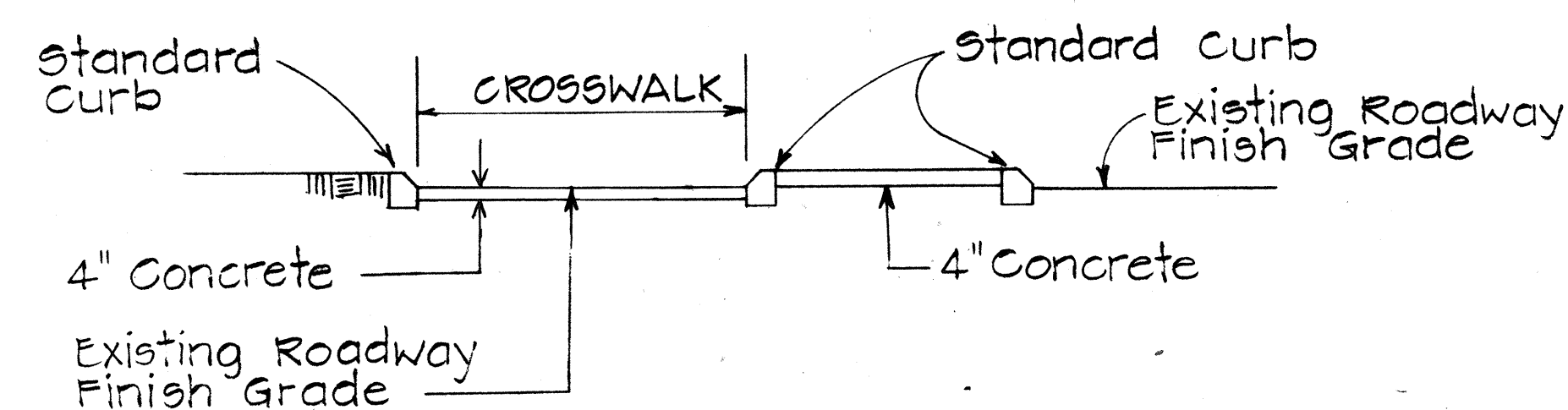


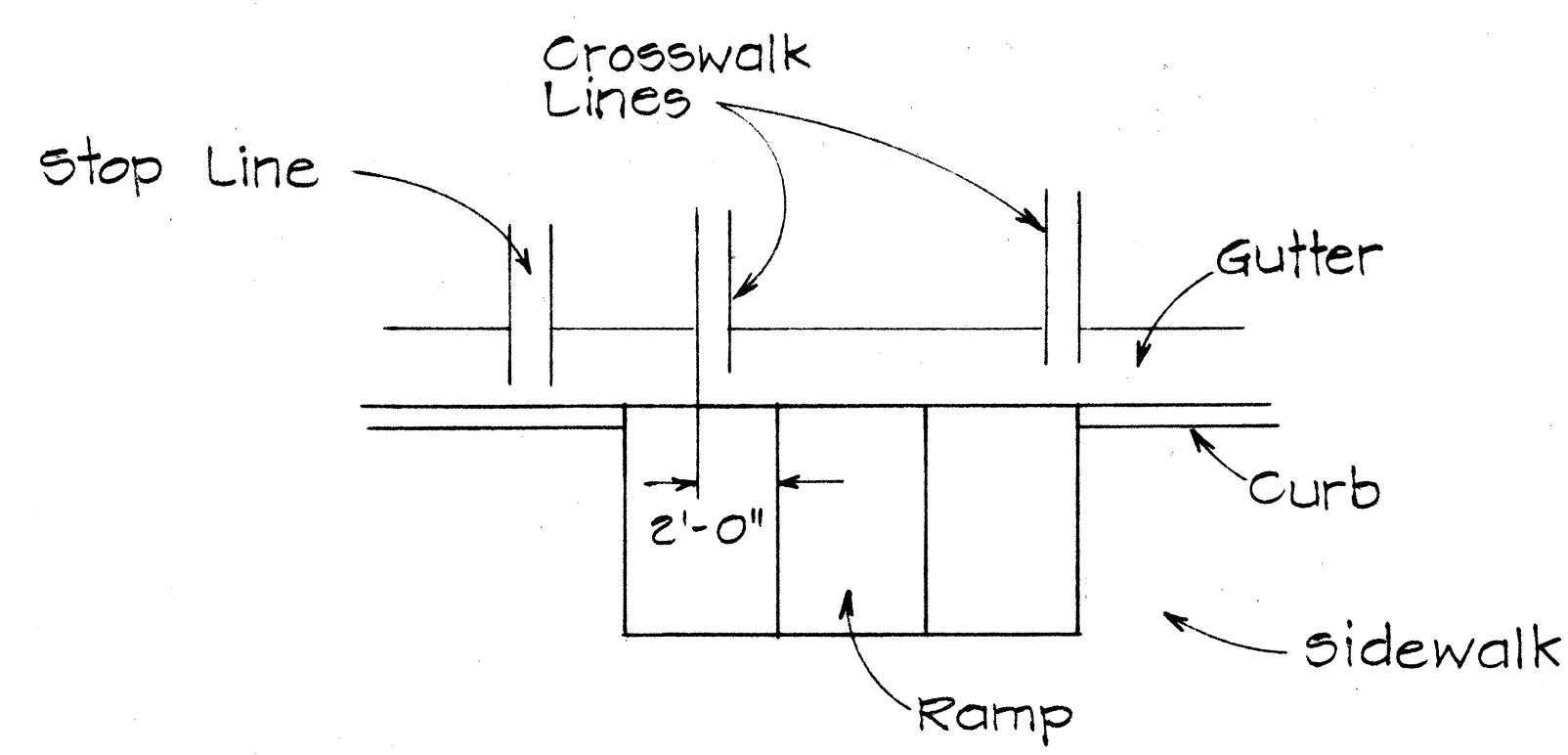
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-86M 63A-02-86	1986	18	58



SECTION "A-A"

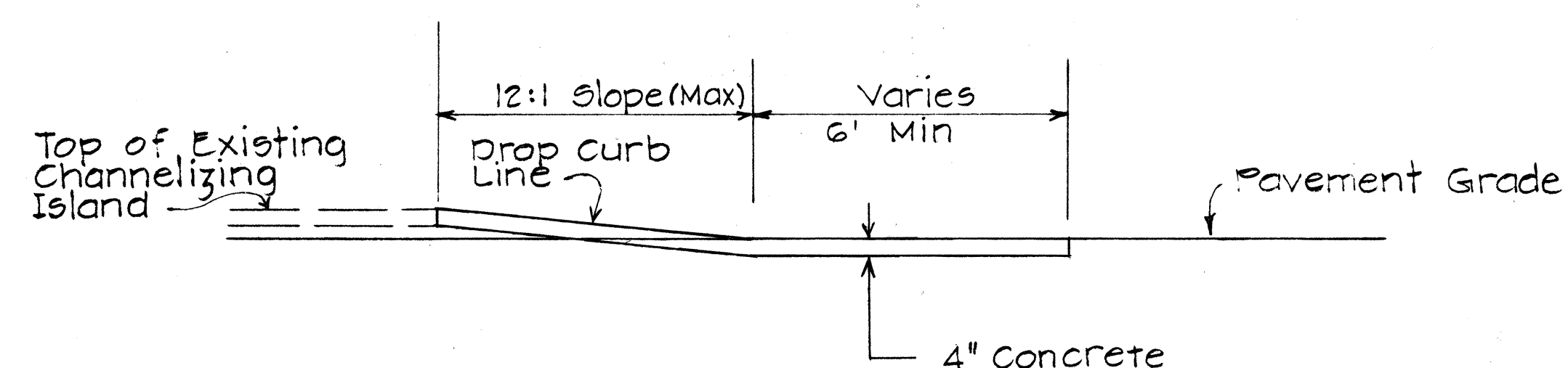
Use at Median Nose Crossings
Scale: 1"=5'

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



TYPICAL INSTALLATION AT CROSSWALKS

Scale: 1"=5'



SECTION "B-B"

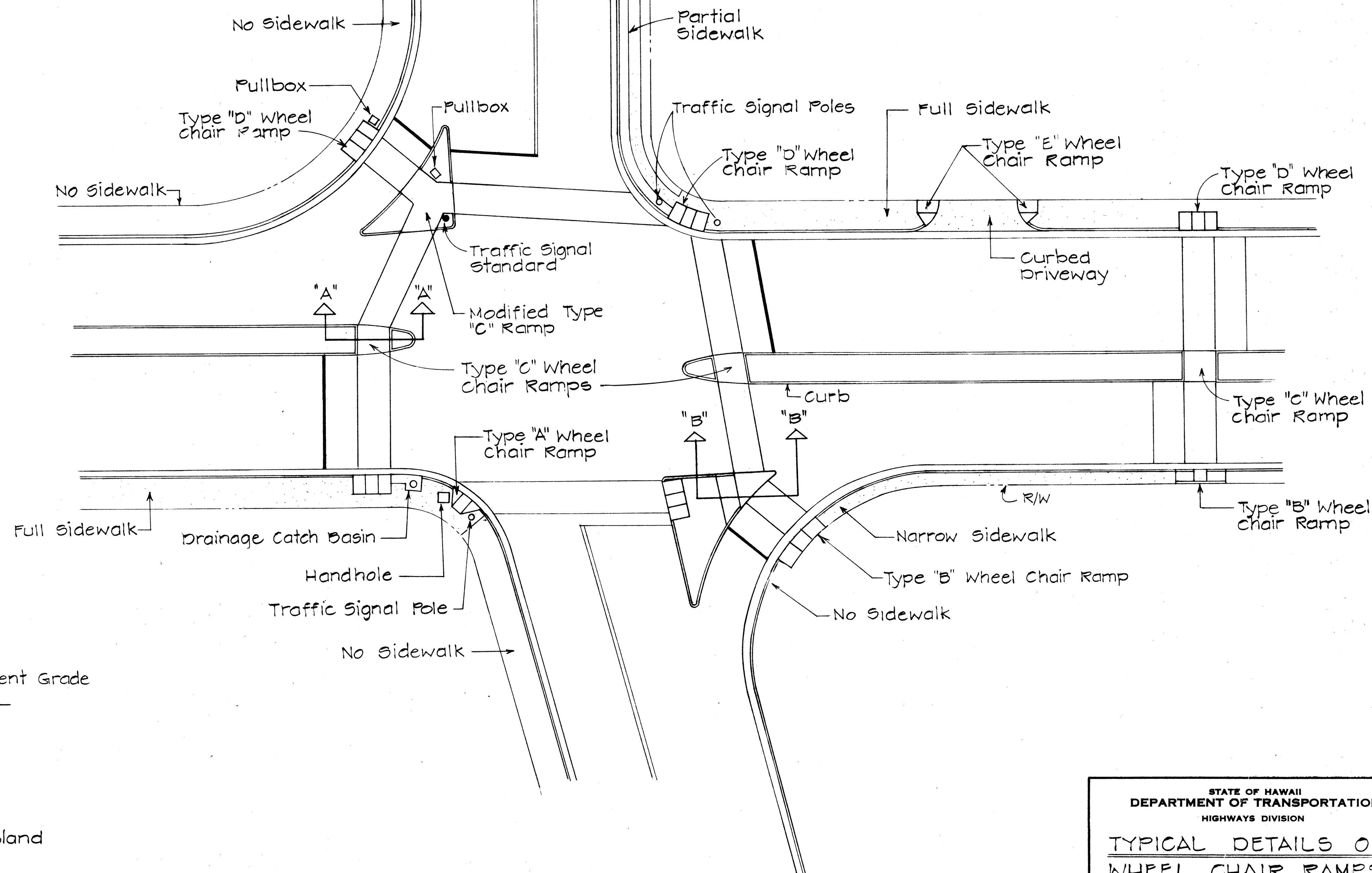
TYPE "B" MODIFIED WHEEL CHAIR RAMP

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. 1 OF 2 SHEETS

The drawing illustrates the specifications for a Grooved Tactile Warning Signal (GTWS). It includes a top view (PLAN) and a side view.

Top View (PLAN):

- The central rectangular area is labeled "Grooved Tactile Warning Signal".
- The width of the central area is 4'-0" (4 feet).
- The width of the flares on either side is 4'-0" (4 feet).
- The total width of the signal is 12'-0" (12 feet).
- The signal is centered within a 12'-0" (12 feet) wide lane.
- The signal is flanked by 4'-0" (4 feet) wide flares on both sides.
- The signal is flanked by 4'-0" (4 feet) wide flares on both sides.
- The signal is flanked by 4'-0" (4 feet) wide flares on both sides.

