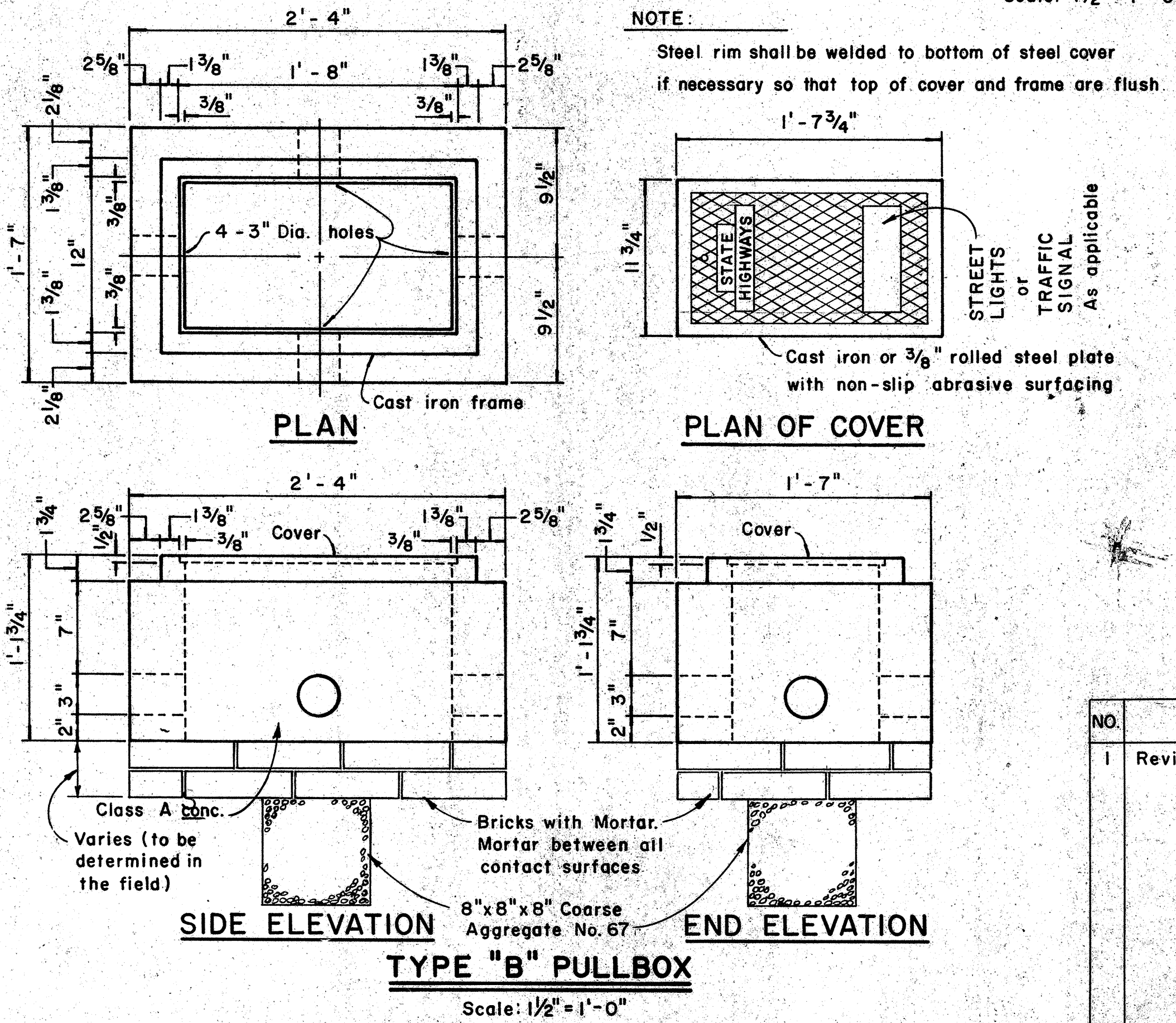
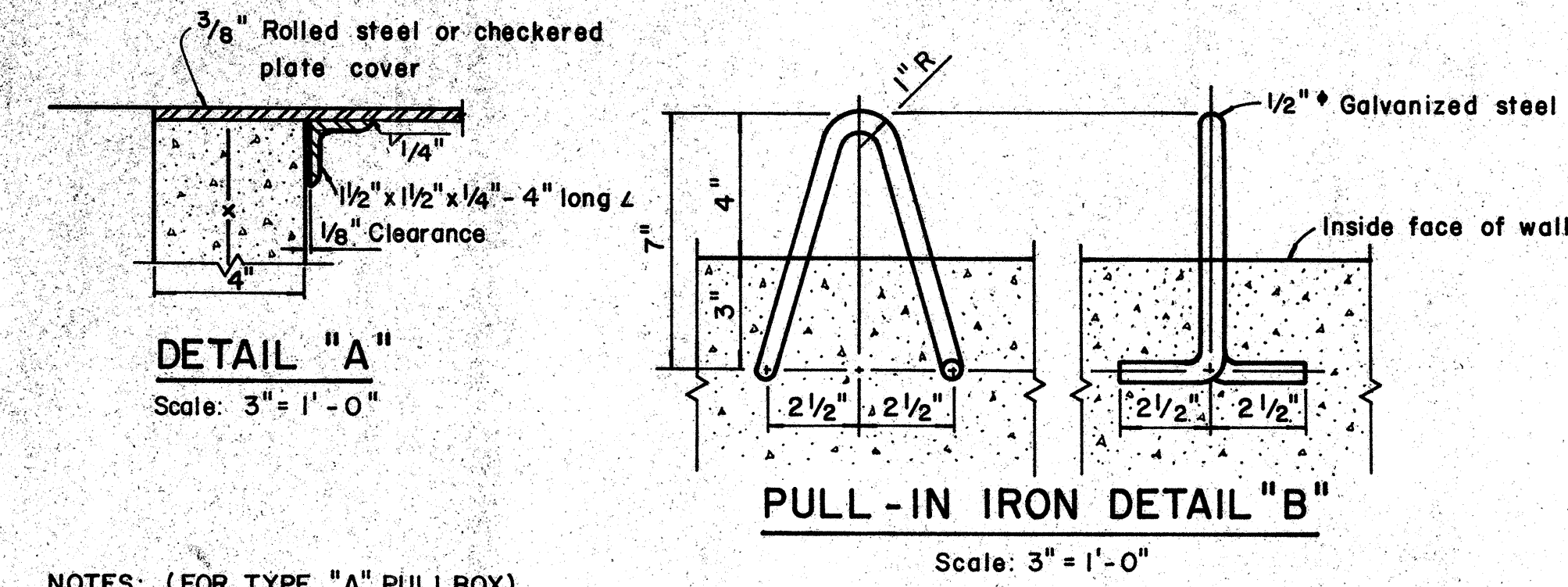
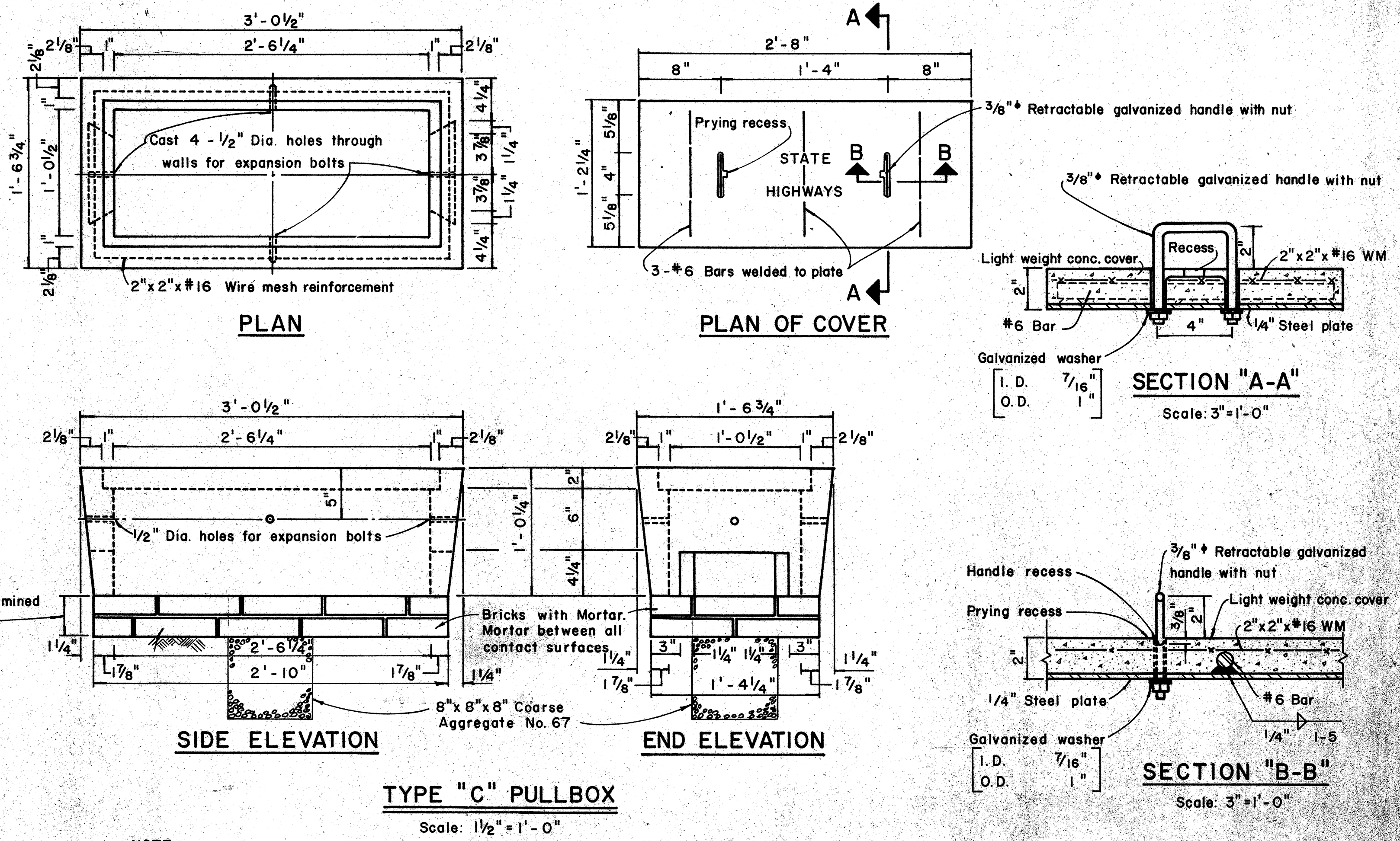
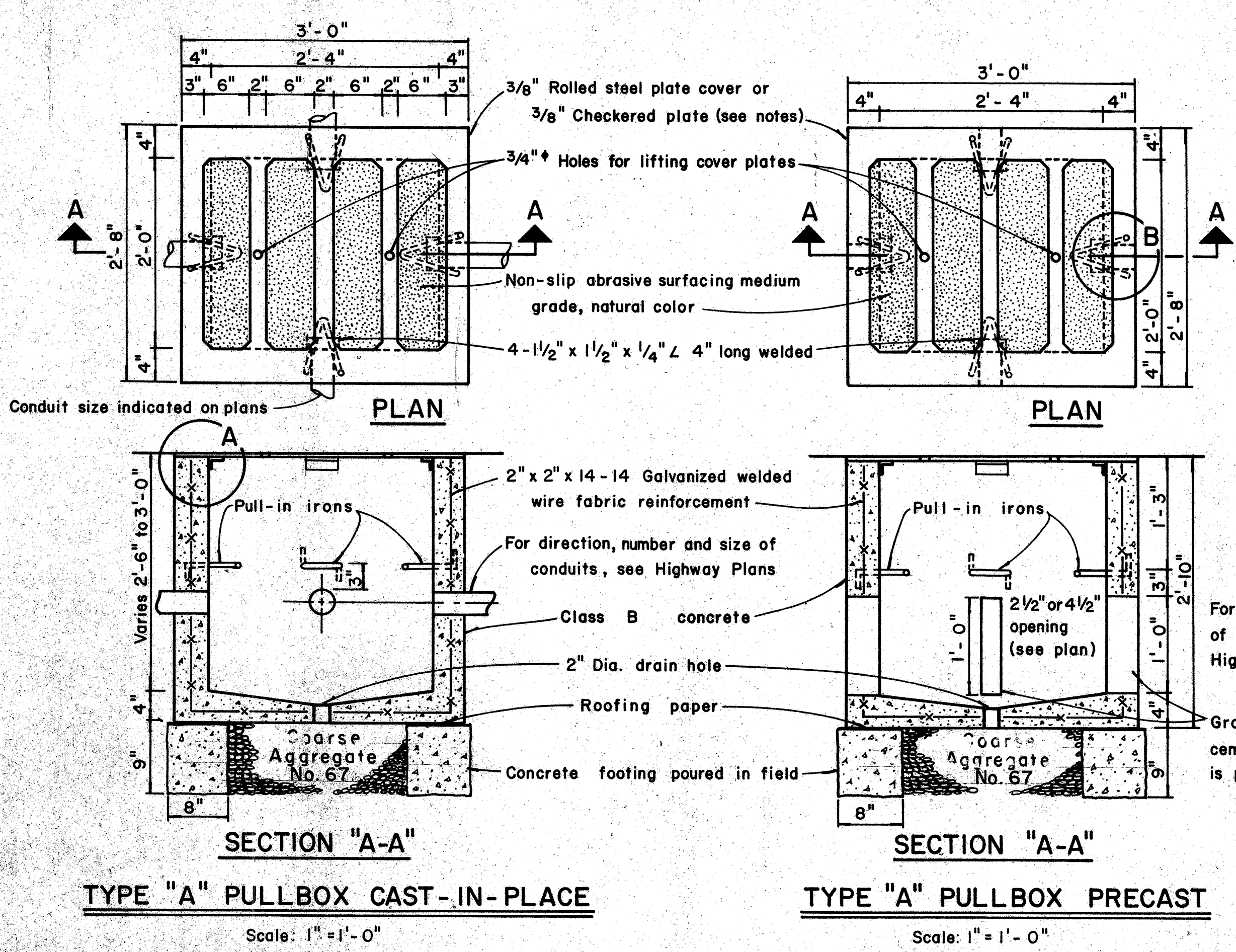
APPROVED:
Harvey Z. Zalski 5/3/78
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
MISCELLANEOUS
PAVEMENT MARKINGS

