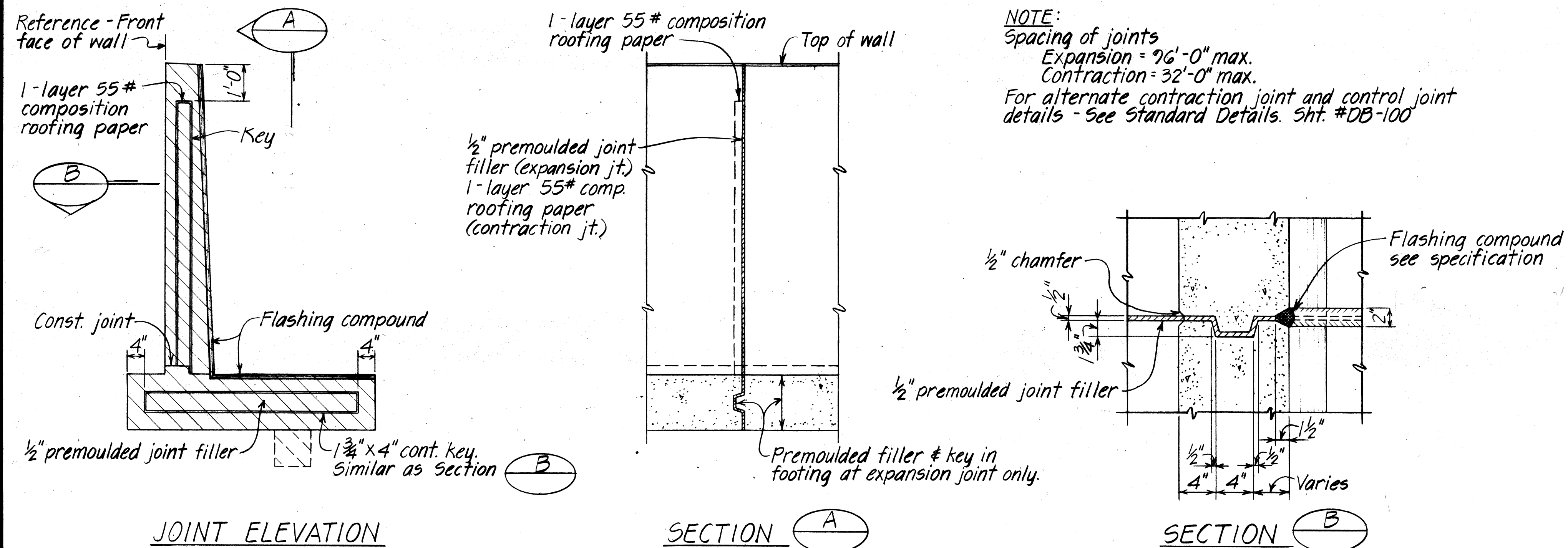


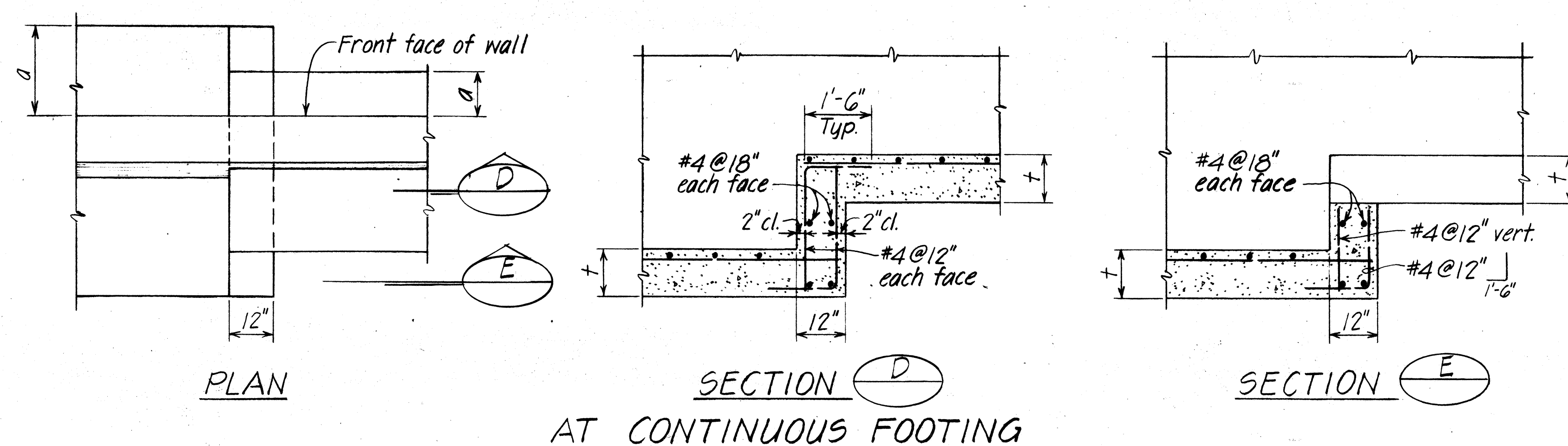
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	117	156



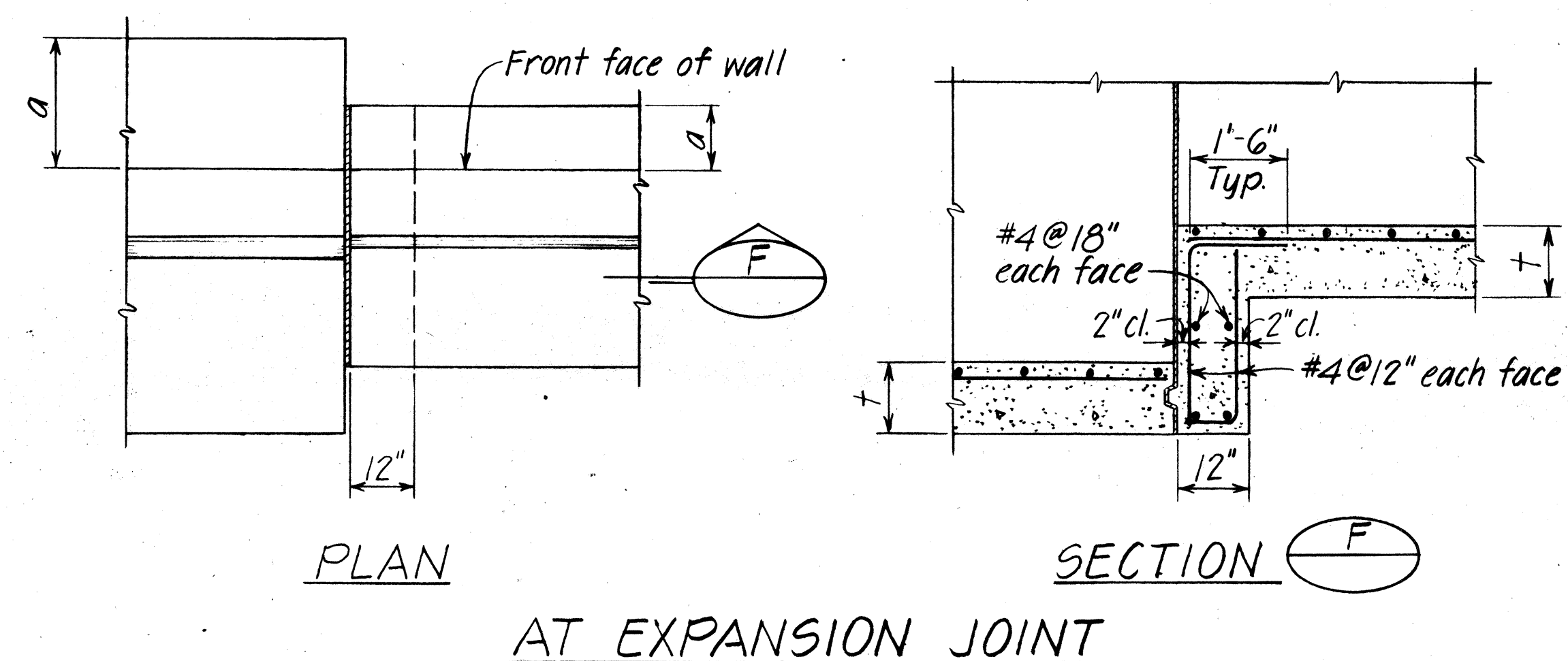
NOTE:
Spacing of joints
Expansion = 76'-0" max.
Contraction = 32'-0" max.
For alternate contraction joint and control joint details - See Standard Details. Sht. #DB-100

TYPICAL EXPANSION JOINT DETAILS

Not to Scale



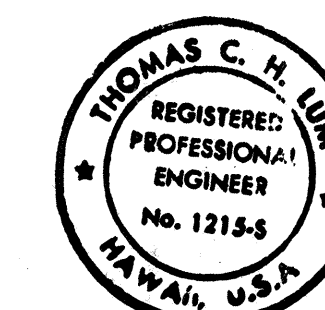
AT CONTINUOUS FOOTING



AT EXPANSION JOINT

TYPICAL FOOTING STEP-UP DETAILS

Not to Scale



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS TYPE "T-1" WALL

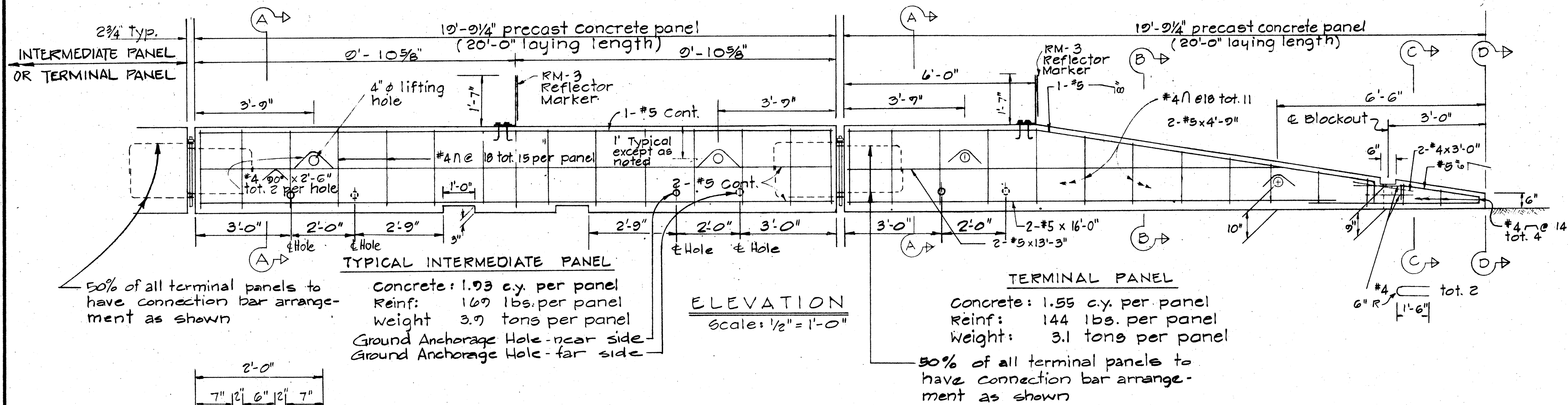
F.A. PROJ. NO. F-063-1(17)

Scale: As Noted Date: Aug. 1984

SHEET No. 1 OF 1 SHEETS

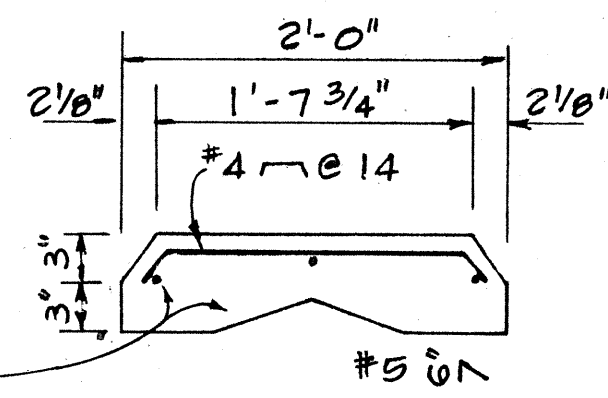
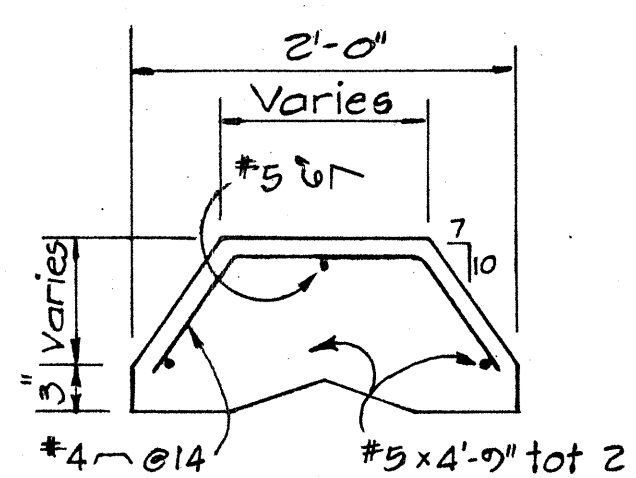
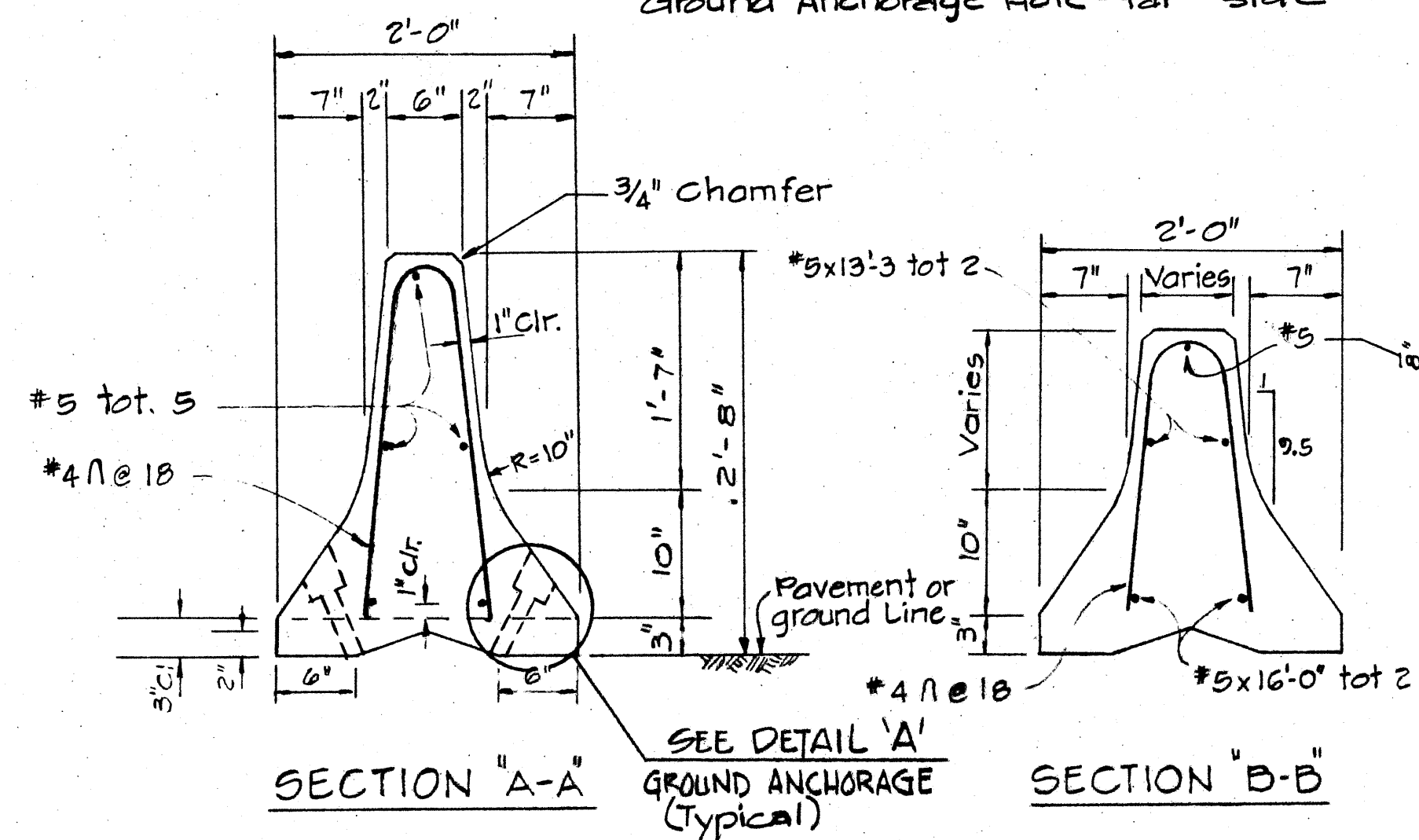
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	118	156



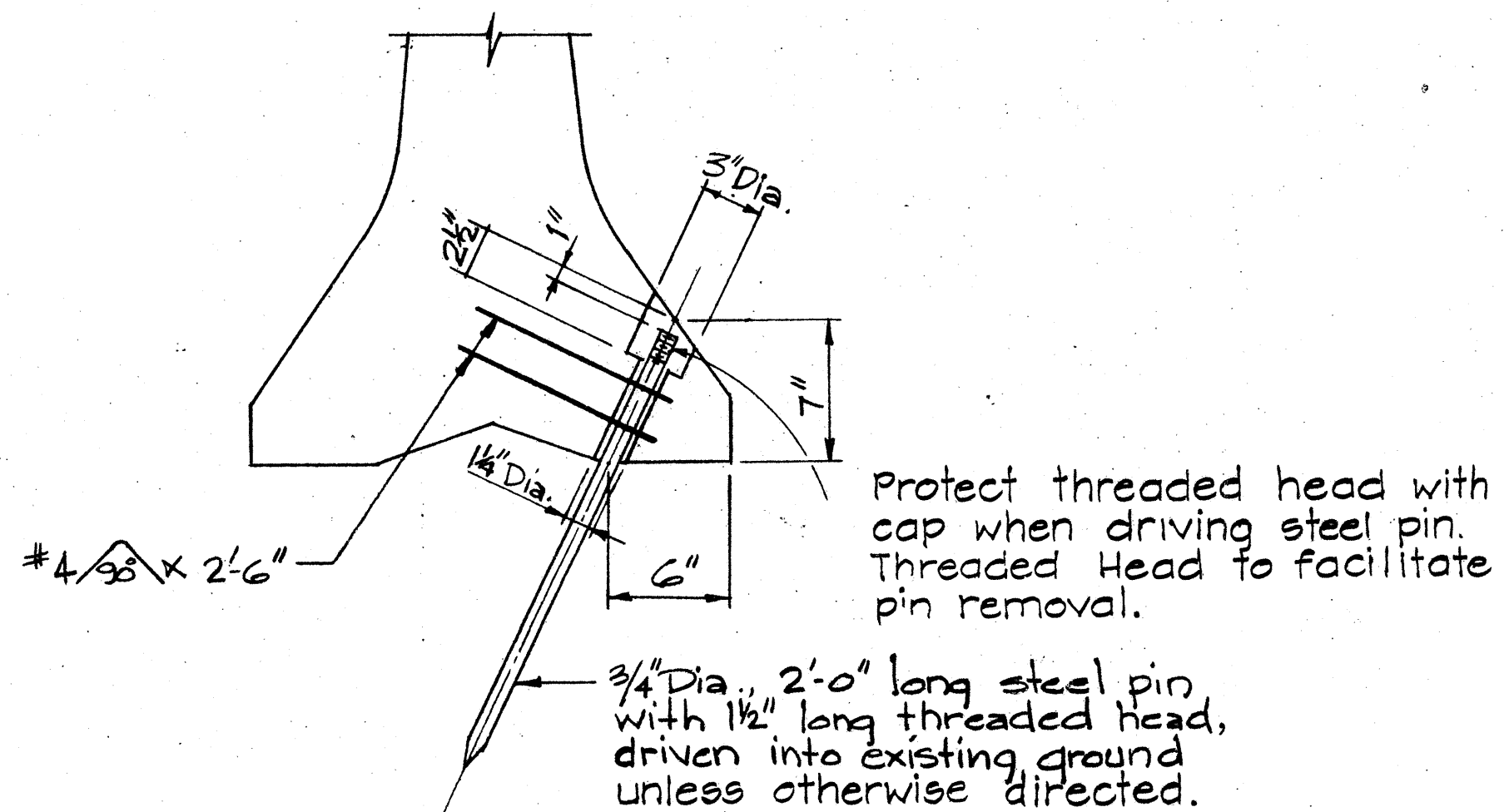
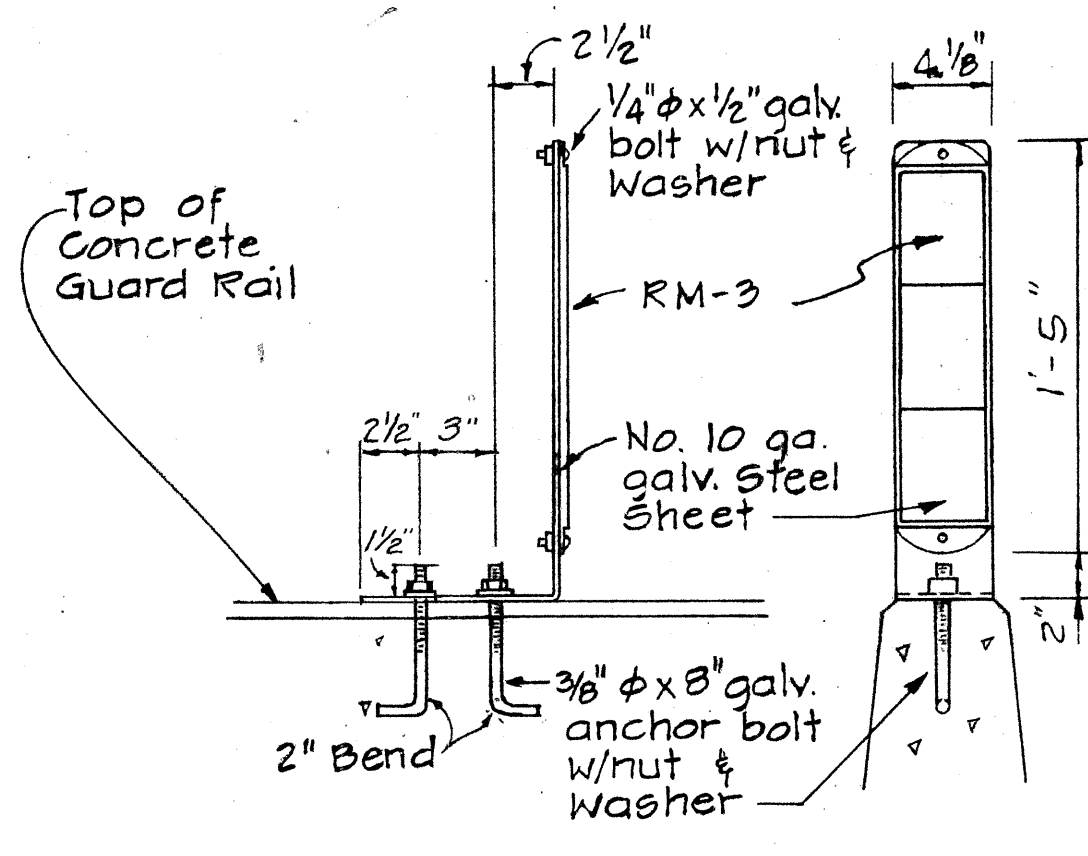
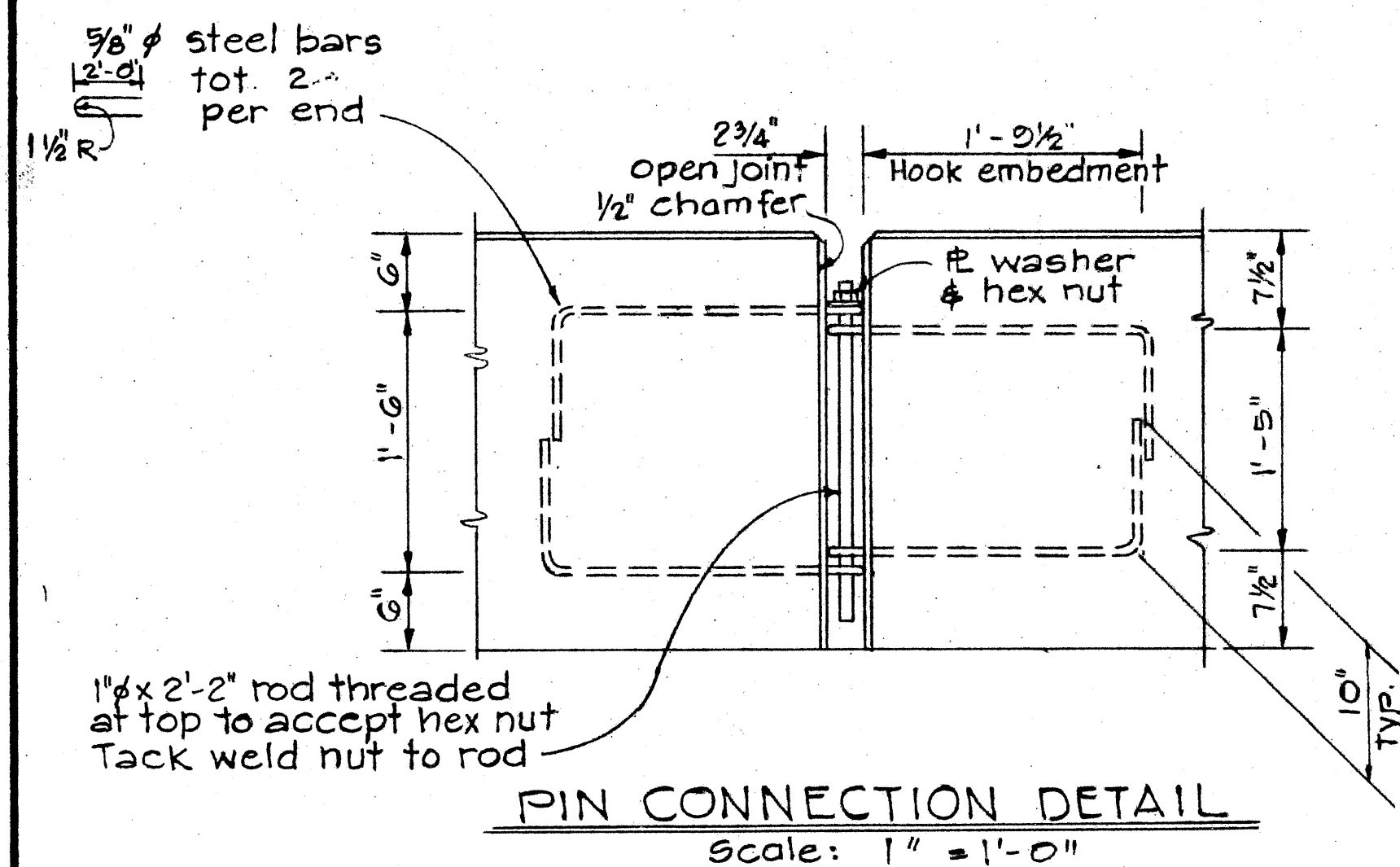
NOTES

1. For details not shown in sections B-B, C-C, & D-D, see Section A-A
2. Reflector Marker shall not be paid for separately but shall be considered incidental to "Portable Concrete Guard Rail."
3. Concrete shall be Class "A".
4. All bolts to have cut washers unless otherwise noted.



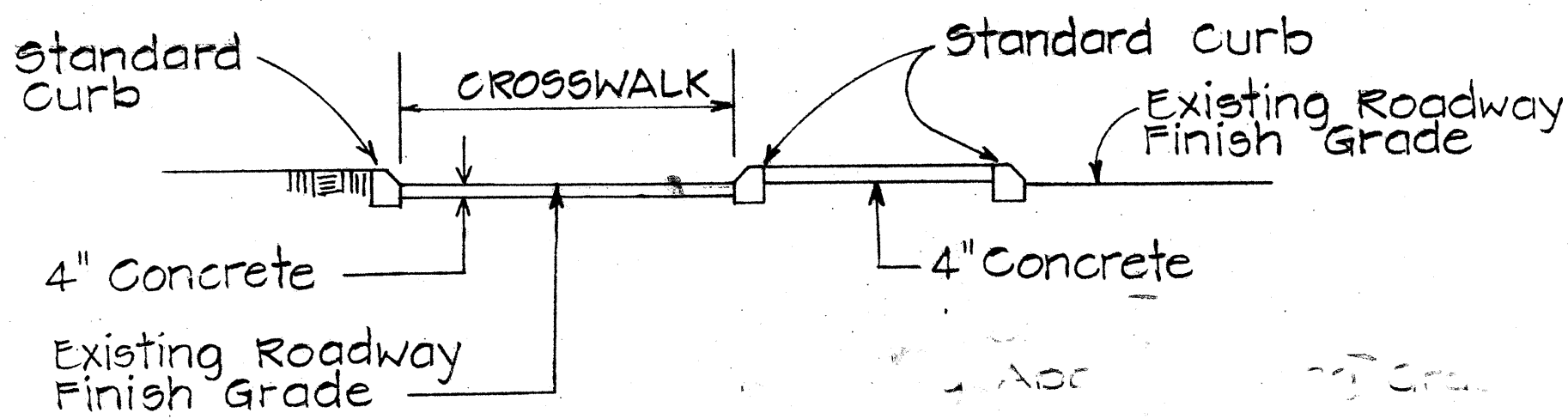
GROUND ANCHORAGE FOR RAMPED END OF TERMINAL PANEL
Scale: 1/2" = 1'-0"

SECTIONS
Scale: 1" = 1'-0"



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION					
PORTABLE CONCRETE GUARD RAIL TYPICAL DETAILS					
Scale: As Noted Date:					
SHEET No. OF SHEETS					

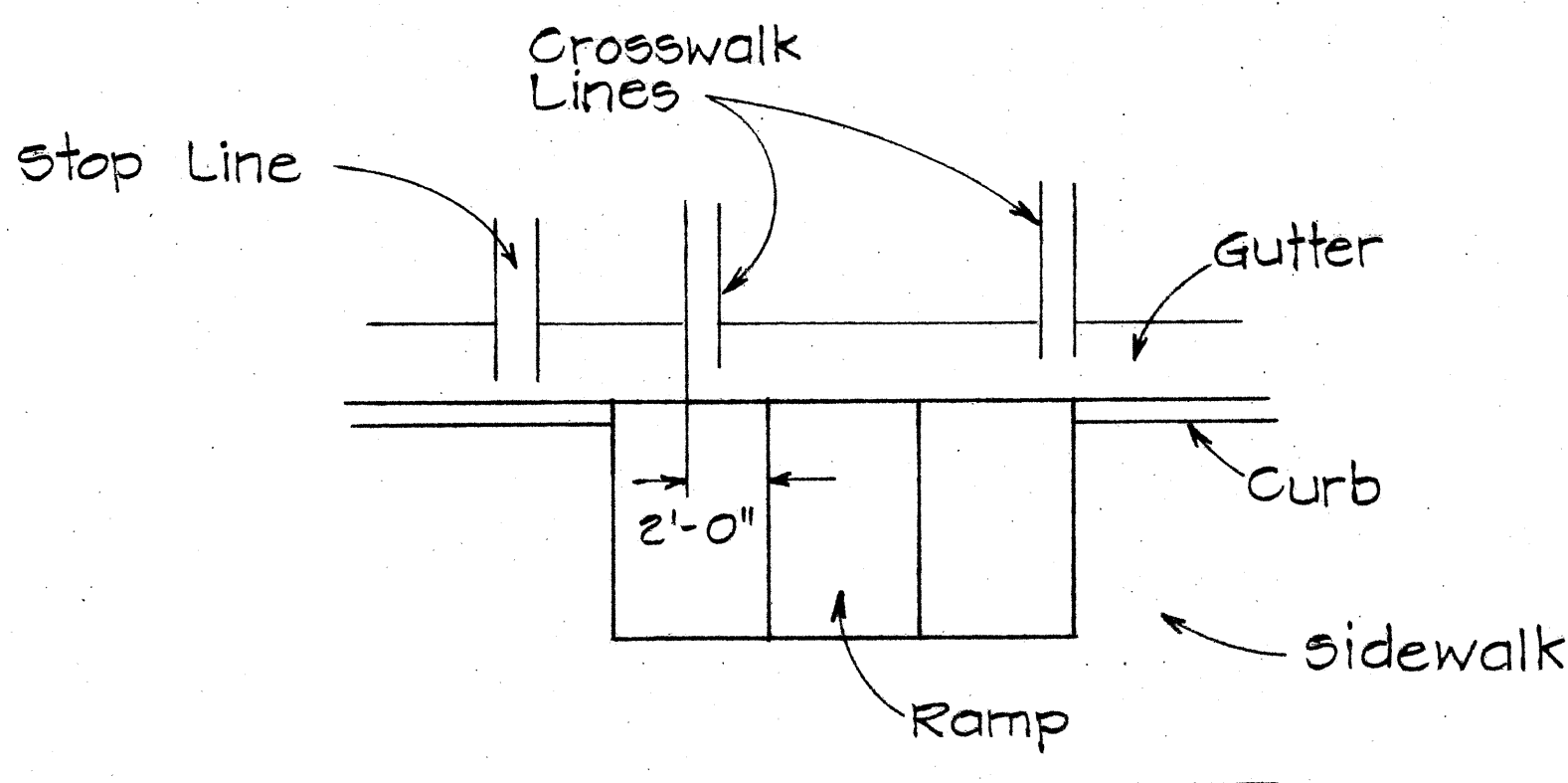
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	110	156



SECTION "A-A"

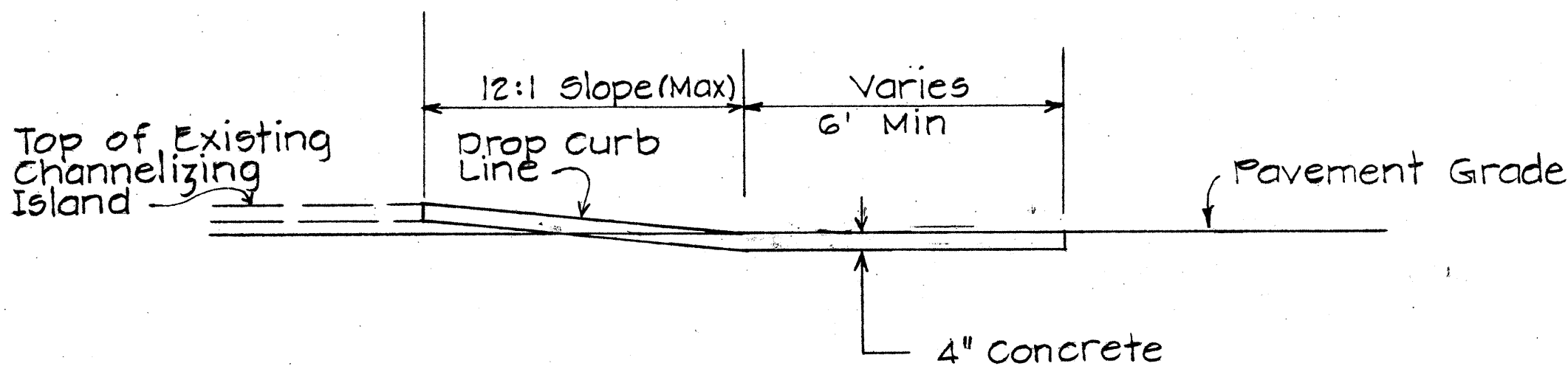
Use at Median Nose Crossings
Scale: 1"=5'

For Additional Details, See Type "C" Wheel Chair Ramp



TYPICAL INSTALLATION
AT CROSSWALKS

Scale: 1"=5'



SECTION "B-B"

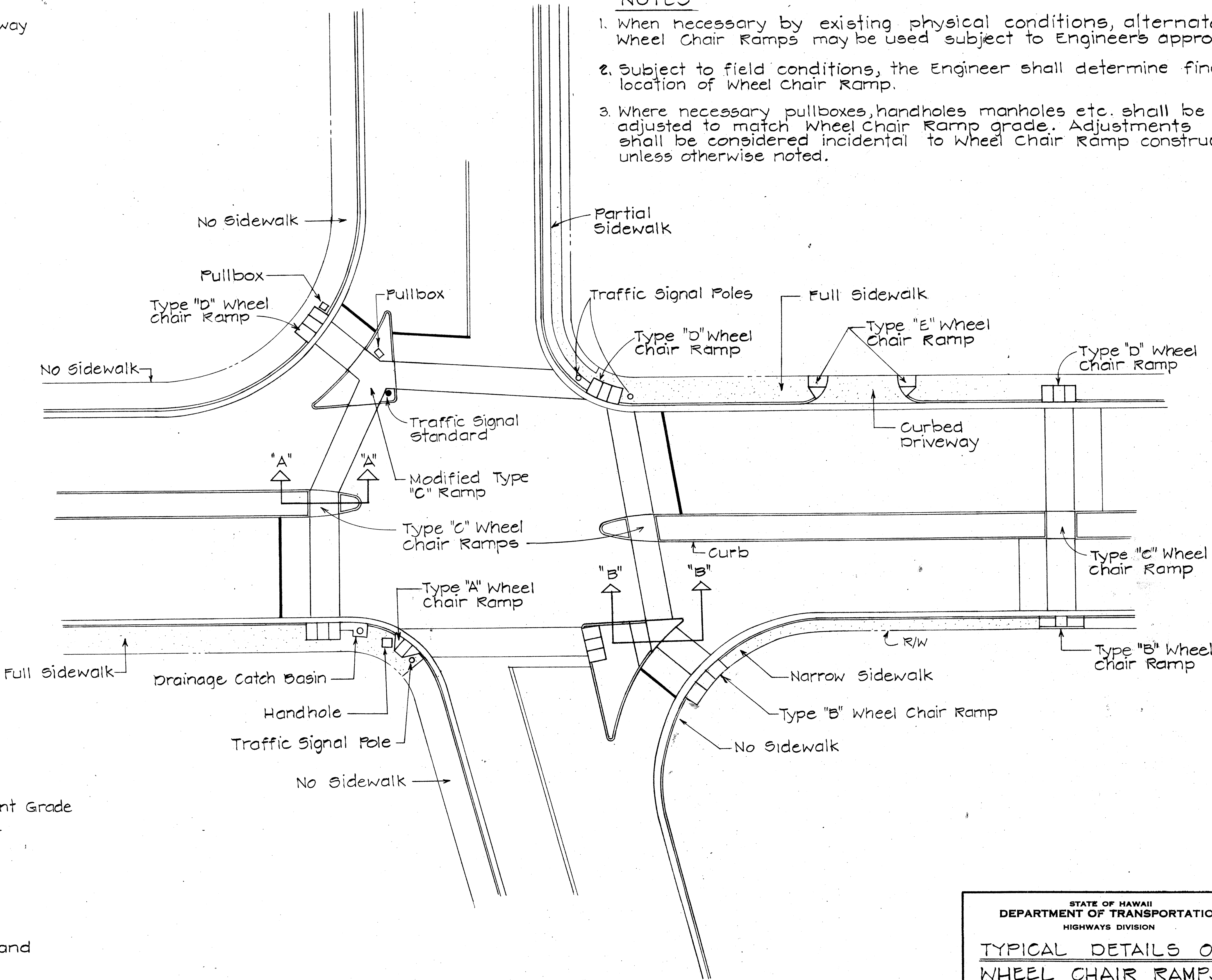
TYPE "B" MODIFIED WHEEL CHAIR RAMP

Use at Intersection of 2 Crosswalks On Channelizing Island
Scale: 3/8"=1'

For Additional Details See Type "B" Wheelchair Ramp

NOTES

1. When necessary by existing physical conditions, alternate Wheel Chair Ramps may be used subject to Engineers approval.
2. Subject to field conditions, the Engineer shall determine final location of Wheel Chair Ramp.
3. Where necessary pullboxes, handholes manholes etc. shall be adjusted to match Wheel Chair Ramp grade. Adjustments shall be considered incidental to Wheel Chair Ramp construction, unless otherwise noted.



TYPICAL WHEEL CHAIR RAMPS

Scale: 1"=20'

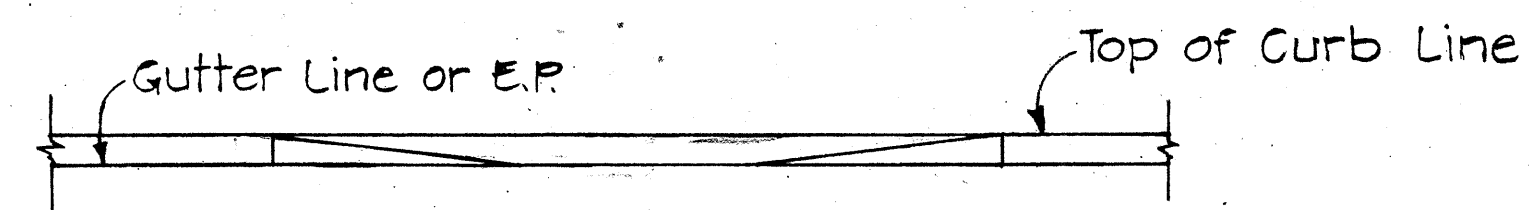
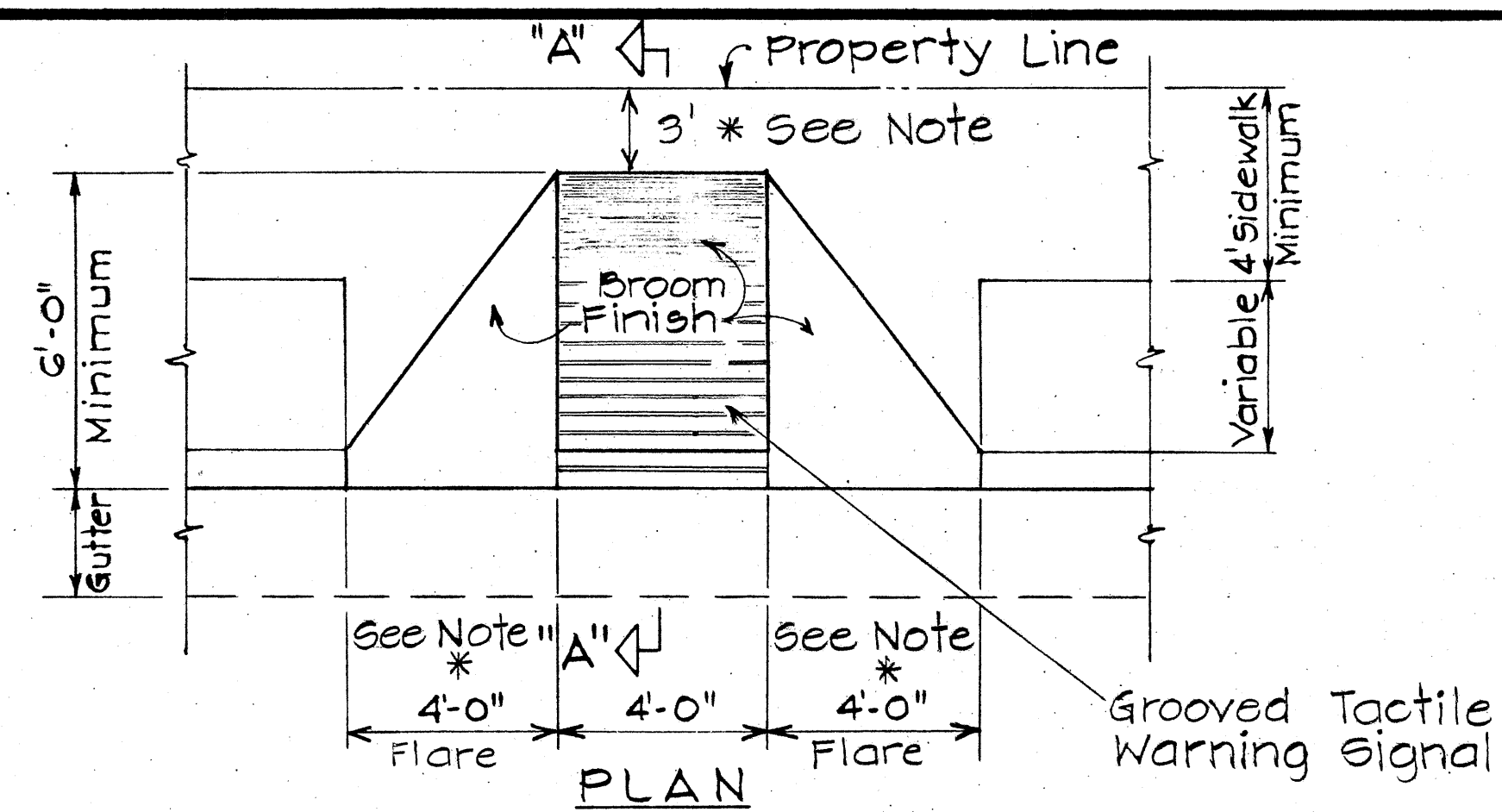
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS OF
WHEEL CHAIR RAMPS

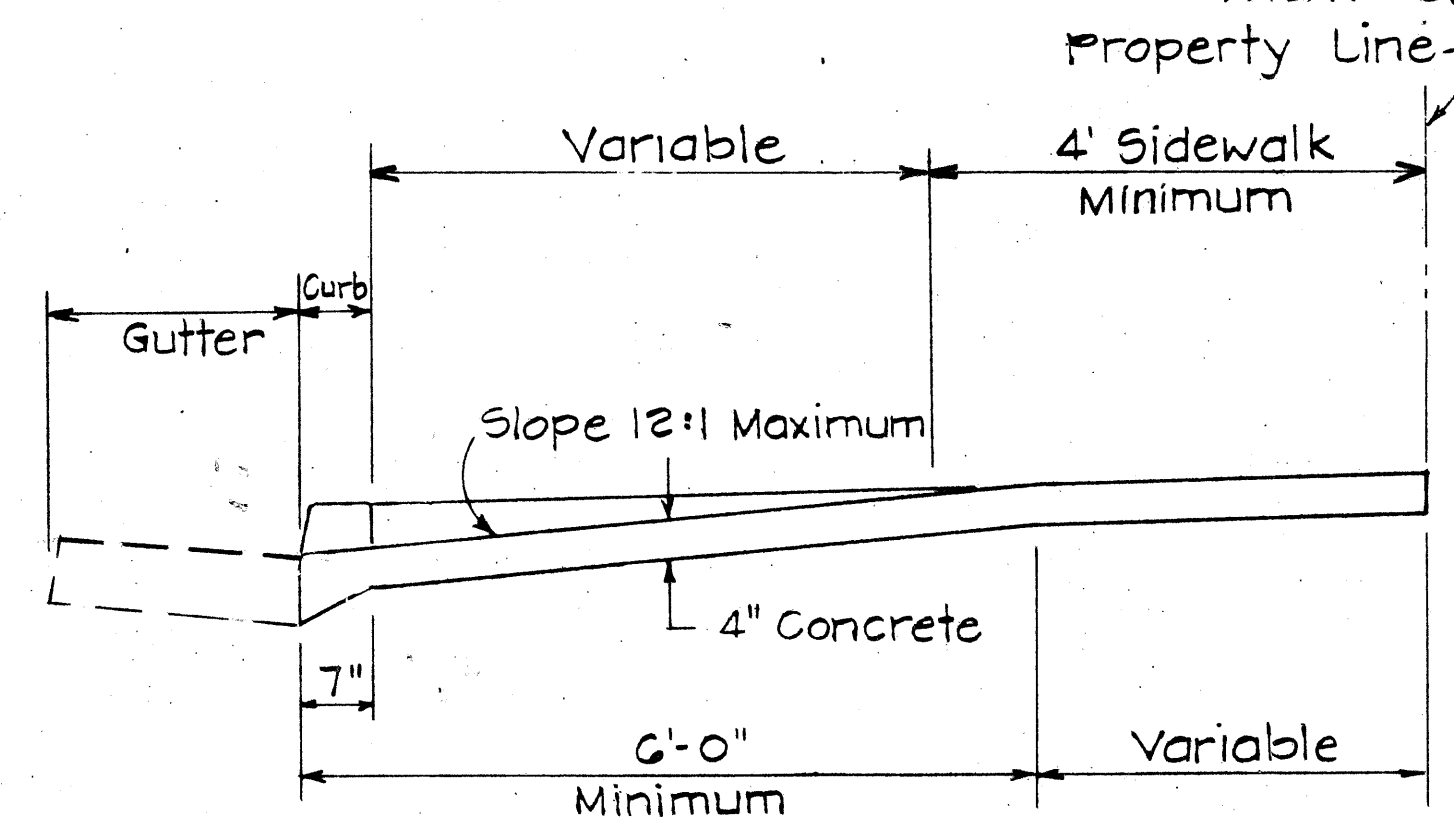
Scale: As Shown May, 1978
SHEET NO. OF SHEETS

DATE	SURVEY PLOTTED BY
PLAN	DESIGNED BY
NOTE BOOK	CHECKED BY

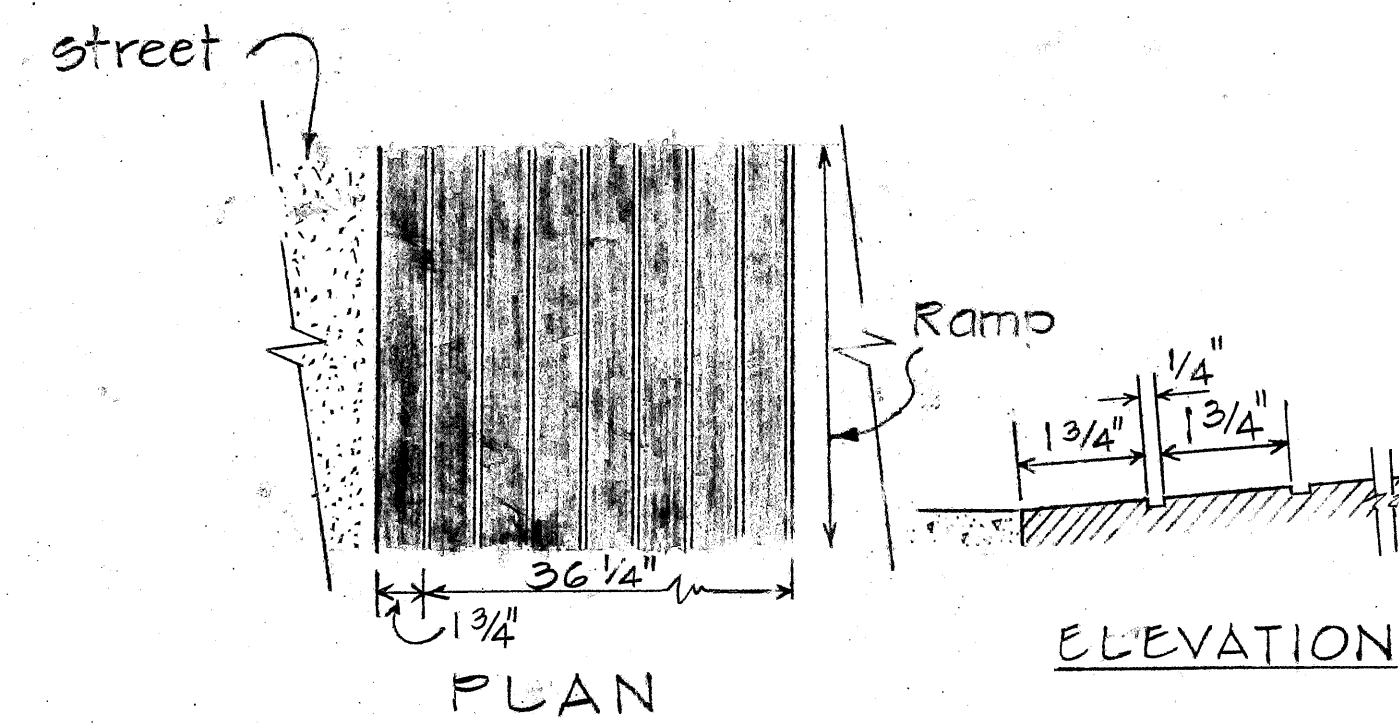
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	120	156



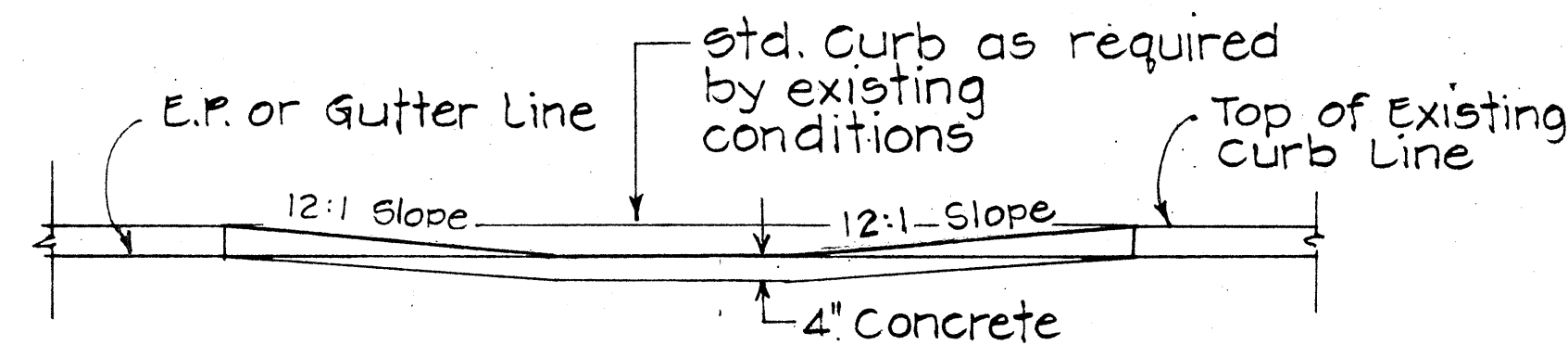
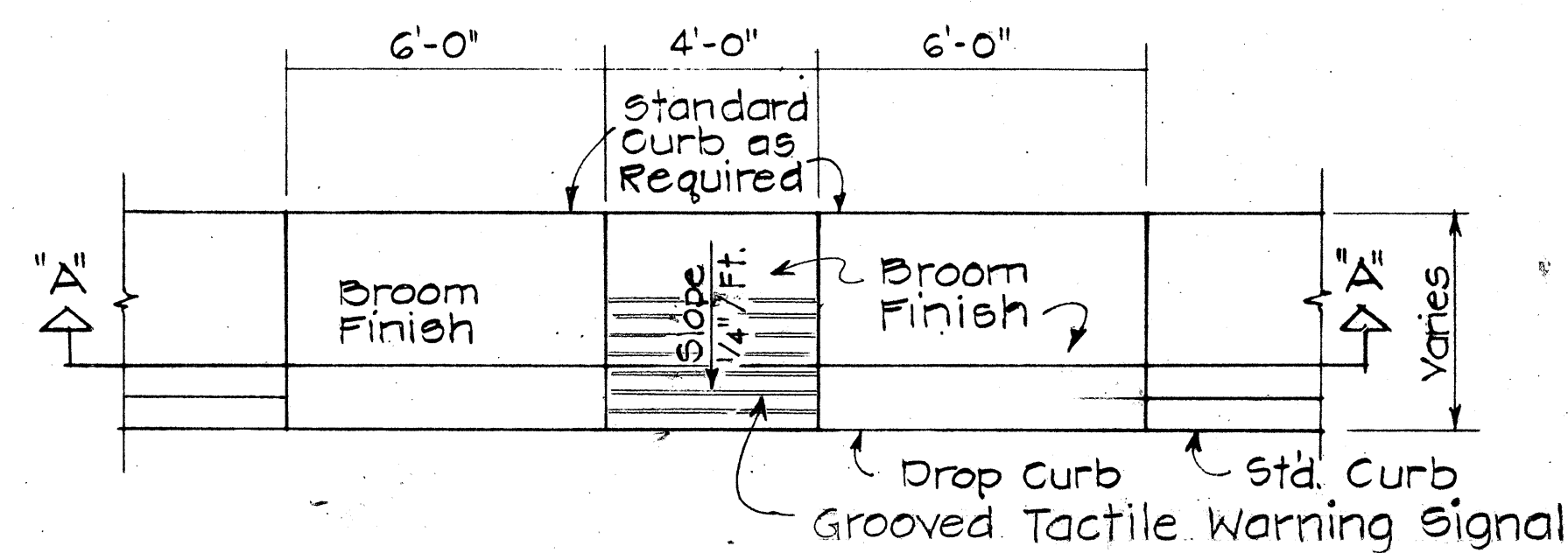
* Where dimension is less than 3', Flare width shall be 5'



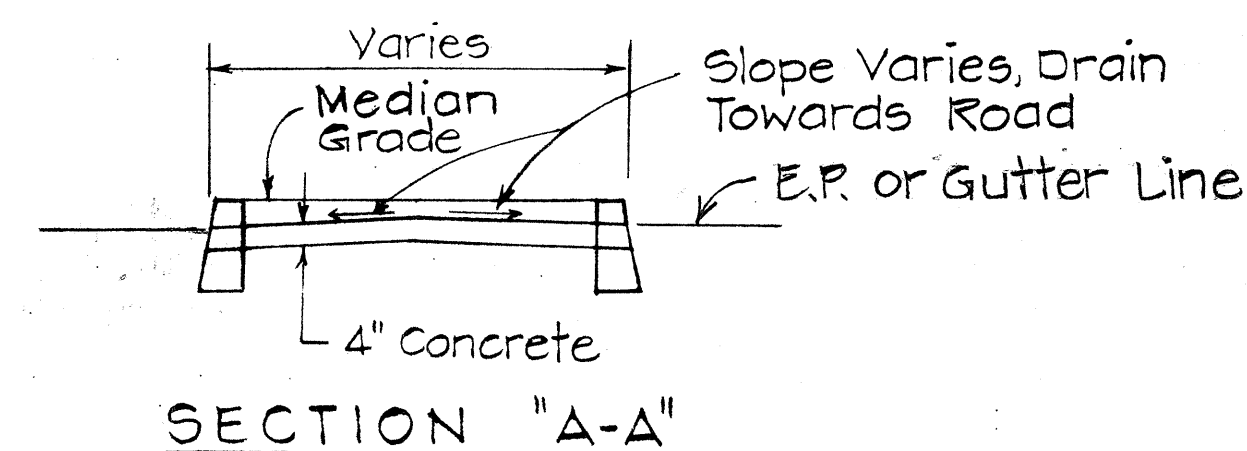
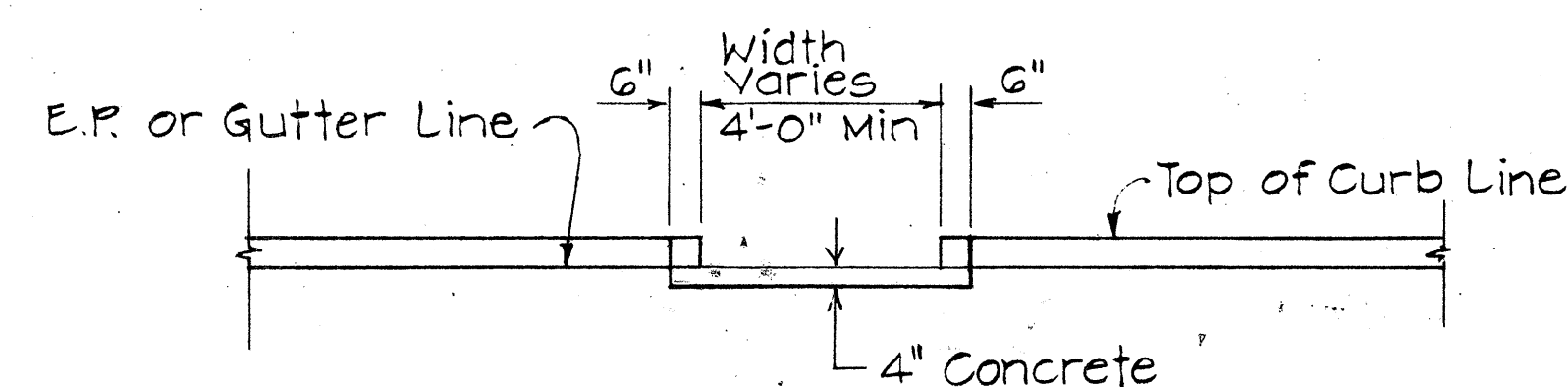
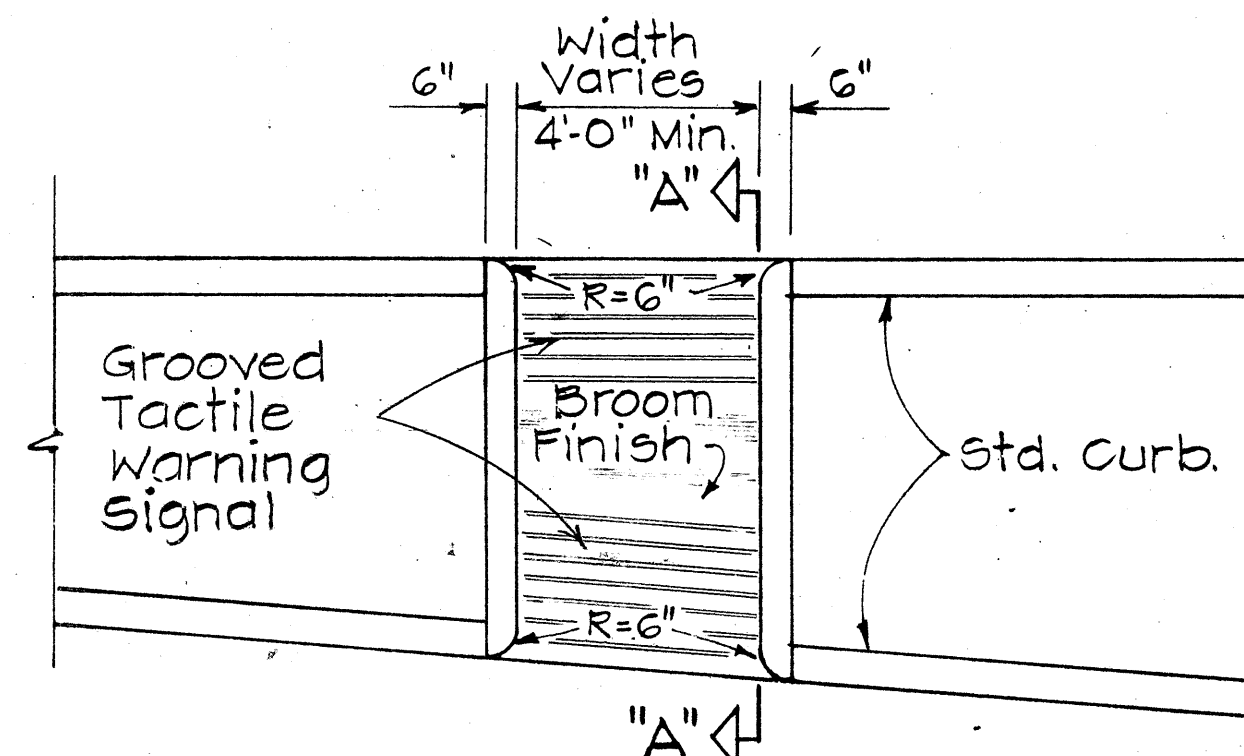
WHEELCHAIR RAMP - TYPE "A"
USE WHERE OBSTRUCTIONS EXIST



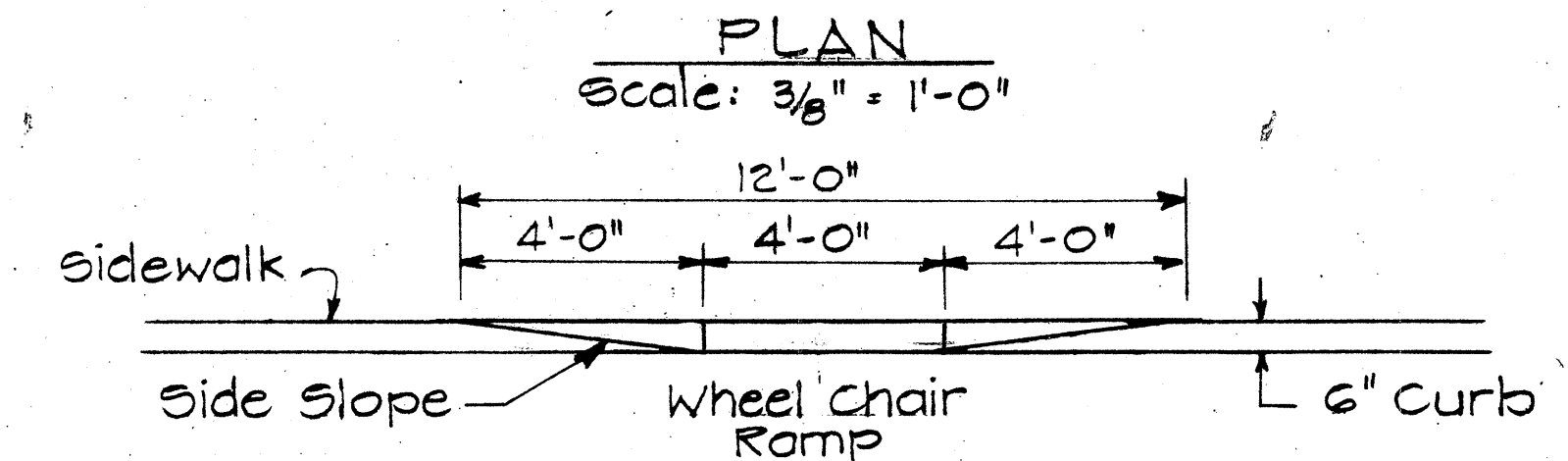
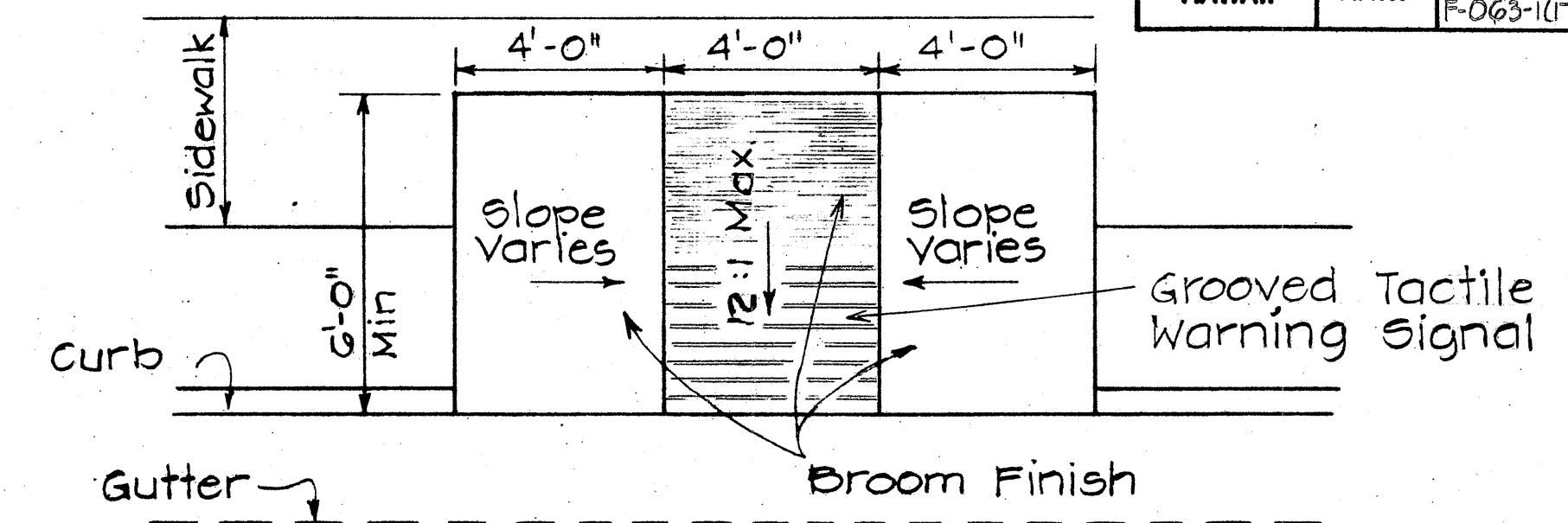
GROOVED TACTILE WARNING SIGNAL



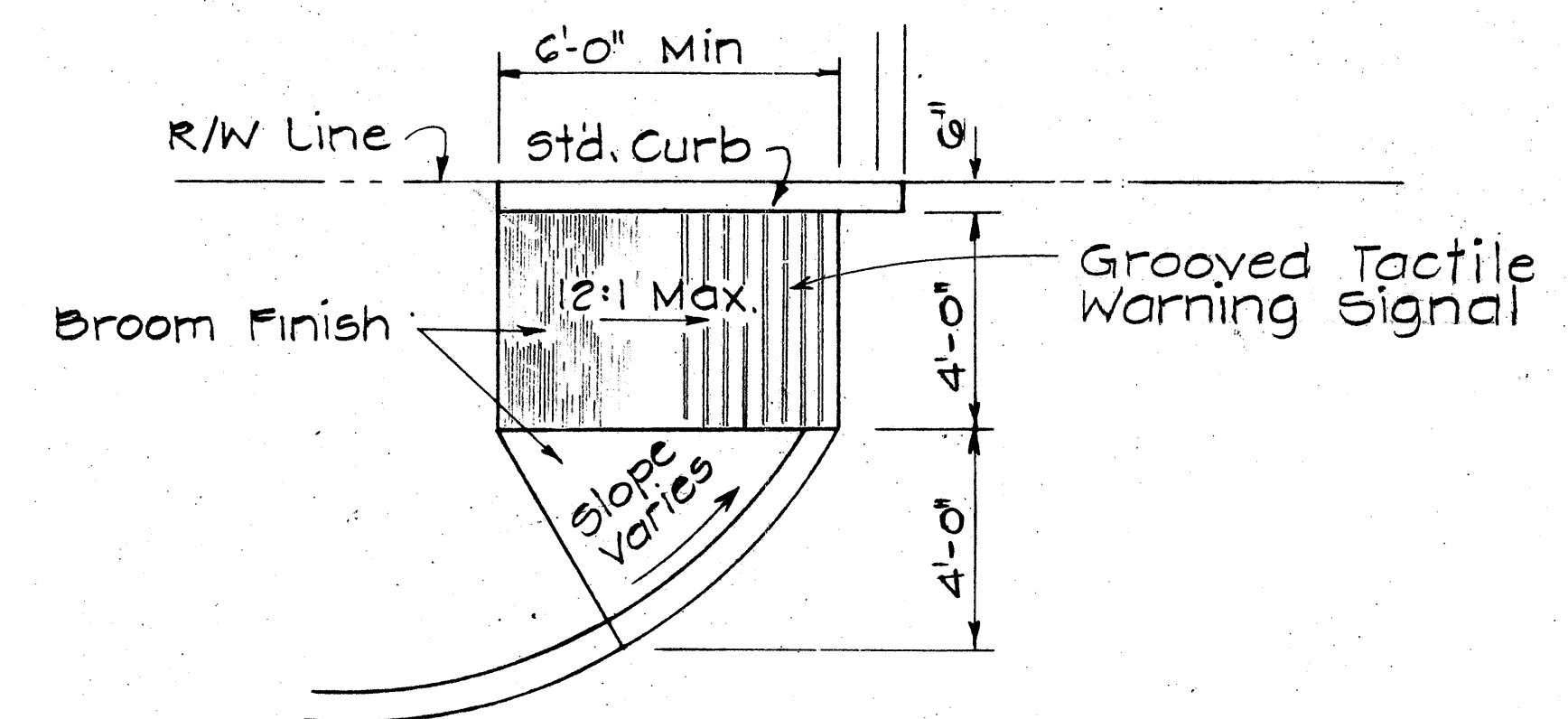
WHEELCHAIR RAMP - TYPE "B"
USE AT SIDEWALKS WITH LESS THAN 6'-0" WIDTH



WHEELCHAIR RAMP - TYPE "C"
USE AT MEDIAN CROSSINGS, ISLANDS



WHEELCHAIR RAMP - TYPE "D"
USE WHEN IDEAL CONDITIONS EXIST



WHEELCHAIR RAMP - TYPE "E"
USE AT CURBED DRIVEWAYS

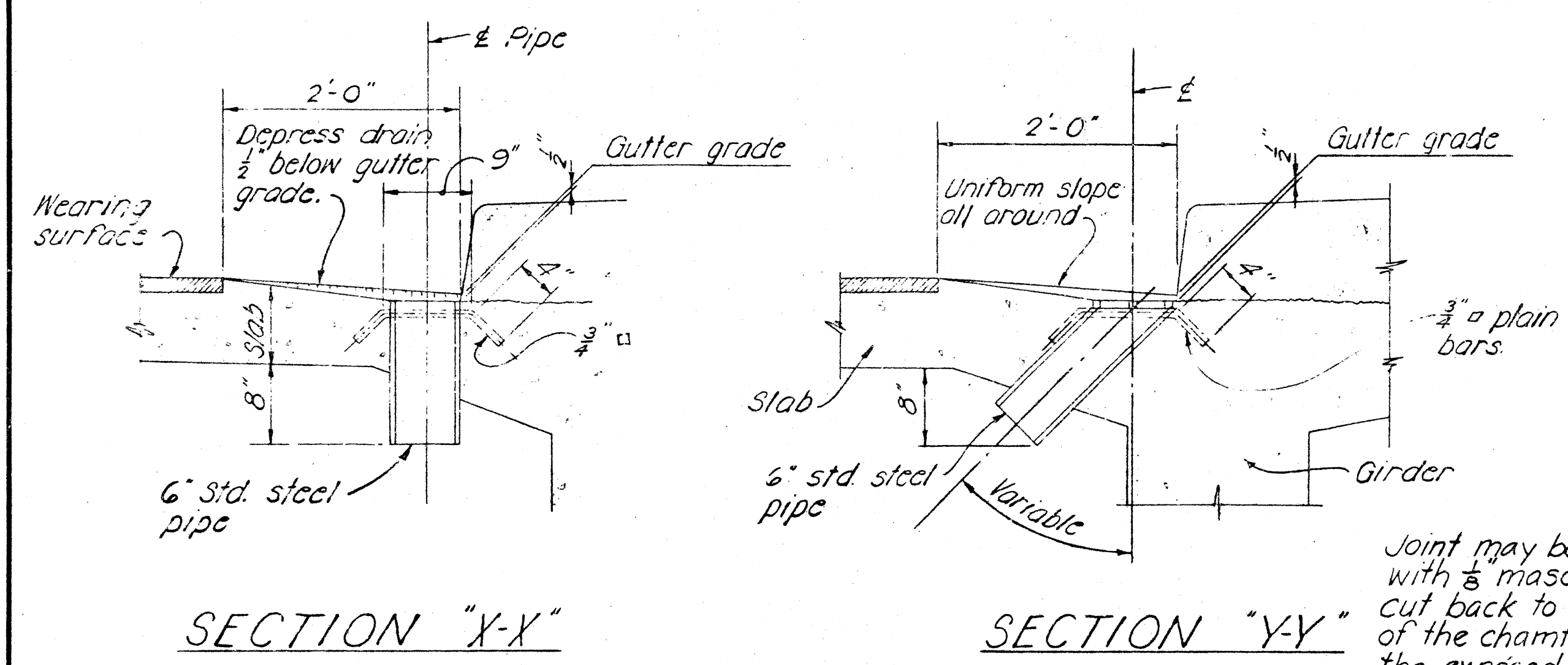
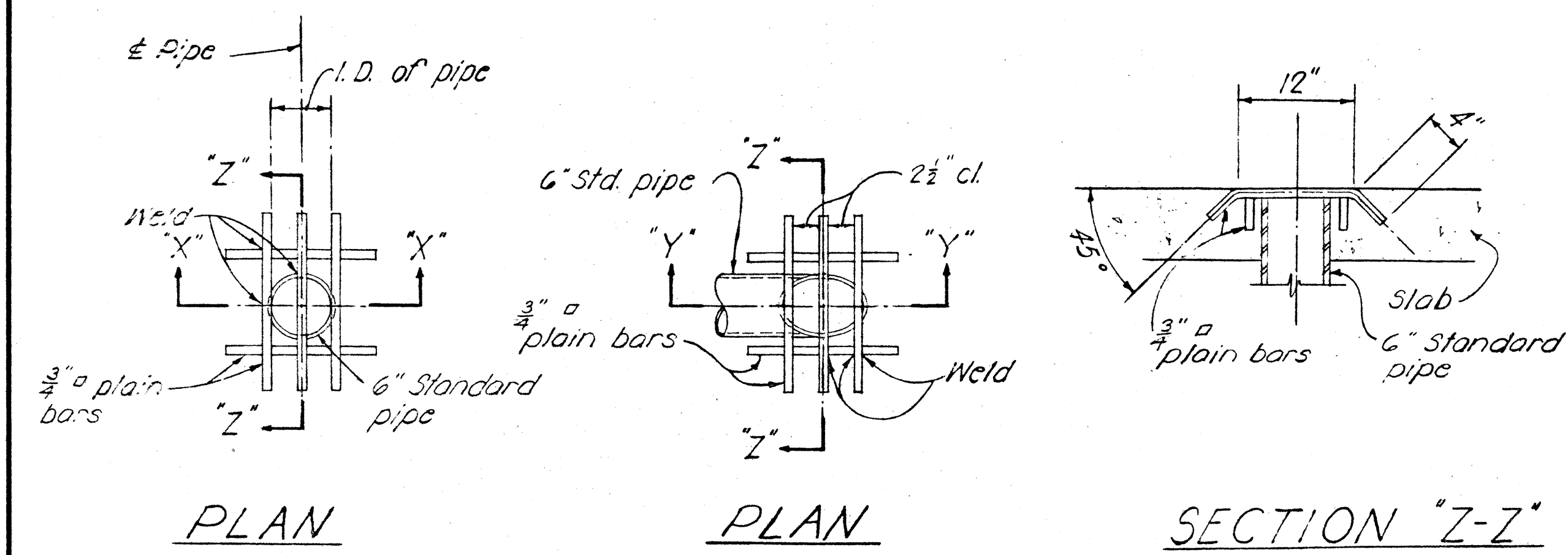
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION					
TYPICAL DETAILS OF WHEEL CHAIR RAMPS					
Scale: As Shown					
SHEET NO. OF SHEETS					

GENERAL NOTES

- All concrete shall be Class A unless otherwise noted.
- Reinforcing shall be detailed in accordance with A.C.I. Manual of Standard Practice for Detailing Reinforced Concrete Highway Structures unless otherwise noted.
- Clearance for reinforcing bars shall be as follows, unless otherwise noted:
 - 1 1/2" For stirrups of beams & pier caps.
 - 2" For ties of columns.
 - 2" For formed walls.
 - 3" For footings.
- Minimum spacing between parallel bars shall be 2 1/2 times the diameter of bars, but in no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate.
- All dimensions relating to reinforcing are to centers of bars unless otherwise noted.
- Reinforcing bars shall be securely tied at all intersections & lap splices & shall be held in place during pouring to maintain their proper locations as shown on plans.
- Vertical column bars shall be arranged in such a manner as to miss pier cap bars above as directed by the Engineer.
- Except as otherwise noted on drawings all exterior corners & re-entrant angles in concrete work shall be chamfered 3/4" x 3/4".
- Concrete seats receiving steel plates lead plates or neoprene pads shall be poured monolithically with supporting structures & top of concrete seats shall be finished with a steel trowel to a smooth level surface at the elevation shown on the plans.
- Elastomeric Pads: Bottom of bridge bearing pads shall be secured against displacement with adhesives approved by the Engineer. Pads shall be incidental to concrete and will not be paid for separately.
- Forms for all exposed surfaces of separation structures and surfaces of retaining walls visible from a traveled way or from a populated area shall be plywood except that metal forms may be permitted provided a surface finish satisfactory to the Engineer can be obtained and the use of such forms is approved in writing by the Engineer. Forms for round columns shall be made of materials that will give a smooth finish and true dimensions as given in the plans. Forms for prestressed concrete members shall be either metal or plywood.
- Gothic letters and figures approximating dimensions shown will be acceptable if approved by the Engineer.
- The contractor shall verify the location of all existing utility lines and notify the respective owners before commencing work of excavation or driving of piles.
- Standard Detail Drawings refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.