Side View:

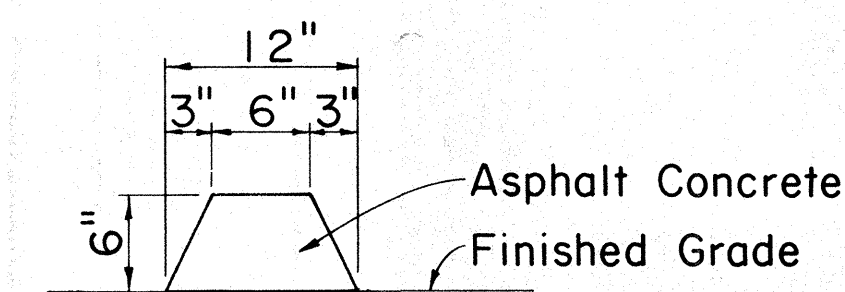
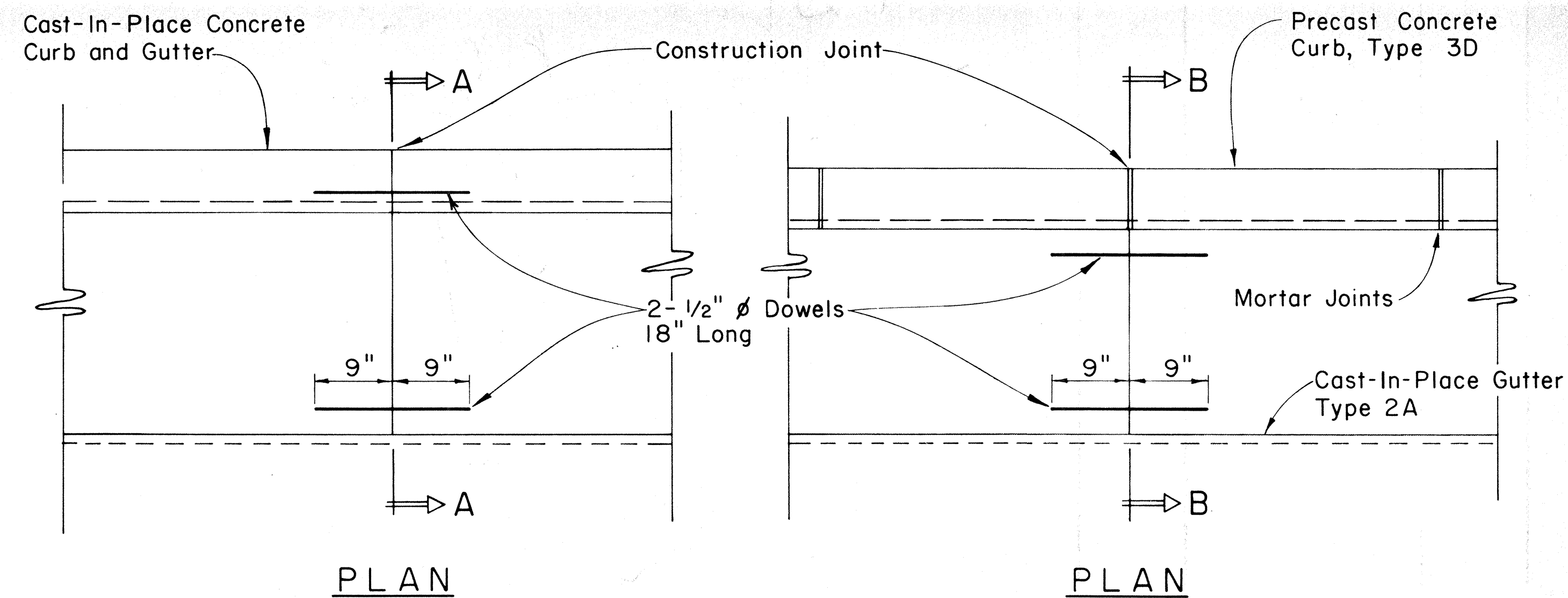
- The height of the signal is 3' (3 feet).
- The signal is flanked by 4'-0" (4 feet) wide flares on both sides.
- The signal is flanked by 4'-0" (4 feet) wide flares on both sides.
- The signal is flanked by 4'-0" (4 feet) wide flares on both sides.

Labels and Dimensions:

- "A" indicates the width of the signal.
- "Property Line" indicates the boundary of the signal.
- "3' * See Note" indicates the height of the signal.
- "6'-0" Minimum" indicates the minimum width of the flares.
- "Variable 4' Sidewalk Minimum" indicates the minimum width of the sidewalk.
- "Gutter" indicates the drainage area.
- "Broom Finish" indicates the surface texture of the flares.
- "See Note" indicates that the dimensions are subject to change.
- "Grooved Tactile Warning Signal" indicates the central area of the signal.

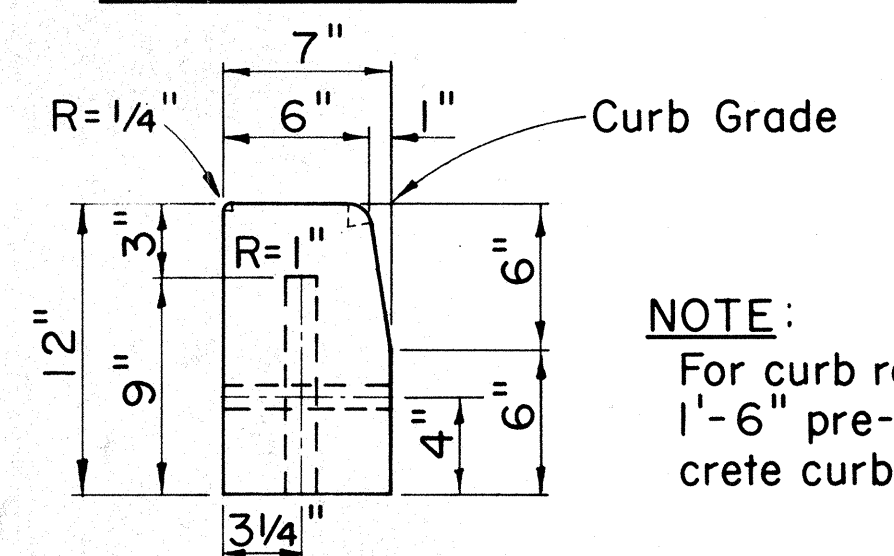
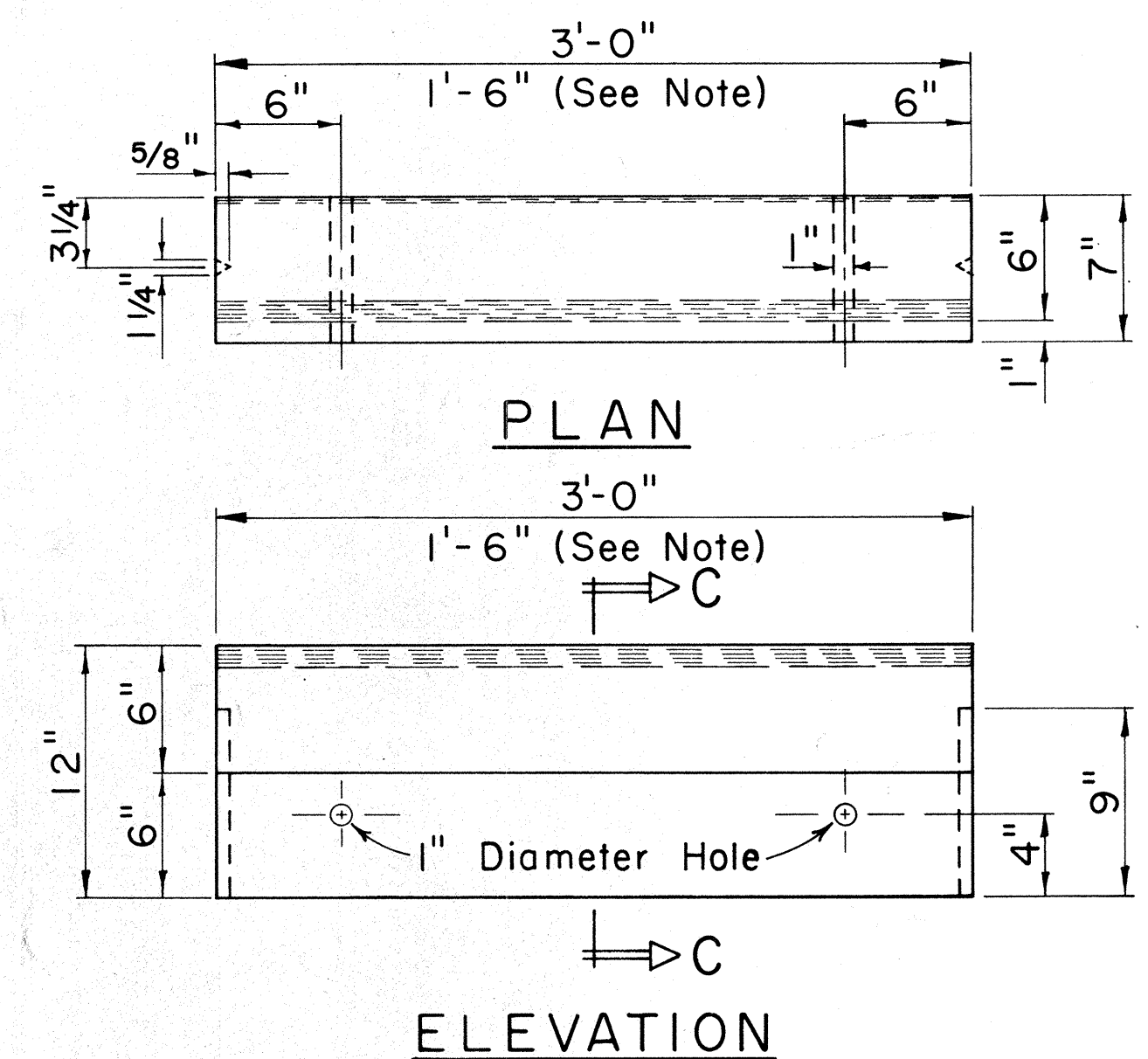


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-0186M 63A-0286	1986	20	58



CURB, TYPE 6
BITUMINOUS CURB

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



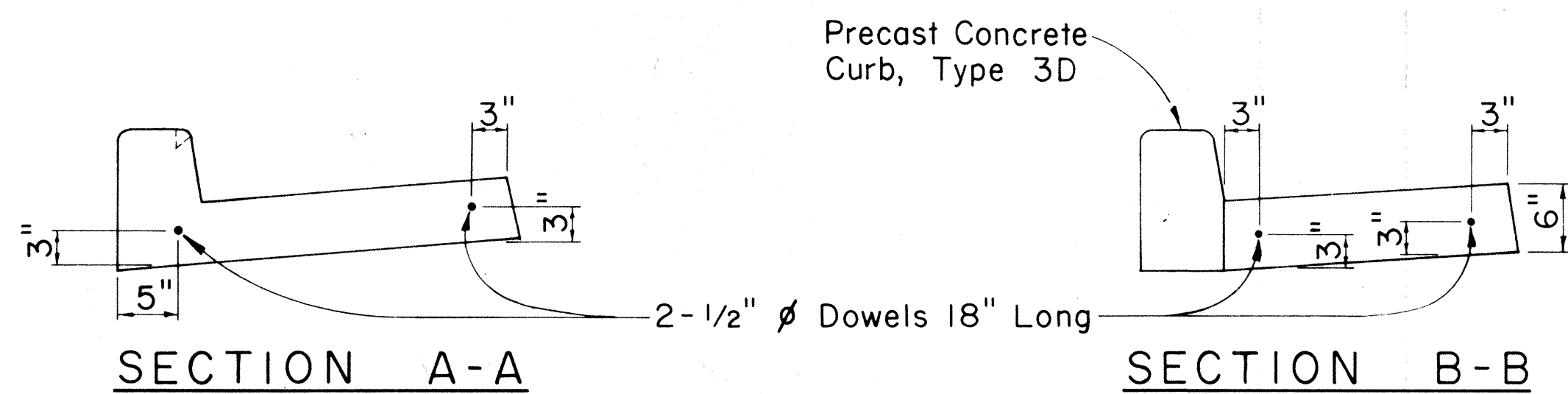
NOTE:
For curb returns use
1'-6" pre-cast con-
crete curbs.