Scale: As Shown Date: March, 1978
SHEET NO. 72 OF SHEETS DT 306

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	EHF-1(124)16	1978	74	223



- NOTES: (FOR TYPE "A" PULLBOX)
1. 3/8" Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
 2. 3/8" Checkered plate cover shall be used on all pullboxes 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 pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
 5. Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.

NOTE:

Steel rim shall be welded to bottom of steel cover if necessary so that top of cover and frame are flush.

APPROVAL RECOMMENDED
Erich Tanaka
 TRAFFIC ENGINEER
 DATE: 12/17/82

APPROVED
John D. Reid
 ASSISTANT CHIEF, ENGINEERING
 DATE: 12-30-82

NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	H.F.	3-5-76

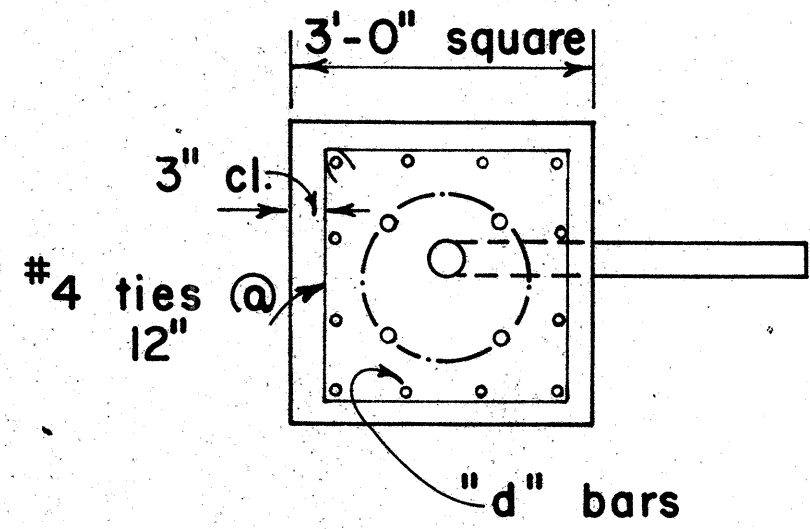
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
PULLBOXES

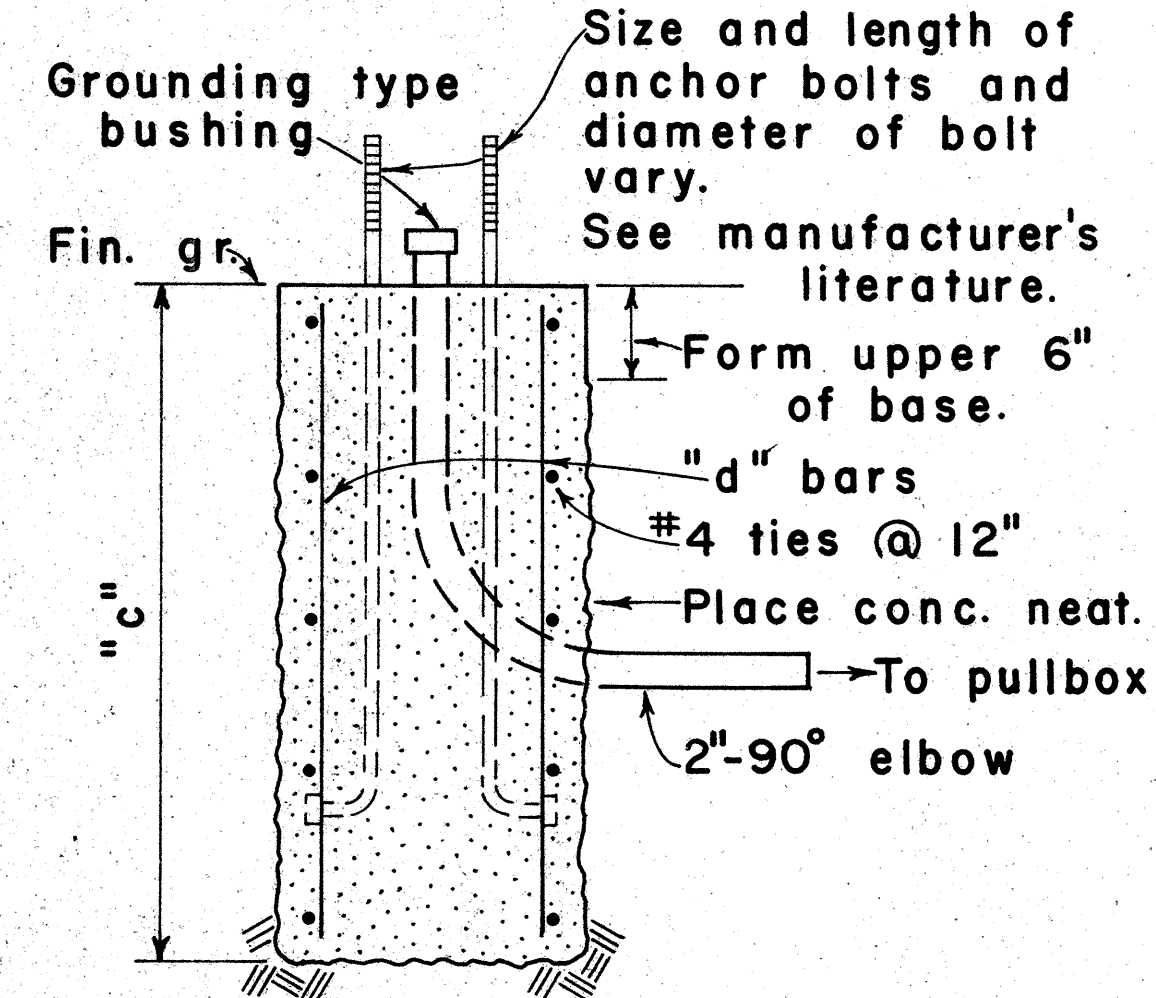
Scale as noted Date

SHEET No. 74 OF SHEETS DT 401

DATE	12/17/82
SURVEY PLANNED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



PLAN - SECTION

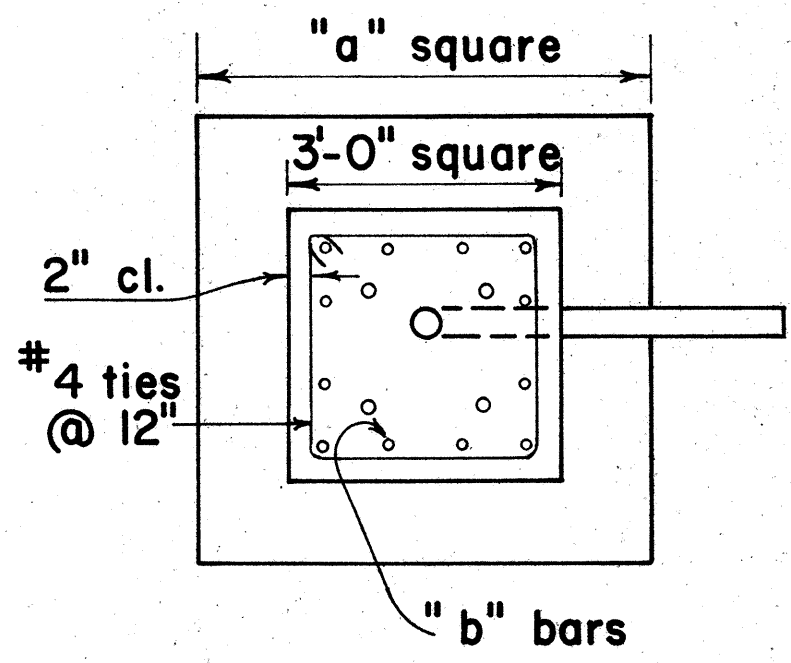


NOTE:
Concrete shall be Class B.

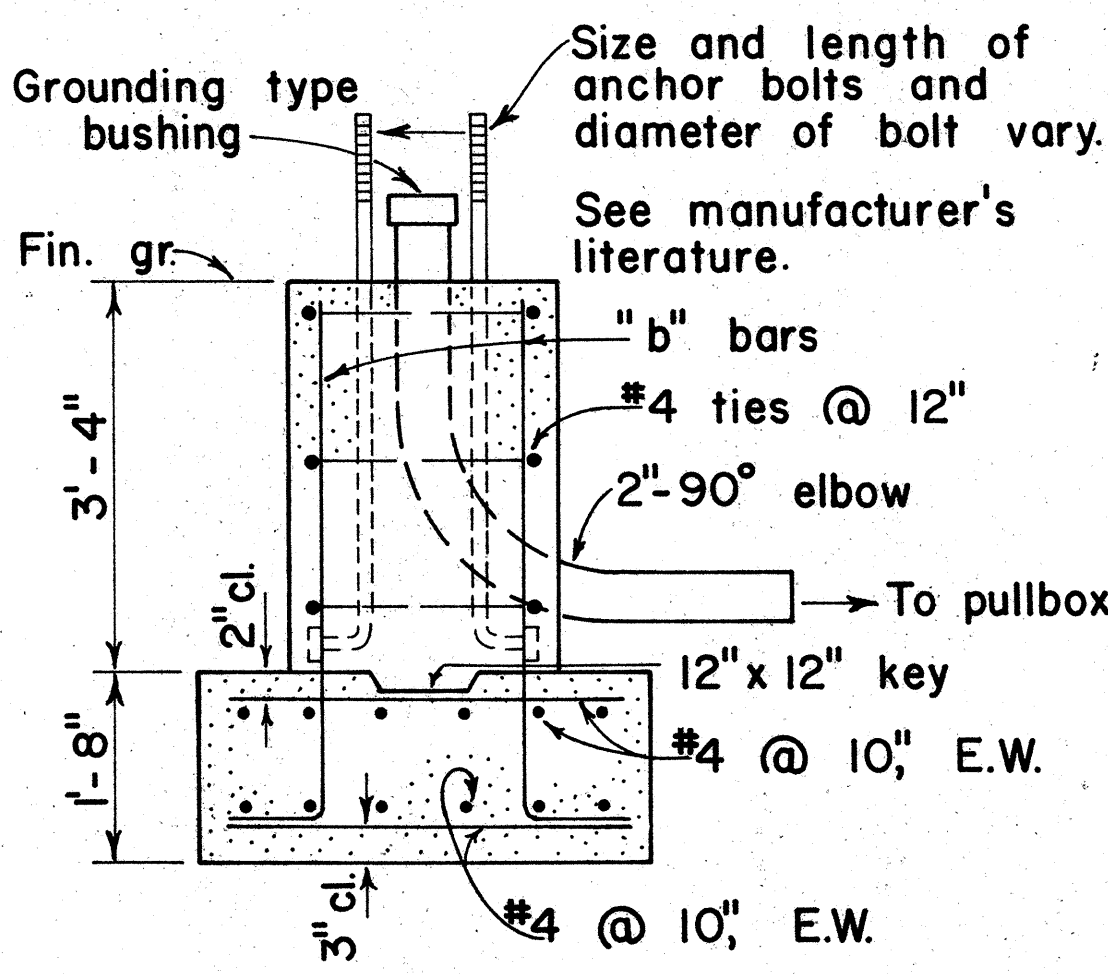
SECTION

MAST ARM LENGTH	"c"	"d" BARS
16' - 18'	5' - 0"	12 - #6
20'	5' - 6"	12 - #6
25'	6' - 0"	12 - #6
30'	6' - 6"	12 - #6
35'	7' - 0"	12 - #8
40'	8' - 0"	12 - #8