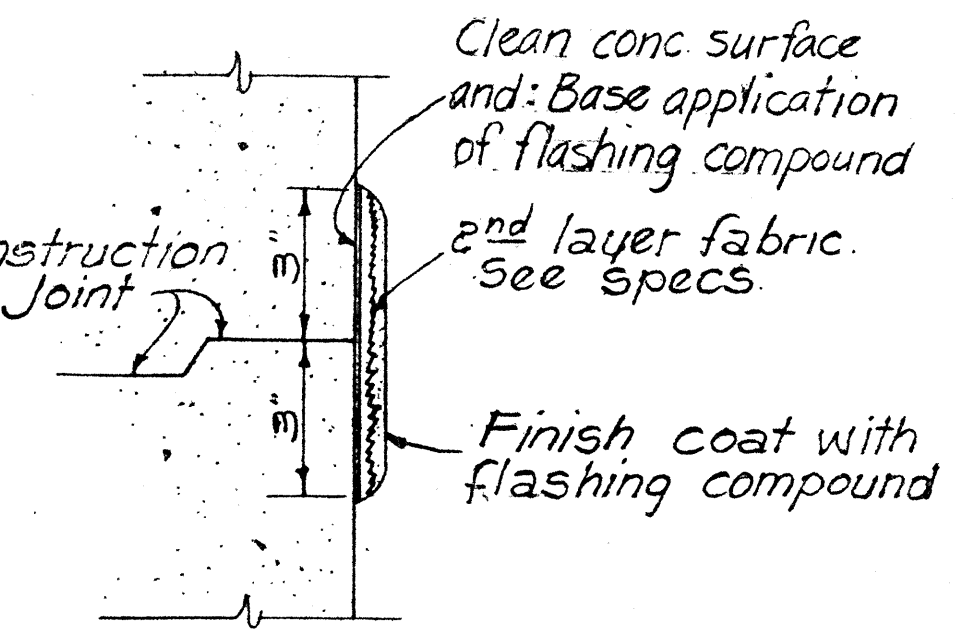
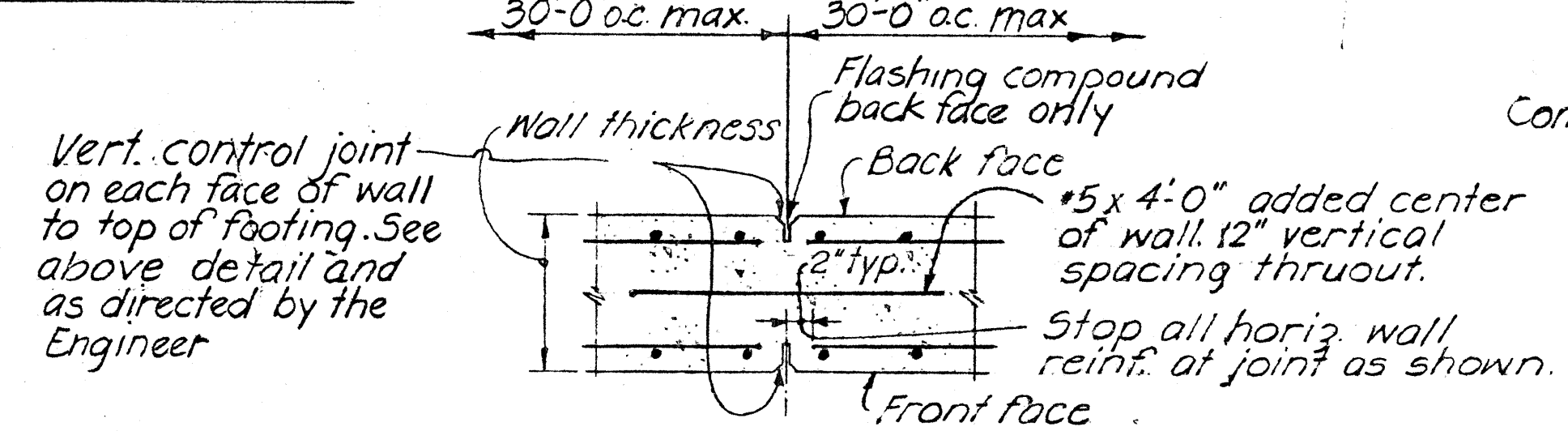
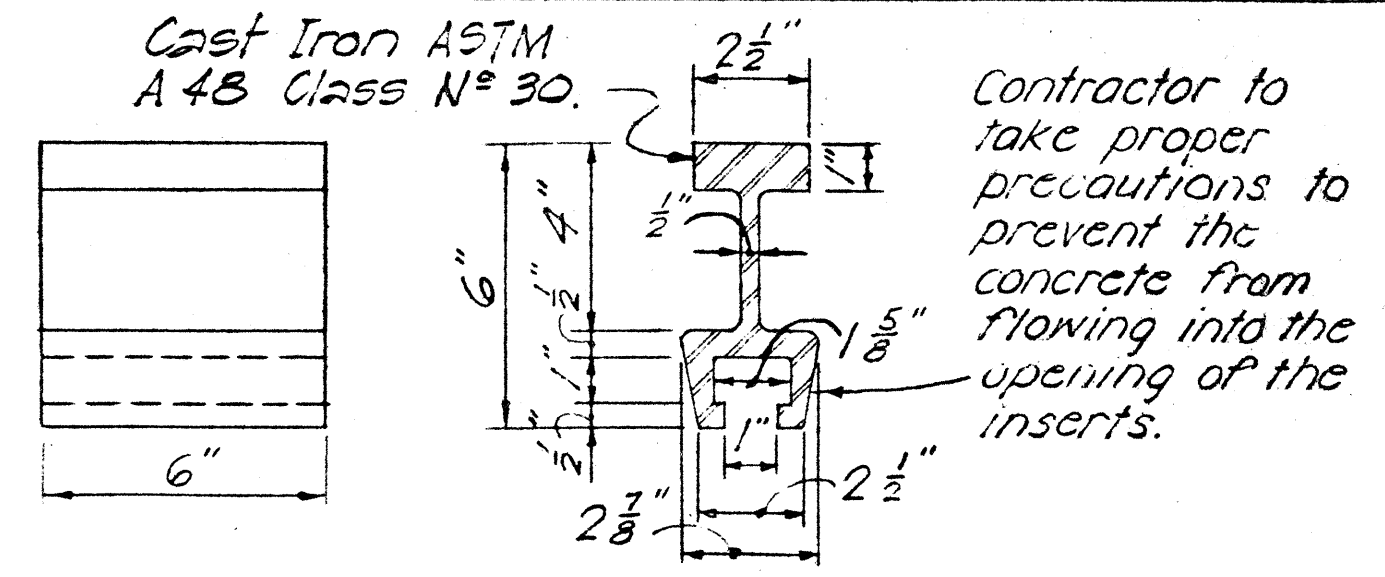
TYPICAL CONCRETE GROOVE DETAIL

DRIP DETAIL



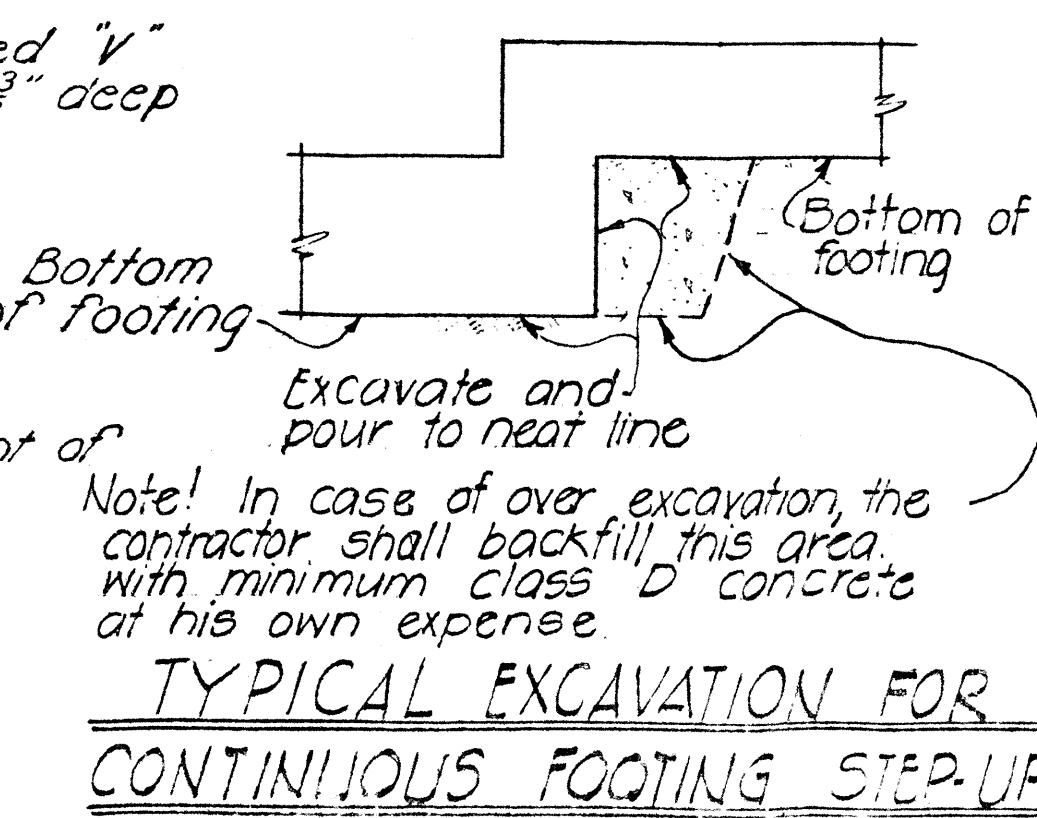
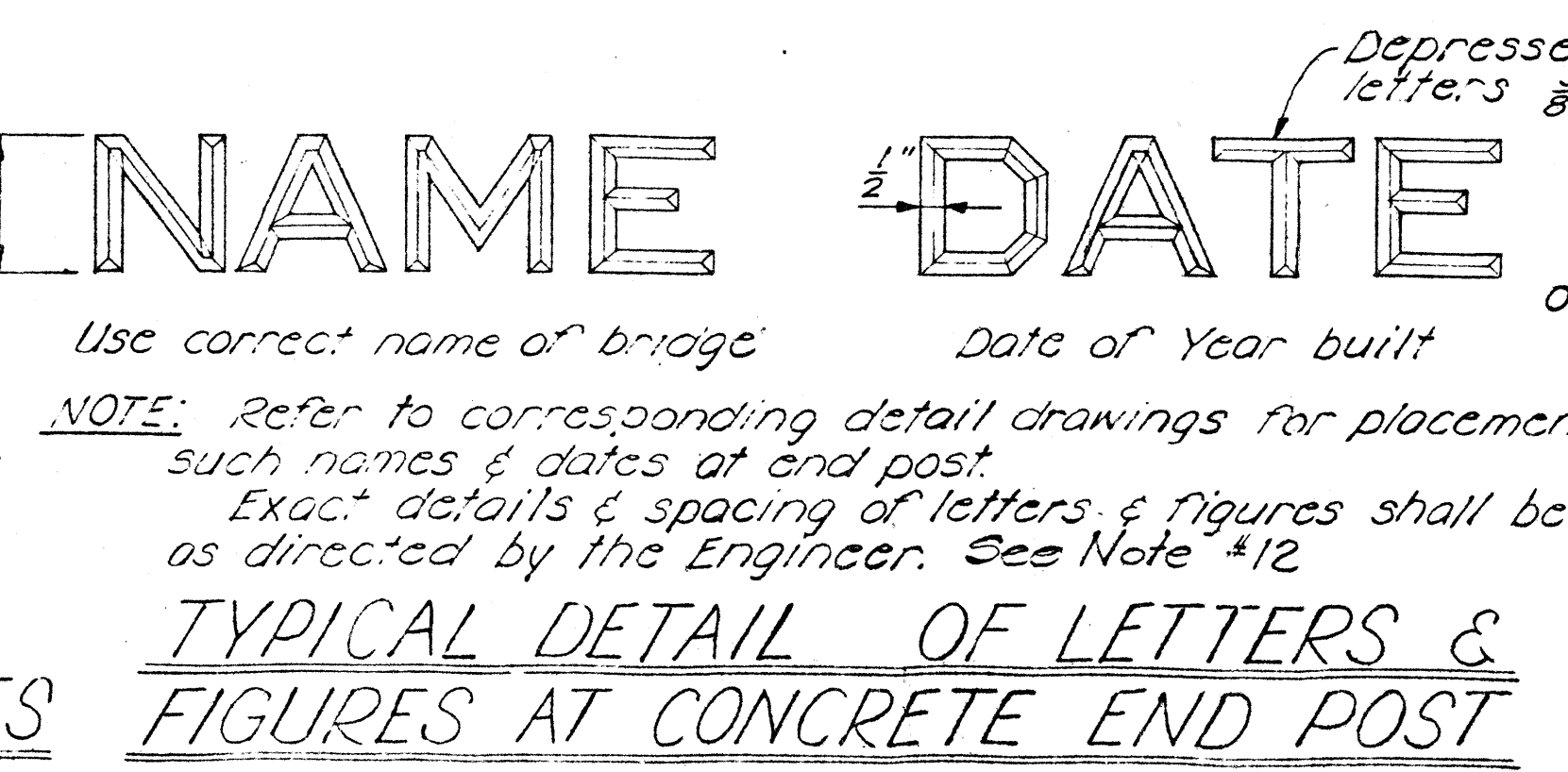
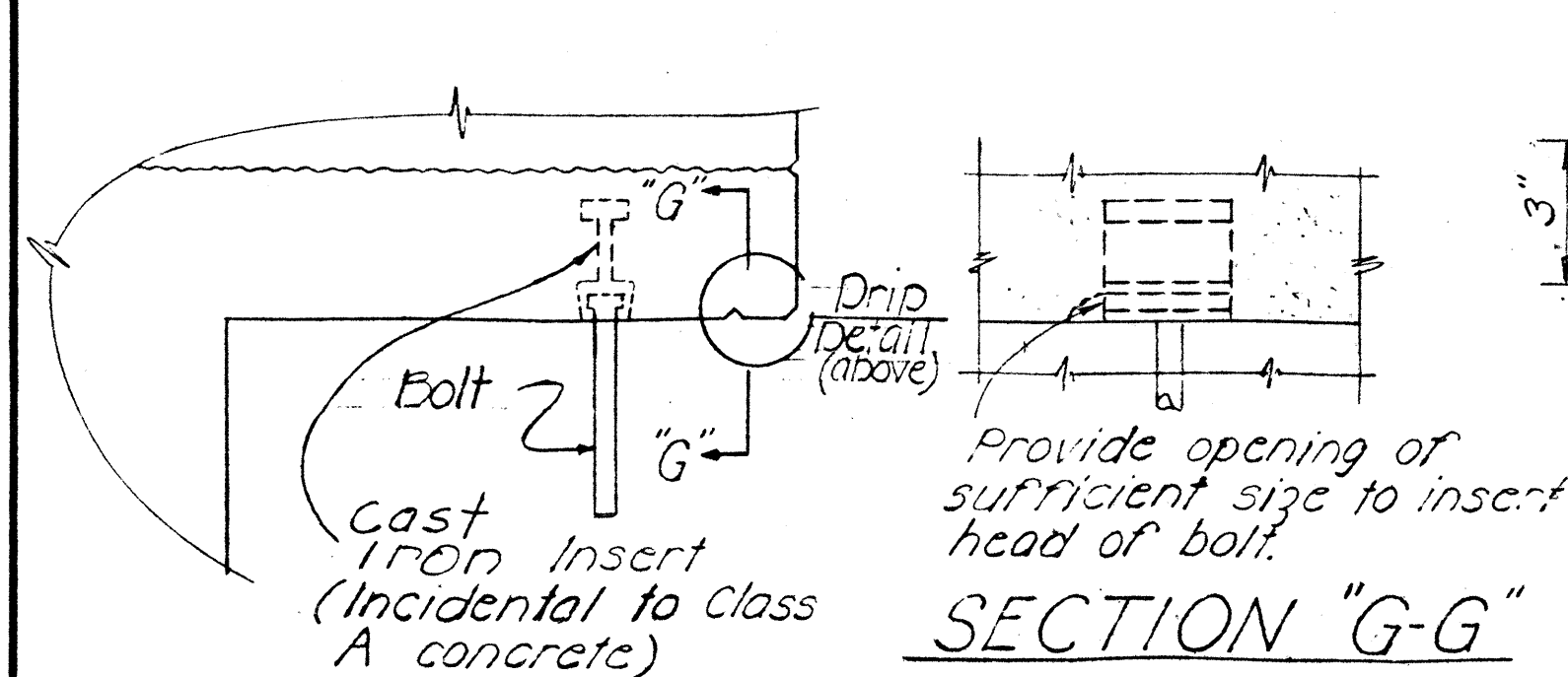
NOTE: Metal drains shall be considered incidental to Class A Concrete in both concrete and steel bridges and will not be paid for separately. Assembly of grillage and pipe shall be hot-dip galvanized after all welding is completed.

TYPICAL DRAINAGE DETAILS



CONTROL JOINT DETAILS

TYP. FLASHING COMPOUND WATERPROOFING DETAIL



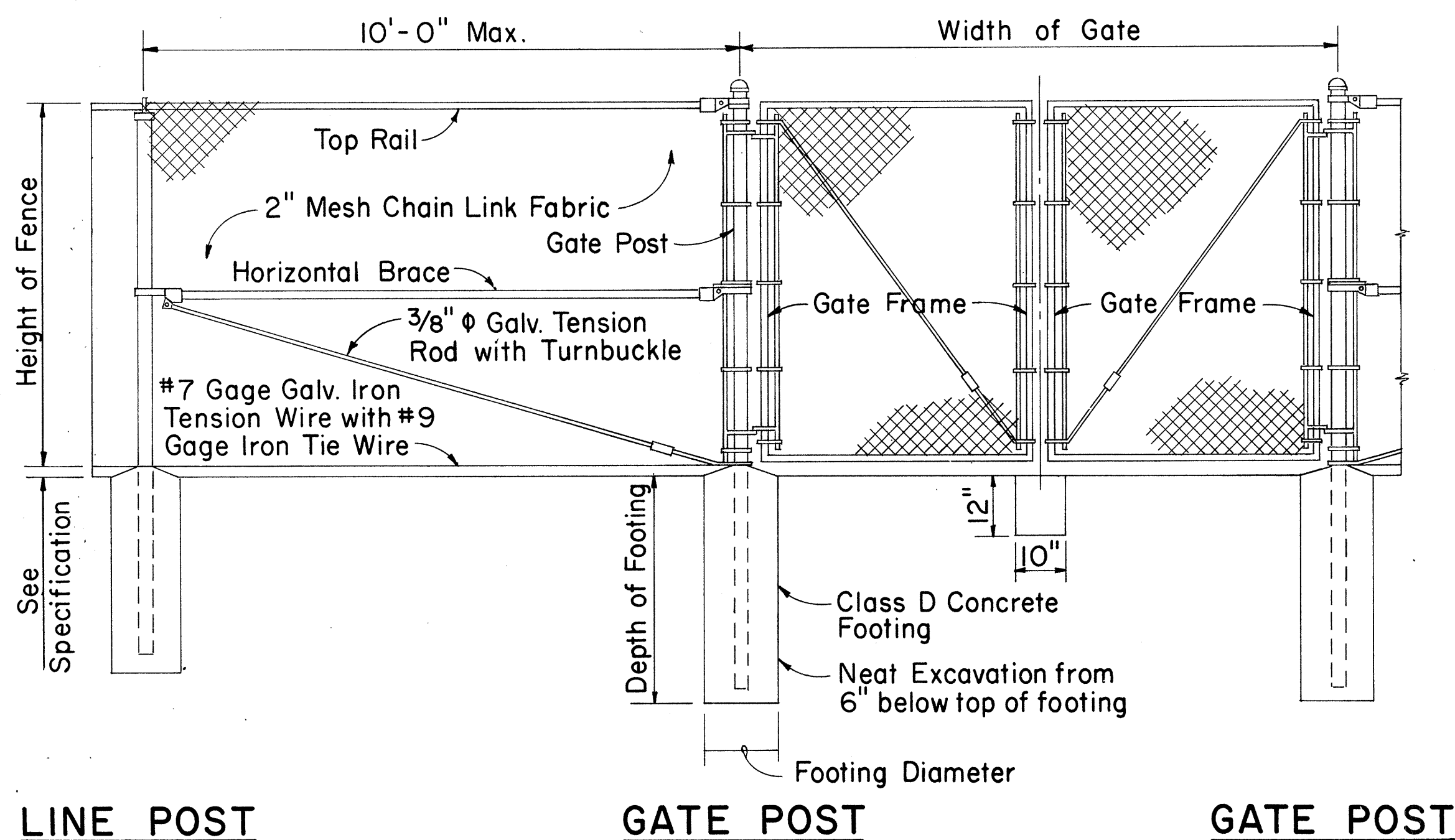
APPROVAL RECOMMENDED:
Paul T. Yamashita
BRIDGE DESIGN ENGINEER 1-23-70 DATE

APPROVED
Paul T. Yamashita
FOR ASSISTANT CHIEF, ENGINEERING 1-28-70 DATE

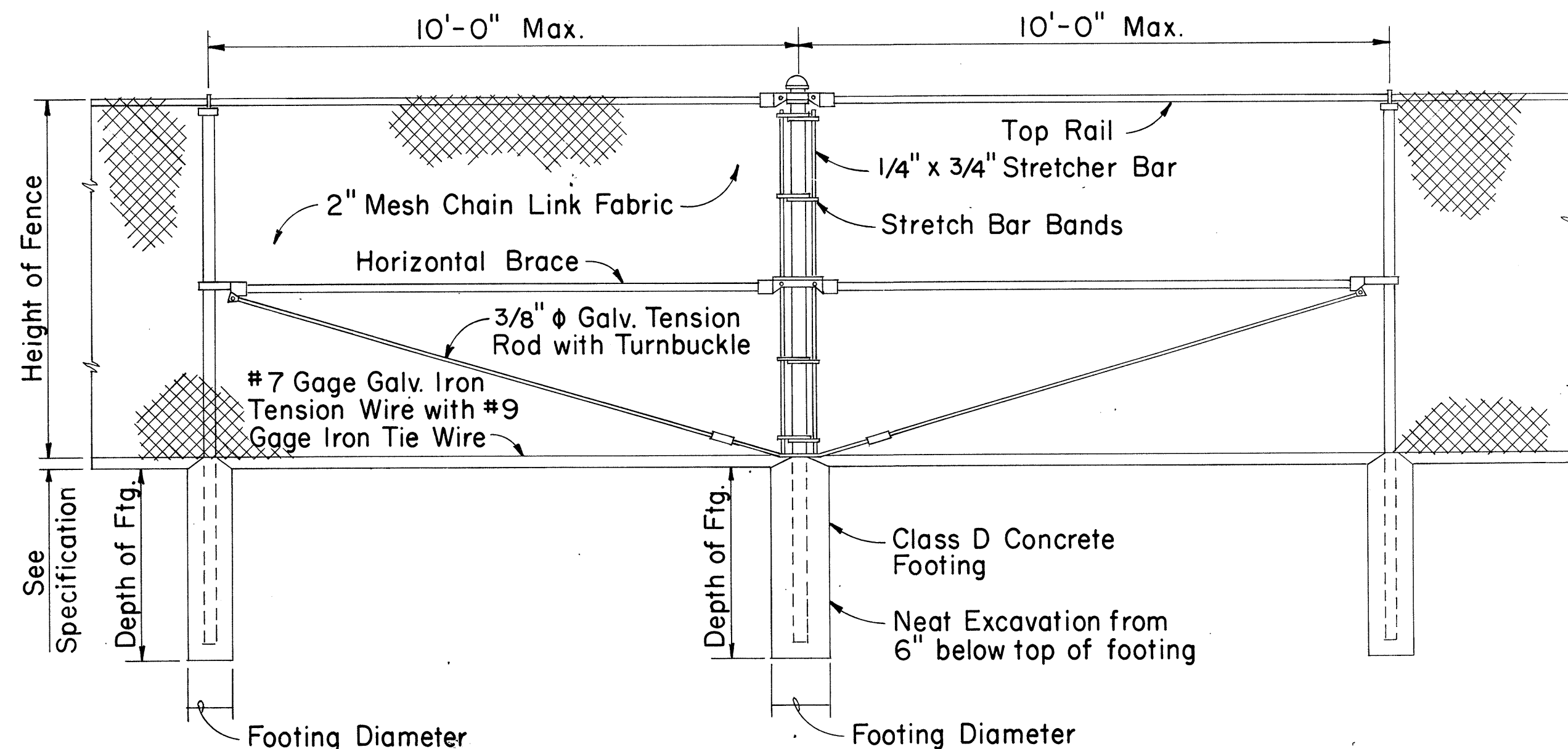
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
NOTES AND MISCELLANEOUS
DETAILS
Date: October 1989
SHEET No. OF SHEETS DB-100

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	122	156



LINE POST GATE POST GATE POST

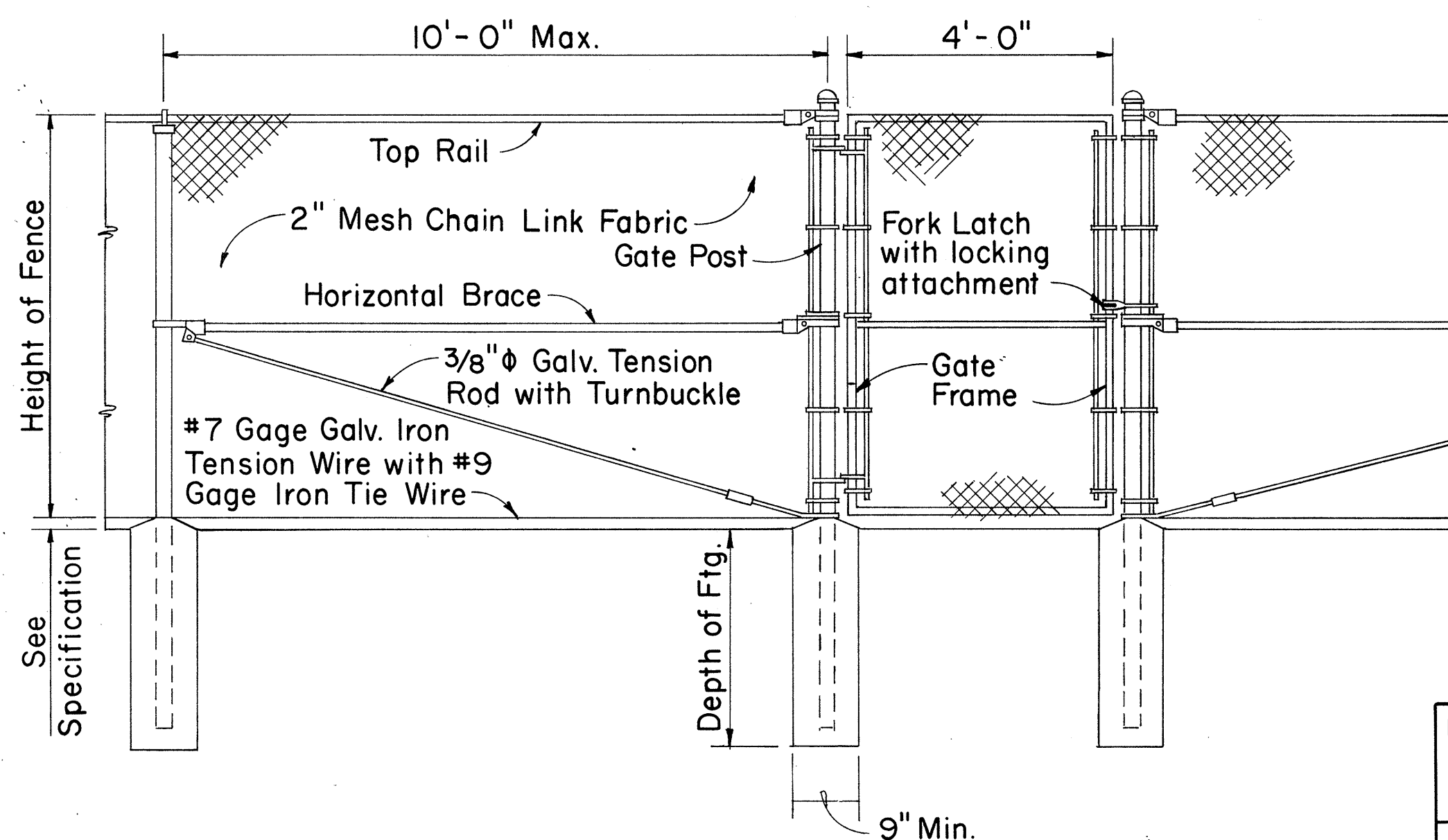


LINE POST PULL POST LINE POST

TYPICAL SECTION
(WITH CONCRETE FOOTING)

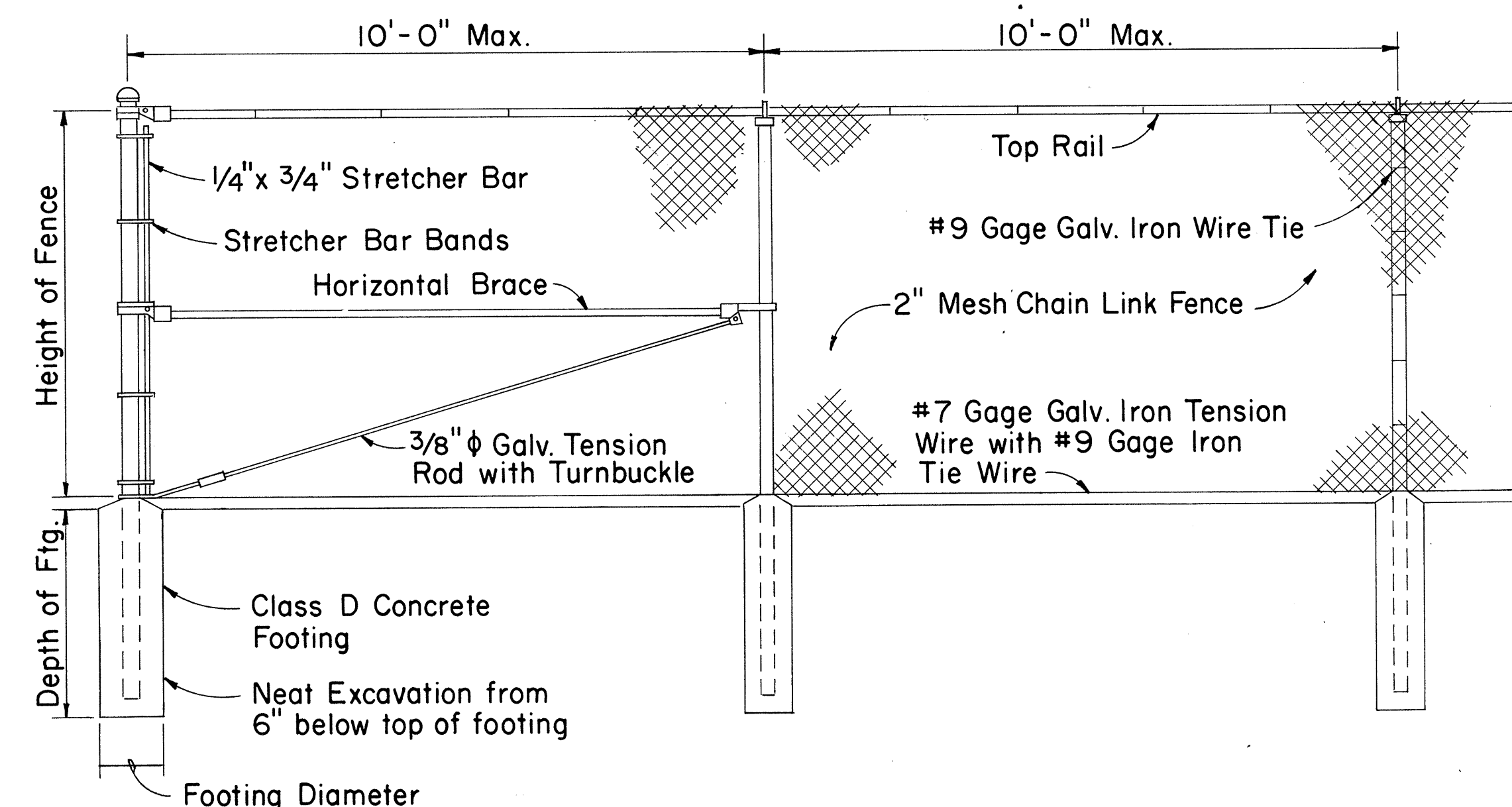
DETAIL OF CHAIN LINK GATE

- 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.



LINE POST GATE POST GATE POST

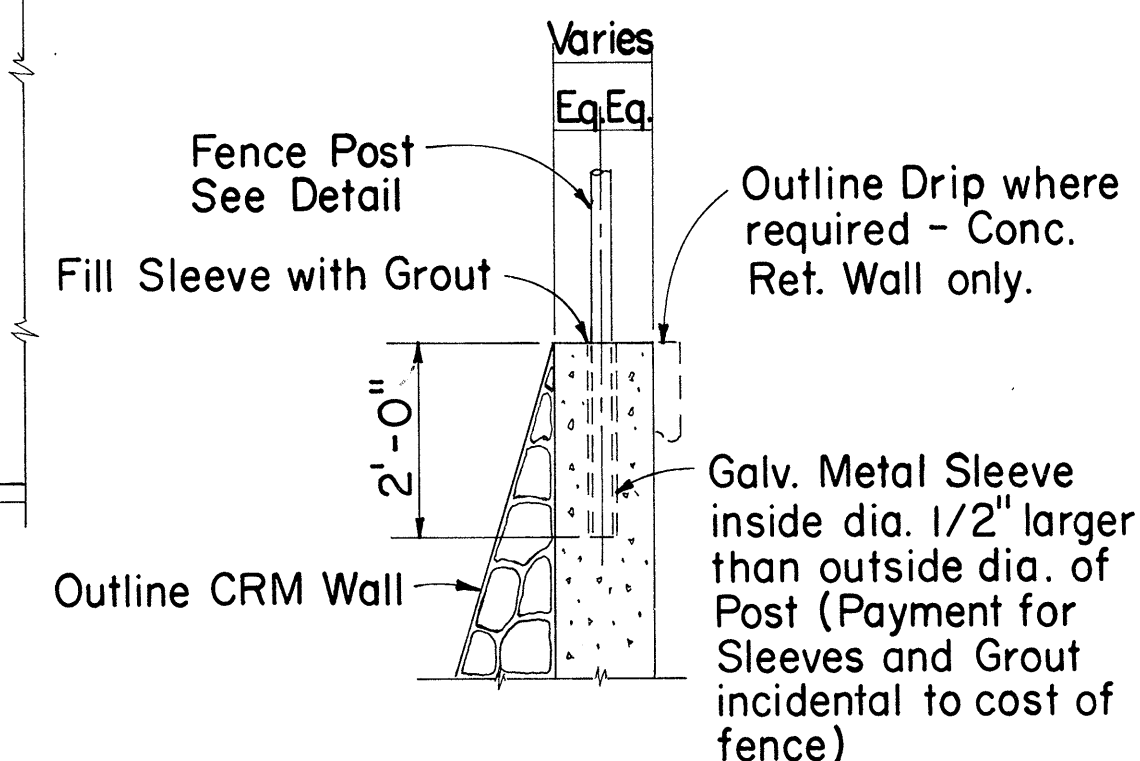
DETAIL OF 4 FT. CHAIN LINK GATE



END POST LINE POST LINE POST

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:
HIGHWAY DESIGN ENGINEER 12-4-69
DATE

APPROVED:
ASSISTANT CHIEF, ENGINEERING 12-10-69
DATE

NO	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

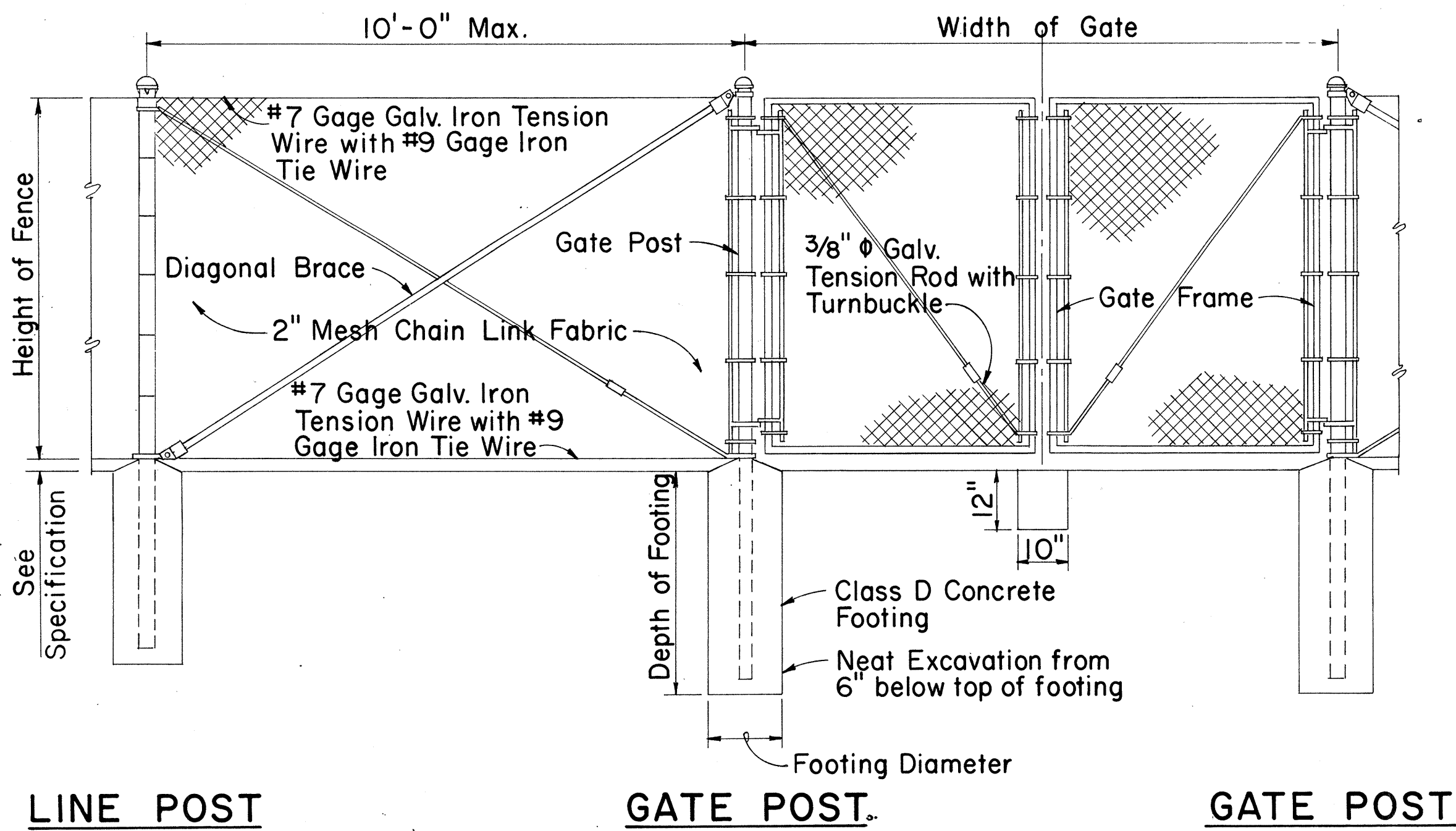
STANDARD DETAILS

CHAIN LINK FENCE
(WITH TOPRAIL)

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

SHEET NO. OF SHEETS DD 607.1

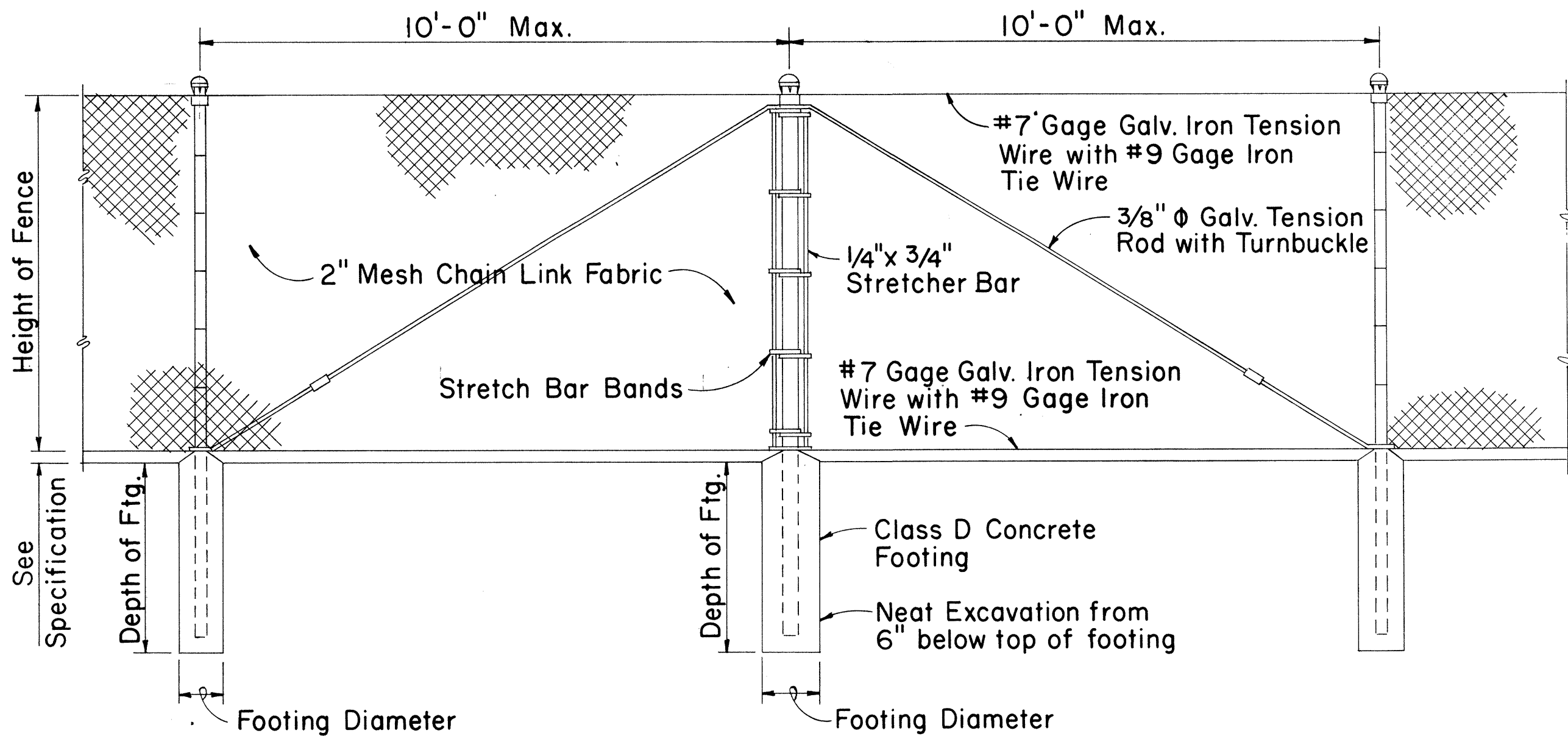
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	123	156



LINE POST

GATE POST

GATE POST

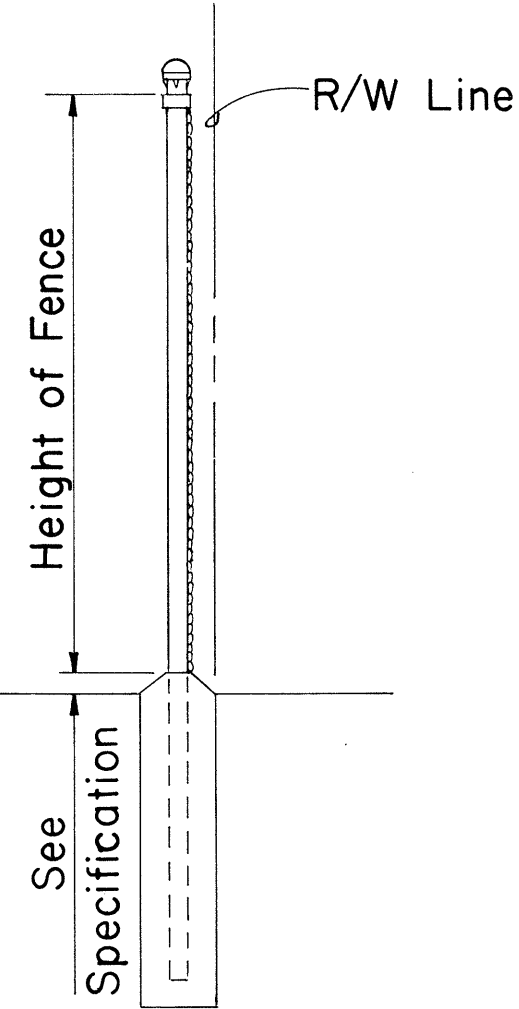


LINE POST

PULL POST

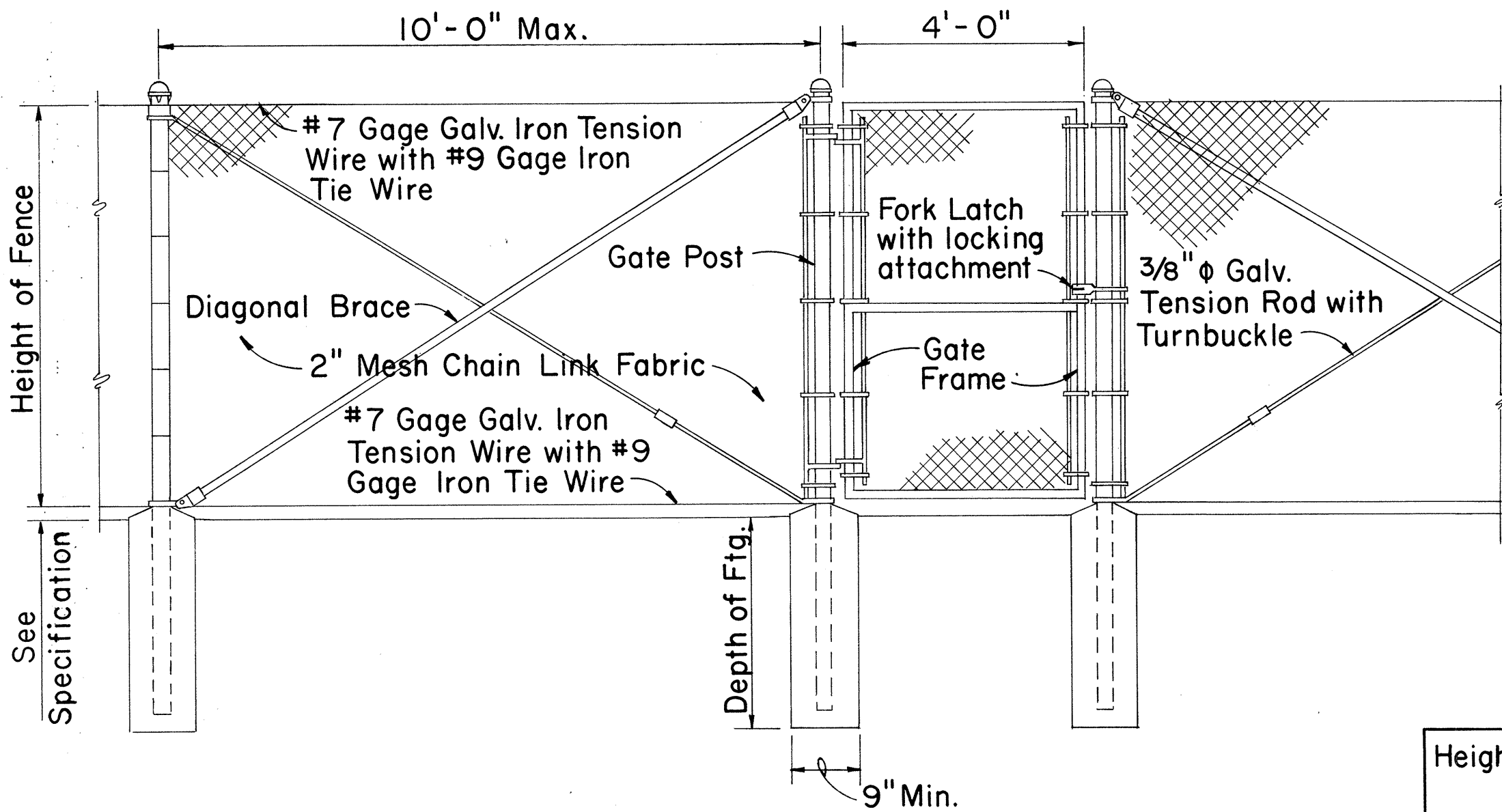
LINE POST

TYPICAL SECTION
(WITH CONCRETE FOOTING)



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.

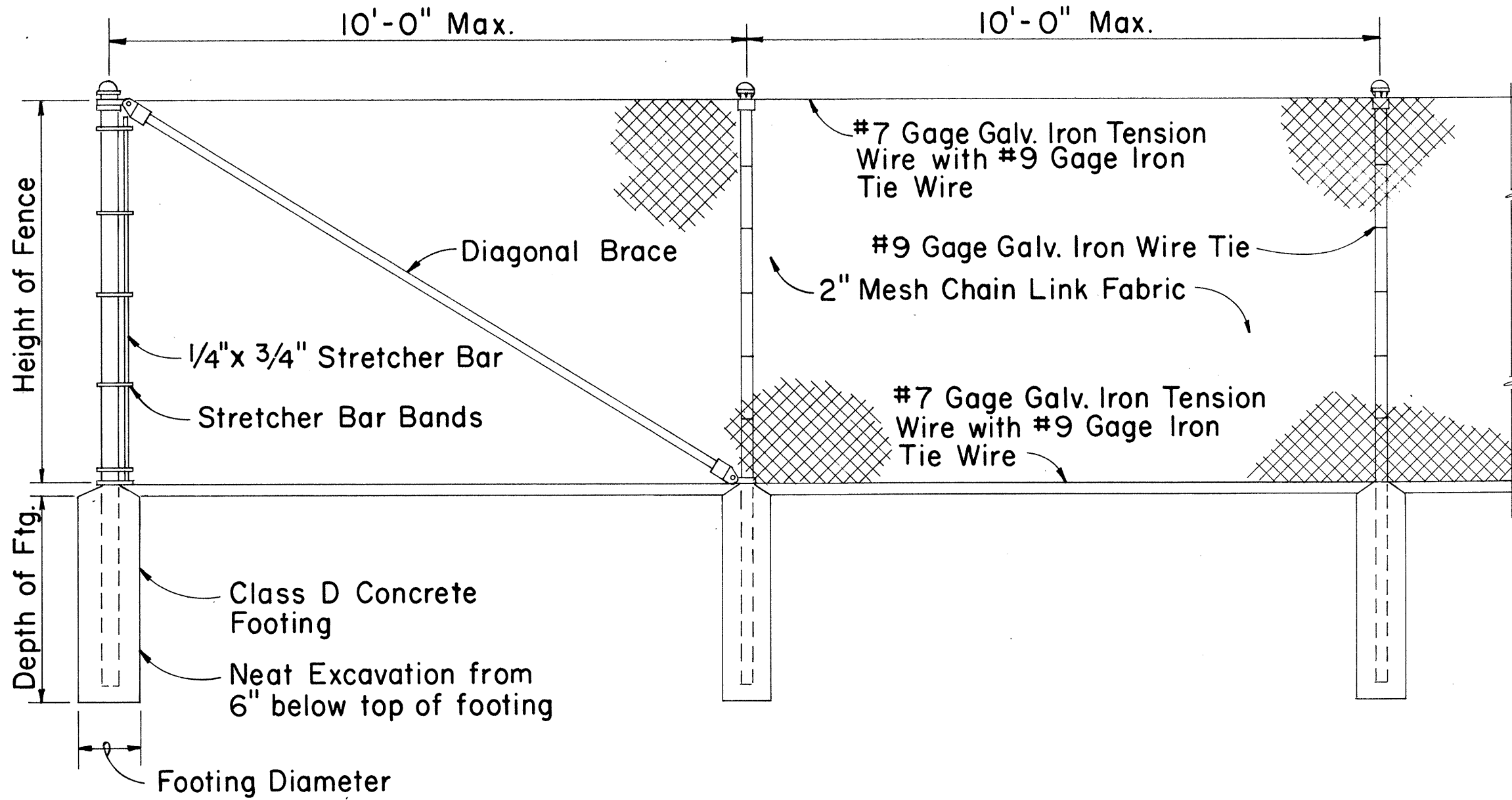


LINE POST

GATE POST

GATE POST

DETAIL OF 4 FT. CHAIN LINK GATE

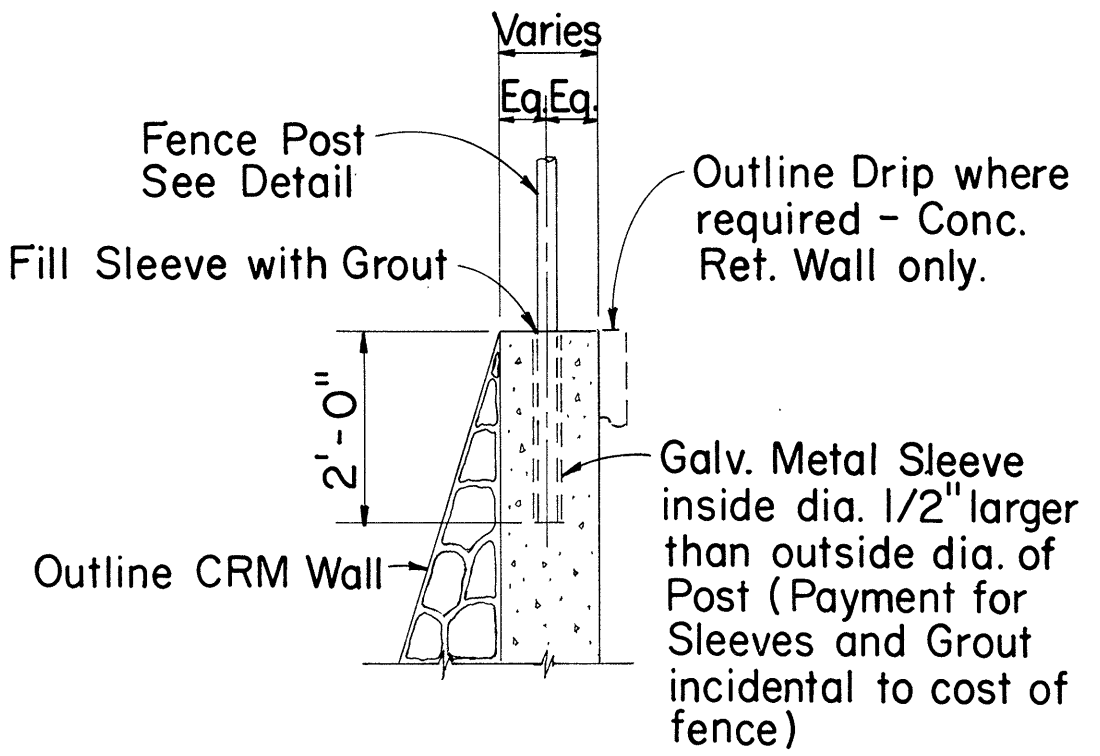


END POST

LINE POST

LINE POST

CHAIN LINK FENCE DETAILS



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

APPROVAL RECOMMENDED:
HIGHWAY DESIGN ENGINEER
DATE: 12-4-69

APPROVED:
ASSISTANT CHIEF, ENGINEERING
DATE: 12-10-69

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

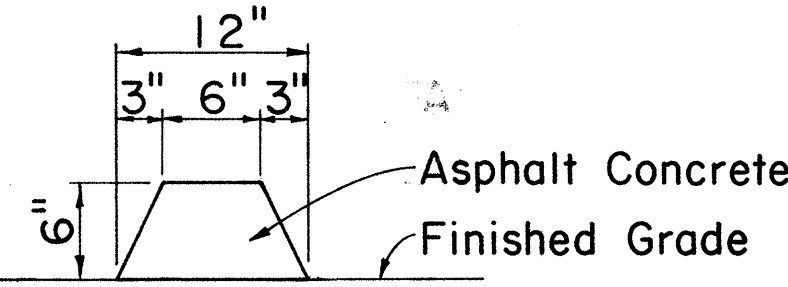
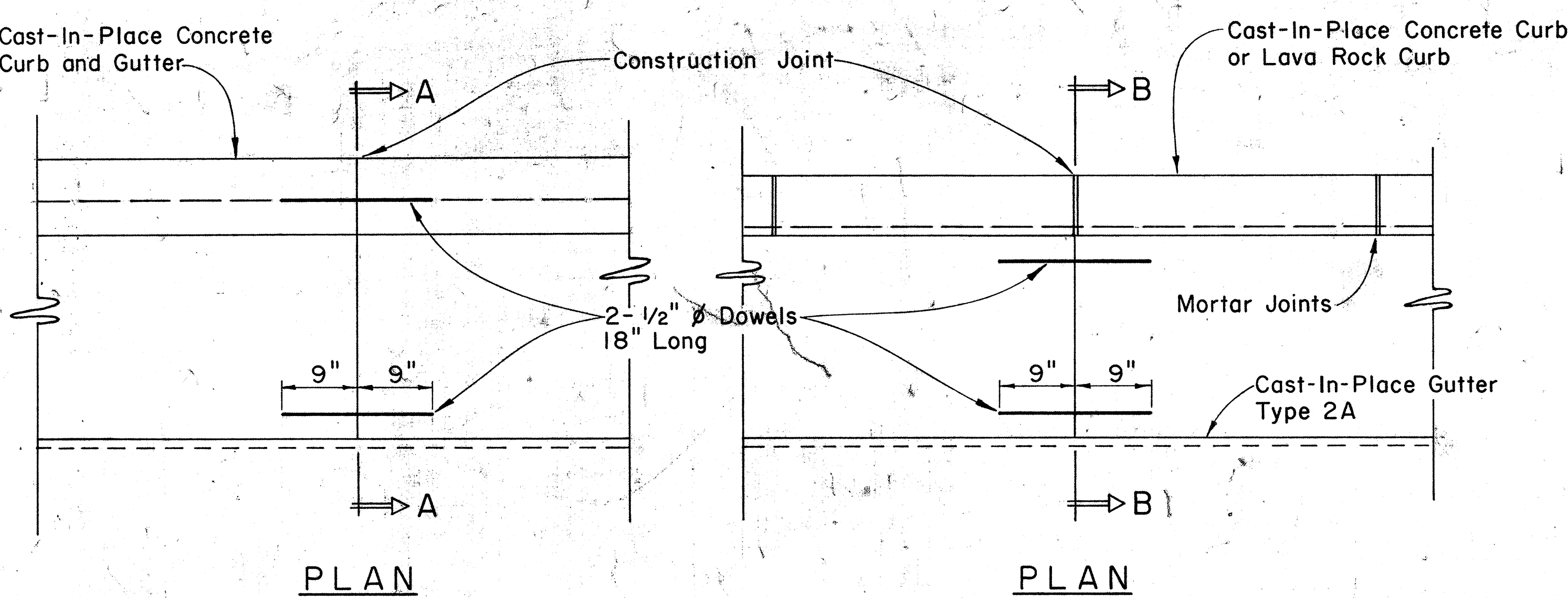
STANDARD DETAILS

CHAIN LINK FENCE
(WITHOUT TOPRAIL)

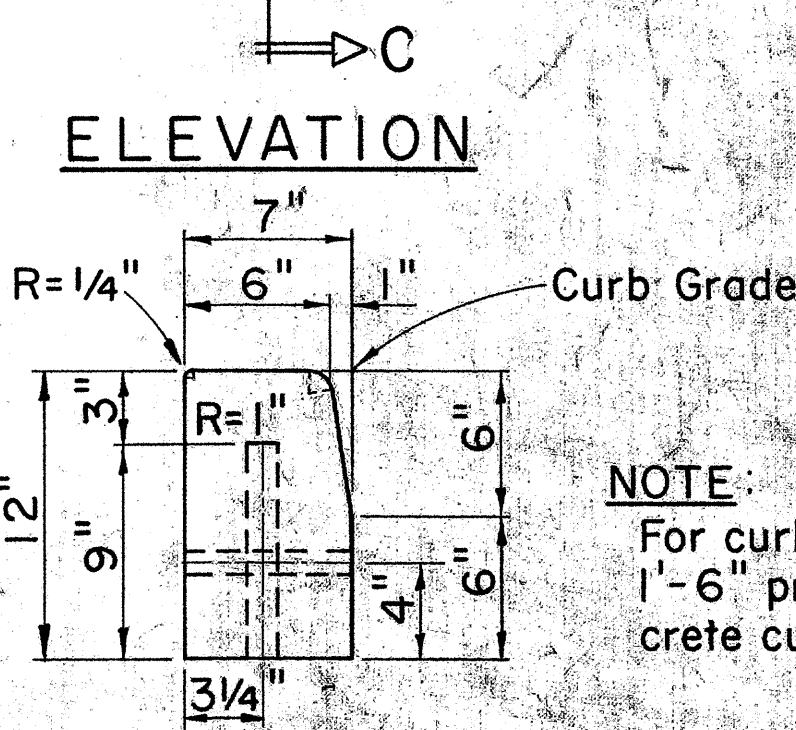
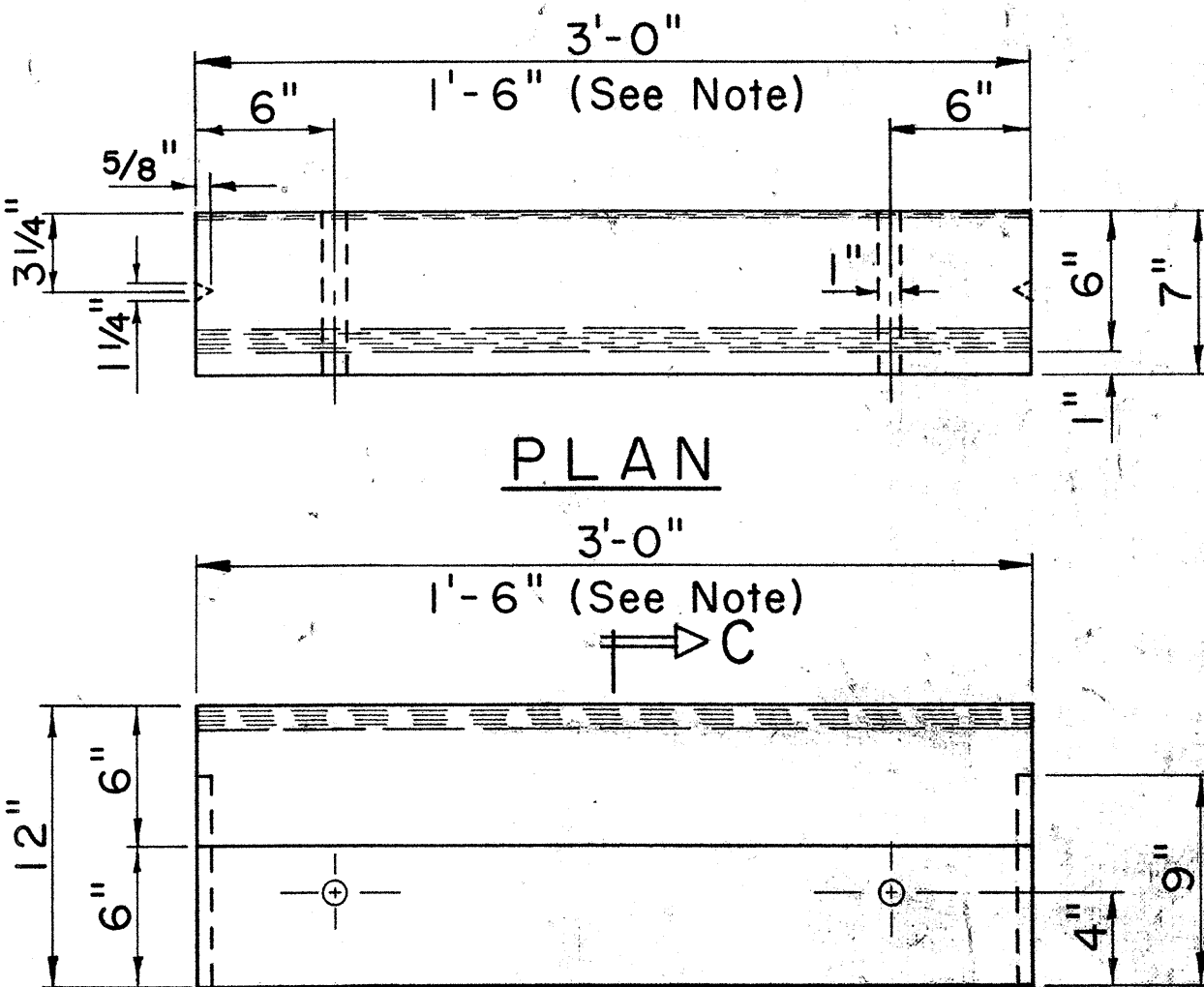
Scale: 1/2" = 1'-0" Date:

DATE	
DESIGNED BY	
TRACED 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.	F-063-1(16) F-063-1(17)	1984	124	156

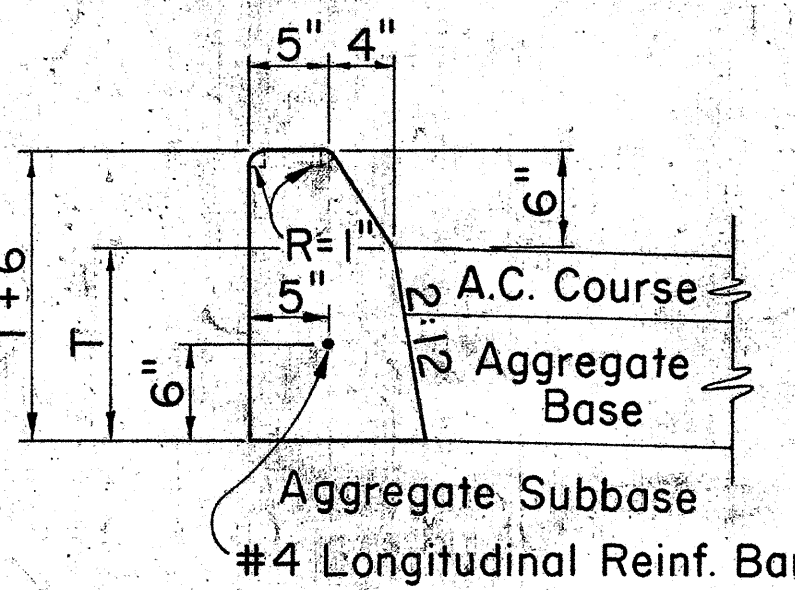
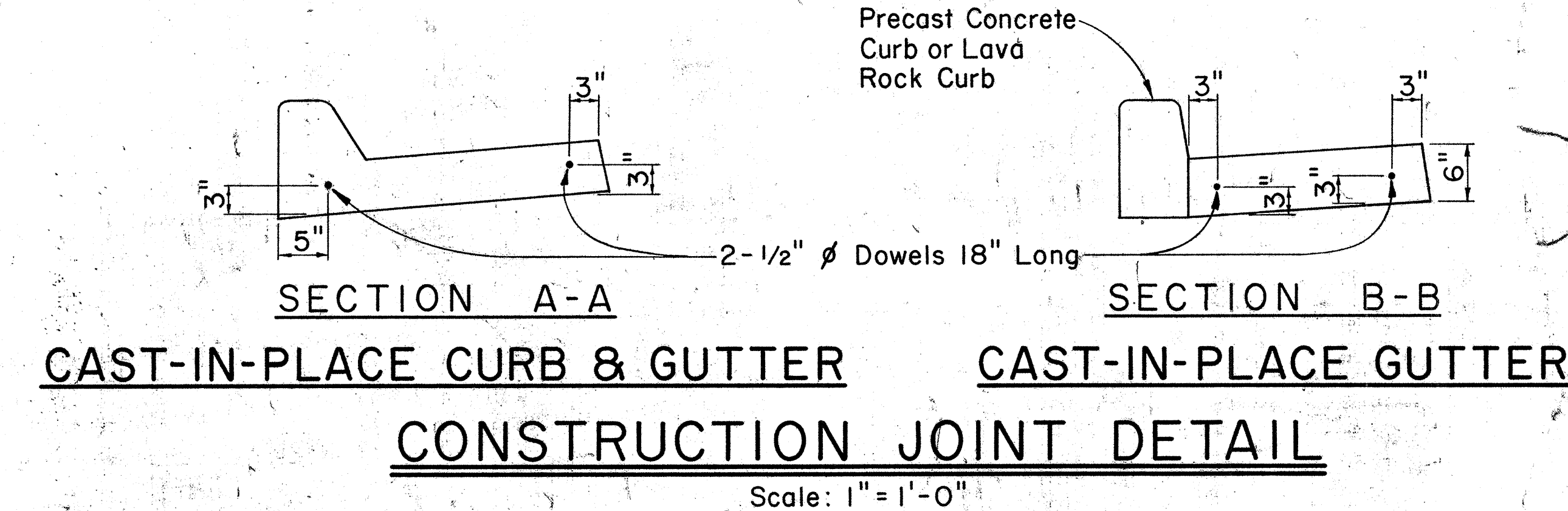


CURB, TYPE 6
BITUMINOUS CURB
 Scale: 1 1/2" = 1'-0"

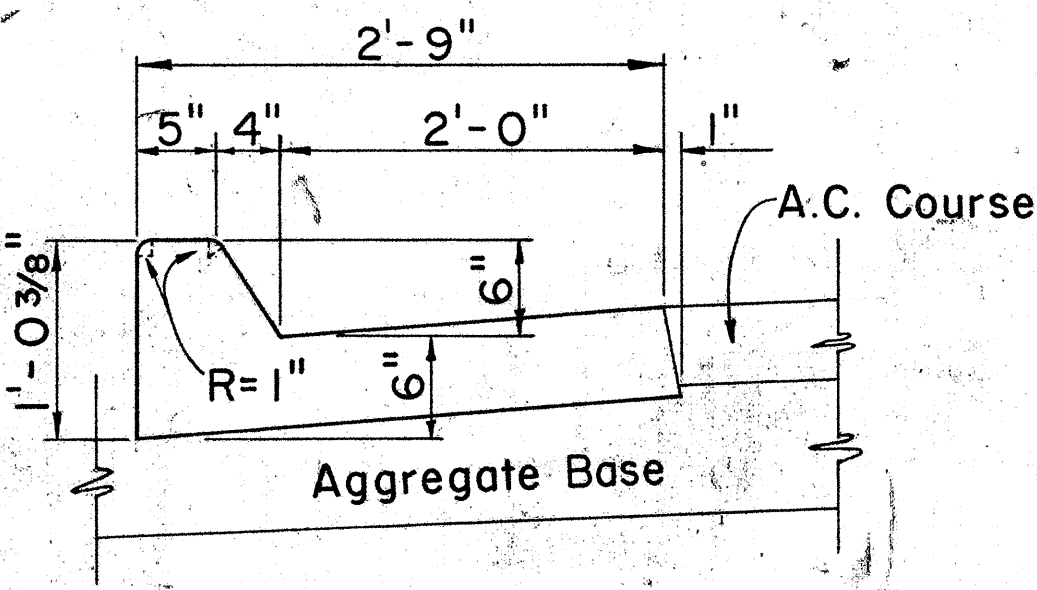


NOTE:
 For curb returns use 1'-6" pre-cast concrete curbs.

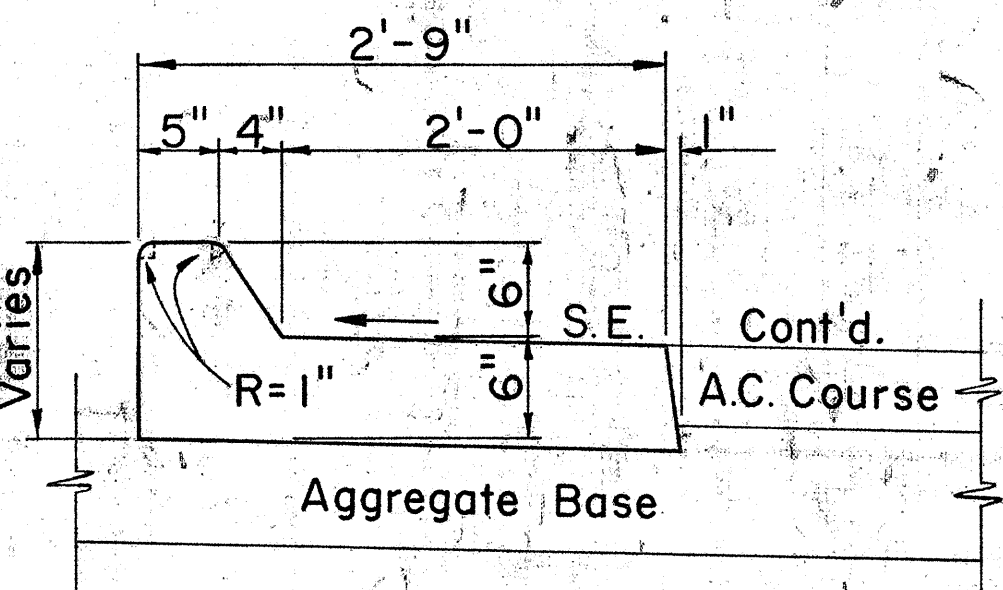
SECTION C-C
CURB, TYPE 3D
PRE-CAST CONC. CURB
 Scale: 1 1/2" = 1'-0"



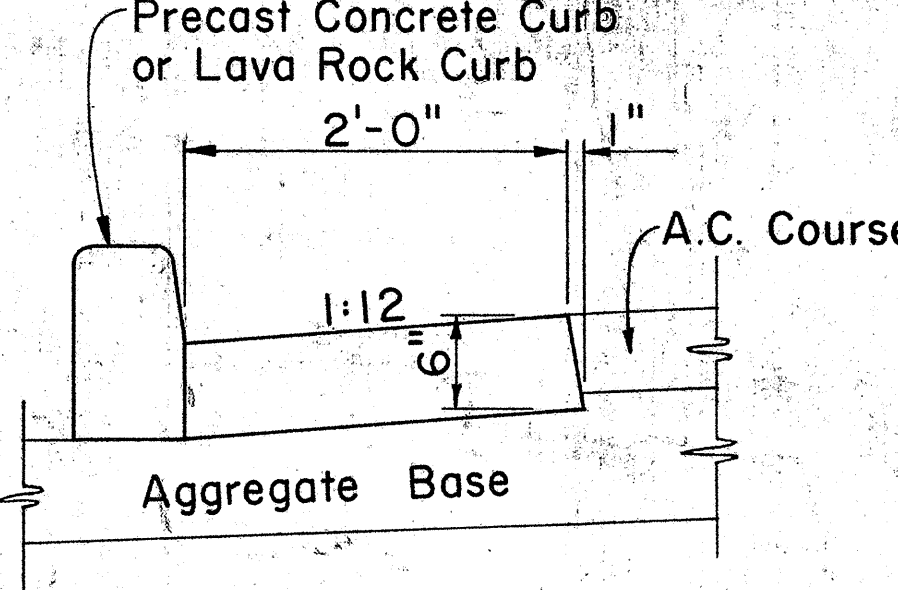
CURB, TYPE 2A



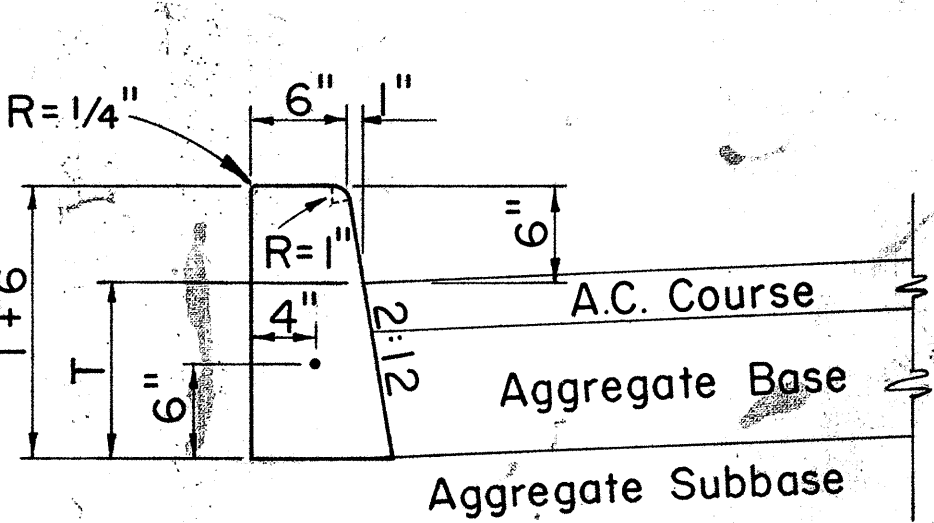
CURB & GUTTER, TYPE 2AG



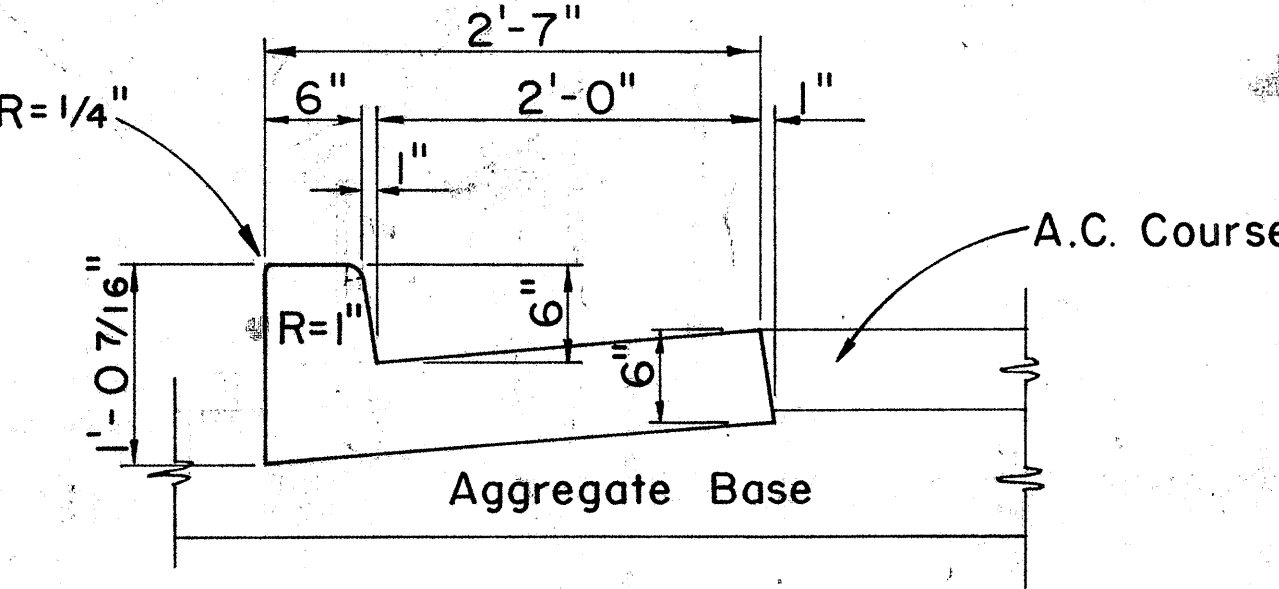
CURB & GUTTER, TYPE 2AGM



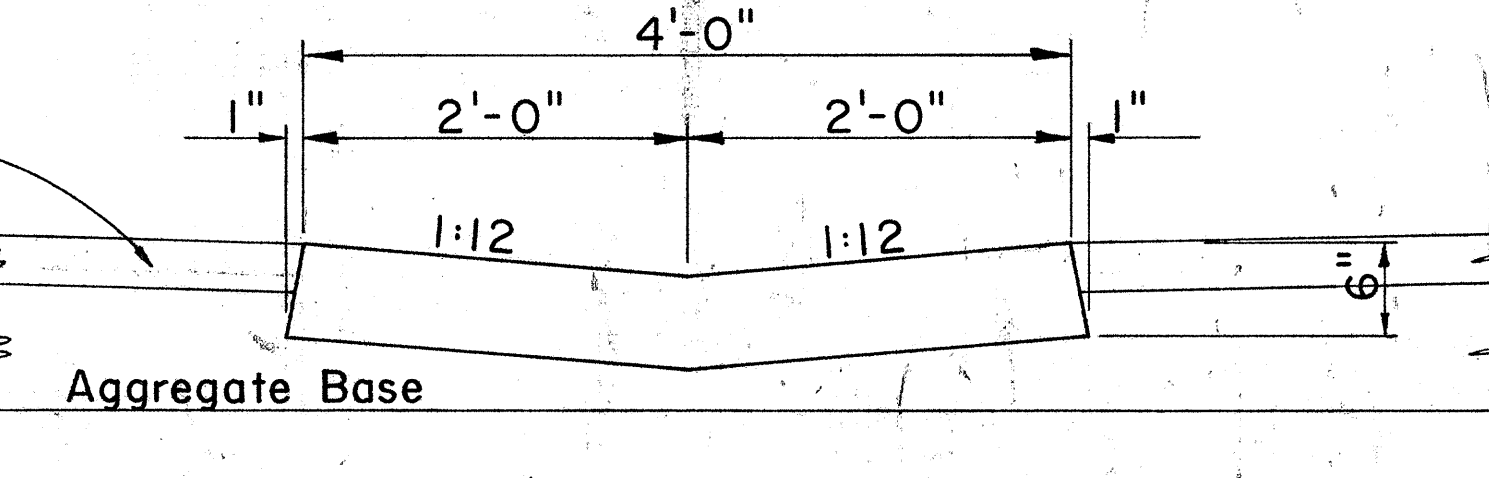
GUTTER, TYPE 2A



CURB, TYPE 2D



CURB & GUTTER, TYPE 2DG



GUTTER, TYPE 2G

CAST-IN-PLACE CONCRETE CURBS AND/OR GUTTERS
 Scale: 1" = 1'-0"

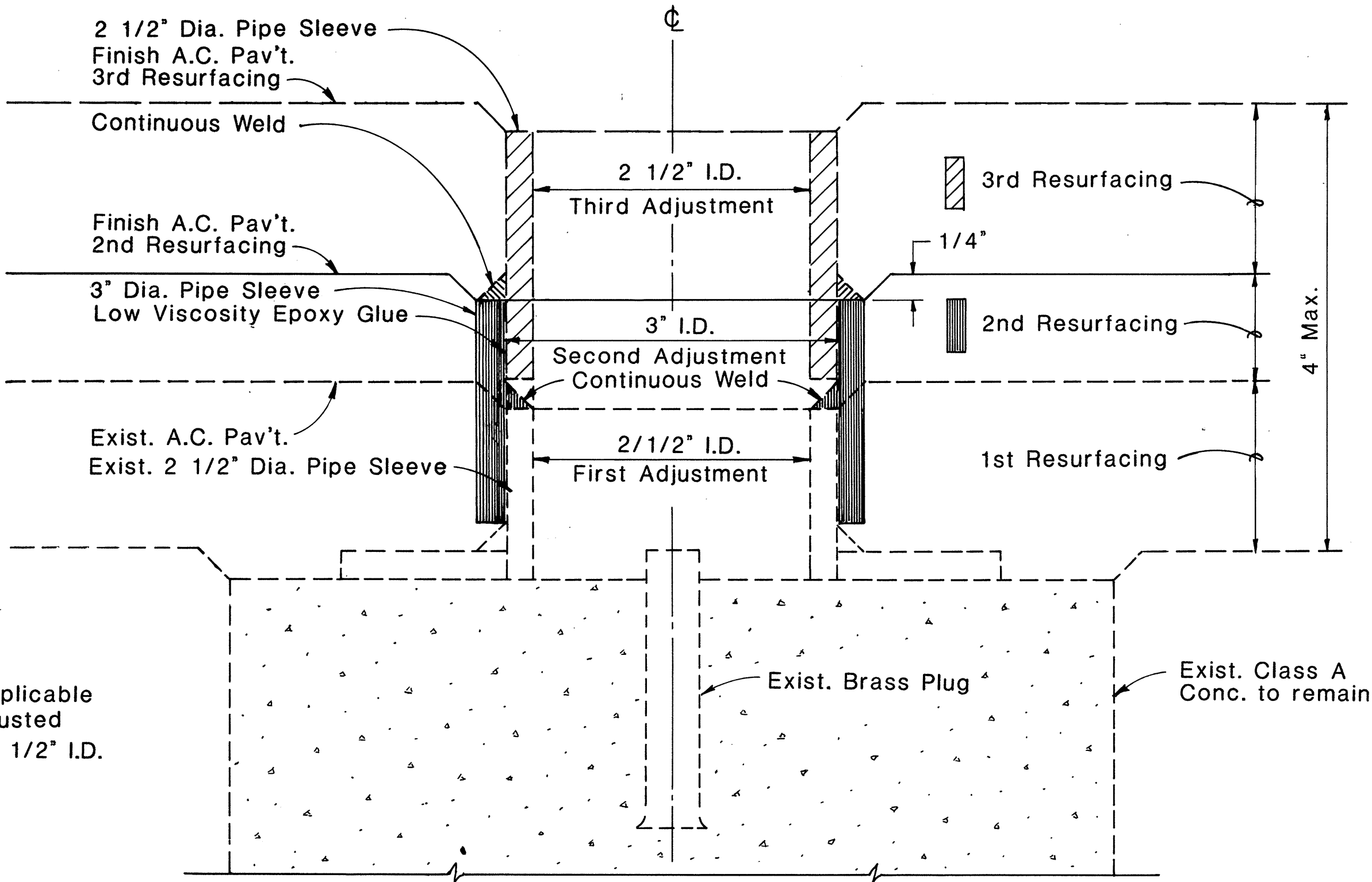
APPROVAL RECOMMENDED:
 HIGHWAY DESIGN ENGINEER
 DATE: 12-4-69

APPROVED:
 ASSISTANT CHIEF, ENGINEERING
 DATE: 12-10-69

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. OF SHEETS DD 6091

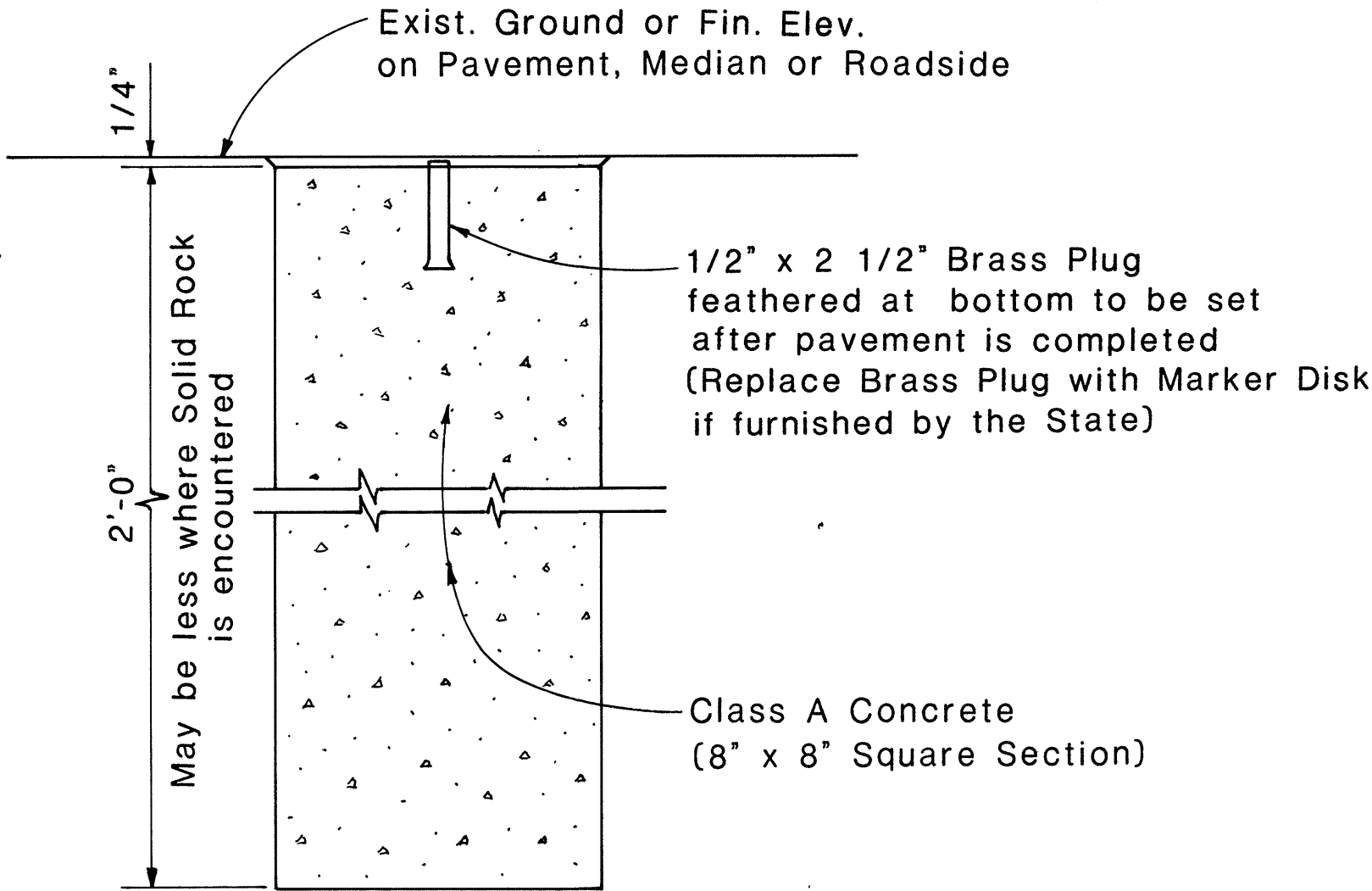
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	125	156



NOTE:
This detail is applicable only if initial adjusted pipe sleeve is 2 1/2" I.D.

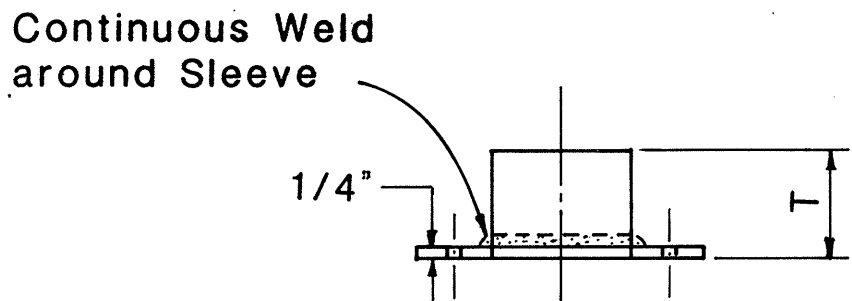
DETAIL FOR CENTERLINE MONUMENT (2ND & 3RD) ADJUSTMENTS

FULL SIZE



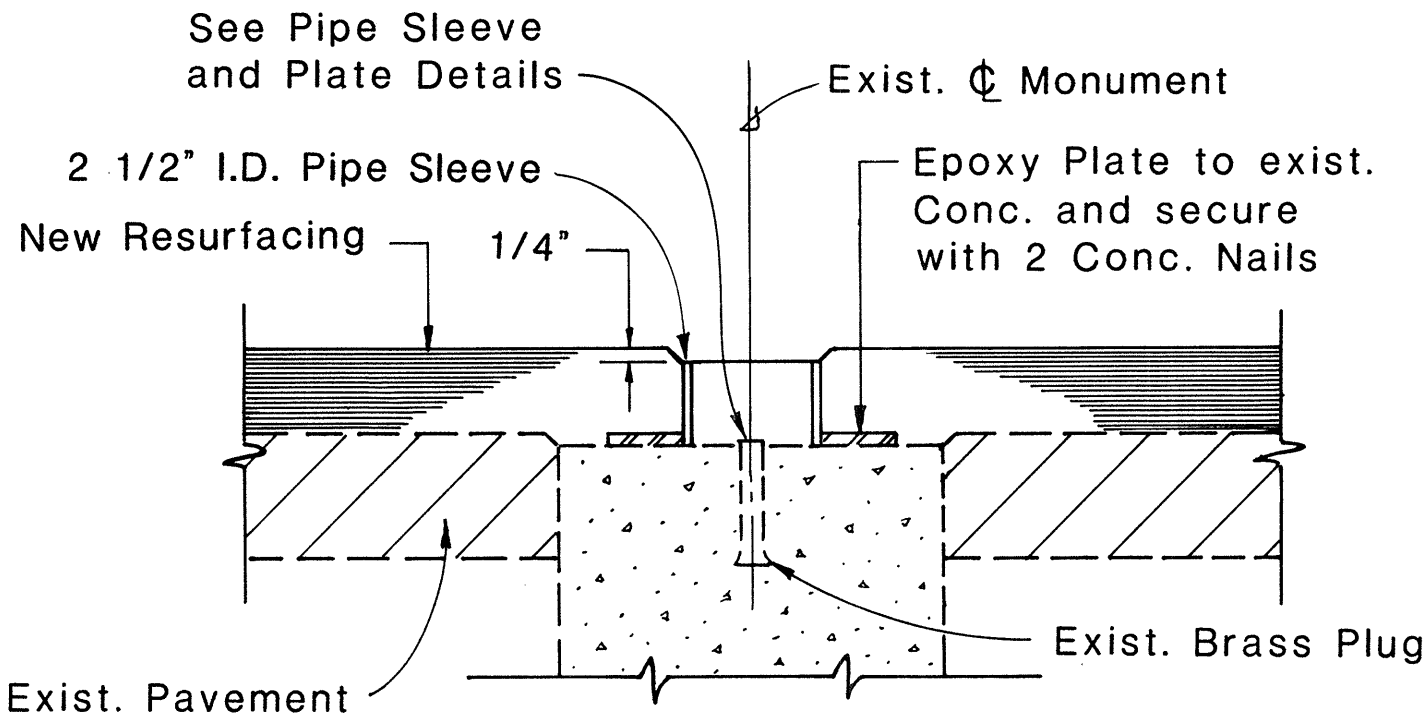
DETAIL FOR CENTERLINE & REFERENCE SURVEY MONUMENT

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



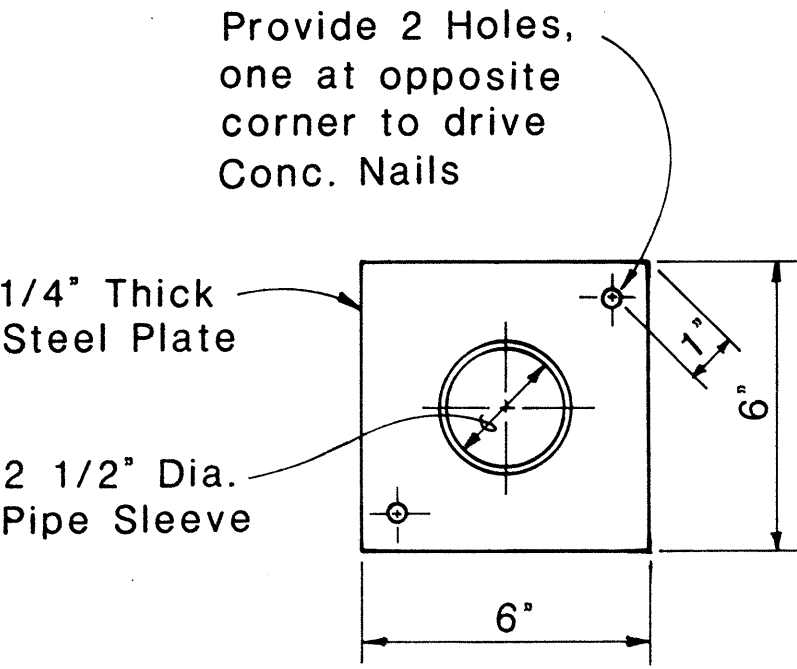
T = New Resurfacing Thickness

PIPE SLEEVE & PLATE ELEVATION



SECTION THRU MONUMENT

- NOTE:
- Adjustment of Centerline Monuments will not be paid for separately, but shall be considered incidental to the various contract items.
 - These Adjustment Details also apply to Centerline Monuments utilized as Stationline Reference Points.