SECTION C-C

CURB, TYPE 3D

PRE-CAST CONC. CURB

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

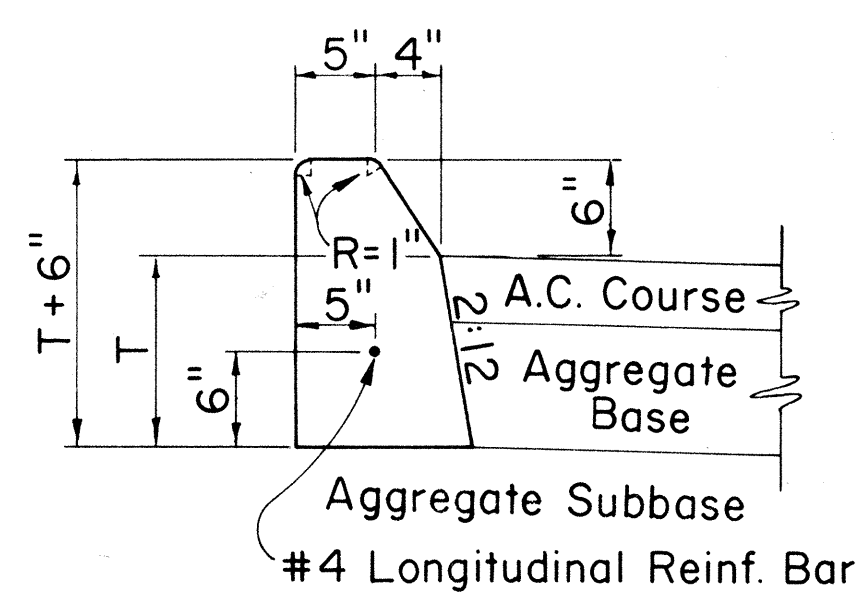


CAST-IN-PLACE CURB & GUTTER

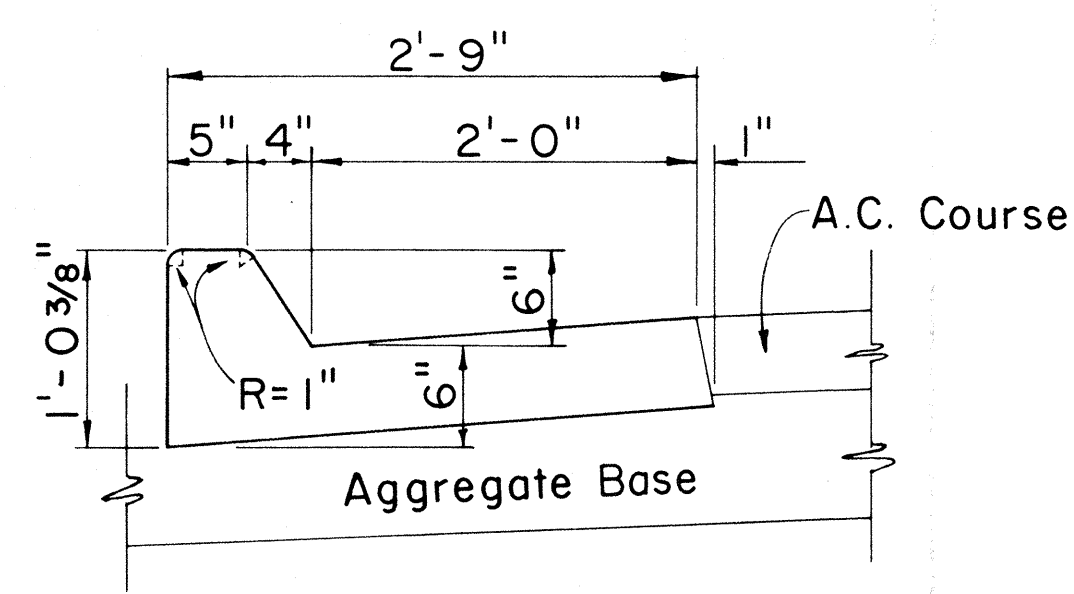
CAST-IN-PLACE GUTTER

CONSTRUCTION JOINT DETAIL

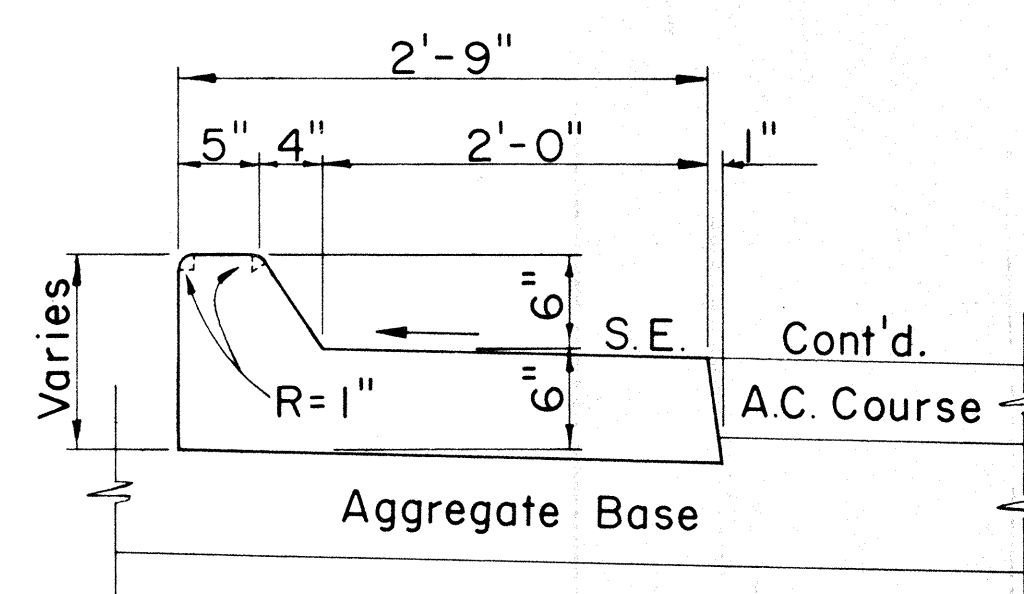
Scale: 1" = 1'-0"



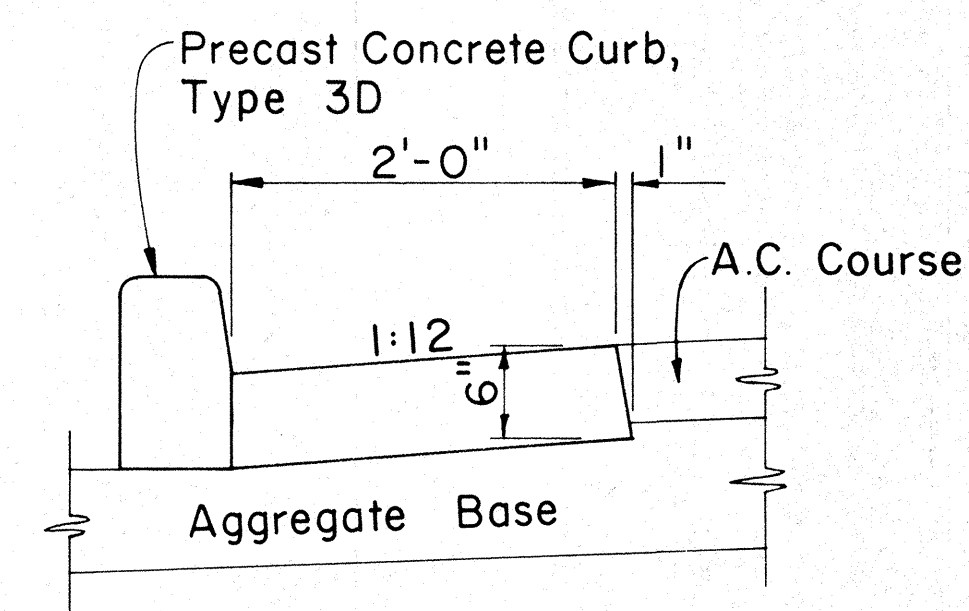
CURB, TYPE 2A



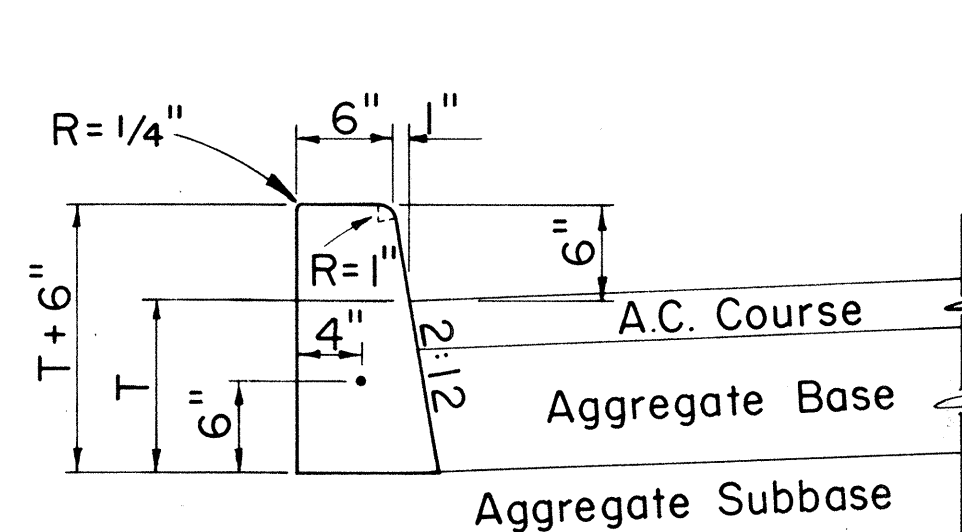
CURB & GUTTER, TYPE 2AG



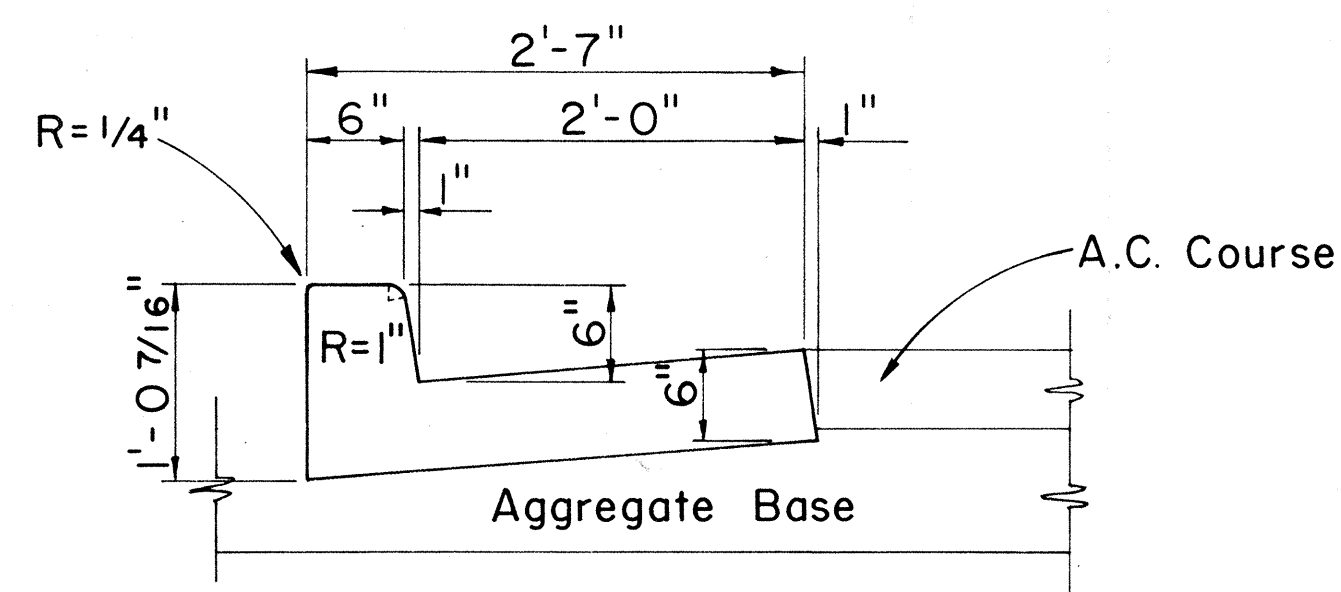
CURB & GUTTER, TYPE 2AGM



GUTTER, TYPE 2A



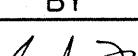
CURB, TYPE 2D



CURB & GUTTER, TYPE 2DG

CAST-IN-PLACE CONCRETE CURBS AND/OR GUTTERS

Scale: 1" = 1' - 0"