TYPE II



PLAN - SECTION



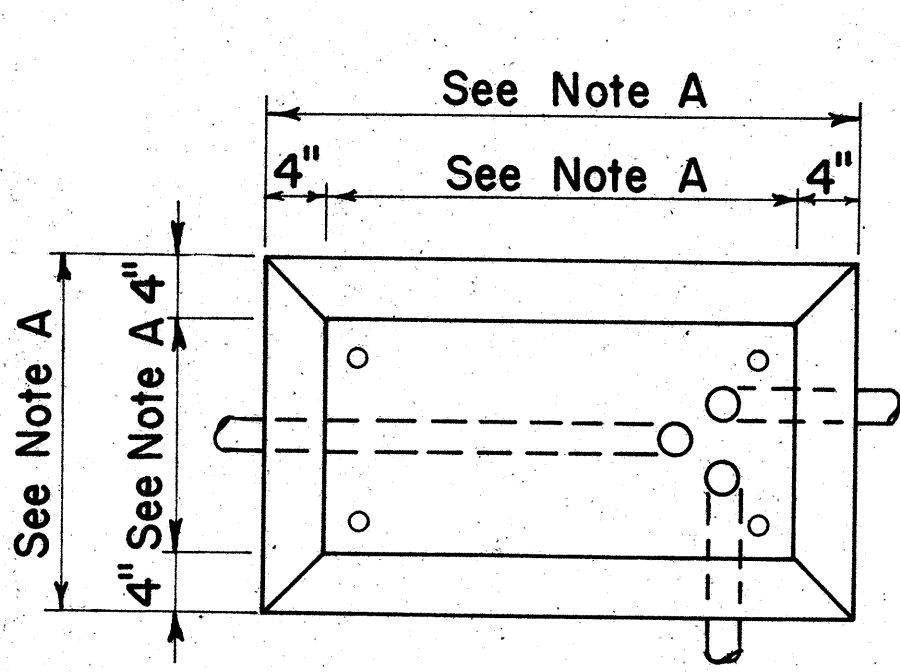
NOTE:
Concrete shall be Class B.

SECTION

MAST ARM LENGTH	"a"	"b" BARS
16' - 18'	5' - 0"	12 - #6
20'	5' - 6"	12 - #6
25'	6' - 0"	12 - #6
30'	6' - 6"	12 - #8
35'	6' - 6"	12 - #8
40'	7' - 0"	12 - #8

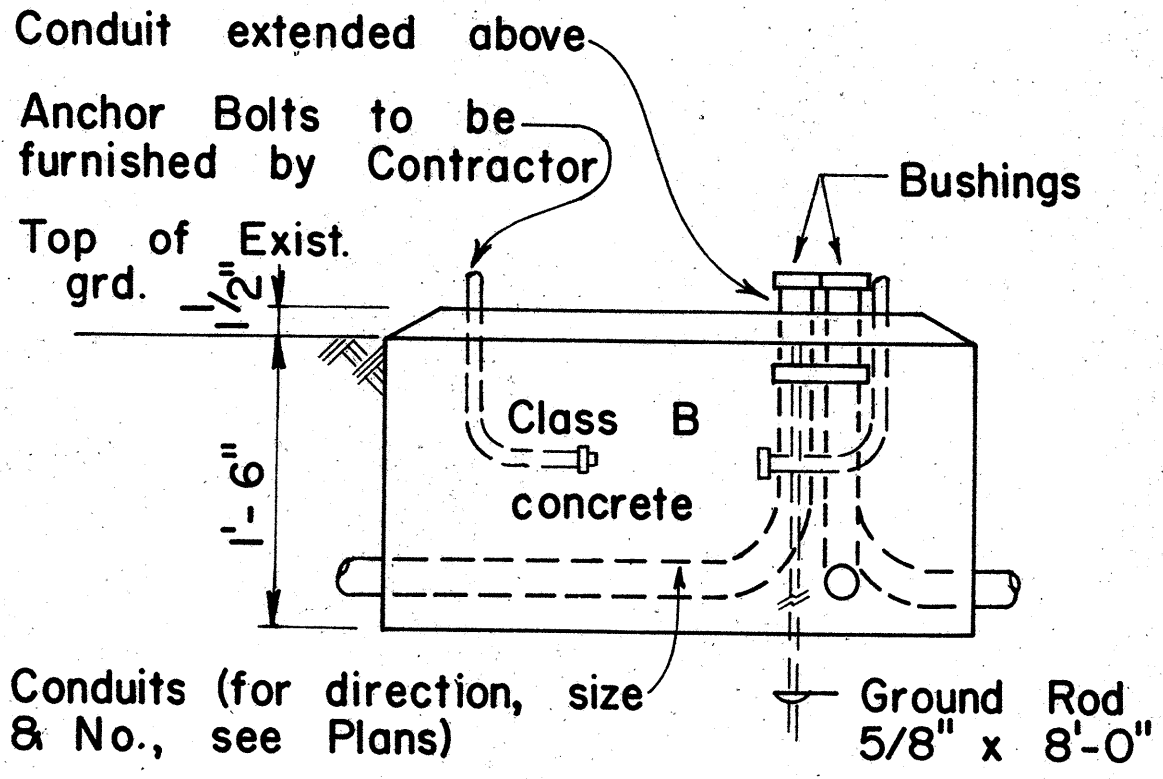
TYPE IIA

FOOTING FOR MAST ARM STANDARD



PLAN

CONCRETE BASE FOR CONTROLLER CABINET



ELEVATION

- NOTES:
- Dimensions to be determined by the size of the Controller Cabinet to be furnished under this Contract.
 - Details of Conduits, Anchor Bolts, etc., are approximate only. Exact details shall be secured by the Contractor from Manufacturer.

APPROVAL RECOMMENDED:
E.ichi Tanaka 3/4/76
TRAFFIC ENGINEER DATE

APPROVED:
Robert B. Sakash 2-5-76
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

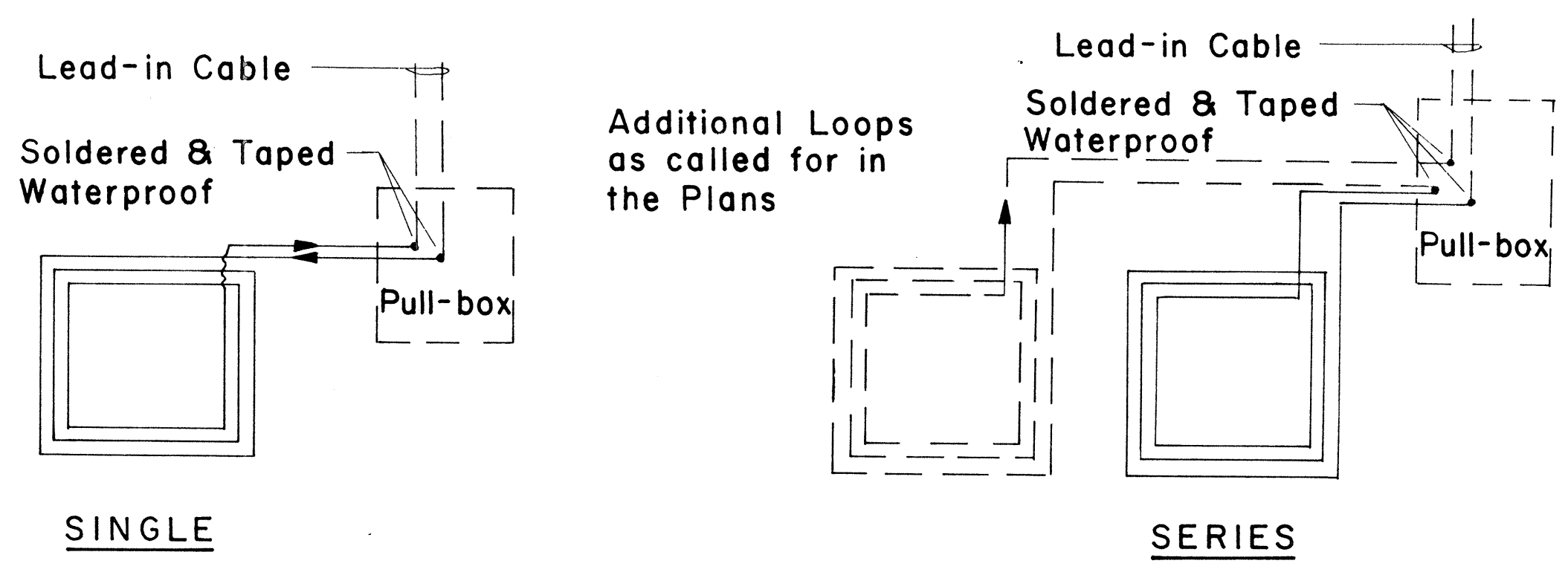
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TRAFFIC SIGNAL SYSTEM
MISCELLANEOUS DETAILS