PIPE SLEEVE & PLATE PLAN

DETAILS FOR ADJUSTED CENTERLINE MONUMENT

Scale: 3" = 1'-0"

APPROVAL RECOMMENDED:

Mike Mima 6-20-83
HIGHWAY DESIGN ENGINEER DATE

APPROVED:
S. Fujiyama 6-22-83
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED	
		BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

**CENTERLINE AND REFERENCE
SURVEY MONUMENT**

Scale: As Shown Date: May, 1983

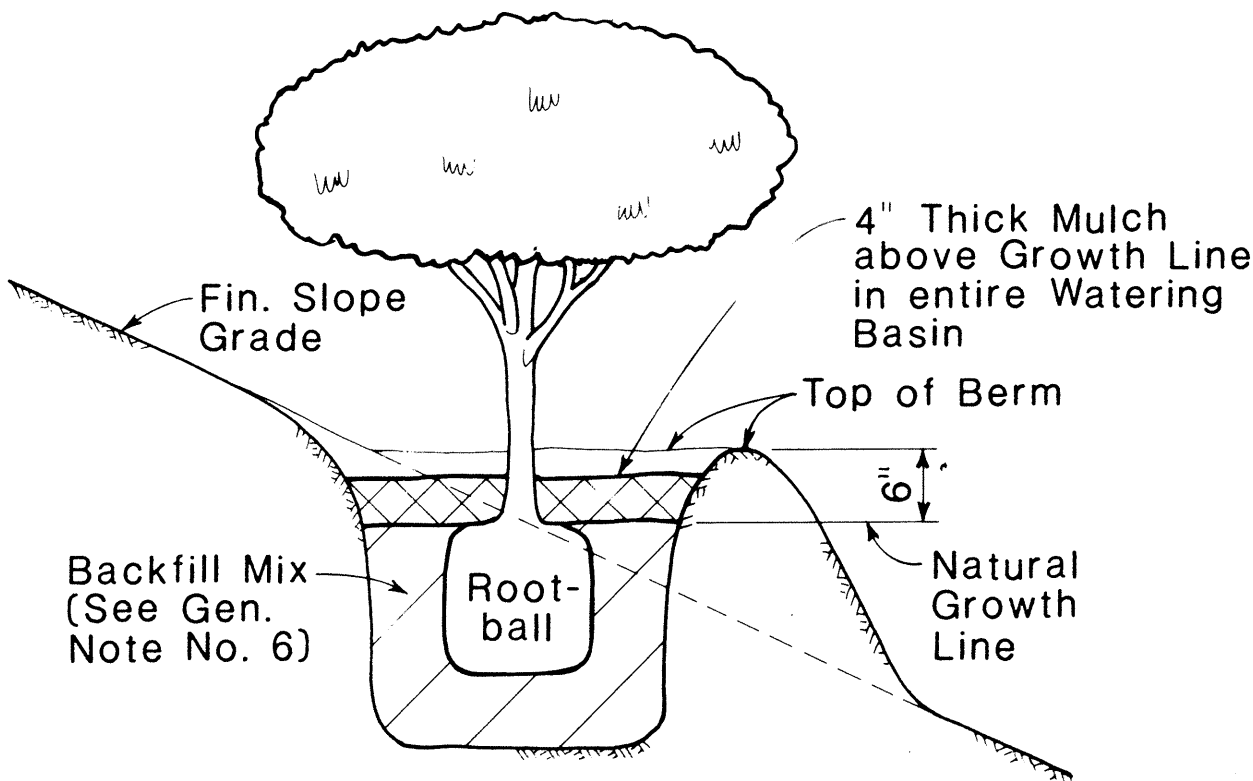
SHEET NO. OF SHEETS

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	127	156

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES, MEASUREMENTS AND SITE CONDITION, INCLUDING LOCATION OF ALL EXISTING UTILITIES.
2. PLANTING WILL NOT COMMENCE UNTIL THE PLANTING AREA IS PREPARED TO FINISH GRADE.
3. PRIOR TO TREE HOLE EXCAVATION ALL PLANTING LOCATIONS SHALL BE STAKED OUT BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
4. SHRUB AND TREE HOLES SHALL BE AT LEAST TWO TIMES THE DIAMETER AND ONE AND ONE HALF TIMES THE DEPTH OF THE ROOTBALL OR THE ROOTBALL DIMENSIONS PLUS THE MINIMUM CLEARANCES SHOWN ON THE PLANS, WHICHEVER IS GREATER.
5. IF CORAL, ROCK, HARD PAN OR UNSUITABLE MATERIAL IS ENCOUNTERED WHILE EXCAVATING FOR THE PLANTING HOLE, THE MATERIAL SHALL BE BROKEN UP OR REMOVED AT LEAST 12 INCHES BEYOND THE NORMAL DIMENSIONS OF THE HOLE AS DIRECTED BY THE ENGINEER.
6. BACKFILL MIX SHALL CONSIST OF 3 PARTS OF SOIL, 1 PART OF MANURE AND 1 PART OF ORGANIC SOIL CONDITIONER.
7. MULCH SHALL BE PLACED OVER THE ENTIRE WATERING BASIN WITHIN 2 WEEKS AFTER PLANTING.
8. GUY WIRES, FLAGGING, STAKES, WINDBREAKS, ETC. SHALL BE MAINTAINED AND REPLACED IF NECESSARY BY THE CONTRACTOR UNTIL THE TREE OR SHRUB IS ABLE TO STAND BY ITSELF. WHEN IT BECOMES UNNECESSARY THE CONTRACTOR SHALL REMOVE AND DISPOSE.
9. GUY WIRE SHALL BE NO. 11 GAGE GALVANIZED STEEL WIRE FOR TREES 3 INCHES IN DIAMETER OR LESS AND NO. 9 GAGE FOR TREES OVER 3 INCHES IN DIAMETER.
10. ORGANIC SOIL CONDITIONERS, MULCH, GUY WIRES & TURN BUCKLES, YELLOW FLAGGING TAPES, STAKES, RUBBER HOSE, BACKFILL MIX AND WINDBREAKS SHALL BE CONSIDERED INCIDENTAL TO PLANTING AND TRANSPLANTING OF TREES AND SHRUBS AND WILL NOT BE MEASURED FOR PAYMENT.
11. SECTION 619--PLANTING AND TRANSPLANTING OF THE LATEST DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AS AMENDED IS APPLICABLE TO THESE DETAILS.



SLOPE PLANTING DETAIL
(TREE AND SHRUB)
Not to Scale

APPROVAL RECOMMENDED:
Mike Miura 8-23-83
HIGHWAY DESIGN ENGINEER DATE
APPROVED:
S. Fujiyama 8-23-83
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED	
		BY	DATE
1	Added Slope Planting Detail	<i>SJO</i>	12-13-83

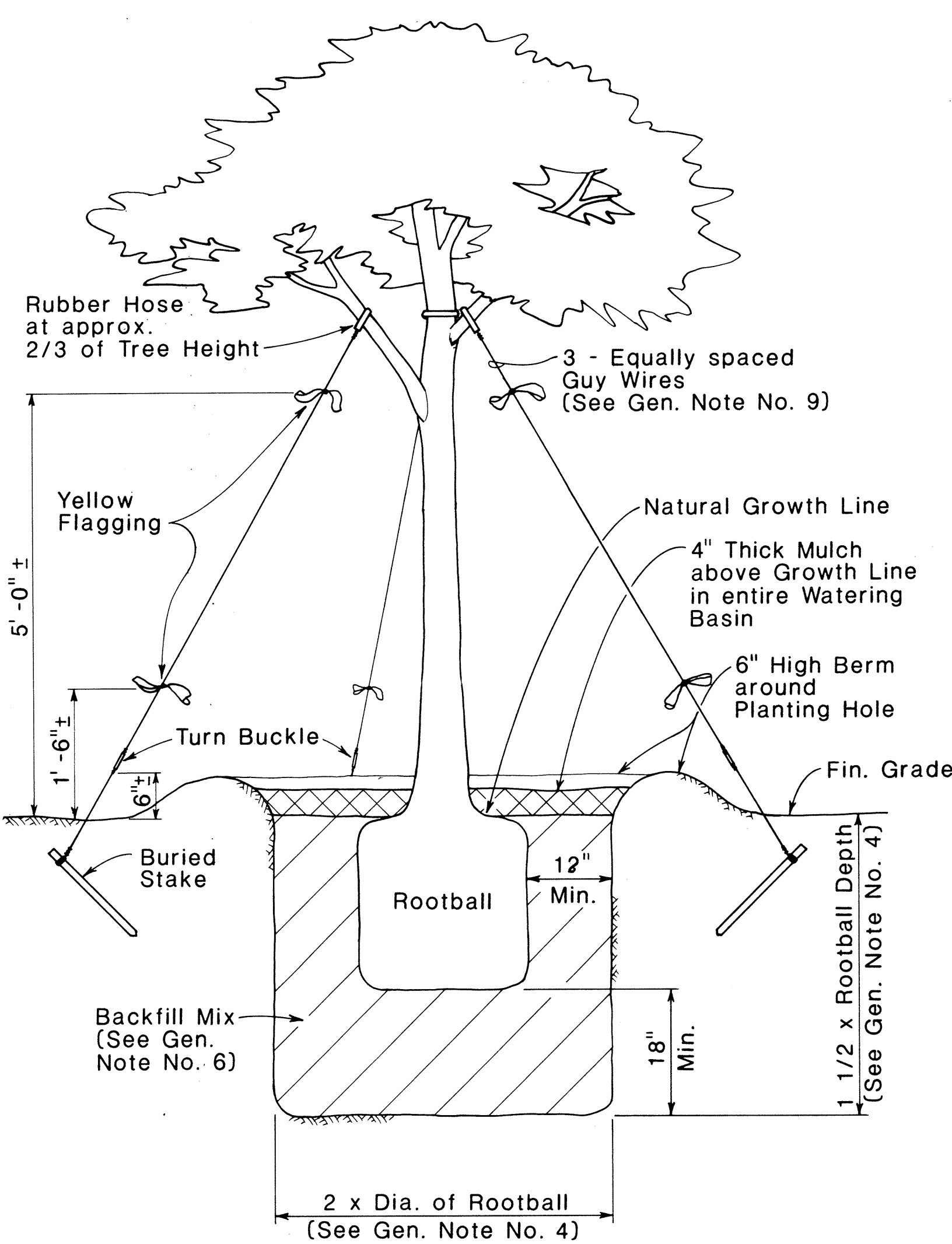
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

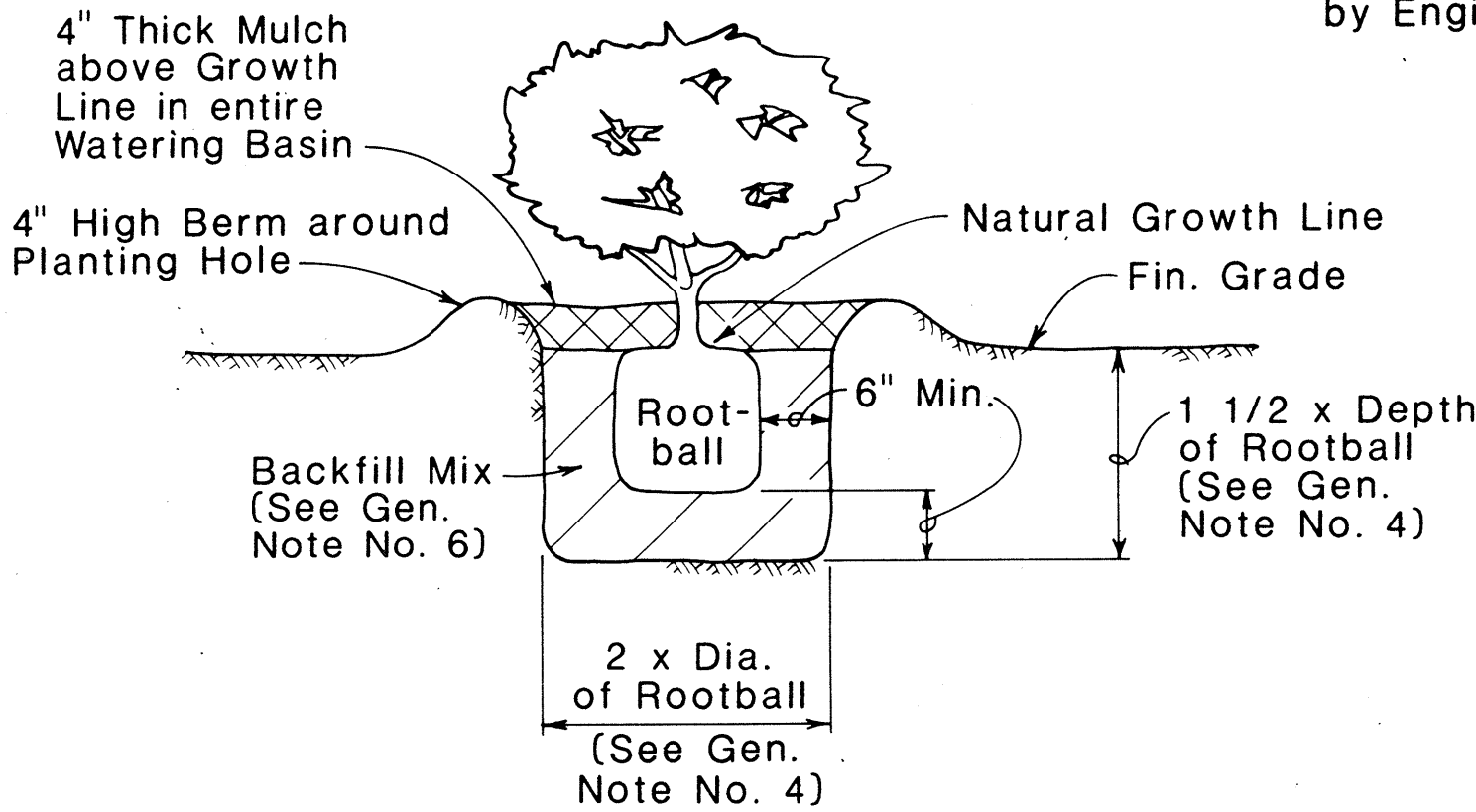
LANDSCAPING
SHRUB AND TREE PLANTING

Scale: As Shown Date: June, 1983

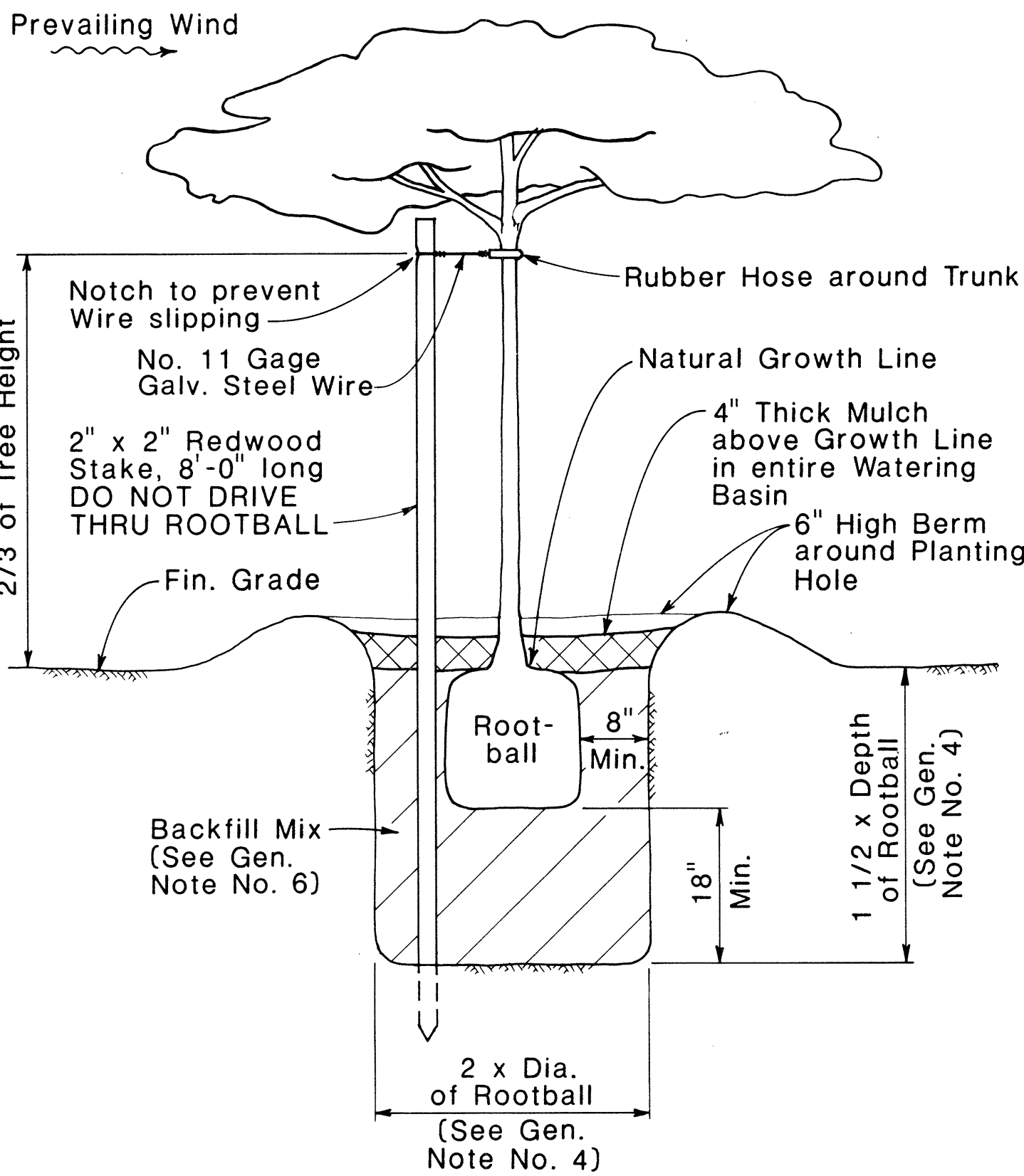
SHEET NO. OF SHEETS



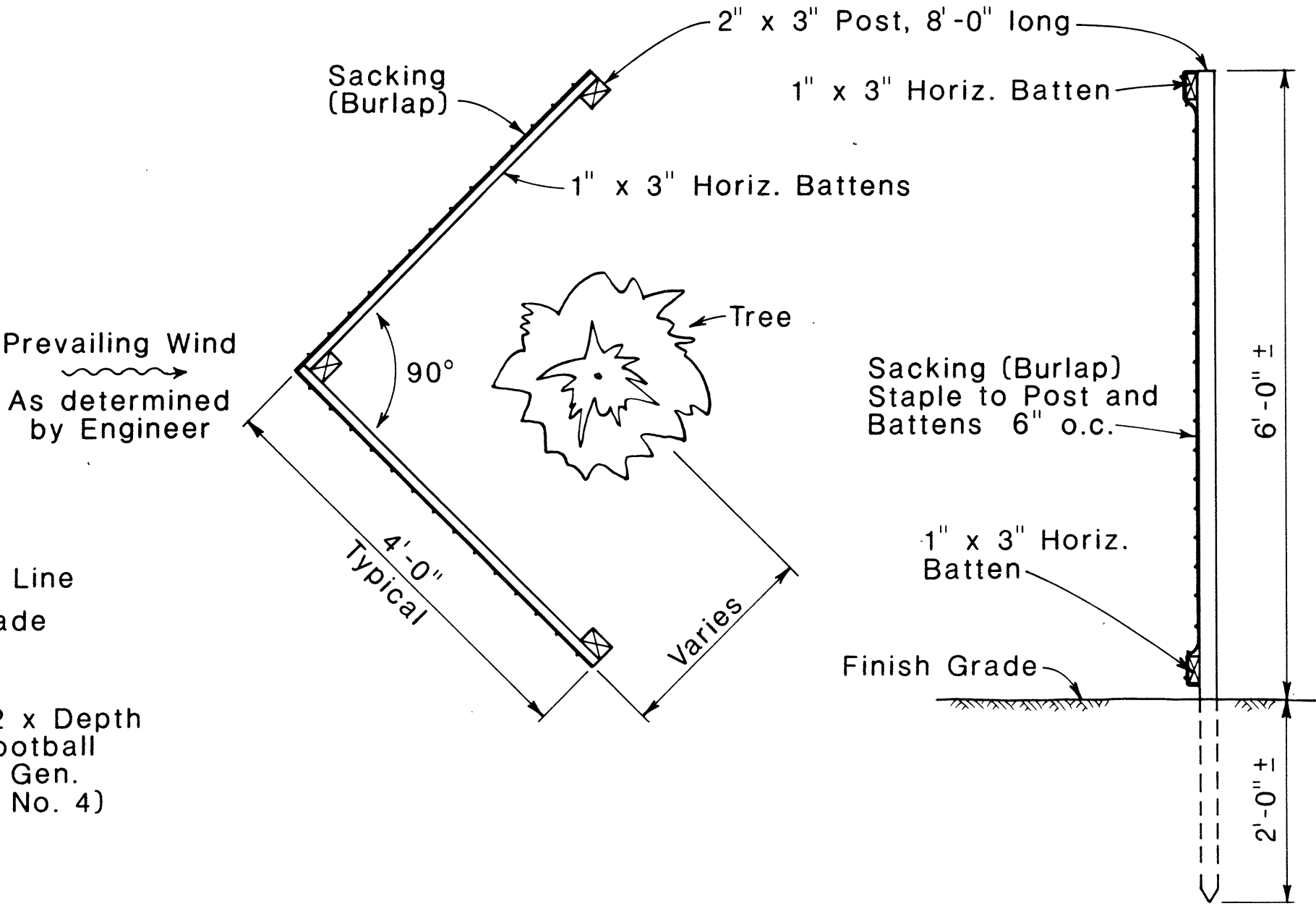
TREE PLANTING DETAIL
(OVER 6-FT. HIGH)
Not to Scale



SHRUB PLANTING DETAIL
Not to Scale



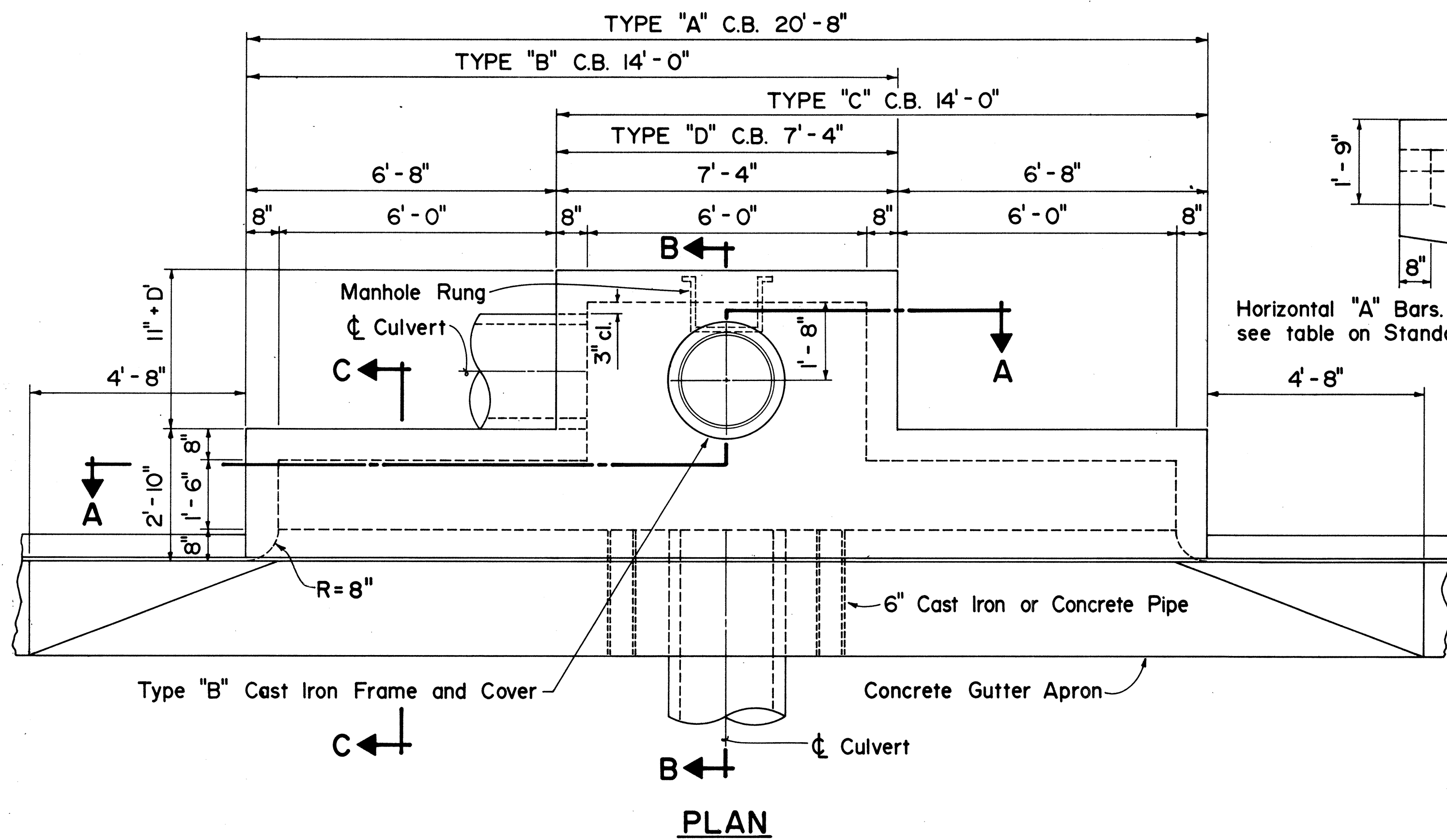
TREE PLANTING DETAIL
(6-FT. MAX. HEIGHT)
Not to Scale



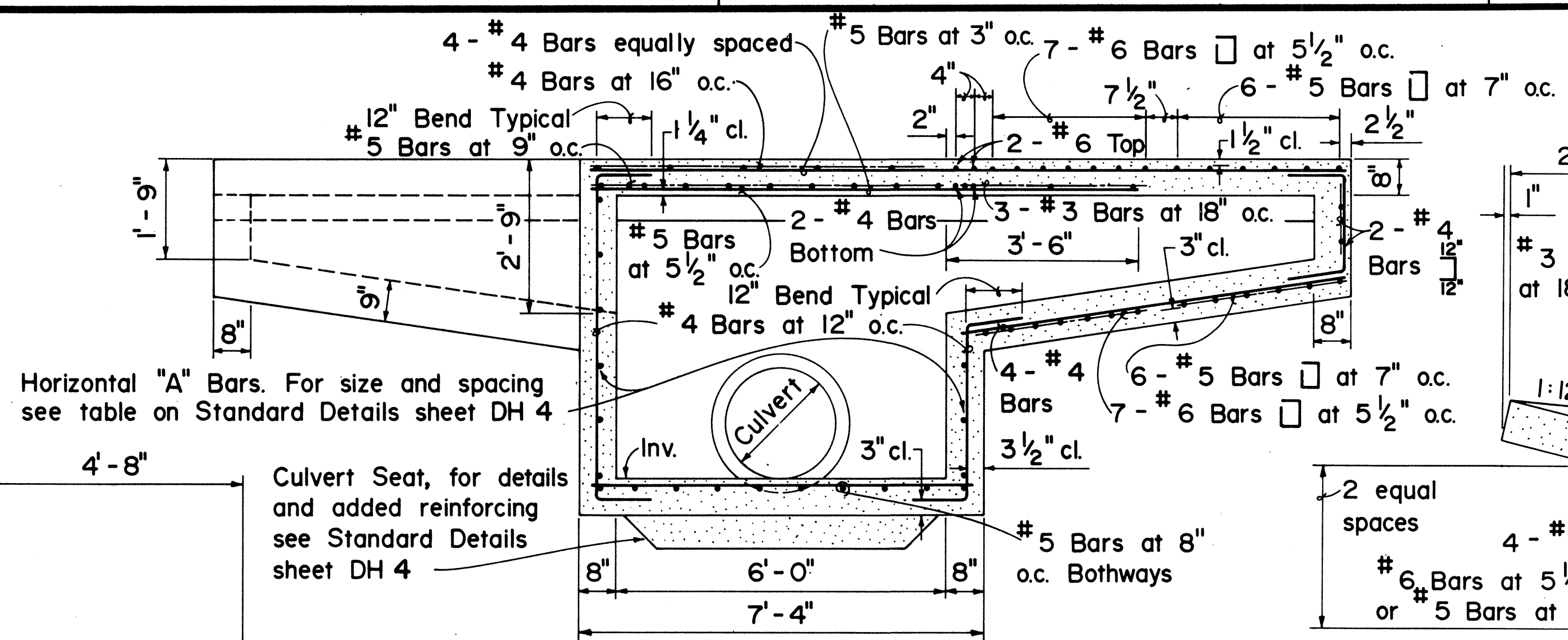
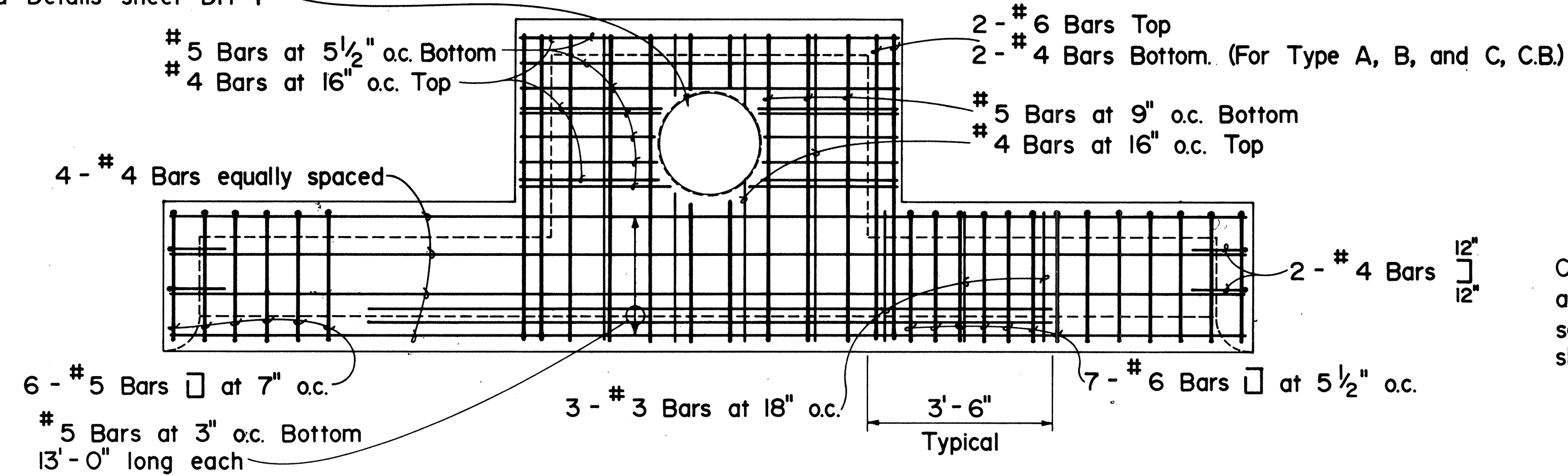
WINDBREAK DETAILS
(FOR TREES LESS THAN 8-FT. HIGH)
Not to Scale

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
ORIGINAL	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(6) F-063-1(7)	1984	128	156

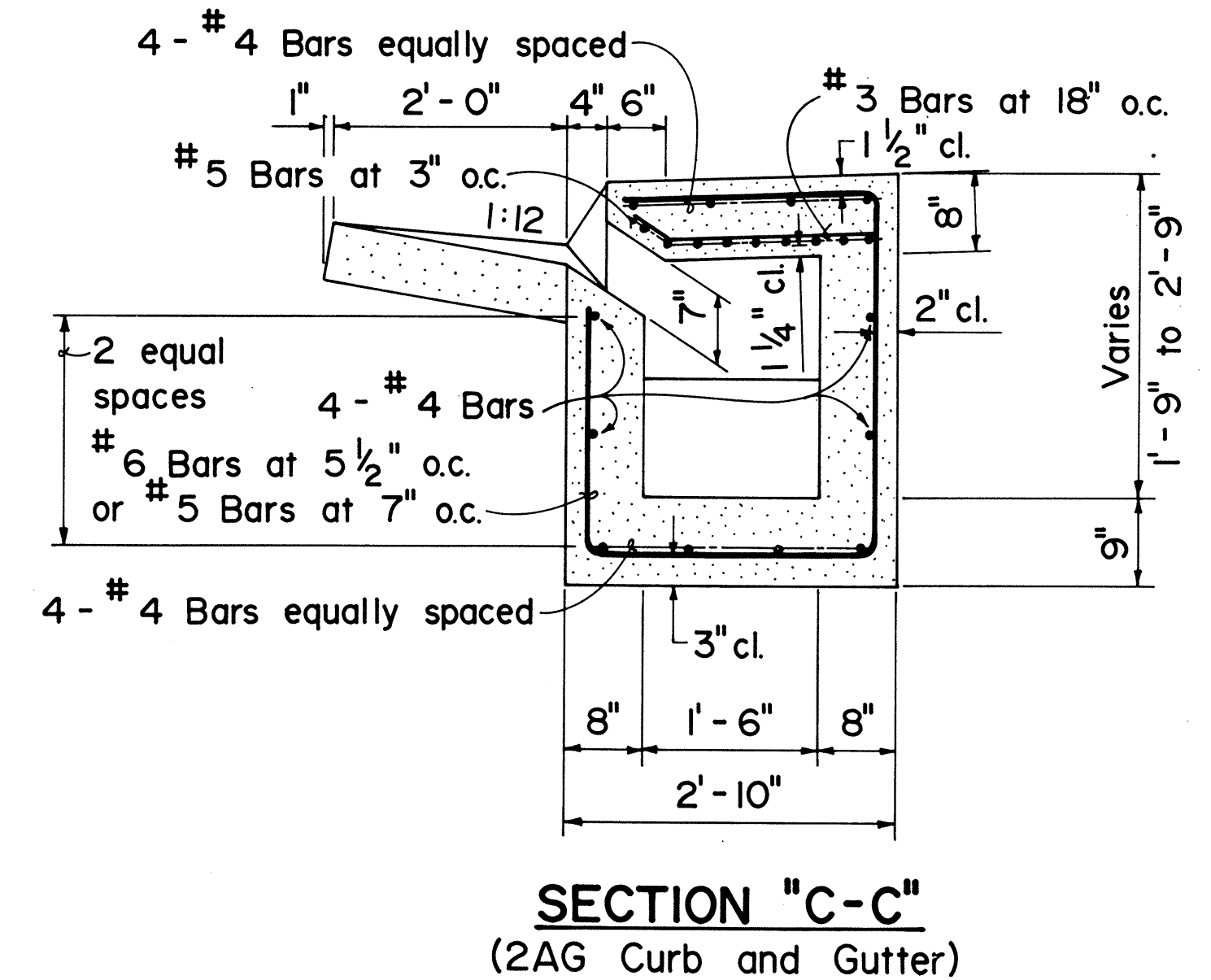
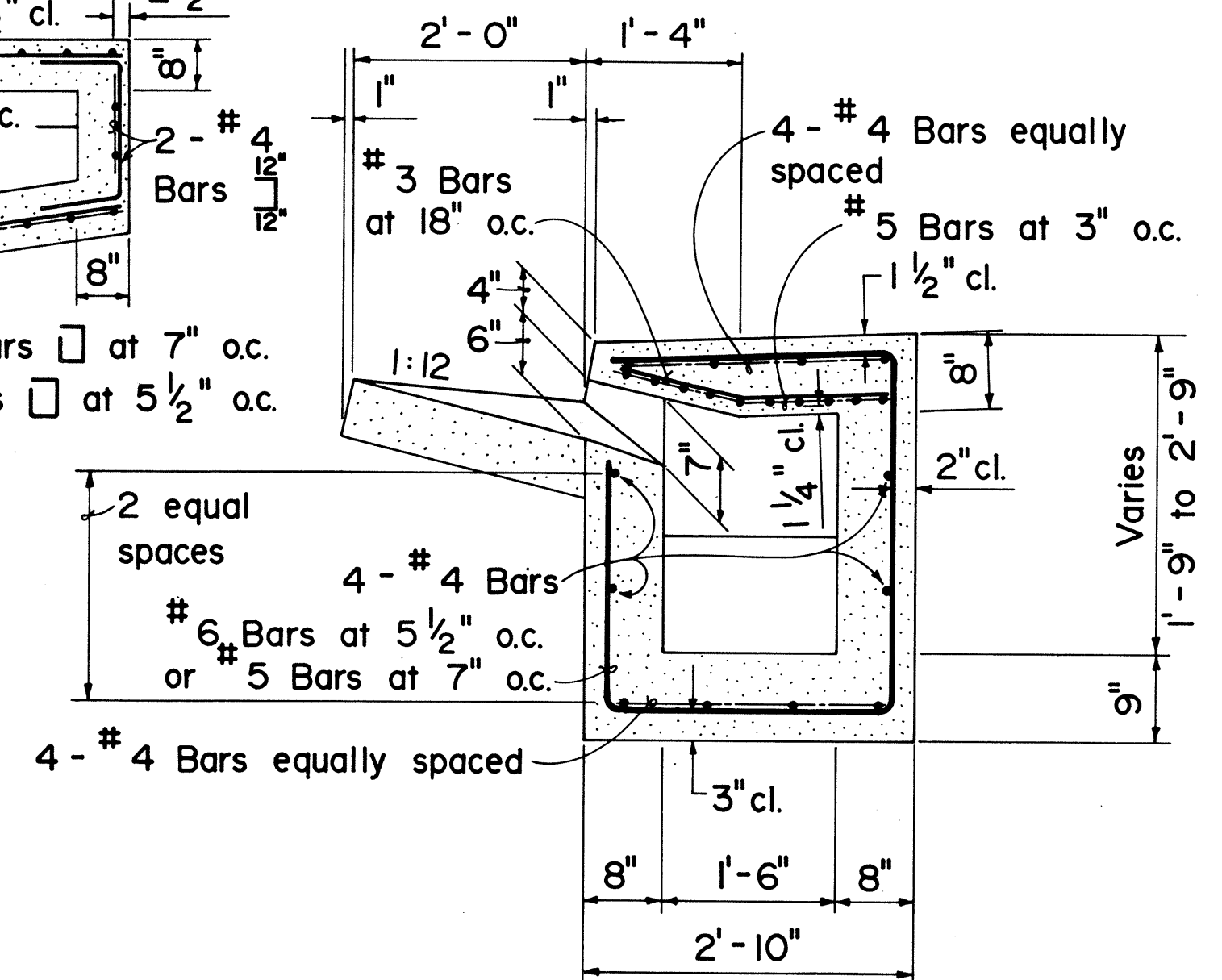
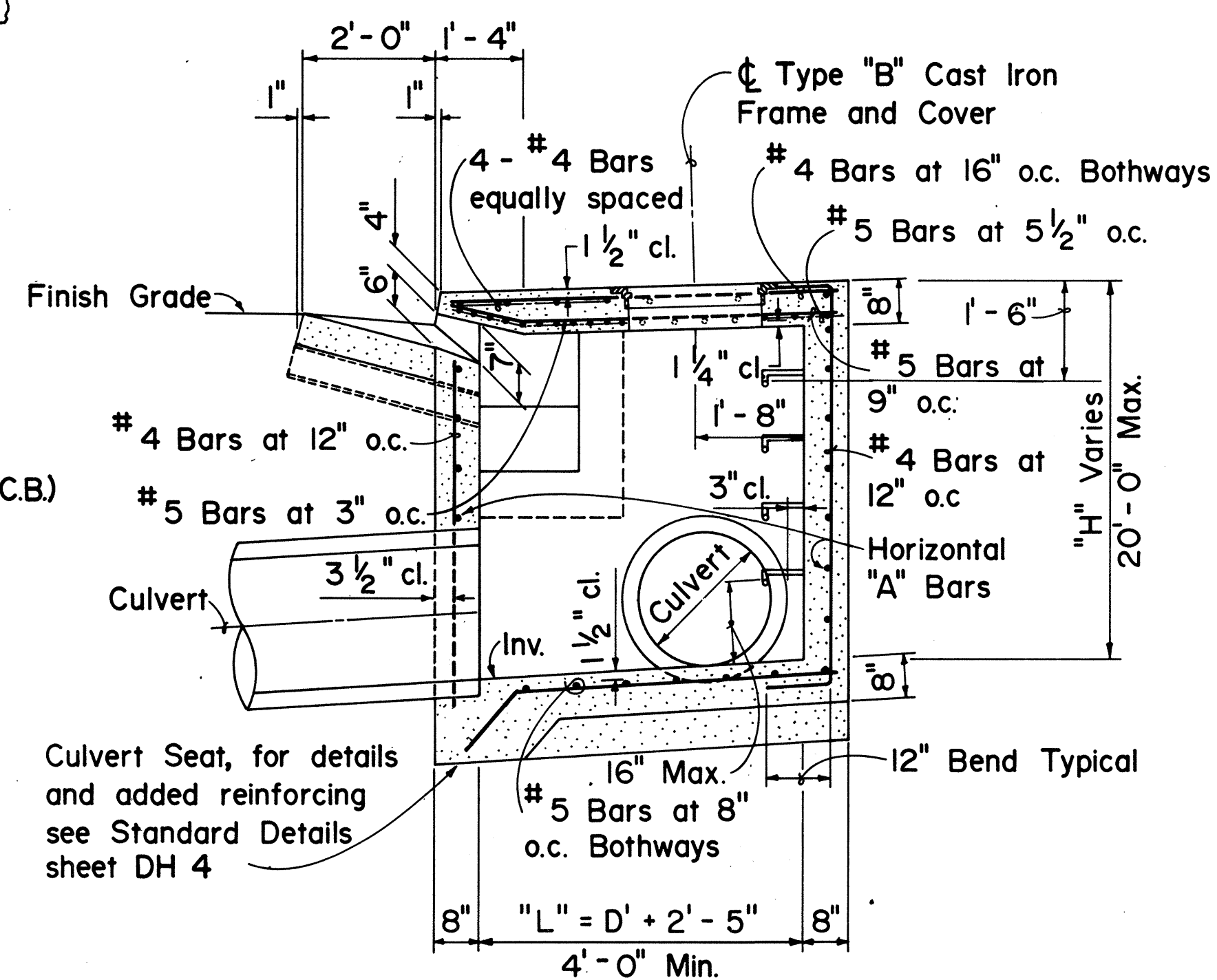


Opening for Type "B" Cast Iron Frame and Cover. For added reinforcing around hole see Standard Details sheet DH 4



Horizontal "A" Bars. For size and spacing see table on Standard Details sheet DH 4

Culvert Seat, for details and added reinforcing see Standard Details sheet DH 4



APPROVAL RECOMMENDED:

[Signature] 12/3/80
HYDRAULIC DESIGN ENGINEER DATE

APPROVED:

[Signature] 12/4/80
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1.	Supersedes Sht. DH 1 approved 12/17/69	H.T.	12/4/80
2.	Define "L" - Section "B-B", change bottom slab spacing 9" to 8" in Section "B-B"	N.S.	3-10-84

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS TYPE A, B, C, & D CATCH BASIN	
Not To Scale	Date: Dec. 1980
SHEET NO. OF SHEETS DH 1	

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

TYPE "A", "B", "C" & "D" CATCH BASIN

2 1/2" 12-#5 $\square$ at 7" o.c. 2 1/2" 12-#5 $\square$ at 7" o.c. 2 1/2" 24-9" 3-#4 Bars 2-#4 $\square$ #4 12" Bend Typical 3-#4 Bars #5 $\square$ at 7" o.c. SECTION "B-B"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	127	156

Technical drawing of a manhole structure, showing cross-section and plan views with dimensions and reinforcement details.

Cross-Section View (Top):

- Top reinforcement: 4-#7 Bars at 3" o.c. Top & Bottom*
- 12" Bend Typical
- Dimensions: 1'-9" (total width), 2'-9" (inner width), 10" (inner height), 2" (top concrete thickness), 8" (bottom concrete thickness).
- Manhole Rungs 12" o.c.
- Horizontal "A" Bars. For size and spacing see table on Standard Details sheet DH 4.
- For PLAN view of wall reinforcing see Standard Details sheet DH 4.
- #4 Bars at 12" o.c.
- #5 Bars at 10" o.c.
- 3 1/2" clear
- #5 Bars at 8" o.c. Bothways
- 12" Bend Typical
- Dimensions: 8" (bottom concrete thickness), 6'-0" (inner width), 7'-4" (total width), 8" (bottom concrete thickness).
- 16" maximum (height of manhole opening)
- "H" Varies 20'-0" maximum
- 8" (bottom concrete thickness)
- 1'-9" (total width)
- 2'-9" (inner width)
- 10" (inner height)
- 2" (top concrete thickness)
- 8" (bottom concrete thickness)

Plan View (Bottom):

- Gutter Invert
- Dimensions: 2'-4" (total width), 2'-0" (inner width), 2'-0" (inner height), 2'-0" (total height).
- 8" (bottom concrete thickness)
- 6'-0" (inner width)
- 7'-4" (total width)
- 8" (bottom concrete thickness)
- 12" Bend Typical
- #5 Bars at 8" o.c. Bothways
- 12" Bend Typical
- 8" (bottom concrete thickness)
- 6'-0" (inner width)
- 7'-4" (total width)
- 8" (bottom concrete thickness)

SECTION

1/4 :12 slope or conform to sidewalk

Add 2-#3 x 7'-0" at 10" o.c.

2-#6 x 7'-0"

1-#5 Cont. at 8" o.c.

8-#4 at 8" o.c.

2-#8 x 7'-0"

4-#7 at 3" o.c. Top & Bottom*

#4 at 12" o.c. Bothways

#5 Bars at 5" o.c.

#5 Bars at 10" o.c.

#4 Bars at 12" o.c.

#5 Bars at 8" o.c. Bothways

12" Bend Typical

L = D + 2' - 5" (4'-0" Minimum)

For added reinforcing around culvert opening see Standard Details sheet DH 4.

Culvert Seat, for details and added reinforcing see Standard Details sheet DH 4.

APPROVAL RECOMMENDED:
Edith M. Lee 12/3/80
HYDRAULIC DESIGN ENGINEER DATE

APPROVED:
Herbert Takizishi 12/4/80
ASSISTANT CHIEF, ENGINEERING DATE

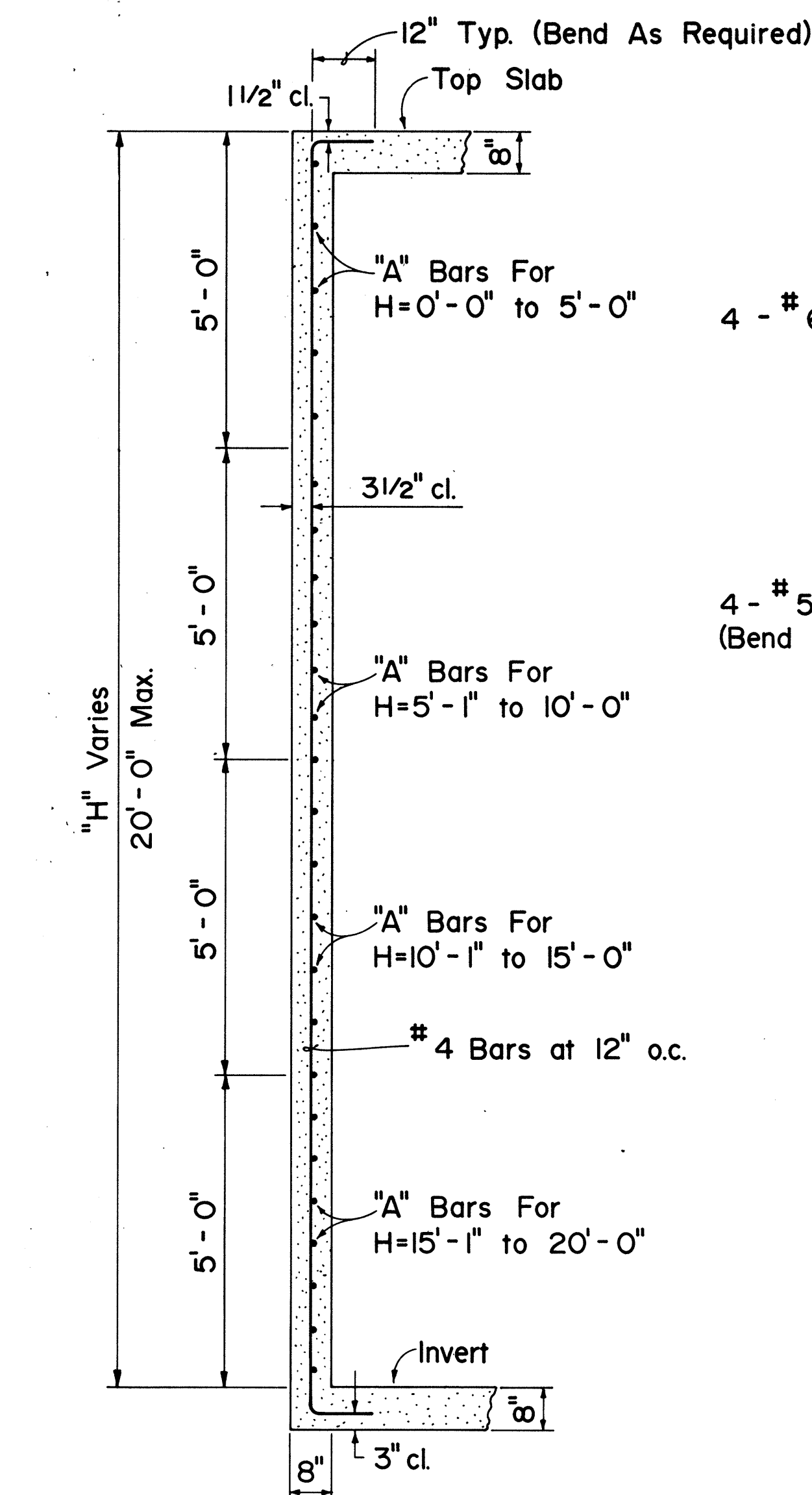
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

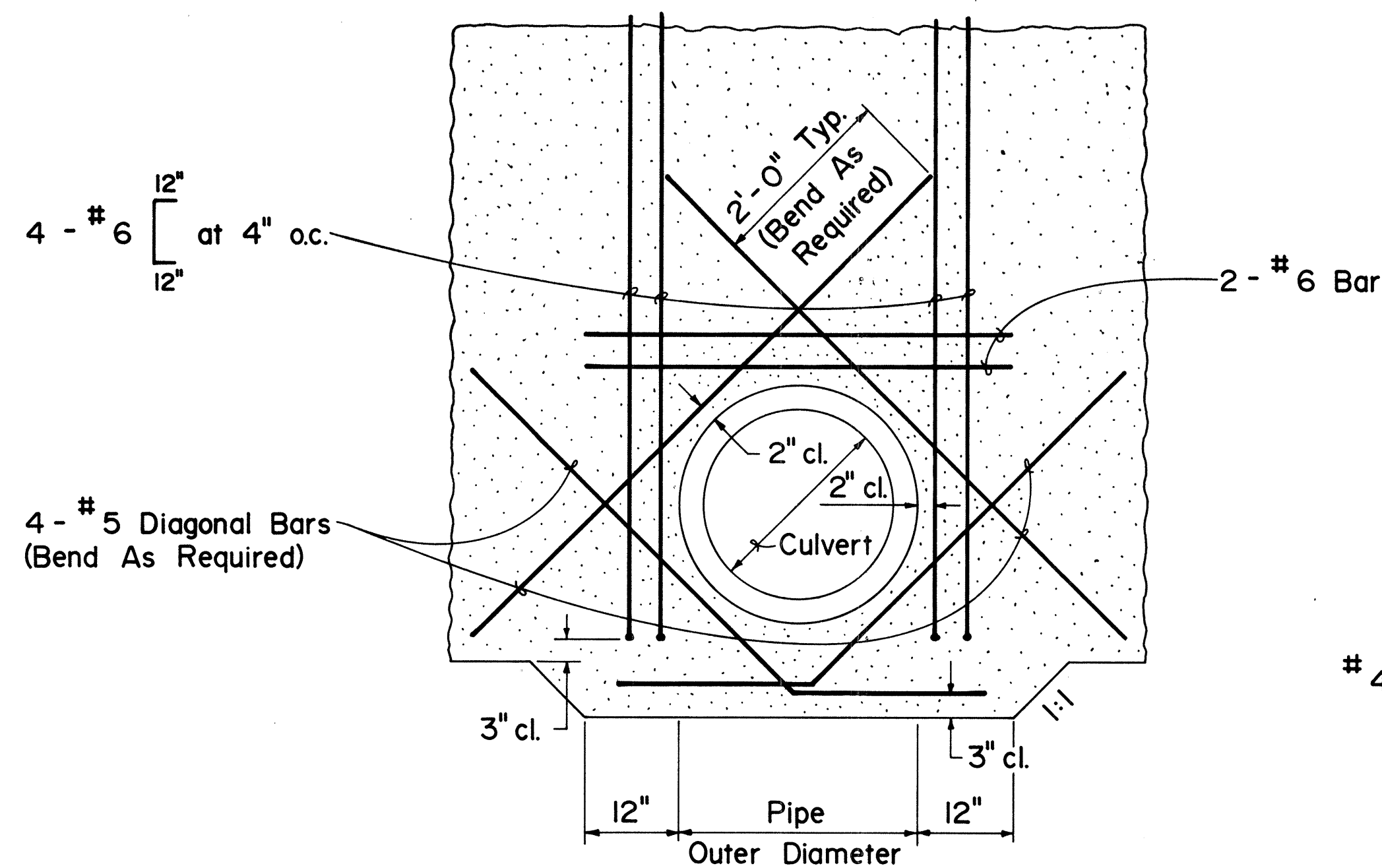
TYPE AI, BI, CI AND DI
CATCH BASIN

Not To Scale Date: Dec. 1980

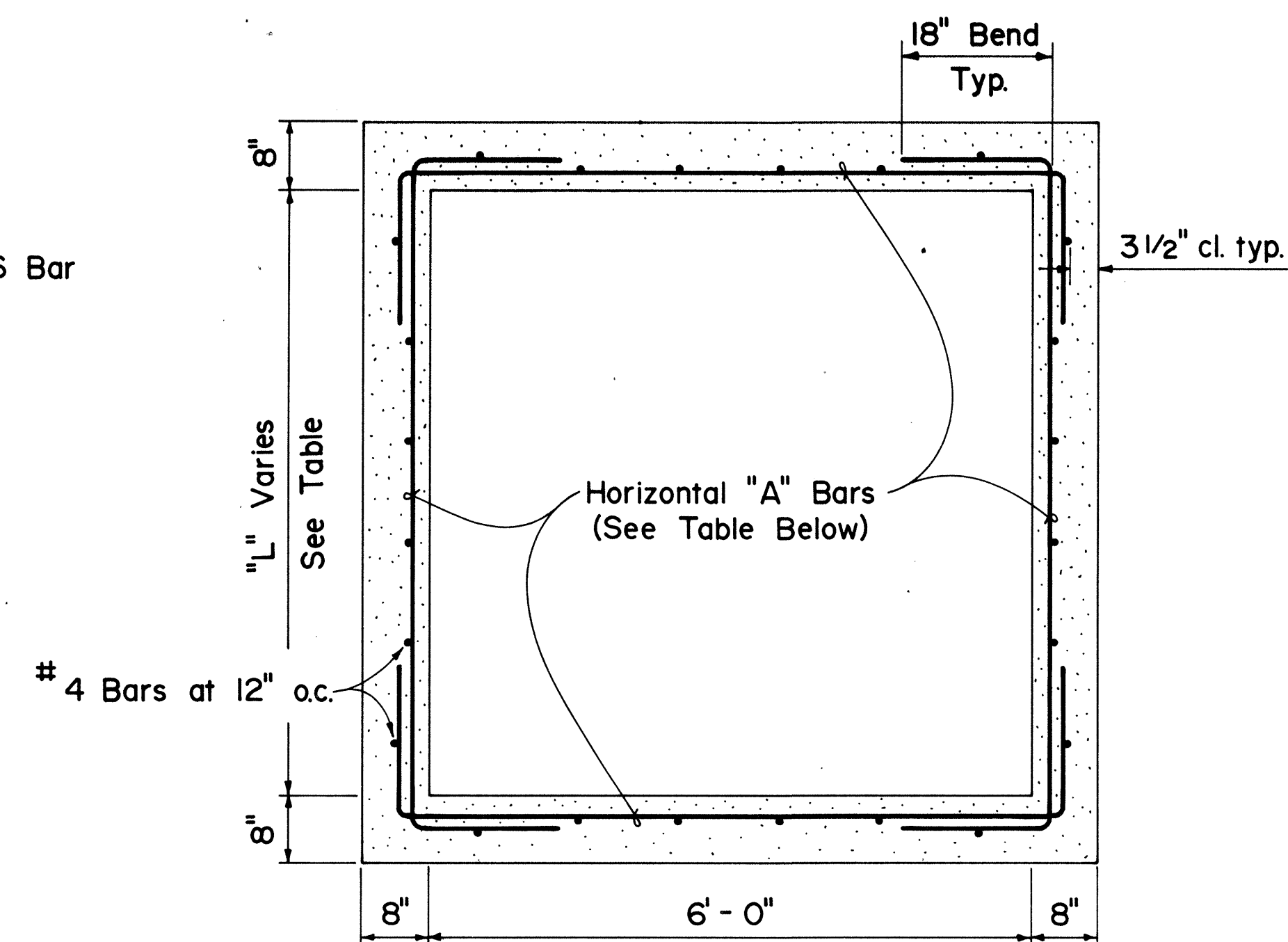
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	130	156



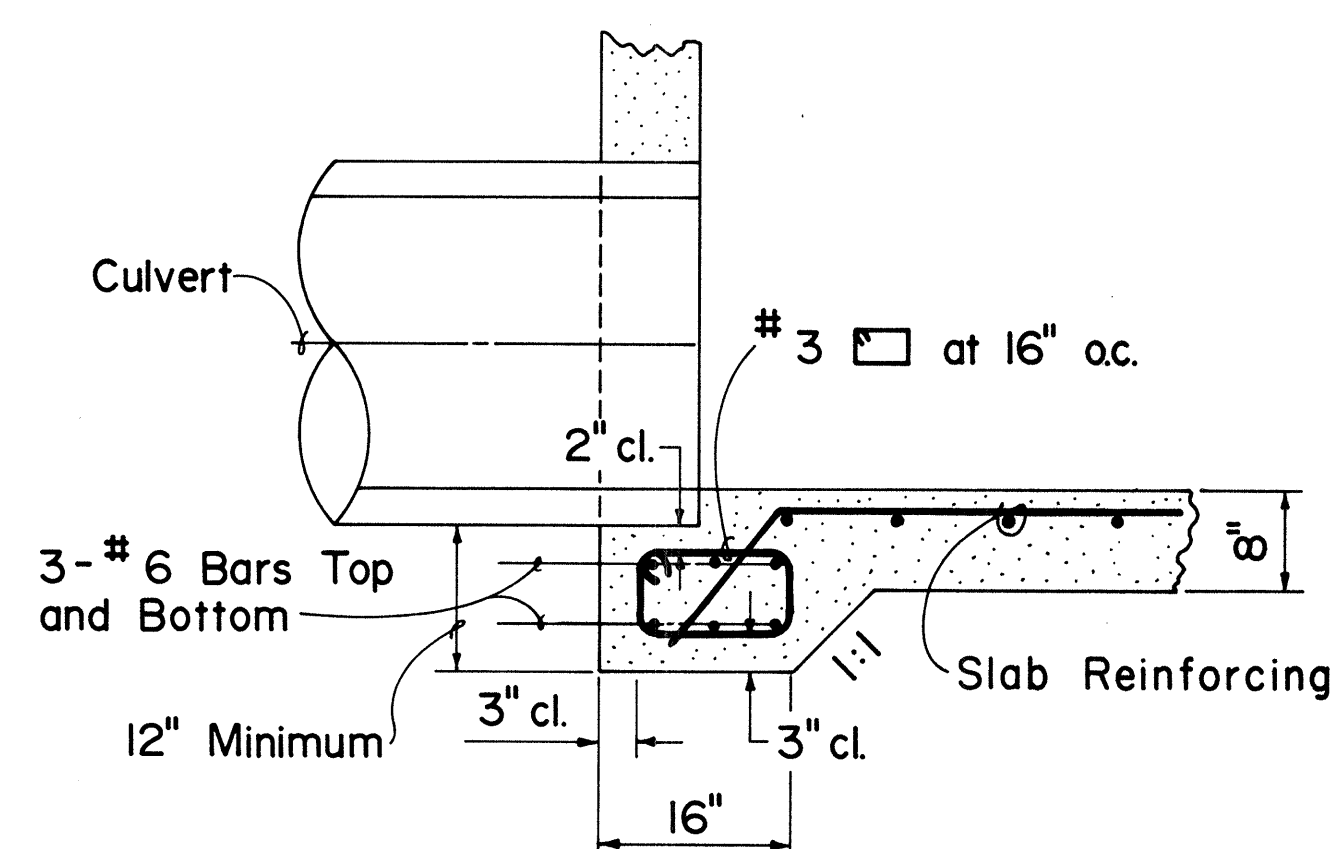
ELEVATION VIEW OF WALL SECTION



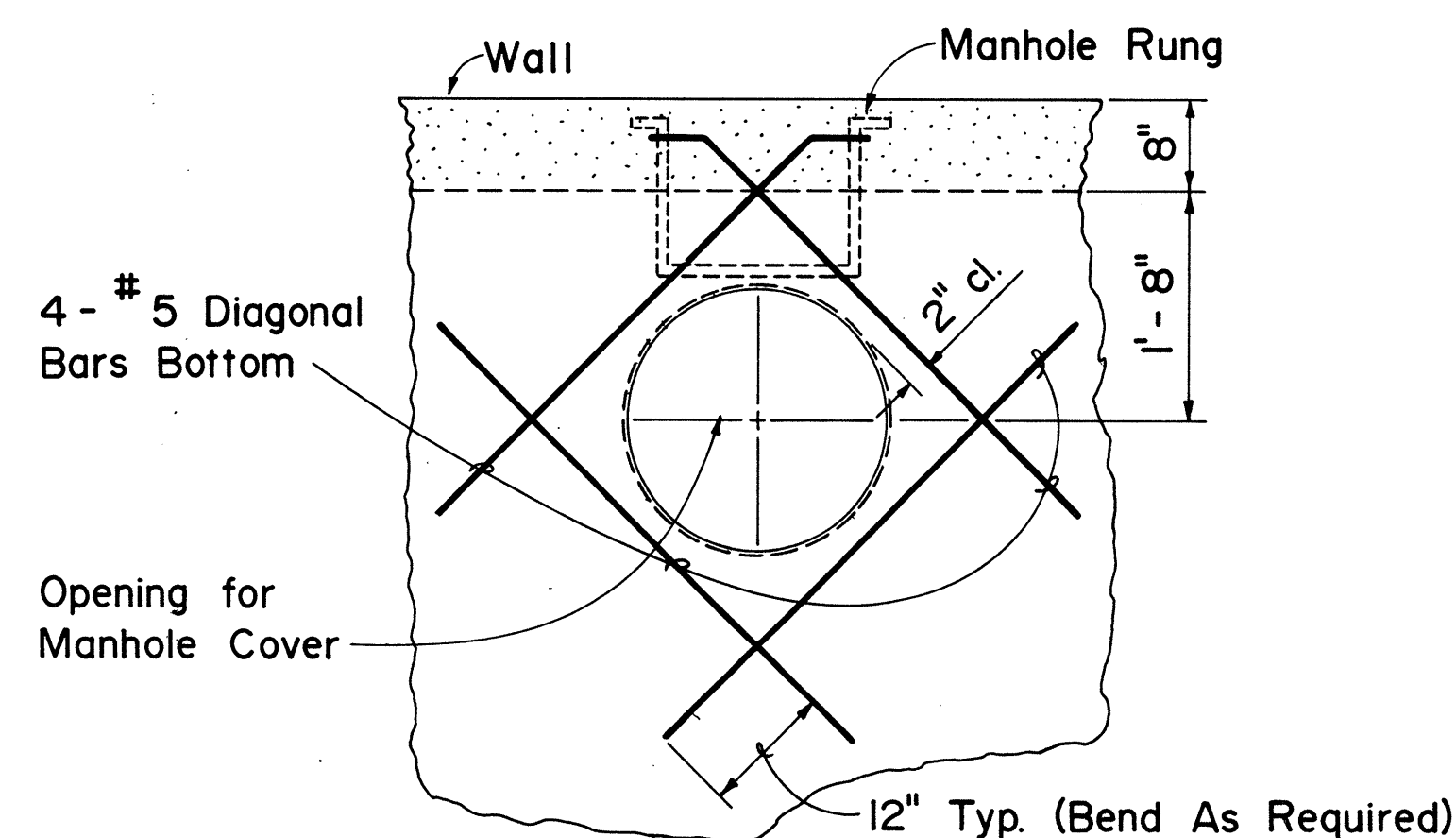
ADDED REINFORCING FOR CULVERT OPENINGS



PLAN VIEW OF WALL SECTION



DETAIL OF CULVERT SEAT



ADDED REINFORCING
FOR MANHOLE OPENING

HORIZONTAL "A" BARS					
"H" MAX. (FT.)	"L" MAX. (FT.)				
	4'-0"	6'-0"	7'-4"	8'-4"	9'-4"
0'-0" to 5'-0"	# 4 at 12" o.c.	# 4 at 10" o.c.	# 5 at 10" o.c.	# 5 at 8" o.c.	# 5 at 7" o.c.
5'-1" to 10'-0"	# 4 at 9" o.c.	# 5 at 9" o.c.	# 5 at 6" o.c.	N.A.	N.A.
10'-1" to 15'-0"	# 5 at 10" o.c.	# 5 at 6" o.c.	N.A.	N.A.	N.A.
15'-1" to 20'-0"	# 5 at 8" o.c.	N.A.	N.A.	N.A.	N.A.

NO.	REVISION	APPROVED BY	DATE
1.	Replaces Sht. DH 4 approved 12-17-69	H.T.	12/4/69
2.	Delete bar clearance in Culvert Seat Detail, "slab reinforcing" in lieu of bar size and clearance in Culvert Seat Detail	<i>[Signature]</i>	3-10-80

APPROVAL RECOMMENDED: Edward H. Lee 12/3/80
HYDRAULIC DESIGN ENGINEER DATE

APPROVED: Herbert Zafreshi 12/4/80
ASSISTANT CHIEF, ENGINEERING DATE

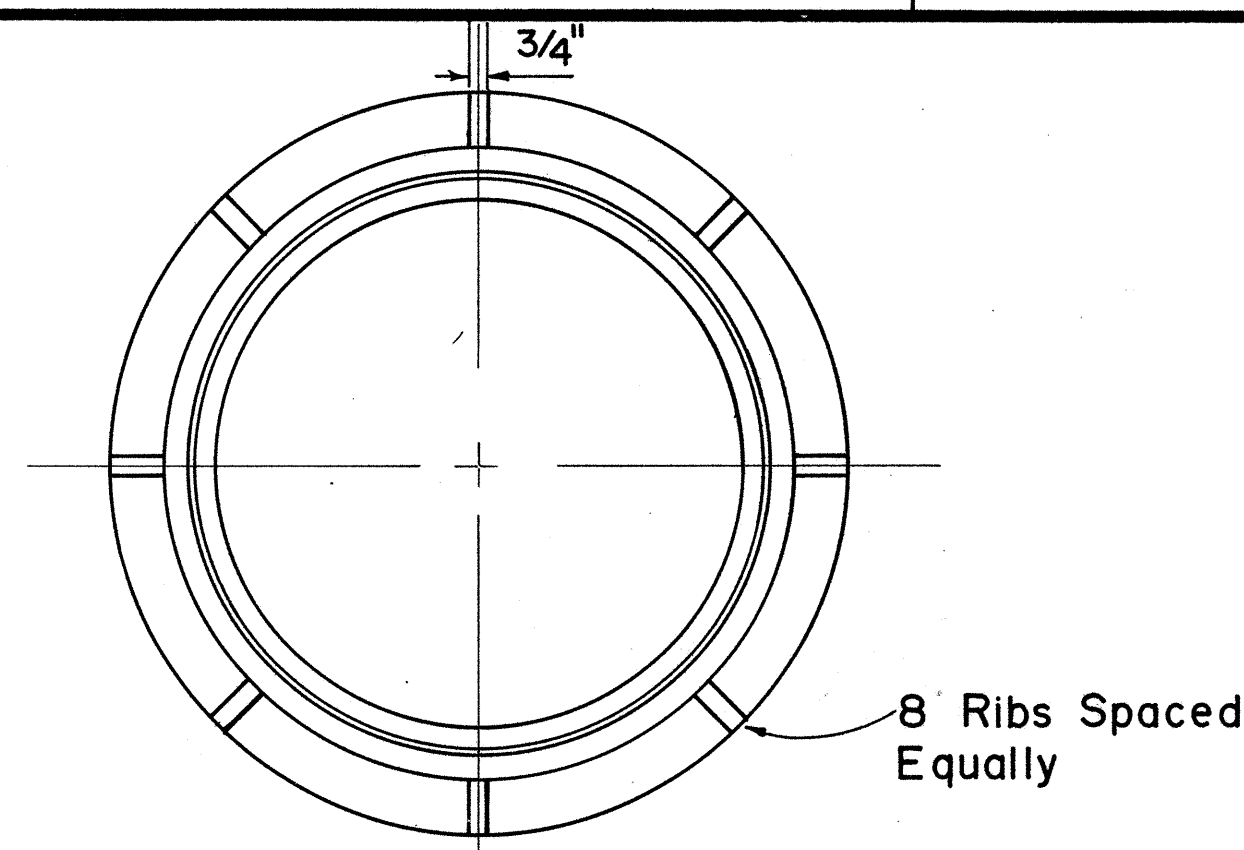
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

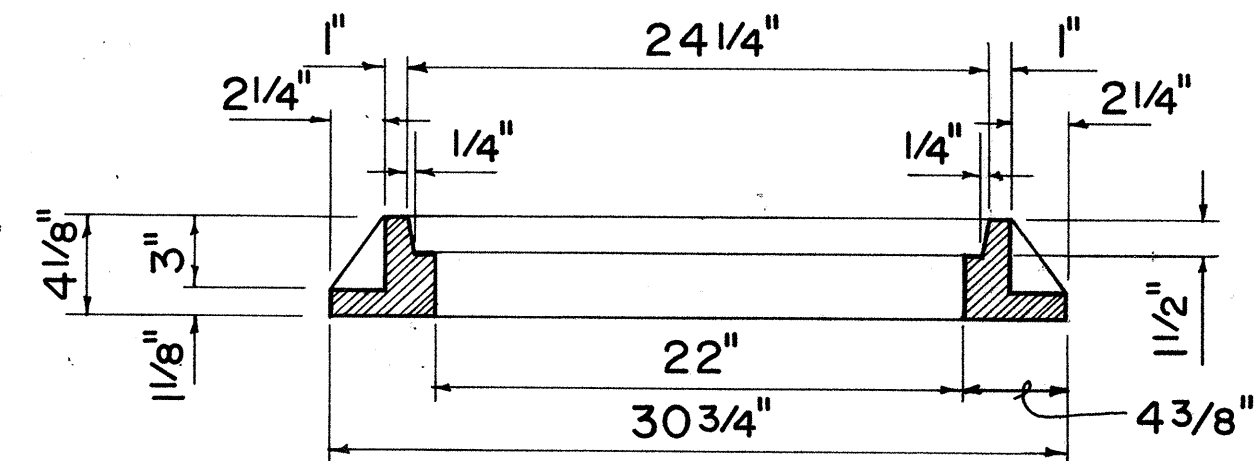
TYPICAL REINFORCING DETAILS
FOR CATCH BASINS

Not To Scale Date: Dec. 1980

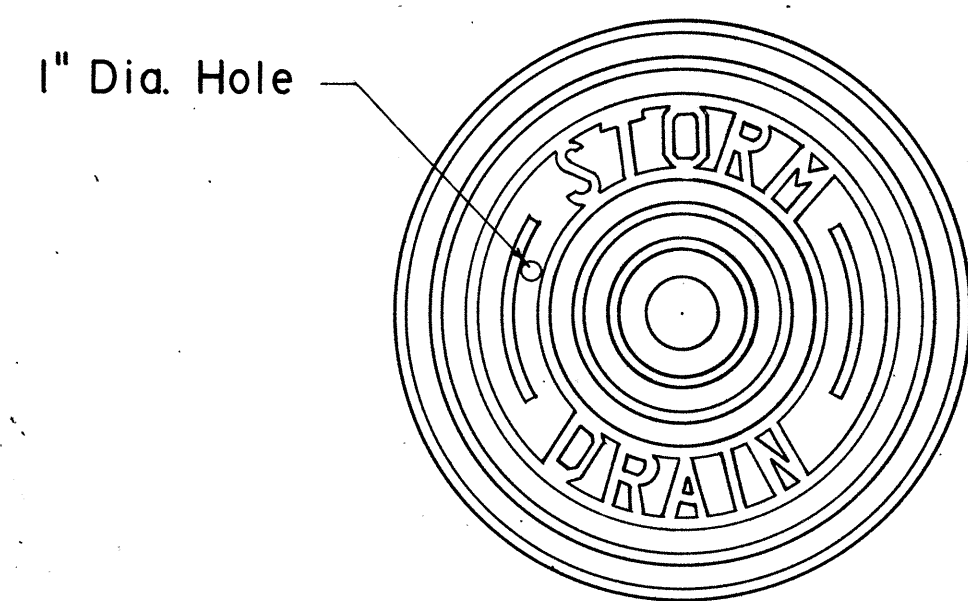
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	131	156



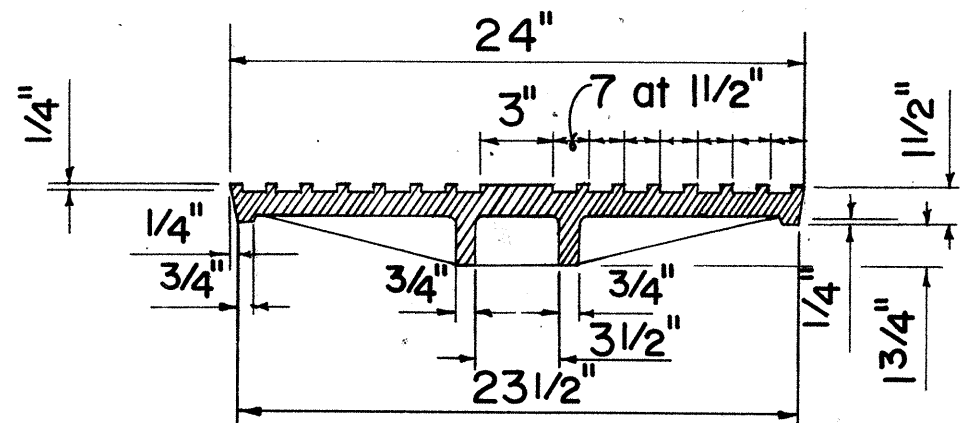
PLAN OF FRAME



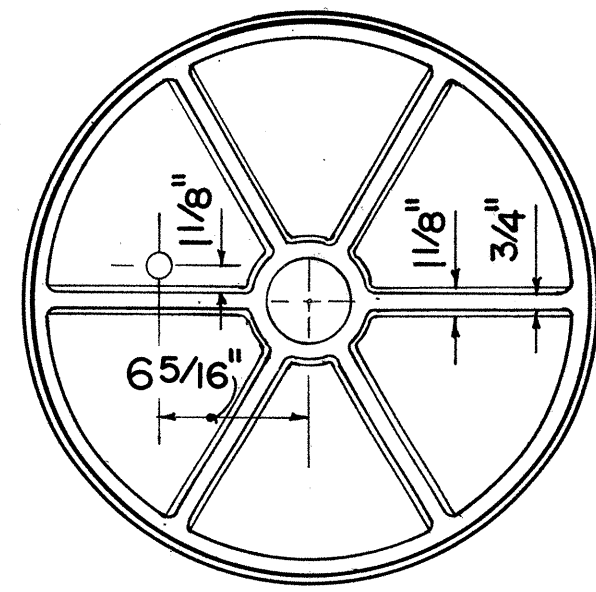
SECTION OF FRAME



TOP VIEW OF COVER

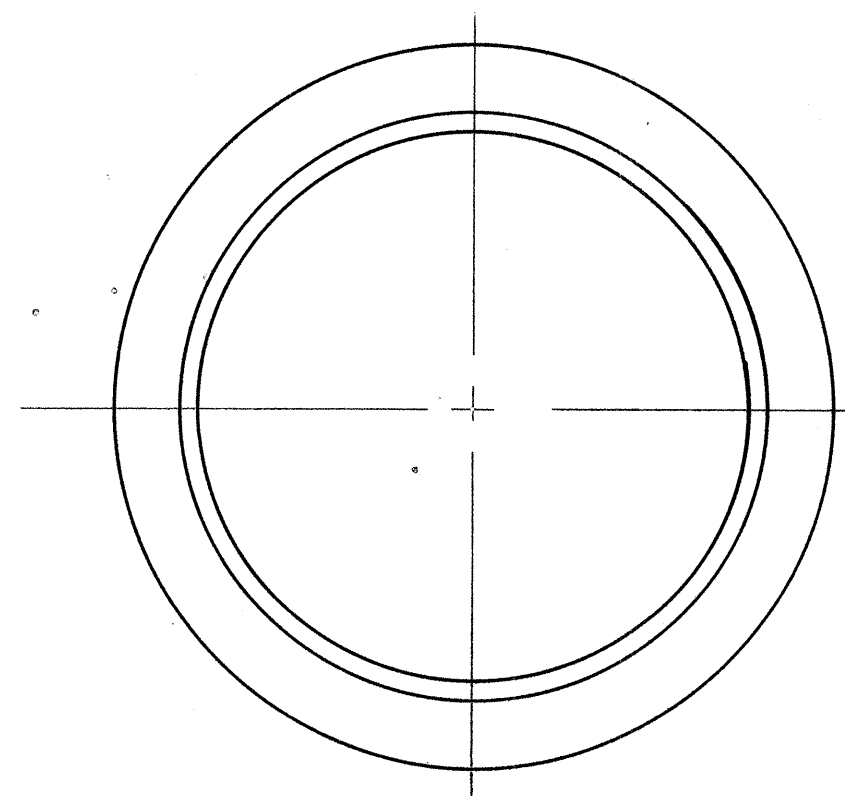


SECTION

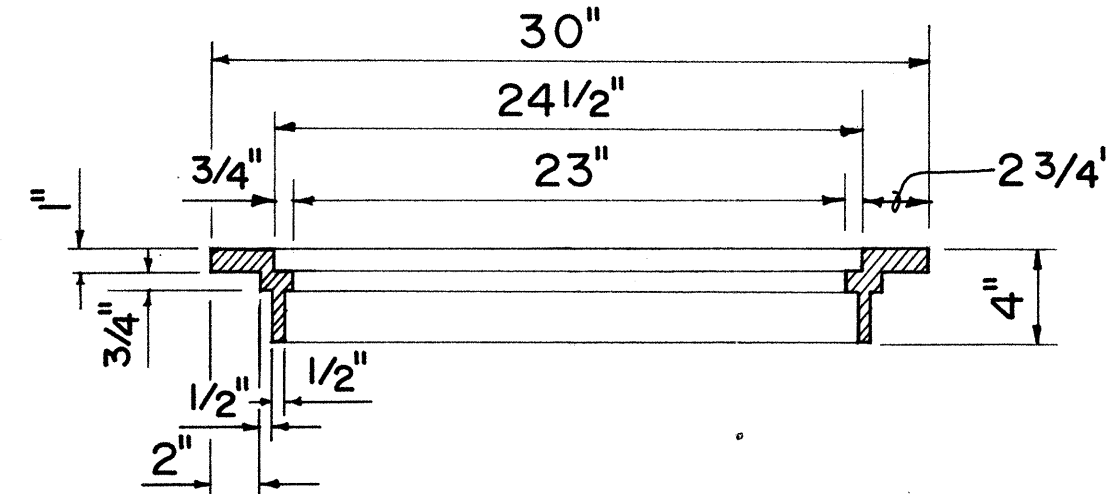


BOTTOM VIEW OF COVER

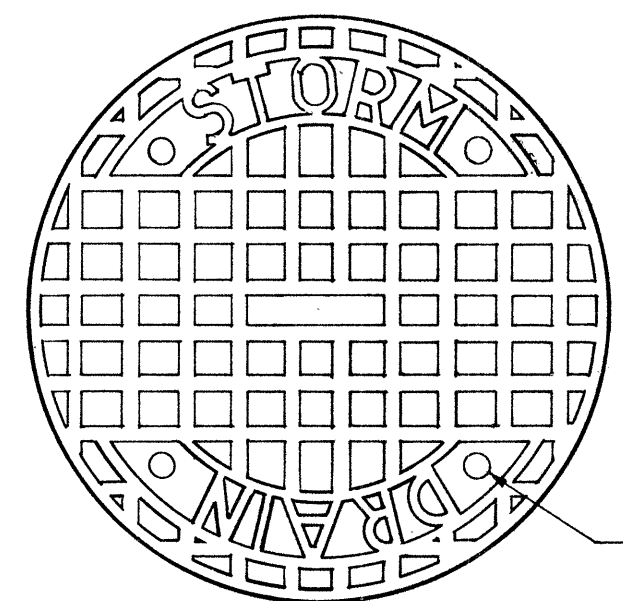
TYPE "P" CAST IRON FRAME AND COVER



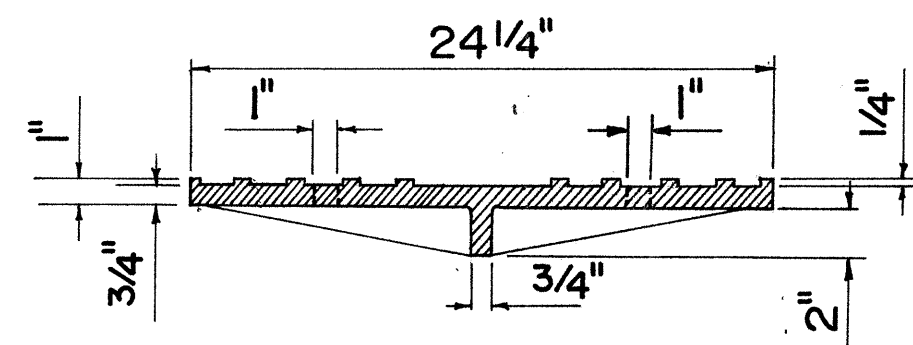
PLAN OF FRAME



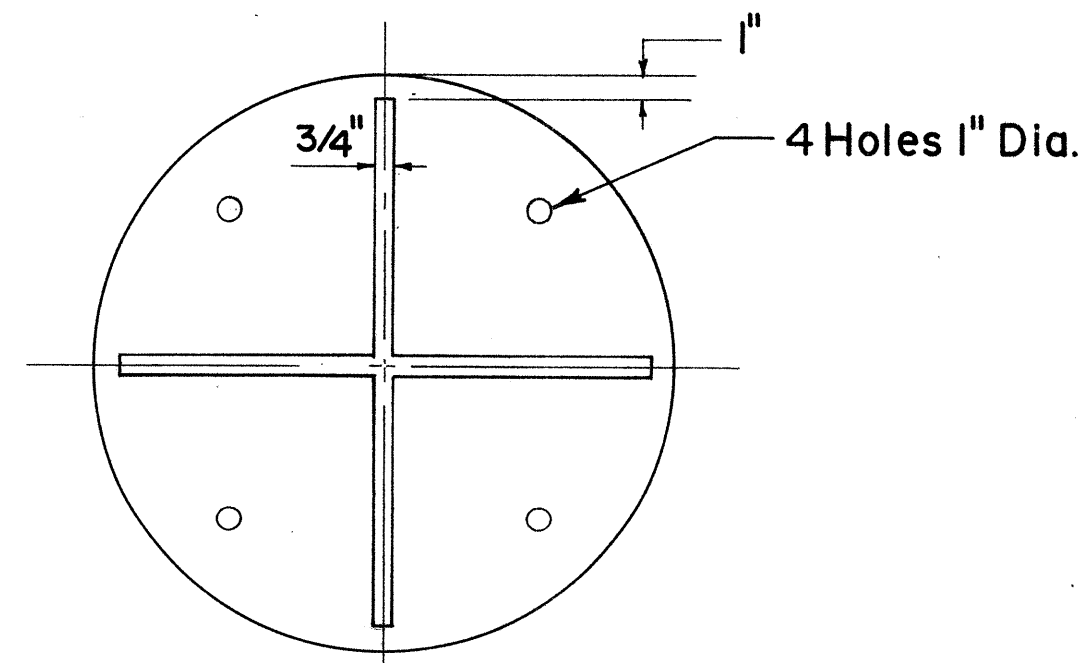
SECTION OF FRAME



TOP VIEW OF COVER

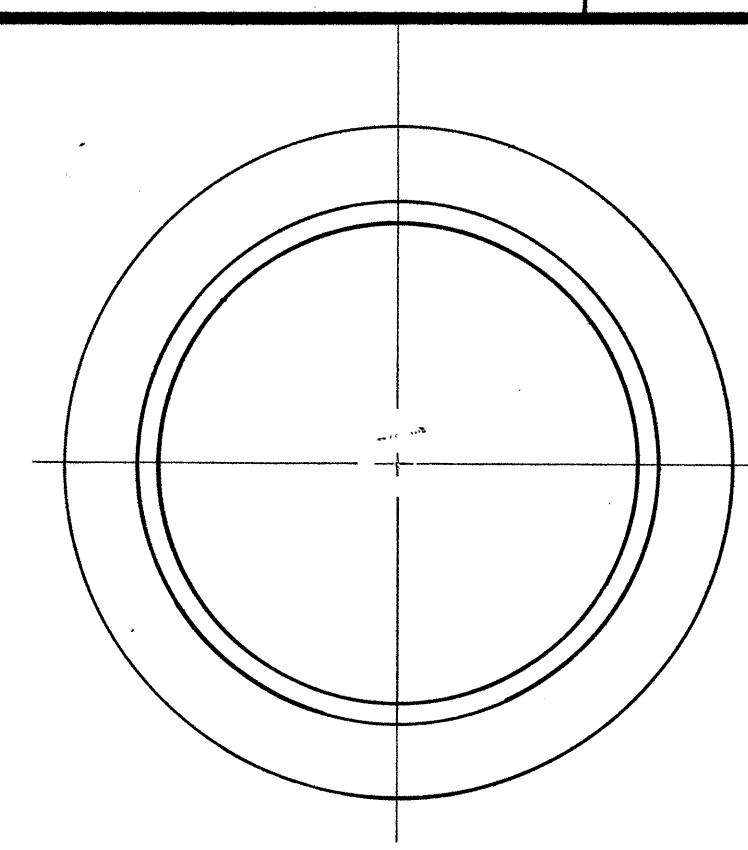


SECTION

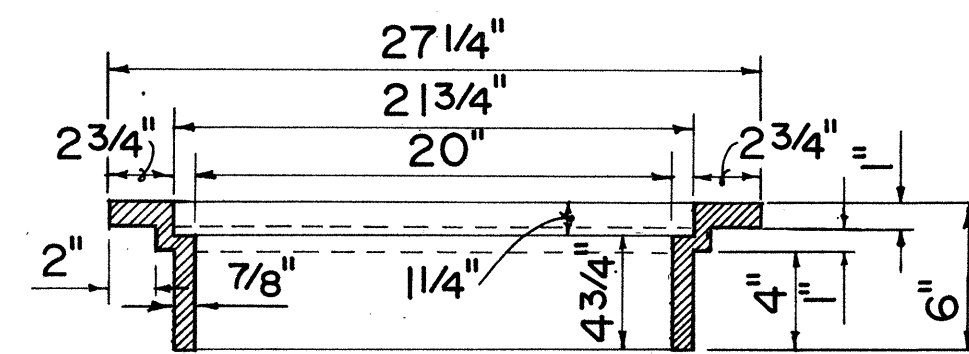


BOTTOM VIEW OF COVER

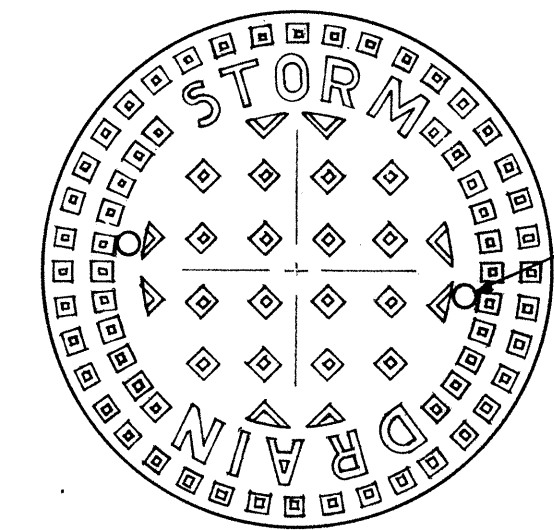
TYPE "B" CAST IRON FRAME AND COVER



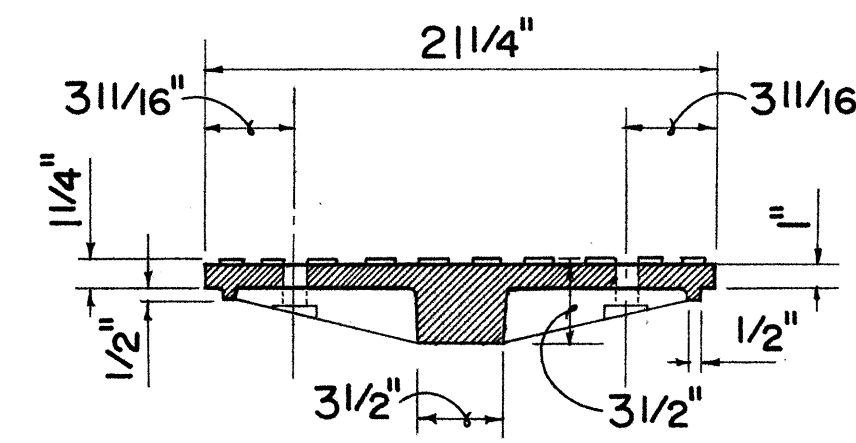
PLAN OF FRAME



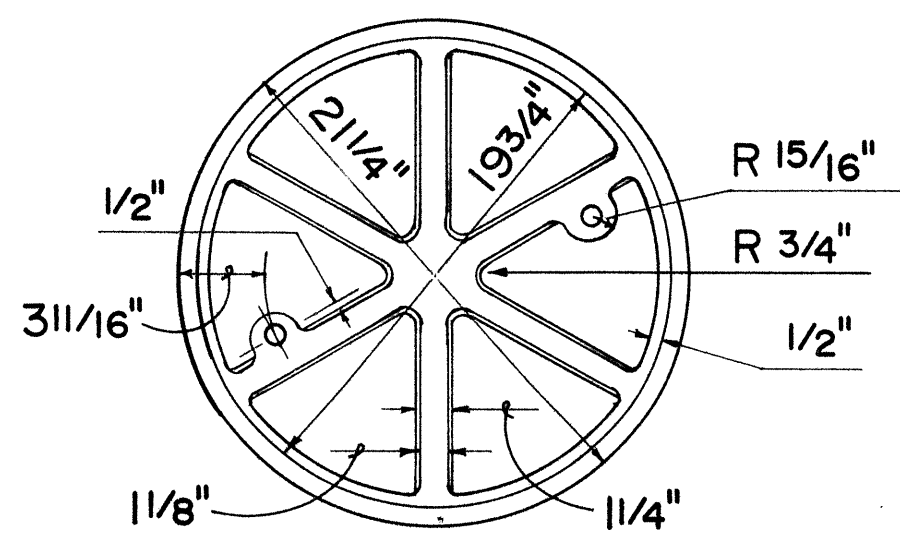
SECTION OF FRAME



TOP VIEW OF COVER

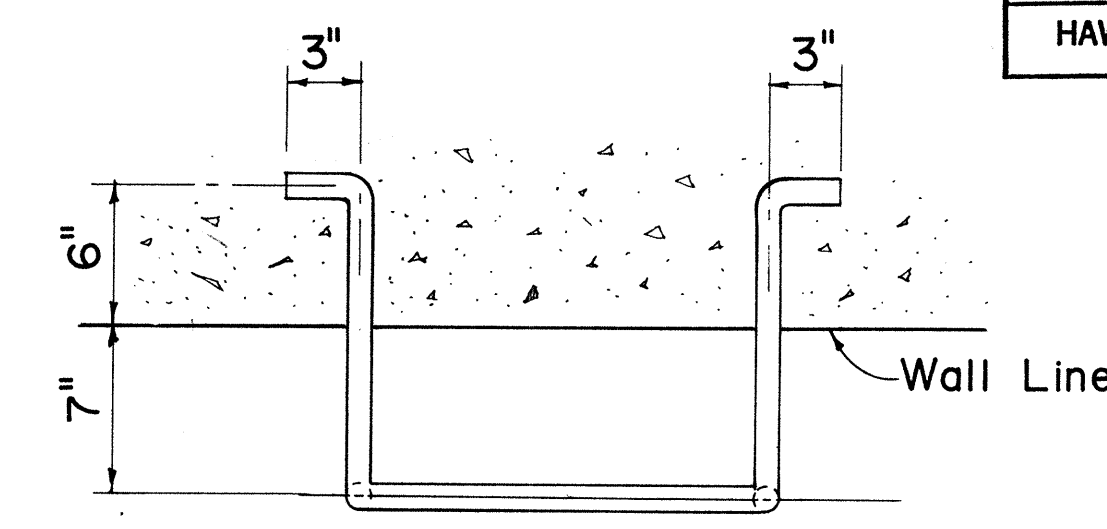


SECTION

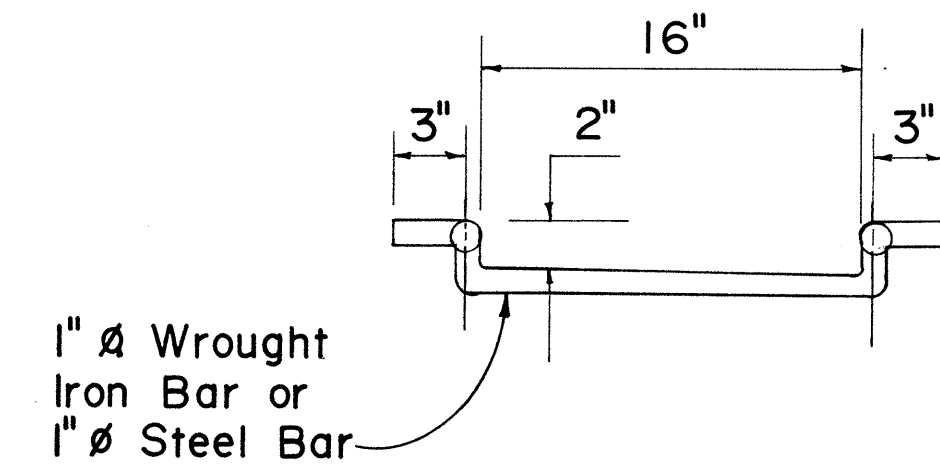


BOTTOM VIEW OF COVER

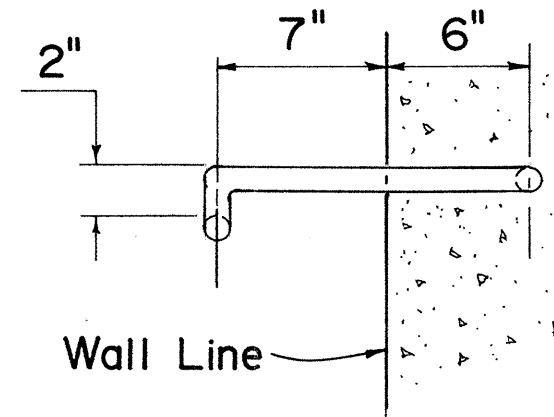
TYPE "A" CAST IRON FRAME AND COVER



PLAN



FRONT VIEW



SIDE VIEW

MANHOLE RUNG

APPROVAL RECOMMENDED:
J. Takano 6-19-79
 HYDRAULIC DESIGN ENGINEER DATE
 APPROVED:
Herbert Zafish 6-22-79
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1.	Supersedes Sht. DH 6 approved 12-17-69	H.F.	6/22/79