NO.	REVISION	APPROVED BY	DATE
1	Add Notes, Deleted Gutter, Type 26		11-26-85

APPROVAL RECOMMENDED:

HIGHWAY DESIGN ENGINEER

12-4-69
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING

2-10-69
DATE

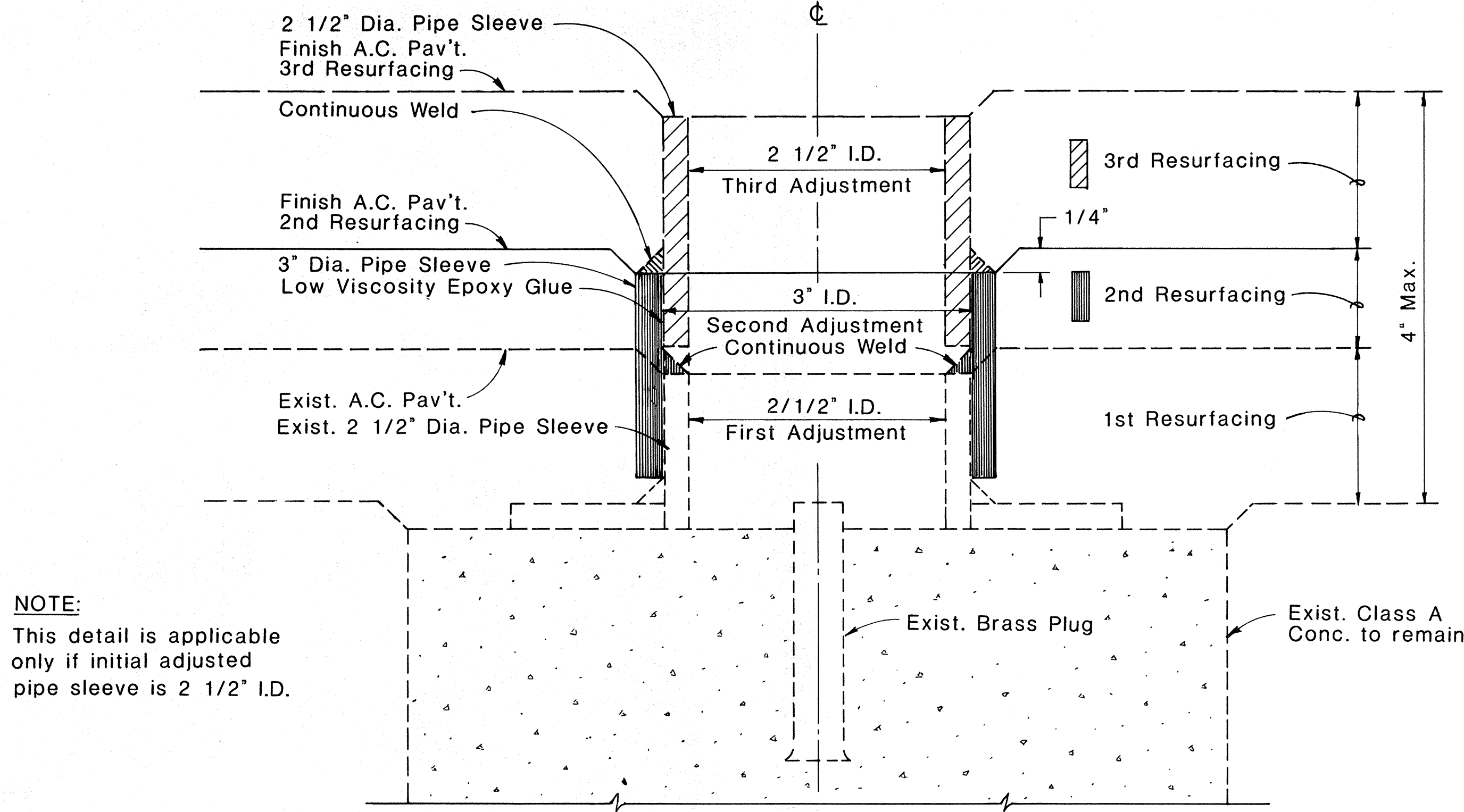
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
TYPICAL DETAILS OF CURB
AND/OR GUTTERS

Scale: As Shown

SHEET No. 3 OF 9 SHEETS		DD 609.1
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-86M 63A-02-86	1986	21	58



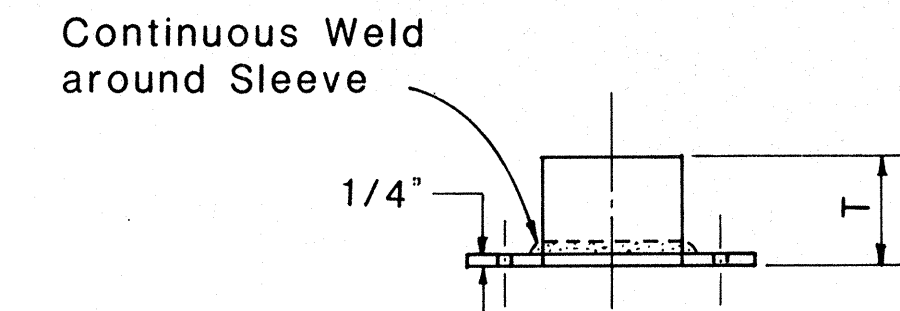
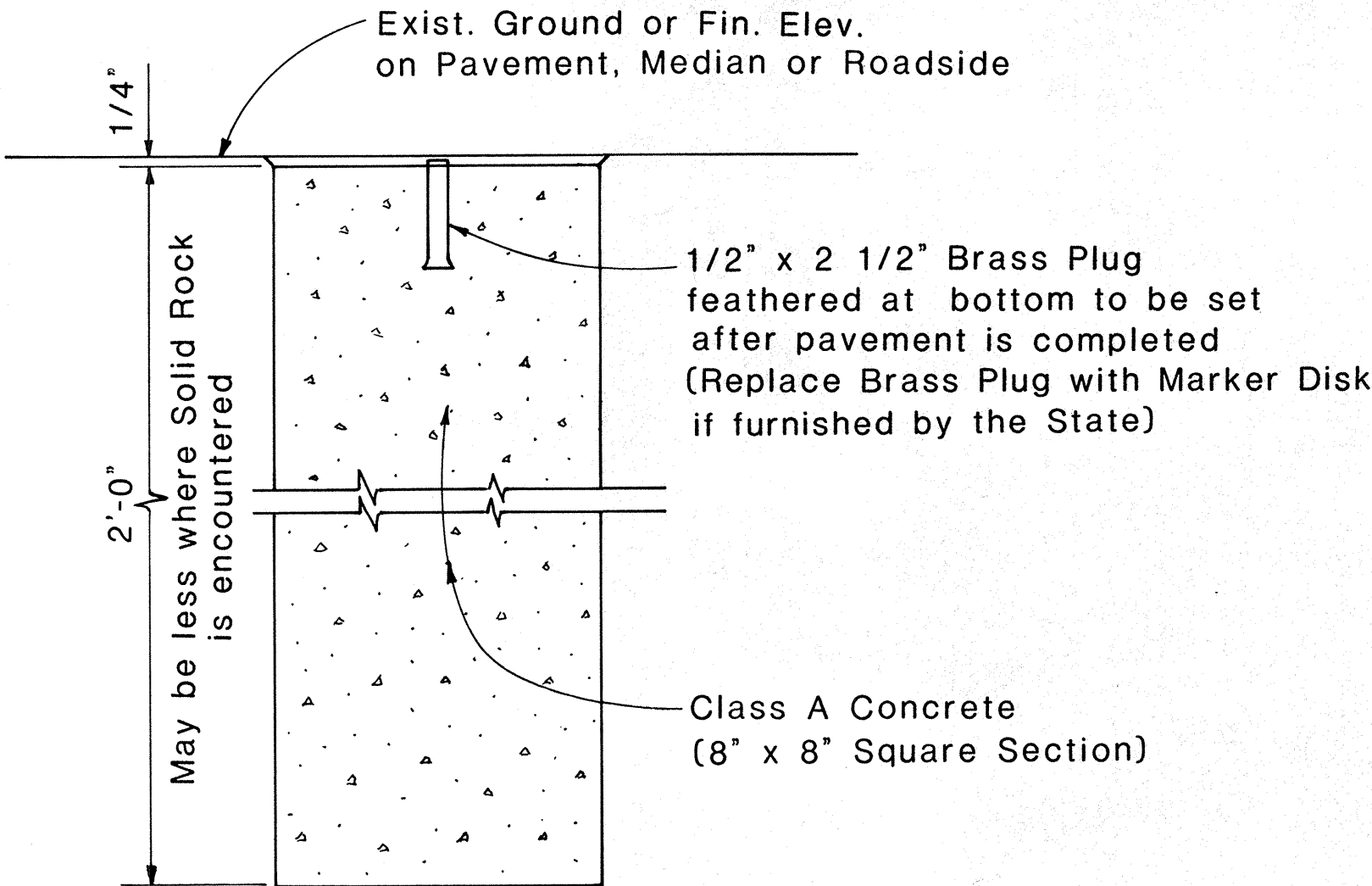
NOTE:
This detail is applicable only if initial adjusted pipe sleeve is 2 1/2" I.D.

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

FULL SIZE

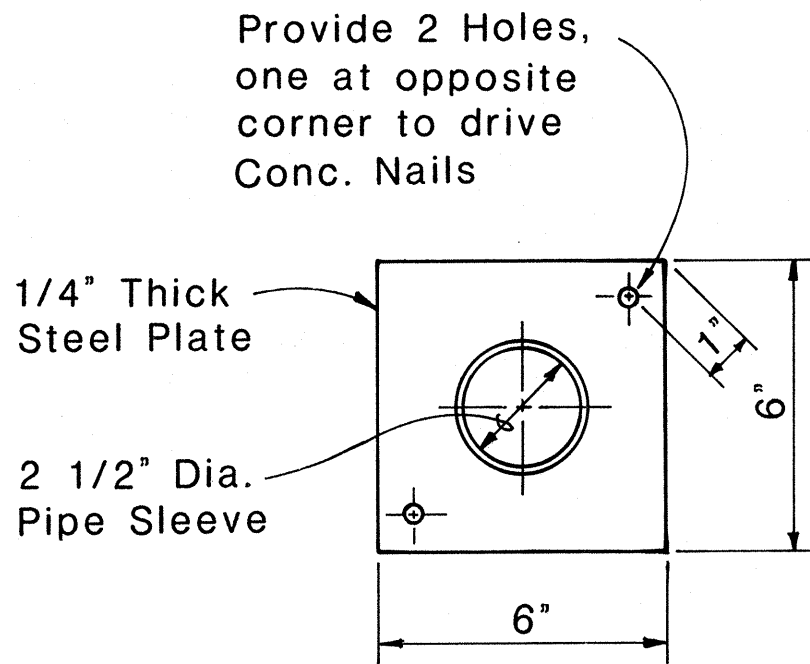
DETAIL FOR CENTERLINE & REFERENCE SURVEY MONUMENT