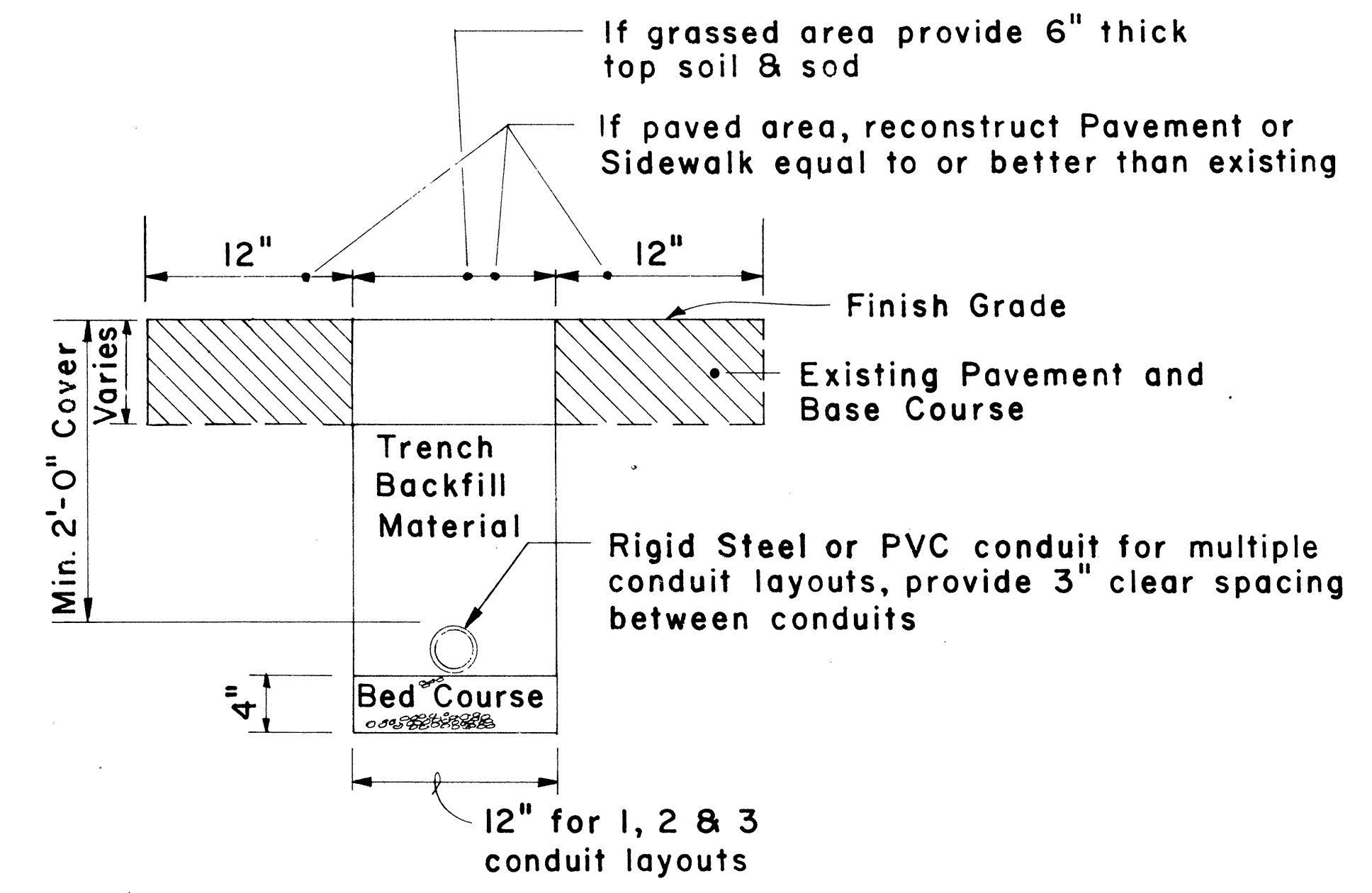
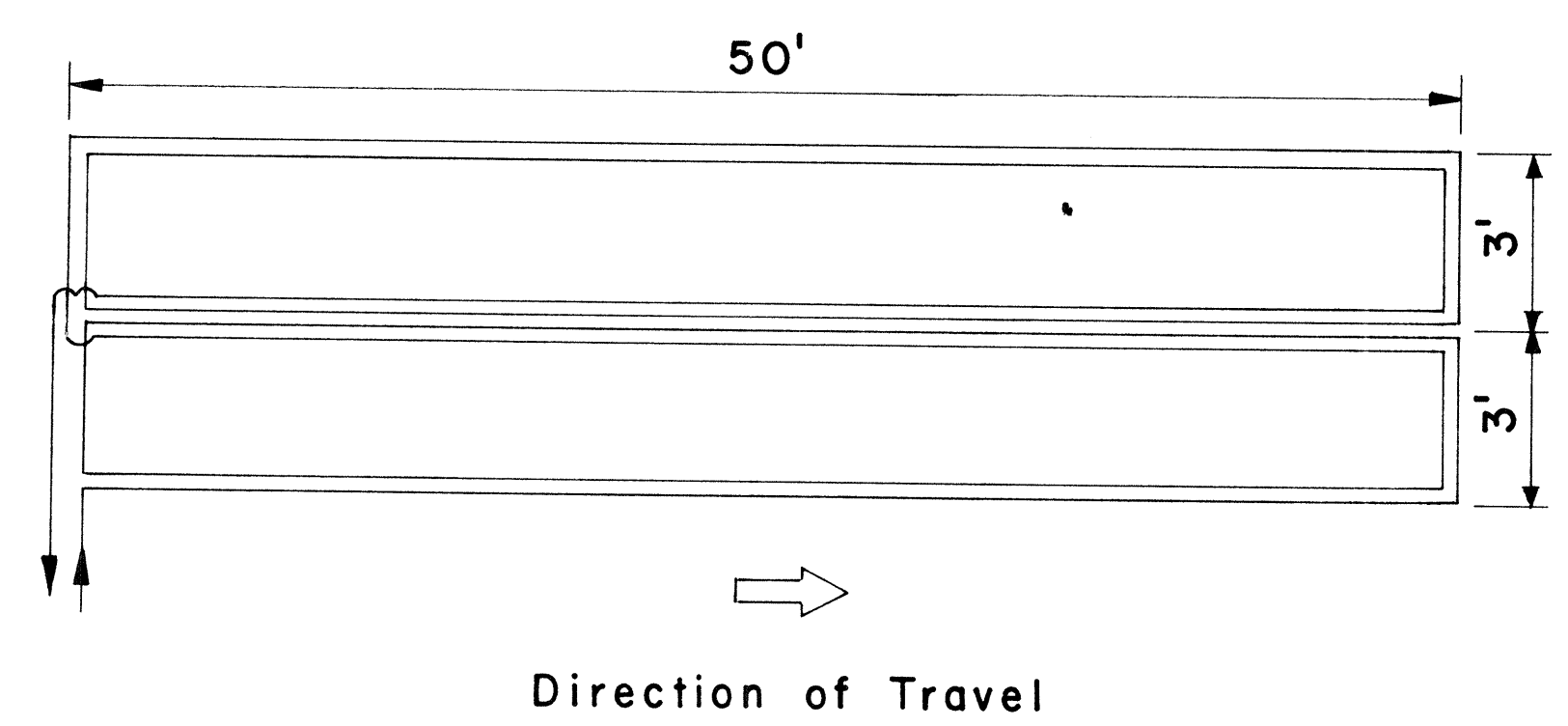
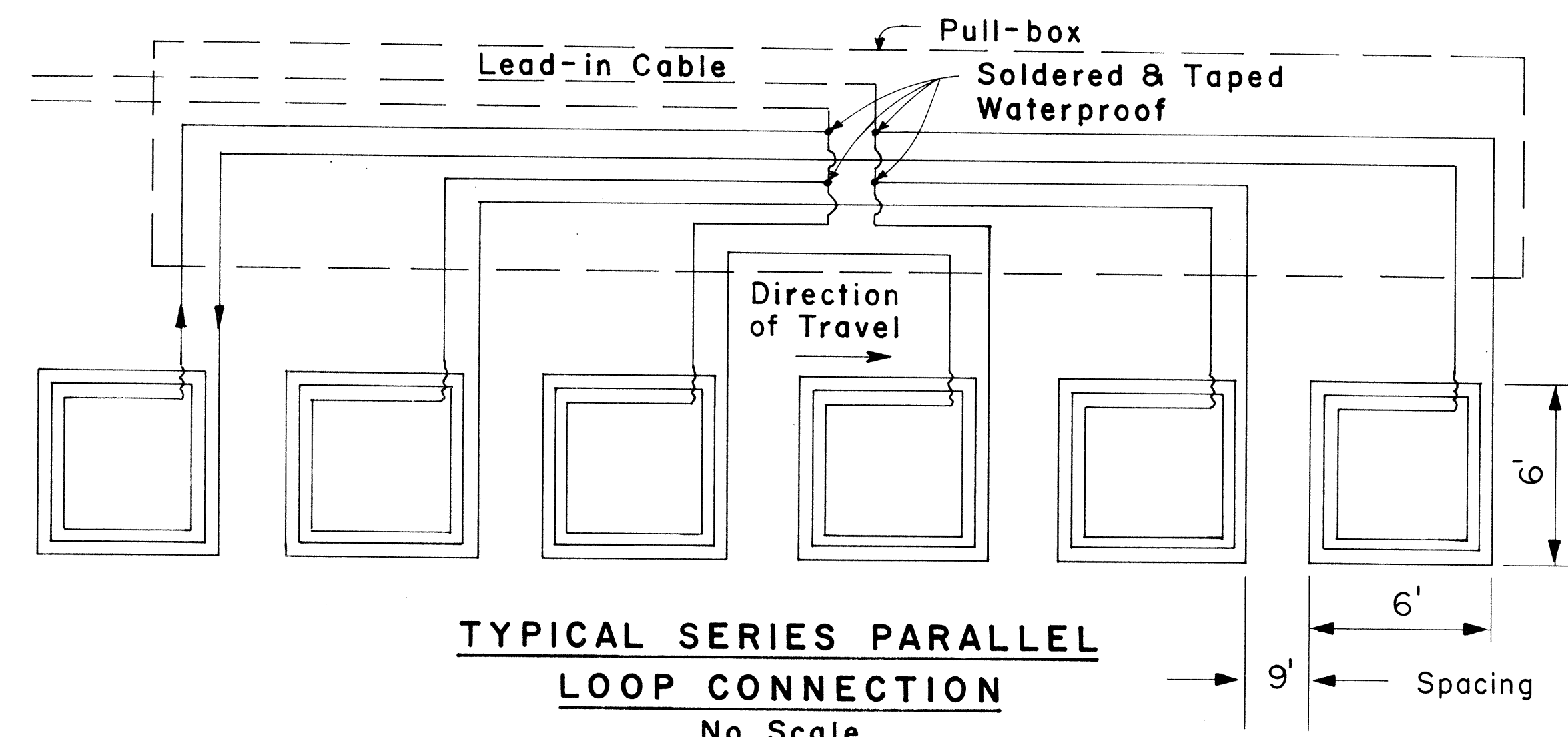
Not to Scale
SHEET NO. 75 OF 75 SHEETS DT404

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

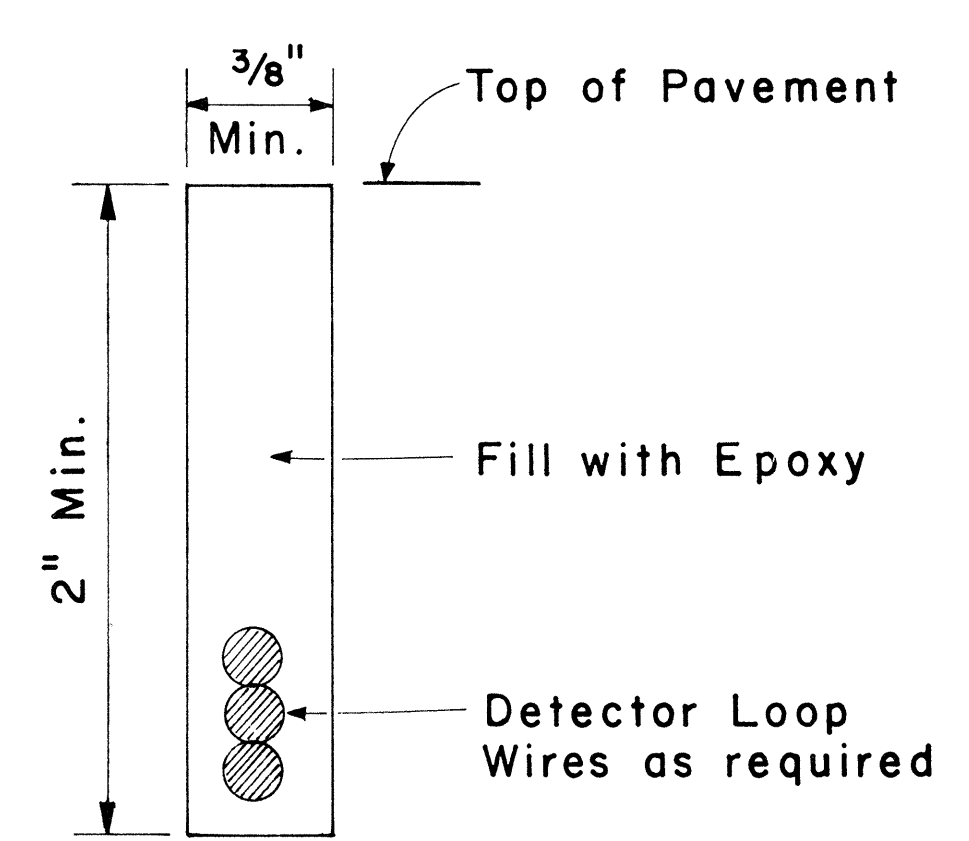
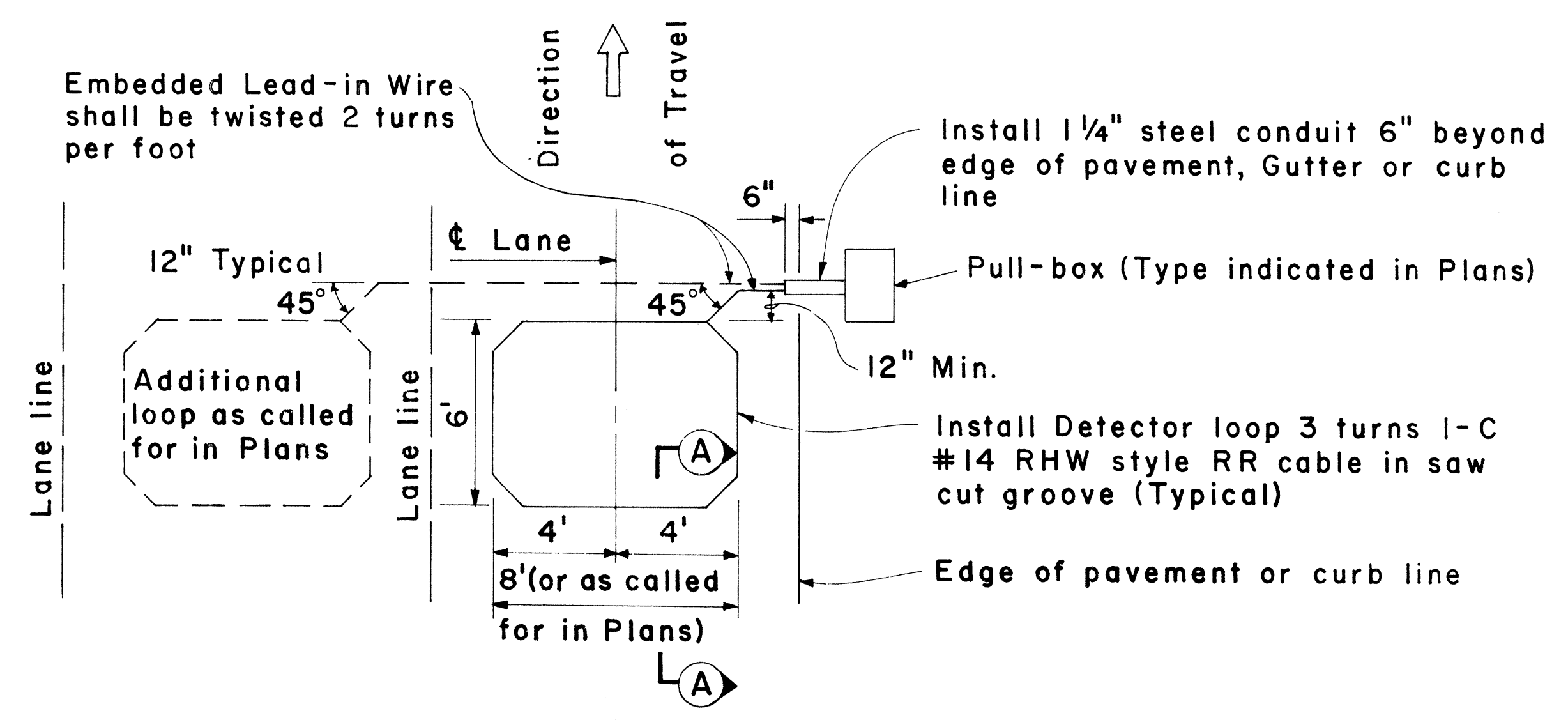
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FHI-1(124)-16	1978	76	223