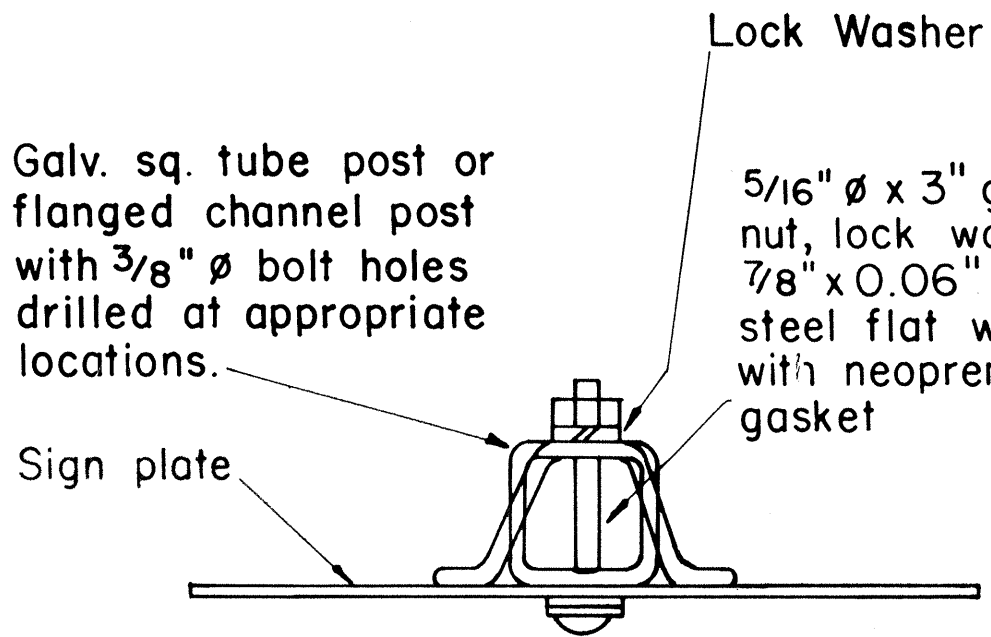
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 STANDARD DETAILS
 CATCH BASIN AND
 MANHOLE CASTINGS
 Not To Scale Date: Dec. 1977
 SHEET NO. OF SHEETS DH 6

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

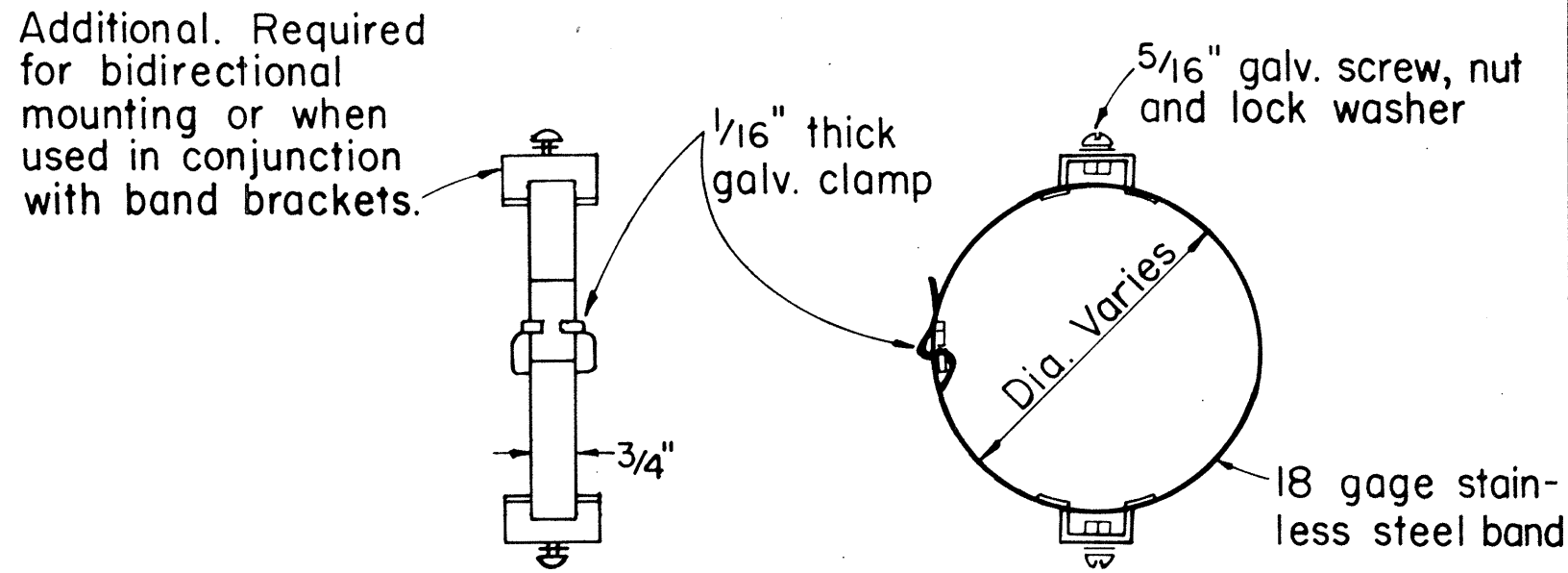
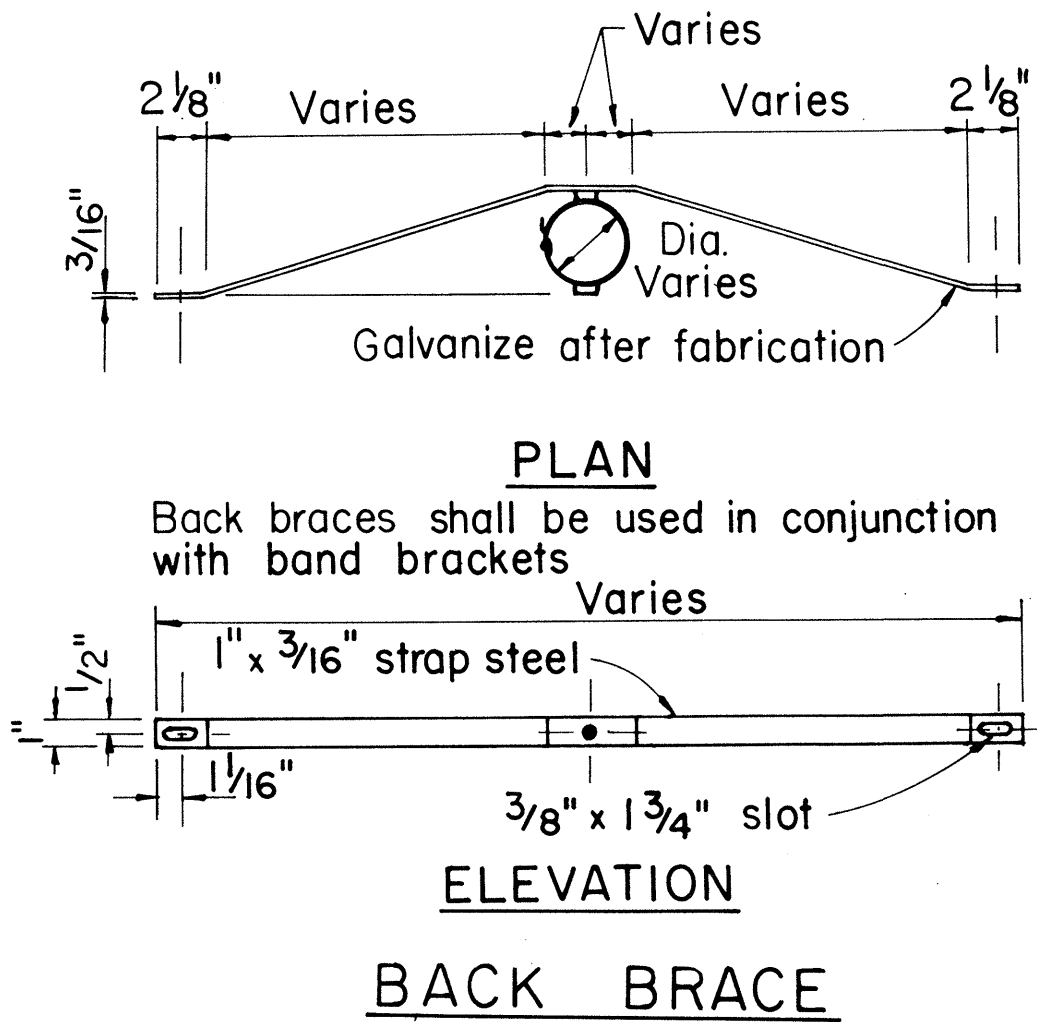
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	132	156

GENERAL NOTES

- Signs shall be placed in conformance with positions shown and described in the "Manual on Uniform Traffic Control Devices for Streets and Highways", 1978, Part II, Section 2A-21, as amended, and as supplemented herein.
- Sign 48" and wider or larger than 10 sq. ft. in area shall be mounted on two or more sign posts except as noted below.
- Signs 48" and wider or larger than 10 sq. ft. in area may be mounted on objects other than sign posts (i.e. on highway lighting poles) as follows:
 - Signs 48" and wider but less than 10 sq. ft. in area shall be mounted with a minimum of two sets of band bracket and back braces.
 - Signs larger than 10 sq. ft. and less than 28 sq. ft. in area shall be mounted with a minimum of two sets of band brackets and back braces.
 - Signs larger than 28 sq. ft. in area shall be mounted with a minimum of three sets of band bracket and back braces.
- All parking restriction signs with arrows shall be mounted 45° to the line of traffic flow.
- Sign posts shall extend 3 1/2" above each sign, where required, for attachment of City and County street name signs.
- (R) or (L) indicates right or left and shown on the plans.
- See plans for special details of signs along bikeways.
- The minimum lateral distances shown are guidelines and shall be exceeded whenever possible. The Contractor shall place signs at the maximum practical lateral distance from the edge of the traveled way up to 30 feet and shall utilize protected locations whenever possible. Final locations of all signs shall be approved by the Engineer.
- Signs in medians shall be placed at midpoint of median up to a maximum distance of 30 feet from the edge of traveled way. When appropriate, signs for opposing directions shall be placed back to back.
- Anchor bases shall be installed for all signpost installations, unless otherwise shown or directed. See sheets DT 100A and DT 100B.



GALVANIZED SQUARE TUBE OR FLANGED CHANNEL POST

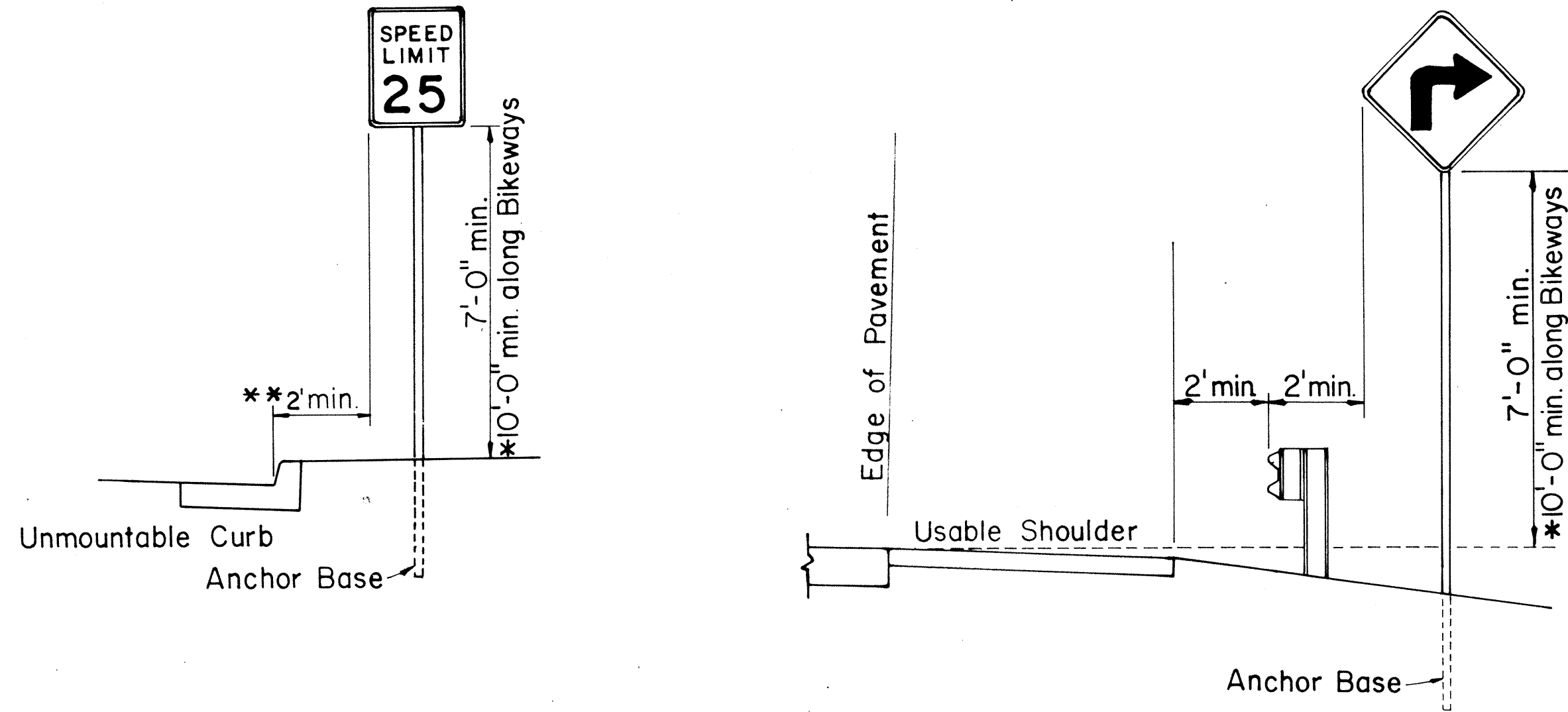


LEFT SIDE VIEW BAND BRACKET

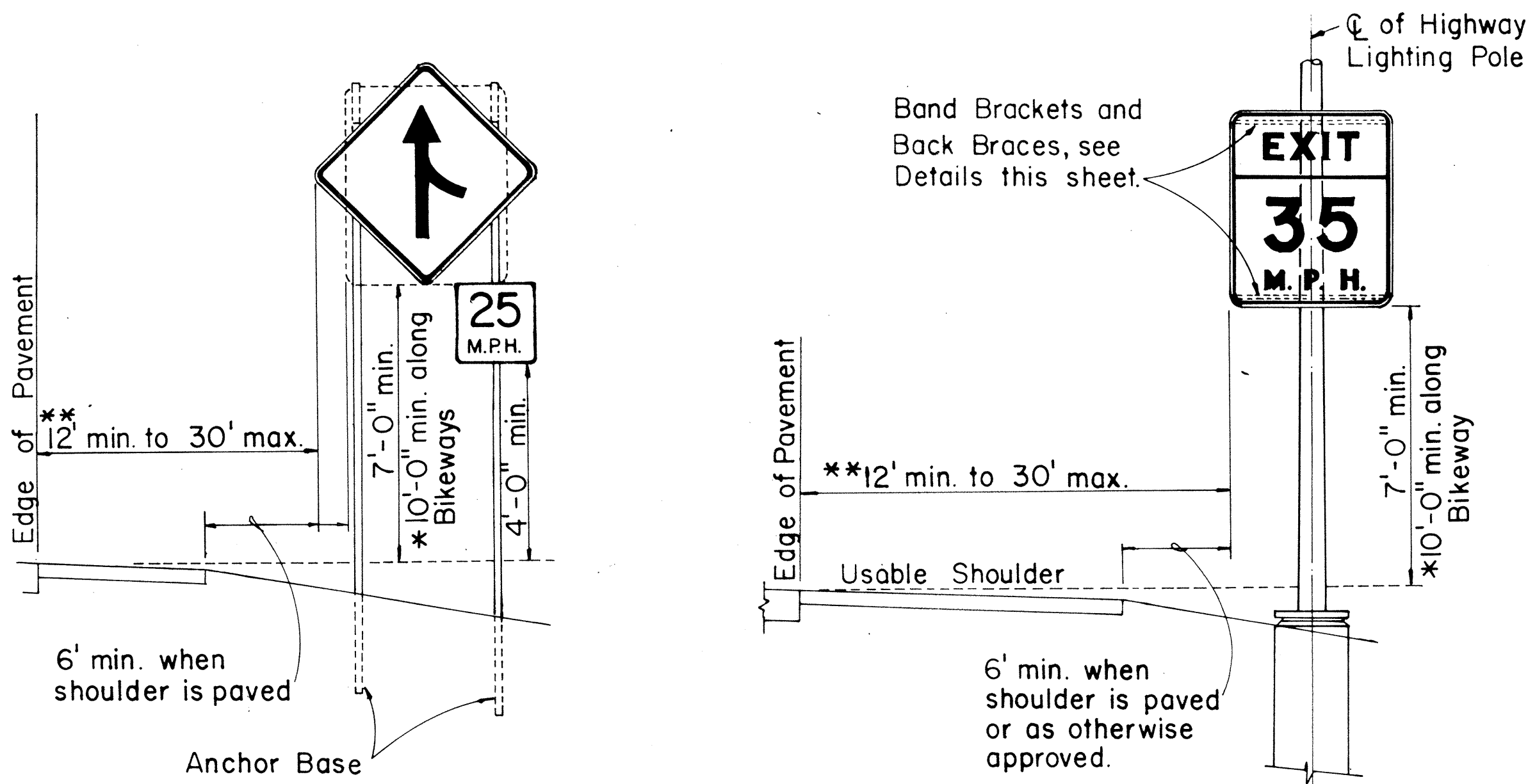
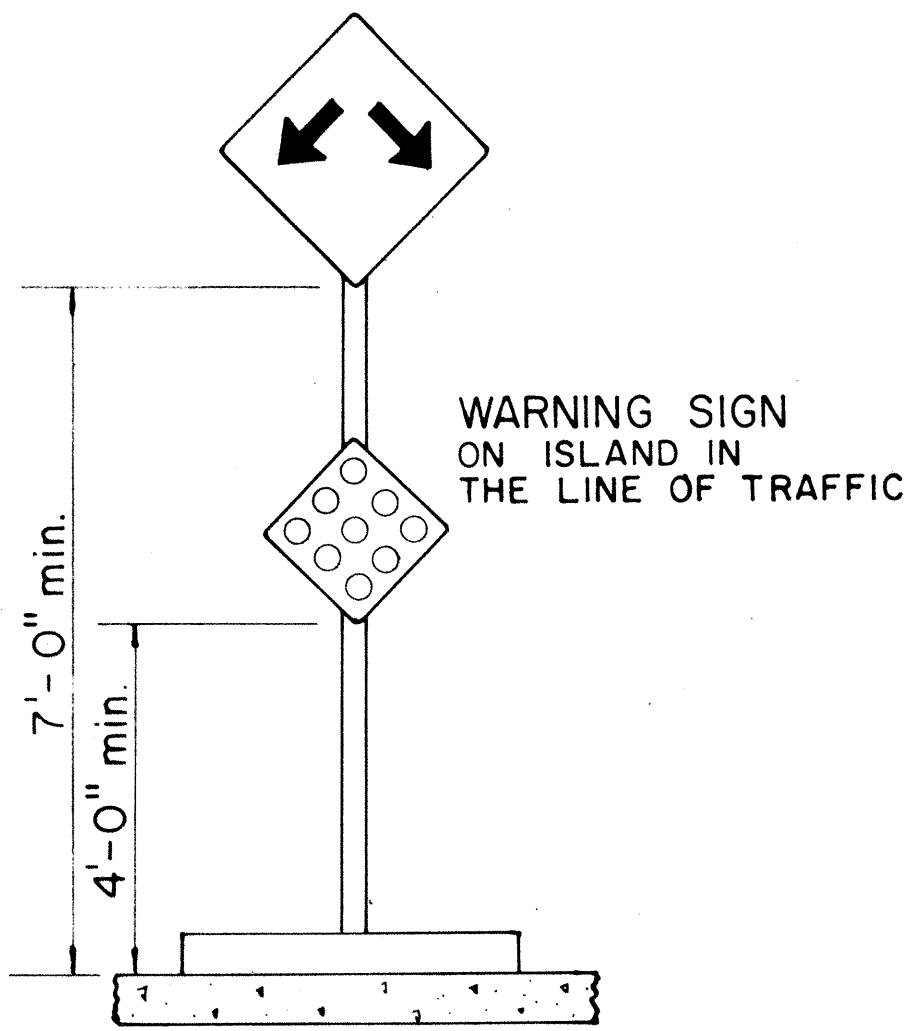
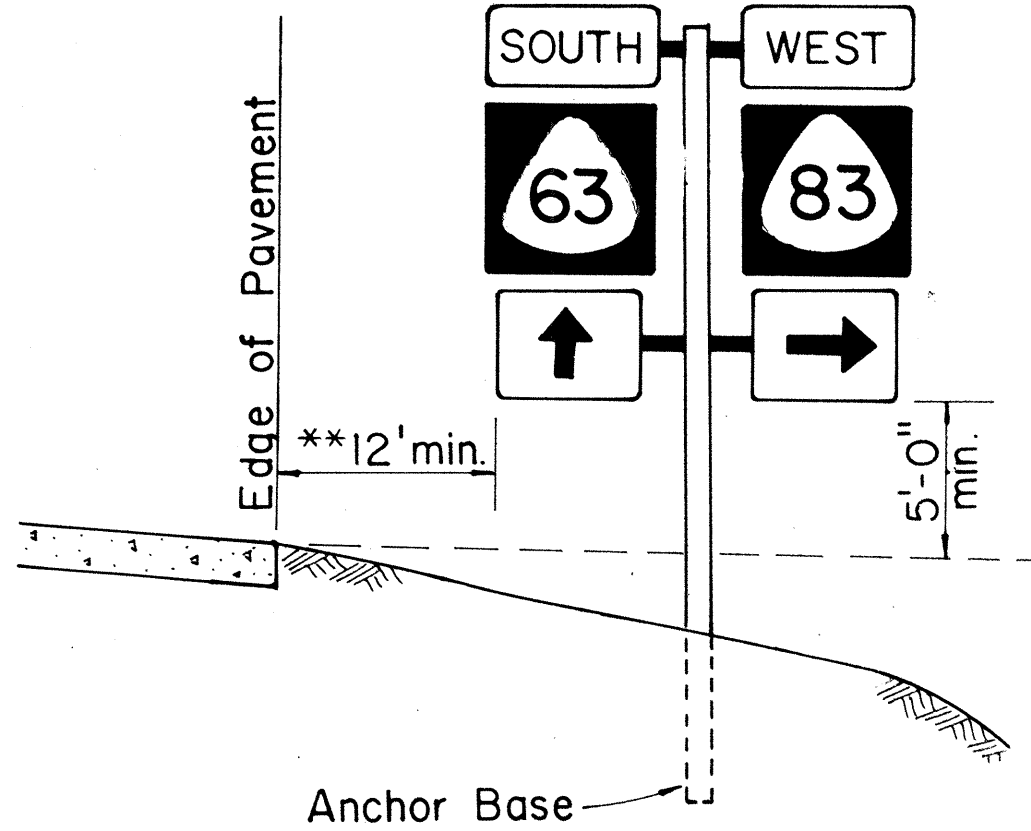
APPROVAL RECOMMENDED:
Eiichi Tanaka 10/14/83
 TRAFFIC ENGINEER DATE

APPROVED:
Shujiyama 10-18-83
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS	
MISCELLANEOUS SIGN DETAILS	
Not to Scale: Oct. 1983	
SHEET NO. OF SHEETS DT 100	



ROADSIDE ASSEMBLY RURAL DISTRICT



HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION

TYPICAL MOUNTING DETAILS

NO.	REVISION	APPROVED BY	DATE
1	Supercedes Sht. DT 100 approved 11/15/77	<i>SLD</i>	10-18-83

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.	F-063-1(16) F-063-1(17)	1984	133	156

A or A ₁	C	C ₁
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 4.

GENERAL NOTES

- Sign posts and base posts shall be flanged channel type structural steel conforming to ASTM A 499 and galvanized in accordance with ASTM A 123.
NOMINAL DIMENSIONS:
2.50 lbs./ft. - 3.125" x 1.562"
4.00 lbs./ft. - 3.500" x 1.750"
- Retainer - Spacer Strap shall be AISI 1020 steel and galvanized in accordance with ASTM A 123.
- Retainer and Connector Bolts shall be 5/16 - 18 UNC x 1.75" long hex. head, integral flange conforming to ASTM A 354 Grade BC. Nuts shall be 5/16 - 18 UNC hex. head, integral flange conforming to ASTM A 563 Grade D. All bolts and nuts shall be cadmium plated per Federal spec. QQP 416 B, Class 2, Type 2.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- For additional details see sht. DT 100.
- Basic formulas for use with the windload charts:
Factor = A x B x H
Therefore, if sign area (A x B) is known,
Maximum H = $\frac{\text{Factor}}{\text{sign area (A x B)}}$
and if H is known,
Maximum sign area (A x B) = $\frac{\text{Factor}}{H}$

APPROVAL RECOMMENDED:

Eichi Tanaka 9/21/82
TRAFFIC ENGINEER DATE

APPROVED:

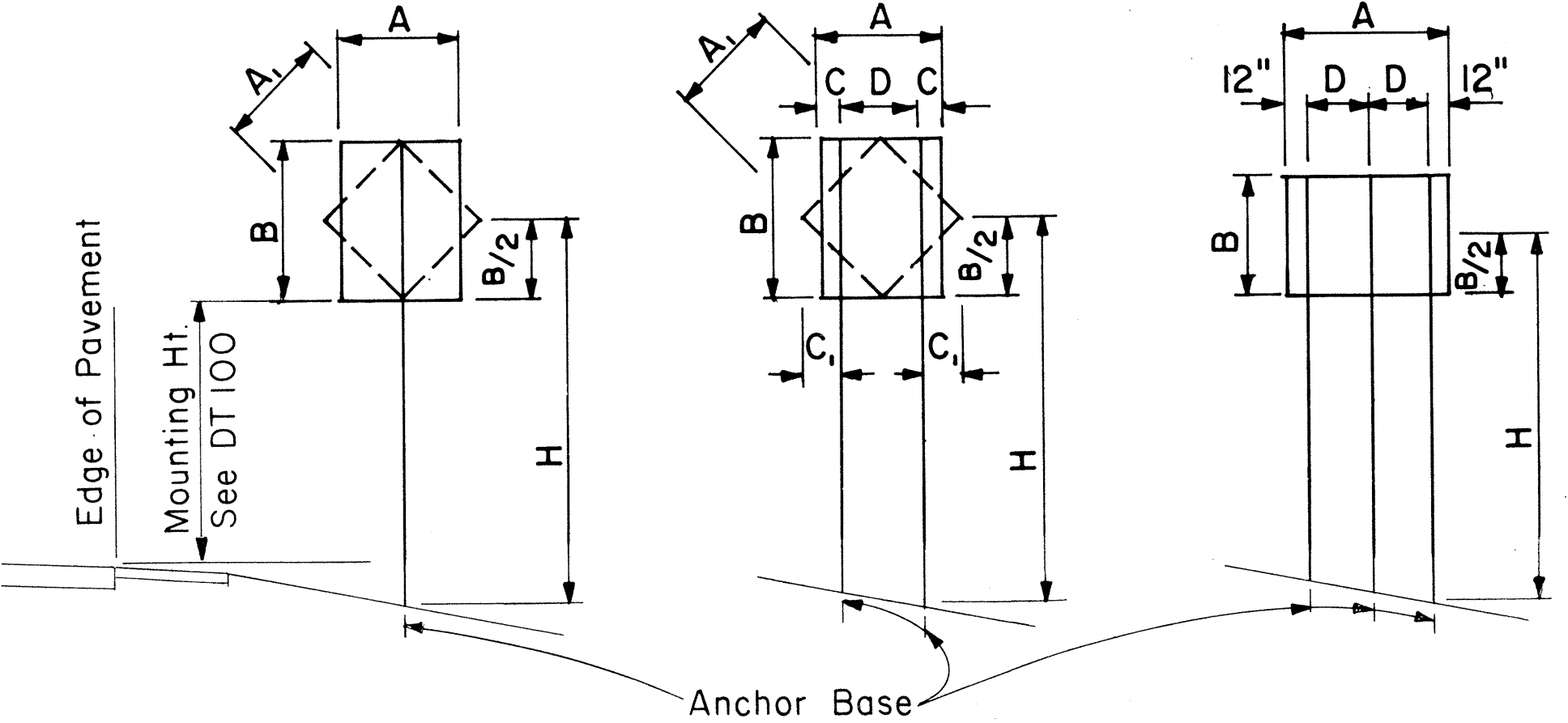
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
GALVANIZED FLANGED CHANNEL
SIGN POST MOUNTING

Scale: As Shown
Date: Sept. 1982

SHEET NO. OF SHEETS DT 100A



1 - POST Sign area 10 sq. ft. and less
2 - POST Sign area greater than 10 sq. ft. or A = 48" - 60"
3 - POST A = greater than 60"

TYPICAL INSTALLATION

Not to Scale

FLANGED CHANNEL: 1-POST INSTALLATION

Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
		7	8	9	10	11	12	
2.50 lbs./ft.	57	8.14	7.13	6.33	5.70	5.18	4.75	9.33
4.00 lbs./ft.	112	-	-	-	-	-	-	

FLANGED CHANNEL: 2-POST INSTALLATION

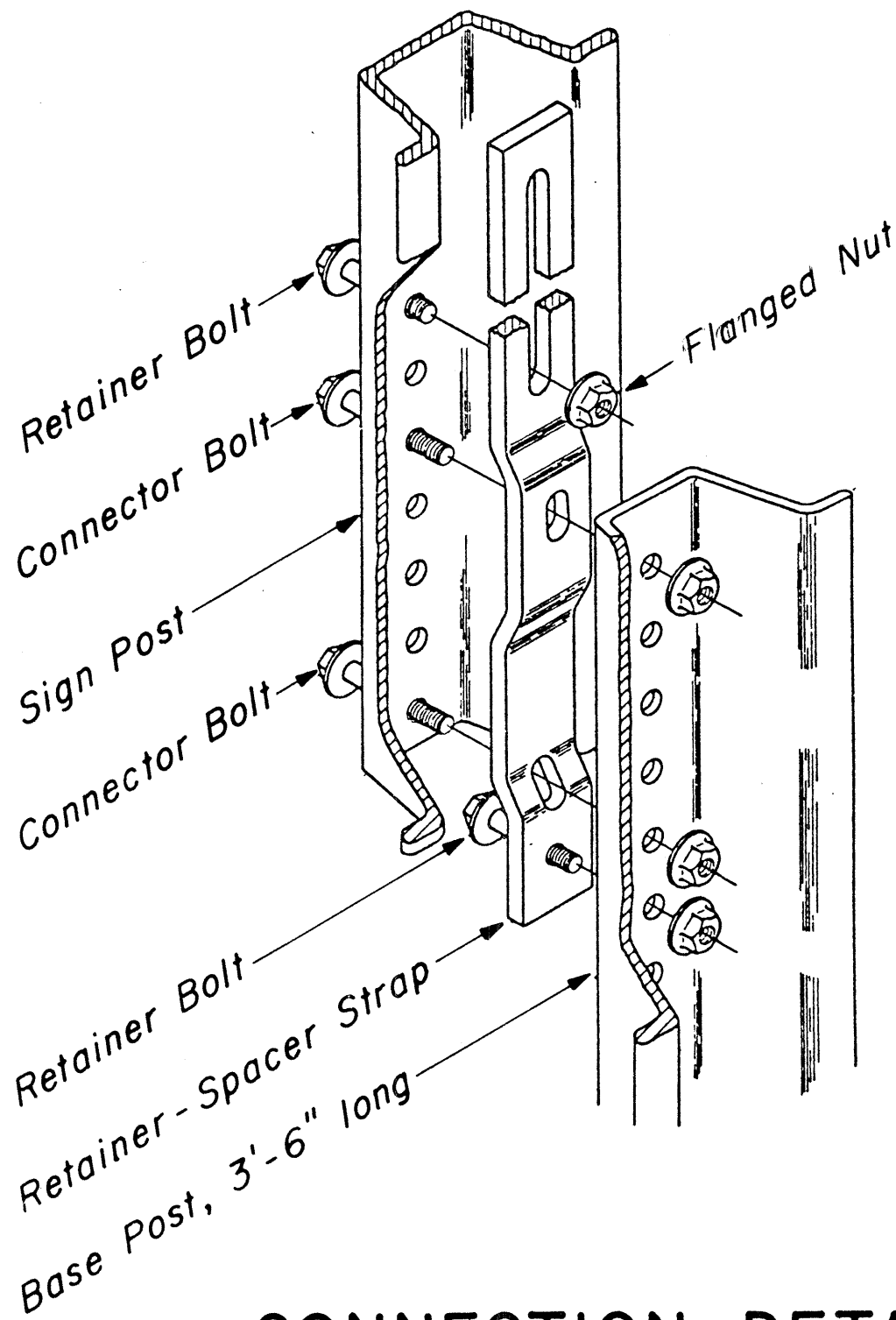
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
		7	8	9	10	11	12	
2.50 lbs./ft.	124	17.71	15.50	13.77	12.40	11.27	10.33	20.08
4.00 lbs./ft.	241	34.43	30.13	26.78	24.10	21.91	20.08	

FLANGED CHANNEL: 3-POST INSTALLATION

Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
		7	8	9	10	11	12	
2.50 lbs./ft.	187	26.71	23.38	20.78	18.70	17.00	15.58	30.17
4.00 lbs./ft.	362	51.71	45.25	40.22	36.20	32.91	30.17	

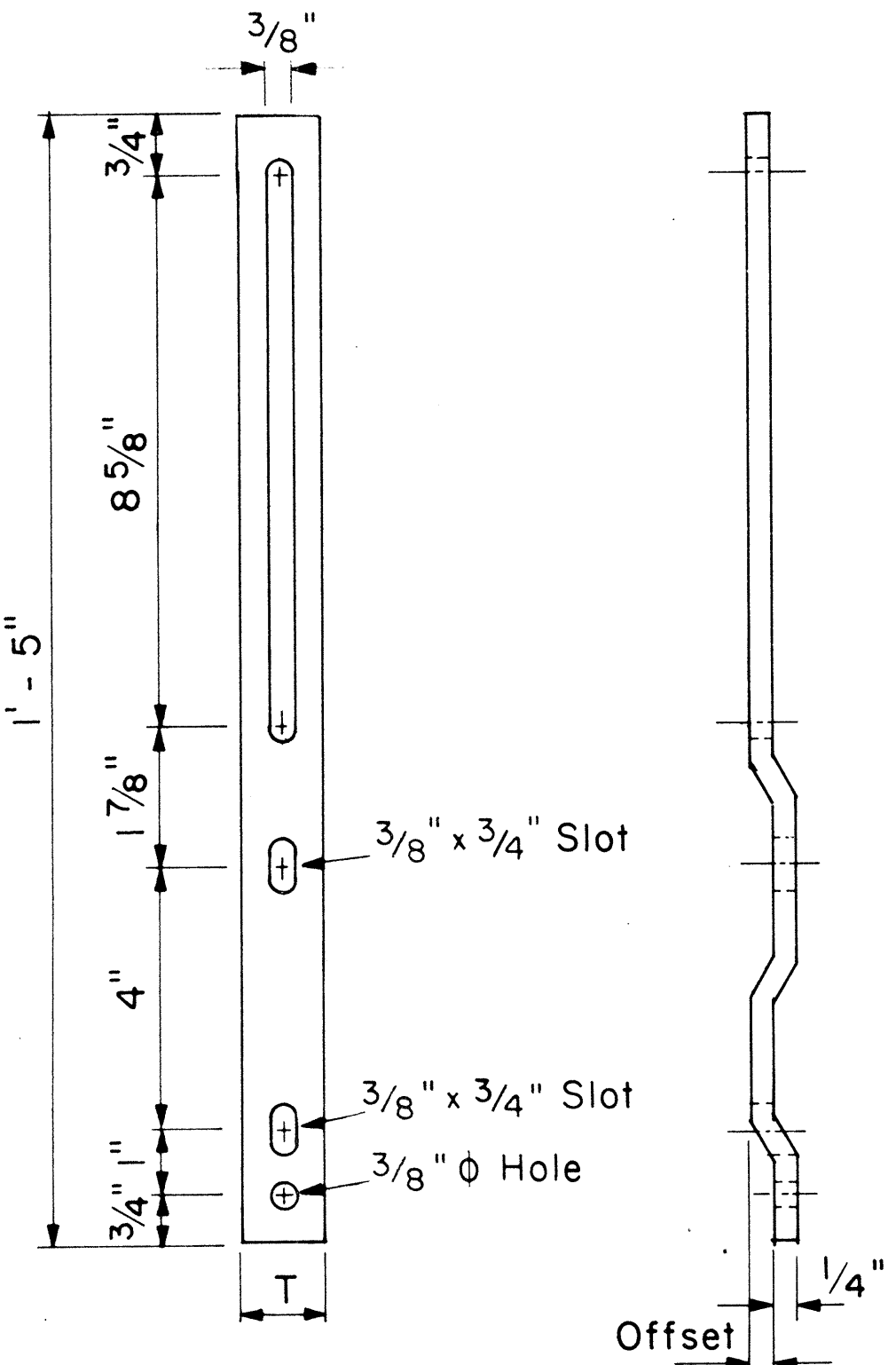
WINDLOAD CHARTS

NO.	REVISION	APPROVED BY	DATE



CONNECTION DETAIL

Not to Scale

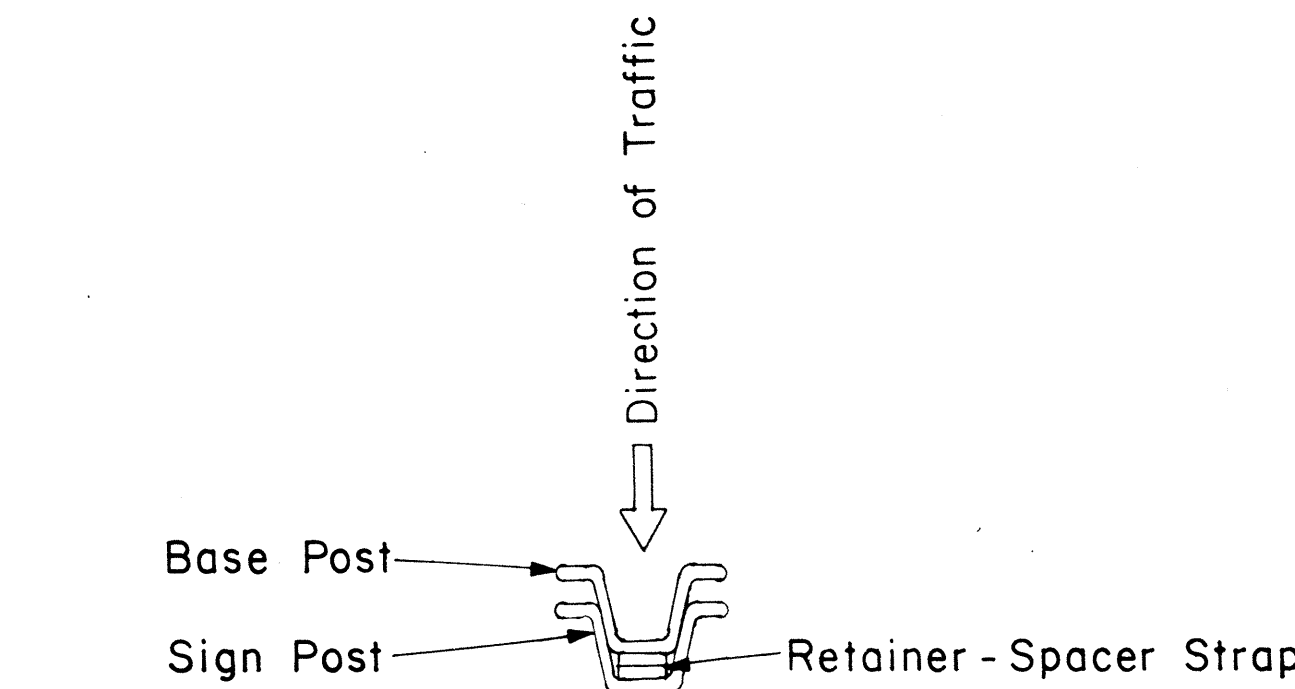


RETAINER-SPACER STRAP

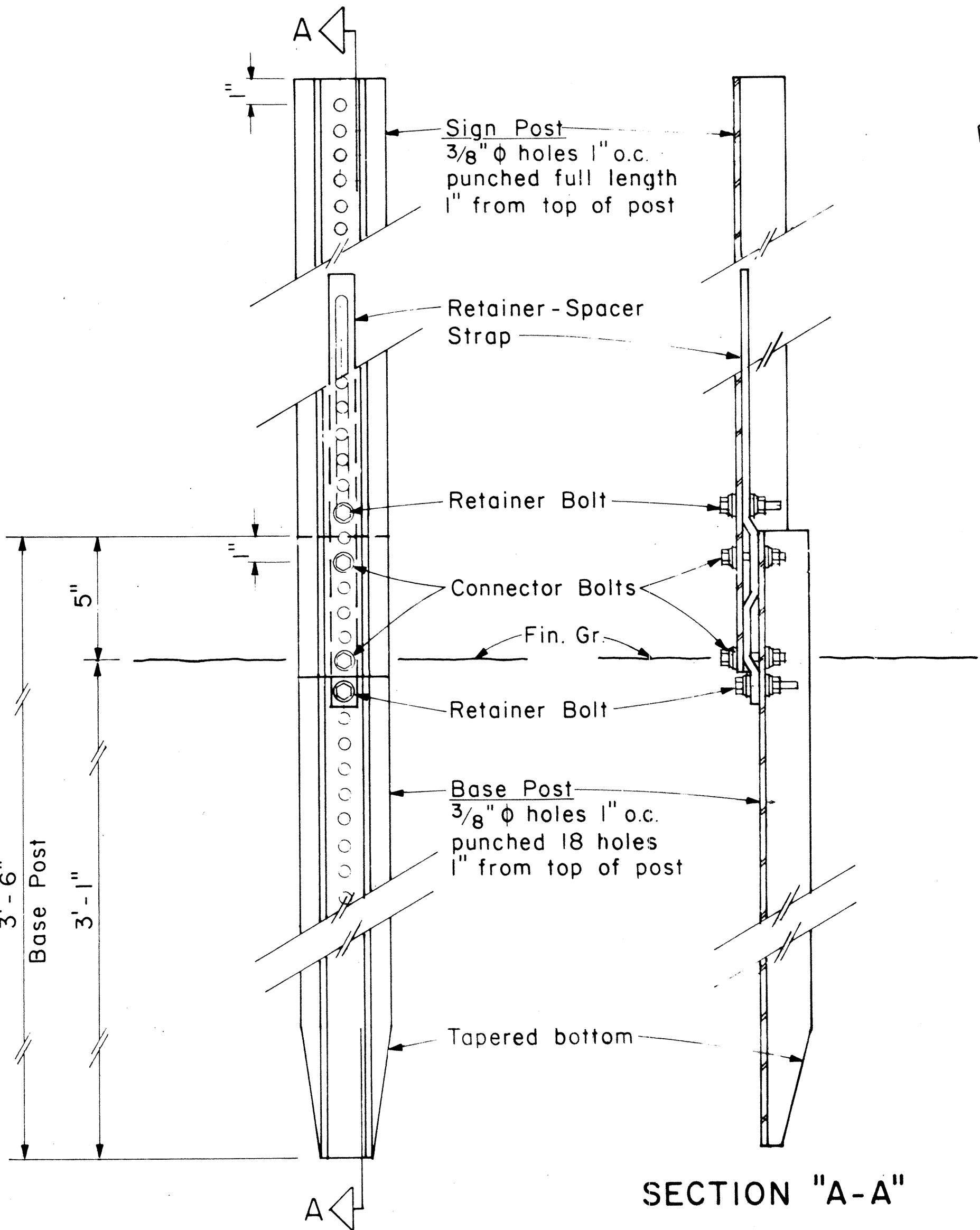
Not to Scale

RETAINER-SPACER STRAP

Post Size	T	Offset
2.50 lbs./ft.	1.00"	0.145"
4.00 lbs./ft.	1.12"	0.280"



TOP VIEW



SECTION "A-A"

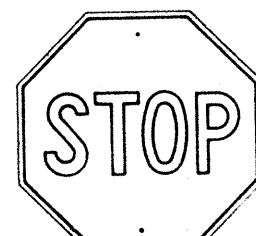
BACK VIEW

ANCHOR BASE DETAIL

Scale: 3" = 1'-0"

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

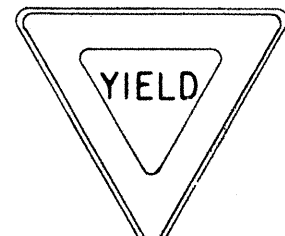
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	134	156



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

4-WAY

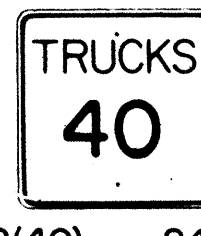
R1-3 12"x 6"
R1-3-A 18"x 9"



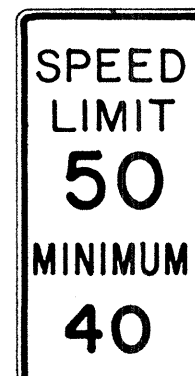
R1-2 36"x 36"x 36"
R1-2-A 48"x 48"x 48"



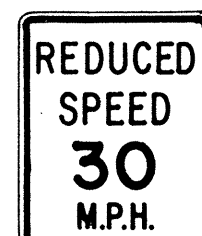
R2-1(50) 24"x 30"
R2-1(50)-A 48"x 60"



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"



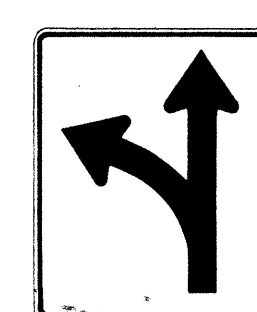
R3-3 24"x 24"
R3-3-A 48"x 48"



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



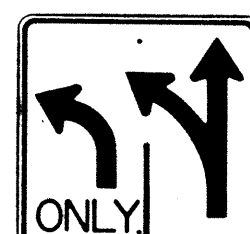
R3-5(L) 30"x 36"
R3-5(L)-A 48"x 60"



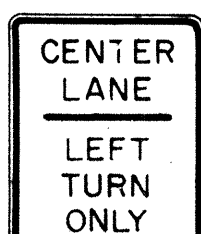
R3-6(L) 30"x 36"
R3-6(L)-A 48"x 60"



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"



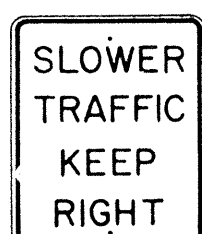
R3-9 24"x 30"



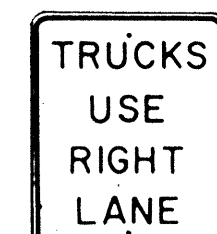
R4-1 24"x 30"



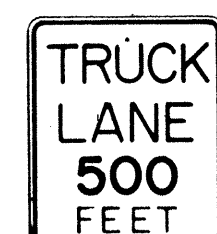
R4-2 24"x 30"



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



R4-5 24"x 30"



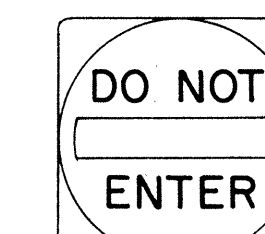
R4-6(500) 24"x 30"



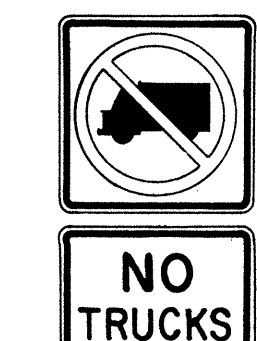
R4-7 24"x 30"
24"x 18"



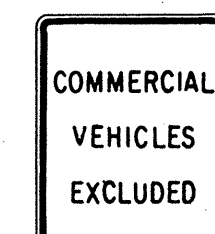
R4-8 24"x 30"
24"x 18"



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



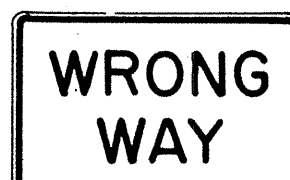
R5-2 24"x 24"
24"x 18"



R5-4 24"x 30"



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



R5-9 36"x 24"



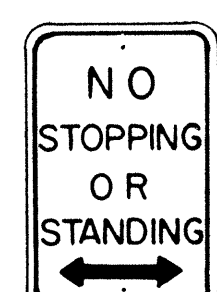
R6-1(R) 36"x 12"



R6-2(R) 18"x 24"



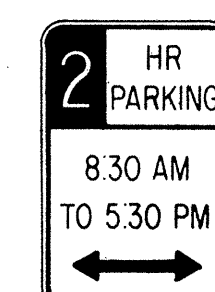
R7-1 12"x 18"
R7-1-A 24"x 30"



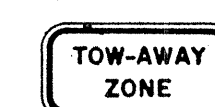
R7-4 12"x 18"
R7-4-A 24"x 30"



R7-1-7(R) 12"x 18"



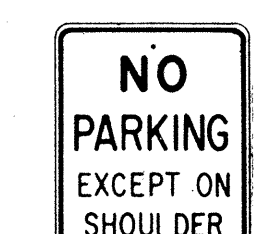
R7-108 12"x 18"



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"



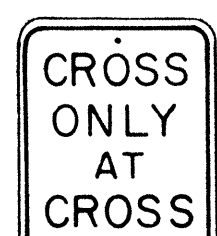
R8-6 24"x 30"



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



R9-1 18"x 24"



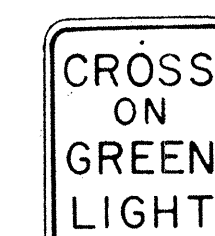
R9-2 12"x 18"



R9-3 12"x 18"



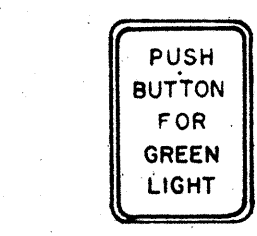
R9-4 18"x 24"



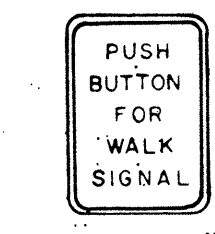
R10-1 12"x 18"



R10-2 12"x 18"



R10-3 9"x 12"



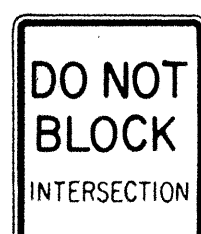
R10-4 9"x 12"



R10-5 24"x 30"



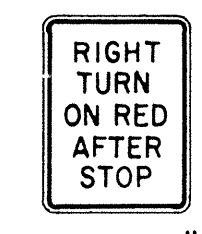
R10-6 24"x 36"



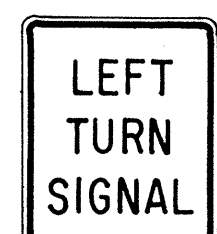
R10-7 24"x 30"



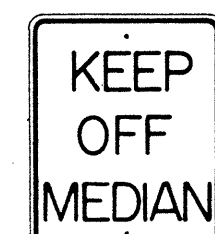
R10-8 24"x 30"



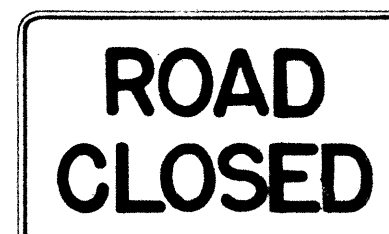
R10-9 24"x 30"



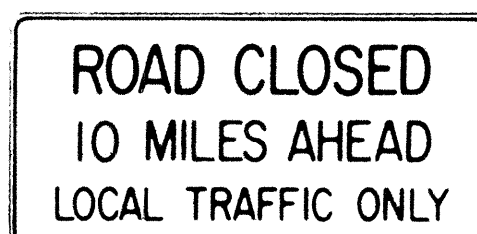
R10-10 24"x 30"



R11-1 24"x 30"



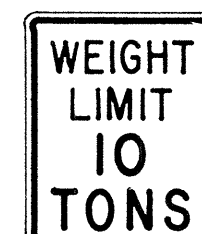
R11-2 48"x 30"



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.
- All signs shall be erected without educational plaques unless called for in the plans.

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER Euske Tanaka 3/17/72
DATE

APPROVED:
ASSISTANT CHIEF, ENGINEERING Robert J. ... 3-28-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.I.	2/20/72
2	Revised General Note 1.	H.I.	10/12/74
3	Added General Note 5	H.I.	8/7/75

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

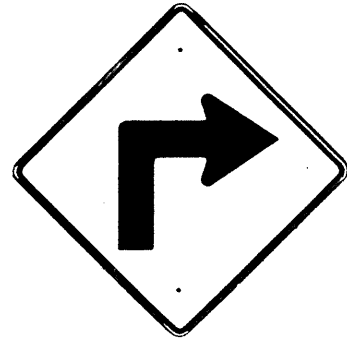
STANDARD DETAILS REGULATORY SIGNS

NOT TO SCALE

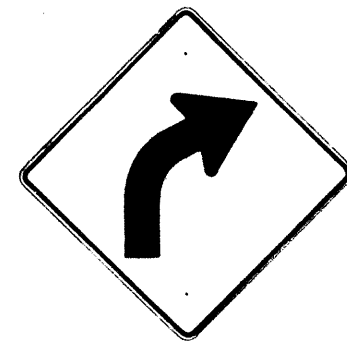
SHEET No. OF SHEETS DT 101

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

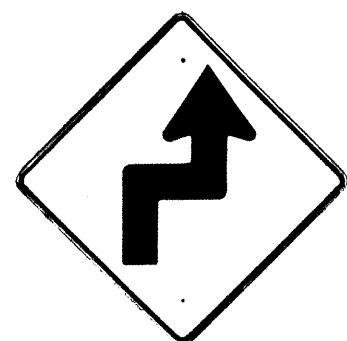
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII *	HAW.	FOG3-1(16) FOG3-1(17)	1984	135	156



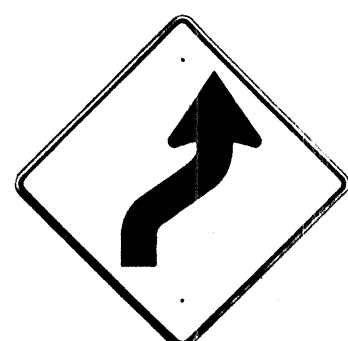
W1-1(R) 30"x 30"
W1-1(R)-A 48"x 48"



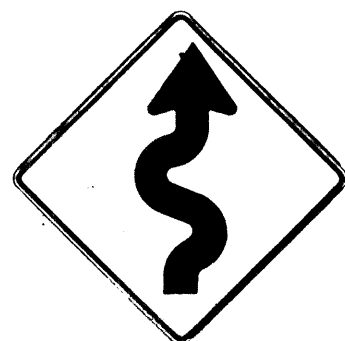
W1-2(R) 30"x 30"
W1-2(R)-A 48"x 48"



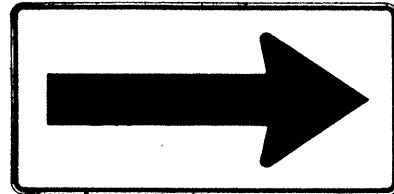
W1-3(R) 30"x 30"
W1-3(R)-A 48"x 48"



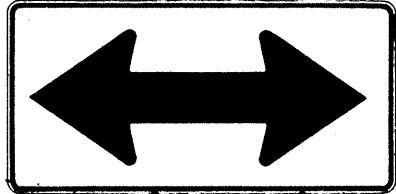
W1-4(R) 30"x 30"
W1-4(R)-A 48"x 48"



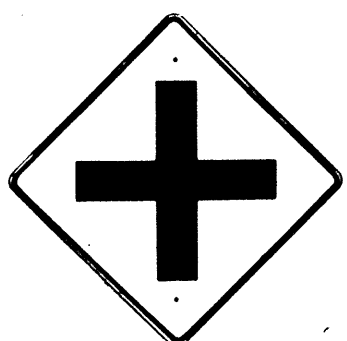
W1-5(R) 30"x 30"
W1-5(R)-A 48"x 48"



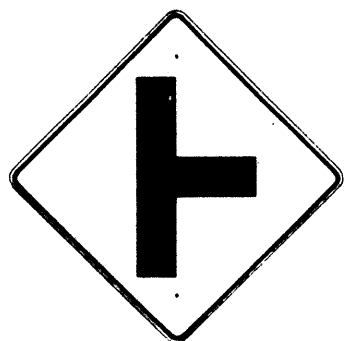
W1-6 48"x 24"



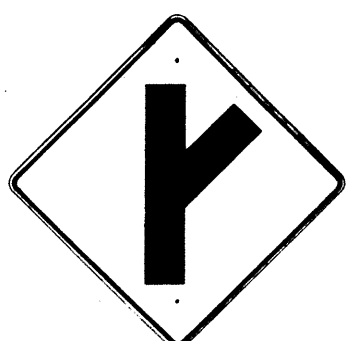
W1-7 48"x 24"



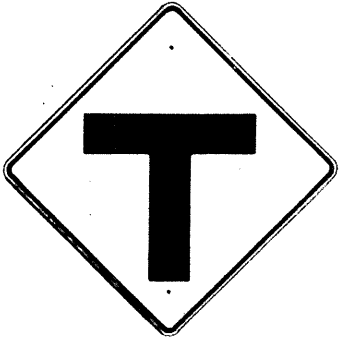
W2-1 30"x 30"
W2-1-A 48"x 48"



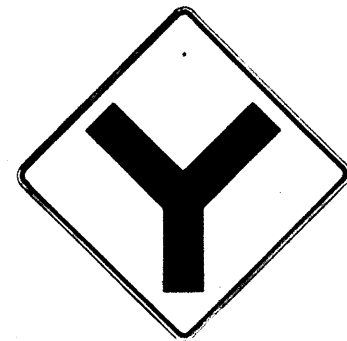
W2-2 30"x 30"
W2-2-A 48"x 48"



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



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



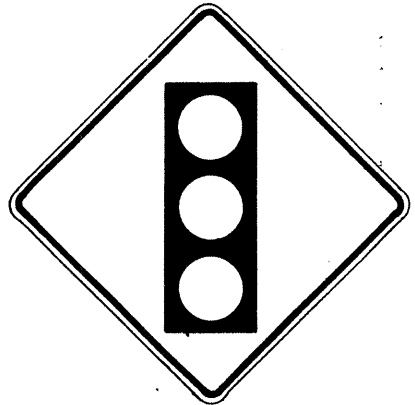
W2-5 30"x 30"
W2-5-A 48"x 48"



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



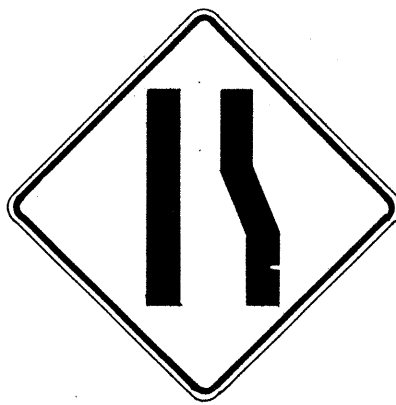
W3-2 30"x 30"
W3-2-A 36"x 36"



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



MERGE
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"



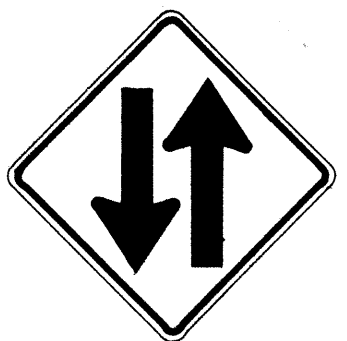
W5-3 36"x 36"



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



DIVIDED HIGHWAY ENDS
W6-2 36"x 36"
24"x 18"



TWO WAY TRAFFIC
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"



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



USE LOW GEAR
W7-2 24"x 18"



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



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



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



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



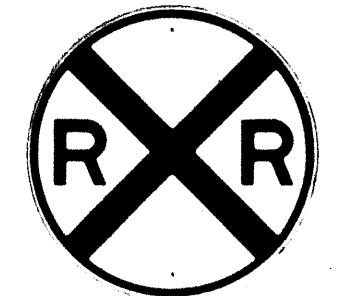
SLIPPERY WHEN WET
W8-5 30"x 30"
24"x 18"
W8-5-A 36"x 36"
24"x 18"



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



LANE ENDS MERGE LEFT
W9-2(L) 36"x 36"
W9-2(L)-A 48"x 48"



W10-1 36" Diameter



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



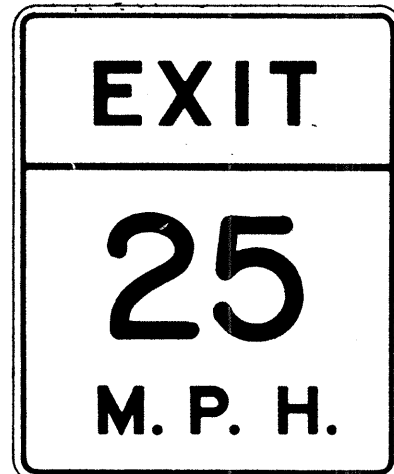
PED XING
W11-2 30"x 30"
24"x 18"
W11-2-A 36"x 36"
24"x 18"



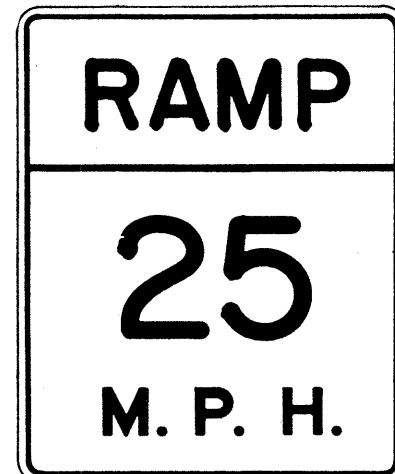
CATTLE XING
W11-4 30"x 30"
24"x 18"
W11-4-A 36"x 36"
24"x 18"



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



EXIT 25 M. P. H.
W13-2(25) 48"x 60"



RAMP 25 M. P. H.
W13-3(25) 48"x 60"



W14-1 30"x 30"



W14-3 36"x 48" x 48"



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



25 M.P.H.
W13-1(25) 18"x 18"
W13-1(25)-A 24"x 24"

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
5	Added Note 1	H.T.	11-8-77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

SHEET No. OF SHEETS DT 102

ORIGINAL	DATE
PLAN	DESIGNED BY
NOTE BOOK	QUANTITIES BY
NO.	CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	136	156

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.
- All signs shall be erected without educational plaques unless called for in the plans.

ALL WAY
R1-4 18" x 6"

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

SPEED LIMIT
ENFORCED BY
VASCAR
4" Series D
- 4" Series C
- 3" Series D
- 5" Series C
R2-10 24" x 30"

CENTER LANE
ONLY
R3-9b 24" x 36"

BUS STOP
R7-107(R) 12" x 24"

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

ANY TIME
R8-3a 24" x 24"
24" x 18"
R8-3a-A 48" x 48"

NO PED XING
R9-3a 18" x 18"
18" x 12"
R9-3a-A 24" x 24"
24" x 18"

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

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

NO TURN ON RED
R10-11a 24" x 30"

TURN RIGHT ANY TIME WITH CAUTION
4" Series C
R16-1 24" x 30"

NO LEFT TURN ON RED
- 4" Series D -
- 3" Series D -
- 2" Series D -
- 3" Series D -
R16-3 18" x 24"

NO RIGHT TURN ON RED
R16-4 18" x 24"

UNLICENSED VEHICLES
BICYCLES, CYCLES
UNDER 5 H.P.,
PEDESTRIANS
KEEP OUT FREEWAY
3" Series C
4" Series E
R16-5 36" x 42"

TURN AHEAD
- 8" Series F
- 5" Series D
R16-6 24" x 30"

U TURN OK
8" Series F
5" Series D
R16-7 24" x 30"

MOTOR-DRIVEN CYCLES PROHIBITED
4" Series B
R5-8 30" x 24"

W17-1(L) 60" x 60"

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

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

STOP AHEAD WHEN FLASHING
6" Series C
W3-4 48" x 48"

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

THRU TRAFFIC MERGE LEFT
6" Series E
W9-3(L) 48" x 48"

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

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

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

LIMITED SIGHT DISTANCE
W14-4 36" x 36"
W14-4-A 48" x 48"

DELAYED GREEN
- 4" Series C -
W15-1 24" x 24"

ADVANCE GREEN
W15-2 24" x 24"

END FREEWAY
1/2 MI
8" Series E
CW16-1(1/2) 60" x 60"

RIGHT LANE EXIT ONLY
8" Series E
W18-1 48" x 60"

SI-1 36" x 36"

S2-1 36" x 36"

SCHOOL BUS STOP AHEAD
S3-1 30" x 30"

8:00 AM TO 3:30 PM
S4-1 24" x 10"
WHEN CHILDREN ARE PRESENT
S4-2 24" x 10"

SCHOOL
S4-3 24" x 8"
WHEN FLASHING
S4-4 24" x 10"

SIDEWALK CLOSED
7" Series D
CW23-4 48" x 48"

USE SIDEWALK
4" Series C
R18-1 24" x 18"

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 103 approved 3/20/72	H.T.	5/3/78
2	Added General Note 6	H.T.	11/9/78

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

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS SIGNS

NOT TO SCALE DATE: MAY, 1978
SHEET NO. OF SHEETS DT 103

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	137	156



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"



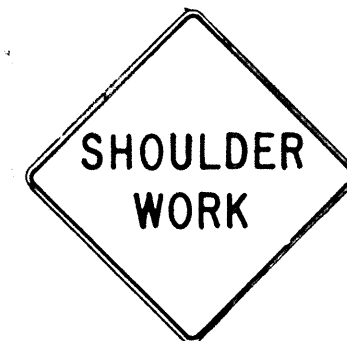
CW21-2 30" x 30"



CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



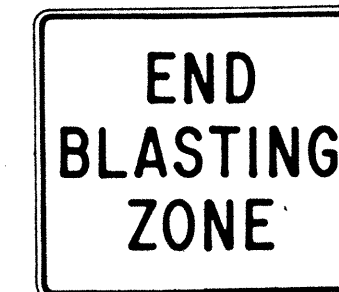
CW21-6 30" x 30"



CW22-1b 48" x 48"



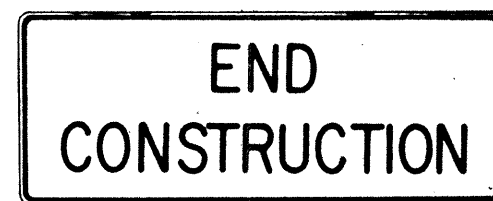
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



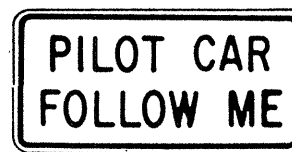
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



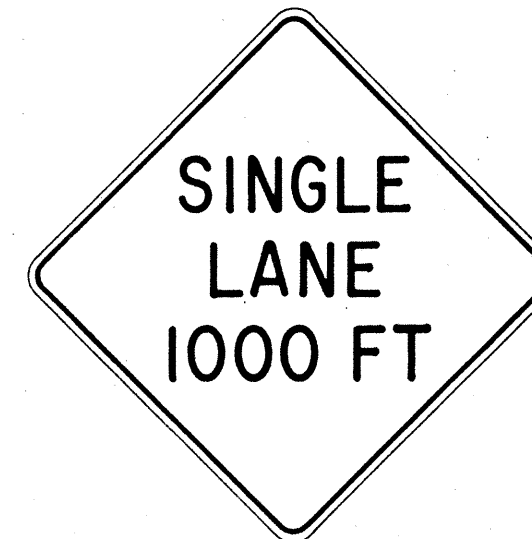
CM4-10(R) 48" x 18"



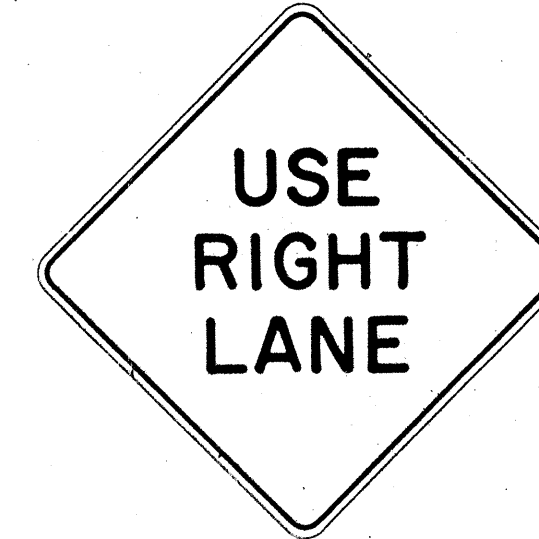
CG20-4 36" x 18"



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.	10/16/74
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 3/23/72
TRAFFIC ENGINEER DATE

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

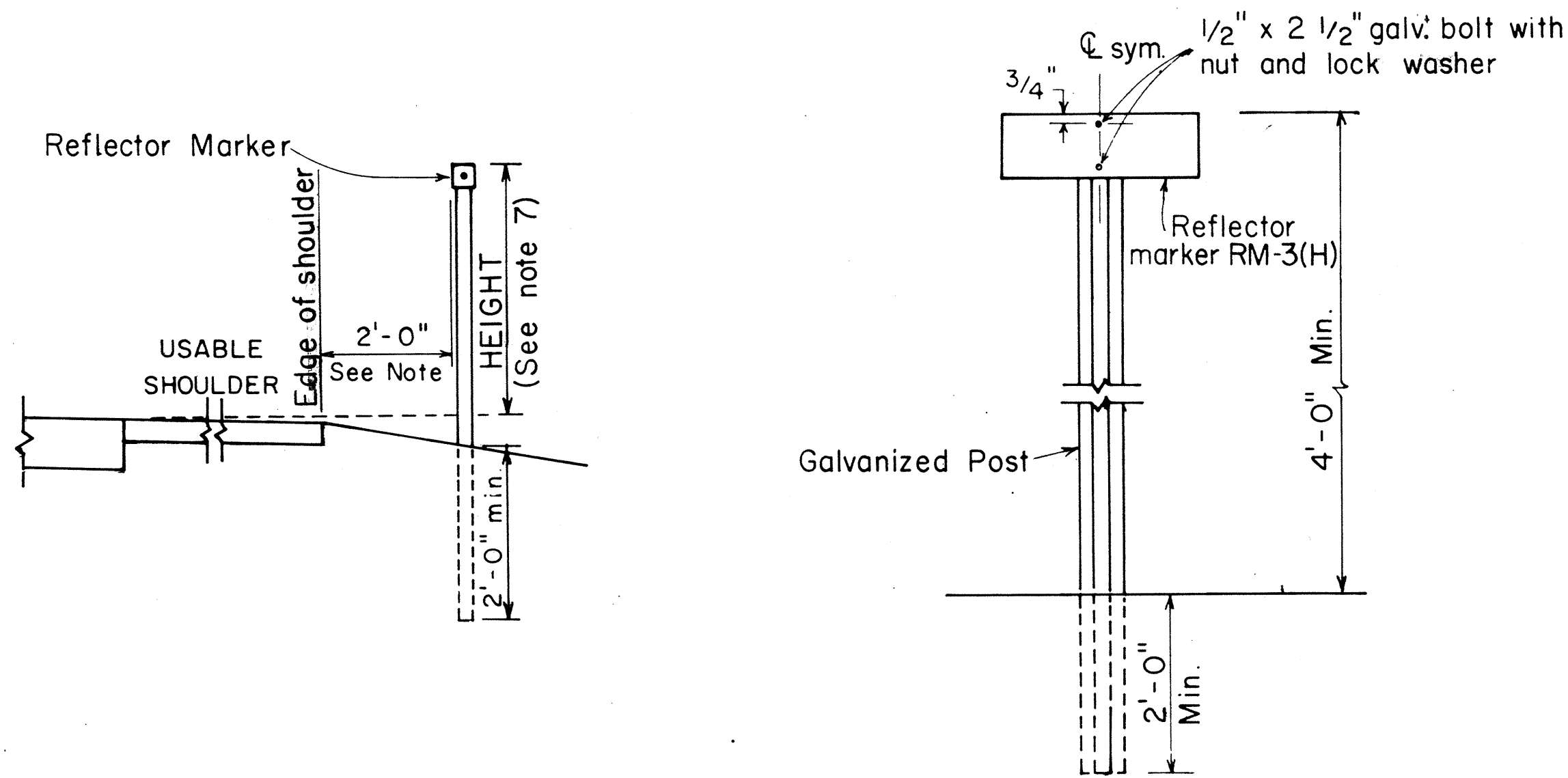
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

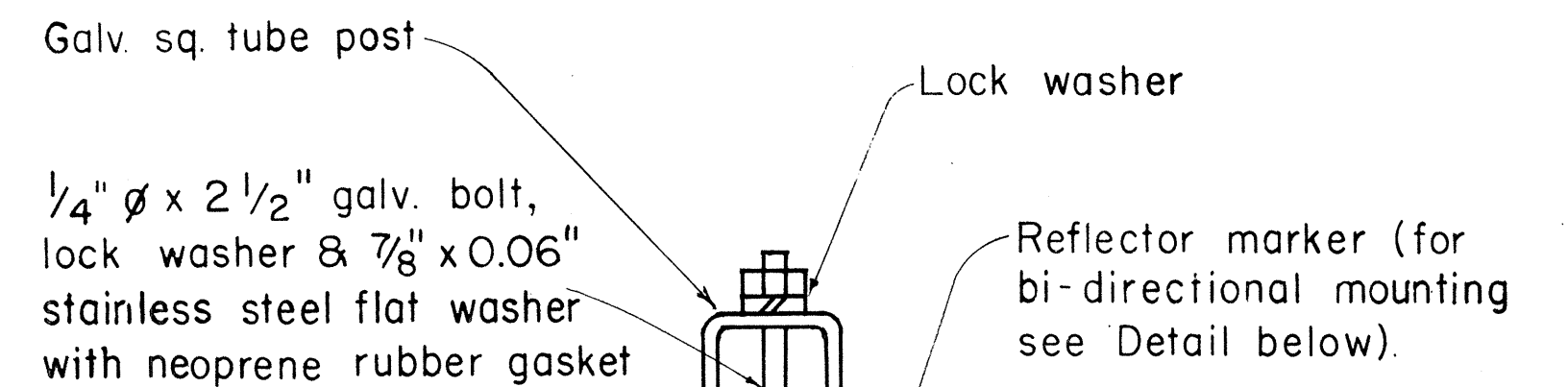
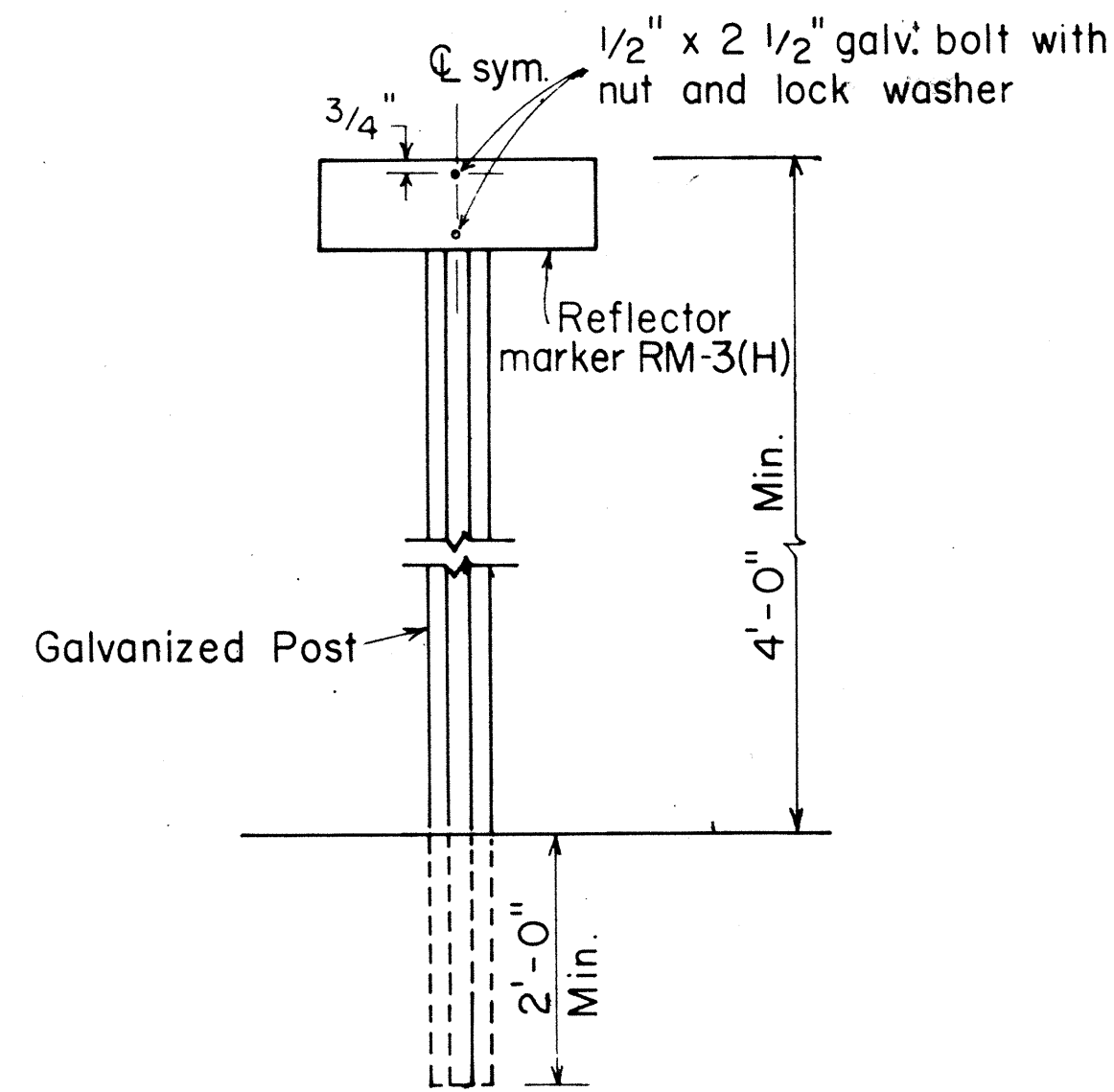
NOT TO SCALE

SHEET No. OF SHEETS DT 104

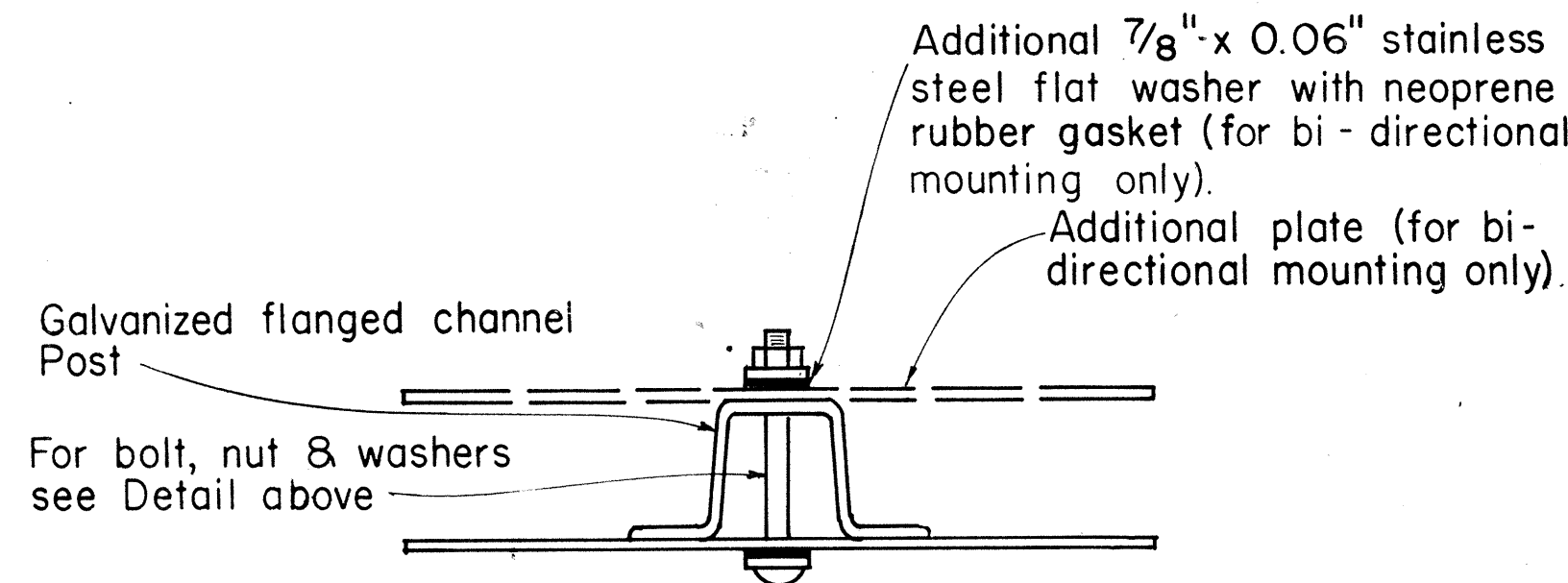
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	138	156



REFLECTOR MARKER MOUNTING DETAIL



GALVANIZED SQUARE TUBE POST

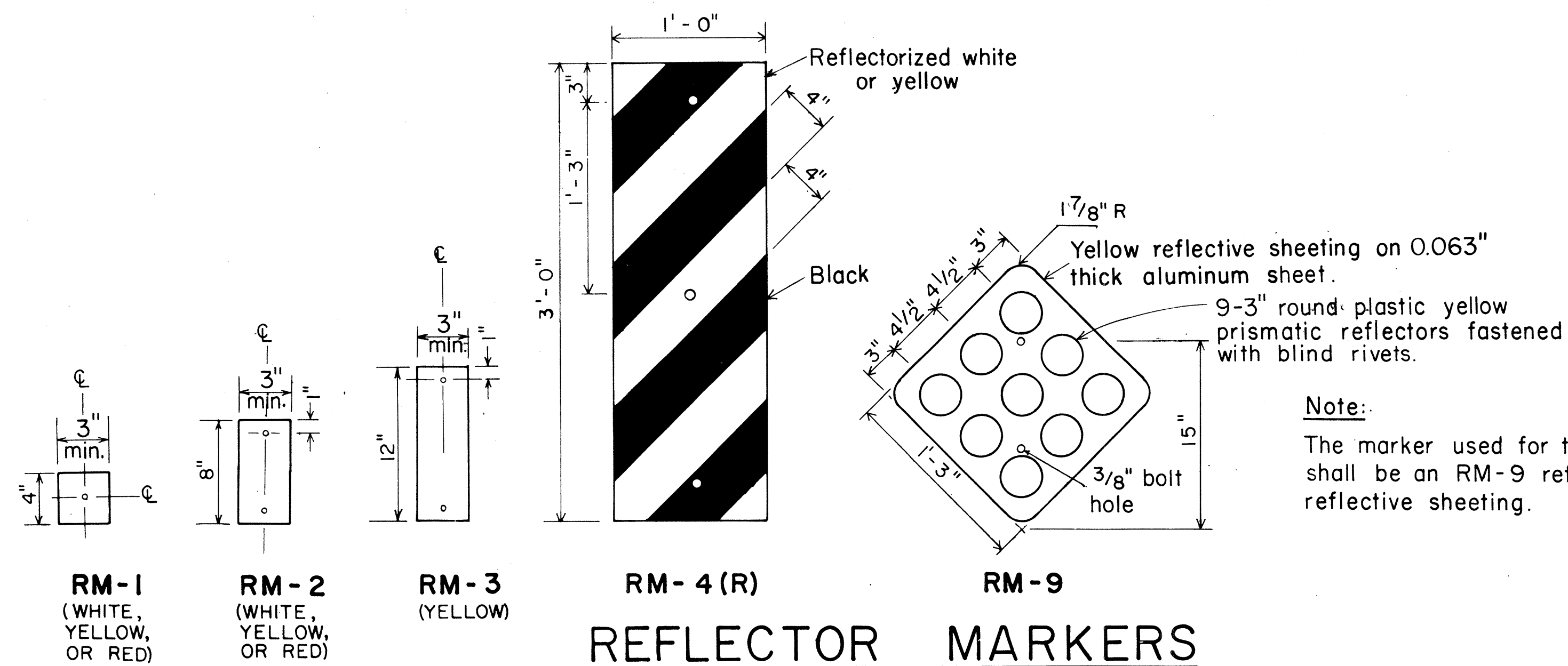


GALVANIZED FLANGED CHANNEL POST

TYPICAL MOUNTING DETAILS

GENERAL NOTES:

1. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
2. (R) or (L) indicates right or left and shall be as shown on the plans.
3. Reflector markers RM-1 and RM-2 shall be:
 - a) Yellow if placed along the left edge of divided roadways, one-way roadways, and ramps in the direction of travel.
 - b) White if placed along the right edge of divided roadways, one-way roadways, and ramps in the direction of travel.
4. For RM-4, the stripes shall slope downward at an angle of 45° toward the side of the obstruction that traffic is to pass.
5. For reflector marker RM-9, reflective sheeting material may be used as an alternate.
6. (H) indicates horizontal mounting of reflector marker.
7. Height = 4'-0" min. for RM-1, RM-2 and RM-3.
Height = 5'-6" min. for RM-4 and RM-9.
8. Final locations of reflector markers shall be approved by the Engineer.