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

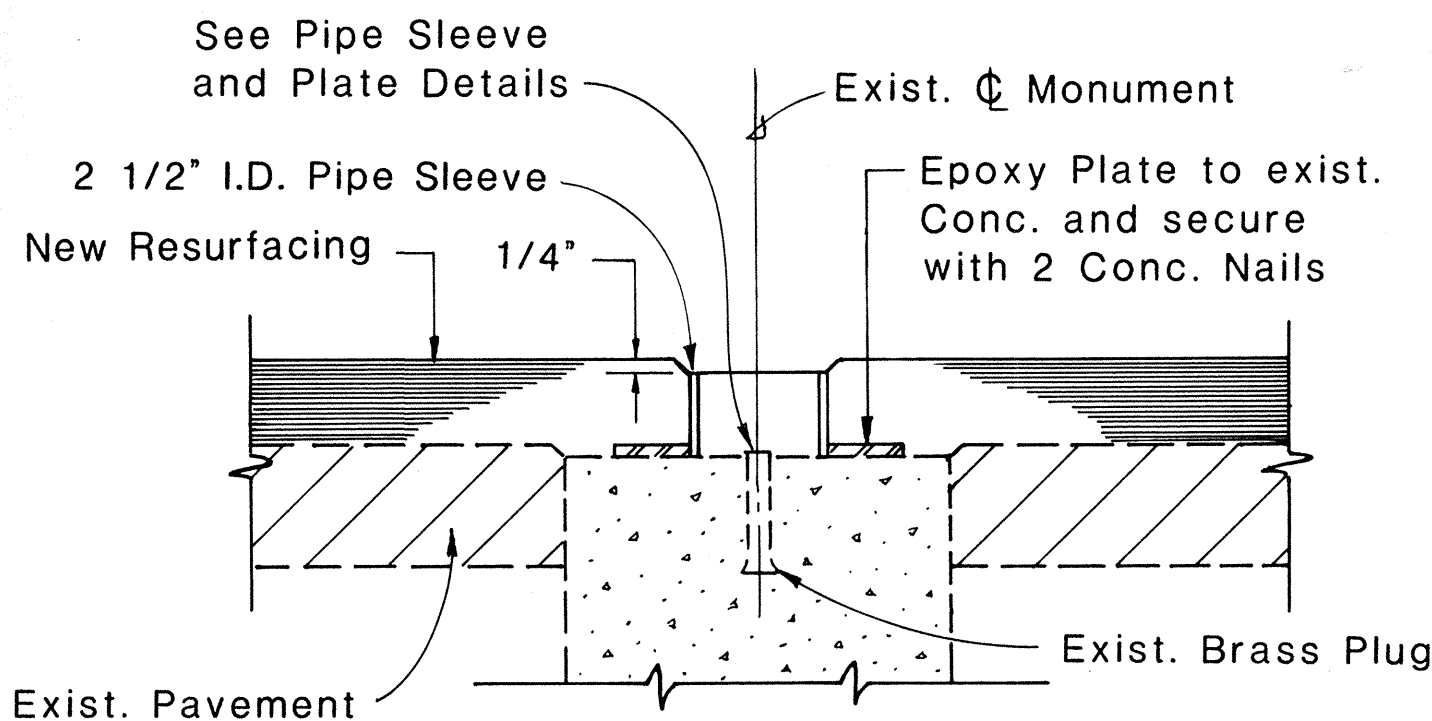


T = New Resurfacing Thickness

PIPE SLEEVE & PLATE ELEVATION



PIPE SLEEVE & PLATE PLAN



SECTION THRU MONUMENT

NOTE
These Adjustment Details also apply to Centerline Monuments utilized as Stationline Reference Points.

DETAILS FOR ADJUSTED CENTERLINE MONUMENT

Scale: 3" = 1'-0"

APPROVAL RECOMMENDED:
Mike Minna 6-20-83
HIGHWAY DESIGN ENGINEER DATE

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

NO.	REVISION	APPROVED	
		BY	DATE
1	Delete Note No. 1	<i>HO</i>	11-17-84

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

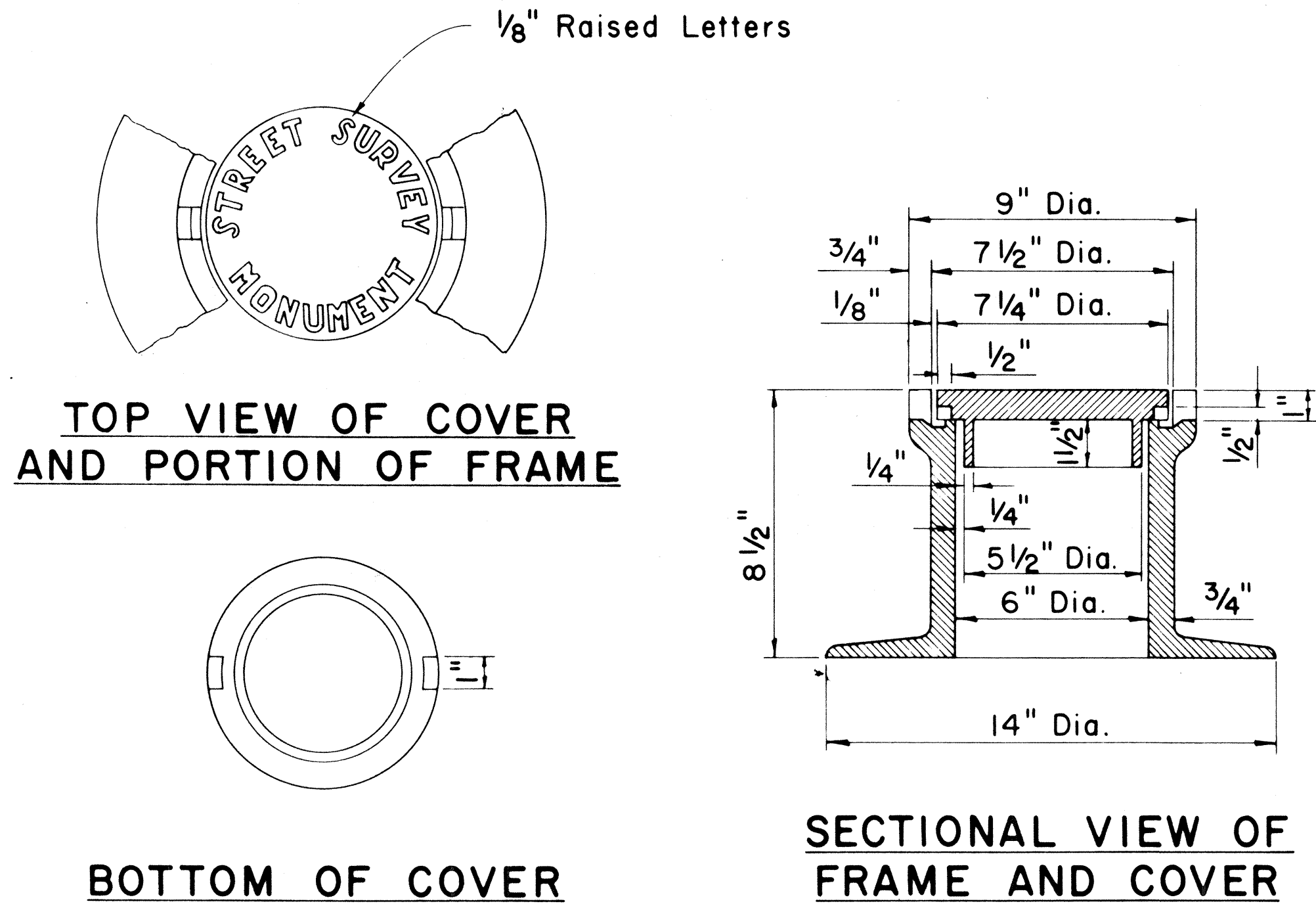
**CENTERLINE AND REFERENCE
SURVEY MONUMENT**

Scale: As Shown Date: May, 1983

SHEET No. 4 OF 9 SHEETS

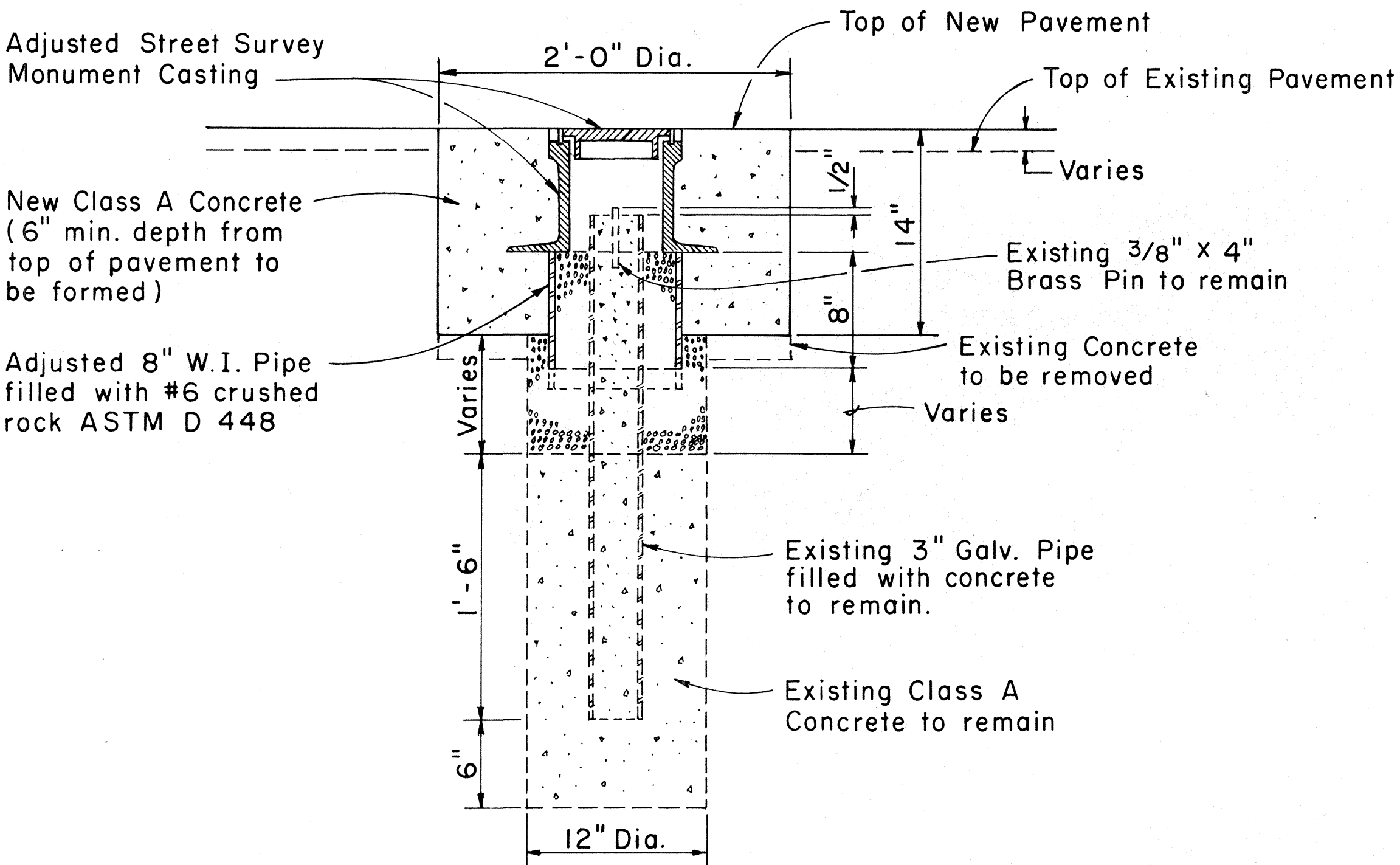
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-86M 63A-02-86	1986	22	58



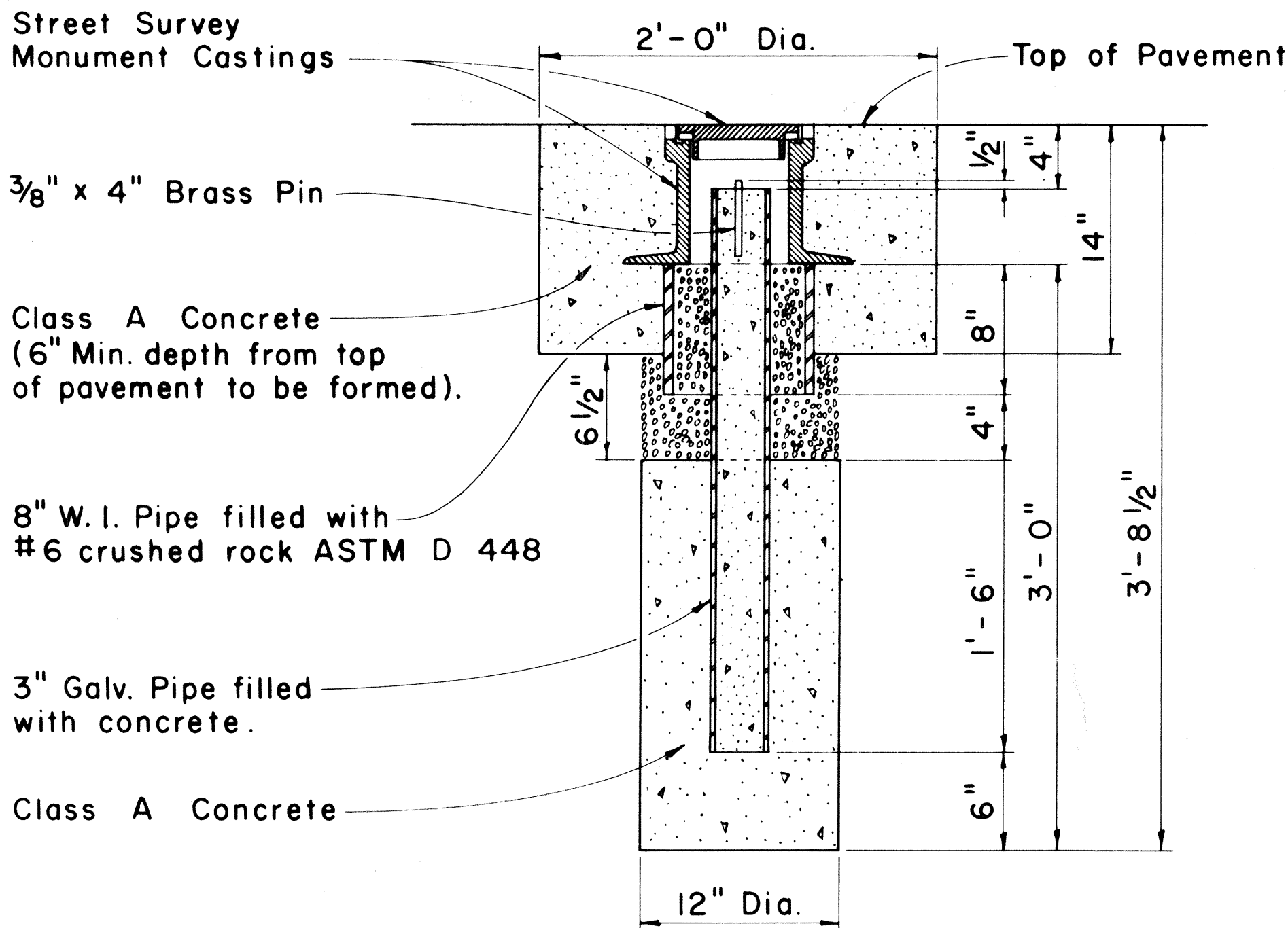
STREET SURVEY MONUMENT CASTINGS

Scale: 3" = 1'-0"