TYPICAL LOOP CONFIGURATIONS
No Scale



NOTE :
1. All conduits under roadways shall be steel or PVC schedule 80. All other conduits shall be steel or PVC schedule 40.



APPROVAL RECOMMENDED:
Eichi Tanaka 3/4/76
TRAFFIC ENGINEER DATE

APPROVED:
Robert D. Ralston 3-5-76
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Add dimensions to Loop Configurations	H.T.	9-22-76

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

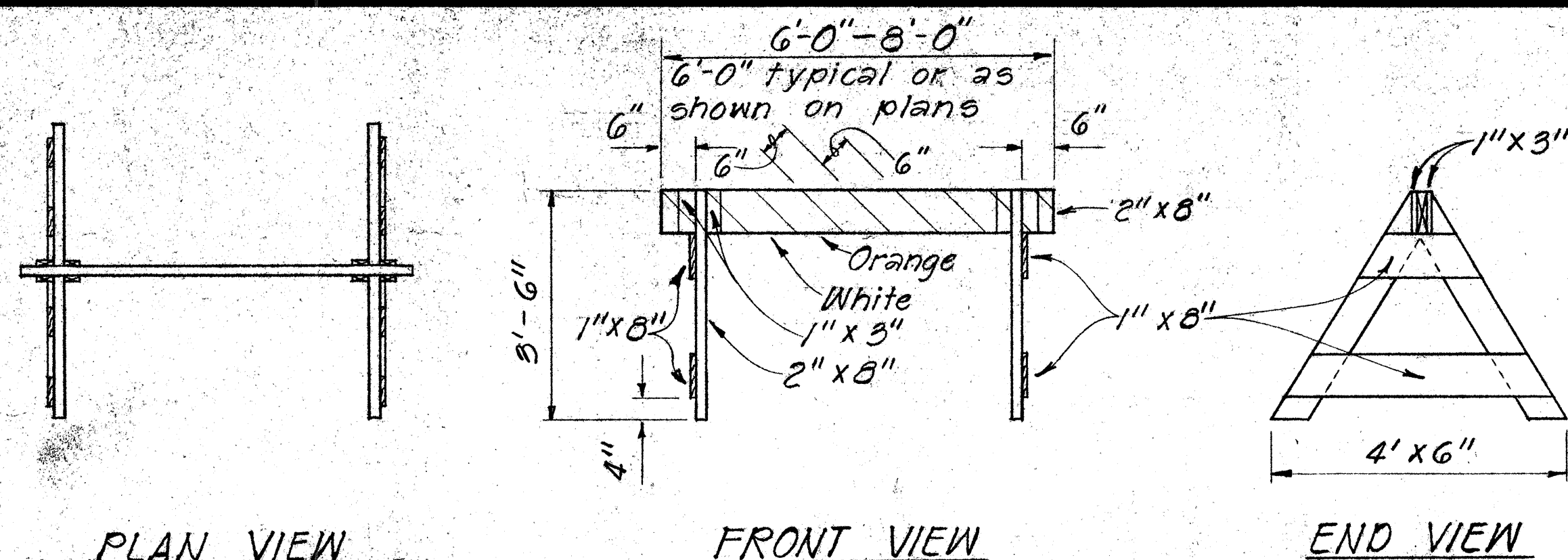
TRAFFIC SIGNAL SYSTEM
MISCELLANEOUS DETAILS

Scale: As Noted

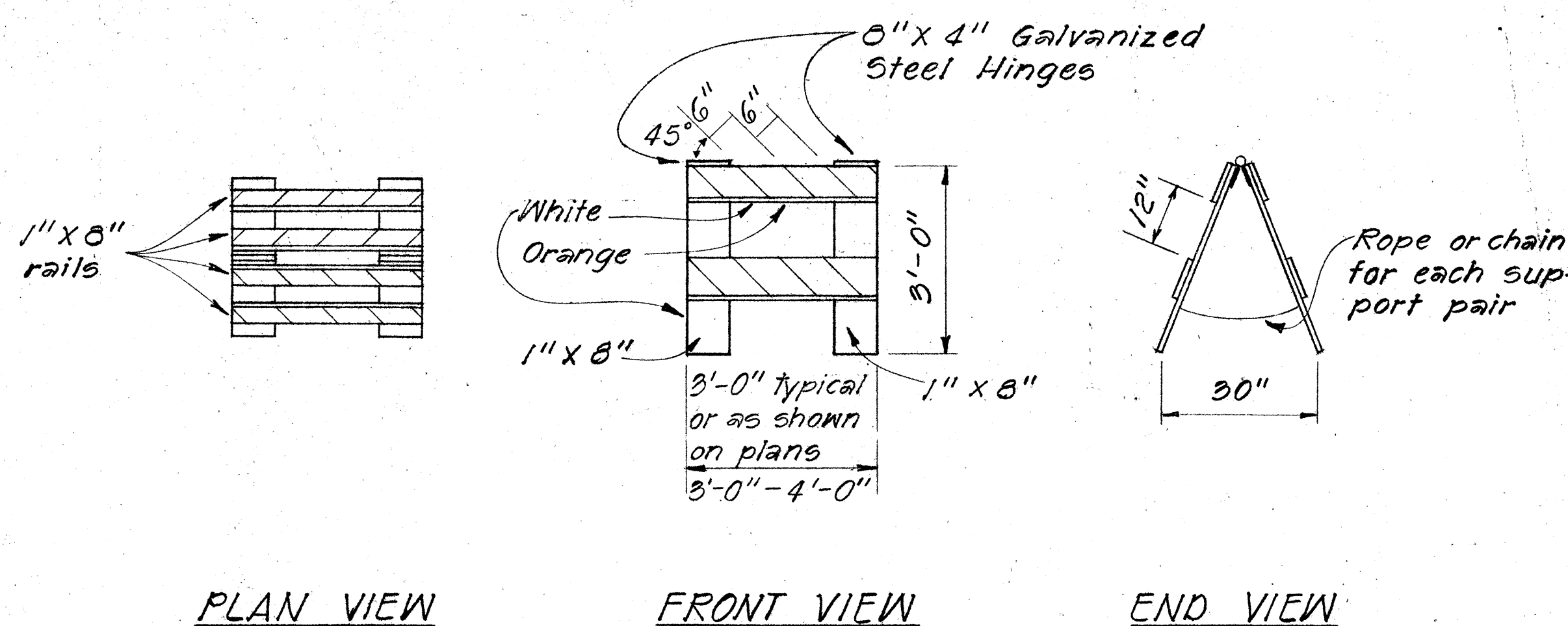
SHEET NO. 76 OF SHEETS DT 405

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

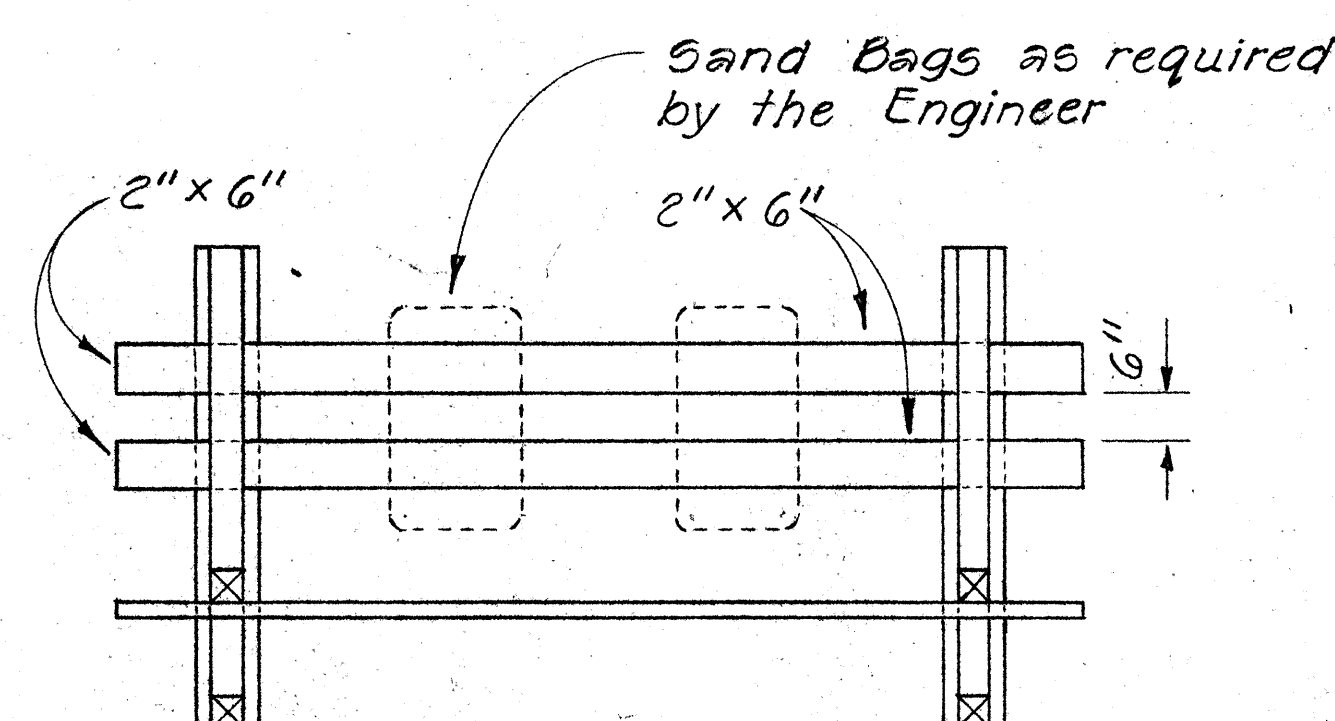
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-HI-1(124)14	1978	77	223