Note:

The marker used for the end of a roadway shall be an RM-9 reflectorized with red reflective sheeting.

REFLECTOR MARKERS

APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER
DATE 11/21/77

APPROVED:
Herbert S. Sakai
ASSISTANT CHIEF, ENGINEERING
DATE 11/16/77

NO.	REVISION	APPROVED BY	DATE
1	Revised Mounting Details	H-T	4/23/80
2	Revised General Notes, Mounting Details and Reflector Markers.	p/d	7-28-83

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS REFLECTOR MARKERS

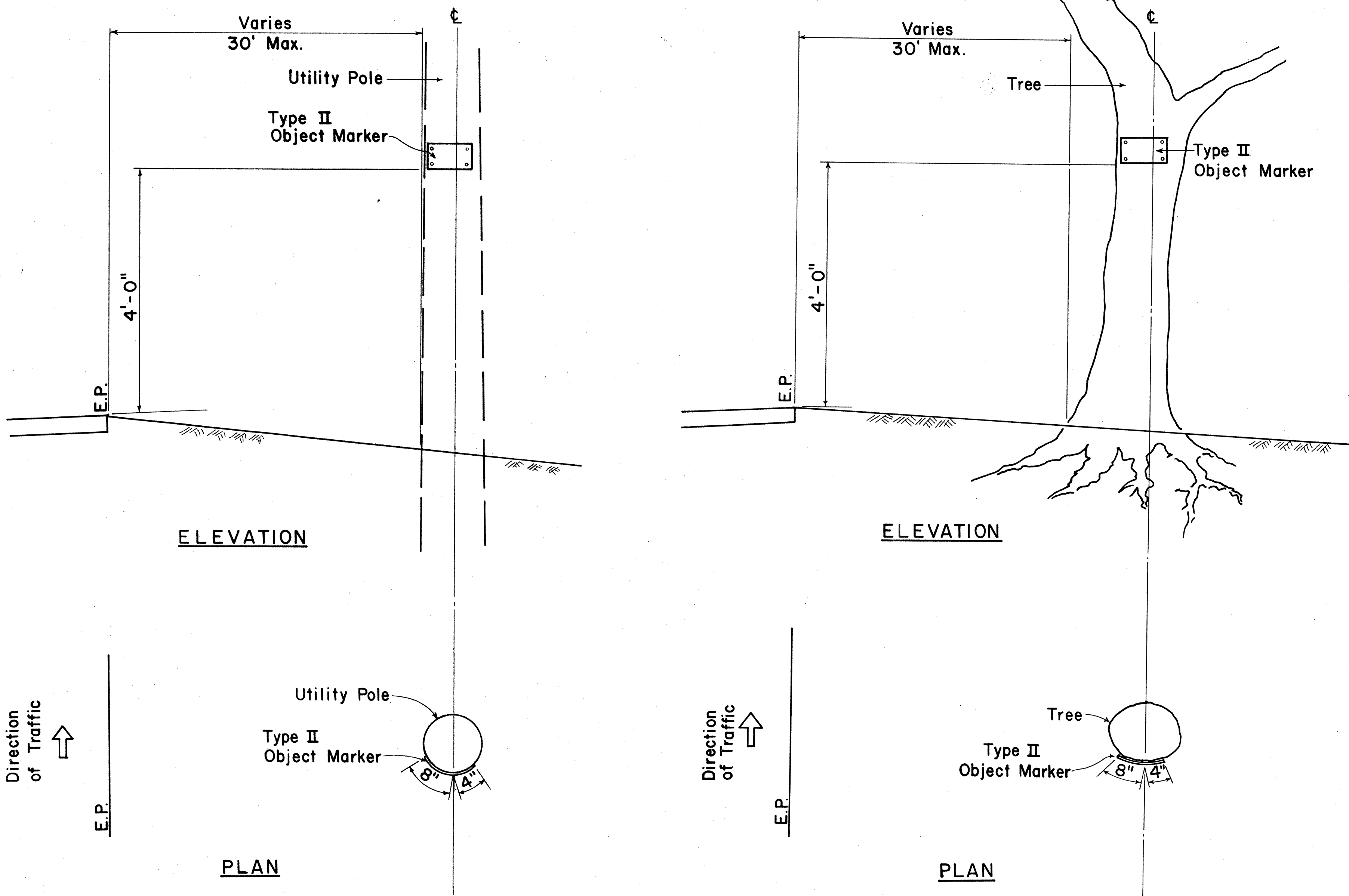
Not to scale June, 1977

SHEET NO. OF SHEETS DT 110

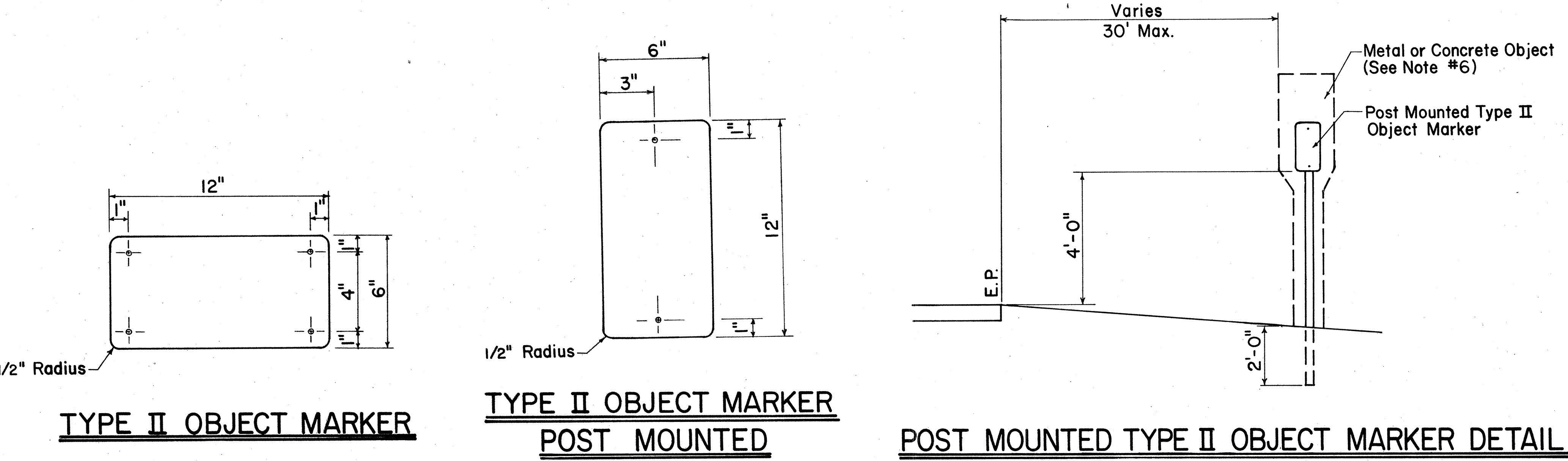
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	139	156

GENERAL NOTES

1. All objects (utility poles or trees) that are within the State highway right of way and within 30 feet of the roadway edge of pavement shall be marked as directed by the Engineer.
2. The Contractor shall prepare the mounting surface of each object as directed by the Engineer and place the Type II Object Marker as shown on this plan.
3. Type II Object Markers shall be mounted on utility poles and trees with 13/4" galv. roofing nails (4 ea.).
4. Branches of trees which obscure the object markers shall be trimmed. (Payment shall be incidental to Type II Object Markers as shown in the proposal).
5. Type II Object Markers for utility poles and trees, etc., shall be made of amber reflective sheeting material overlayed on 0.020" aluminum sheeting.
6. Objects such as concrete posts, concrete or rock walls and boxes, metal posts (greater than 2" in diameter), or metal boxes shall be marked with post mounted object markers. Post mounted Type II Object Markers shall conform to the following requirements:
 - a. It shall consist of amber reflective sheeting material overlayed on 0.063" thick sheet aluminum backing of the dimensions shown on the plans.
 - b. It shall be mounted on either metal posts or flexible delineator posts with 1/4"x2" galv. bolts, nuts and washers. Metal posts shall be galvanized and shall be either 1 1/2"x1 1/2", 12 gage square tube posts or 1.12 lbs. per ft. flanged channel posts.



TYPICAL TYPE II OBJECT MARKER MOUNTING DETAIL



POST MOUNTED TYPE II OBJECT MARKER DETAIL

APPROVAL RECOMMENDED:
Eiichi Tanaka 3/30/83
 TRAFFIC ENGINEER DATE

APPROVED:
S. Fujiyama 3-31-83
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
TYPE II OBJECT MARKERS

Scale: Not to scale Date: March 1983
SHEET NO. OF SHEETS DT III

DATE	
SURVEY PLOTTED BY	
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.	F-063-1(16) F-063-1(17)	1984	140	156

GENERAL NOTES:

- Milepost marker and highway route number plates 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.
- Milepost markers and highway route numbers shall be completely reflectorized with reflective sheeting as follows:
 - Milepost markers shall have white legends and border on a green background.
 - Highway route numbers shall have black numerals on a white background.
- The plate backings for milepost markers and highway route numbers shall conform to the requirements for standard highway signs. The plates shall have 3/8" bolt holes drilled at appropriate locations.
- Highway route number plates shall be used in conjunction with milepost marker plates on all roadways, except Interstate freeways. Fabrication and installation costs of highway route number plates shall be considered incidental to the milepost marker assembly.
- Milepost markers shall be installed on all roadways as follows:
 - One milepost on each side of multi-lane roadways.
 - Back-to-back mileposts on one side of 2-lane roadways. (Right side of roadway in direction of increasing mileage.)

APPROVAL RECOMMENDED:
Erich Tanaka
 TRAFFIC ENGINEER
 1/17/78
 DATE

APPROVED:
Robert W. Sakuma
 ASSISTANT CHIEF, ENGINEERING
 1/18/78
 DATE

NO.	REVISION	APPROVED BY	DATE
I	Revised Mounting Details	H.L.	4/23/80

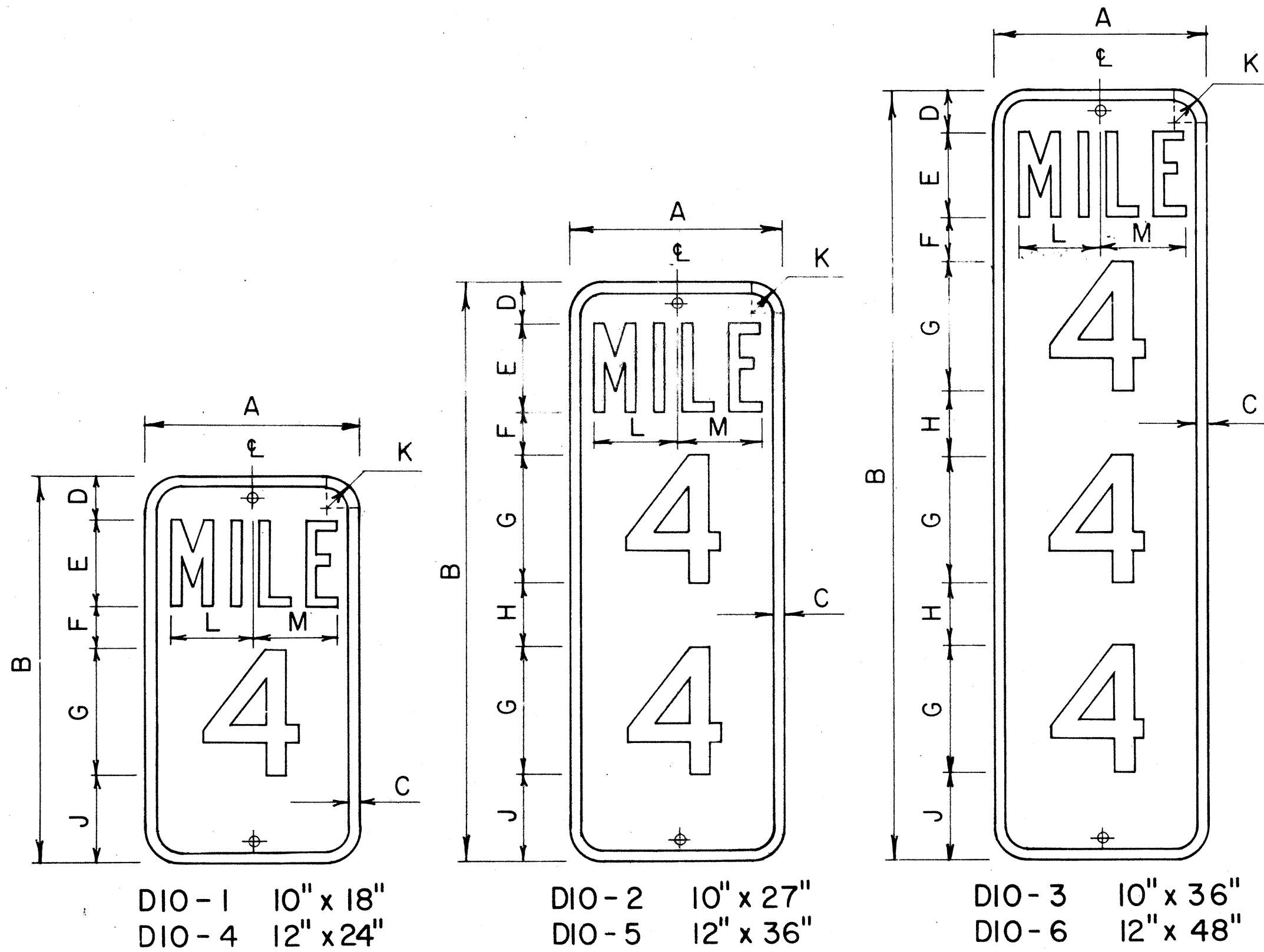
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS

MILEPOSTS

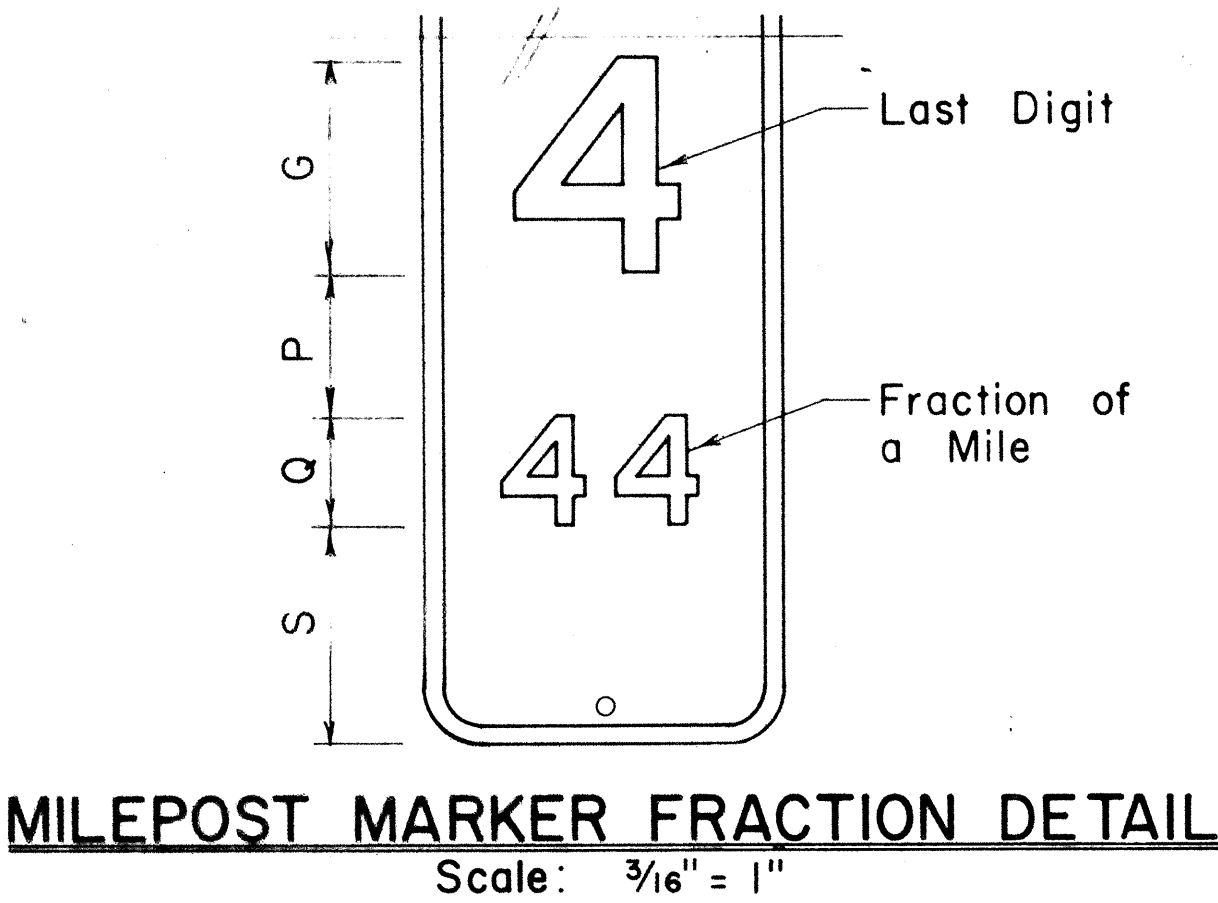
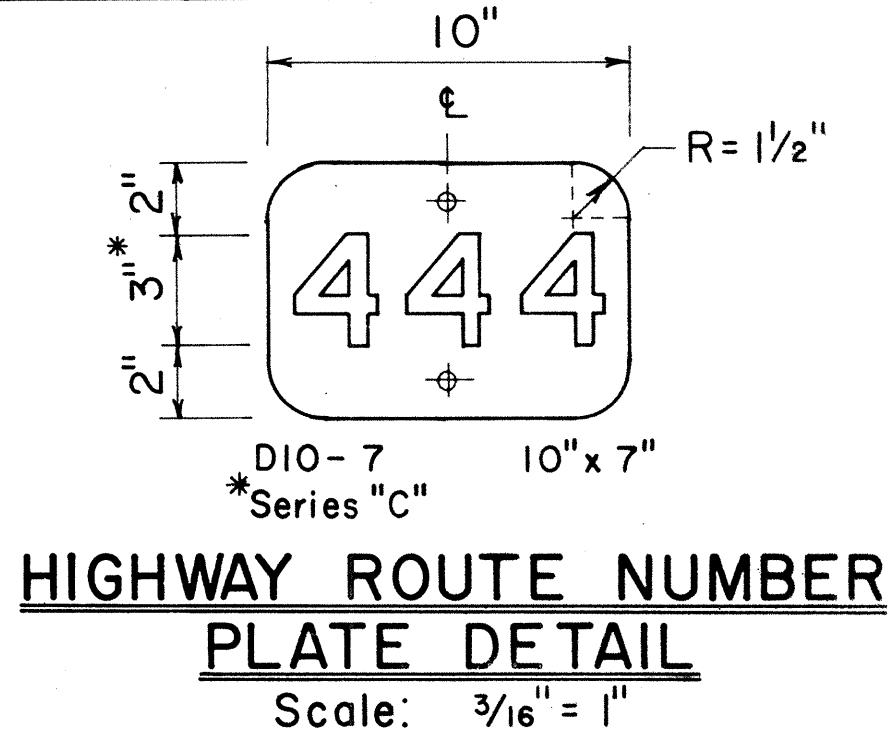
SCALE: As Shown
DATE: December, 1977

SHEET No. 140 OF 156 SHEETS DT 116

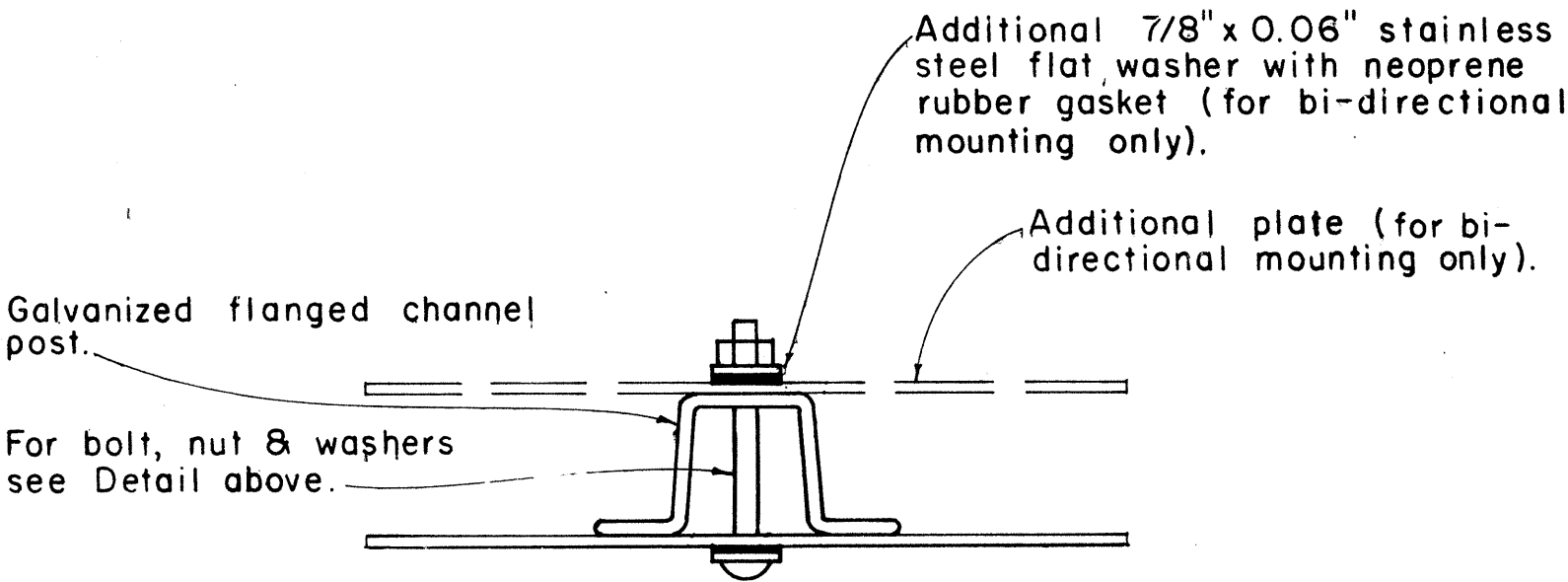
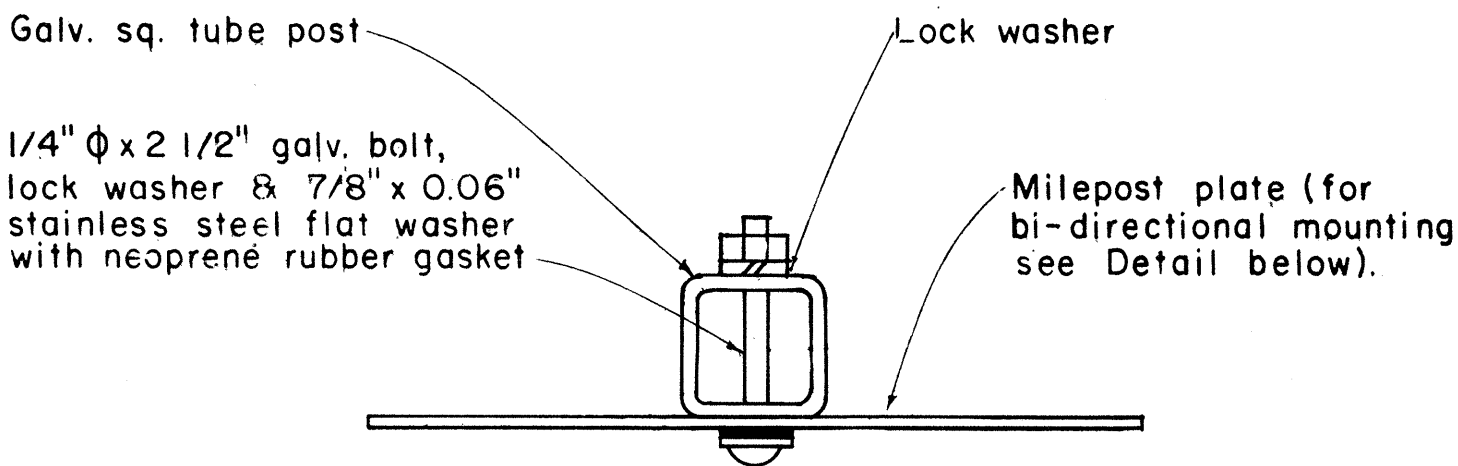
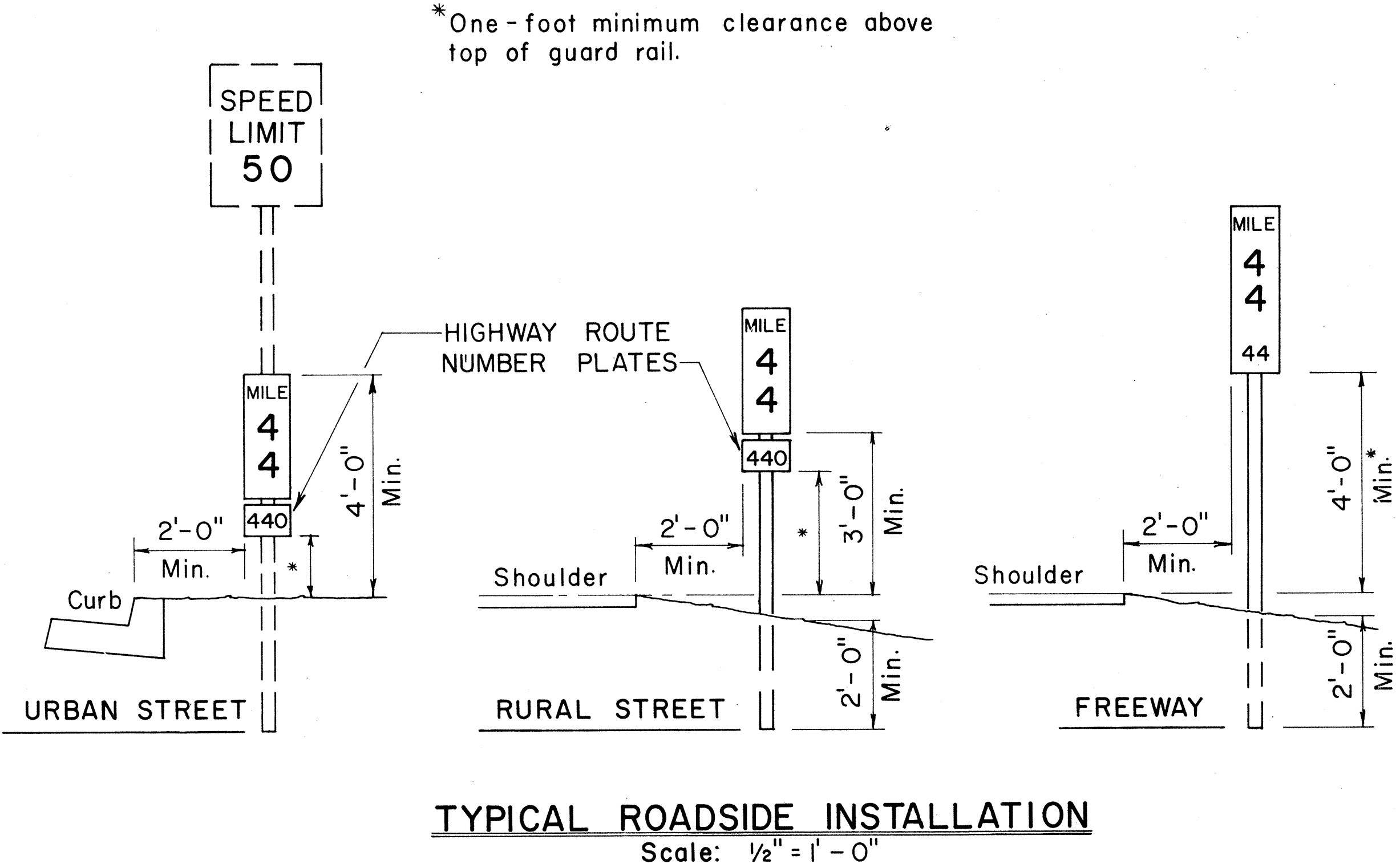


MILEPOST MARKER PLATE DETAILS
 Scale: 3/16" = 1"

MILEPOST PLATE SCHEDULE (INCHES)														NAME	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	LETTER SERIES	NUMERAL SERIES
DIO-1	10 x 18	10	18	1/2	2	4	2	6	4	1 1/2	3 3/8	3 3/8	B	C															
DIO-4	12 x 24	12	24	1/2	3	4	3	10	4	1 1/2	4 3/8	4 3/8	C	C															
DIO-2	10 x 27	10	27	1/2	2	4	2	6	3	4	1 1/2	3 3/8	3 3/8	B	C														
DIO-5	12 x 36	12	36	1/2	3	4	3	10	3	4	1 1/2	4 3/8	4 3/8	C	C														
DIO-3	10 x 36	10	36	1/2	2	4	2	6	3	4	1 1/2	3 3/8	3 3/8	B	C														
DIO-6	12 x 48	12	48	1/2	3	4	3	10	2 1/2	3	1 1/2	4 3/8	4 3/8	C	C														



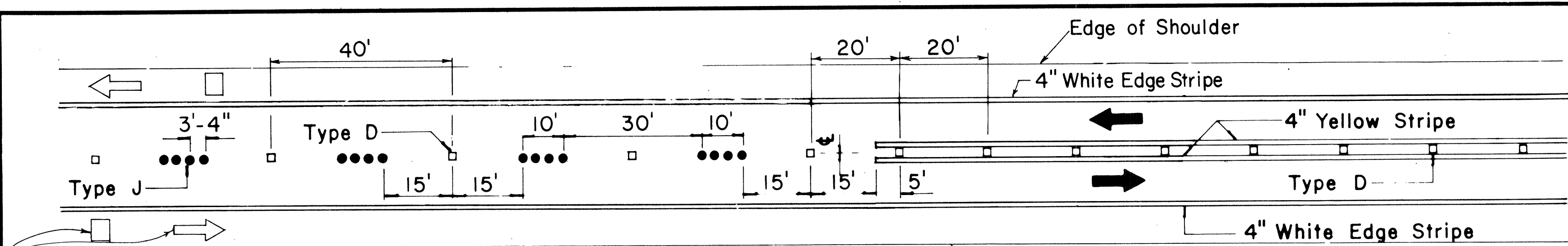
MILEPOST PLATE SCHEDULE WITH FRACTION OF A MILE							NAME	SIZE	G	P	Q	S	NUMERAL SERIES
DIO-1a	10" x 27"	6"	4"	3"	6"	C							
DIO-4a	12" x 36"	10"	4"	5"	7"	C							
DIO-2a	10" x 36"	6"	4"	3"	6"	C							
DIO-5a	12" x 48"	10"	4"	5"	6"	C							
DIO-3a	10" x 45"	6"	4"	3"	6"	C							
DIO-6a	12" x 60"	10"	4"	5"	6"	C							



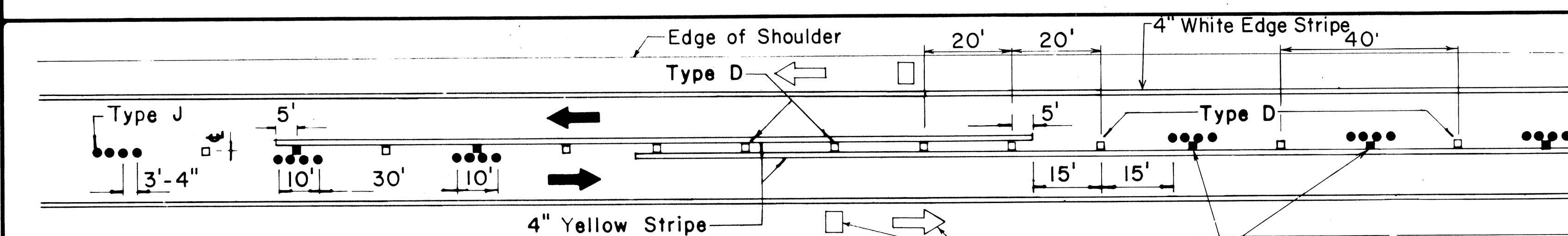
TYPICAL MOUNTING DETAILS
 Scale: 1/2" = 1"

DATE	1/17/78
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

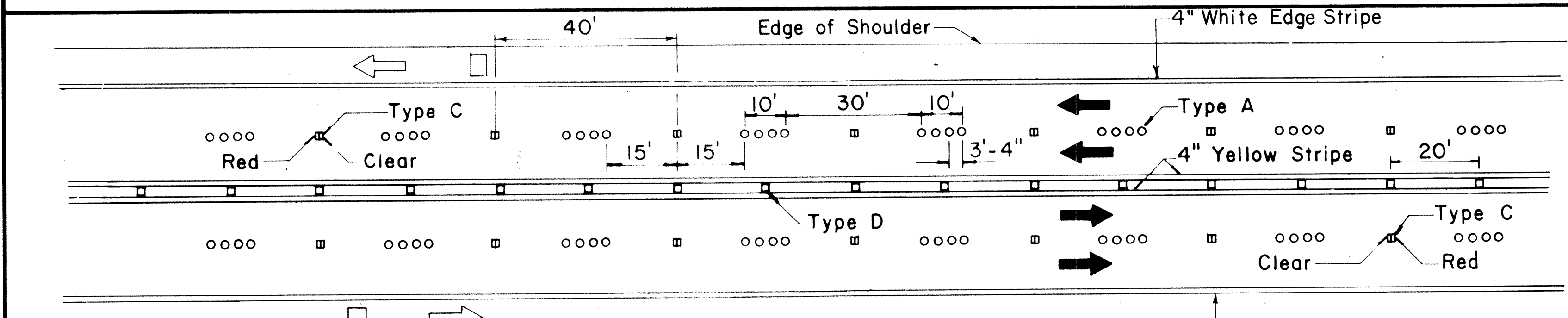
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	141	156



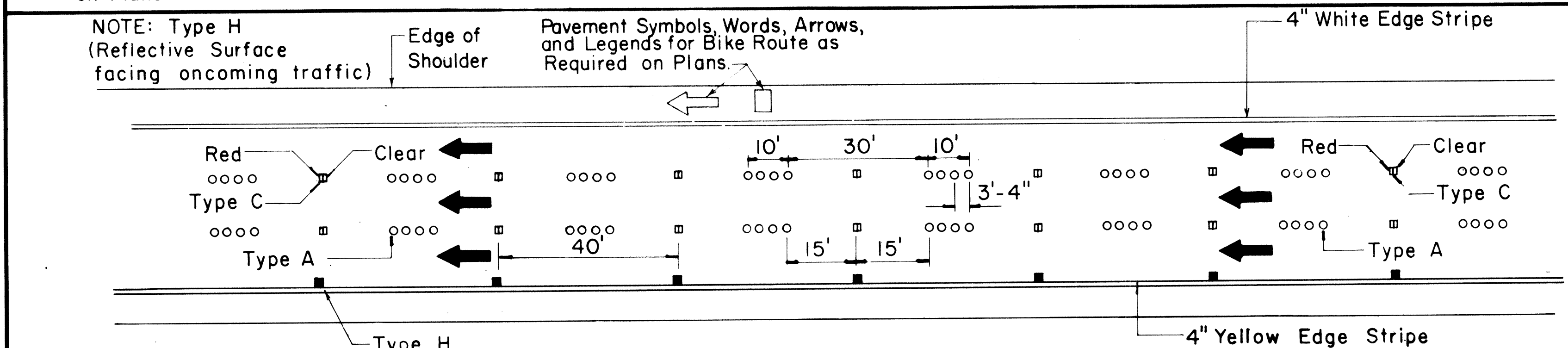
Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.



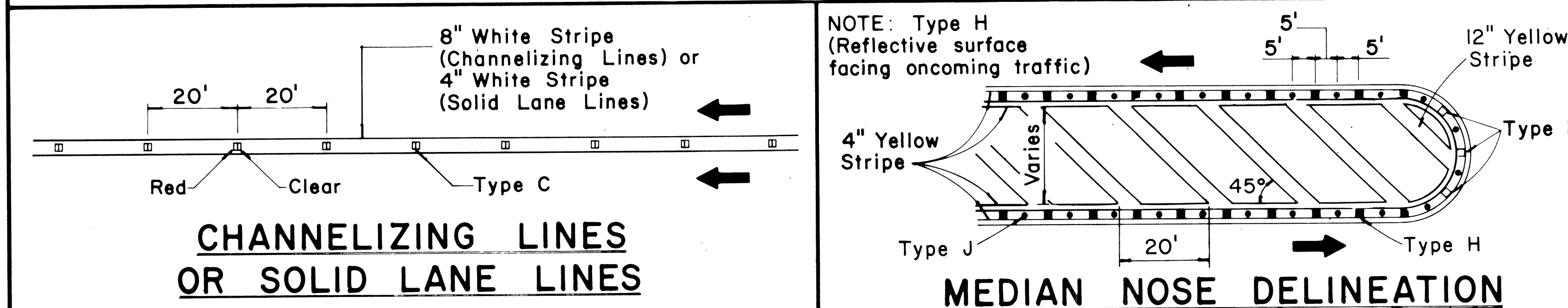
Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.



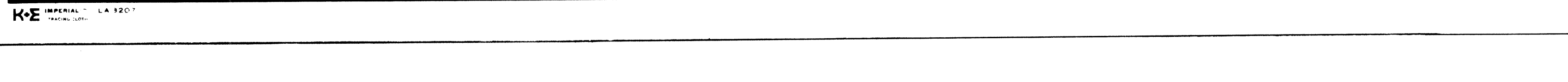
Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.



NOTE: Type H (Reflective Surface facing oncoming traffic)



NOTE: Type H (Reflective surface facing oncoming traffic)

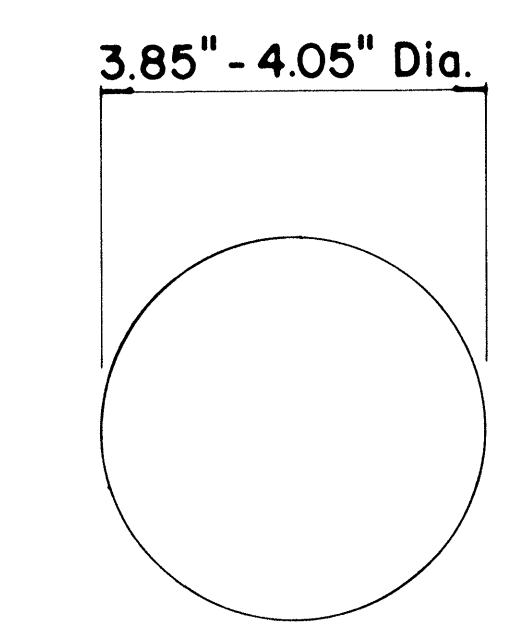


TWO - LANE

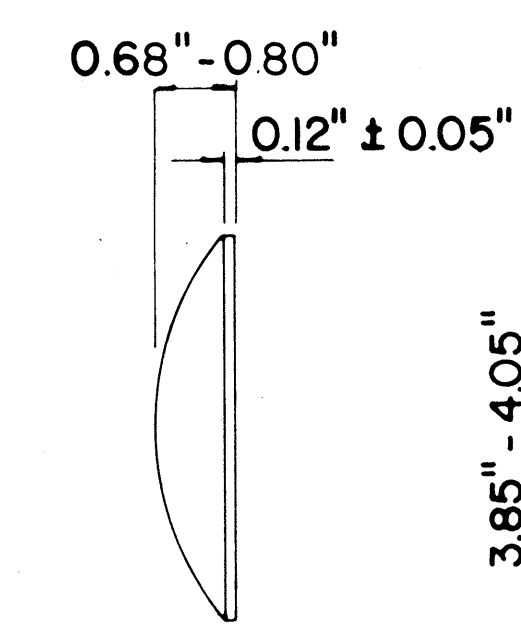
MULTI - LANE

DIVIDED HIGHWAY AND FREEWAY

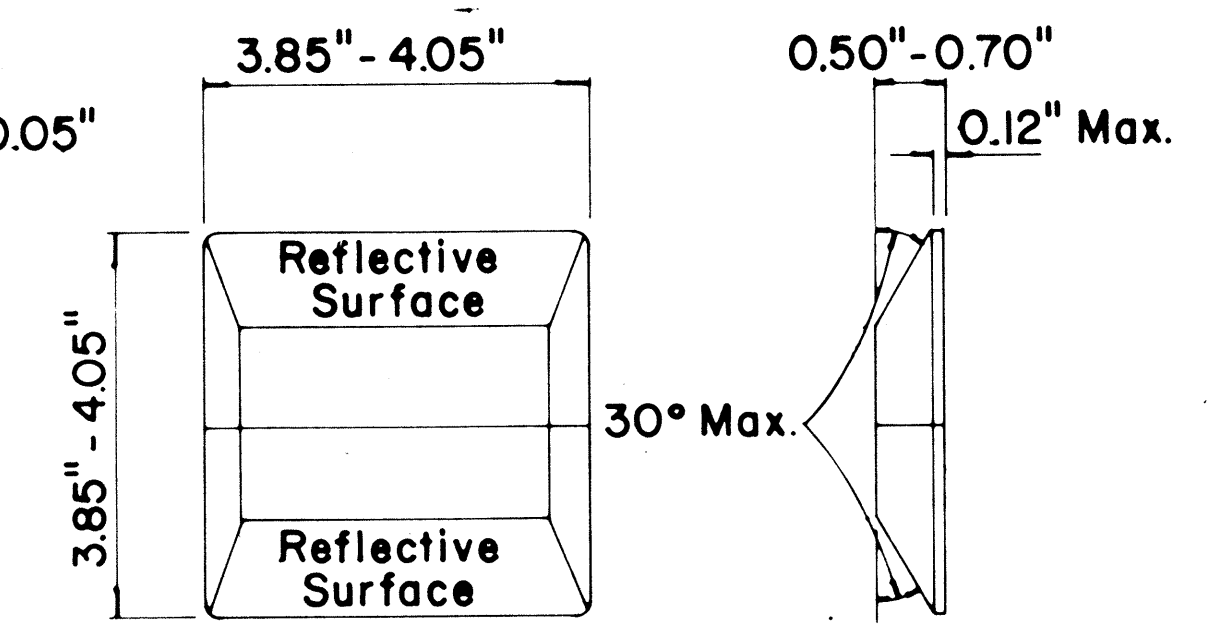
MISCELLANEOUS



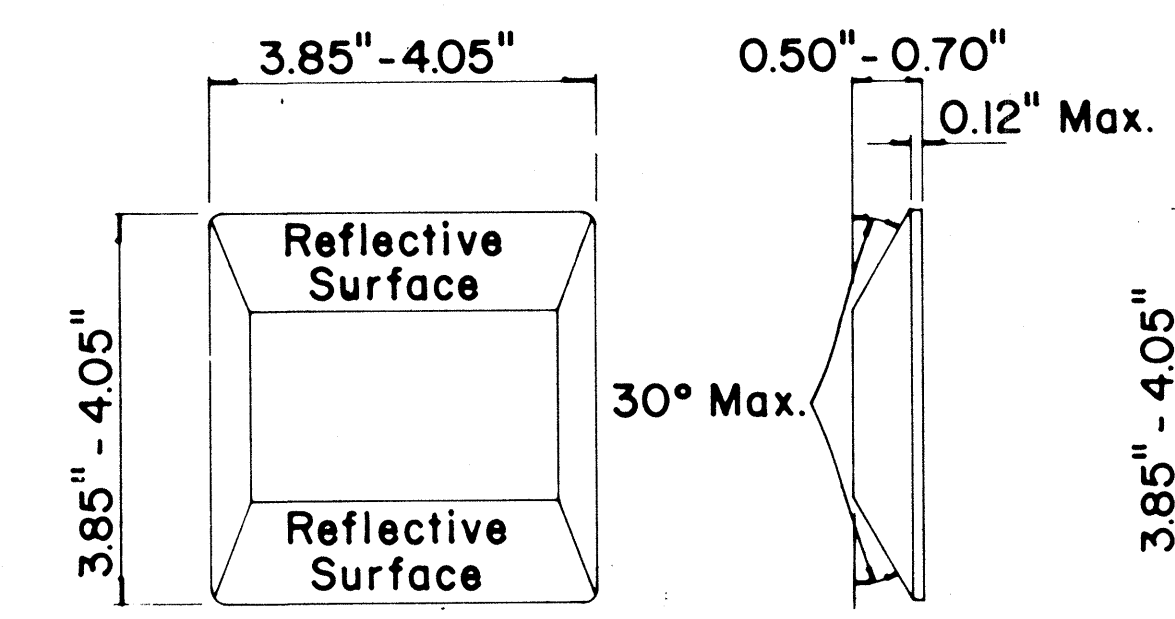
TYPE A
NON-REFLECTIVE WHITE MARKER



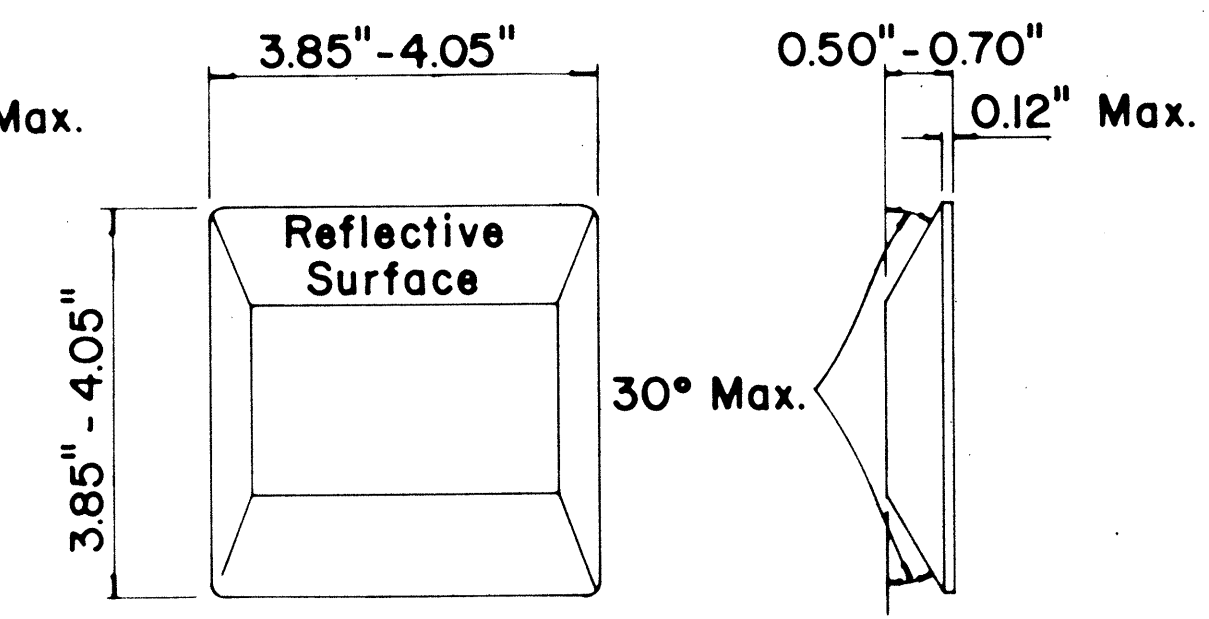
TYPE J
NON-REFLECTIVE YELLOW MARKER



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.
- Edge lines shall not be continued through intersections and shall not be broken for driveways unless otherwise shown or directed.

LEGEND

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

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

APPROVED:
Harbert J. Delia 1/24/78
 ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Supersedes DT 300 approved 11/18/71.	H.T.	1/24/78
2	Delete Type A Markers from Bike Route Delineation.	H.T.	10/15/79
3	Added General Note 3. Revised left edge stripe.	H.T.	9-28-83

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
RAISED PAVEMENT MARKERS
AND STRIPING

Not to Scale July 1978

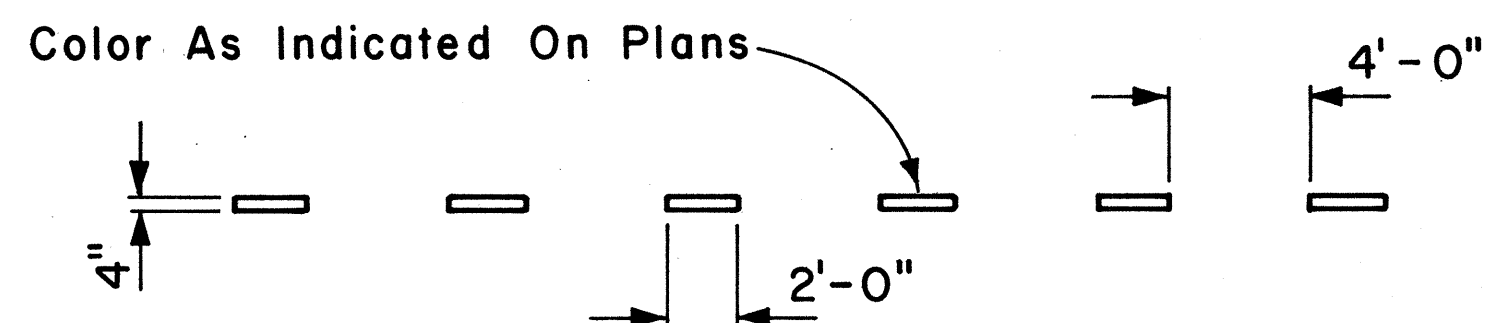
SHEET No. 141 OF SHEETS DT 300

DESIGNED BY	DATE
TRACED BY	
DESIGNED BY	
NOTE BOOK	
CHECKED BY	

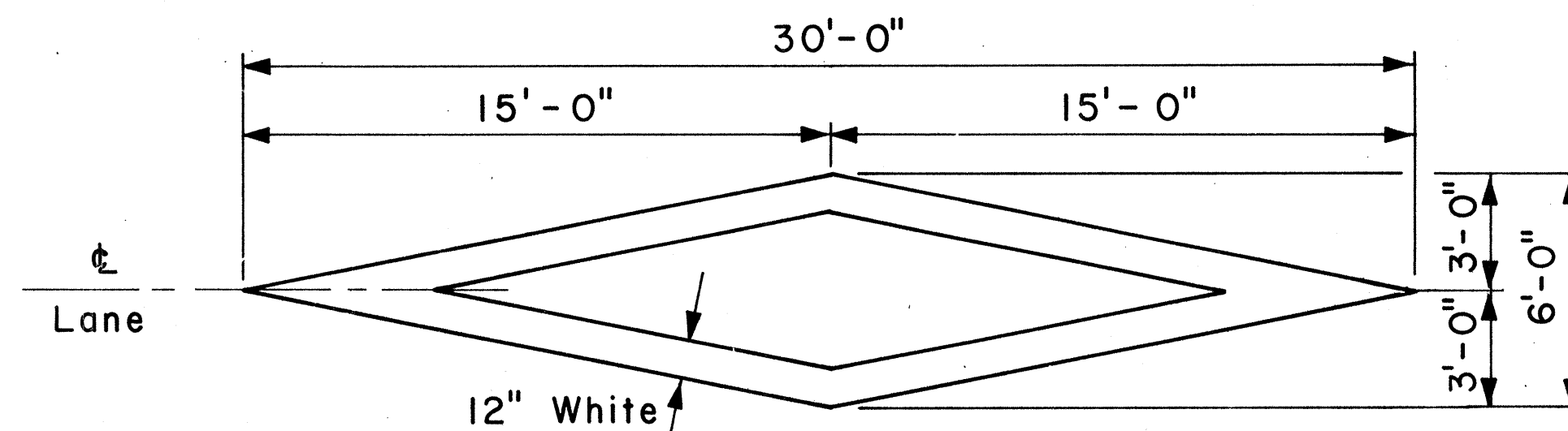
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FO63-1(16) FO63-1(17)	1984	142	156

GENERAL NOTES:

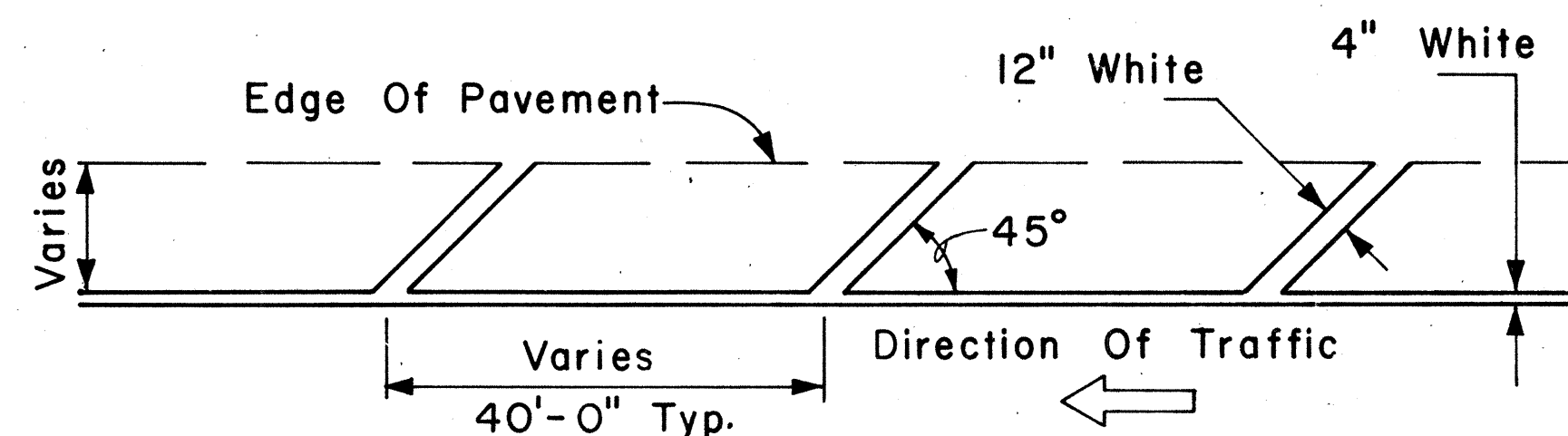
1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and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



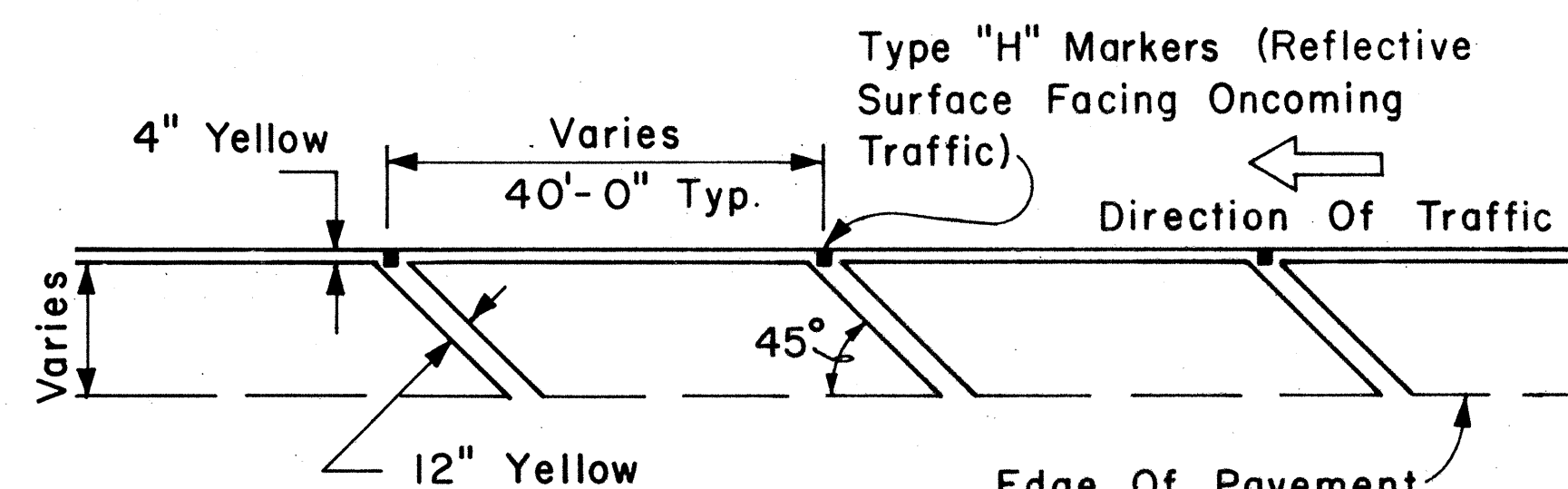
4" GUIDE LINE



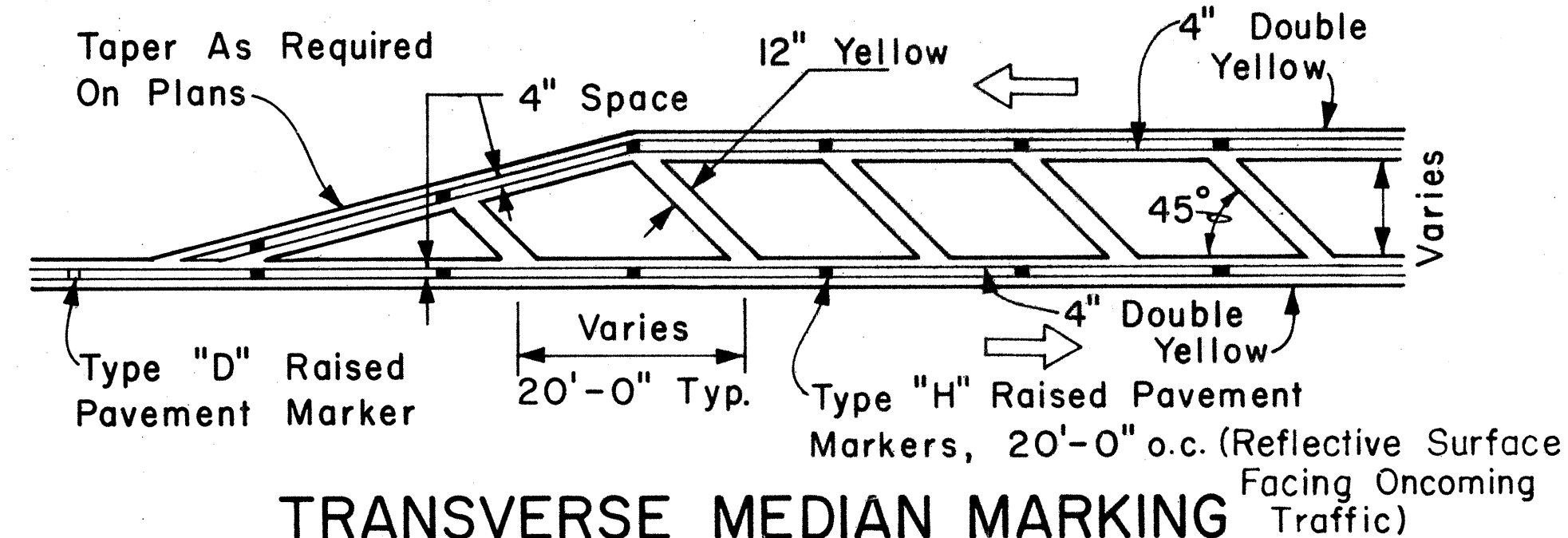
PAVEMENT DIAMOND



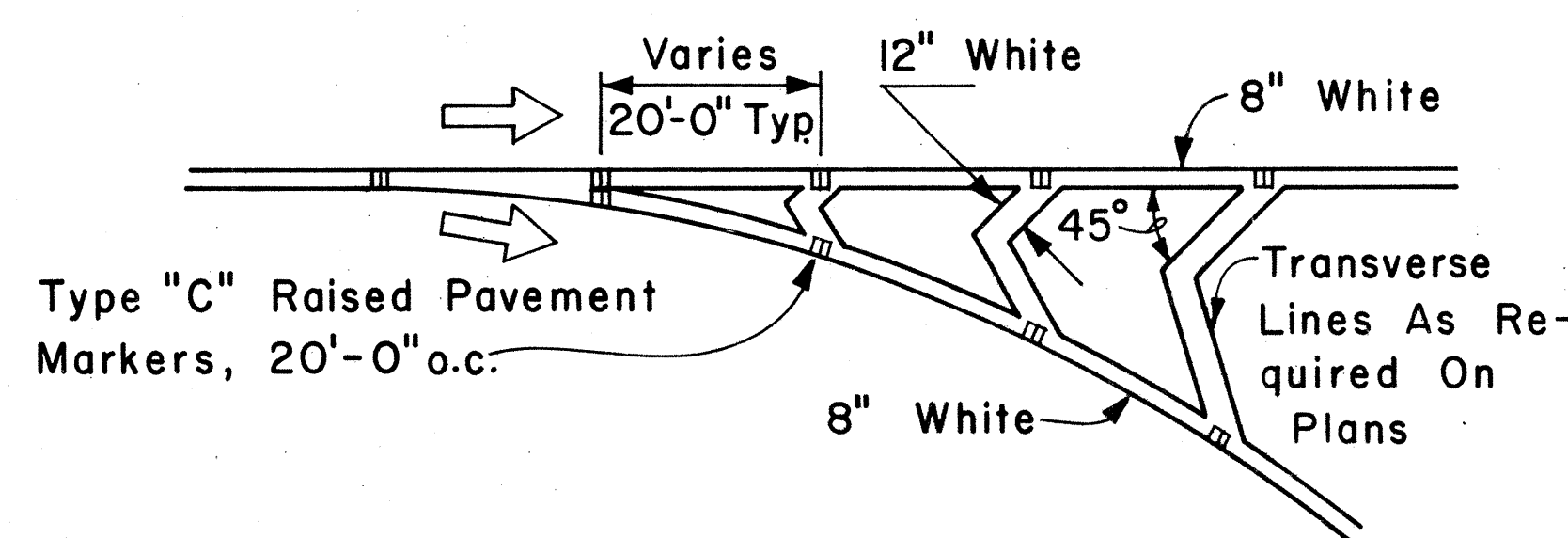
TRANSVERSE RIGHT SHOULDER MARKING



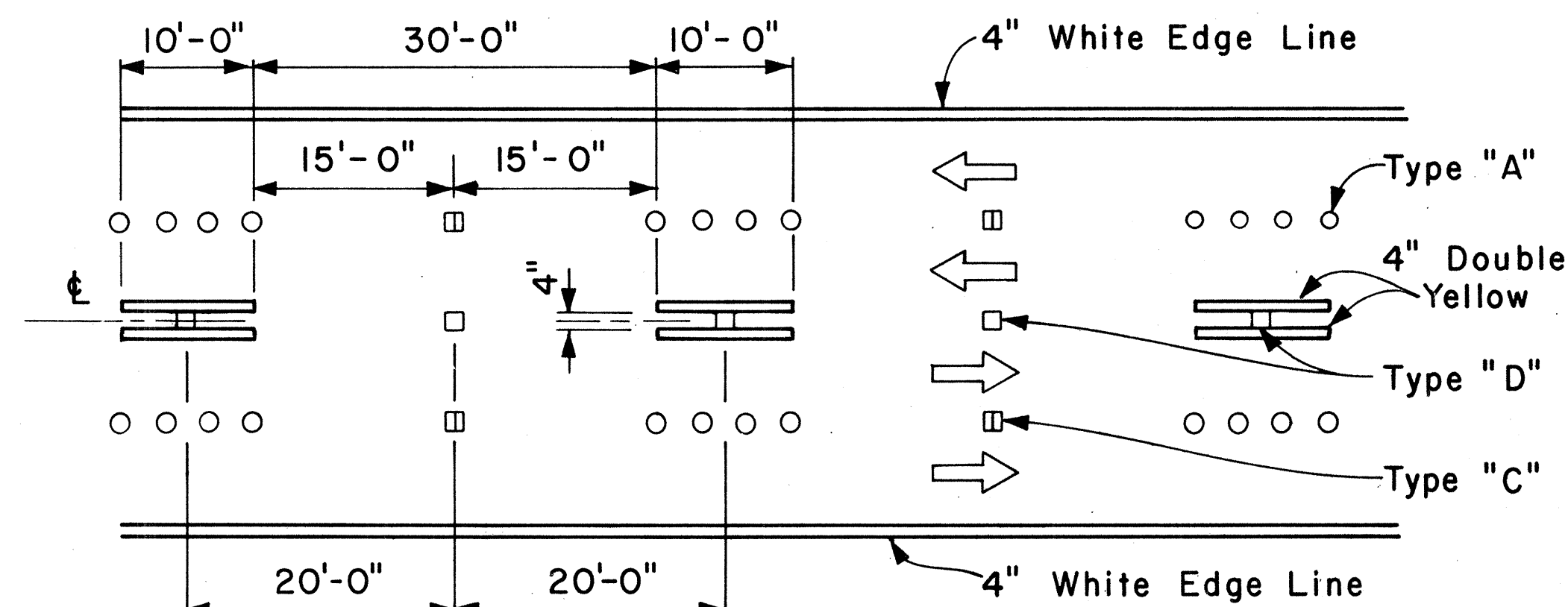
TRANSVERSE LEFT SHOULDER MARKING



TRANSVERSE MEDIAN MARKING

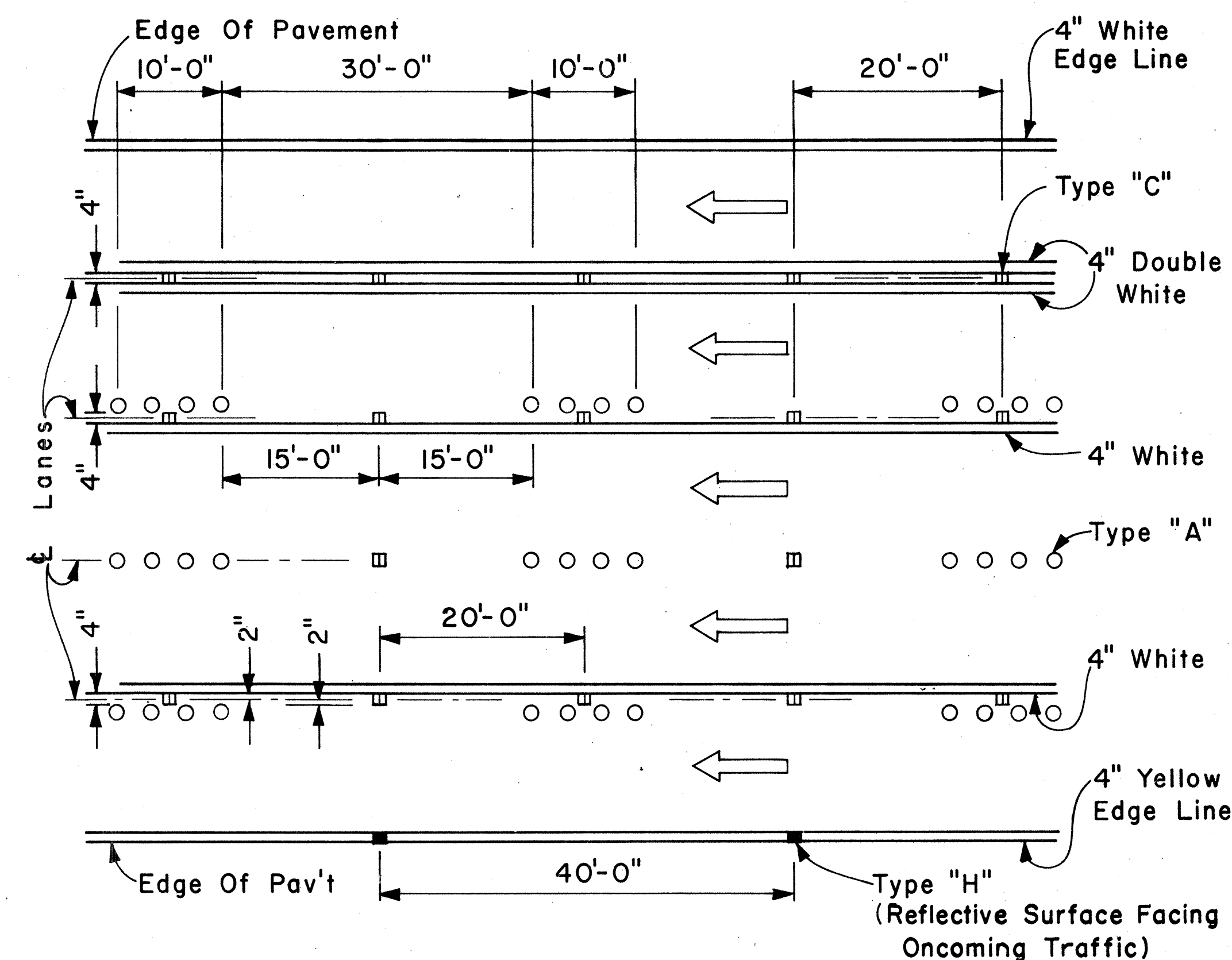


CHANNELIZING ISLAND



NOTE: Traffic Cone Usage Required.

MULTI-LANE REVERSIBLE LANES



MULTI-LANE LANE CHANGE RESTRICTION ZONES

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

APPROVED:
Harbor 2. Zakschi 5/2/78
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

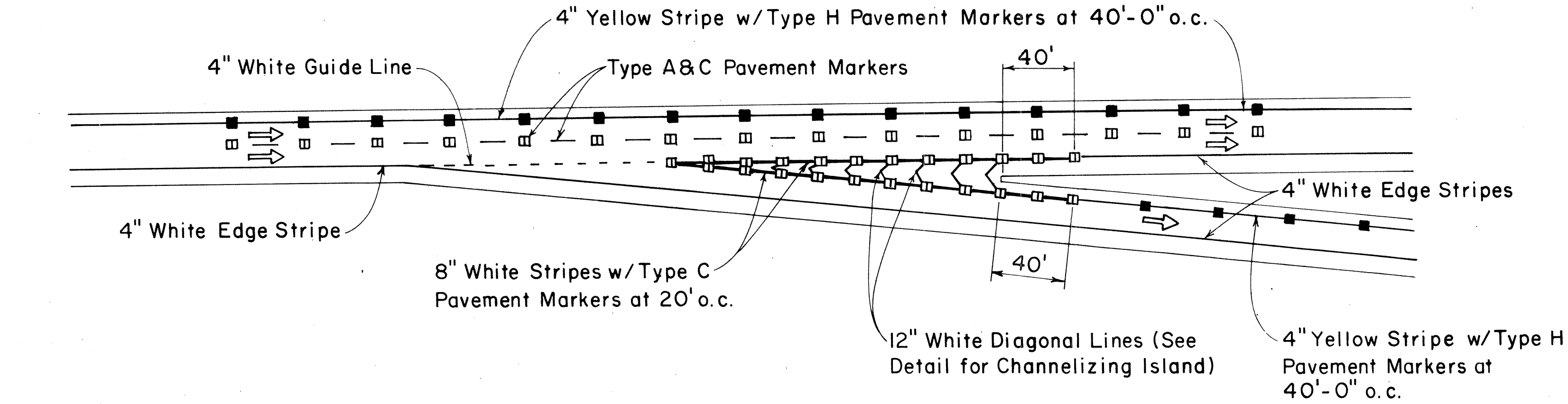
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
MISCELLANEOUS PAVEMENT MARKINGS
 Scale: Not to Scale Date: April, 1978
 SHEET No. OF SHEETS DT 302

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(16) F063-1(17)	1984	143	156

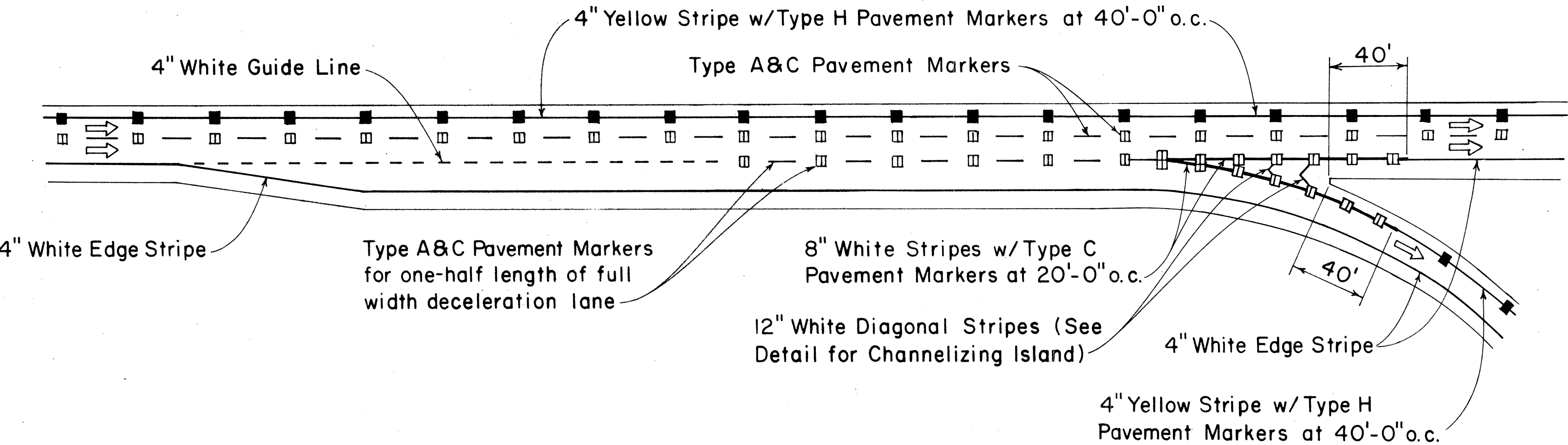
GENERAL NOTES:

- 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.
- 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.
- For additional details, see sheet DT 300.

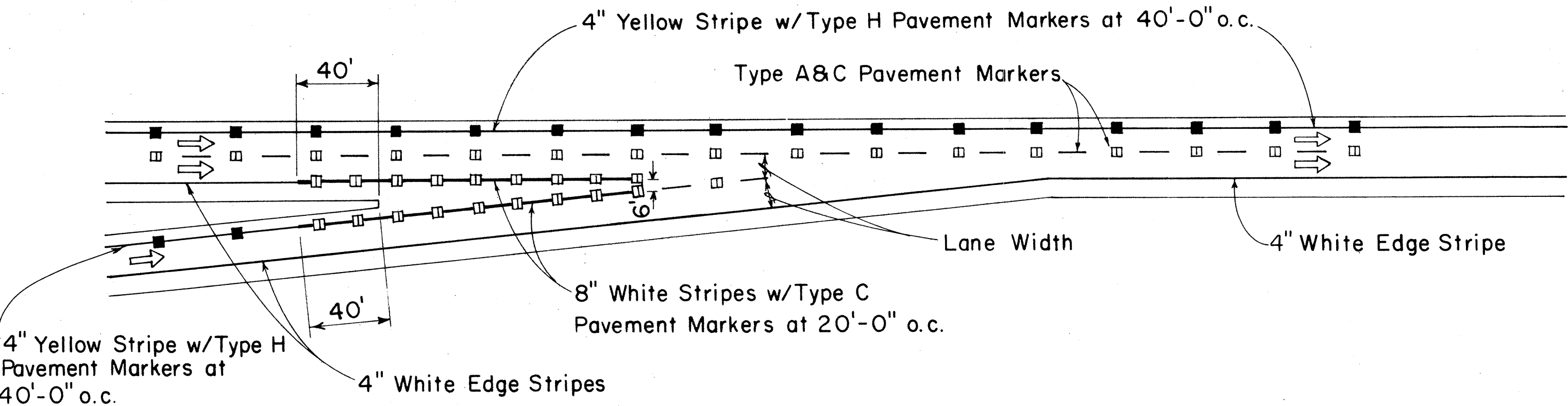
DATE	_____
ORIGINAL PLAN	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
NO.	_____



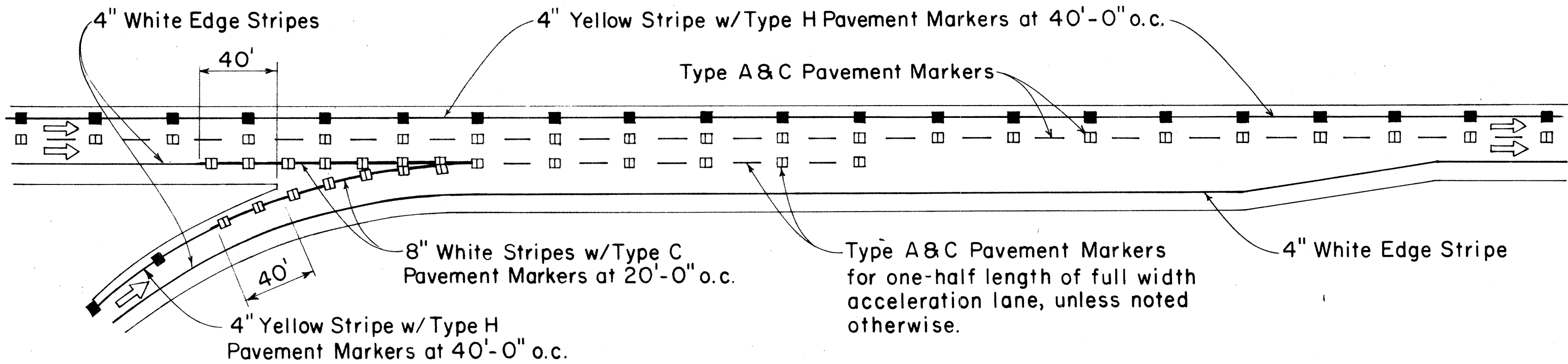
TAPERED DECELERATION LANE
TYPICAL ROADWAY EXIT MARKINGS



PARALLEL DECELERATION LANE
TYPICAL ROADWAY EXIT MARKINGS



TAPERED ACCELERATION LANE
TYPICAL ROADWAY ENTRANCE MARKINGS



PARALLEL ACCELERATION LANE
TYPICAL ROADWAY ENTRANCE MARKINGS

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

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

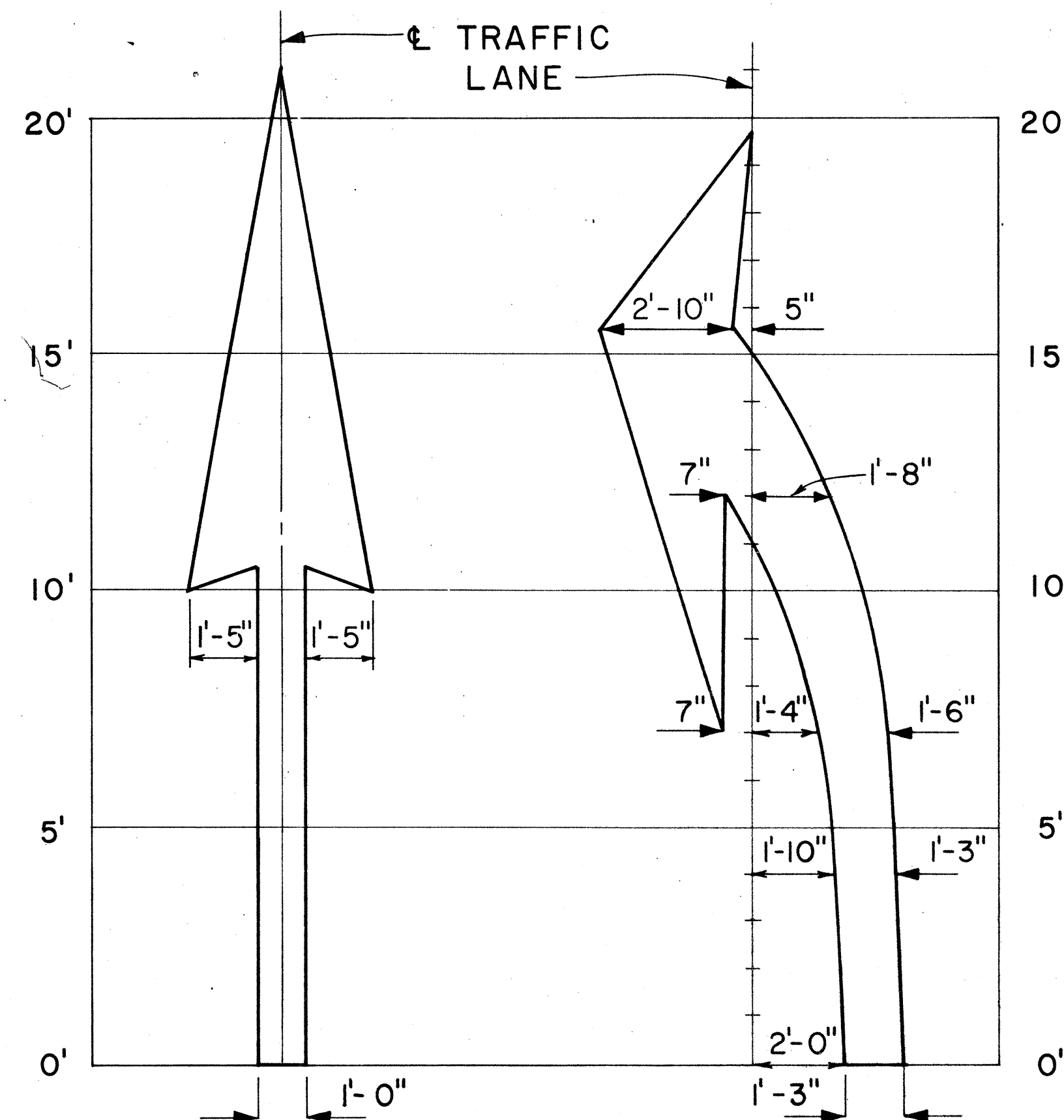
STANDARD DETAILS
MISCELLANEOUS
PAVEMENT MARKINGS

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

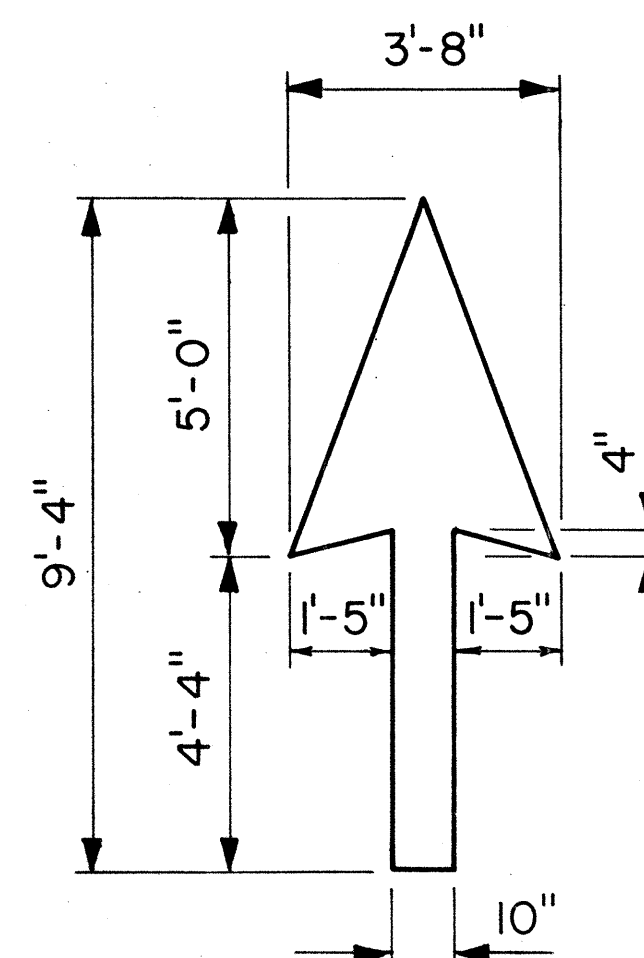
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	144	156

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.