DETAILS FOR ADJUSTED STREET SURVEY MONUMENT

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



NOTE:

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

STREET SURVEY MONUMENT

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

APPROVAL RECOMMENDED:

M. H. H. H. 12-4-69
HIGHWAY DESIGN ENGINEER DATE

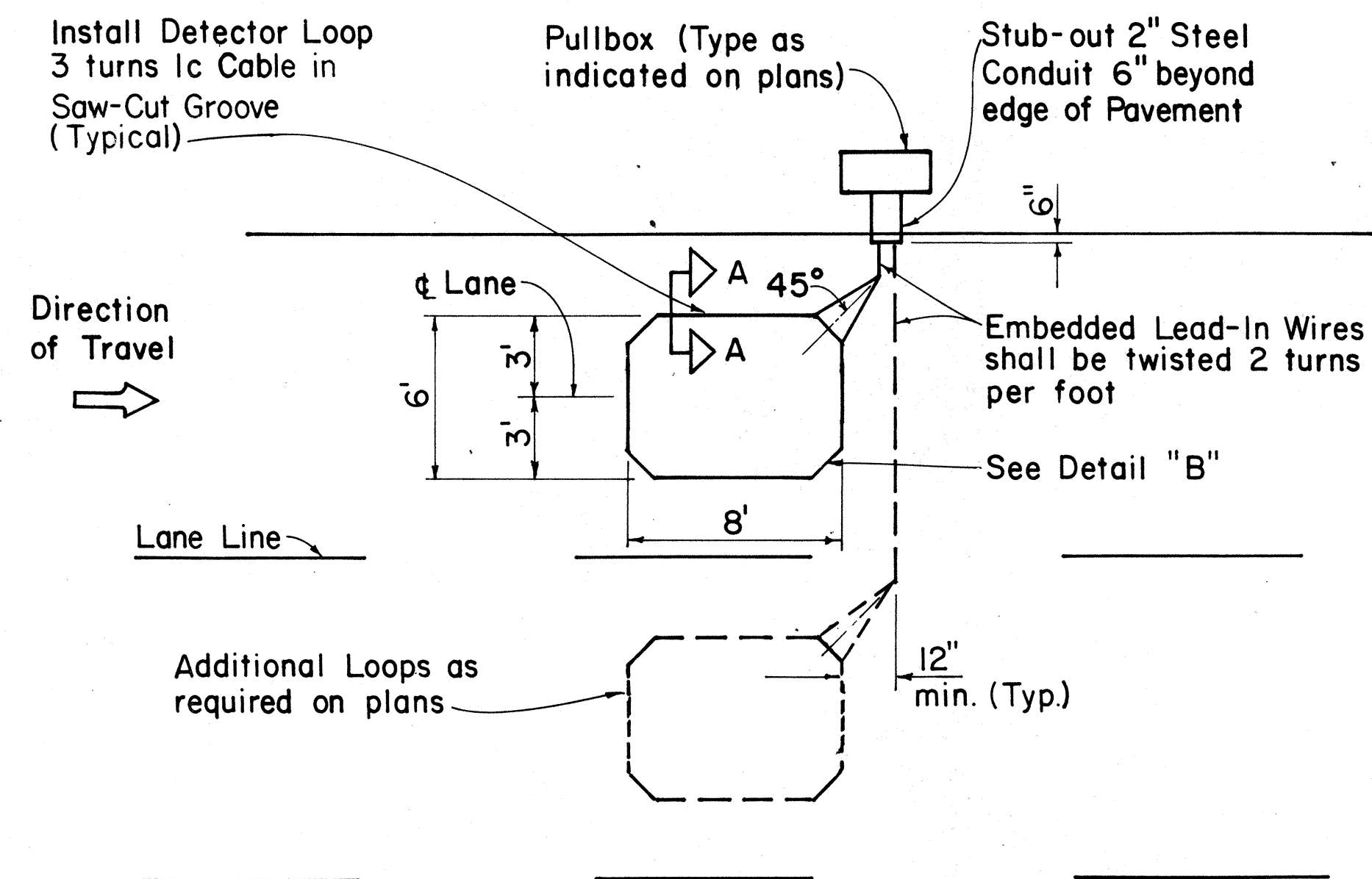
APPROVED:

W. E. E. E. 12-10-69
ASSISTANT CHIEF, ENGINEERING DATE

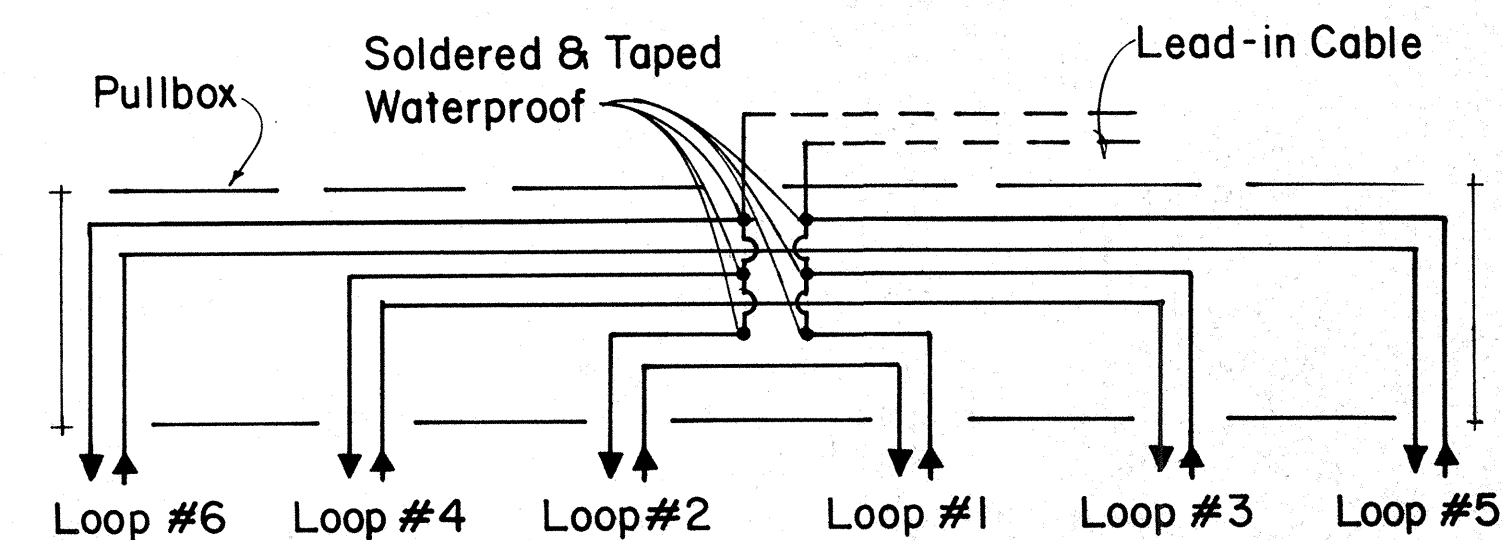
NO.	REVISION	APPROVED BY	DATE
1	Deleted "Detail For Centerline & Reference Survey Monument", added "Detail For Adjusted Street Survey Monument" and deleted "C & C" Inscription on Cover.	<i>W. E. E. E.</i>	6-22-83

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS
STREET SURVEY MONUMENT
SCALE: AS SHOWN
SHEET No. 5 OF 9 SHEETS DD 614.1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-86M 63A-02-86	1986	23	58

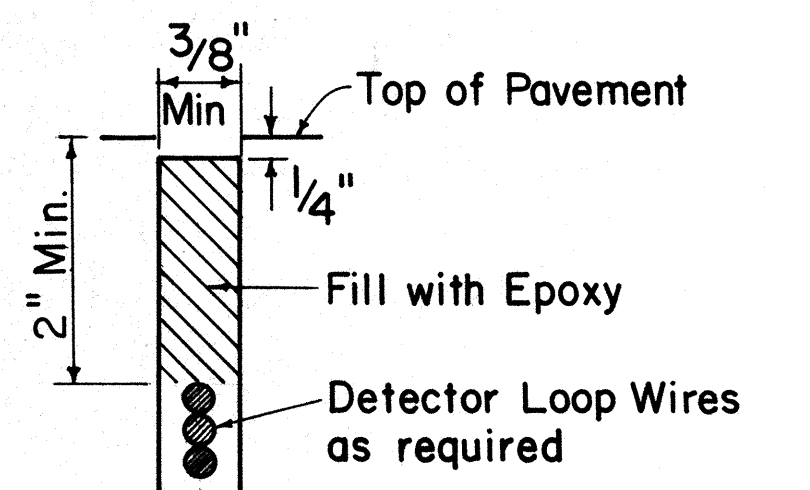


SINGLE LOOP LAYOUT



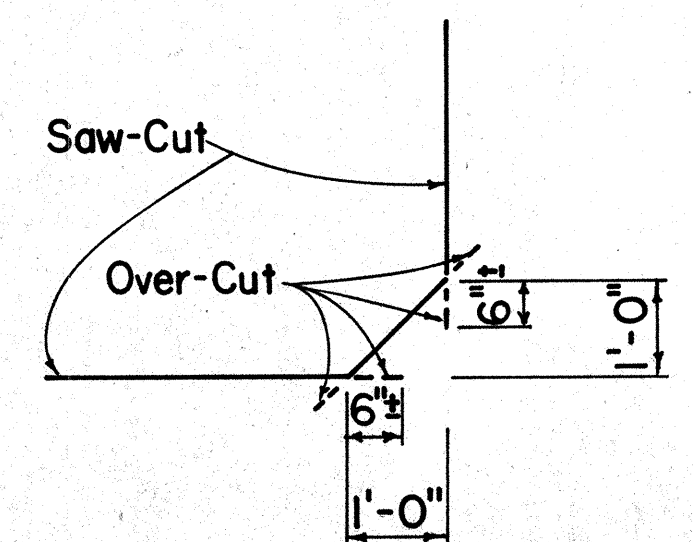
DETAIL "A"