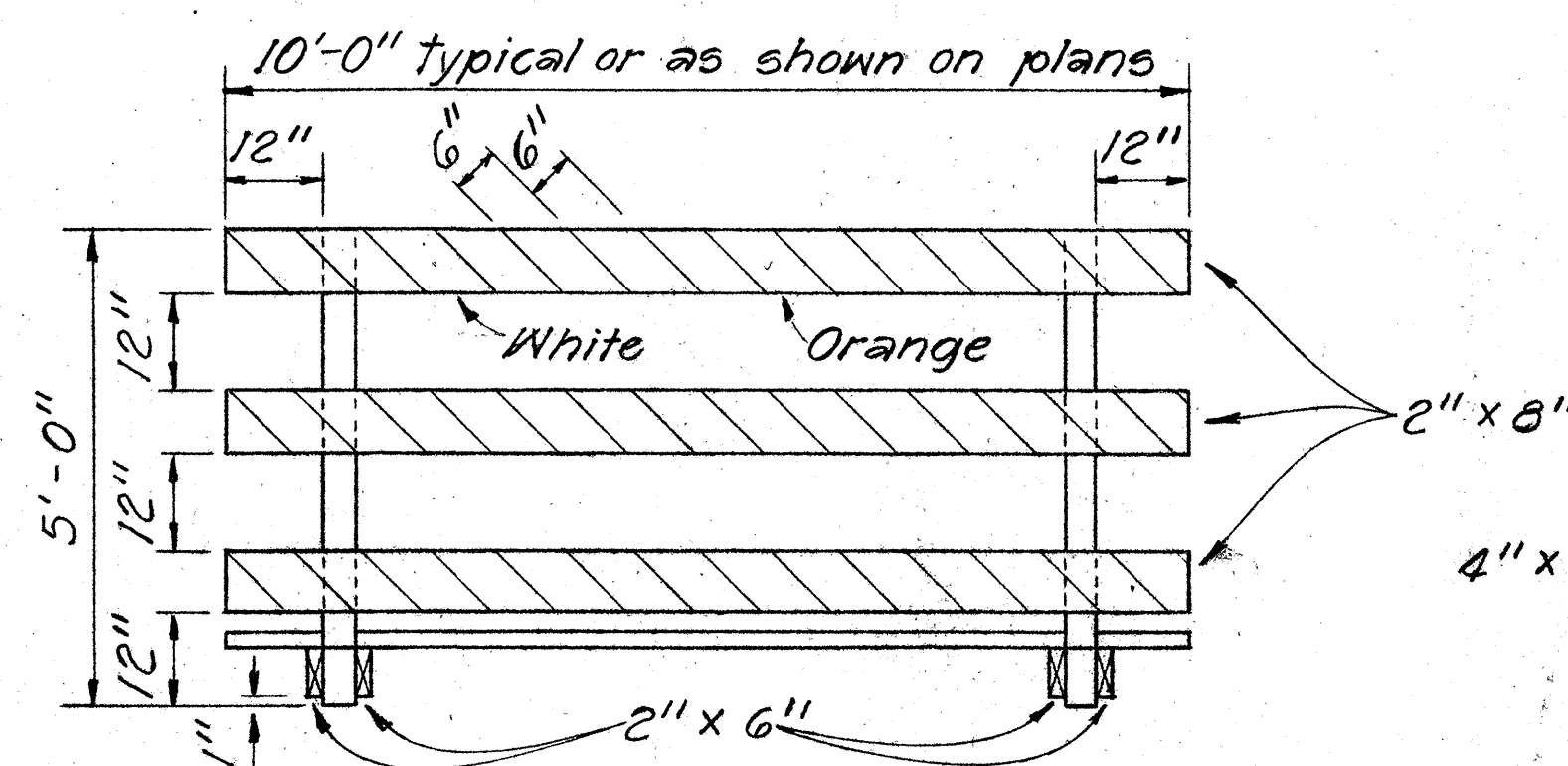
TYPE I BARRICADE
Scale: 1/2" = 1'-0"



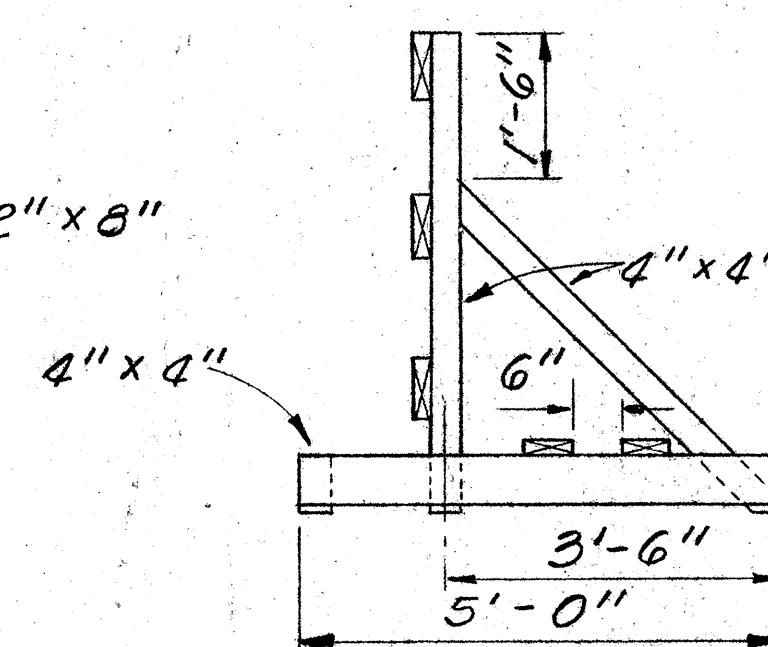
TYPE II BARRICADE
Scale: 1/2" = 1'-0"



PLAN VIEW

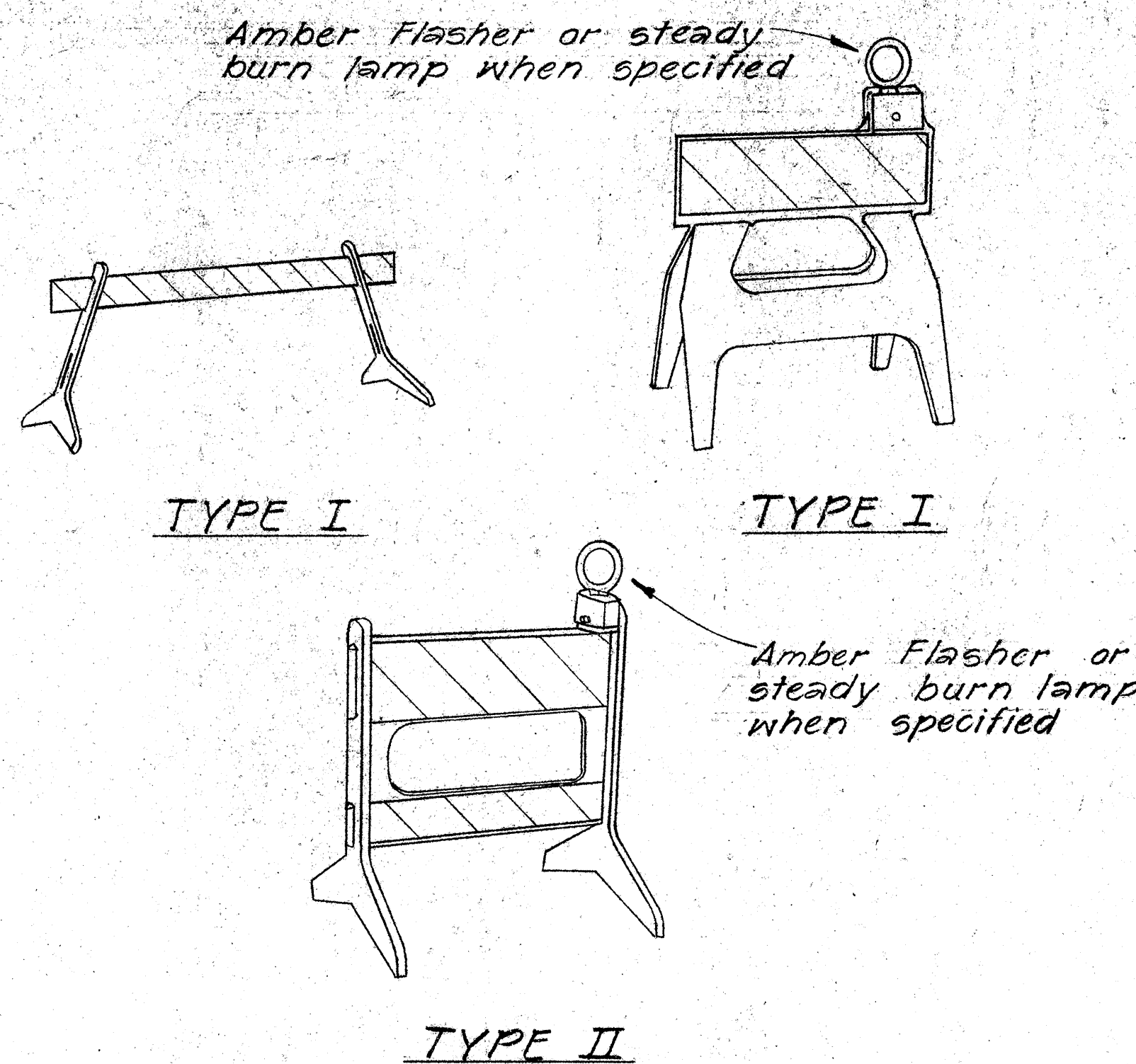


FRONT VIEW

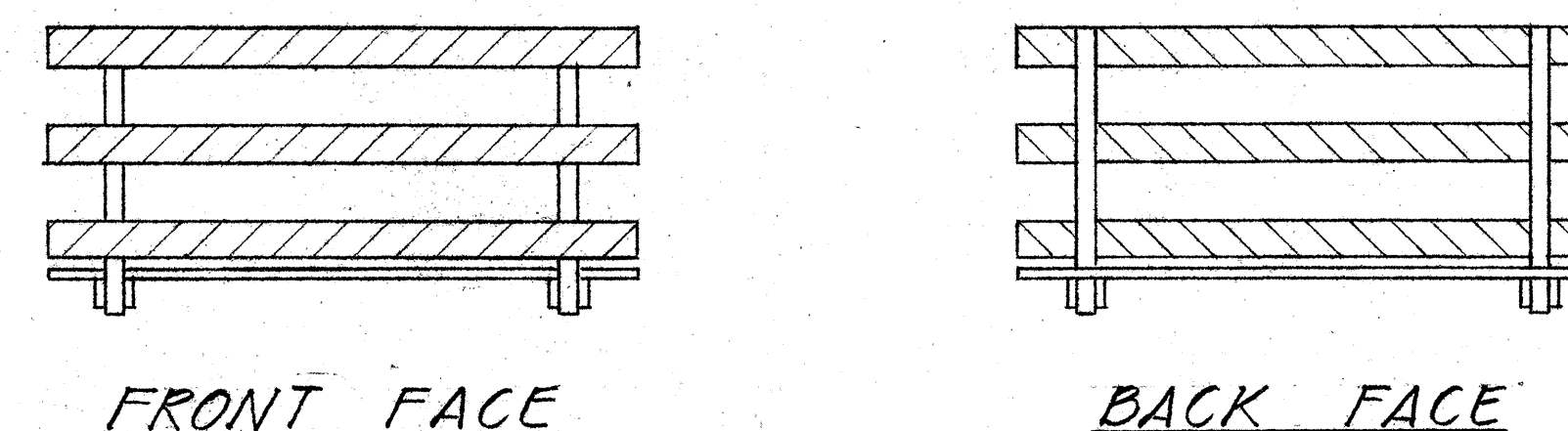


END VIEW

TYPE III BARRICADE
Scale: 1/2" = 1'-0"



PLASTIC MOLDED BARRICADE OPTIONS *
Not to Scale
* Shop Drawings must be submitted for approval.