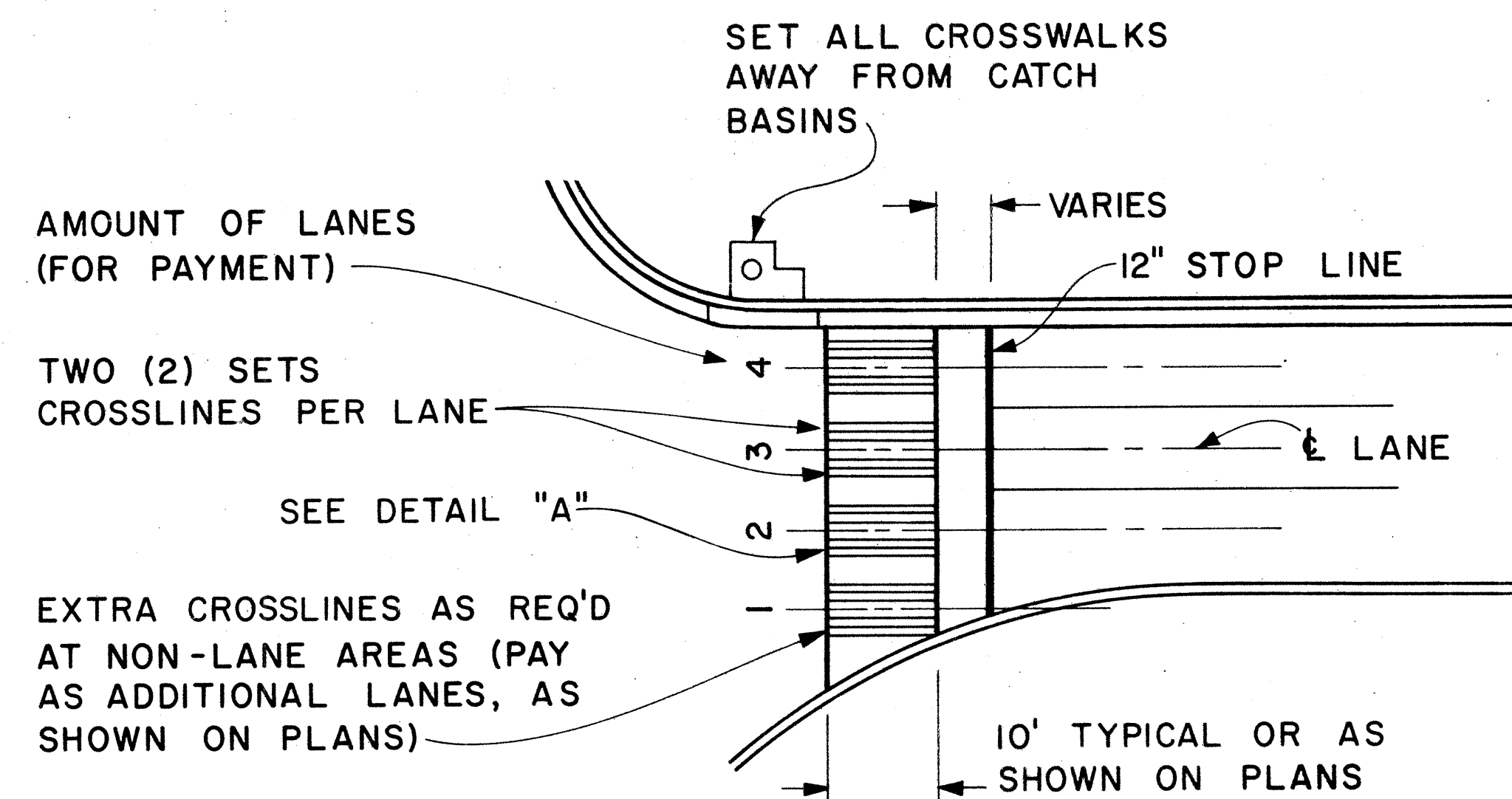
ELONGATED



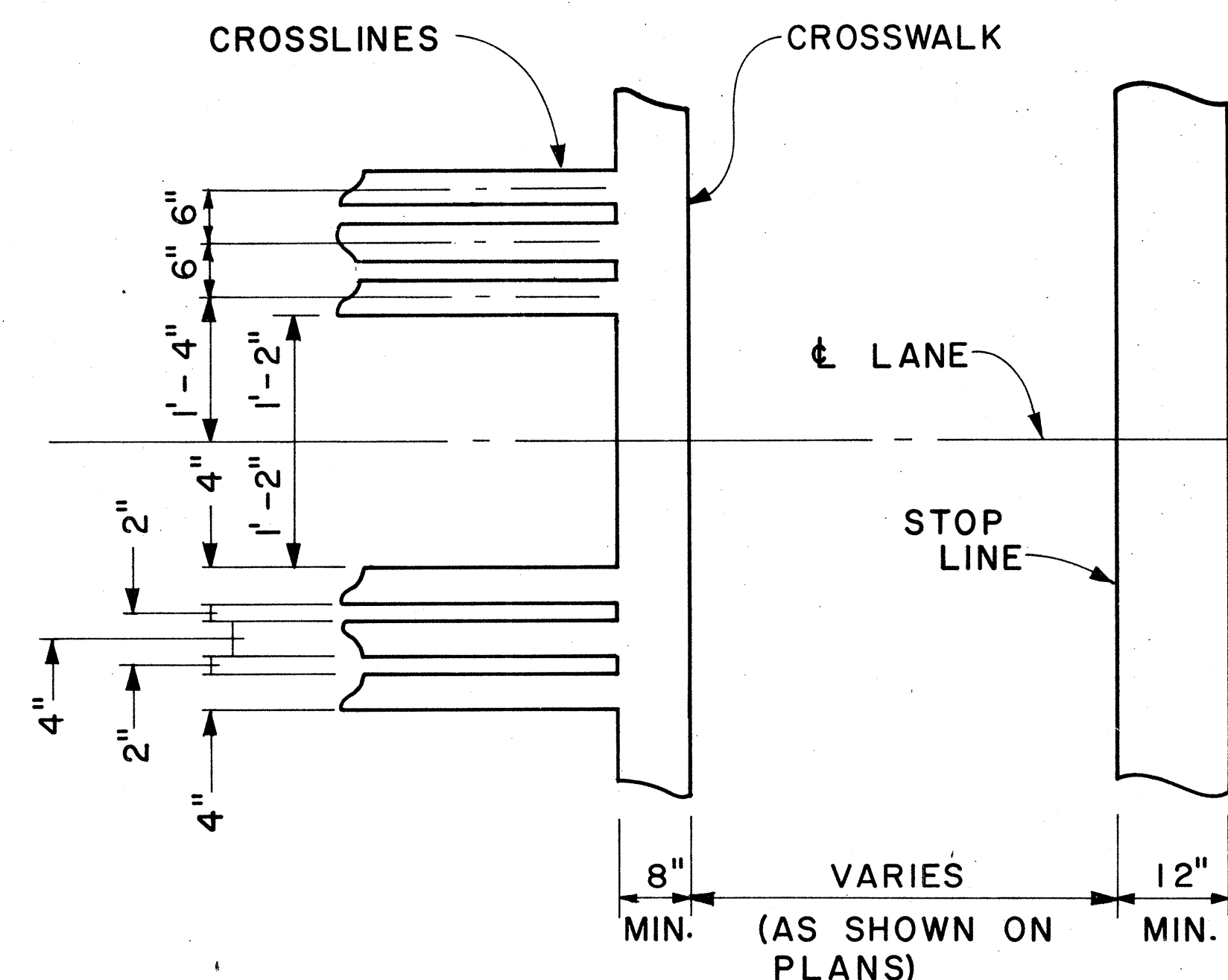
STANDARD

PAVEMENT ARROWS

Scale: 3/8" = 1'



PLAN



DETAIL "A"

CROSSWALK & STOP LINE

Scale: Not to Scale

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

APPROVED:
Harold S. Salschi 5/3/78
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

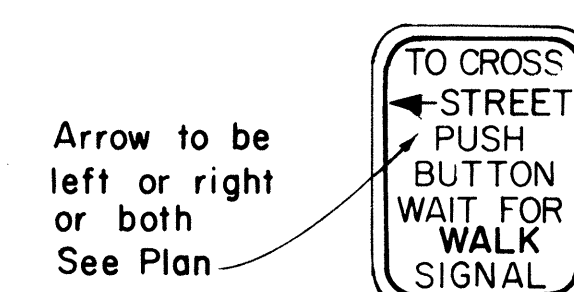
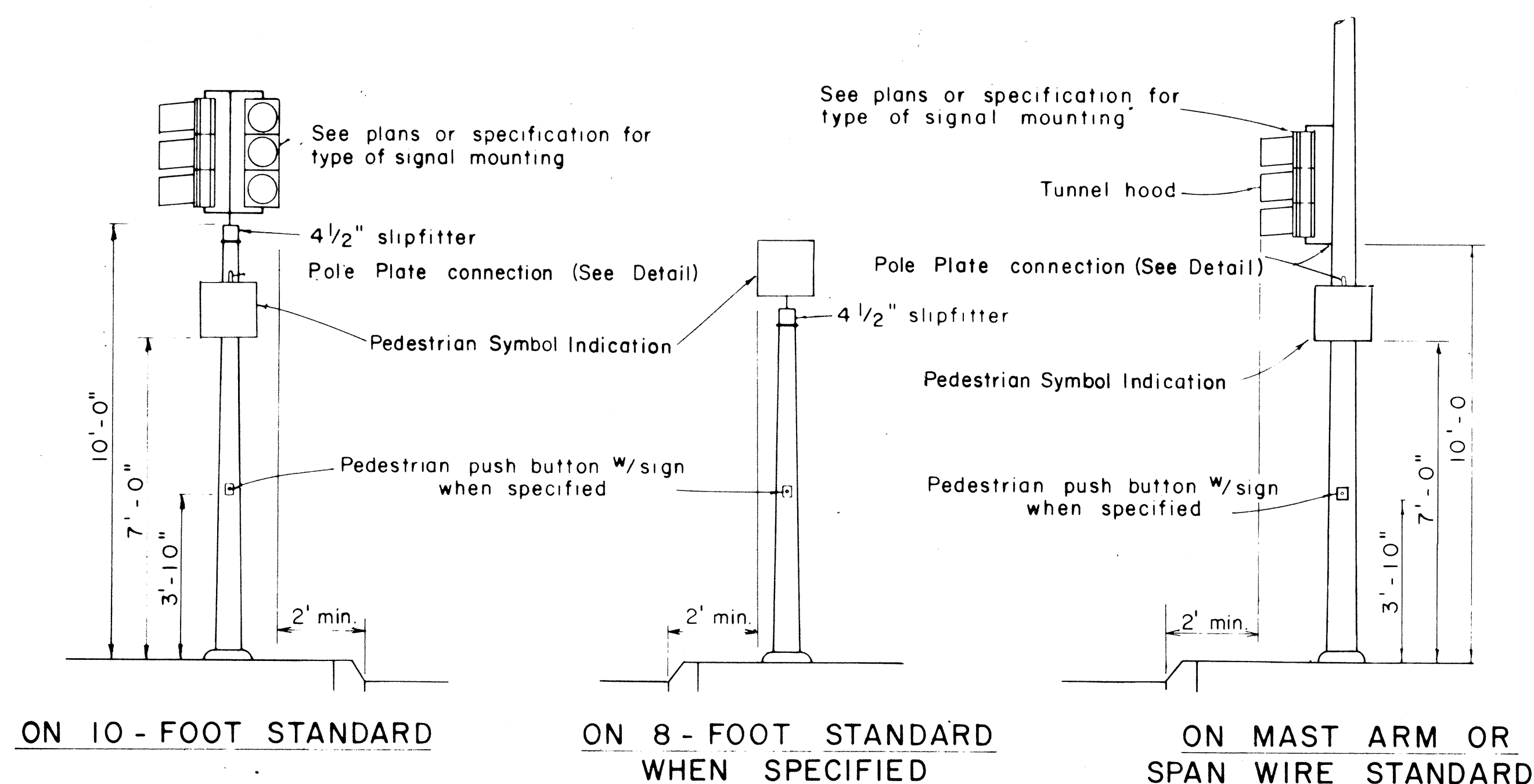
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS

MISCELLANEOUS
 PAVEMENT MARKINGS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	145	156

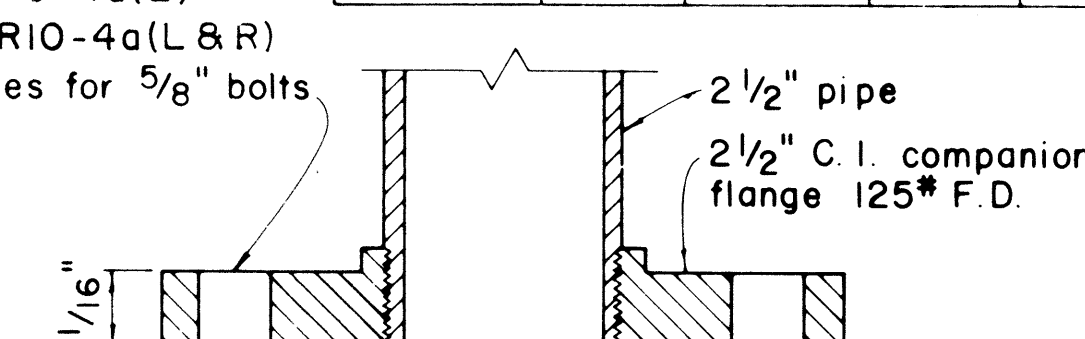
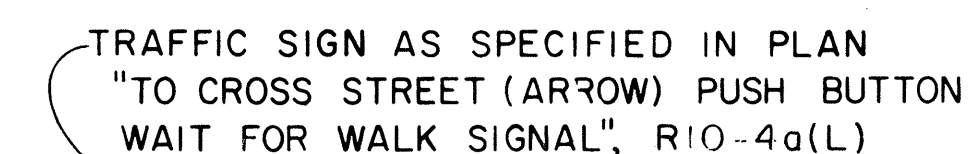
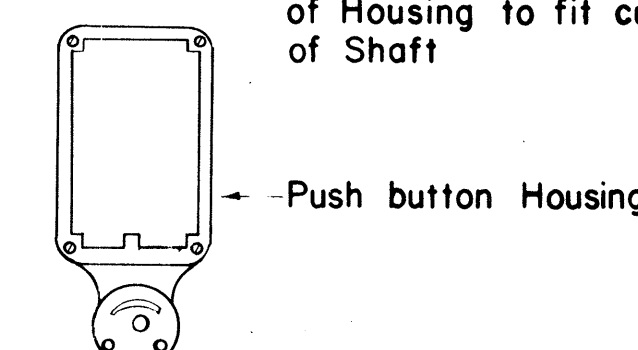


RIO-4a(L)
5" x 7"

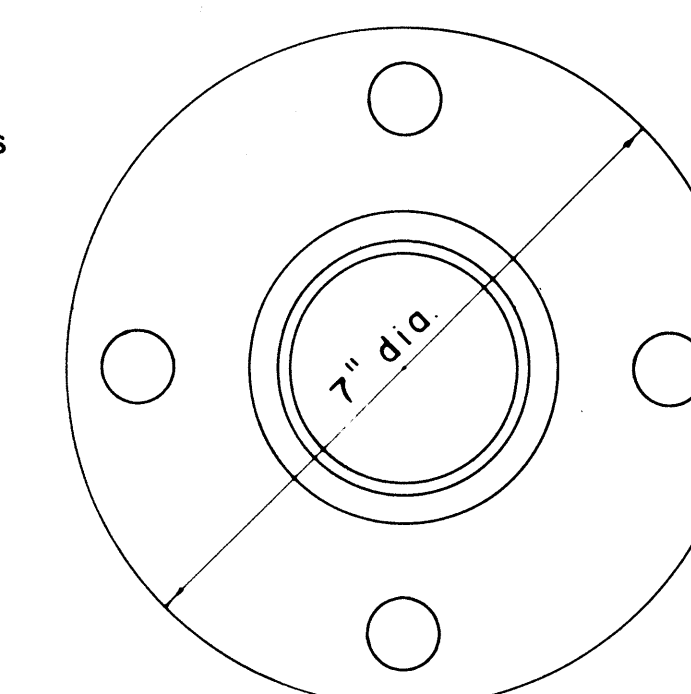
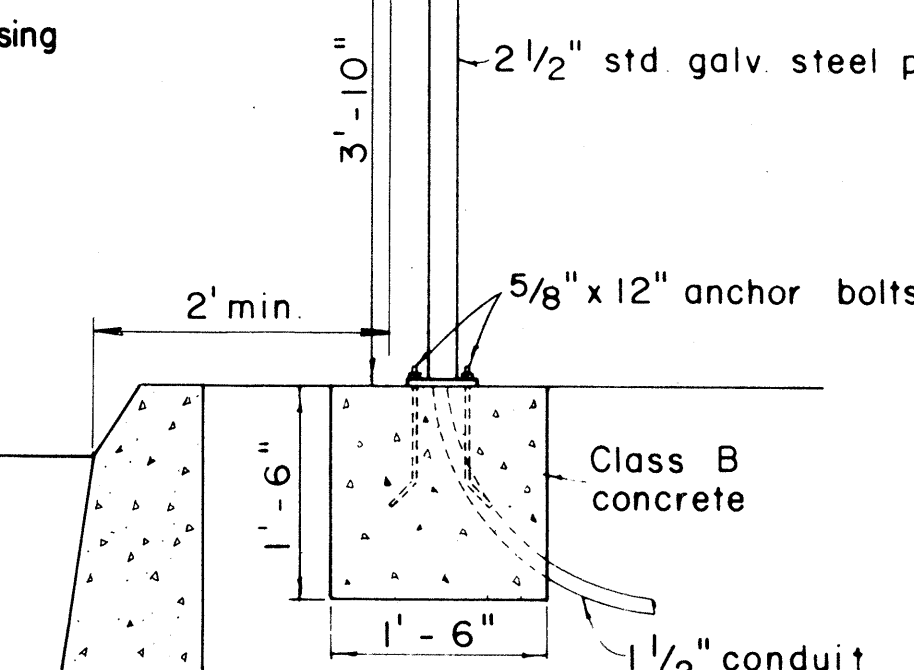
PEDESTRIAN
PUSH BUTTON

NOTE:

- NOTE:**
1. Conduits shall protrude 2" max. above finished surface of foundation.
 2. Conduits shall slope away from pole foundation.

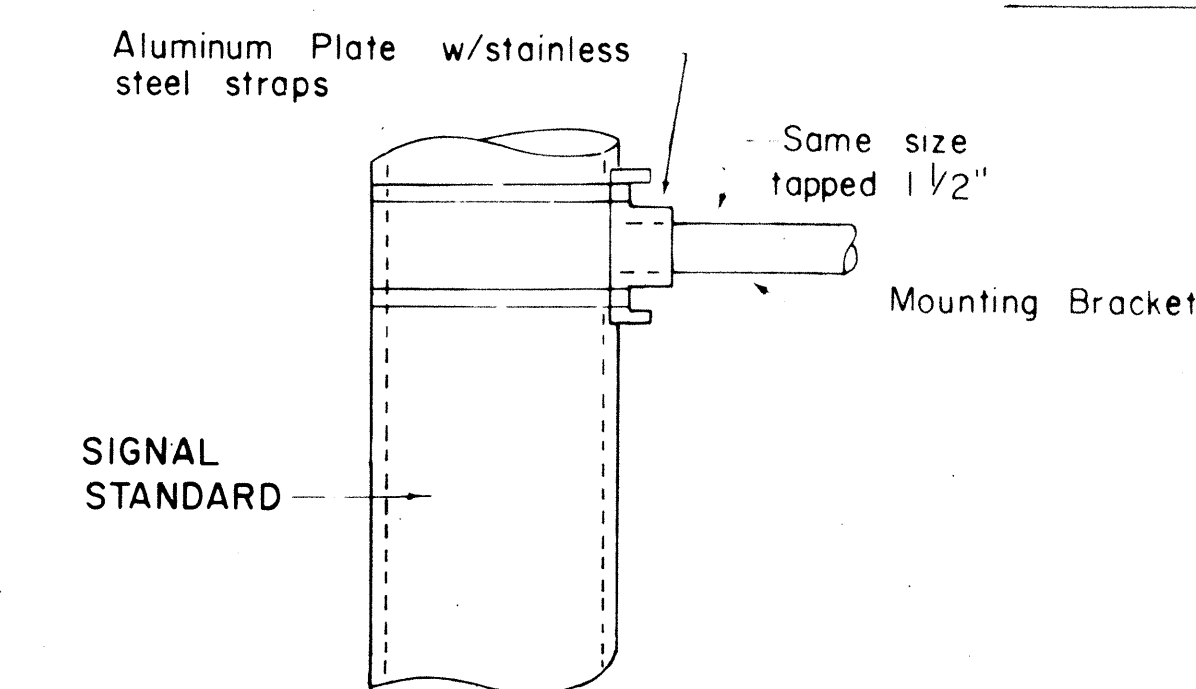


SECTION

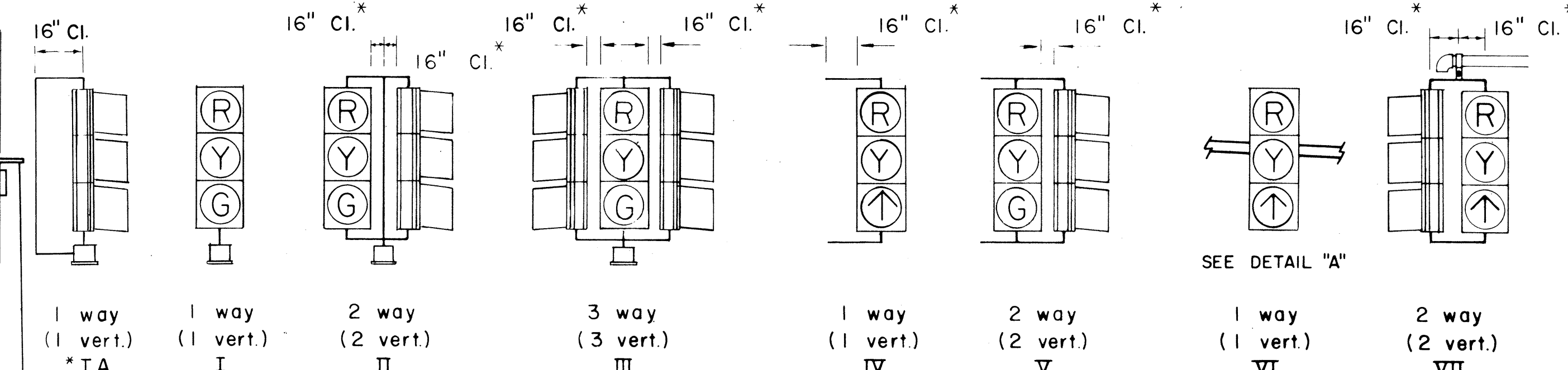
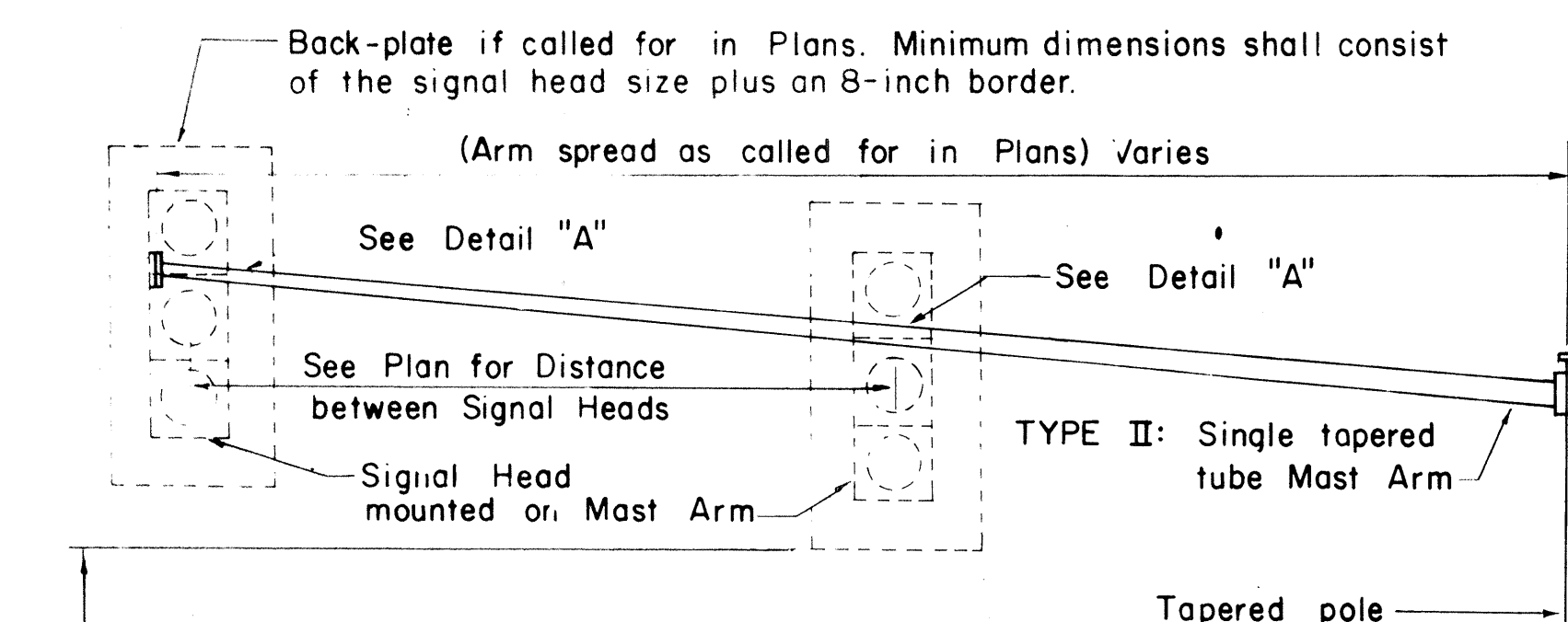


BASE DETAIL

TYPICAL EQUIPMENT MOUNTINGS



DETAIL OF POLE PLATE CONNECTIONS



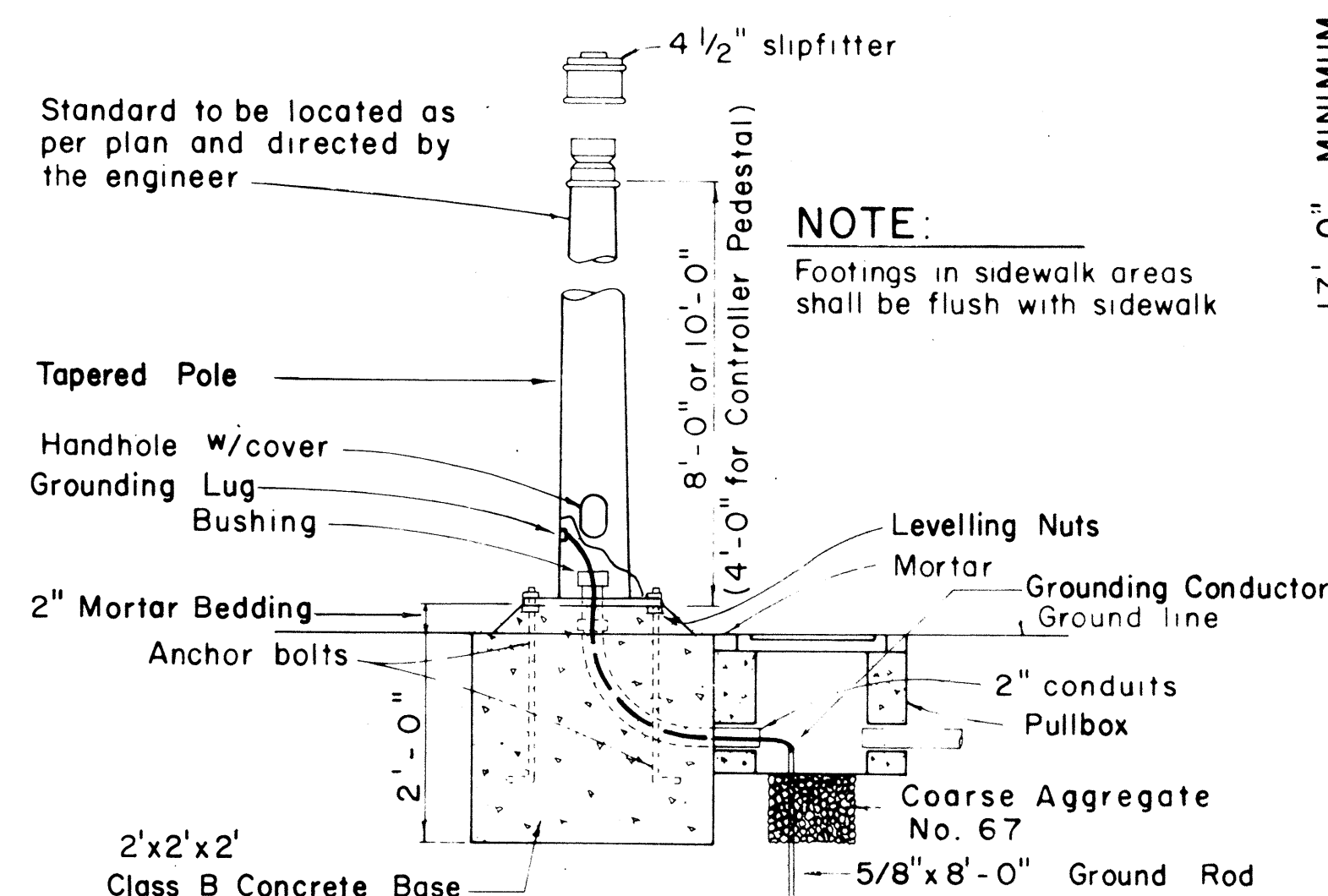
SLIPFITTER MOUNTINGS

* Use with Programmed Visibility Signal

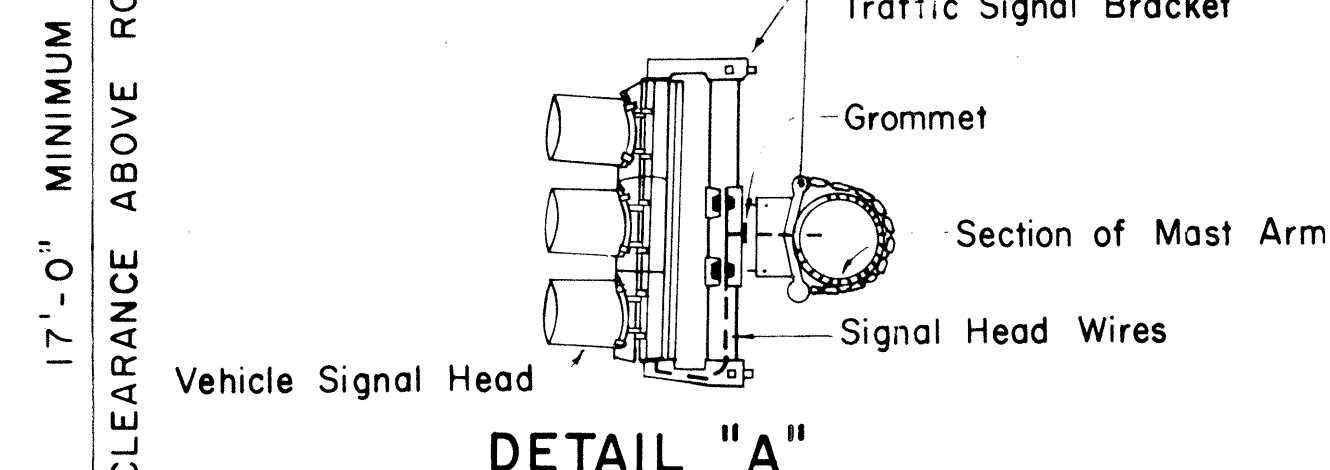
BRACKET MOUNTINGS

MASTARM MOUNTINGS

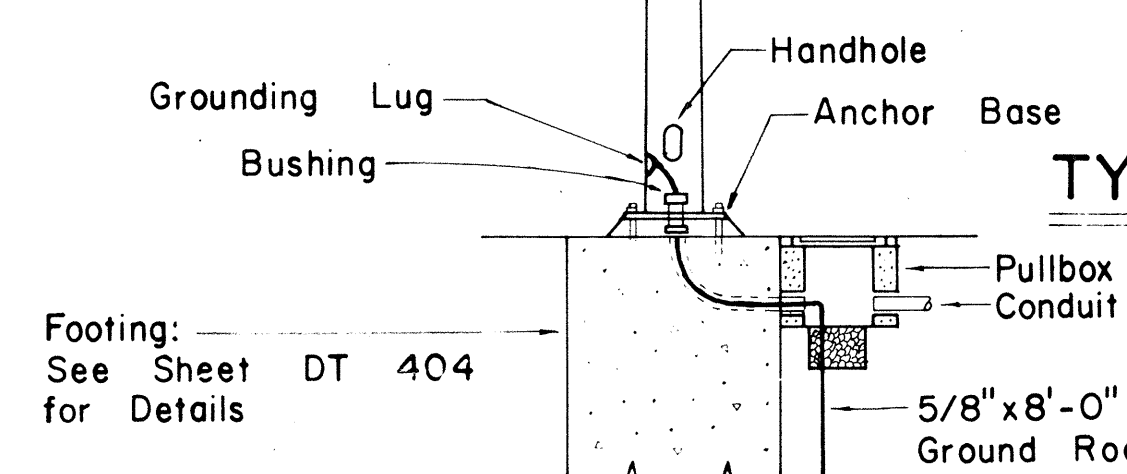
TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTINGS



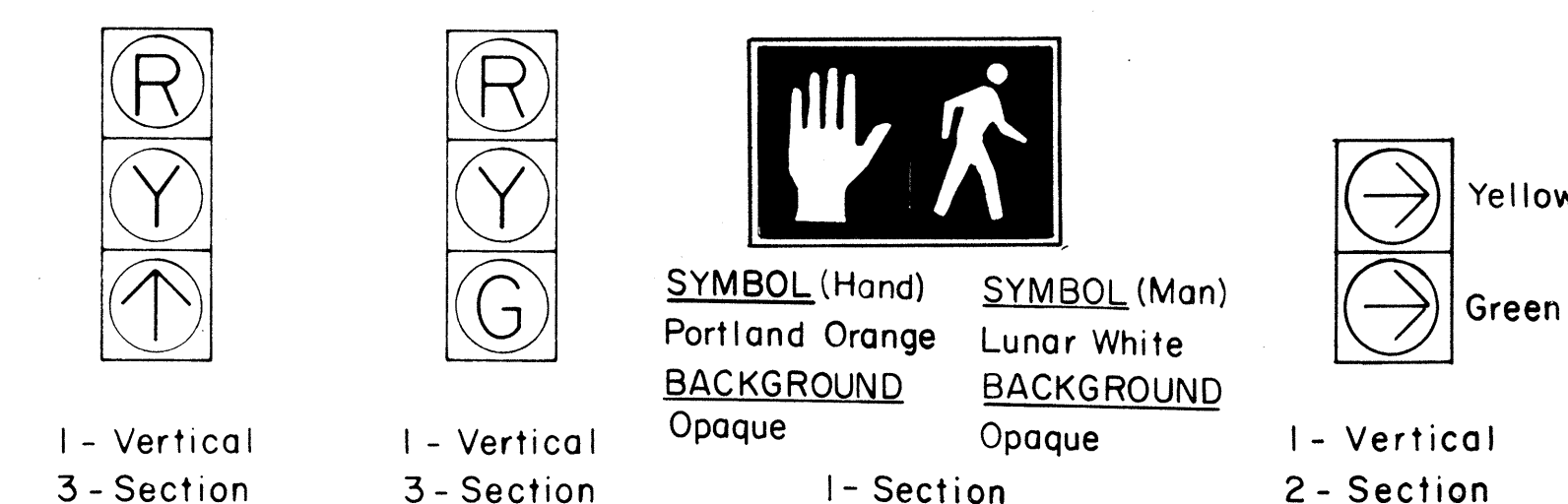
TYPE I SIGNAL STANDARD OR CONTROLLER PEDESTAL AND FOOTING



TYPE II MAST ARM AND STANDARD



TYPICAL SIGNAL ARRANGEMENTS



APPROVAL RECOMMENDED:

Eichi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

12/30/60
DATE

NO	REVISION	APPROVED BY	DATE
1	Revise code nos. for Pedestrian Push Button signs.	H.T.	3/1/23.
2	Revise Details of Traffic and Pedestrian Signals, Standards and Pedestrian Push Button and Signs.	H.T.	3/5/23.
3	Revise signal indications	H.T.	9/2/23.
4	Remove Note No. 3 & Revise clearance and dimension.	H.T.	9/1/23.
5	Revise Ped. Signal Indication	H.T.	8/6/23.
6	Added note for back-plate dimensions.	F.J.D.	9/28/23.

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

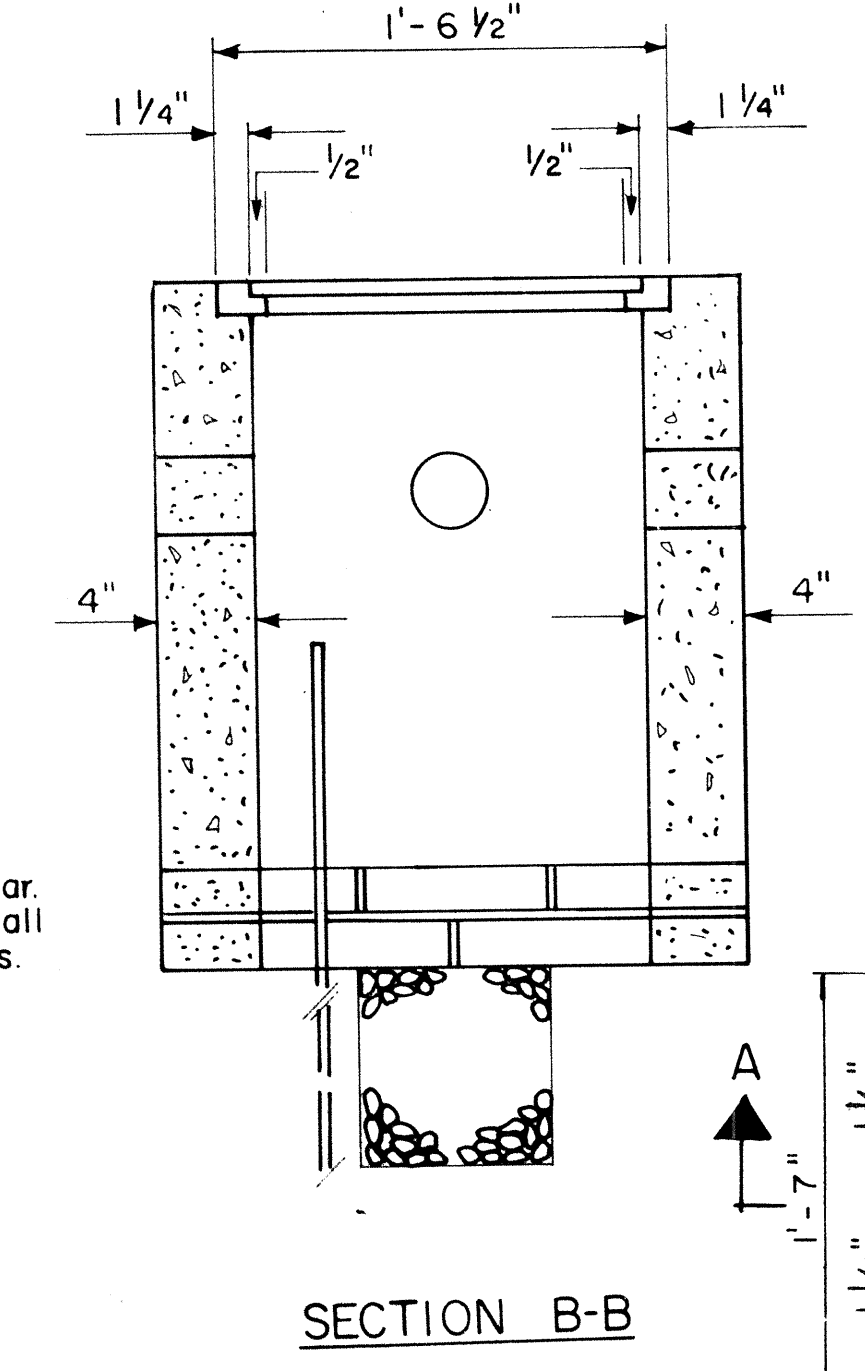
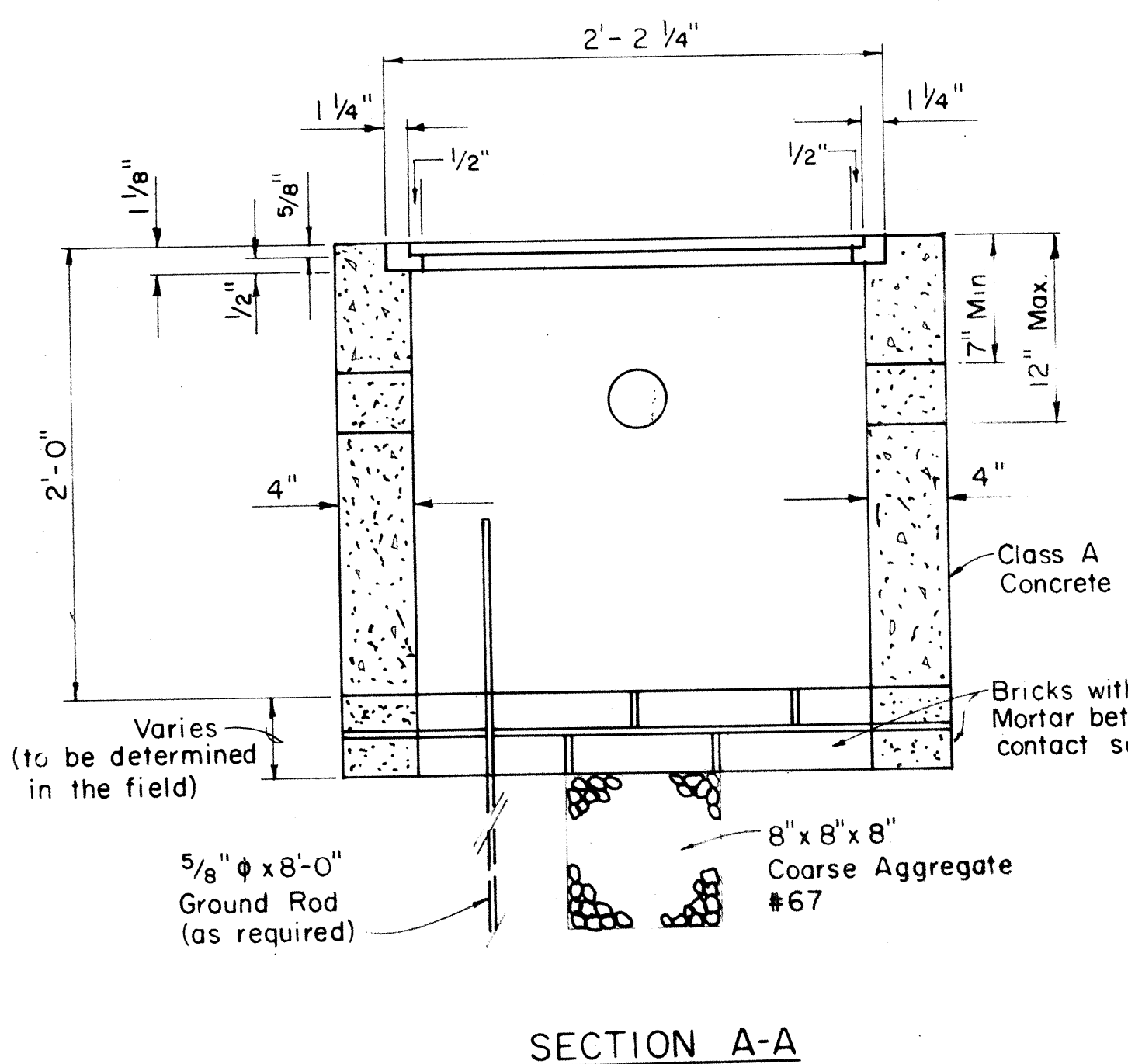
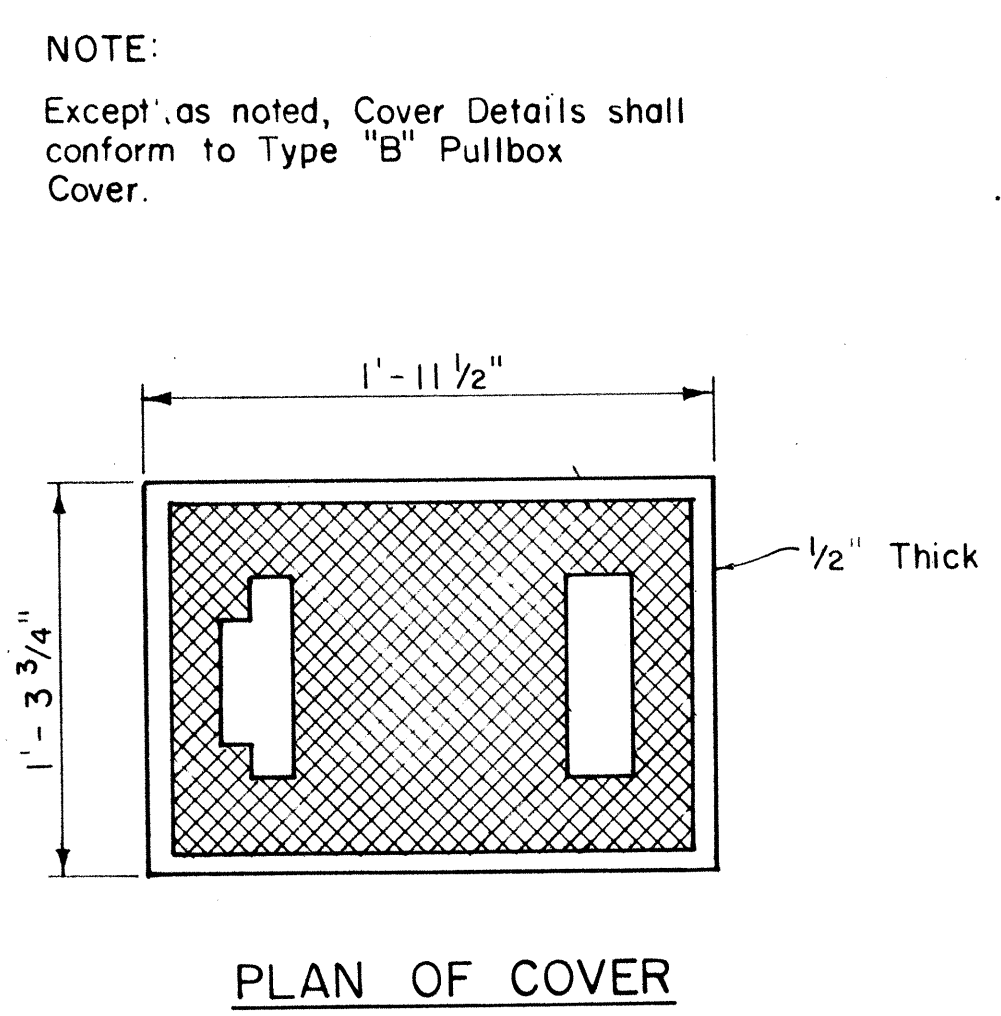
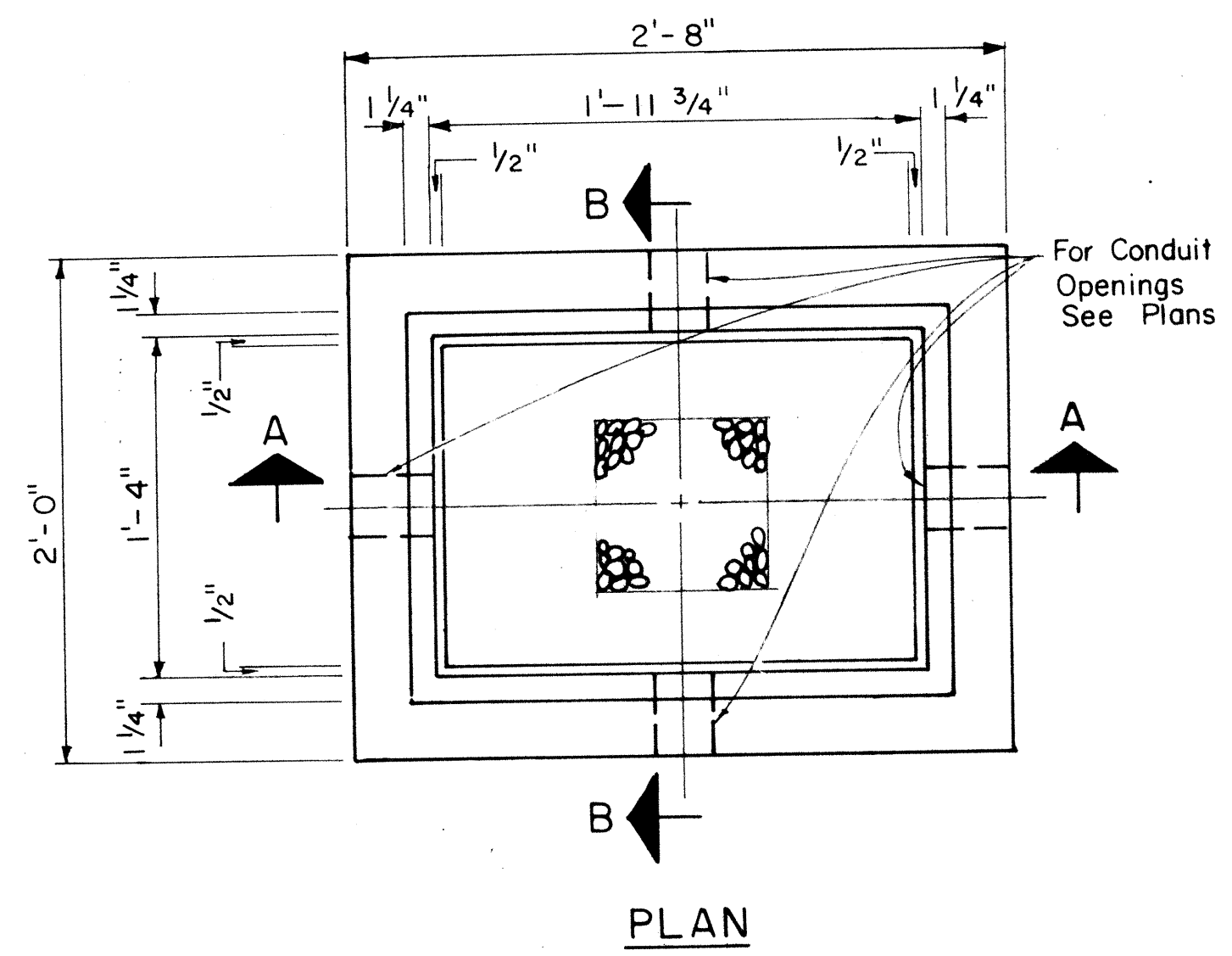
TRAFFIC SIGNAL SYSTEM

MISCELLANEOUS DETAILS

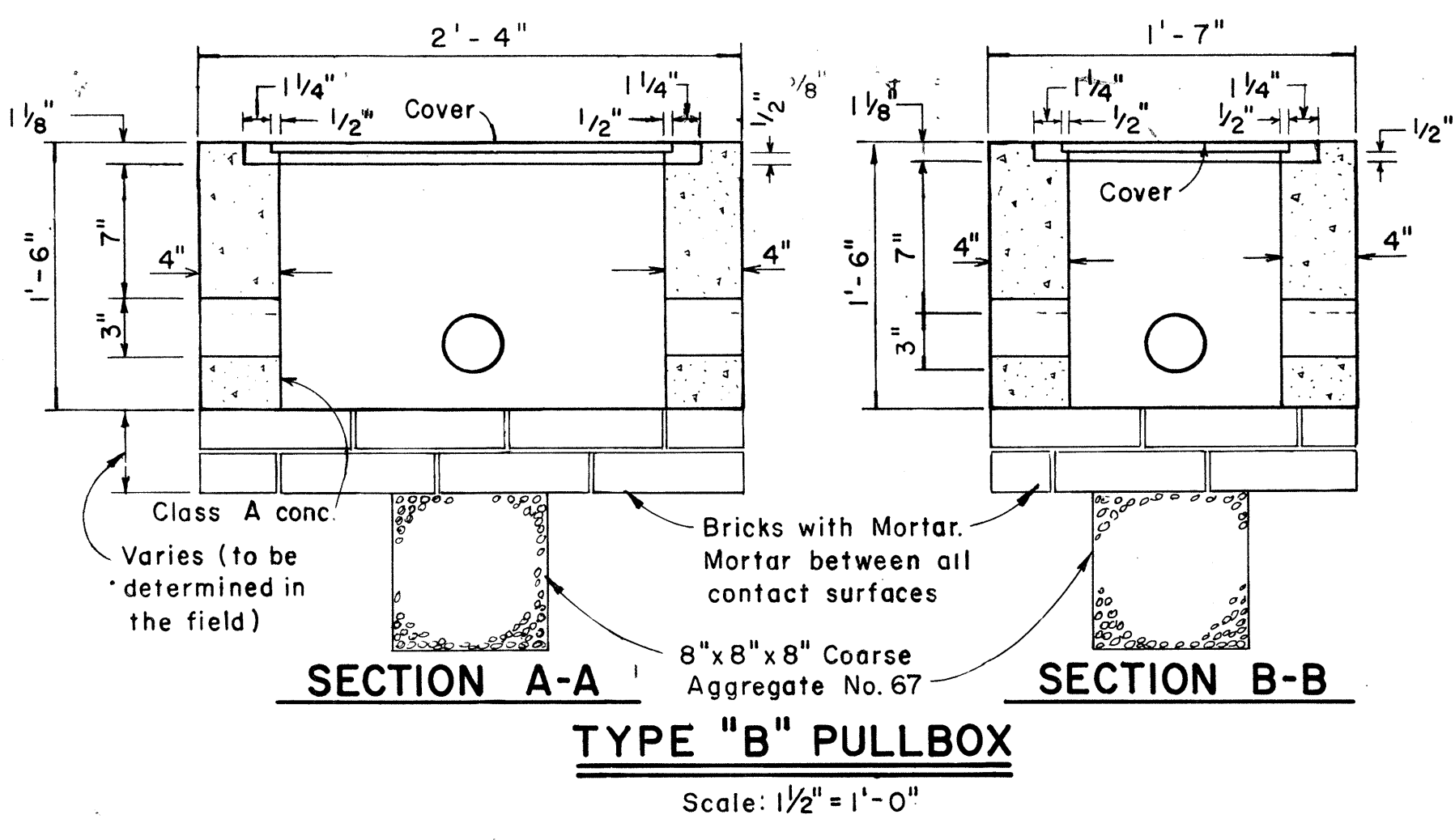
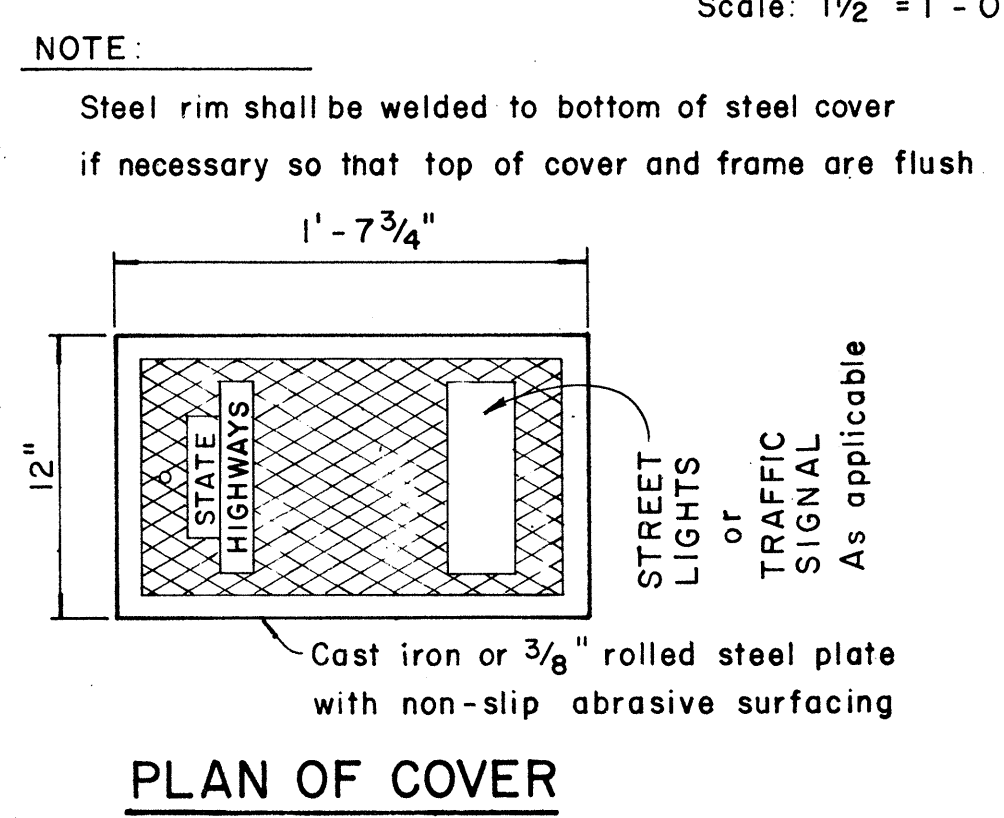
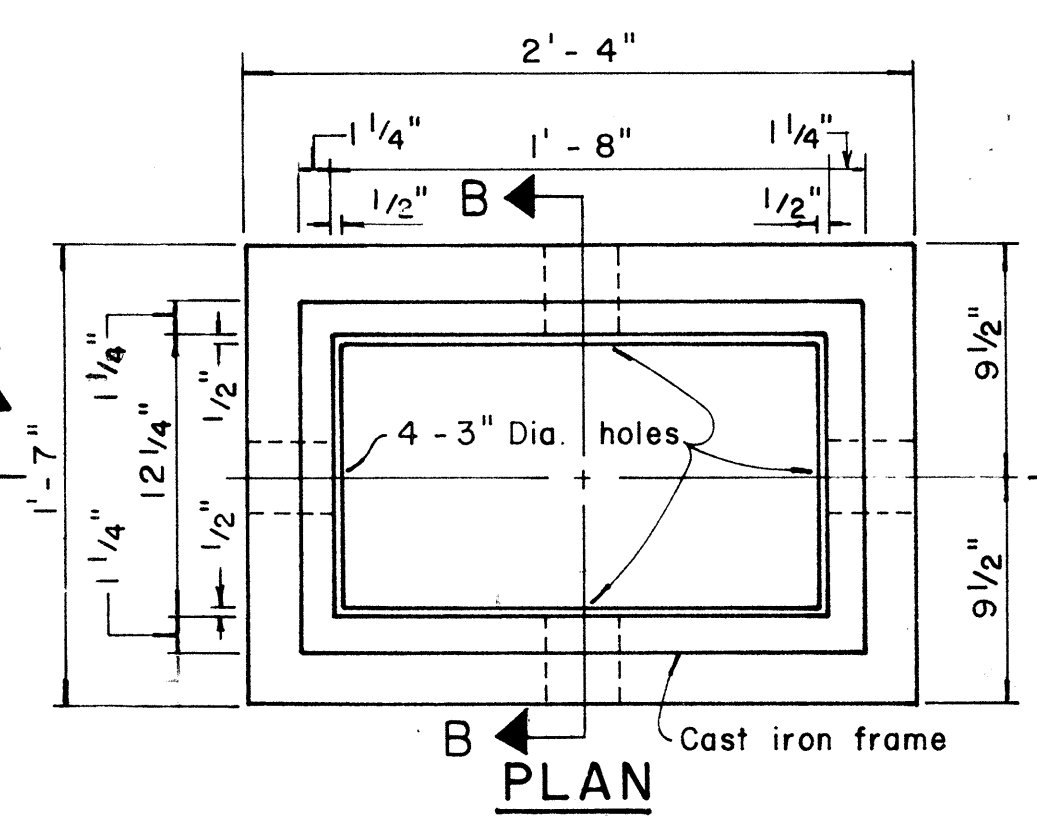
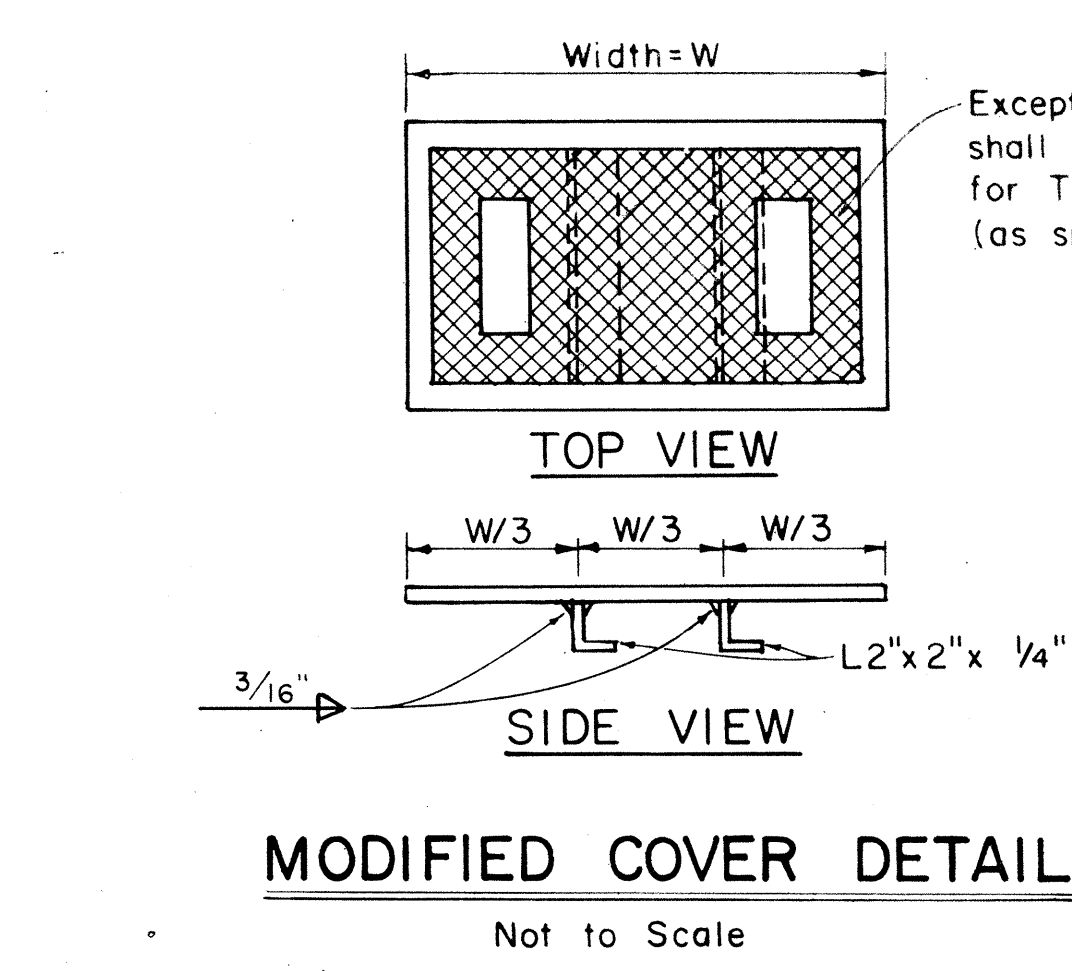
Not to Scale

SHEET No. OF SHEETS DT 400

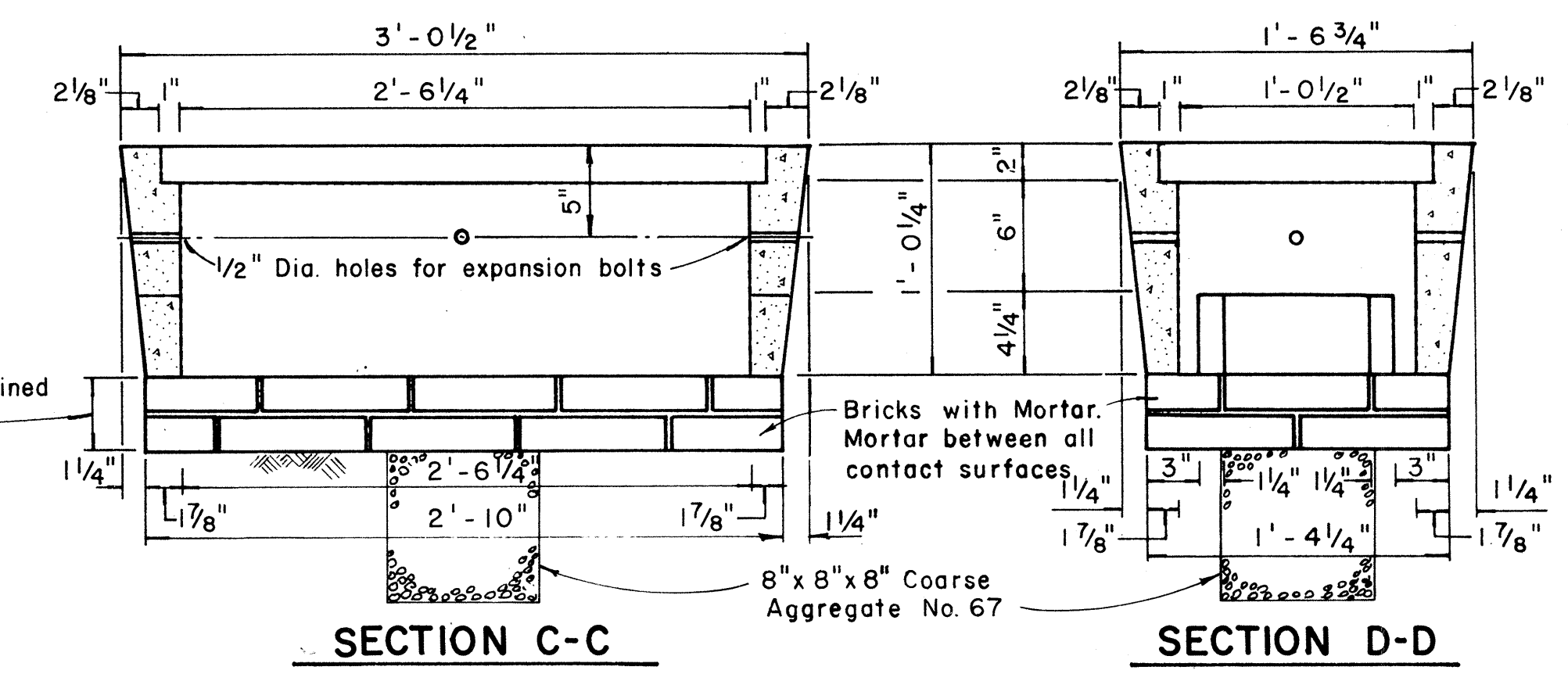
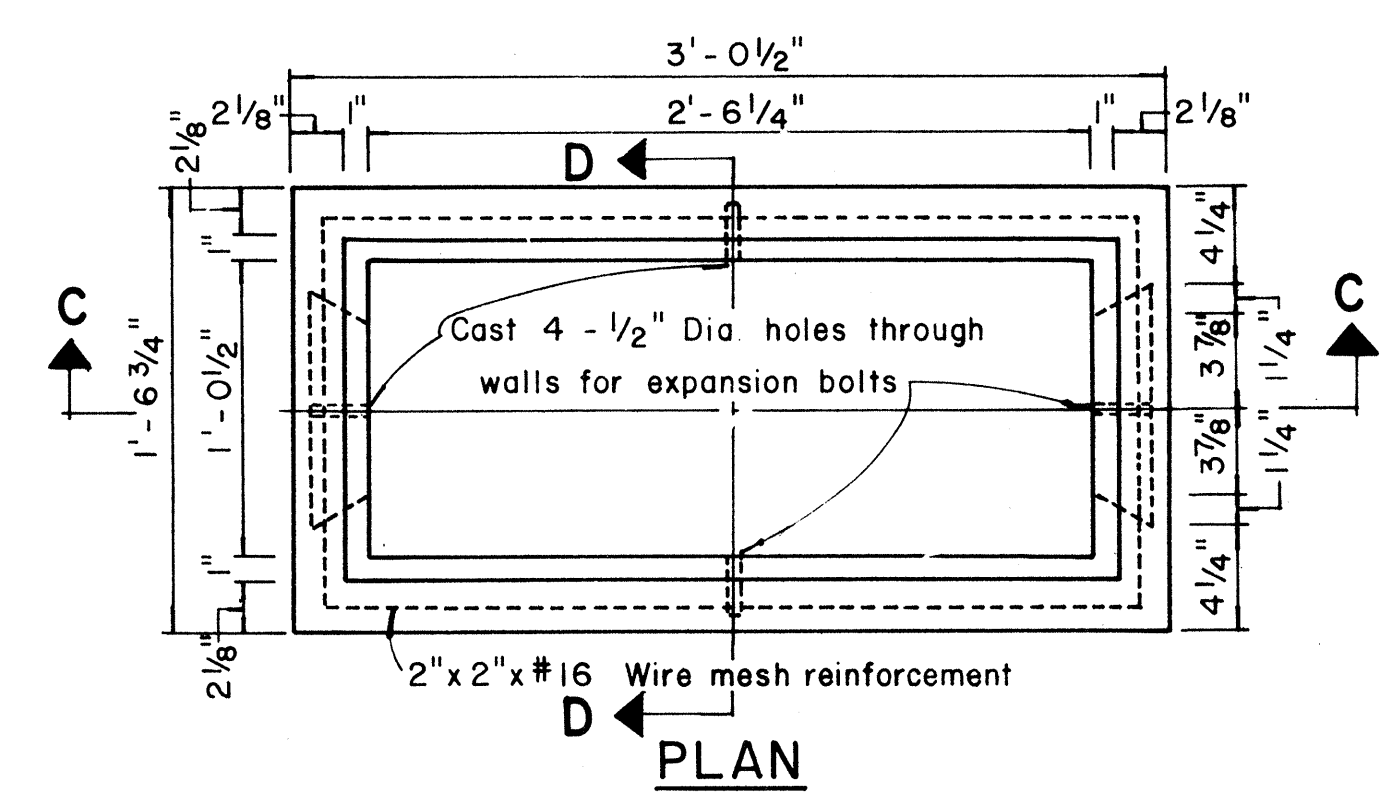
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	146	156



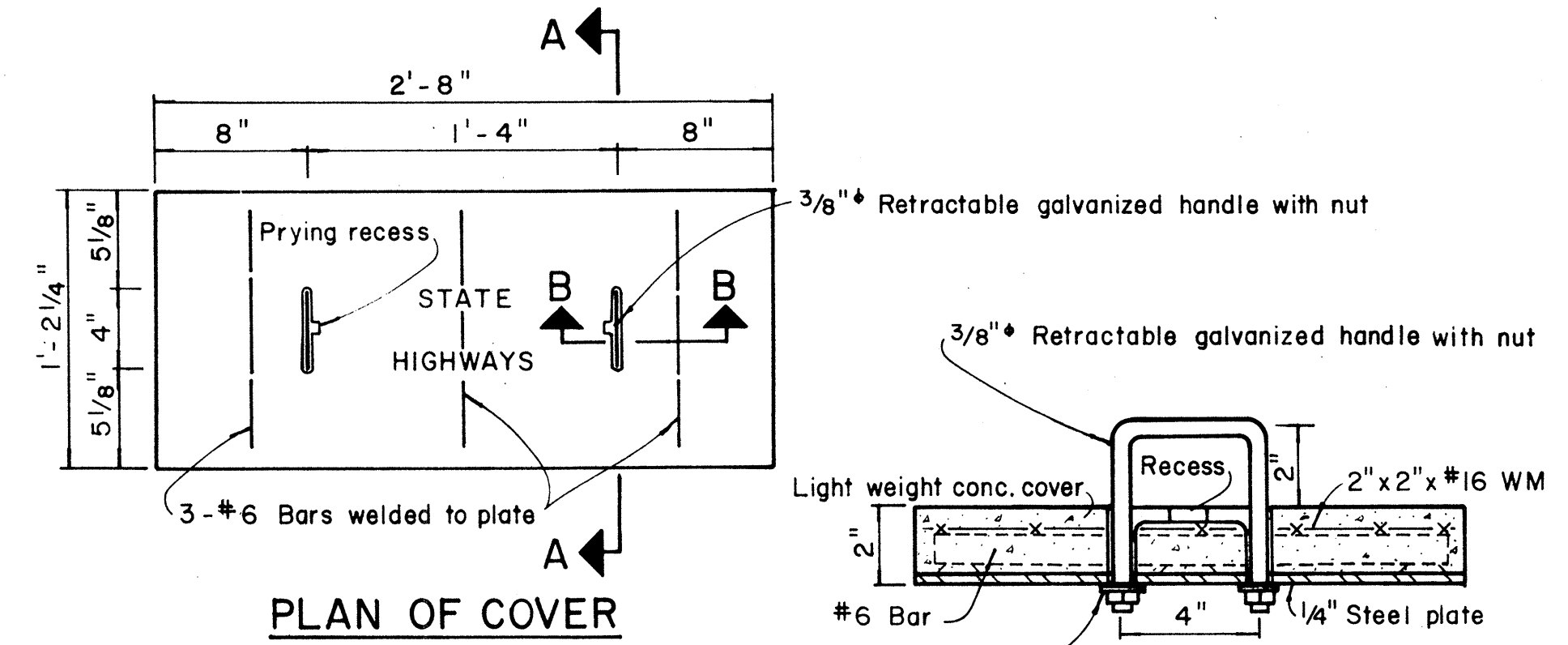
TYPE "A" PULLBOX
Scale: 1/2" = 1'-0"



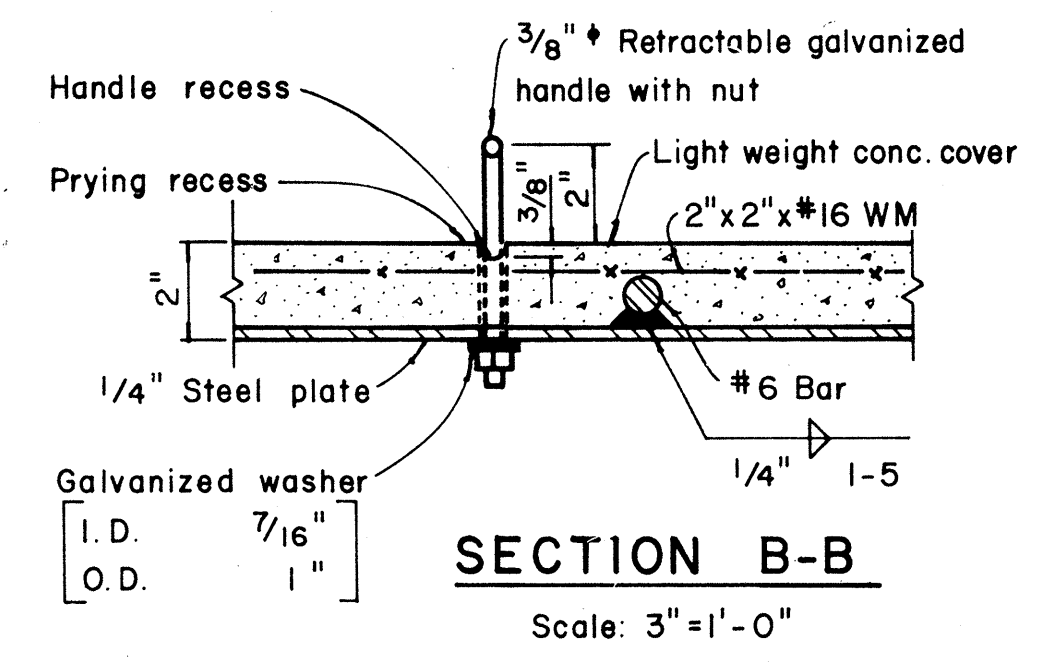
TYPE "B" PULLBOX
Scale: 1/2" = 1'-0"



TYPE "C" PULLBOX
Scale: 1/2" = 1'-0"



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



APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
DATE: 12/29/62

APPROVED:
ASSISTANT CHIEF, ENGINEERING
DATE: 12-30-69

NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	H.T.	3-5-76
2	Revised Type "A" Pullbox & Added Modified Cover.	H.T.	1-31-80
3	Revised Type B & C Pullbox details.	SLD	2-1-83

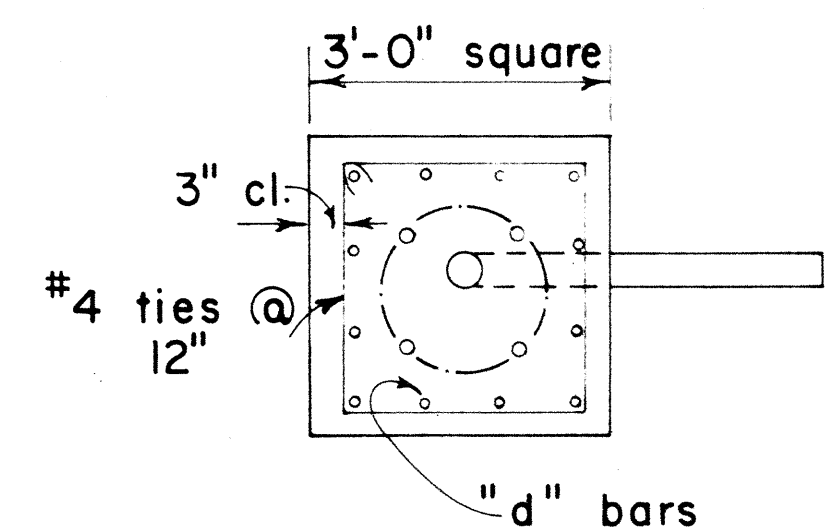
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
PULLBOXES

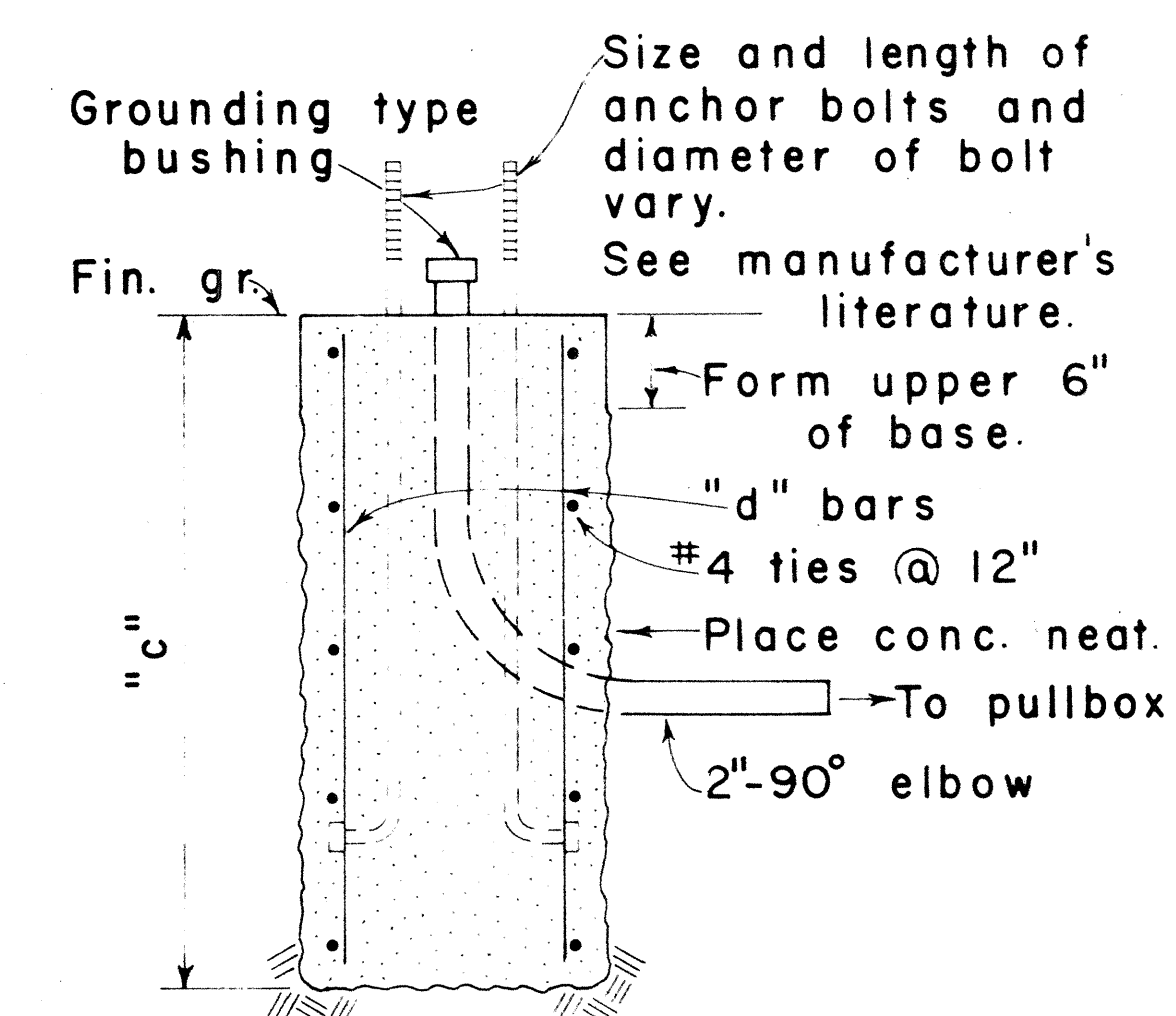
Scale as noted Date

SHEET No. OF SHEETS DT 401

DATE	12/29/62
SURVEY PLOTTED BY	
ORIGINAL PLAN	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	



PLAN - SECTION

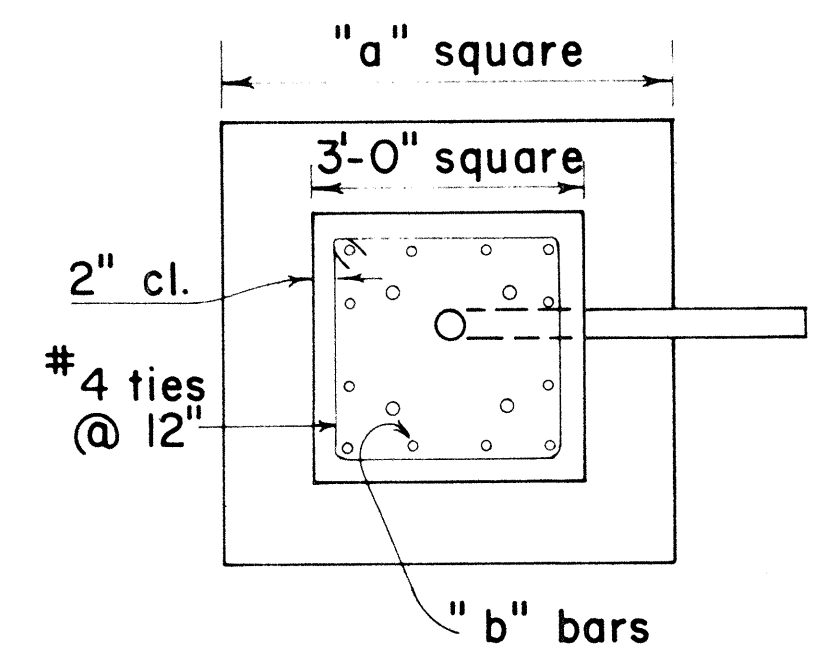


NOTE:
Concrete shall be Class B.

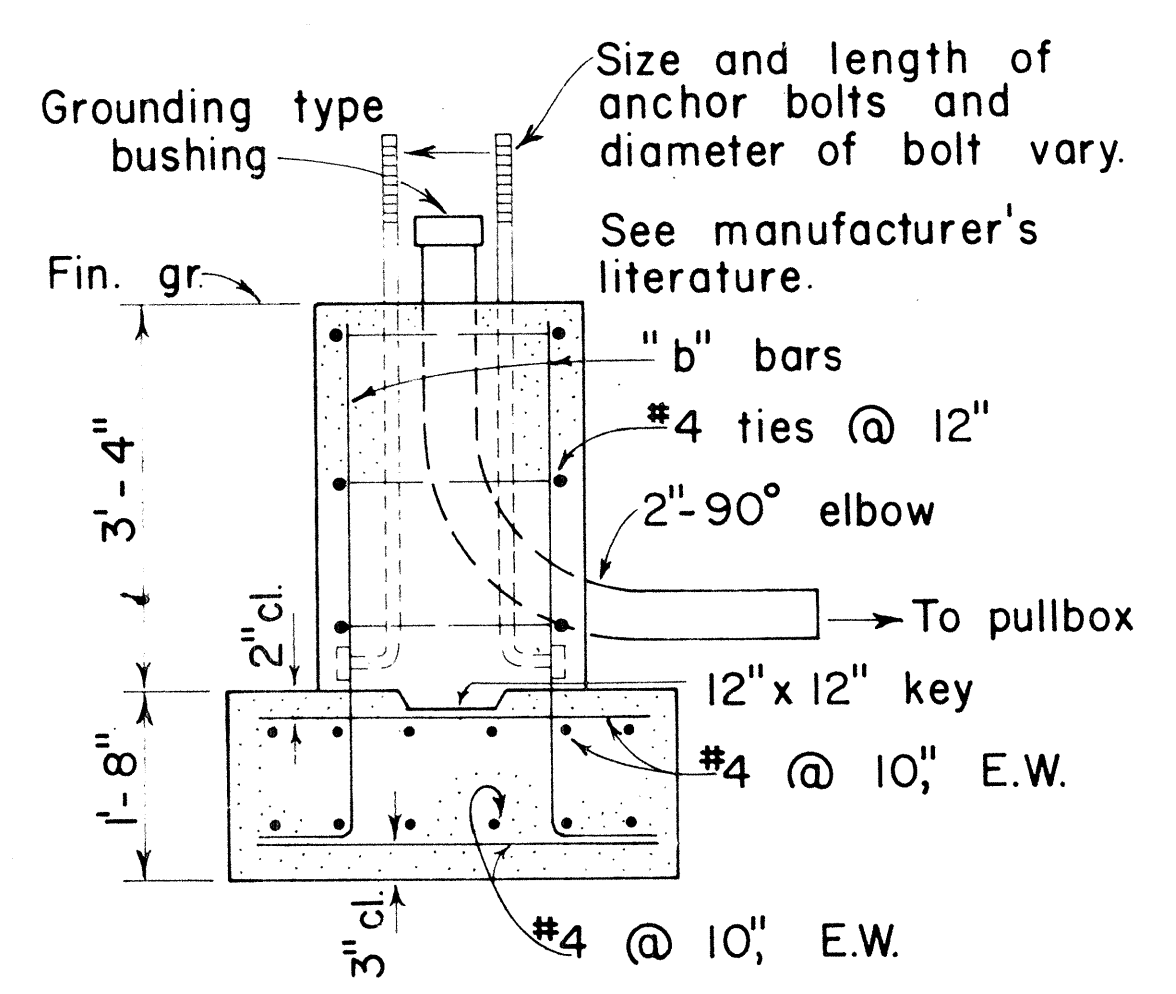
SECTION

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



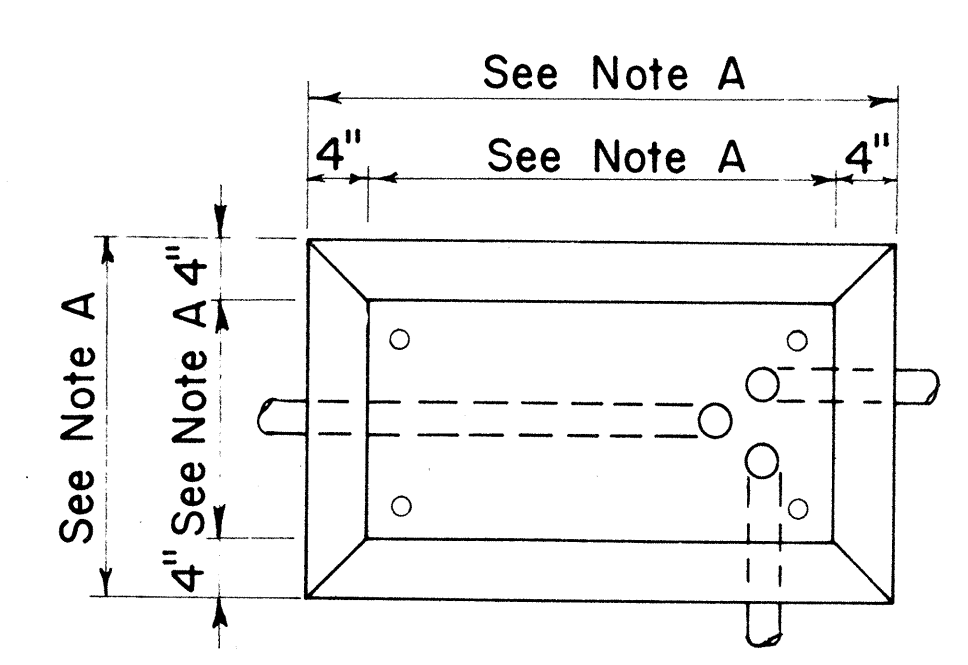
NOTE:
Concrete shall be Class B.