TYPICAL SERIES-PARALLEL LOOP CONNECTION



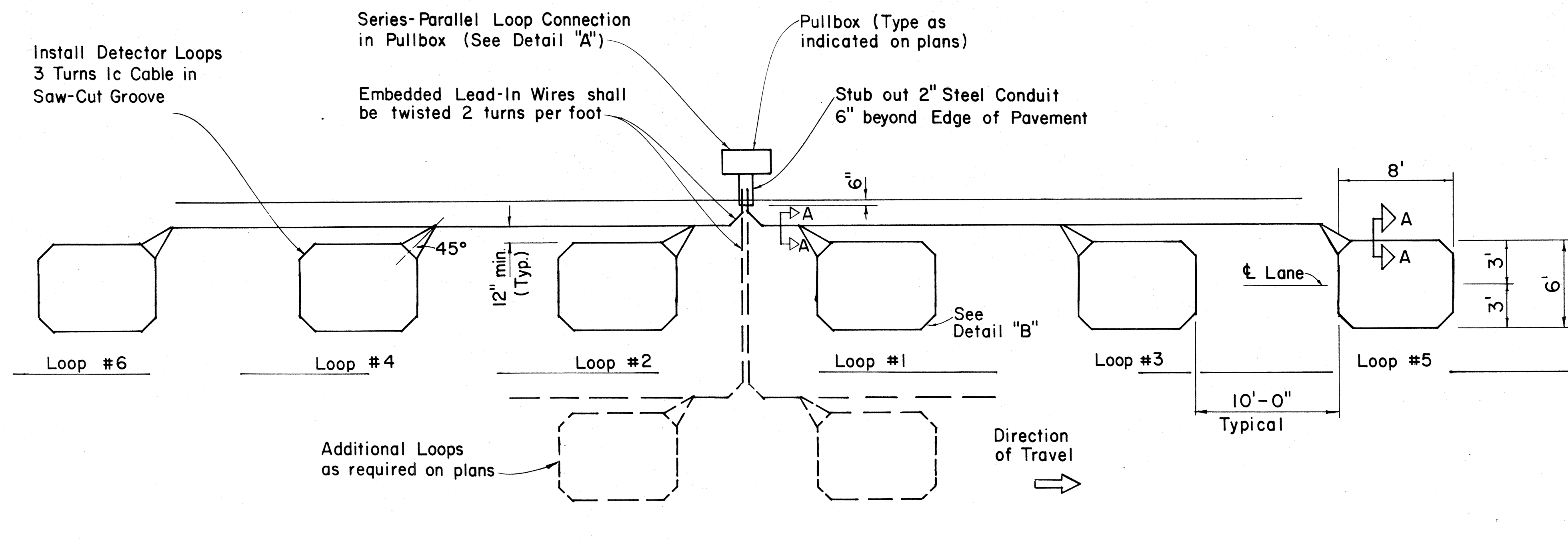
DETECTOR LOOP SAW-CUT SECTION A-A (TYPICAL)

Note: Back-Fill Over-Cuts with Epoxy

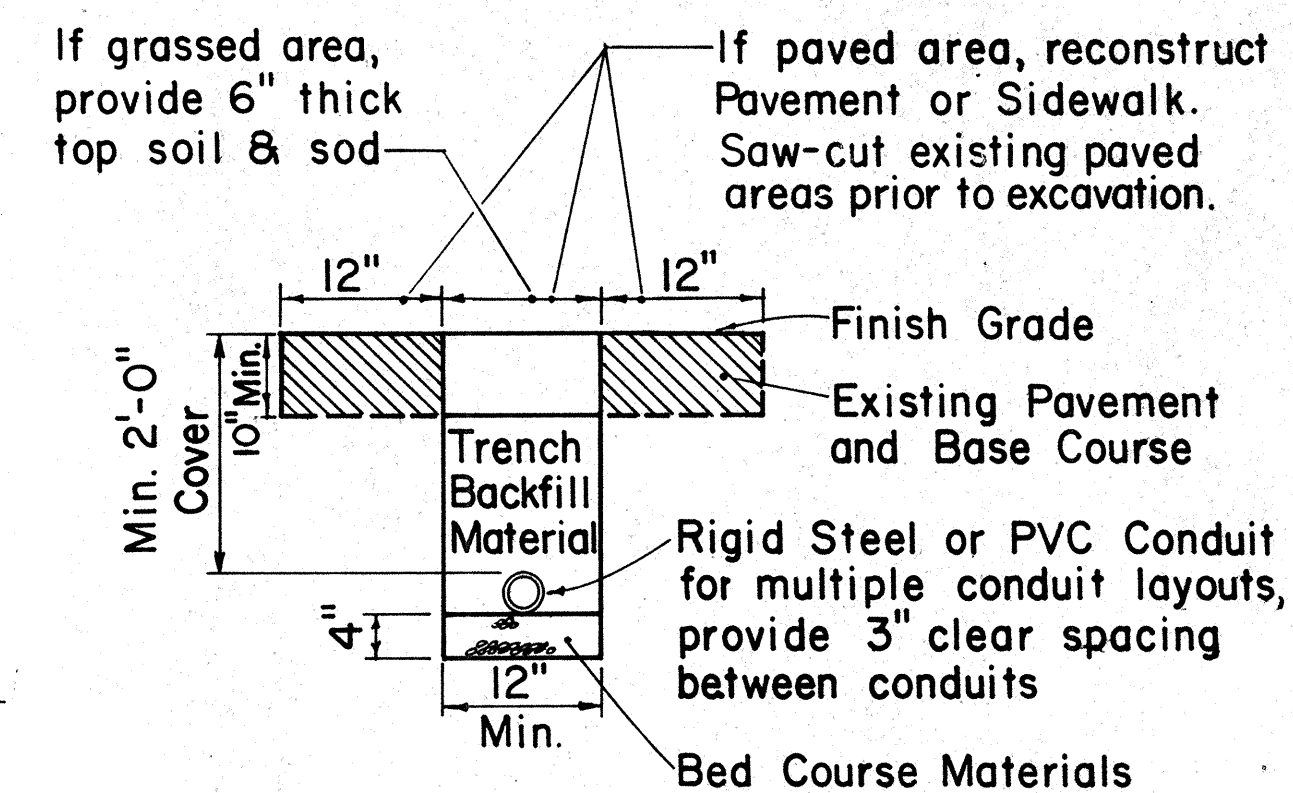


DETAIL "B"

SAW-CUT AT CORNERS



MULTIPLE LOOP LAYOUT



TYPICAL TRENCH SECTION FOR CONDUIT

NOTE:

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

NO.	REVISION	APPROVED BY	DATE
1	Replaces Sht. DT 405 dated 3/5/76	H.T.	9/30/80
2	Revised Section A-A	H.T.	5/15/81
3	Revised Loop Design & Deleted Wiring Diagram	B.T.	2-4-85
4	Revised Typical Section for conduit and note Deleted #14 from Loop Layout	B.T.	9/18/85

APPROVAL RECOMMENDED:

Erich Tanaka 9/26/80
TRAFFIC ENGINEER DATE

APPROVED:

Harold Zaleishi 9/30/80
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

LOOP DETECTORS

Not to Scale

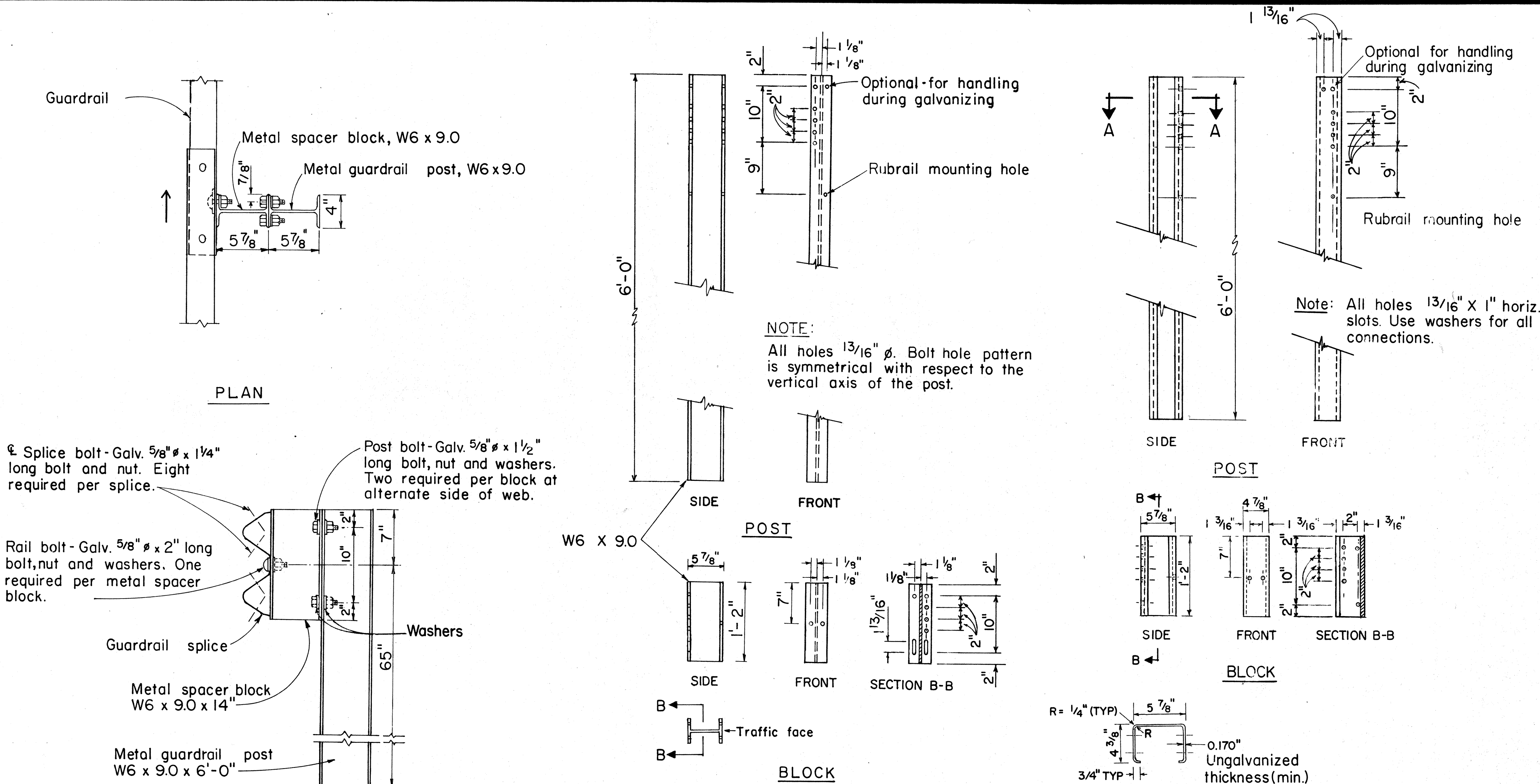
SHEET No. 6 OF 9 SHEETS DT 405

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

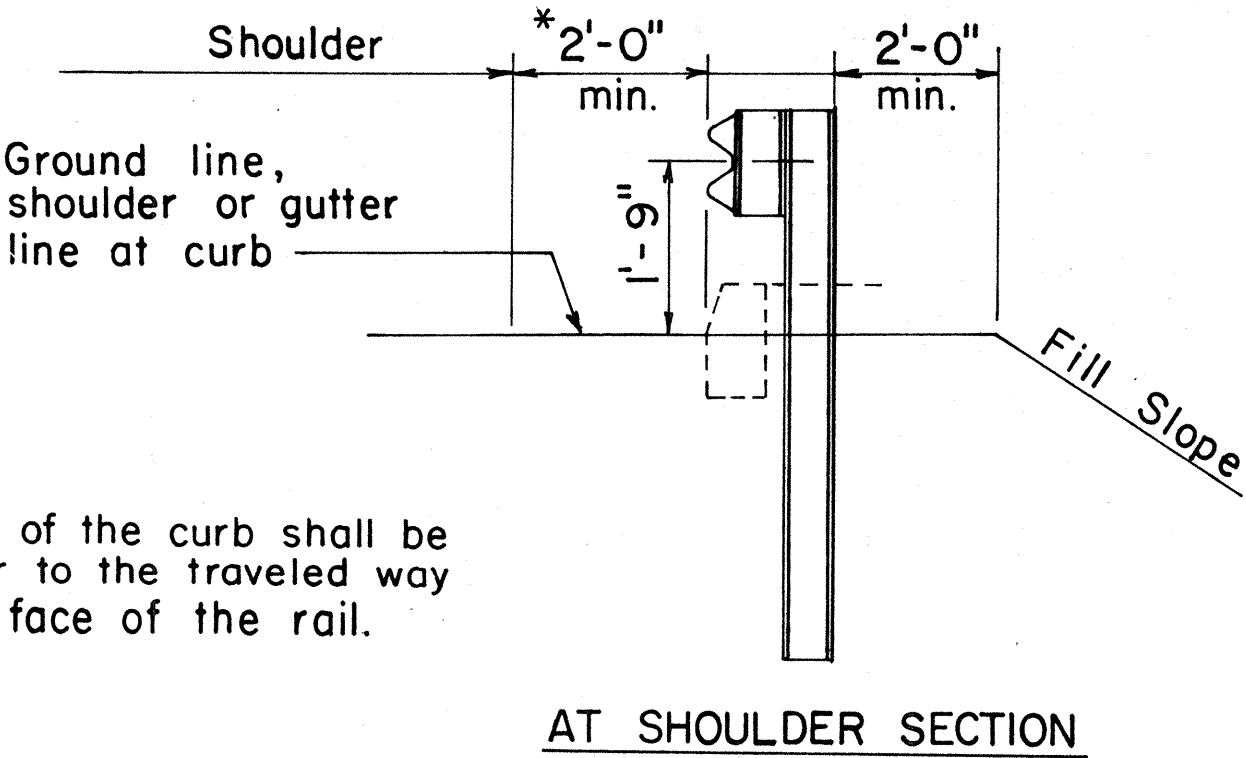
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-86M 63A-02-86	1986	24	58

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.