BARRICADE STRIPING DETAILS
Not to Scale

GENERAL NOTES

1. The Contractor shall construct, install and maintain the barricades at the locations shown on the Plans.
2. The barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property, unless otherwise specified.
3. The orange and white stripes shall slant downward toward the side on which traffic is to pass and shall be reflectorized with reflective sheeting.
4. Both faces of the barricade rails shall be striped. See Striping Detail Arrangement.
5. Contractor may submit alternate designs for approval.
6. Barricade details shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, by the Federal Highway Administration and as amended.
7. If wooden rails are used, 26 ga. galv. steel sheet shall be first tacked on to the rails and then overlayed with reflective sheeting.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS

BARRICADES

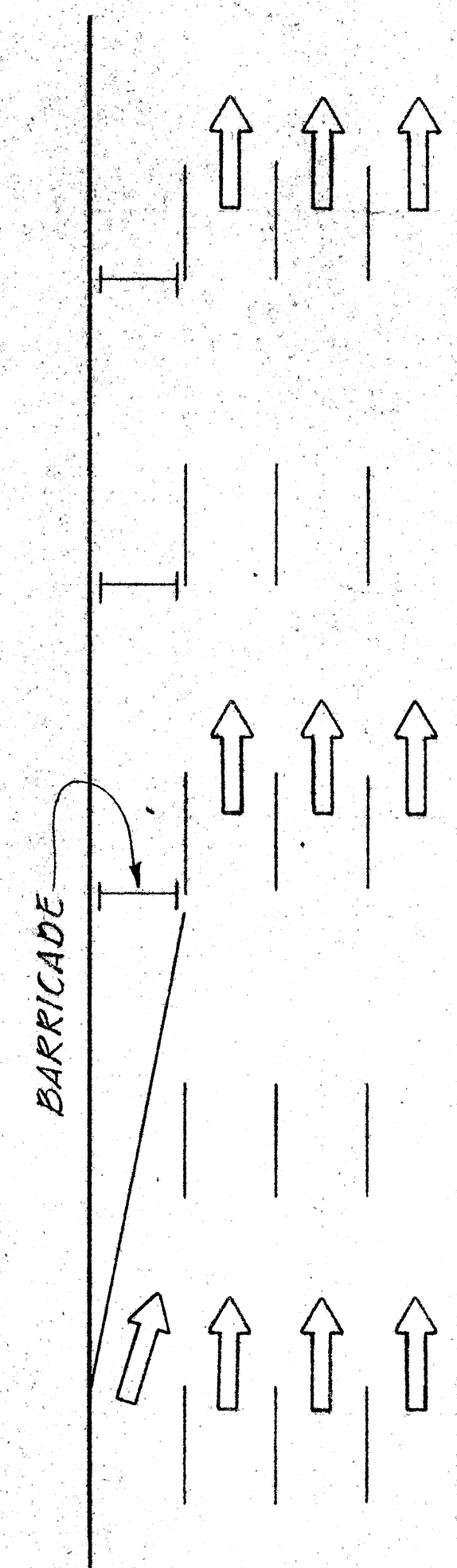
SCALE: As Shown

SHEET NO. OF SHEETS

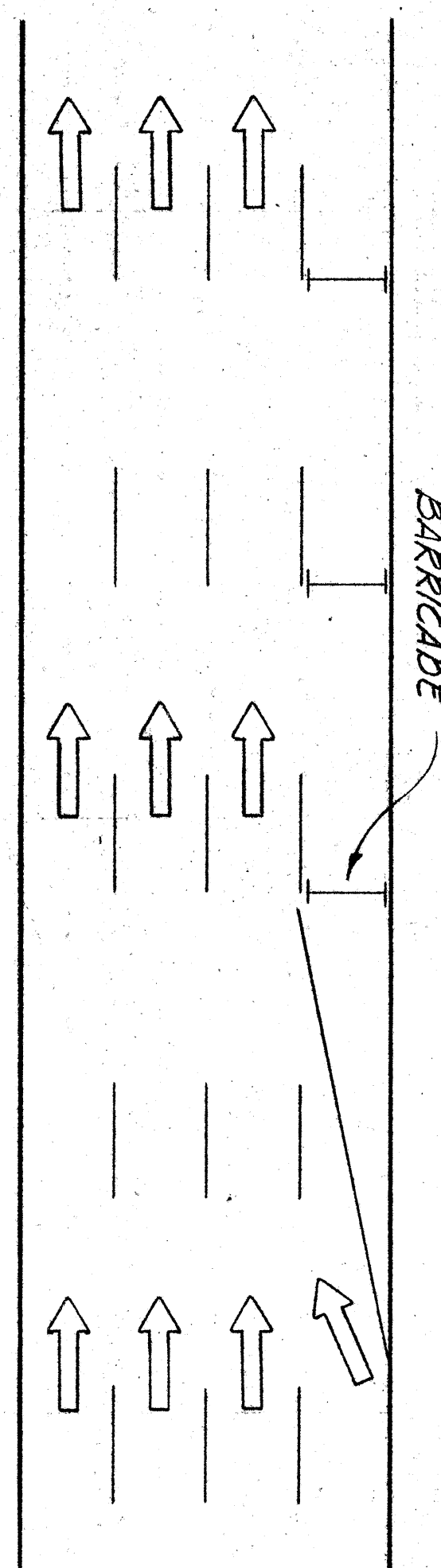
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FHH(124)16	1978	78	223

GENERAL NOTES

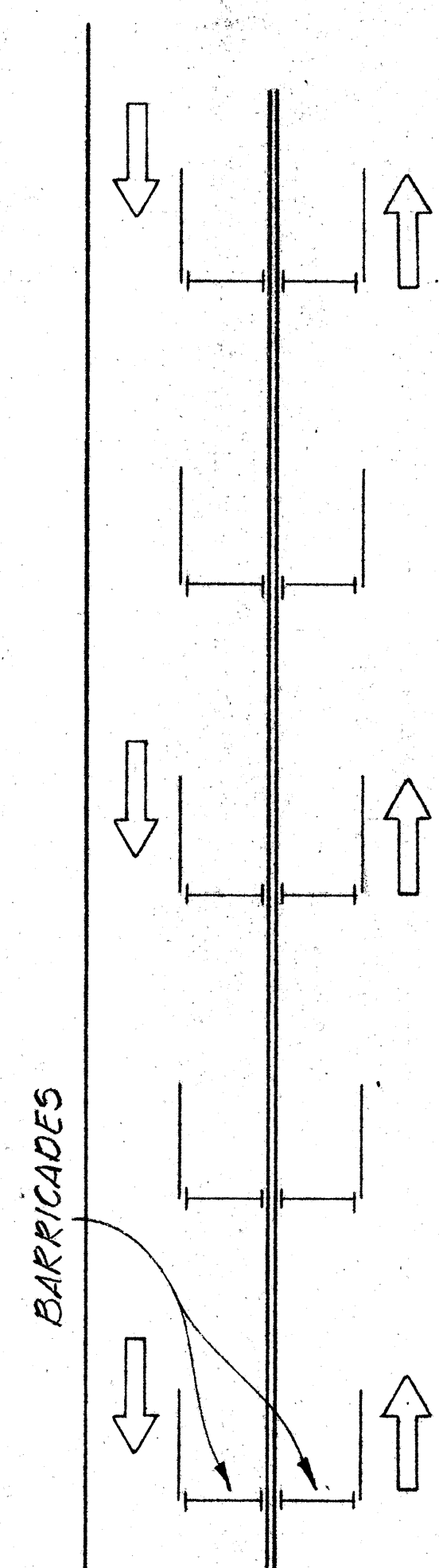
- Barricade Type, Placement, and Arrangement shall be as shown on the Construction Plans.



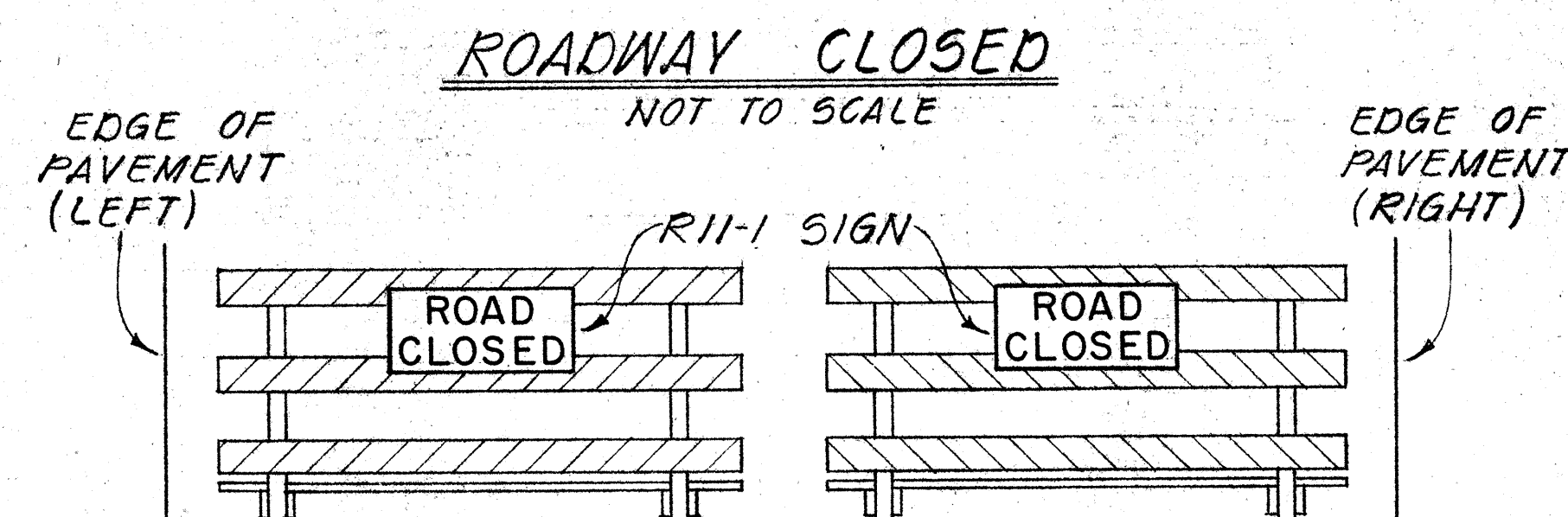
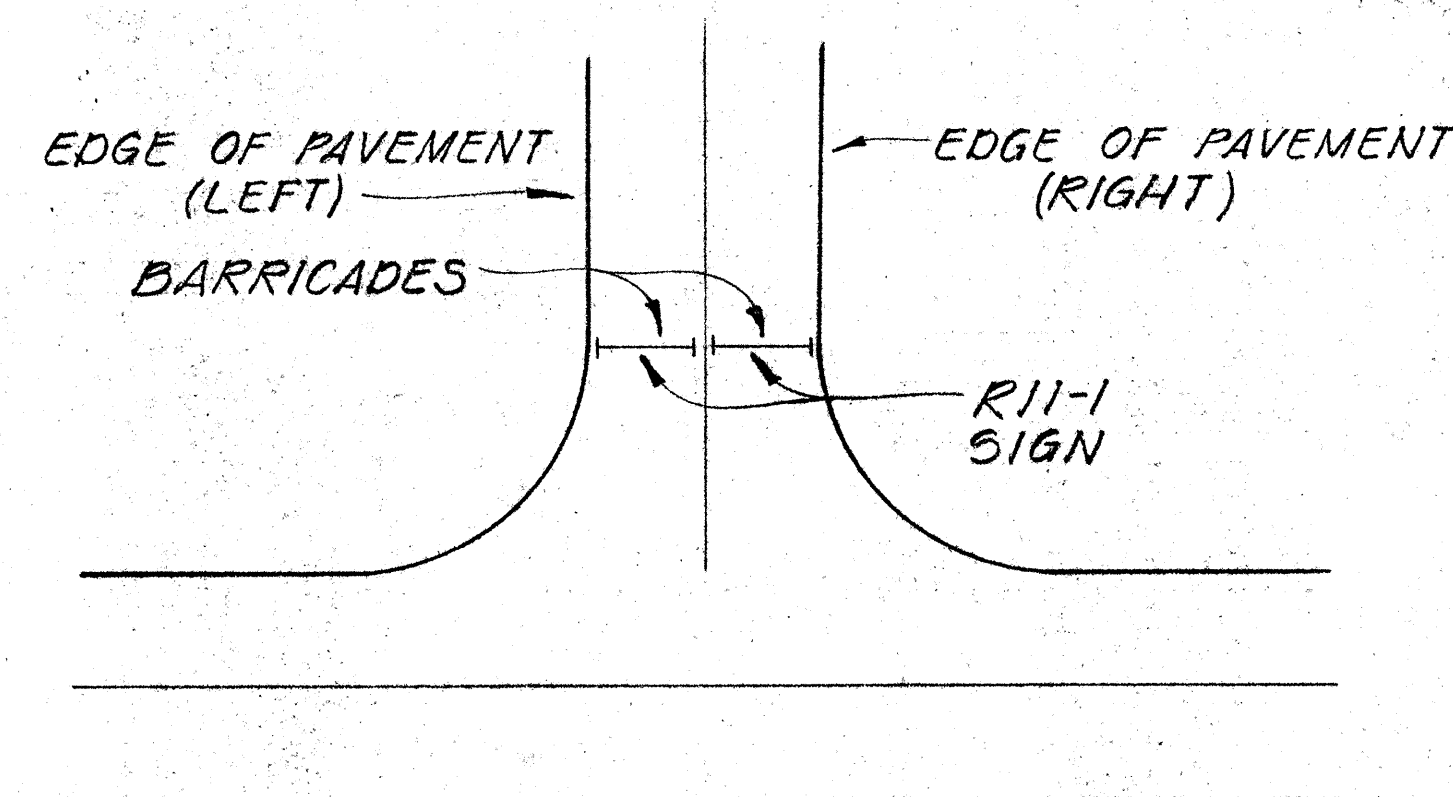
ROADWAY DELINEATION
TO THE RIGHT
NOT TO SCALE