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

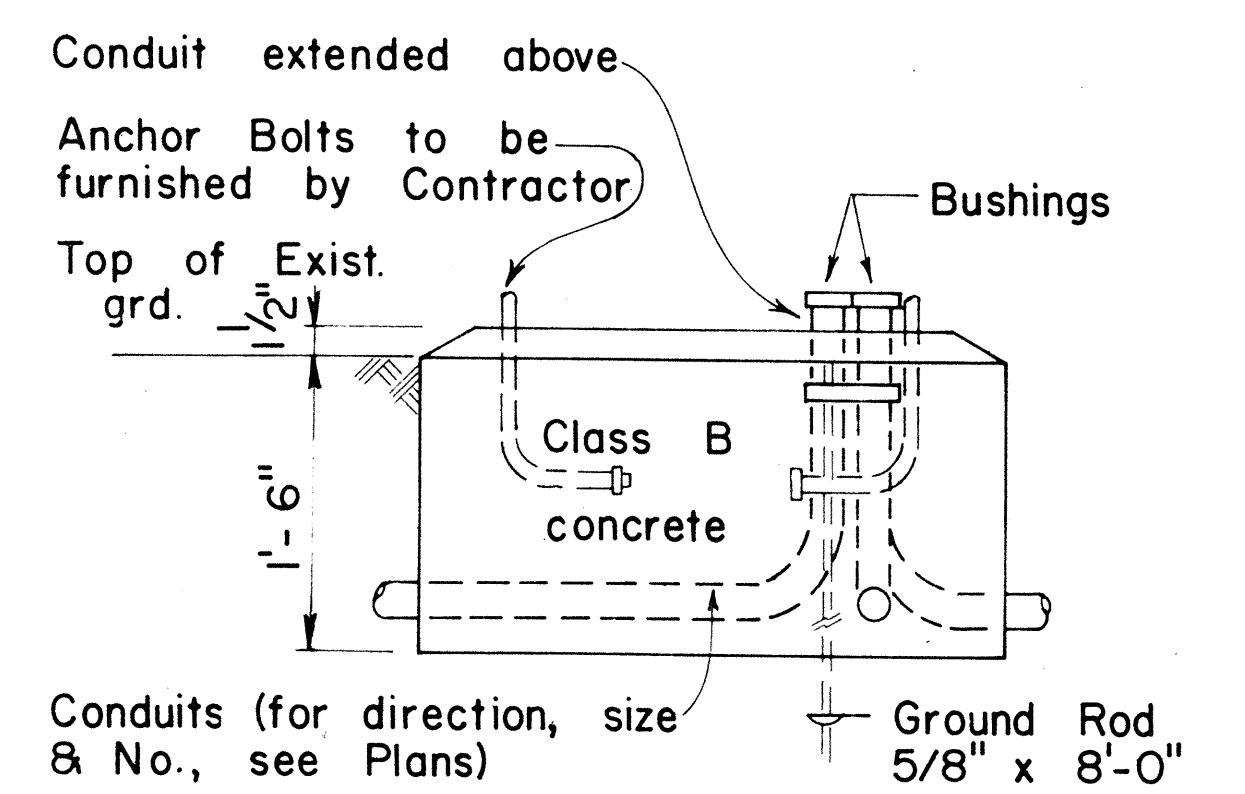
TYPE IIA

FOOTING FOR MAST ARM STANDARD



PLAN

CONCRETE BASE FOR CONTROLLER CABINET



ELEVATION

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

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

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

NO.	REVISION	APPROVED BY	DATE

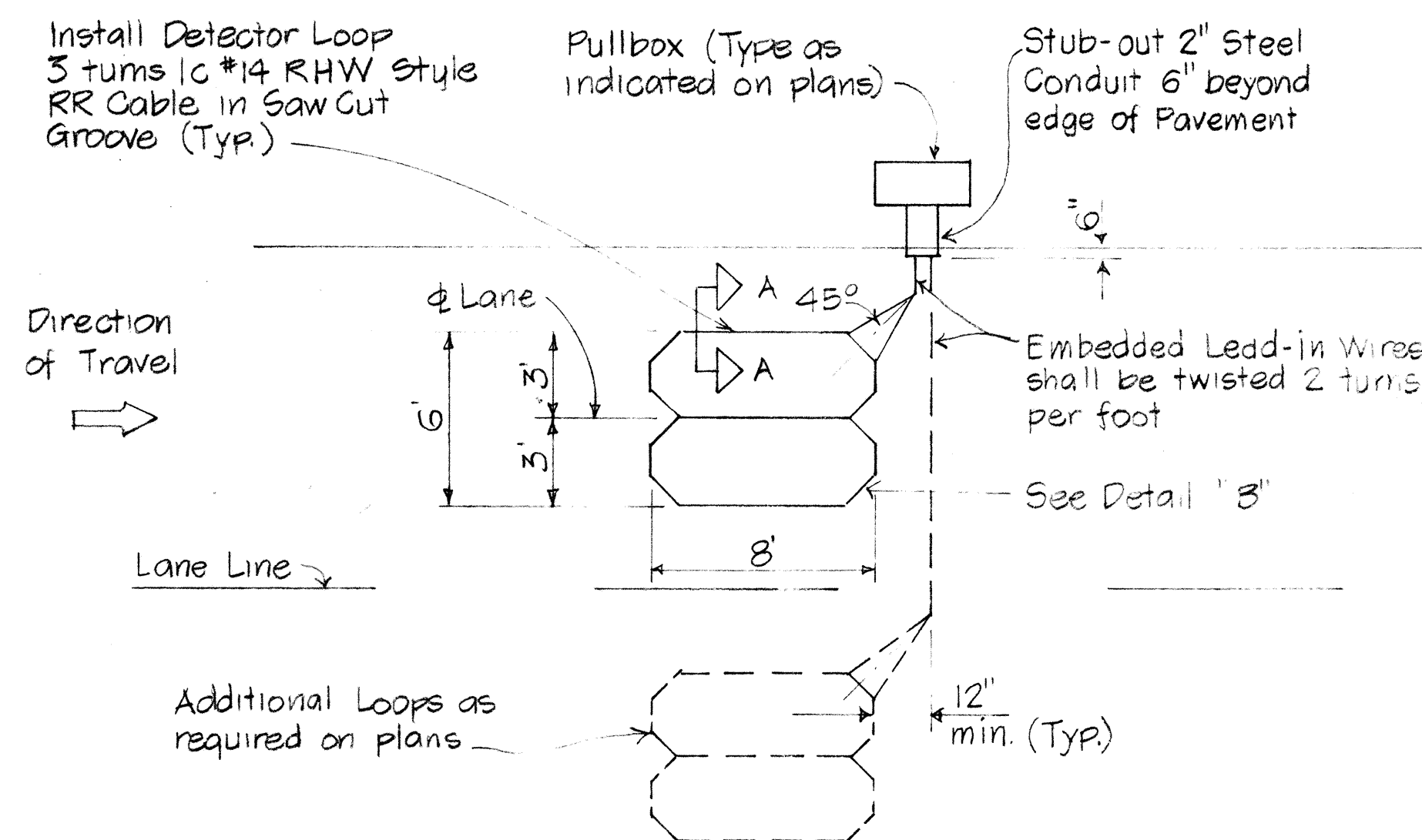
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TRAFFIC SIGNAL SYSTEM
MISCELLANEOUS DETAILS

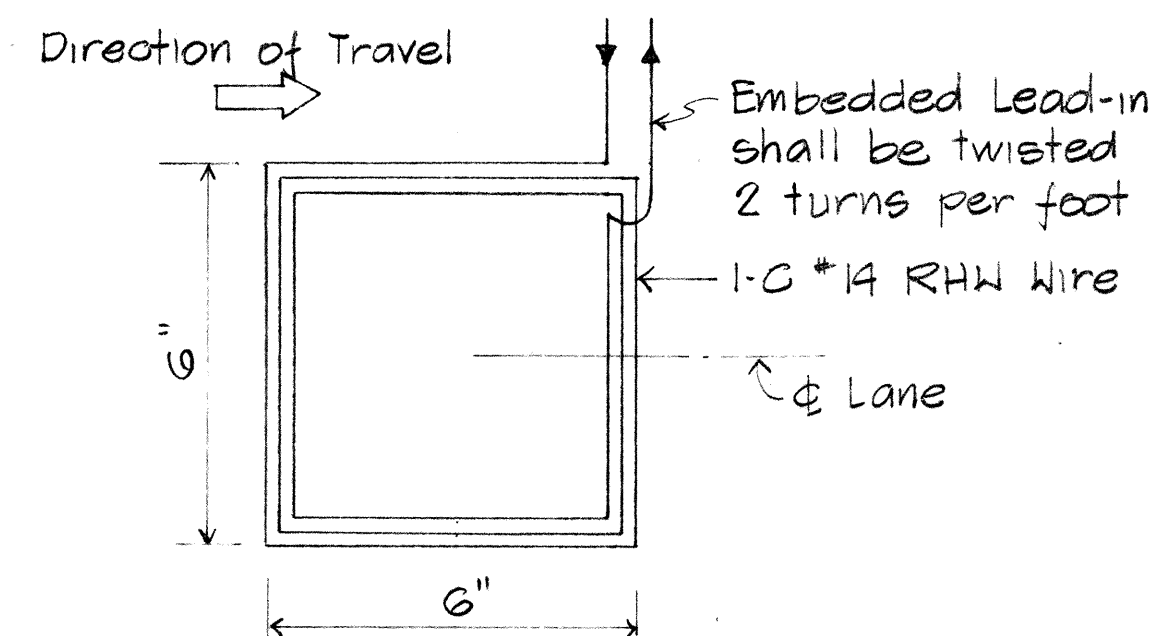
Not to Scale

SHEET NO. OF SHEETS DT404

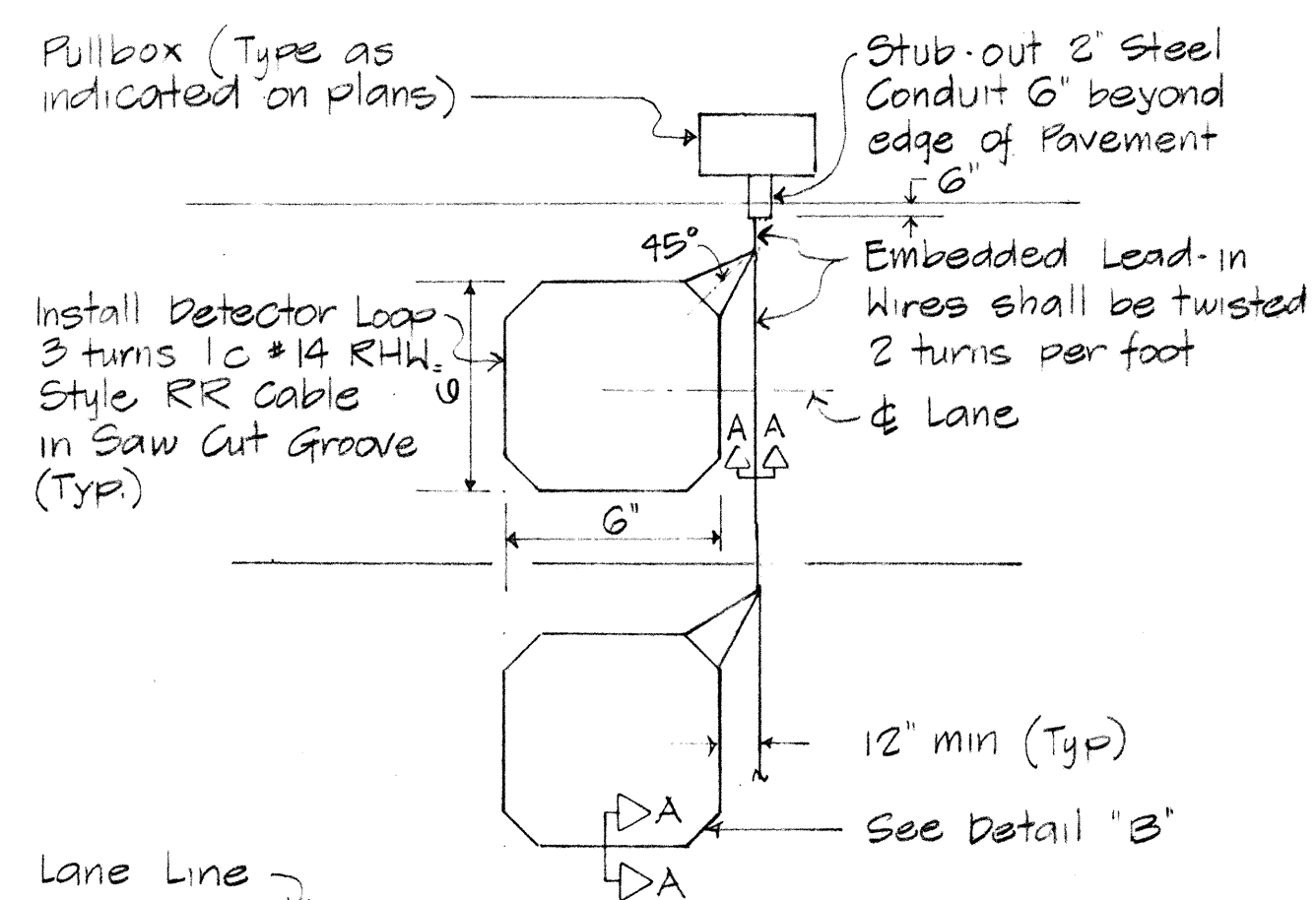
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FOG3-1(16) F-063-1(17)	1984	148	156



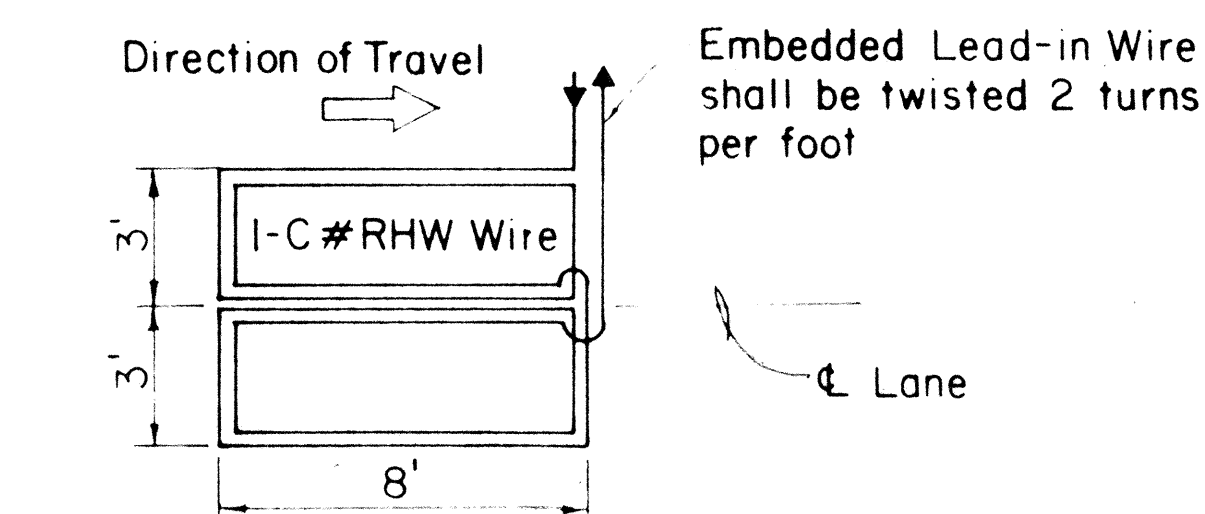
SINGLE LOOP LAYOUT



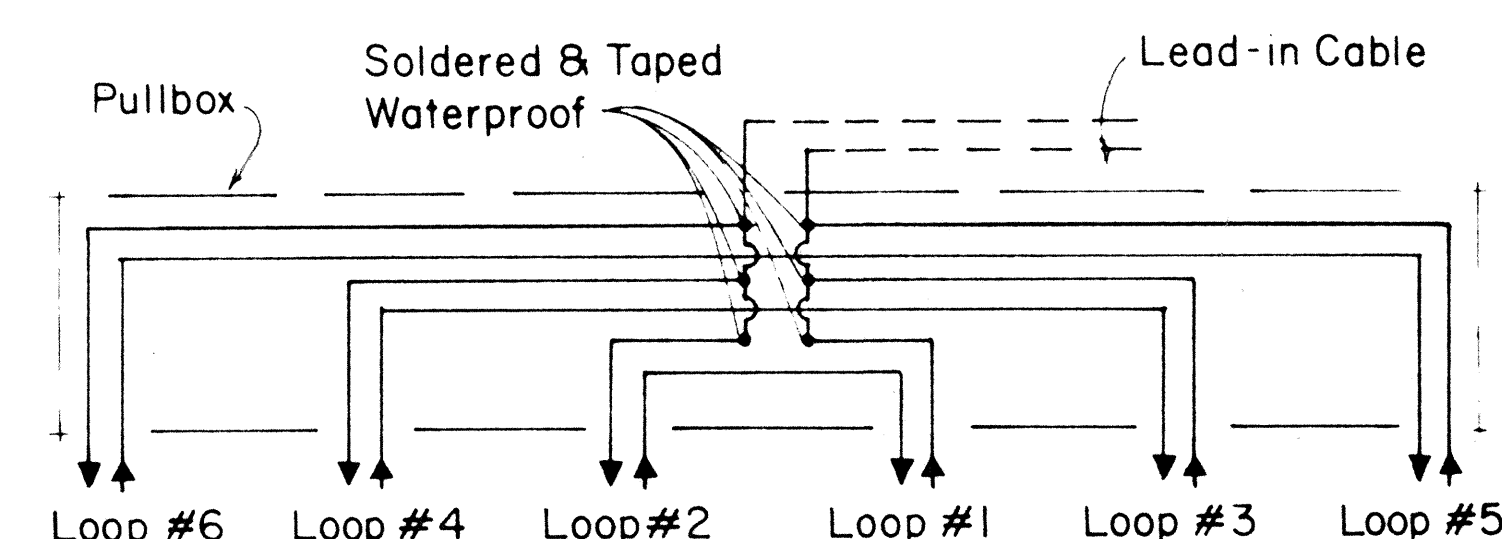
WIRING DIAGRAM



LOOP LAYOUT

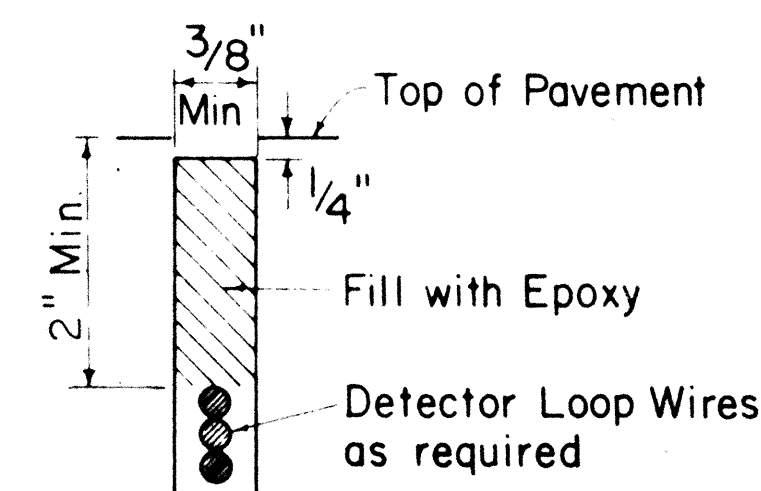


WIRING DIAGRAM



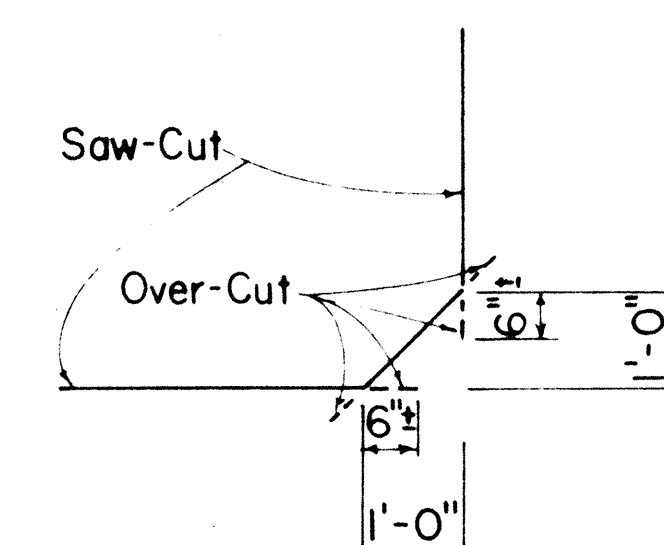
DETAIL "A"

TYPICAL SERIES-PARALLEL LOOP CONNECTION



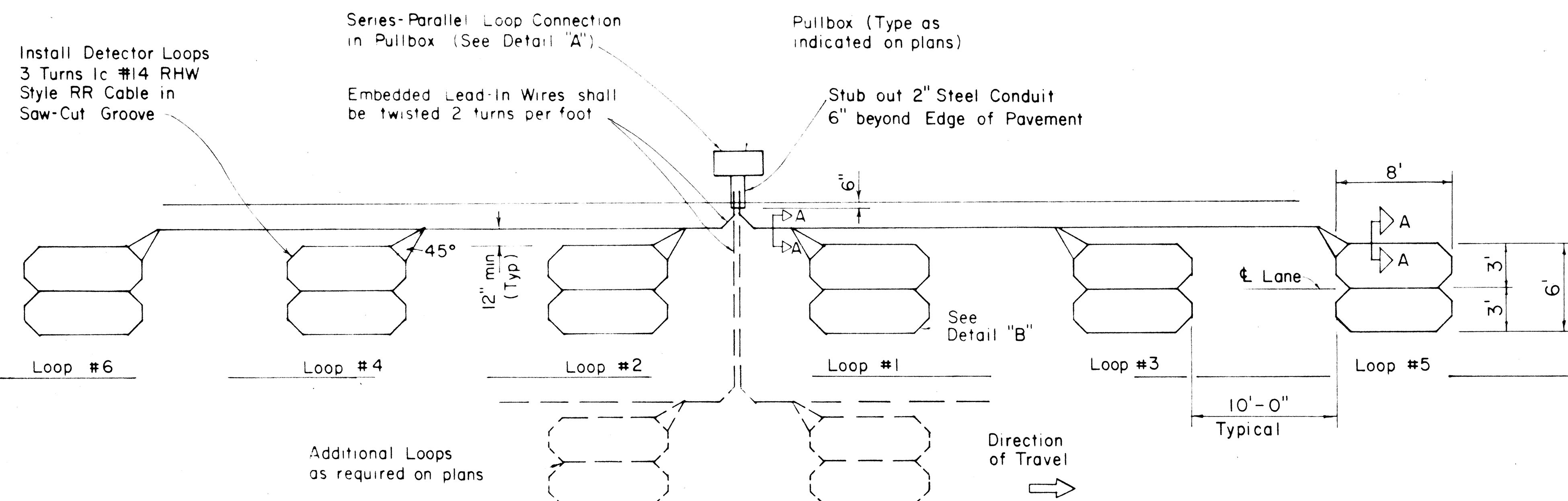
DETECTOR LOOP SAW-CUT SECTION A-A (TYPICAL)

Note: Back-Fill Over-Cuts with Epoxy

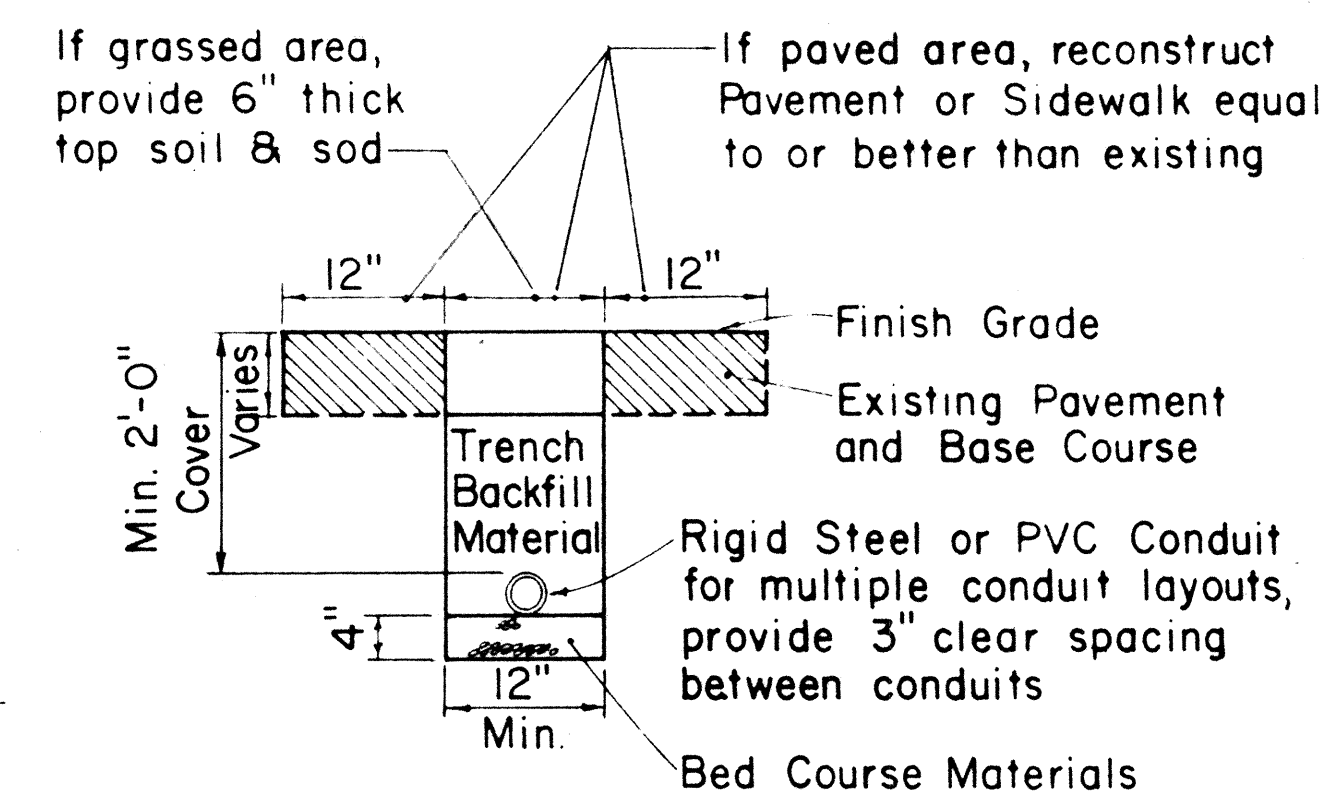


DETAIL "B"

SAW-CUT AT CORNERS



MULTIPLE LOOP LAYOUT



TYPICAL TRENCH SECTION FOR CONDUIT

NOTE:

- All conduits under roadways shall be steel or PVC schedule 80. All other conduits shall be steel or PVC schedule 40.

LEGEND

- 6' x 6' Loop detector
- 6' x 8' Loop detector

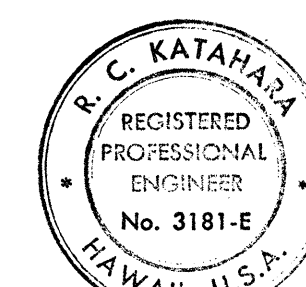
2/7/85	Added 6 ft x 6 ft Loop Detector Wiring Diagram & Loop Layout.
DATE	REVISION

Not to Scale

SHEET No. OF SHEETS DT 405

ADD. 148

DATE	2/7/85
DESIGNED BY	W. C. KATAHARA
DRAWN BY	W. C. KATAHARA
CHECKED BY	W. C. KATAHARA
APPROVED BY	W. C. KATAHARA



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

W. C. KATAHARA

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

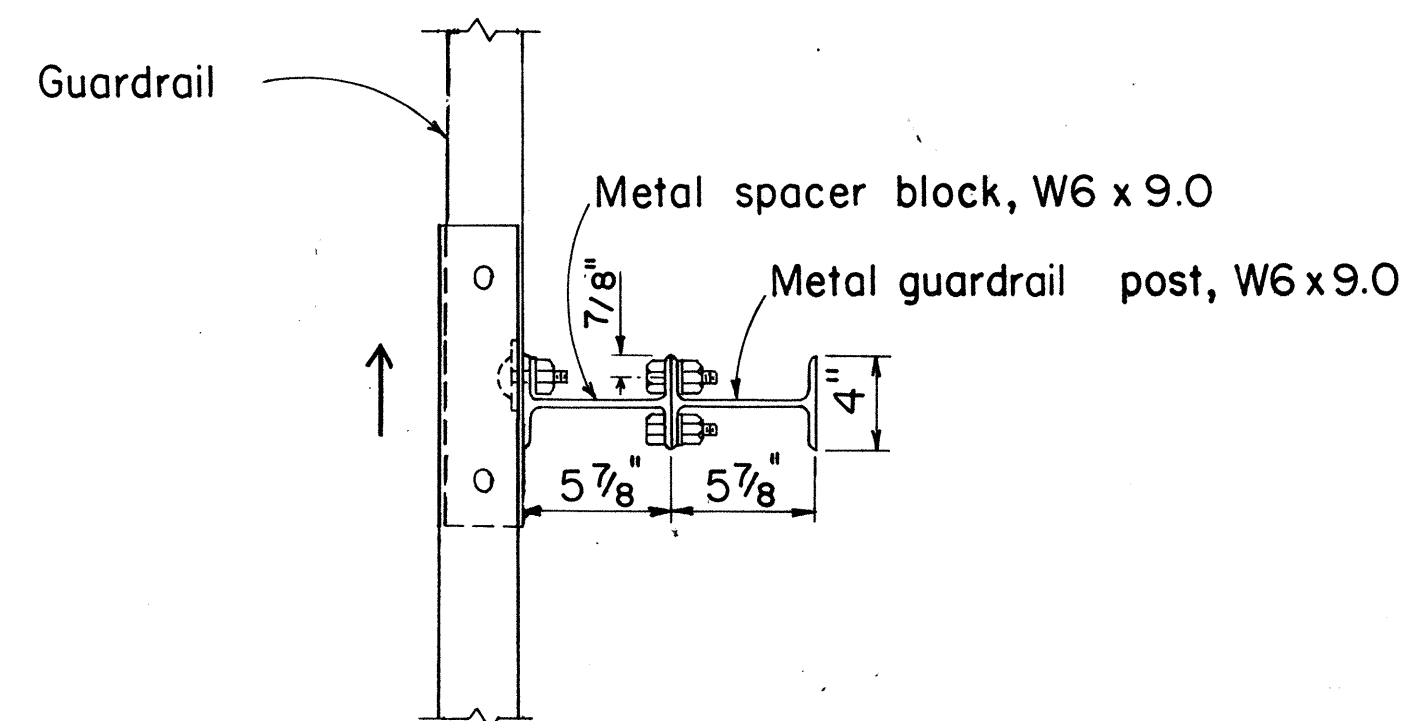
STANDARD DETAILS

LOOP DETECTORS

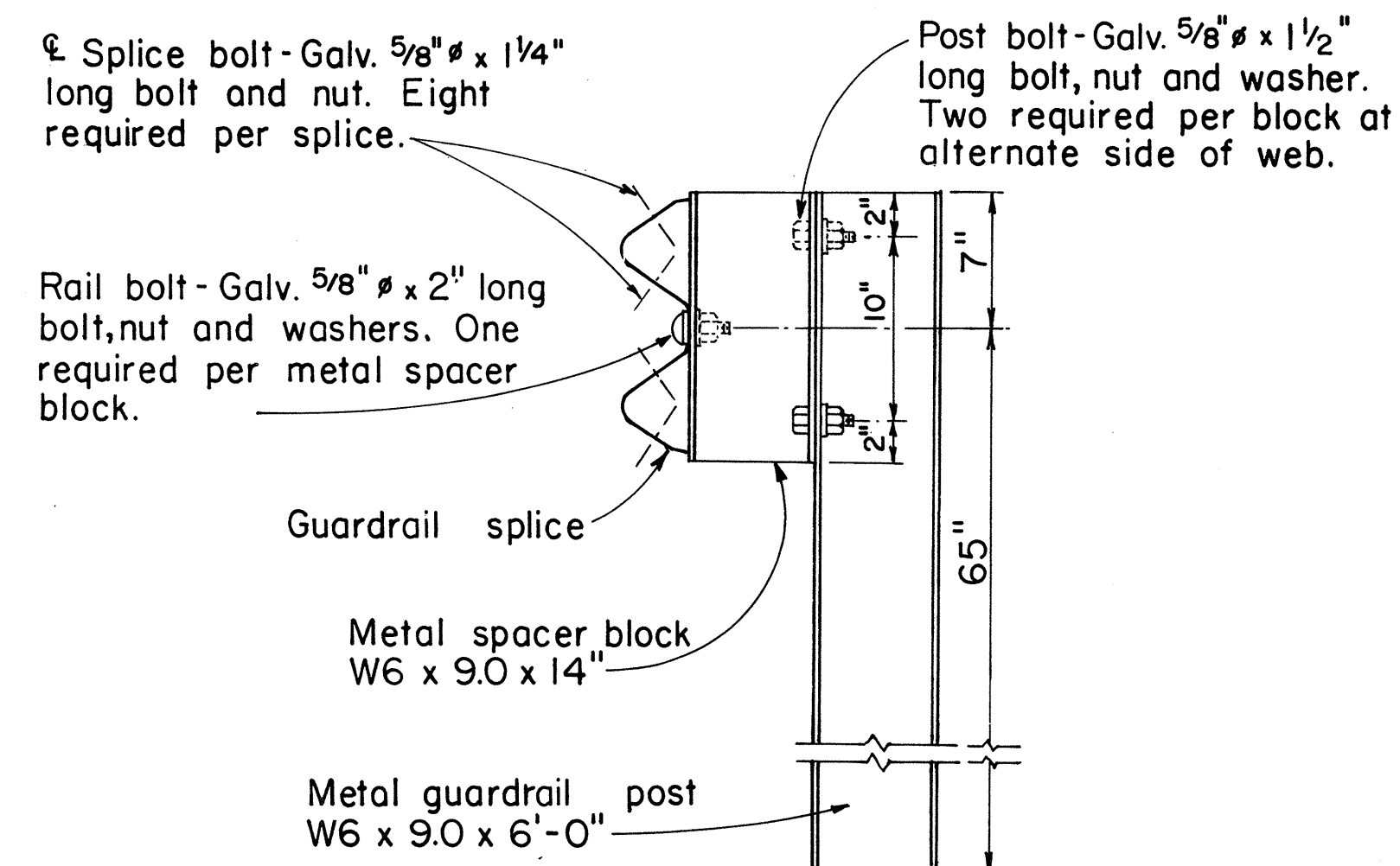
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	147	156

GENERAL NOTES

- Both of the alternate type posts may be used on any one project however, only one type of post shall be used in any single run of guardrail.
- All hardware, posts and blocks shall be galvanized. No punching, drilling or cutting will be permitted after galvanizing.
- Connection details for bent plate post and block shall be similar to the details shown for structural shape post, and block.
- Where conditions require, special post lengths in increments of 6 inches may be specified.
- For details of rail elements, bolts and nuts, see sheet DT 501.
- All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee.



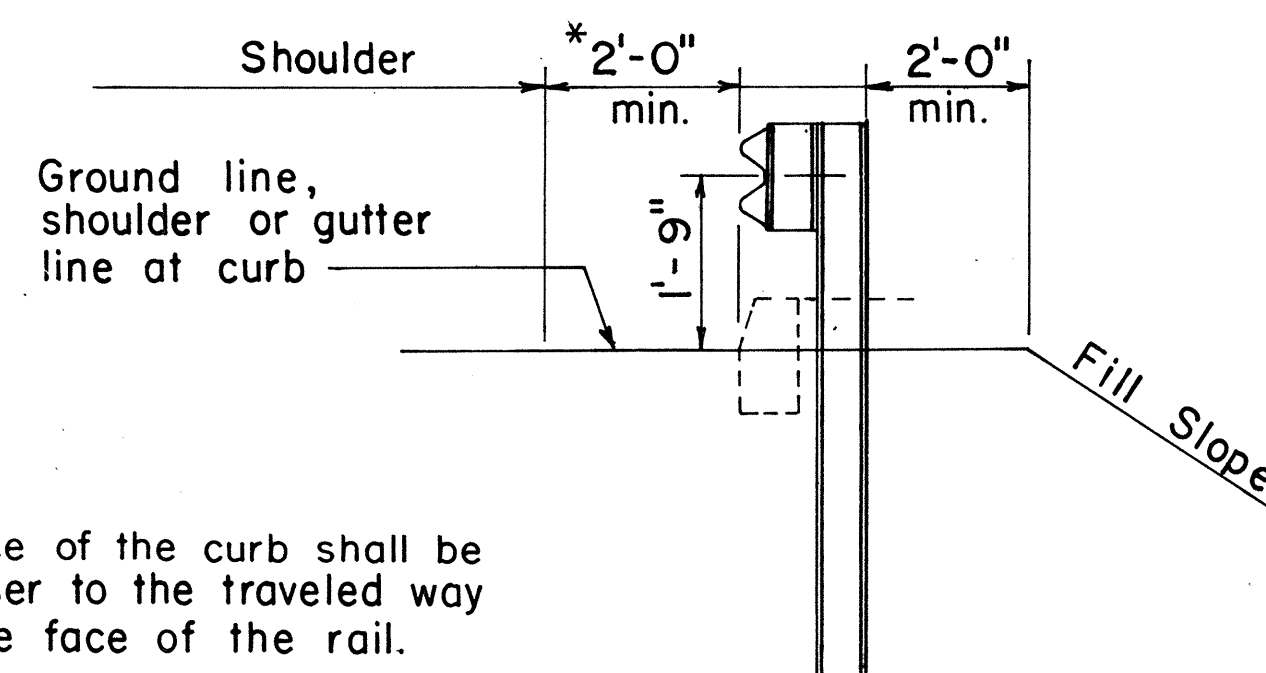
PLAN



ELEVATION

SINGLE METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK

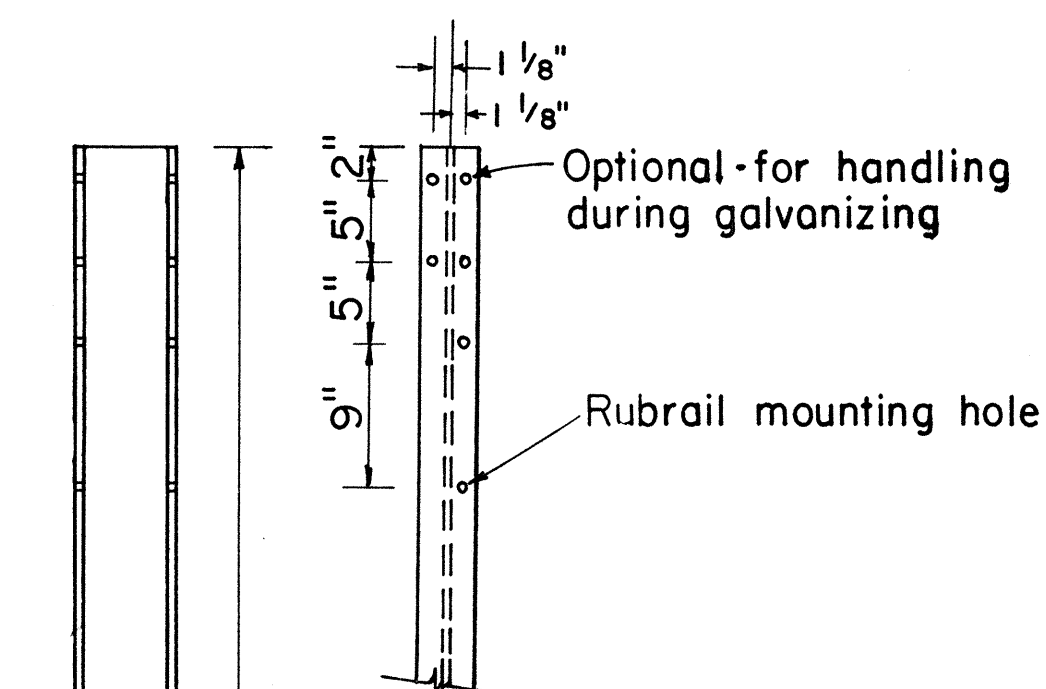
SCALE: 1/2" = 1'-0"



AT SHOULDER SECTION

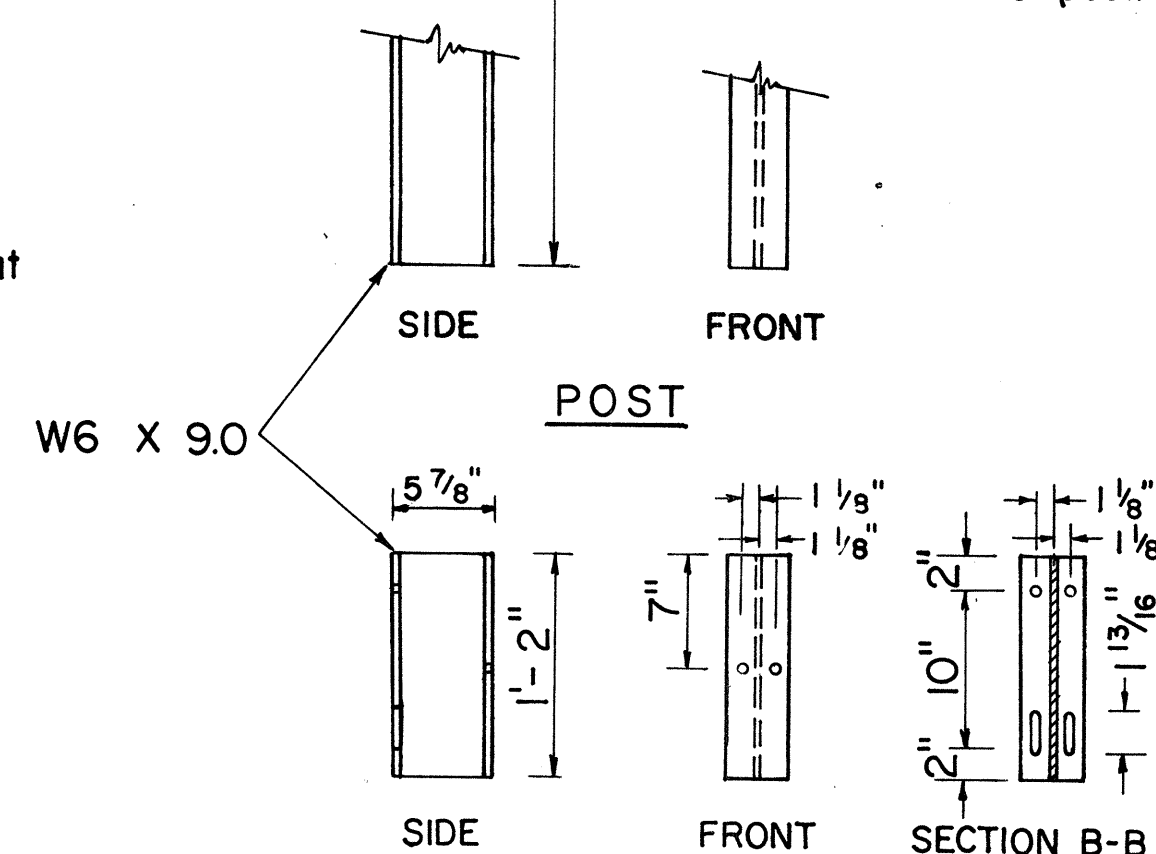
TYPICAL METAL GUARDRAIL DETAIL

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



NOTE:

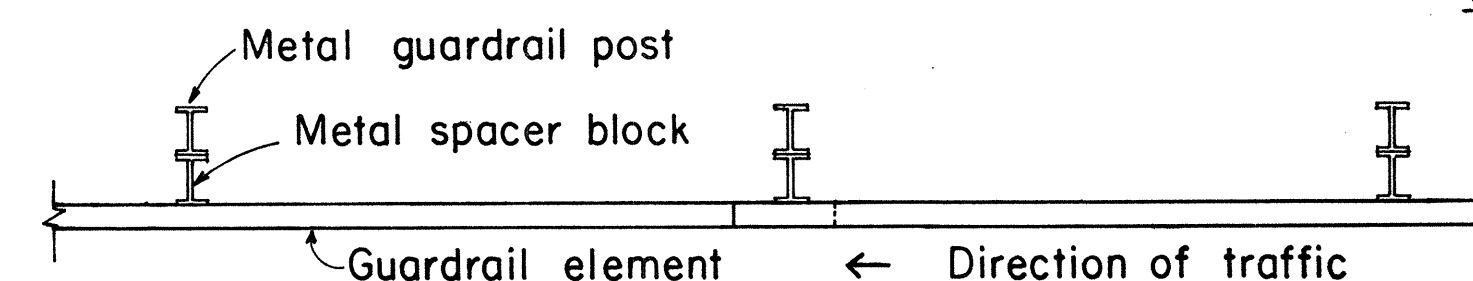
All holes 13/16 inch diameter. Bolt hole pattern is symmetrical with respect to the vertical axis of the post.



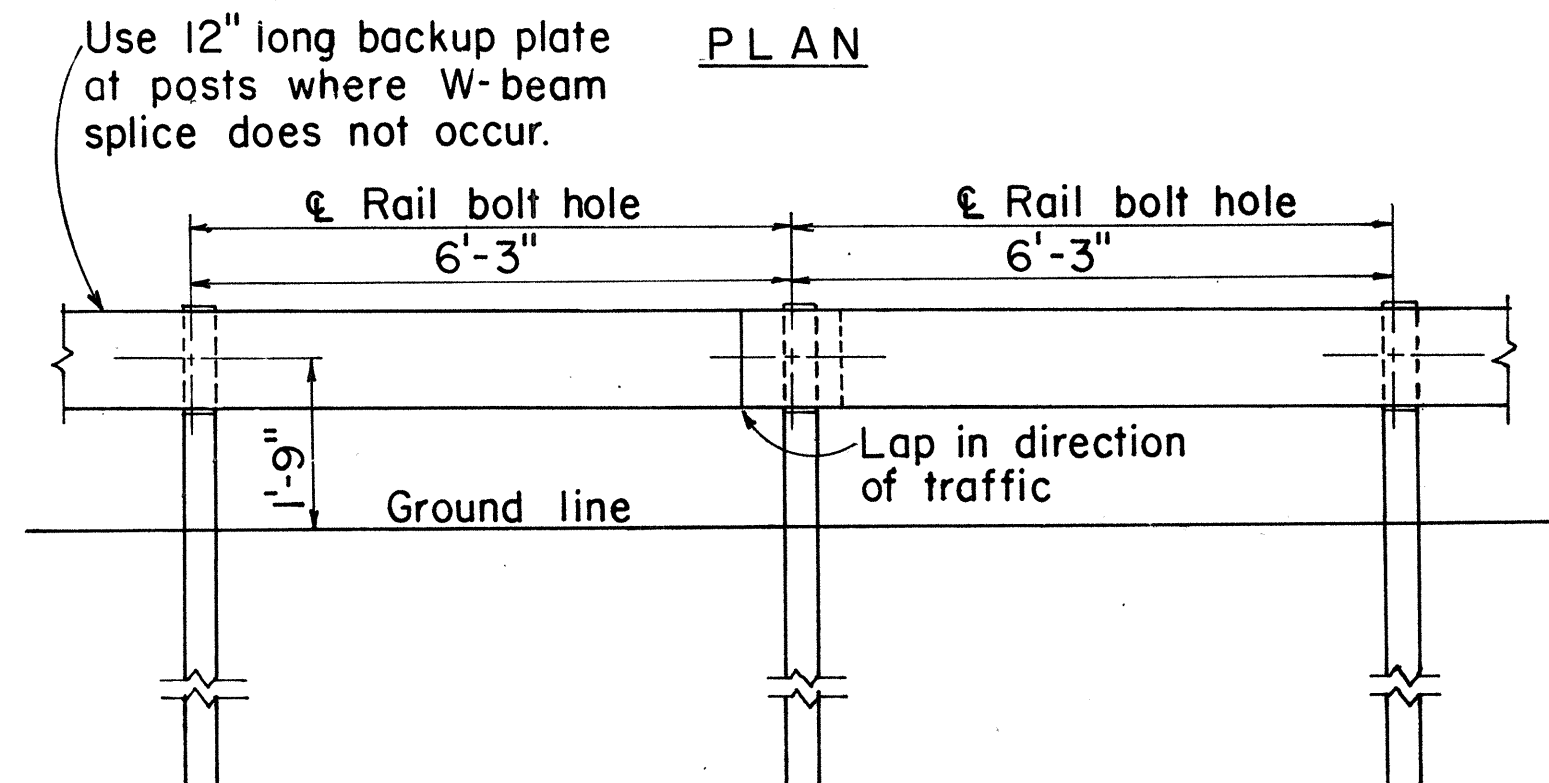
BLOCK

STRUCTURAL SHAPE POST AND BLOCK

SCALE: 1" = 1'-0"



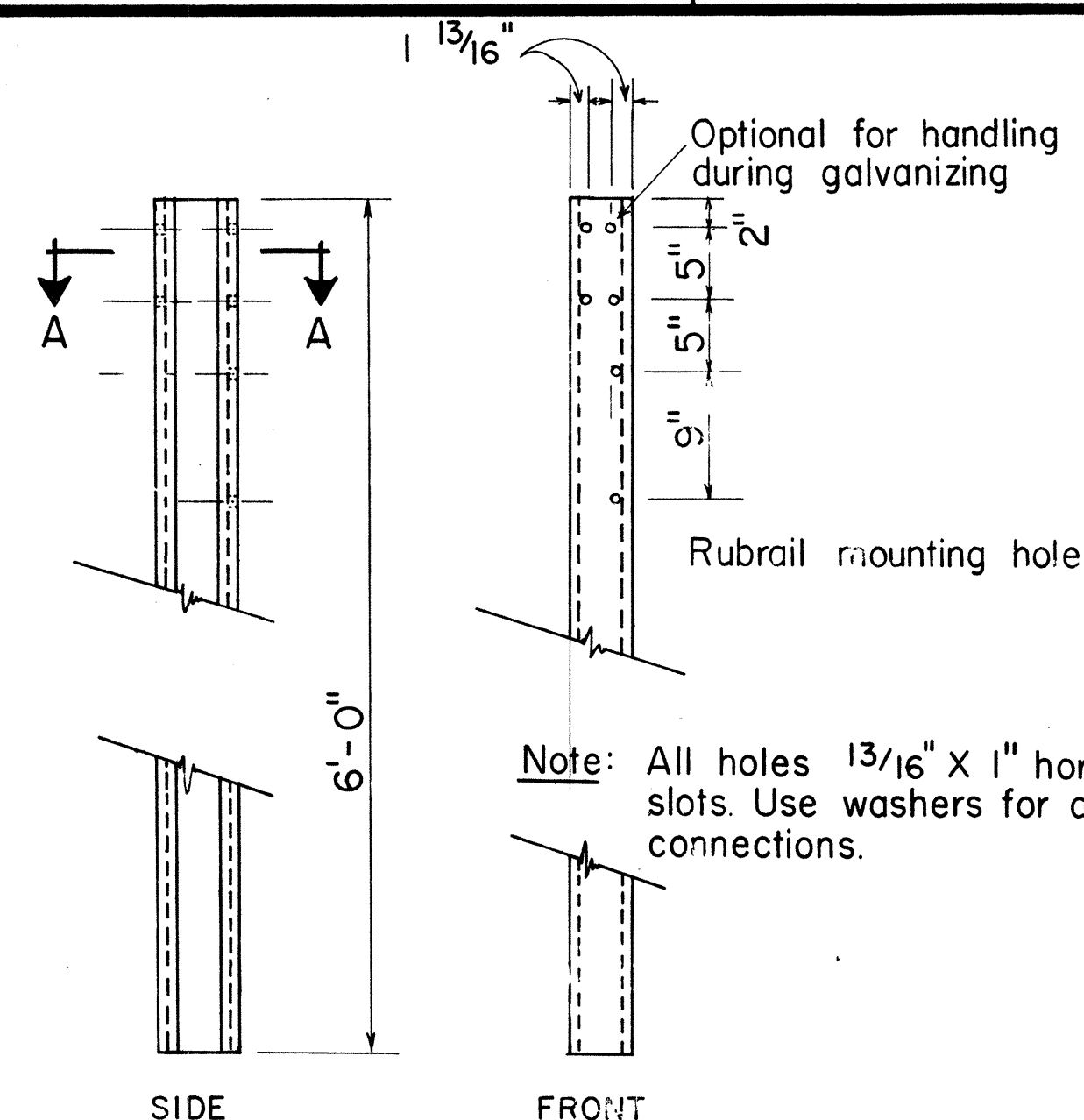
PLAN



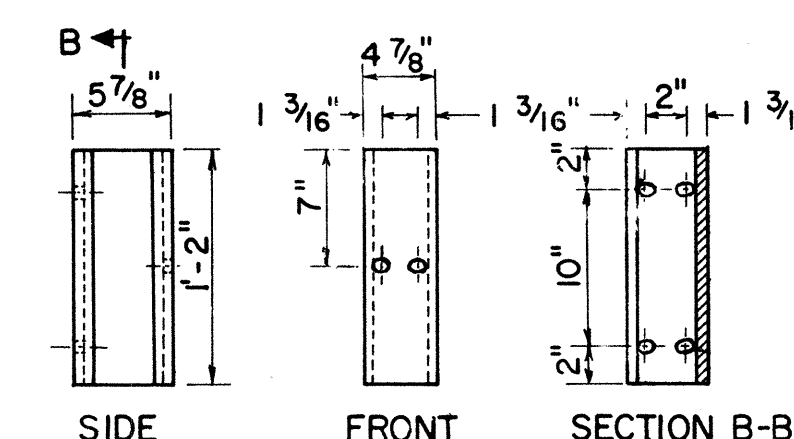
ELEVATION

METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK

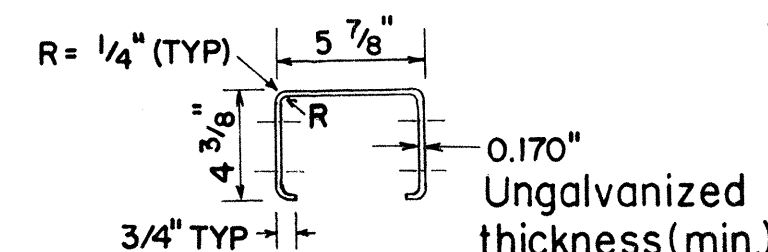
SCALE: 1/2" = 1'-0"



POST



BLOCK



SECTION A-A
N.T.S.

BENT PLATE POST AND BLOCK

SCALE: 1" = 1'-0"

APPROVAL RECOMMENDED:

Erich Tanaka
TRAFFIC ENGINEER

9/7/82
DATE

APPROVED:

Robert Salschi
ASSISTANT CHIEF, ENGINEERING

9/22/82
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 500 approved 12/30/69.	H.F.	9/22/82
2	Added General Notes No. 6	SDO	9-28-83

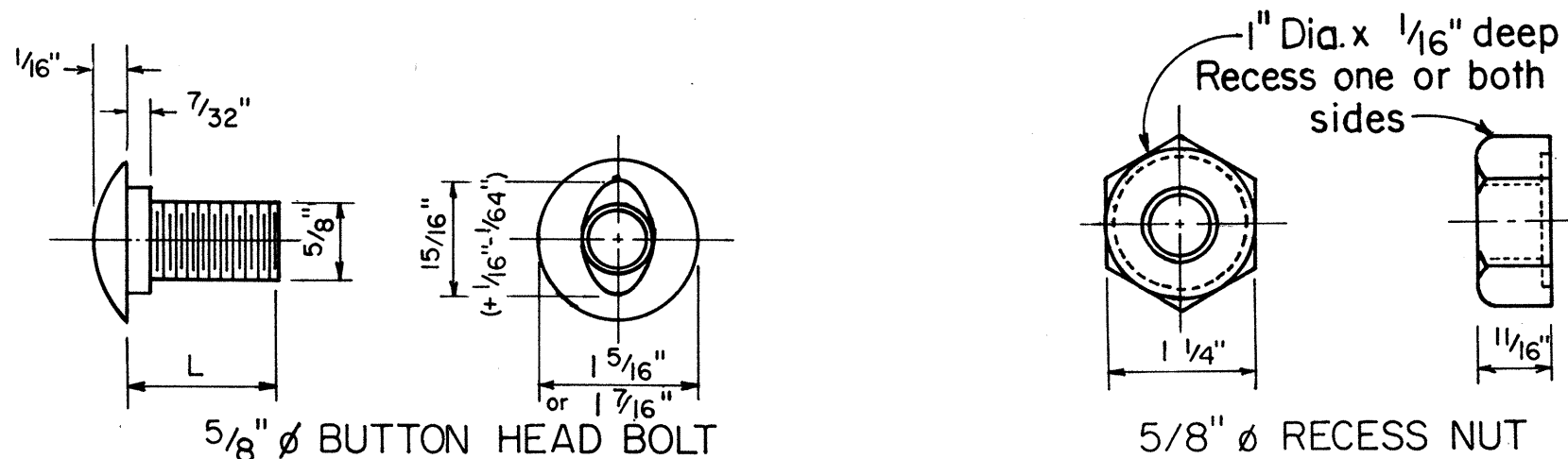
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS METAL GUARDRAIL

Scale: As Shown July, 1982

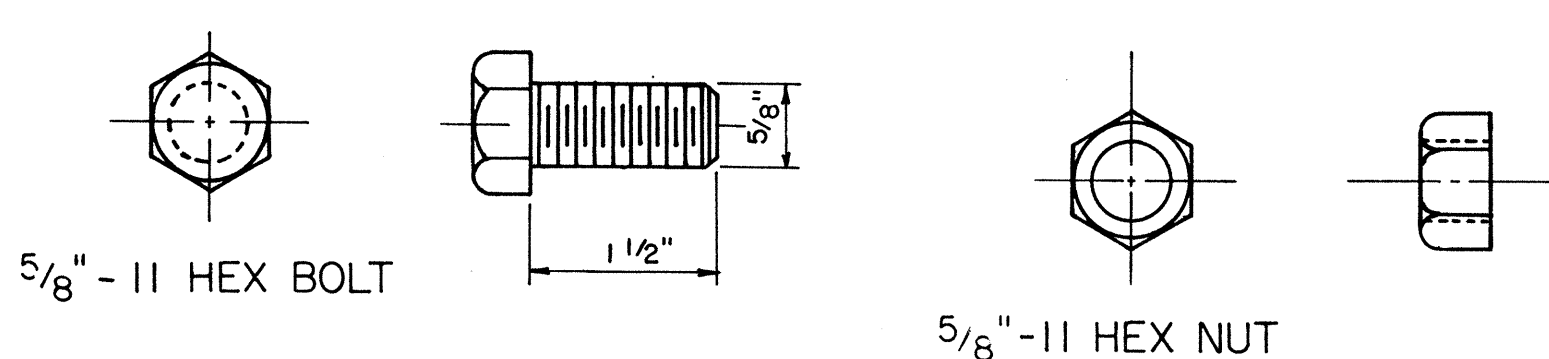
SHEET NO. OF SHEETS DT 500

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	150	156

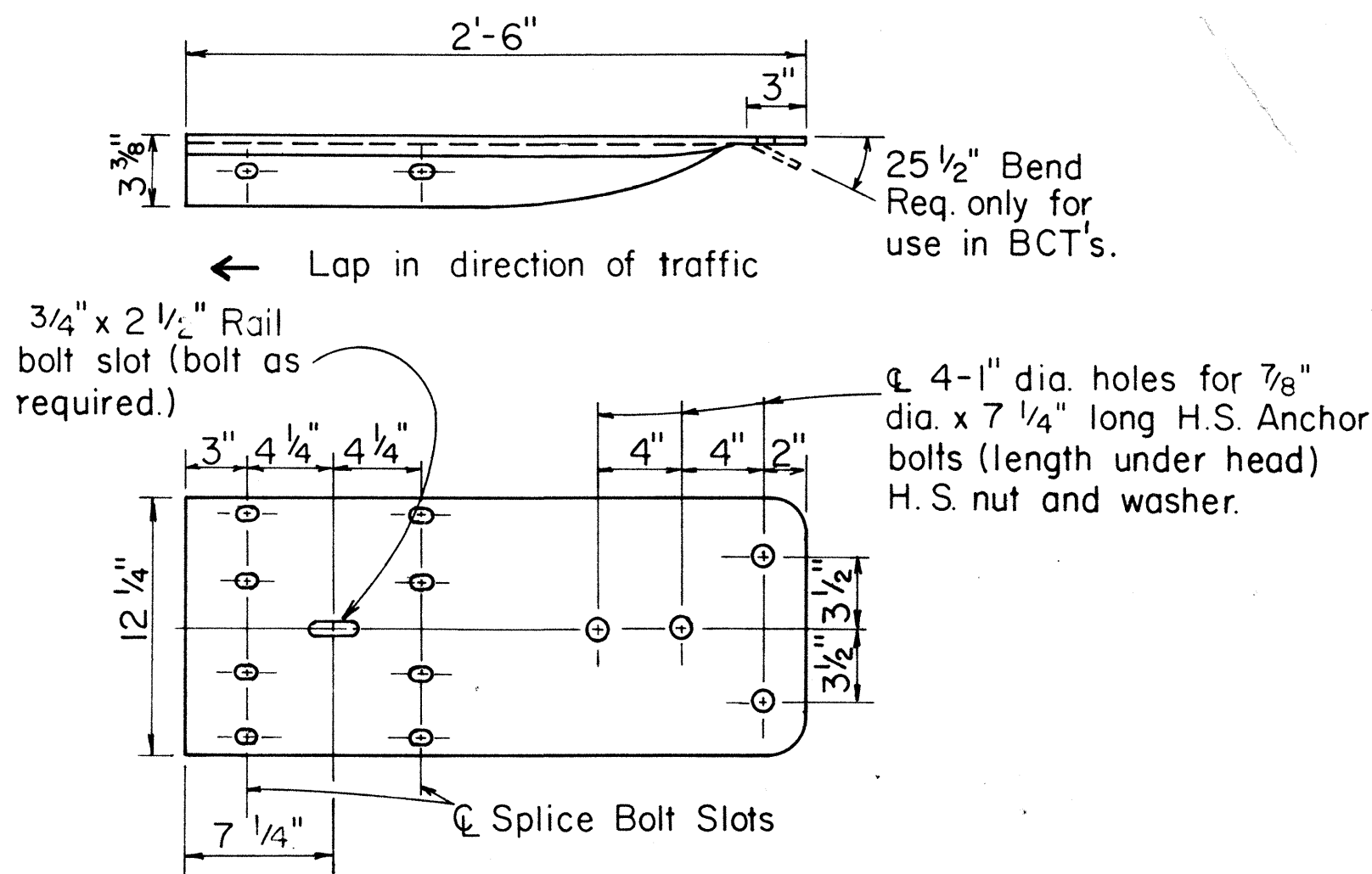


L	Thread Length	Intended Use
1 1/4"	Full length thread	Splice rail elements
2"	1 1/2" min. thread len.	Fasten rails to posts

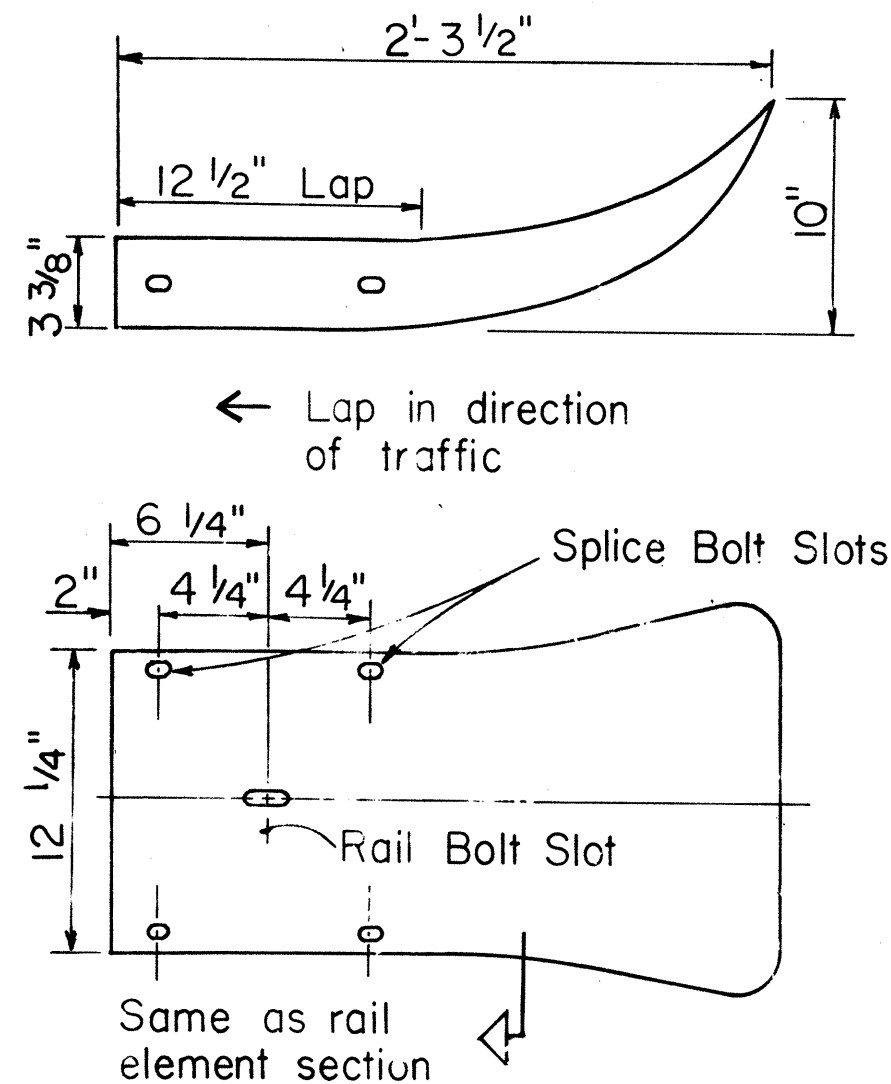
**5/8" BUTTON HEAD BOLT
AND RECESS NUT**
Scale: NTS



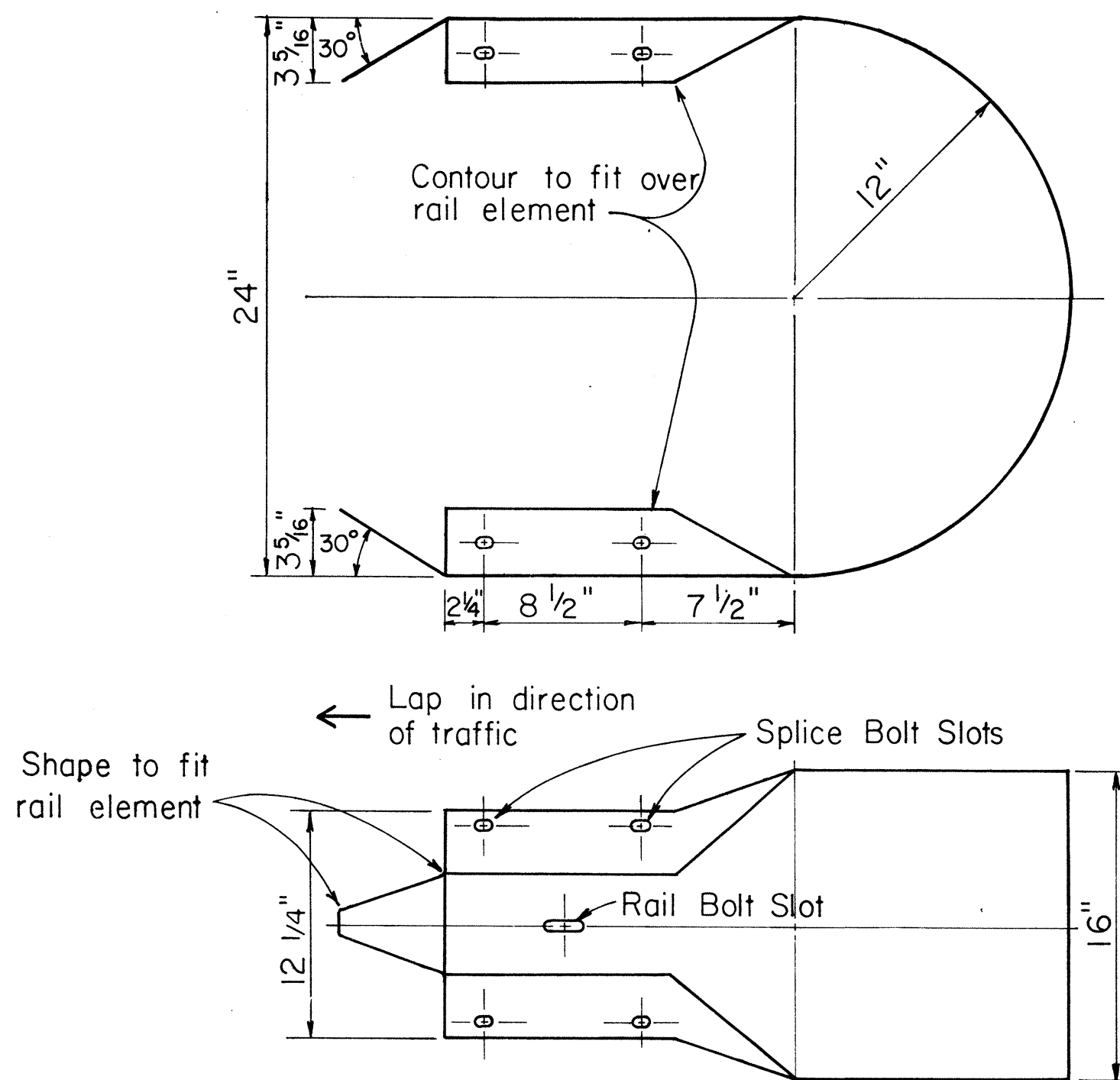
5/8" HEX POST BOLT AND NUT
Scale: N.T.S.



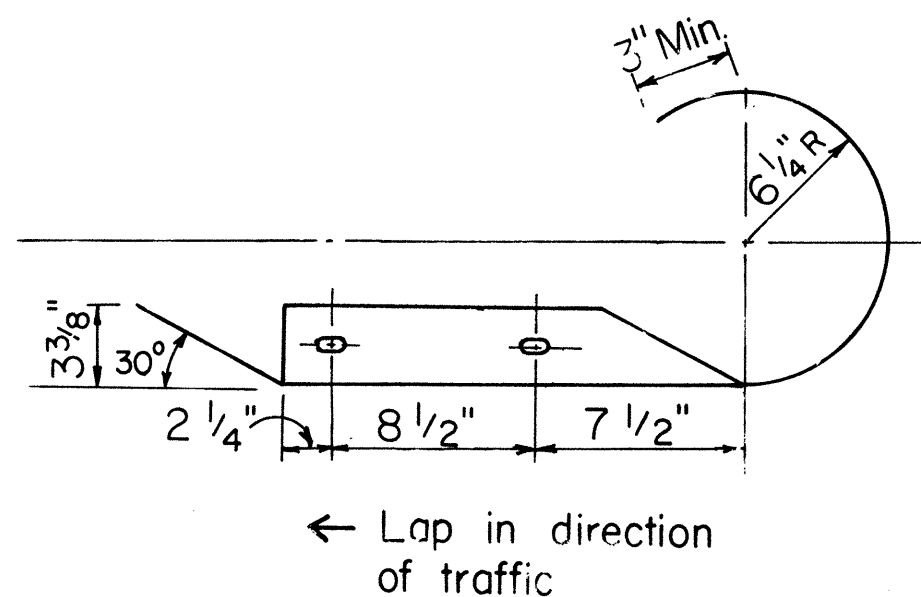
W BEAM TERMINAL CONNECTOR
Scale: 1 1/2" = 1'-0"
Lap in direction of traffic



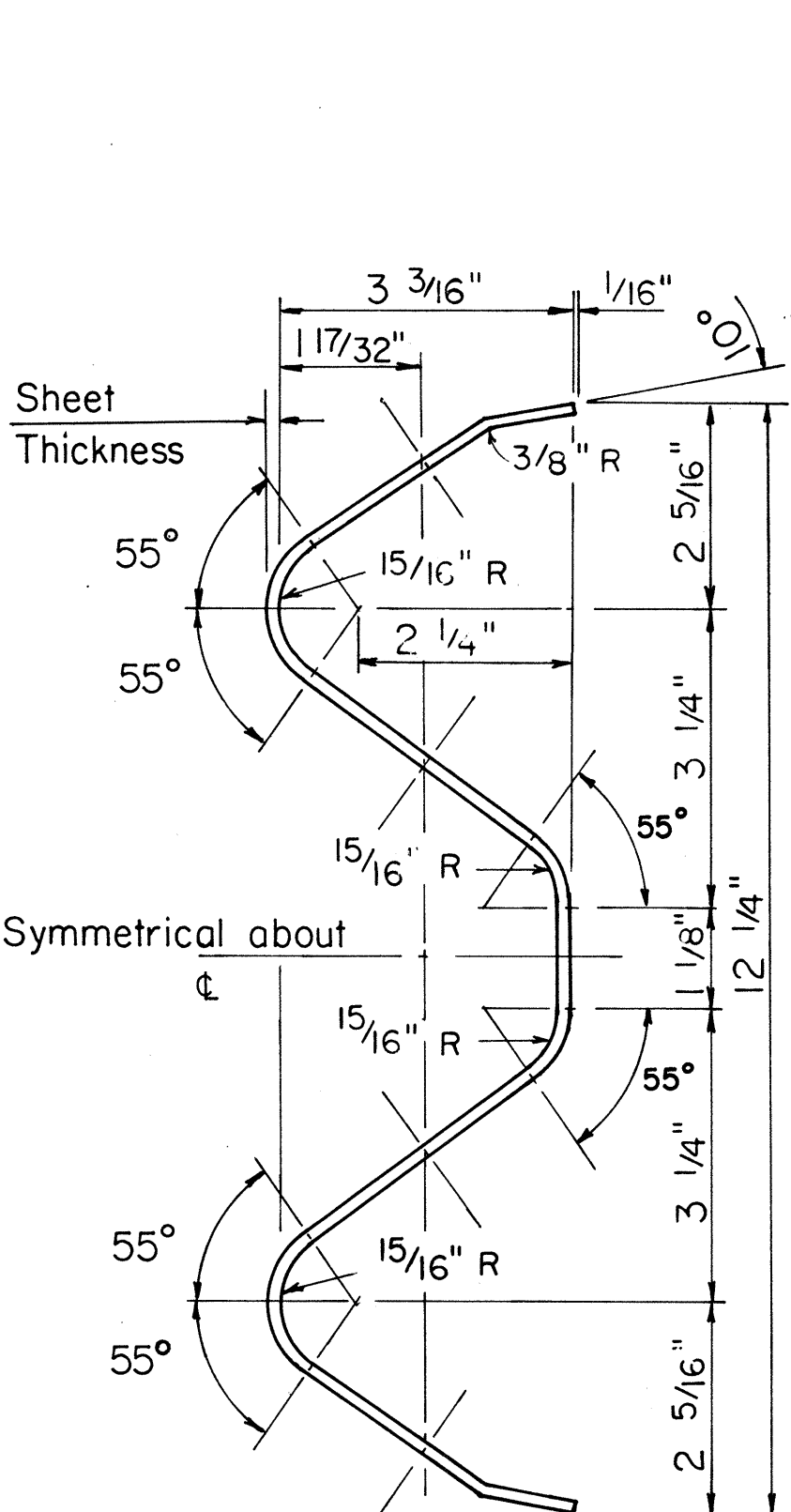
W BEAM END SECTION (FLARED)
Scale: 1 1/2" = 1'-0"



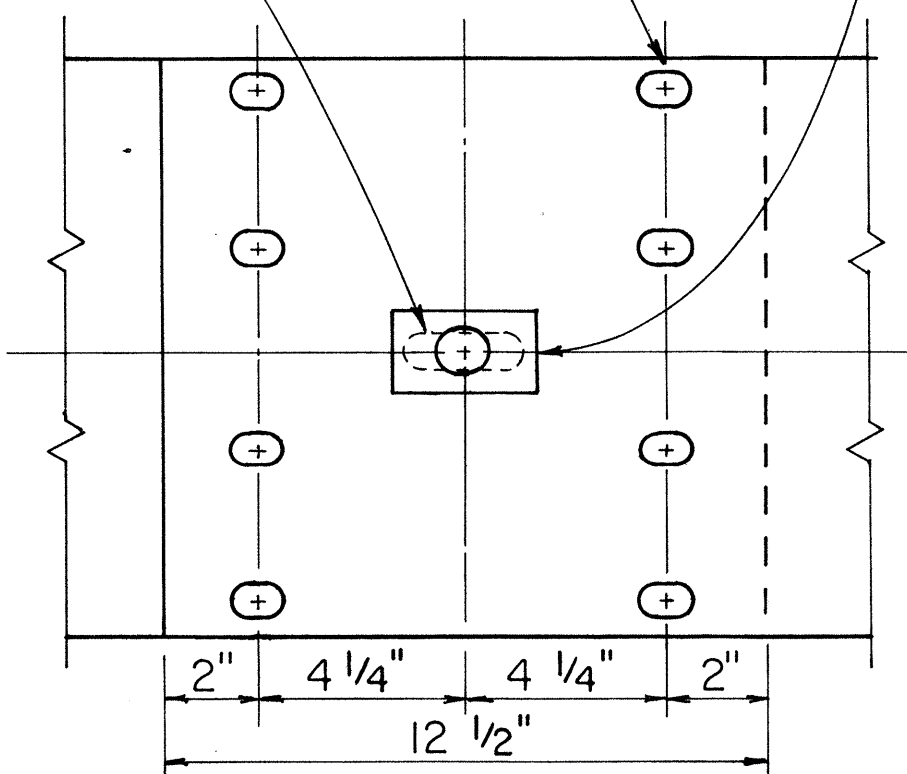
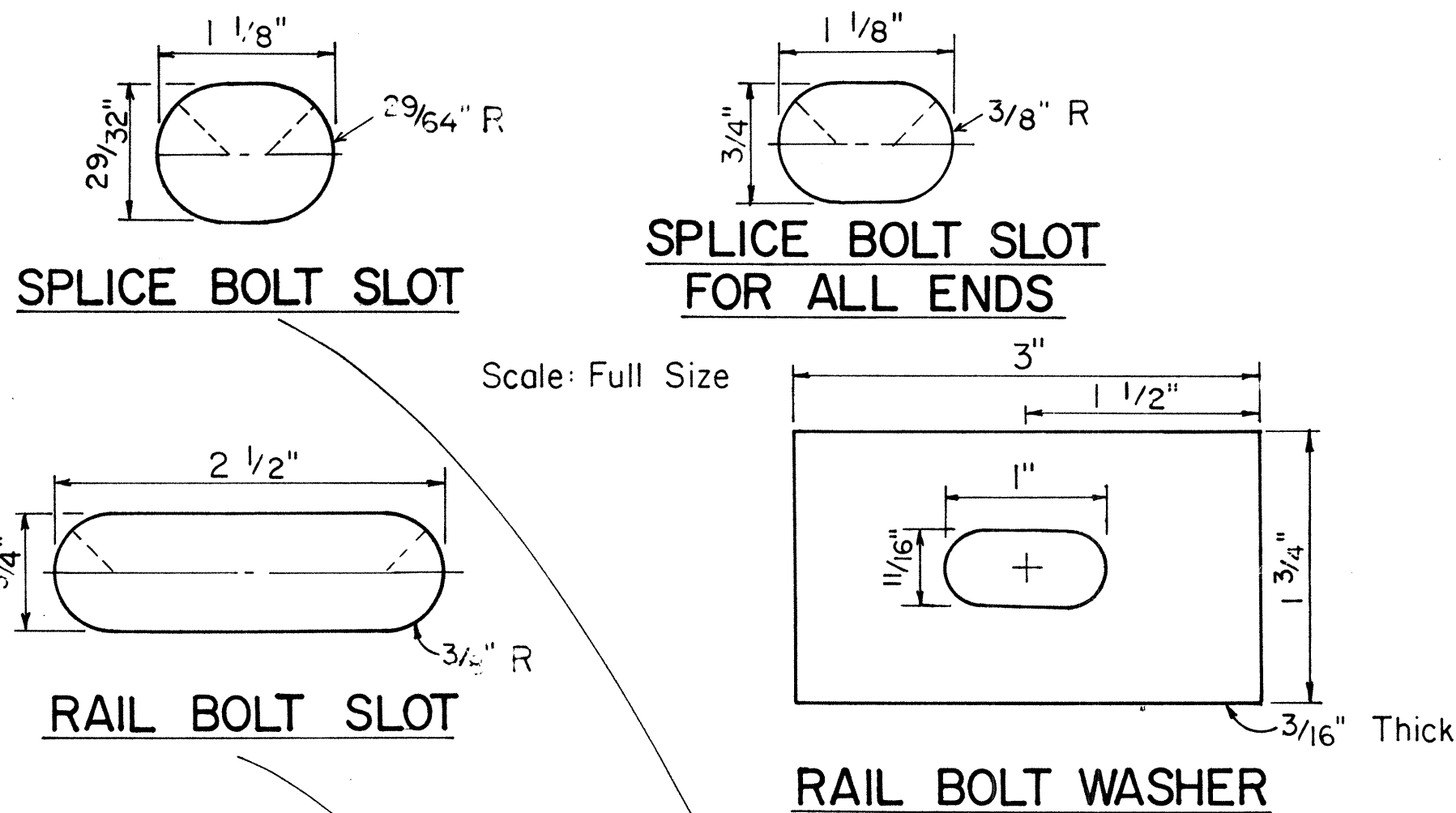
W BEAM END SECTION (BUFFER)
Scale: 1 1/2" = 1'-0"



W BEAM END SECTION (ROUNDED)
Scale: 1 1/2" = 1'-0"



RAIL ELEMENT SECTION
Scale: 6" = 1'-0"



RAIL SPLICE
Scale: 3" = 1'-0"

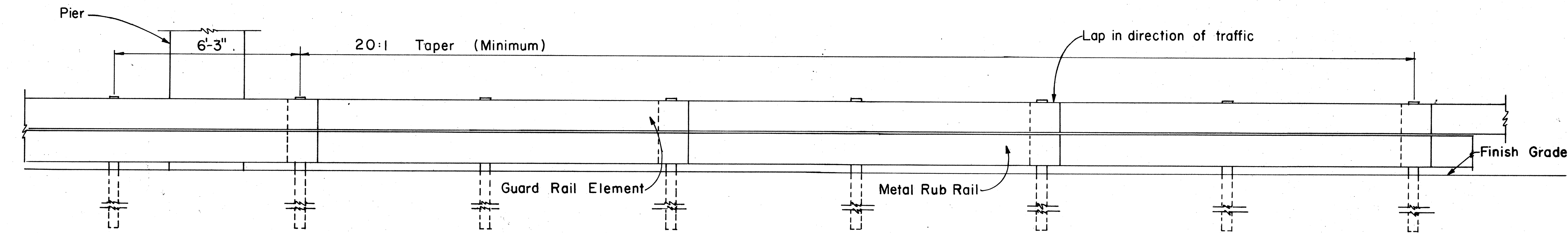
DATE	DESIGNED BY	CHECKED BY
DATE	DESIGNED BY	CHECKED BY
DATE	DESIGNED BY	CHECKED BY

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 501 approved 12/30/69	H.F.	9/22/82

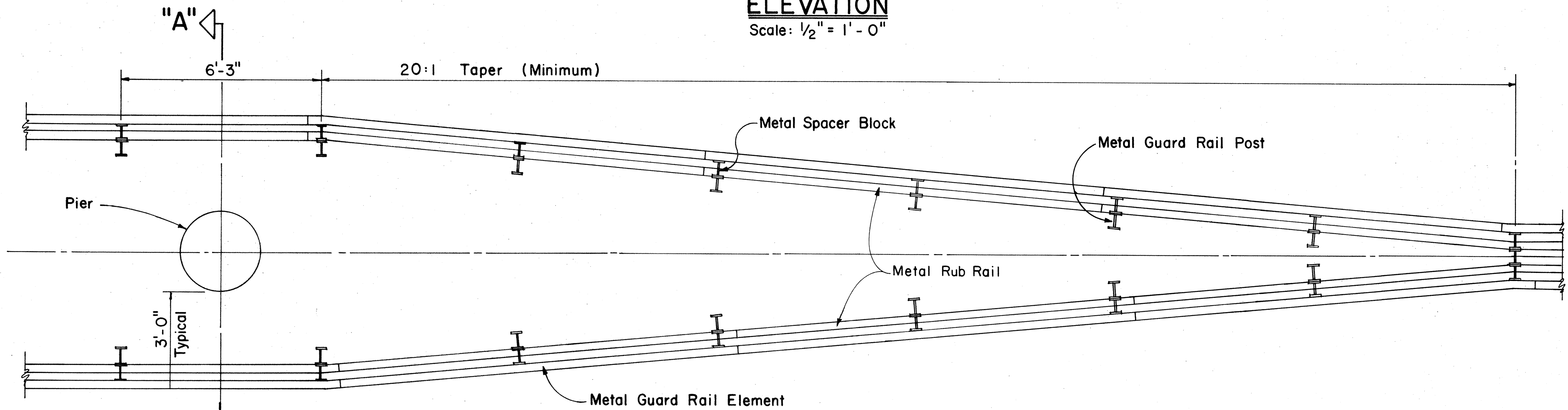
APPROVAL RECOMMENDED:	9/20/82
<i>Eishi Tanaka</i>	DATE
TRAFFIC ENGINEER	
APPROVED:	9/22/82
<i>Harold S. S. S.</i>	DATE
ASSISTANT CHIEF, ENGINEERING	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS
METAL GUARDRAIL
Scale: As Noted July, 1982
SHEET NO. OF SHEETS DT 501

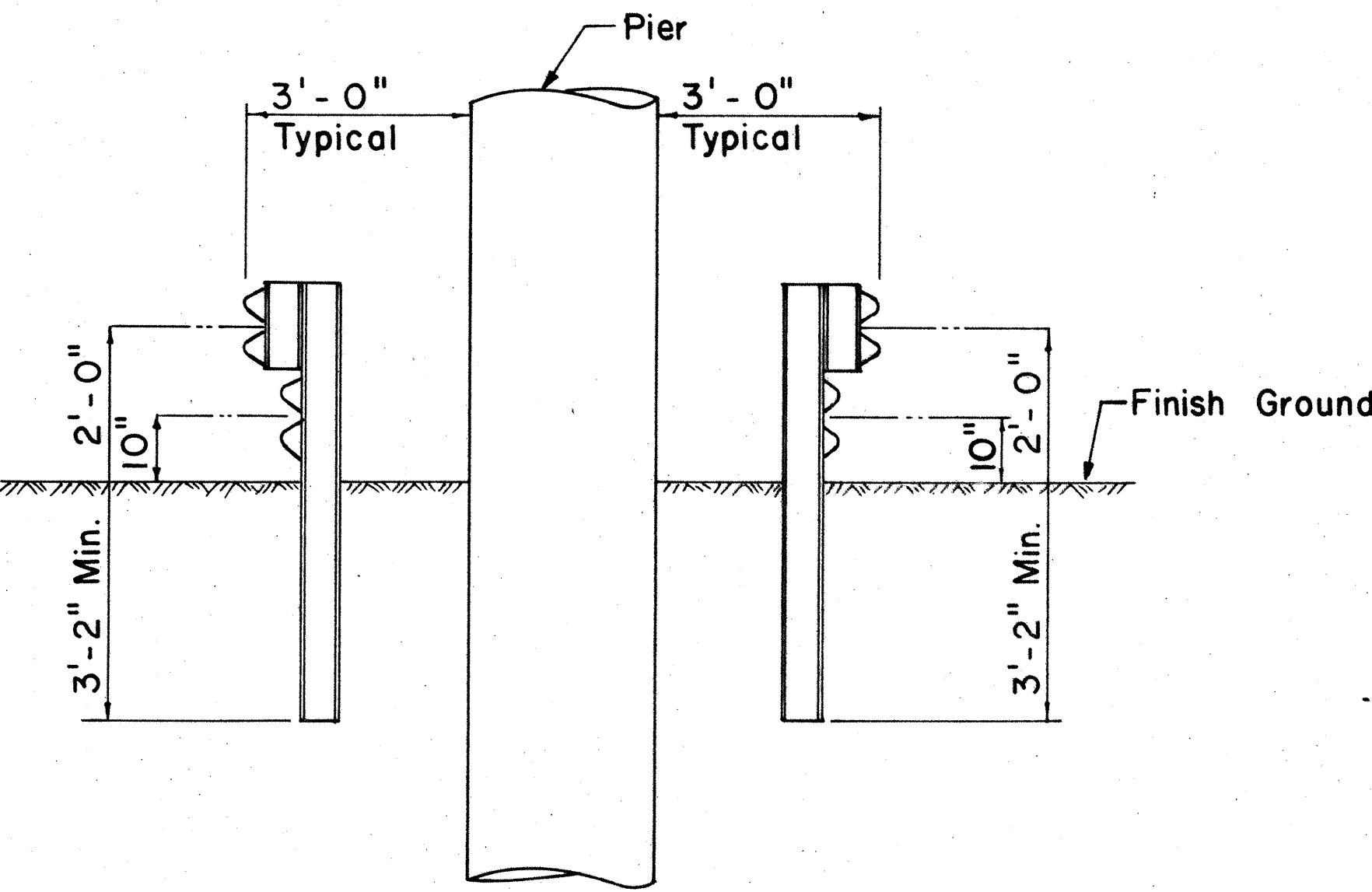
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	151	156



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



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



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

APPROVAL RECOMMENDED:
Eishi Tanaka 9/7/82
TRAFFIC ENGINEER DATE

APPROVED:
Harbor Sakai 9/21/82
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 505 approved 12/30/69.	H.P.	9/21/82

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARDRAIL
WITH RUBRAIL AT OBSTRUCTION
Scale: As Shown
SHEET No. OF SHEETS DT505

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
NO.	

Technical drawing of a bridge deck cross-section showing two columns and their reinforcement details. The drawing includes the following labels and dimensions:

- Concrete Barrier**: Located at the top and bottom edges of the deck.
- 10:1 Taper (Minimum)**: Indicated on the top and bottom edges of the deck.
- Varies**: Indicated for the width of the deck sections.
- 1'-6"**: Dimensions for the width of the deck sections adjacent to the columns.
- Column**: Two circular columns are shown, each with a center point marked with a dot.
- #3 at 6" o.c. Horizontal Bars**: Reinforcement bars around the columns.
- #3 at 12" o.c. Vertical Bars**: Reinforcement bars within the columns.
- Barrier**: A horizontal line representing the barrier, with a center point marked with a dot.
- 1 1/2" Clear at top**: Dimension indicating the clearance at the top of the columns.
- Apply 1-layer 55# Composition Roofing Material around Column Surface**: Instruction for the column surface treatment.
- Construction Joint**: Indicated at the base of the columns.

Technical drawing of a bridge deck cross-section. The drawing shows two columns supporting a deck. The deck is divided into three main sections: a left section, a central section, and a right section. The left and right sections are labeled "Concrete Barrier" and "10:1 Taper (Minimum)". The central section is labeled "Varies". The columns are labeled "Column". The reinforcement bars are labeled "#3 at 6\" o.c. Horizontal Bars" and "#3 at 12\" o.c. Vertical Bars". The construction joints are labeled "Construction Joint". The dimensions are: 1'-6" for the column width, 1'-6" for the column spacing, 10:1 Taper (Minimum) for the deck taper, and 2'-8" for the total deck width. The ground level is labeled "Finish Ground".

Technical drawing showing the reinforcement details for a column and footing. The column has a diameter of 12 inches. The footing has a width of 24 inches and a depth of 18 inches. Reinforcement includes #3 bars at 6 inches on center for horizontal bars and #3 bars at 12 inches on center for vertical bars. A 3/4 inch chamfer is shown at the top of the column. The drawing includes dimensions for the column, footing, and reinforcement spacing.

APPROVAL RECOMMENDED:

Emilio Tanaka 9/7/82
TRAFFIC ENGINEER DATE

APPROVED:

Robert Zaleisnie 9/22/82
ASSISTANT CHIEF, ENGINEERING DATE

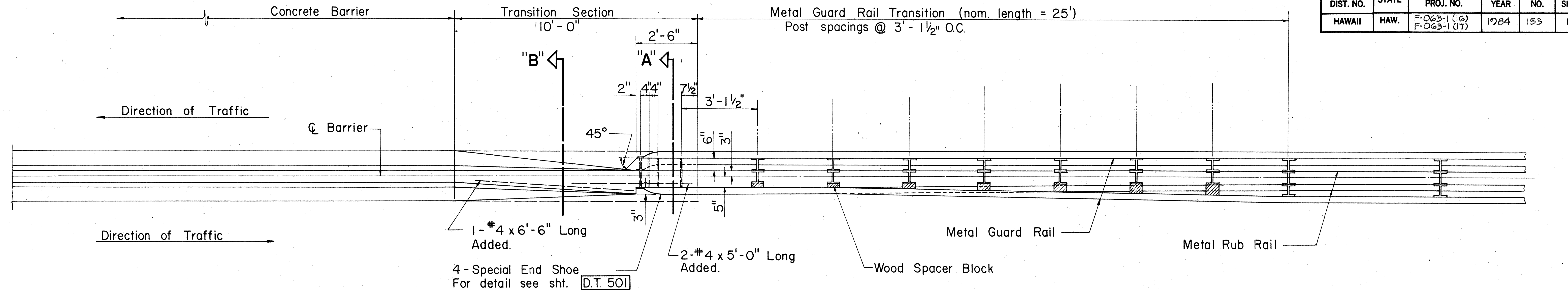
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE BARRIER
TRANSITION

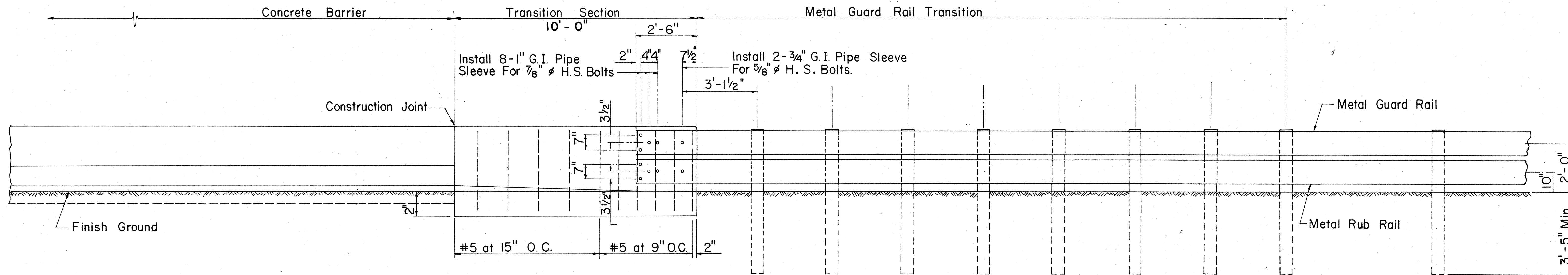
Scale as noted

SHEET No.	OF	SHEETS
1	1	1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	153	156



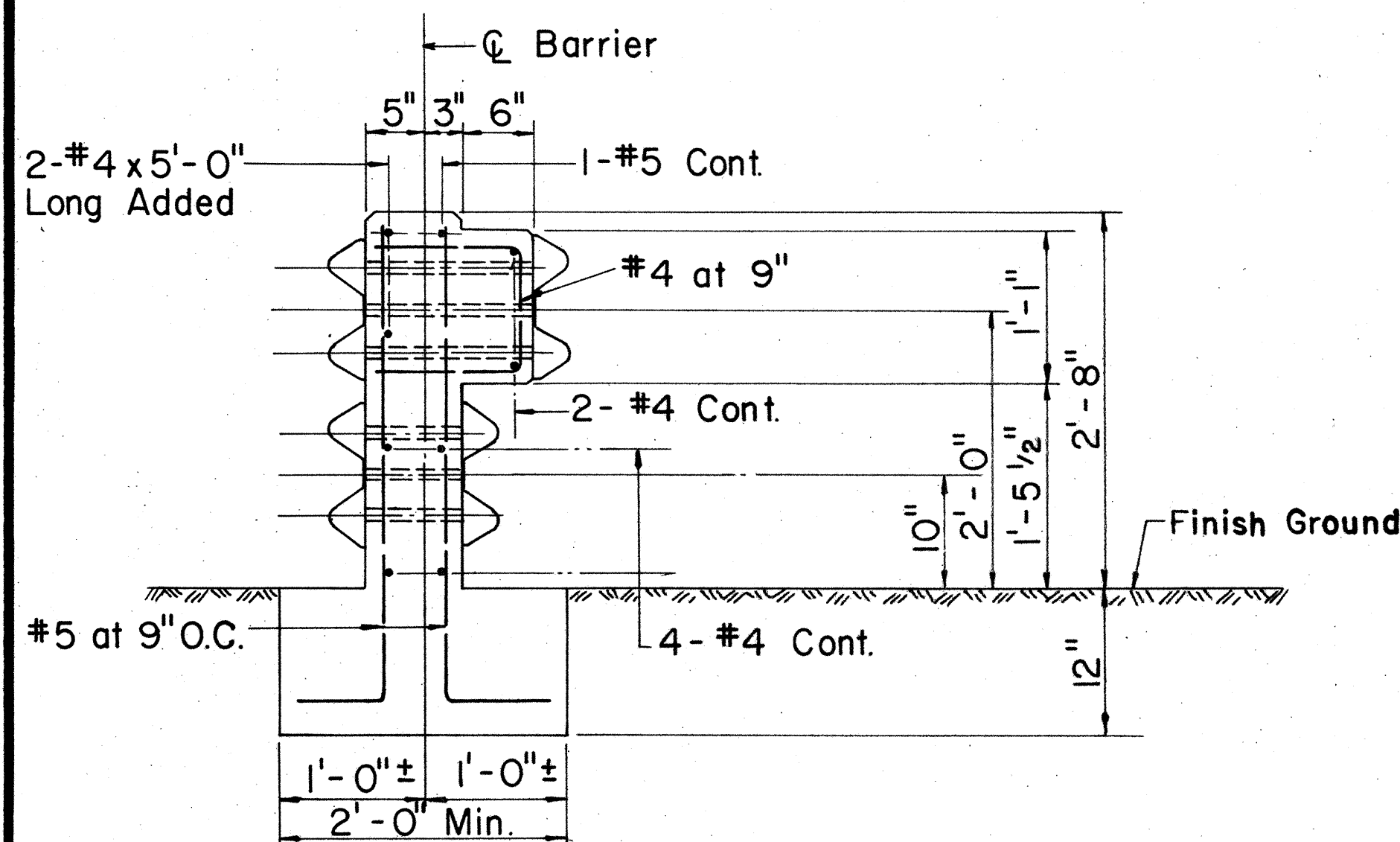
PLAN
Scale: 1/2" = 1'-0"



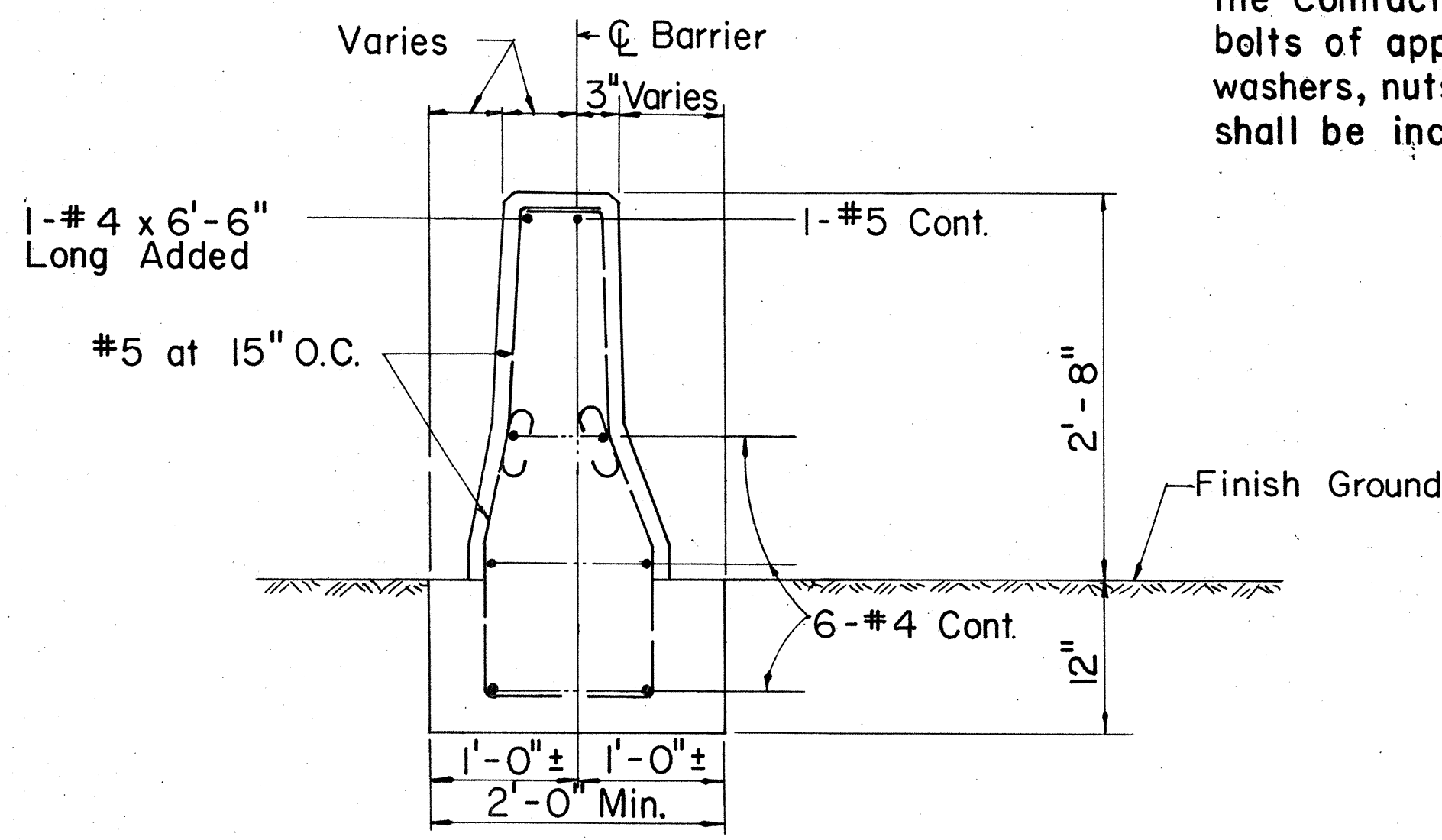
ELEVATION
Scale: 1/2" = 1'-0"

NOTE:

For anchoring metal guard rail elements to concrete barrier, the Contractor shall furnish and install reinforcing steel, bolts of appropriate lengths and size with appurtenant washers, nuts, wooden blocks and pipe sleeves. (Payments shall be incidental to concrete barrier.)



SECTION "A"
Scale: 1" = 1'-0"



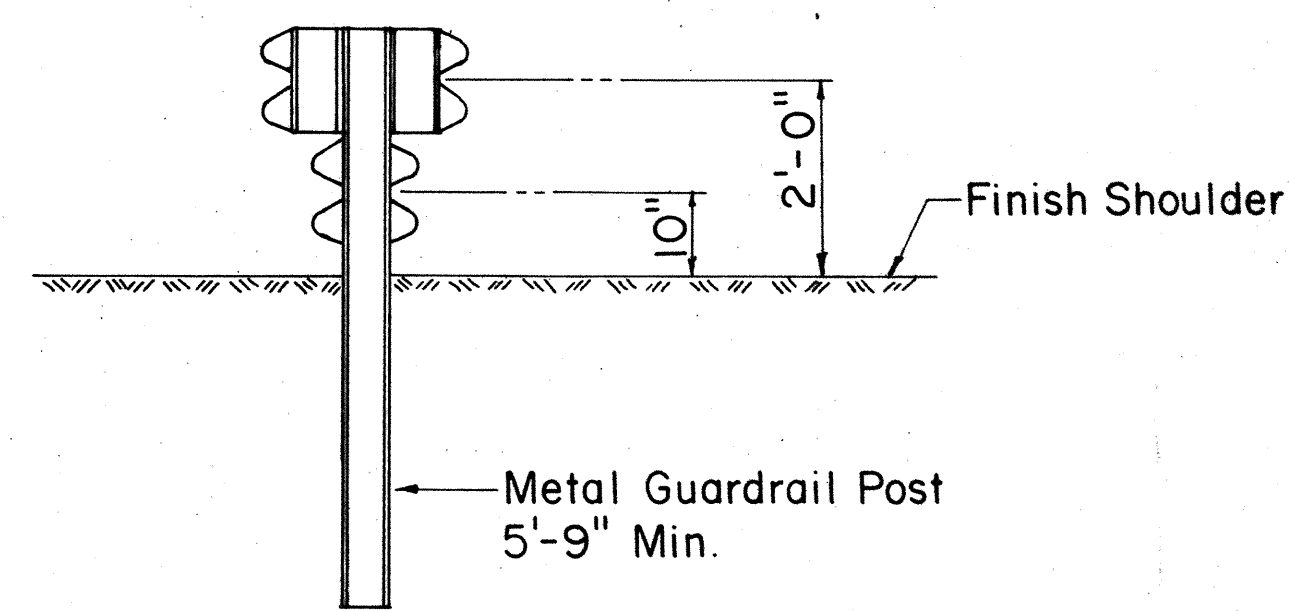
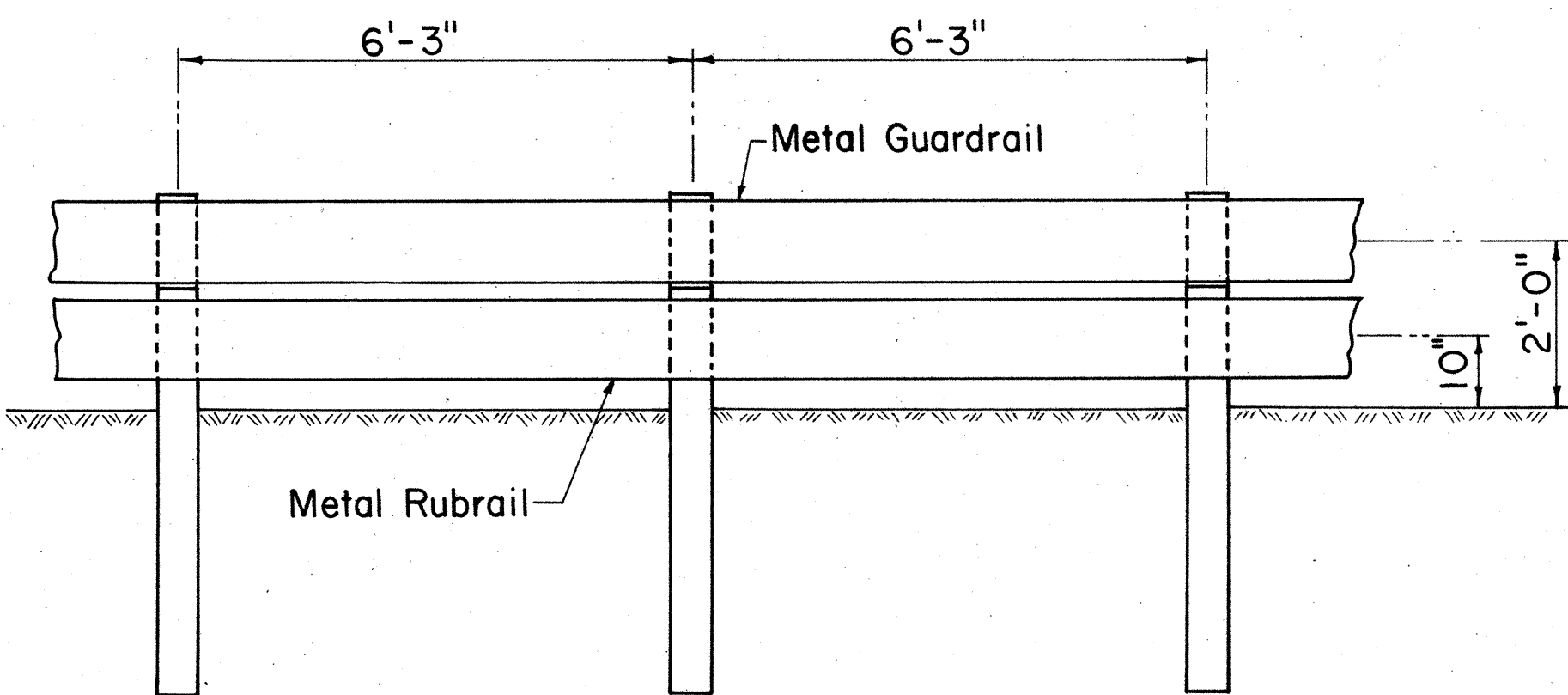
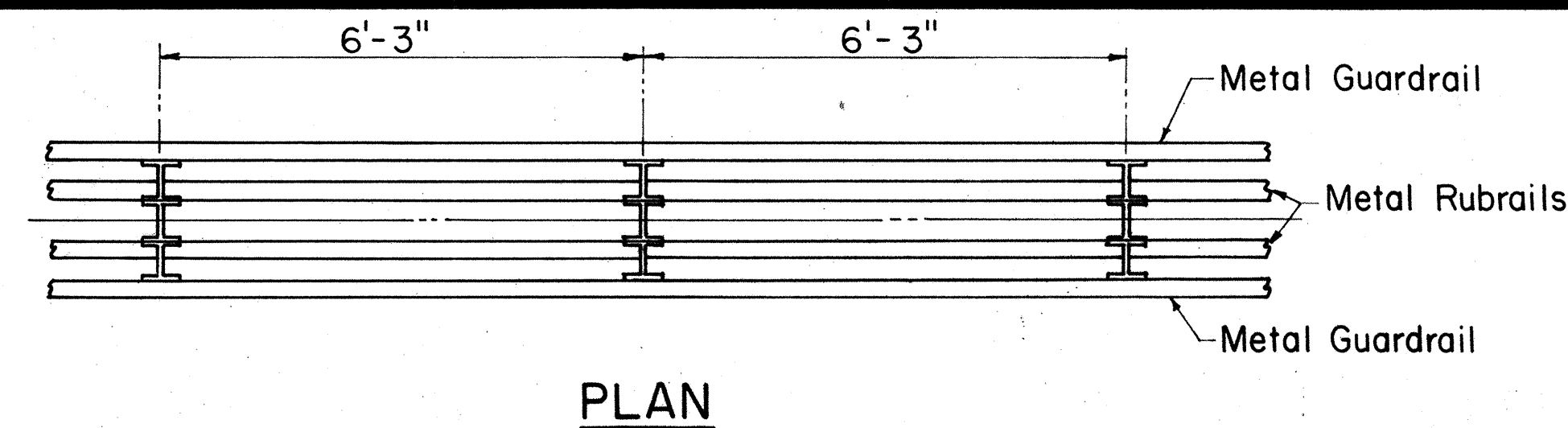
SECTION "B"
Scale: 1" = 1'-0"

APPROVAL RECOMMENDED:		
<i>Euchi Tanaka</i>	TRAFFIC ENGINEER	9/28/83 DATE
APPROVED:		
<i>P. Ojima</i>	ASSISTANT CHIEF, ENGINEERING	9-29-83 DATE

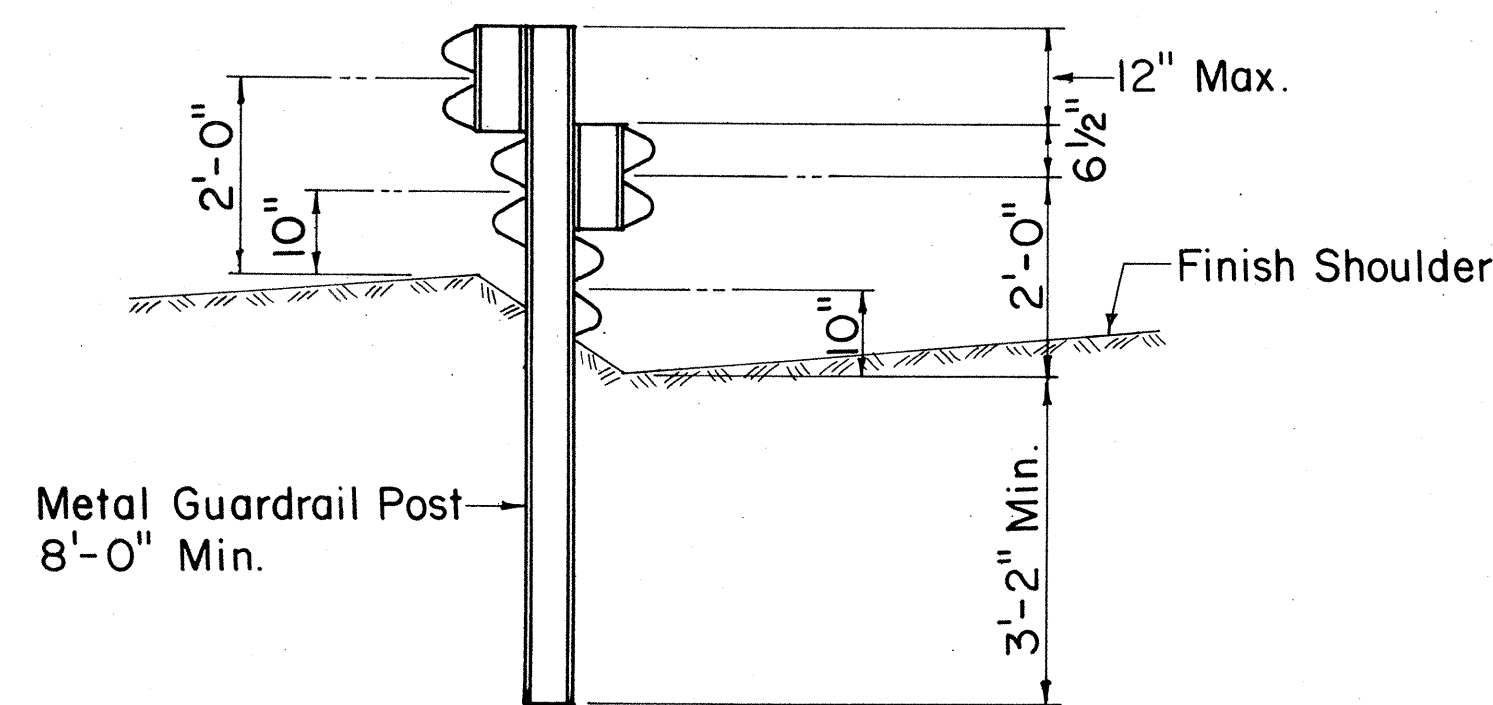
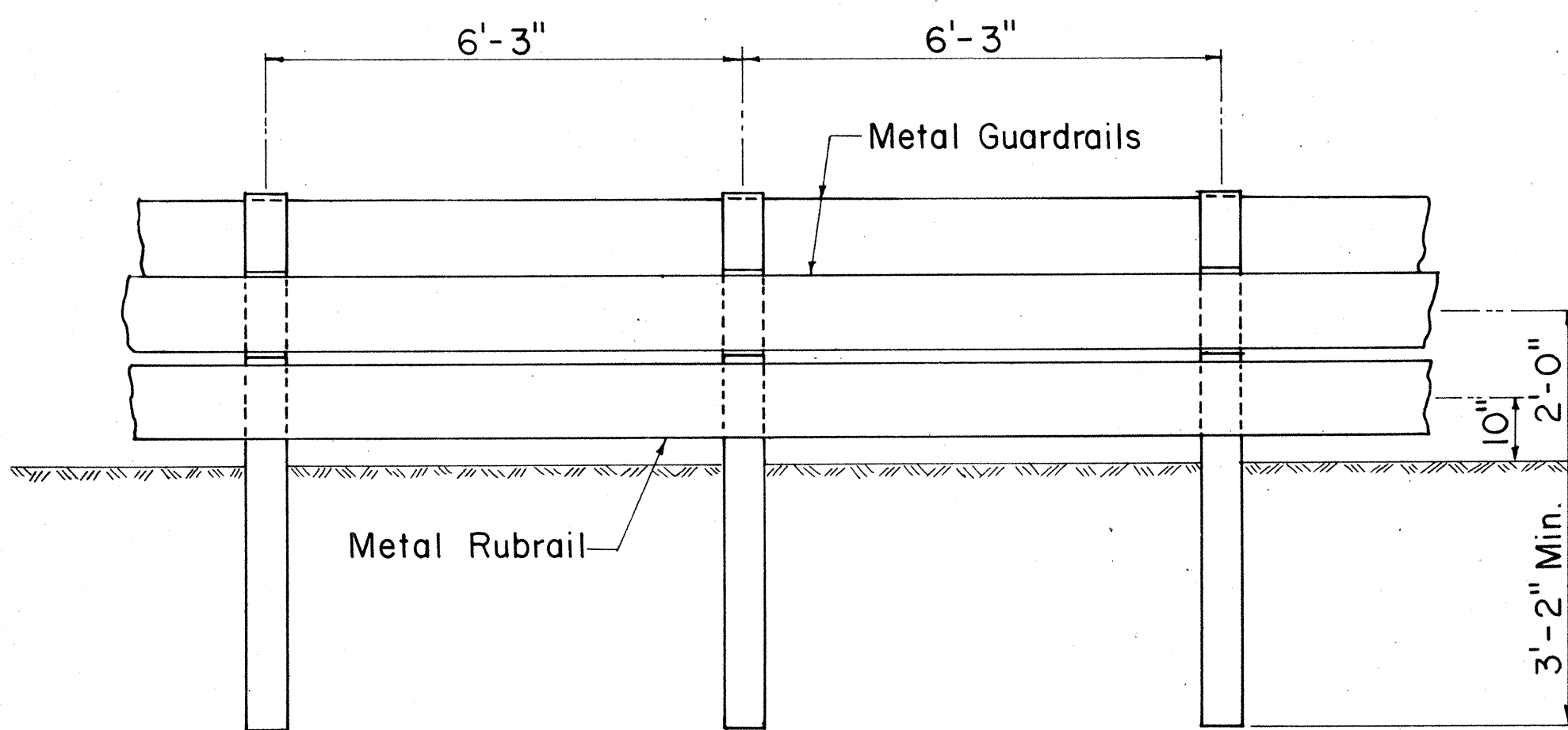
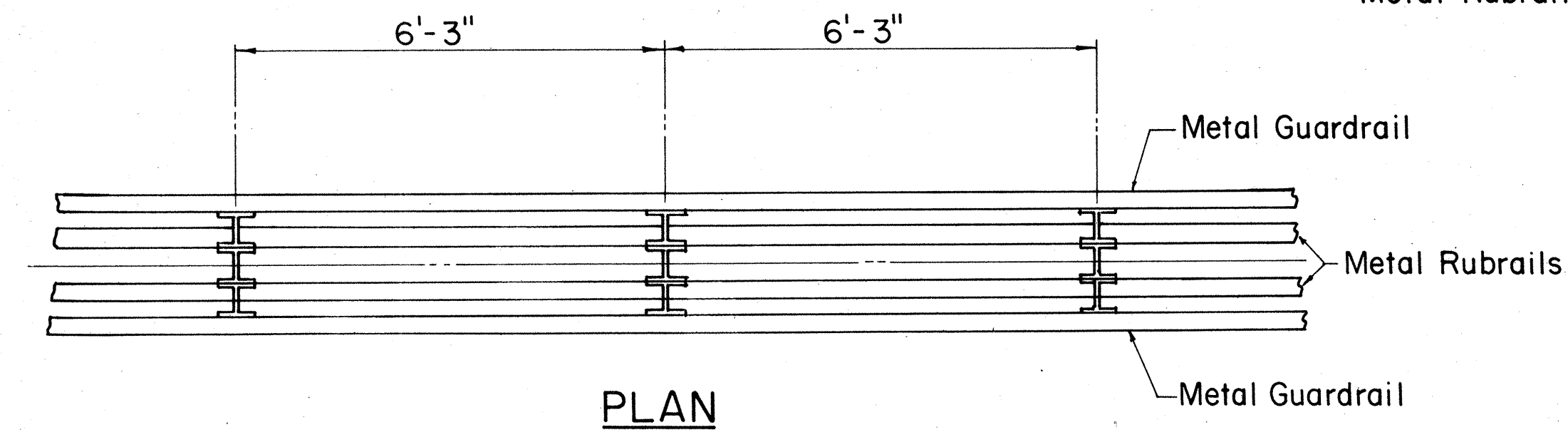
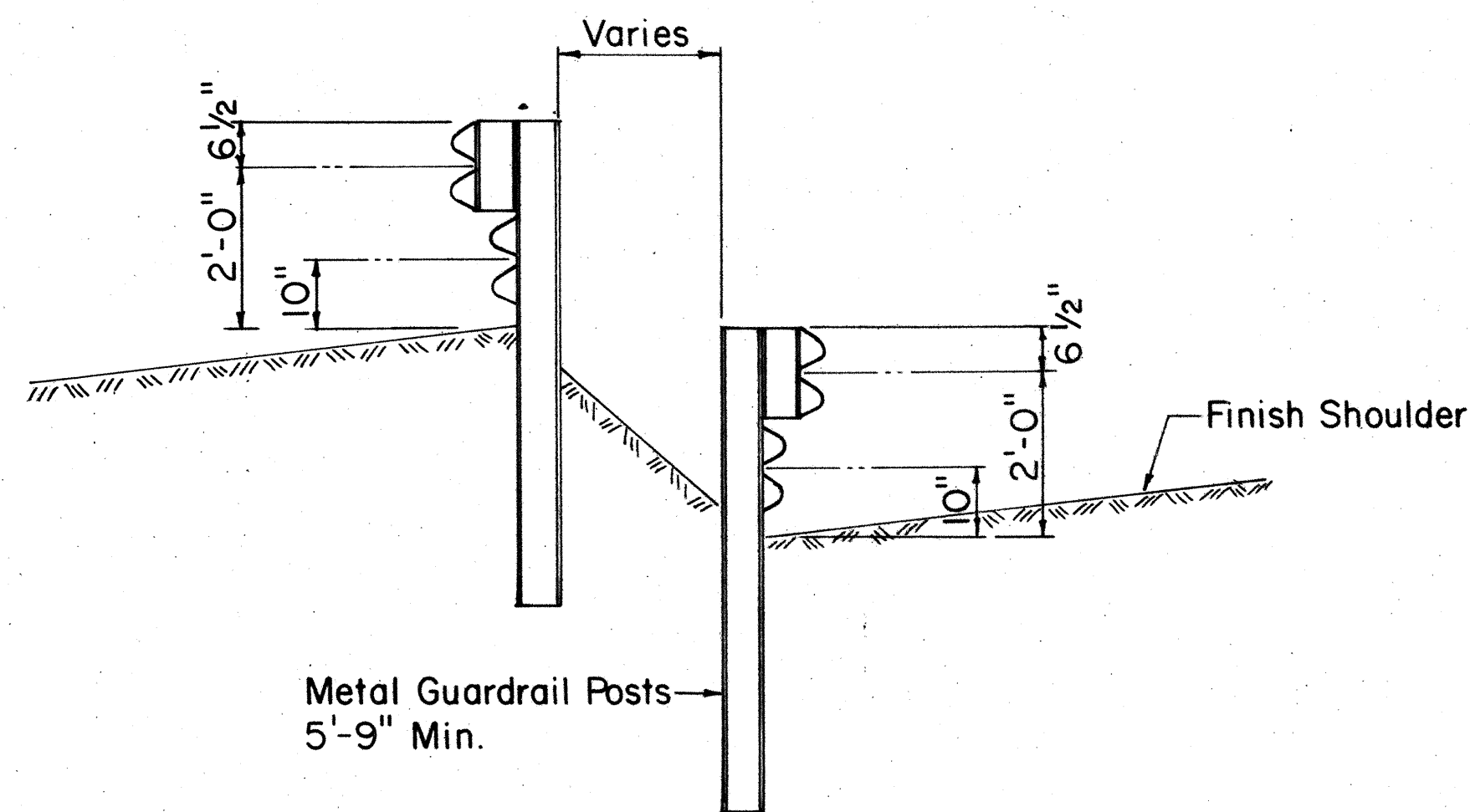
NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 513 approved 12/30/69	<i>[Signature]</i>	9-29-83

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAIL METAL GUARD RAIL CONNECTION TO CONCRETE BARRIER
Scale As Noted SHEET No. OF SHEETS DT 513

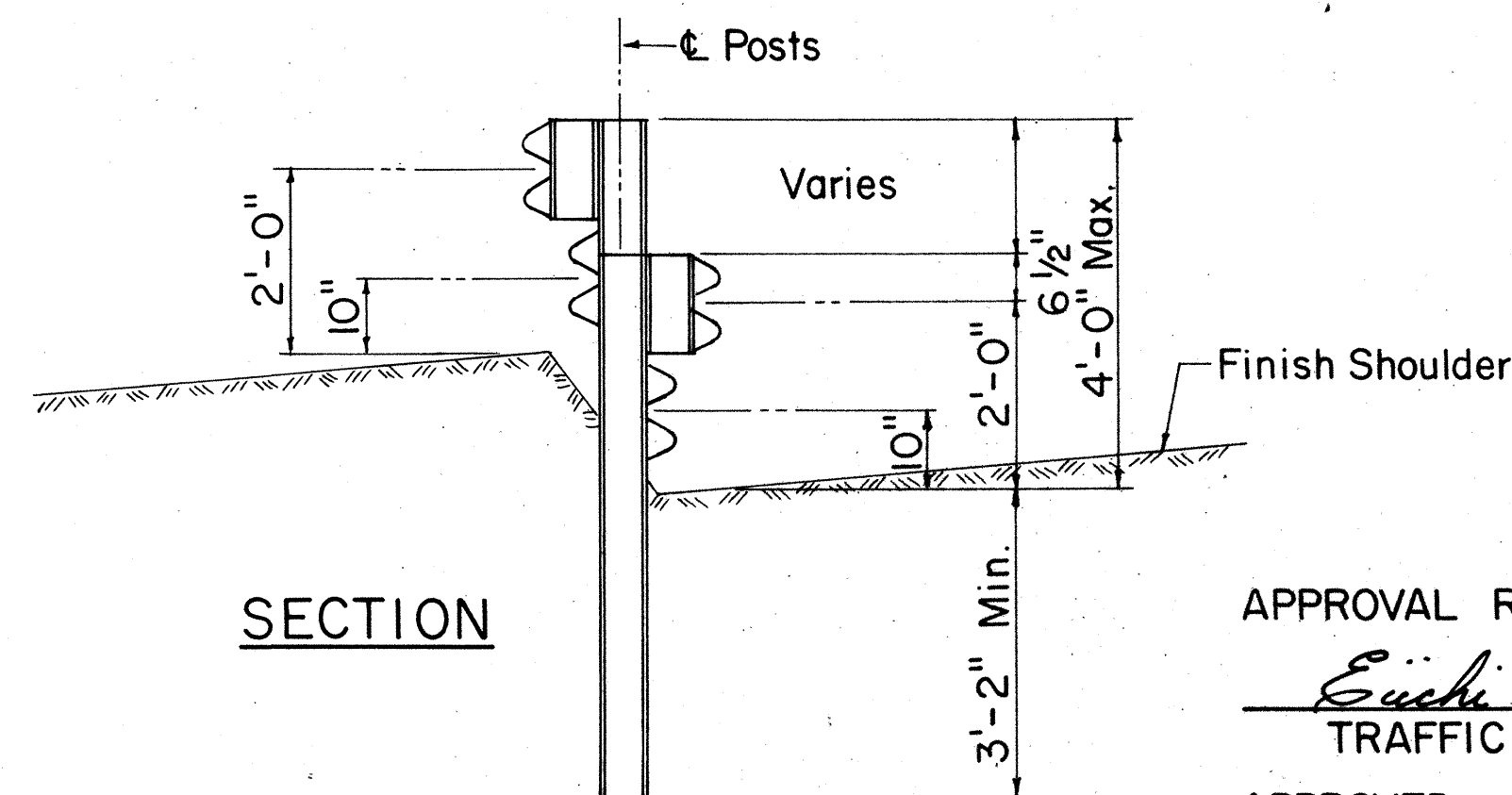
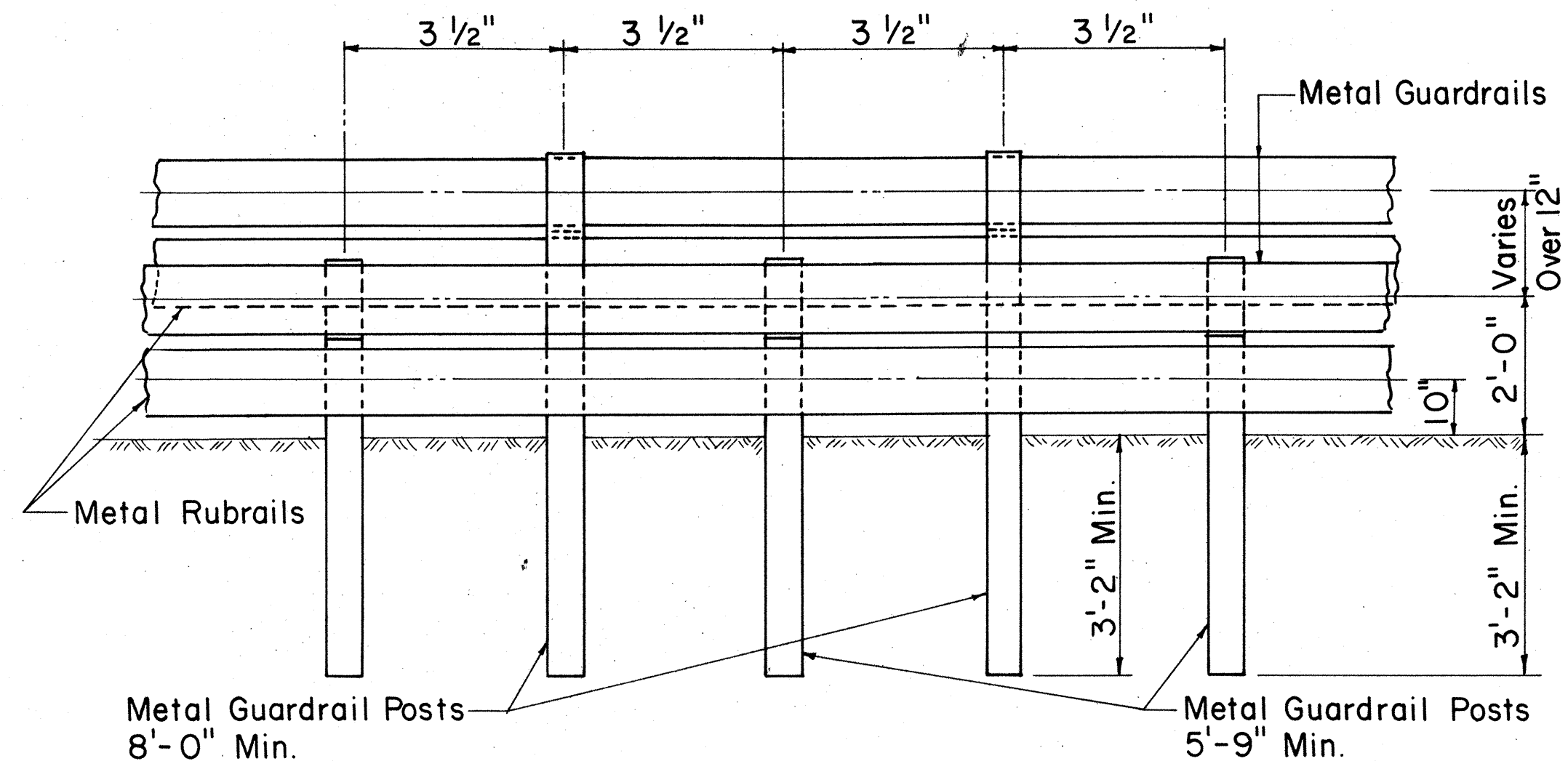
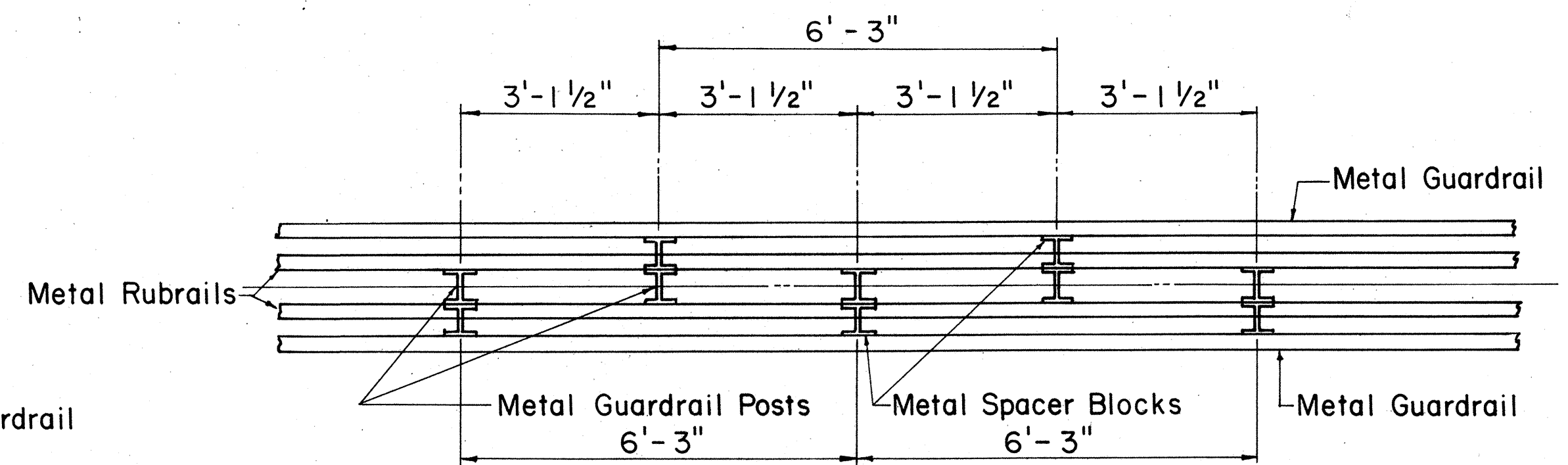
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	154	156



TYPICAL MEDIAN BARRIER INSTALLATION



TYPICAL SAW TOOTH INSTALLATION



TYPICAL STAGGERED INSTALLATION

NO.	REVISION	APPROVED BY	DATE
1	Supersedes DT 514 Approved 12/30/69	<i>[Signature]</i>	1-31-83

APPROVAL RECOMMENDED:
Euchi Tanaka
 TRAFFIC ENGINEER
 DATE 1/28/83

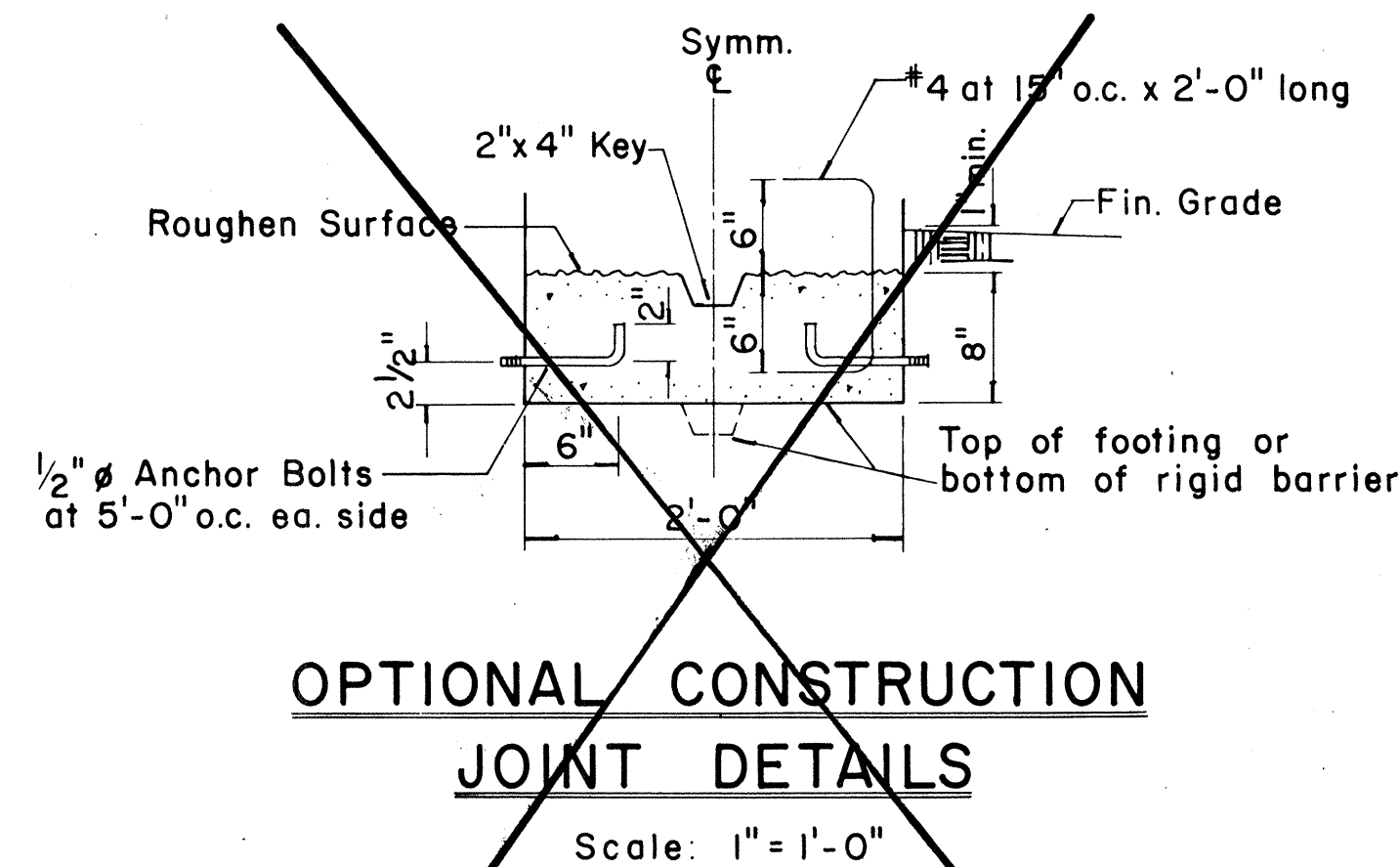
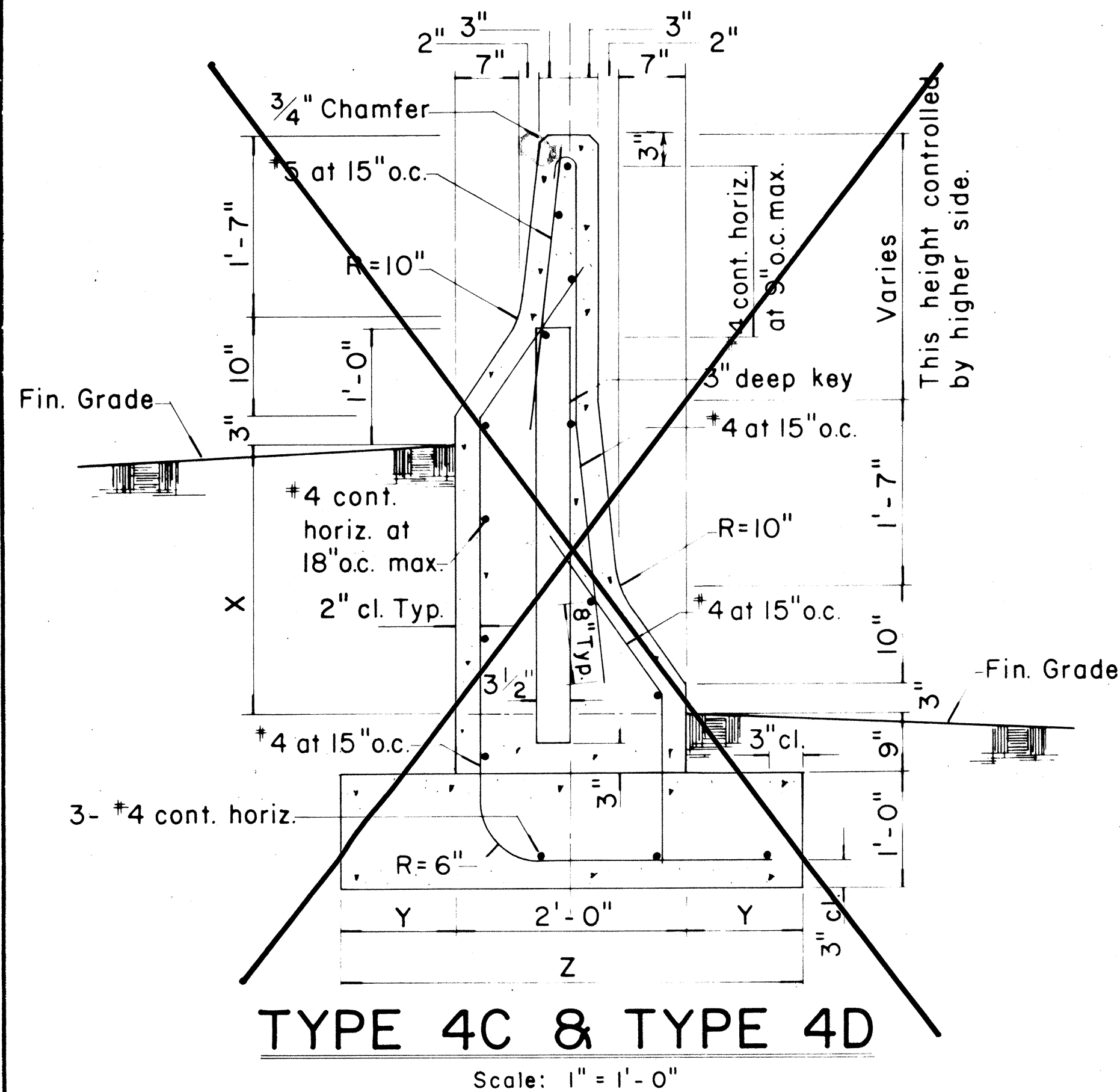
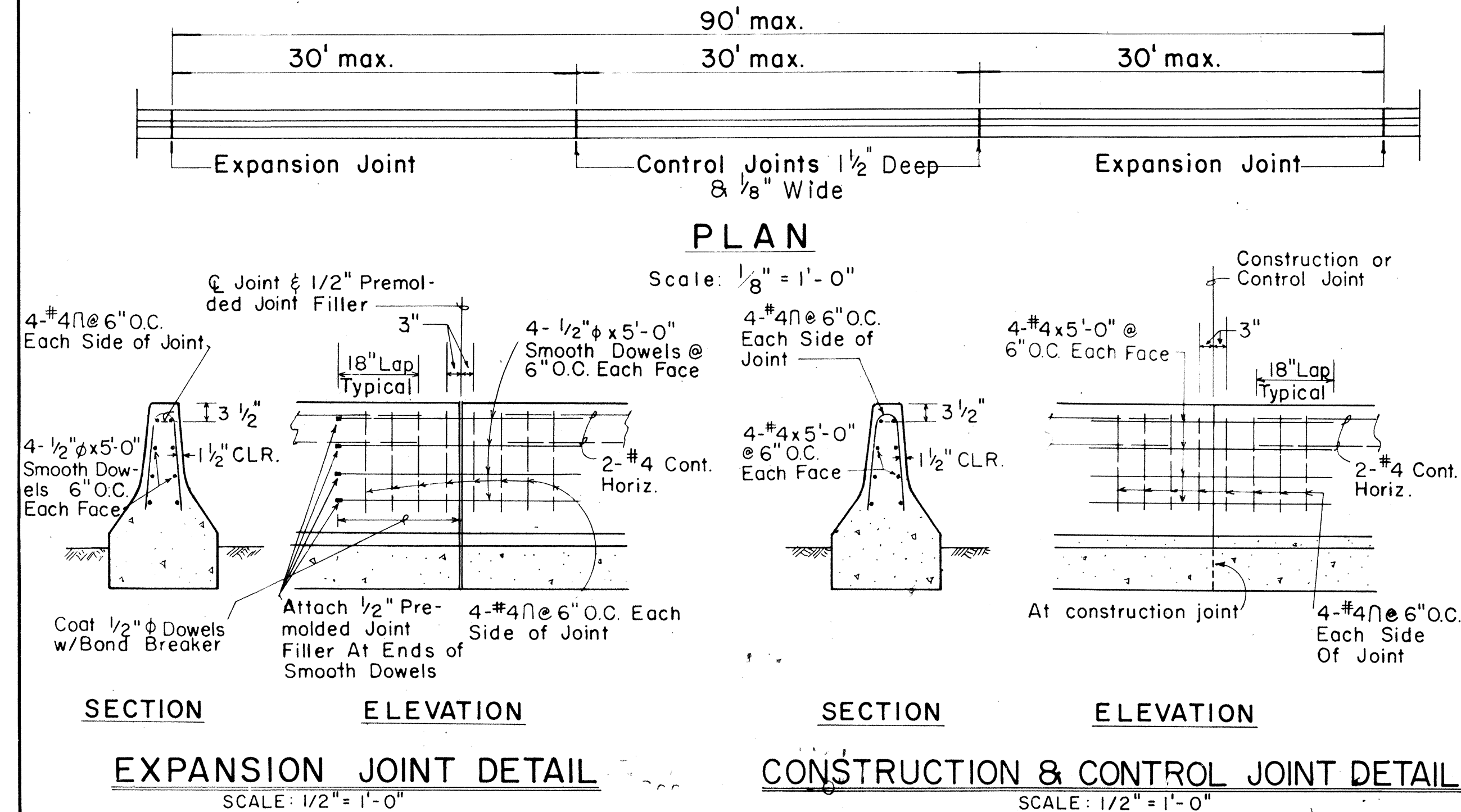
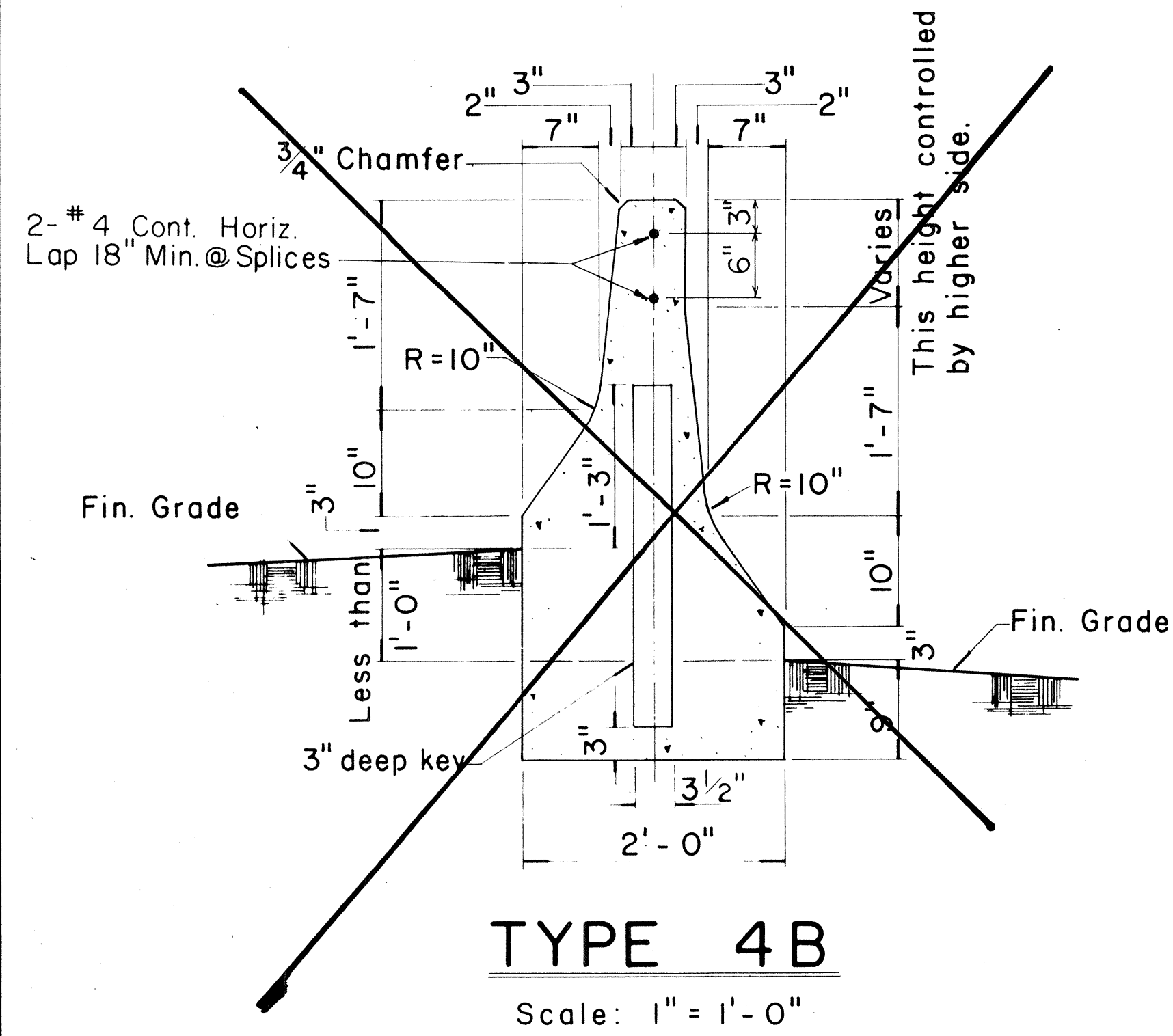
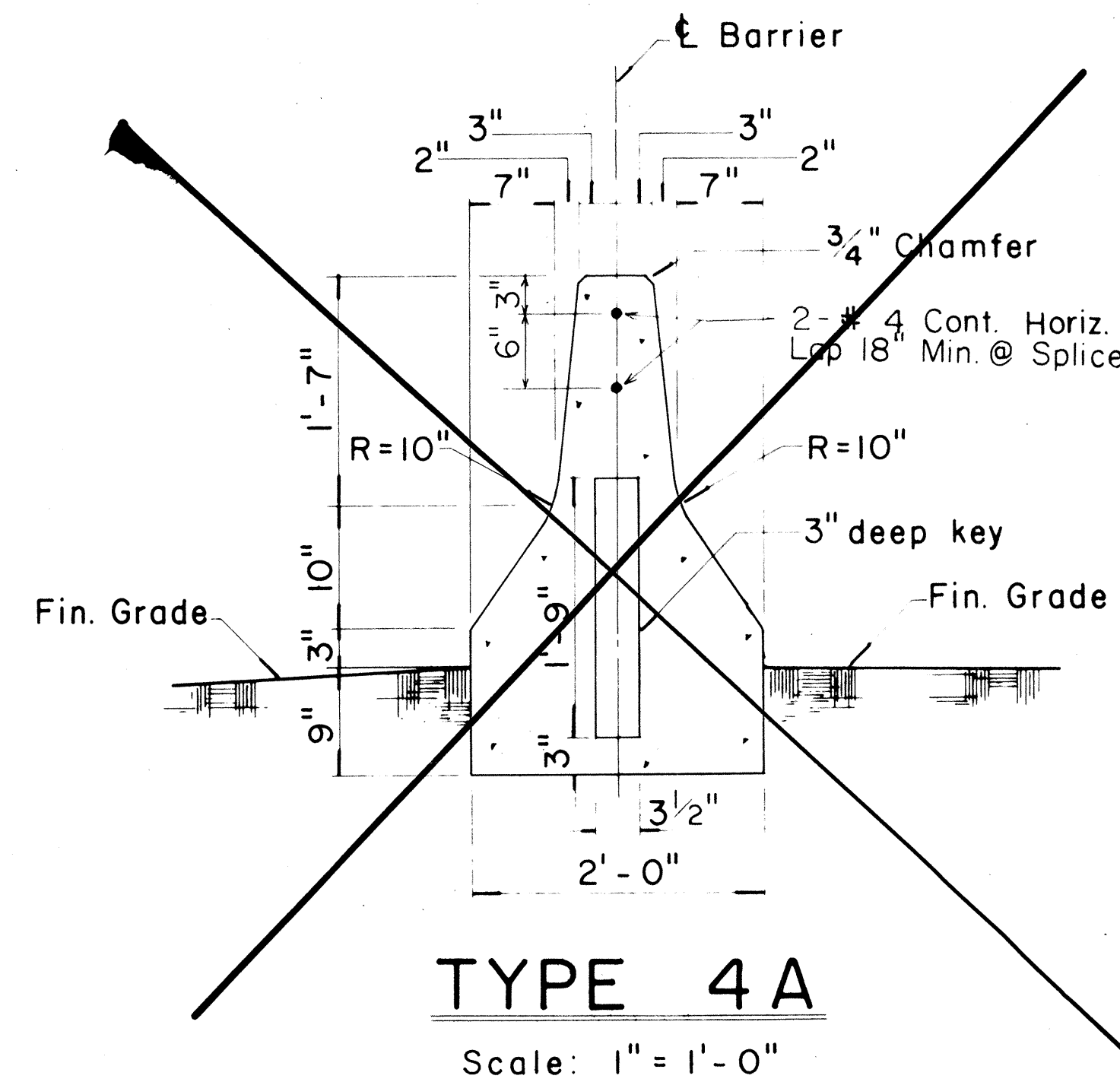
APPROVED:
[Signature]
 ASSISTANT CHIEF, ENGINEERING
 DATE 1-31-83

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARDRAIL
WITH RUBRAIL

Scale: 1/2" = 1'-0" October 1982
 SHEET NO. OF SHEETS DT 514

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(16) F063-1(17)	1984	155	156

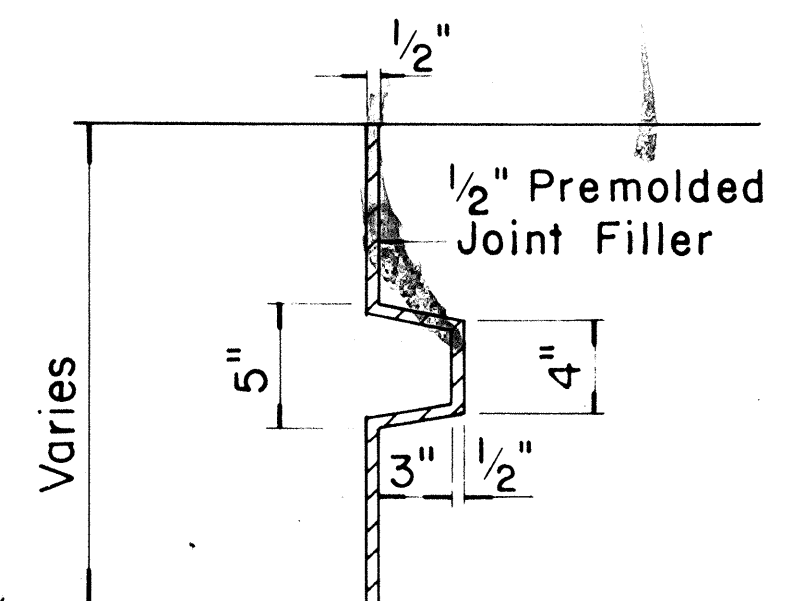


NOTE:
The intent of the optional construction joint details for the Type 4 Rigid Barrier Guard Rail is to provide a method of securing the forms and preventing uplift so that the barrier will have a uniform and presentable appearance. The Contractor may submit an alternate method of constructing the barrier for the approval of the Engineer and for use on a trial basis. Any unsatisfactory work shall be removed or corrected as directed by the Engineer and at the Contractor's expense.

GENERAL NOTES

- Precast Rigid Barrier Guard Rail may be installed as an option to cast-in-place Type 4 Rigid Barrier Guard Rail. Contractor shall submit shop drawings to Engineer for approval.
- Expansion Joints shall be constructed at ninety-foot (90 ft.) maximum intervals and at existing expansion joints of structures. (Use 1/2" premolded joint filler, incidental to Type 4 Rigid Barrier Guard Rail). Control Joints shall be placed between expansion joints at 30' maximum. Shear keys shall be required at all construction joints.
- The exterior surface and vertical alignment of the Type 4 Rigid Barrier Guard Rail shall be constructed to give a uniform and presentable appearance. Variation of more than 1/4" in 20' max. and 1/2" in 40' or more will be considered objectionable. The Engineer will determine the acceptability of the work. During the course of the work, samples may be tested and measurements made to establish whether or not the specified values or dimensions are being met. If the specified values or dimensions are not being met, the Engineer will determine the degree of the non-conformance, the effect on the serviceability of the project, whether the work be accepted and remain in place and, if so, the amount to be paid for such work, or whether the work shall be removed and replaced or otherwise corrected at the Contractor's expense.

NOTE: 1/2" PREMOLDED JOINT FILLER IS NOT REQUIRED AT CONSTRUCTION JOINTS.



APPROVAL RECOMMENDED:
Erich Kanaka 1/20/81
TRAFFIC ENGINEER DATE

APPROVED:
Harold Zafrahi 1/21/81
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
GUARD RAIL TYPE 4
(RIGID BARRIER)

Scale: As Shown
SHEET No. OF SHEETS DT 521

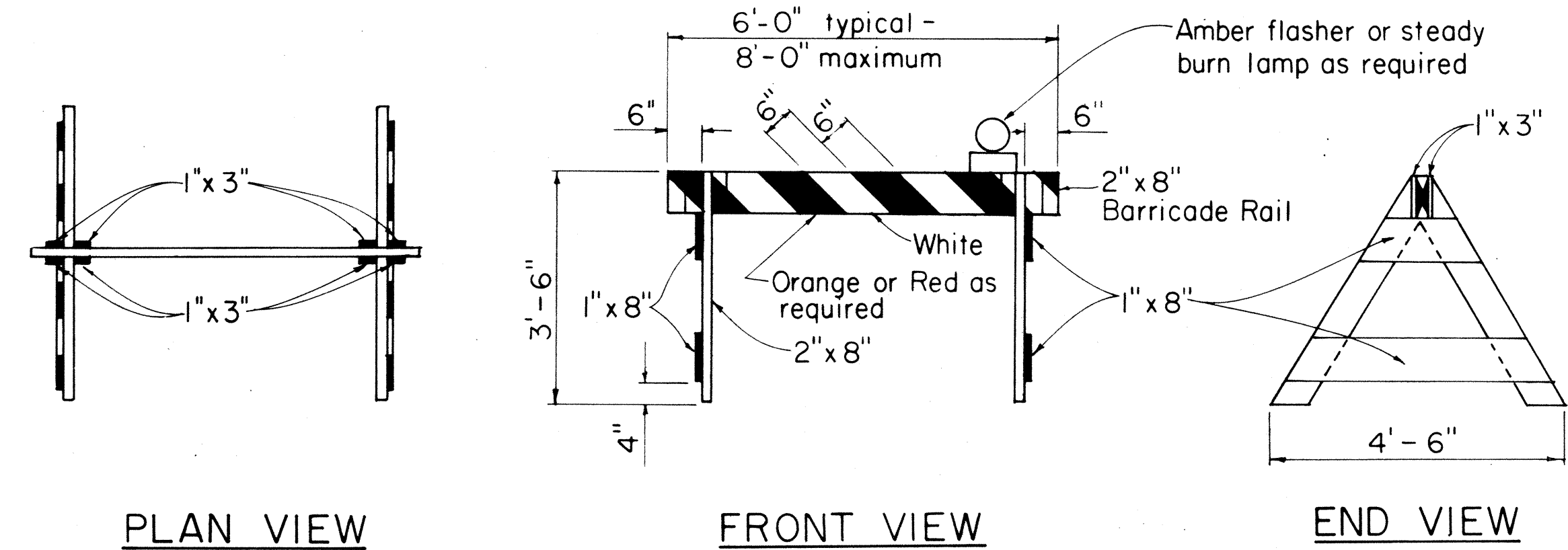
NO.	REVISION	APPROVED BY	DATE
1	Supersede Sht. DT 521 Approved 2-10-72	H.L.	3/21/81

TYPE	DIFFERENCE IN FIN. GRADE	FOOTING
	X	Y Z
4C	1'-0" min., 2'-4" max.	1'-0" 4'-0"
4D	Greater than 2'-4", 4'-4" max.	1'-3" 4'-6"

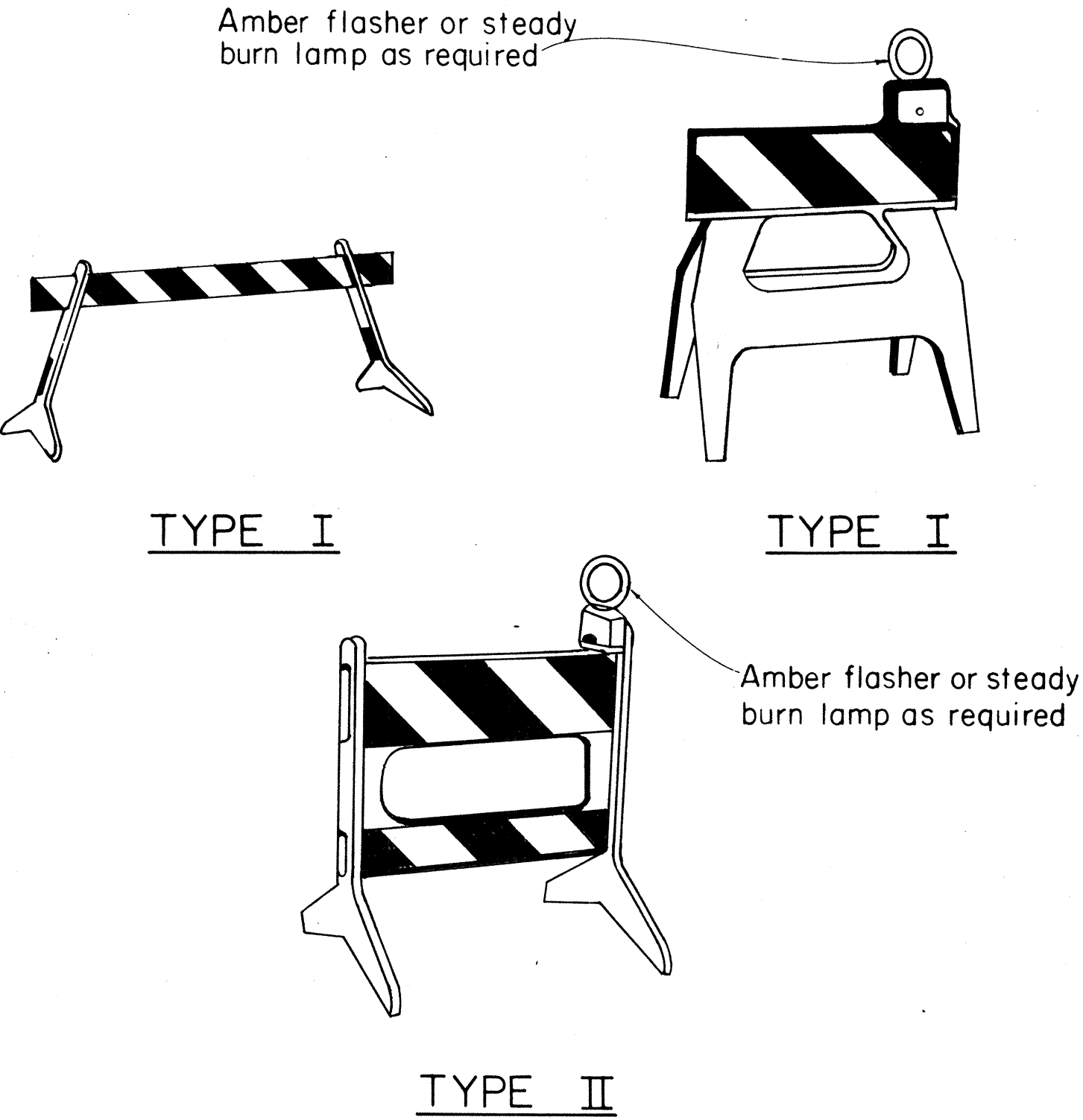
NOTE:
Except where noted all dimensions shall be the same for Type 4C and Type 4D.

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

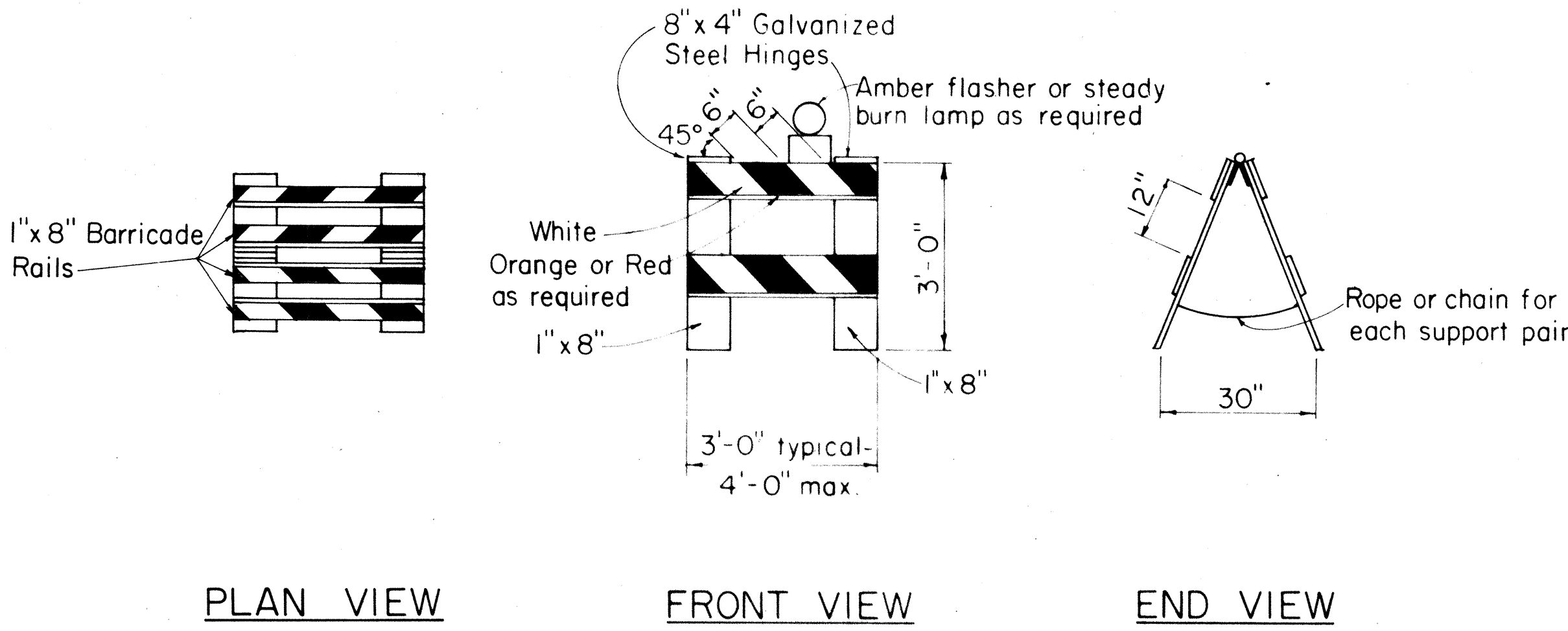
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	156	156



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



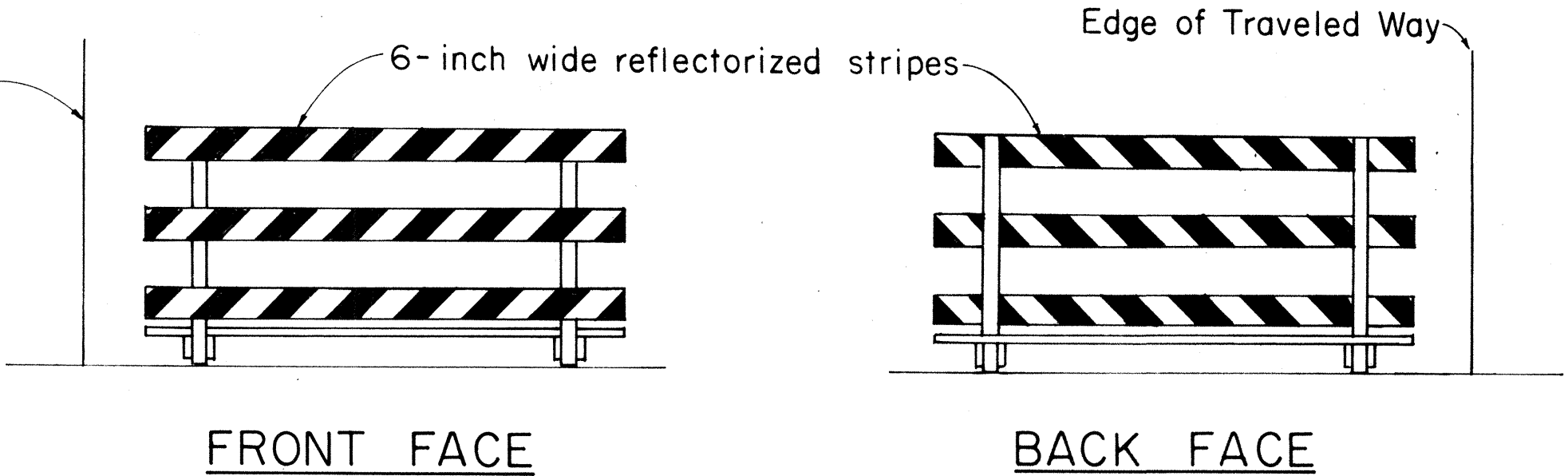
TYPE II



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

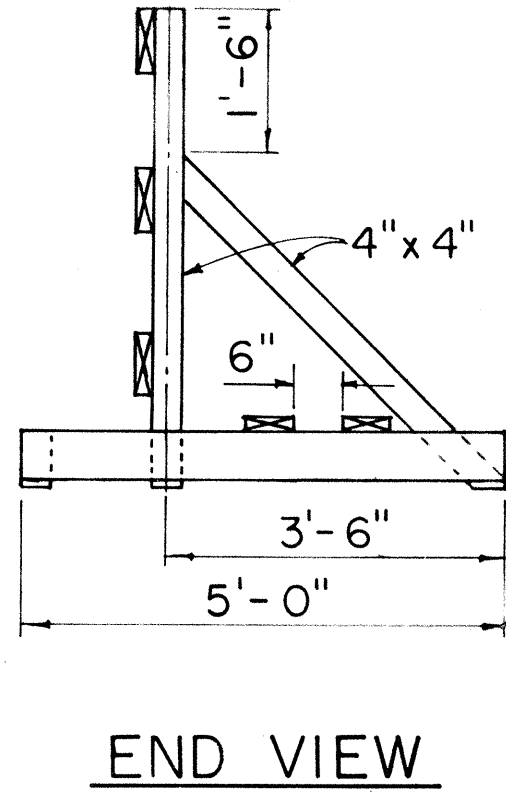
PLASTIC MOLDED BARRICADE OPTIONS*
Not to Scale

* Shop Drawings must be submitted for approval.

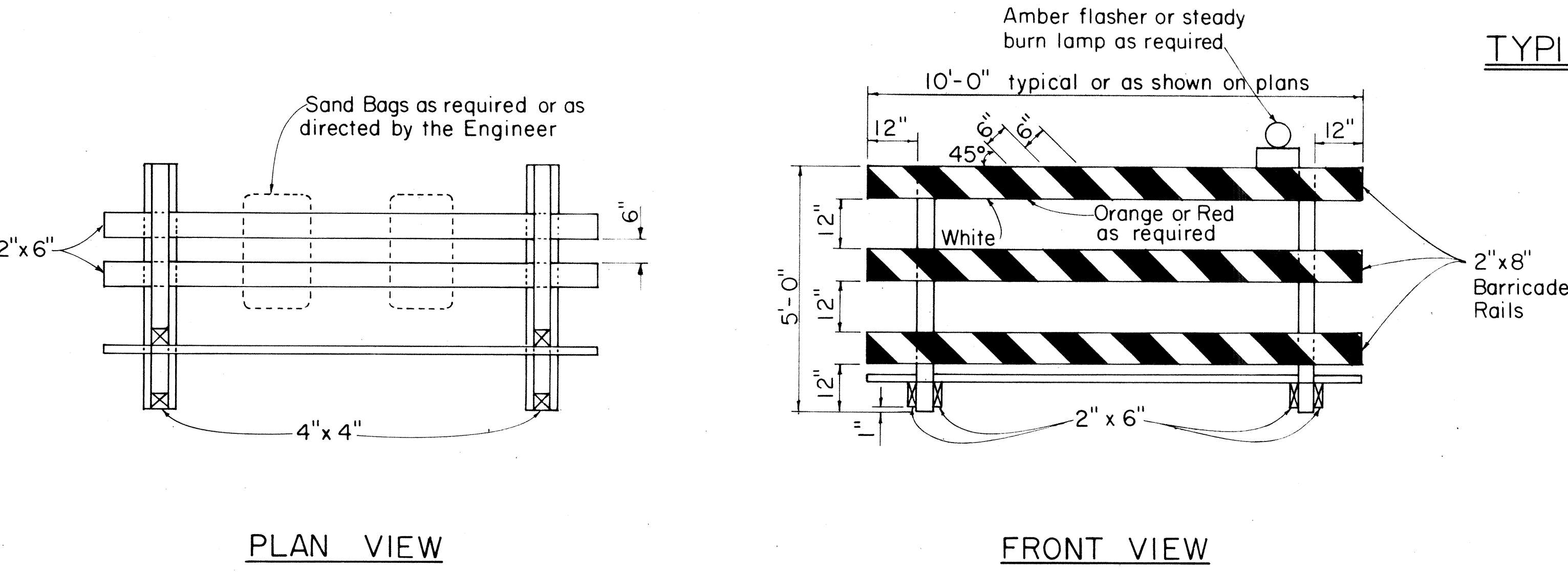


TYPICAL BARRICADE STRIPING DETAILS**
Not to Scale

** Similar for Types I & II



END VIEW



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

APPROVAL RECOMMENDED:
Eichi Tanaka
TRAFFIC ENGINEER
10/21/81
DATE

APPROVED:
Shirley S. S. S. S.
ASSISTANT CHIEF, ENGINEERING
10/23/81
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes DT 800 Approved 12/30/69	H.T.	10/23/81

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
BARRICADES

SCALE: As Shown
SHEET No. OF SHEETS DT 800