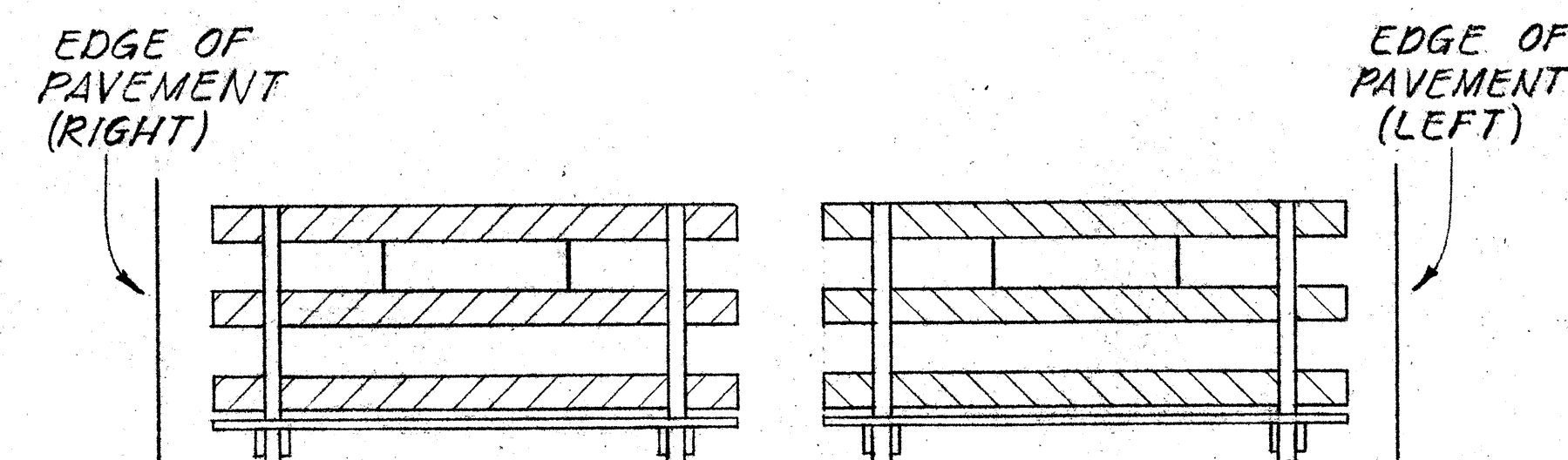
ROADWAY DELINEATION
TO THE LEFT
NOT TO SCALE



ROADWAY DELINEATION
FOR 2-WAY TRAFFIC
NOT TO SCALE

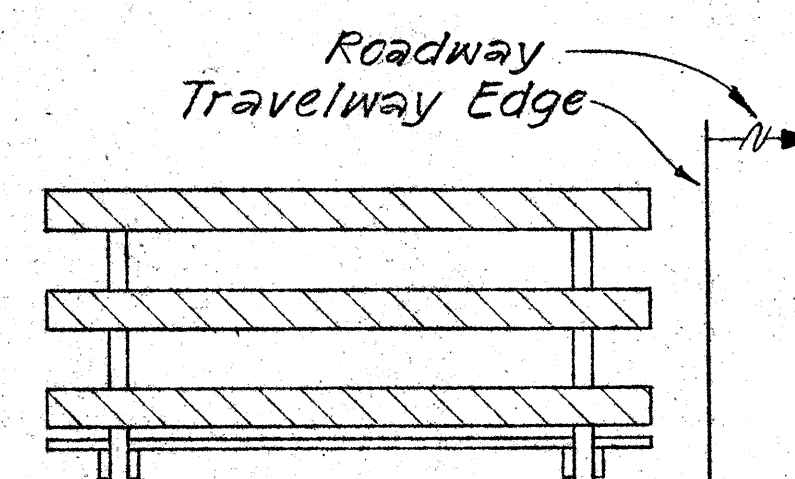


FRONT VIEW

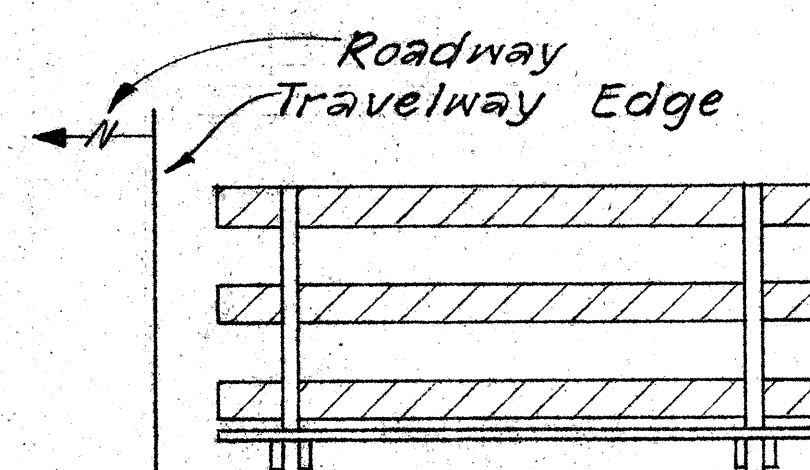


BACK VIEW

BARRICADE STRIPING ARRANGEMENT NOT TO SCALE

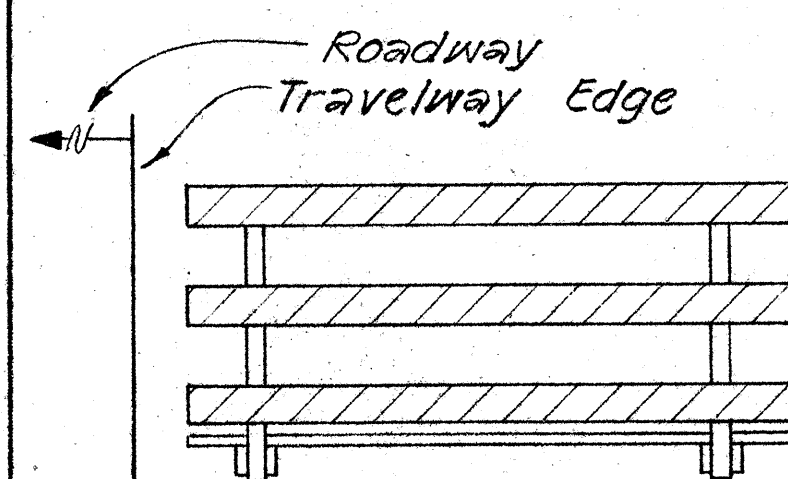


FRONT VIEW

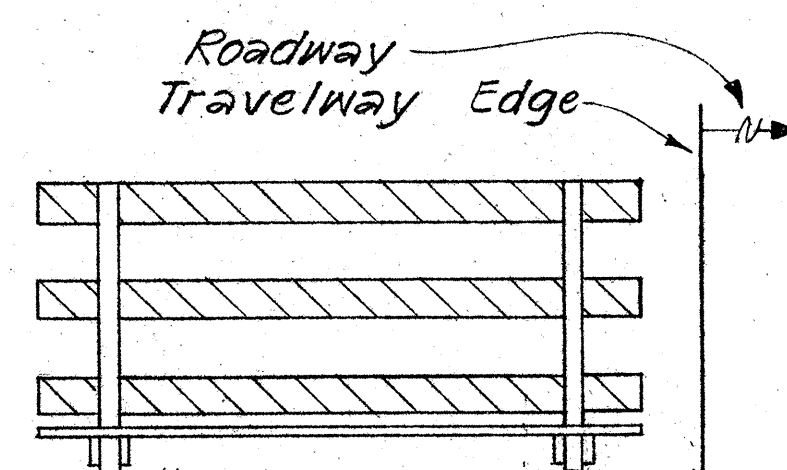


BACK VIEW

BARRICADE STRIPING
ARRANGEMENT
NOT TO SCALE

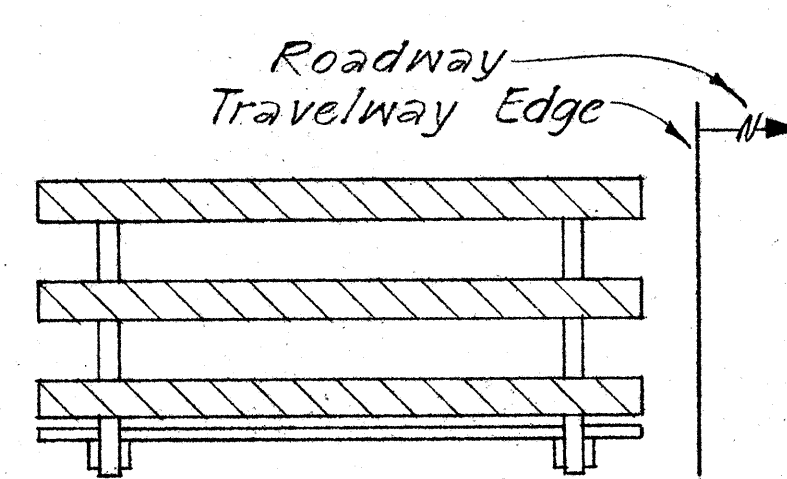


FRONT VIEW

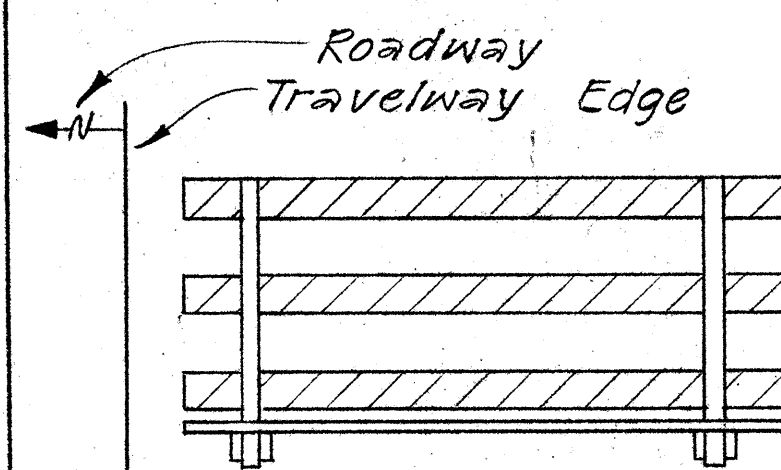


BACK VIEW

BARRICADE STRIPING
ARRANGEMENT
NOT TO SCALE



FRONT VIEW



BACK VIEW

BARRICADE STRIPING
ARRANGEMENT
NOT TO SCALE

STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
<u>TYPICAL DETAILS</u>	
<u>BARRICADE STRIPING DETAILS</u>	

SHEET NO. OF SHEETS