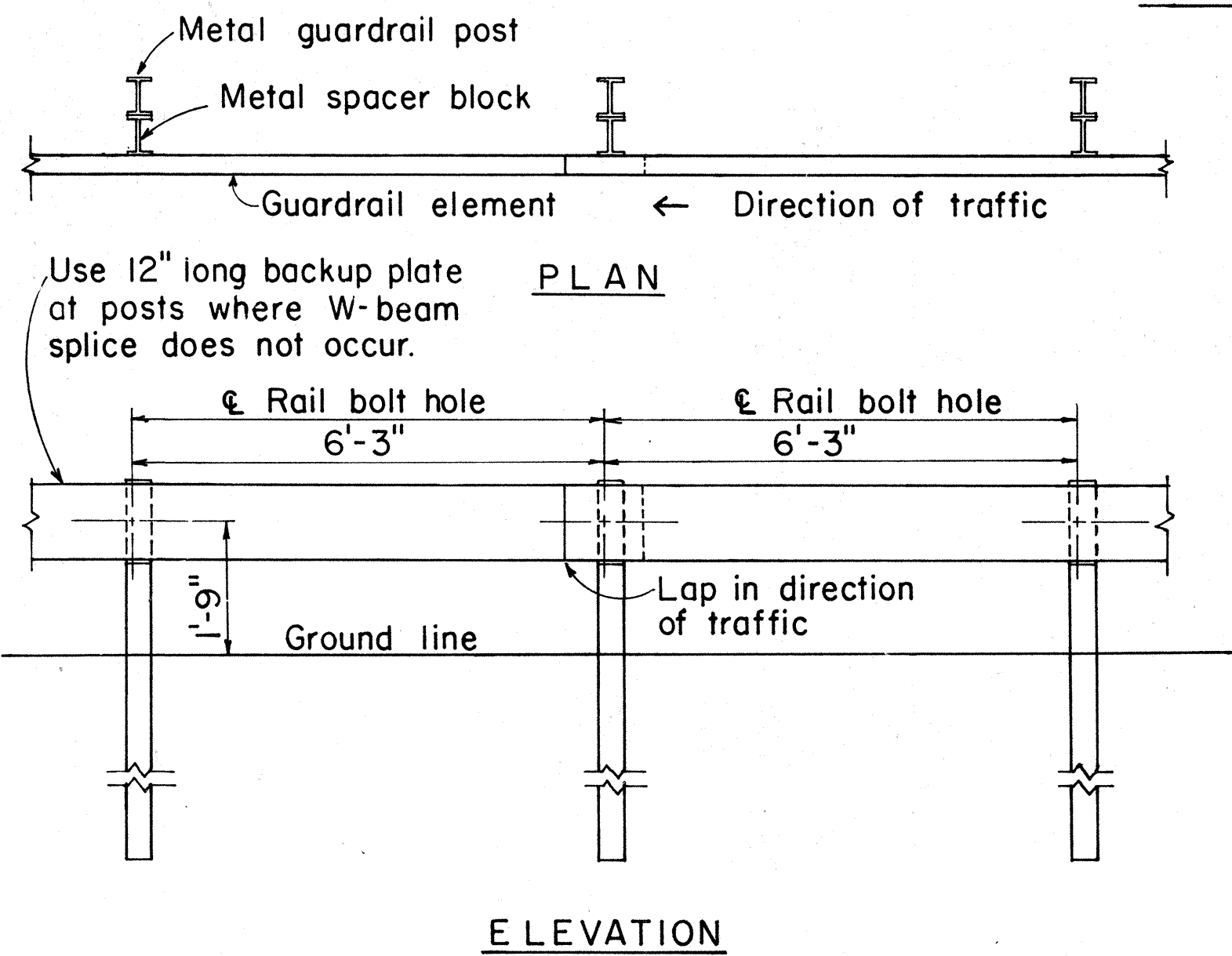


SINGLE METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"



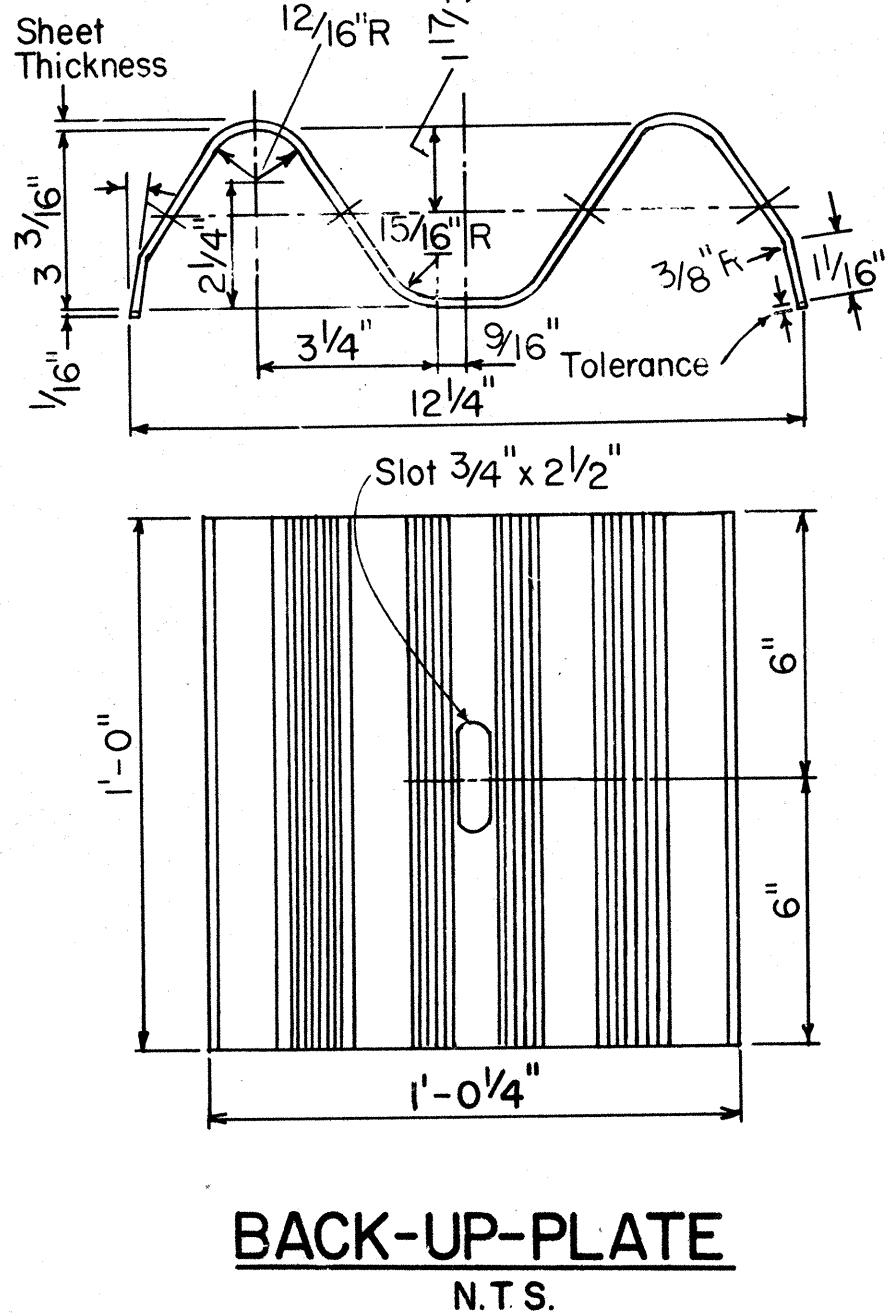
TYPICAL METAL GUARDRAIL DETAIL
SCALE: 1/2" = 1'-0"

STRUCTURAL SHAPE POST AND BLOCK
SCALE: 1" = 1'-0"



METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK
SCALE: 1/2" = 1'-0"

BENT PLATE POST AND BLOCK
SCALE: 1" = 1'-0"



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	J.D.	9-28-83
3	Added details for adjusting guardrail height and added Back-up Plate and washer	E.T.	9/18/85

APPROVAL RECOMMENDED:
Enrique Tanaka 9/1/82
 TRAFFIC ENGINEER DATE

APPROVED:
Shirley Salschi 9/22/82
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STANDARD DETAILS

METAL GUARDRAIL

Scale: As Shown

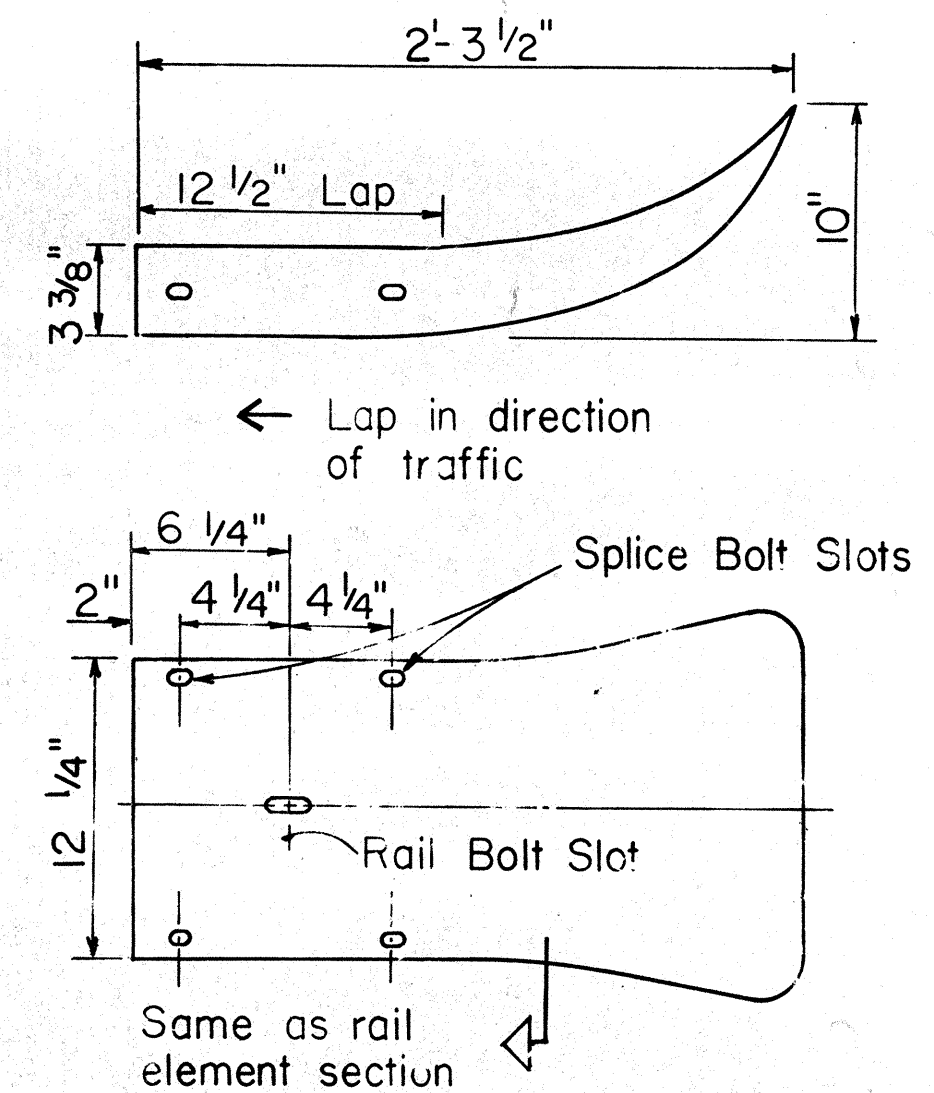
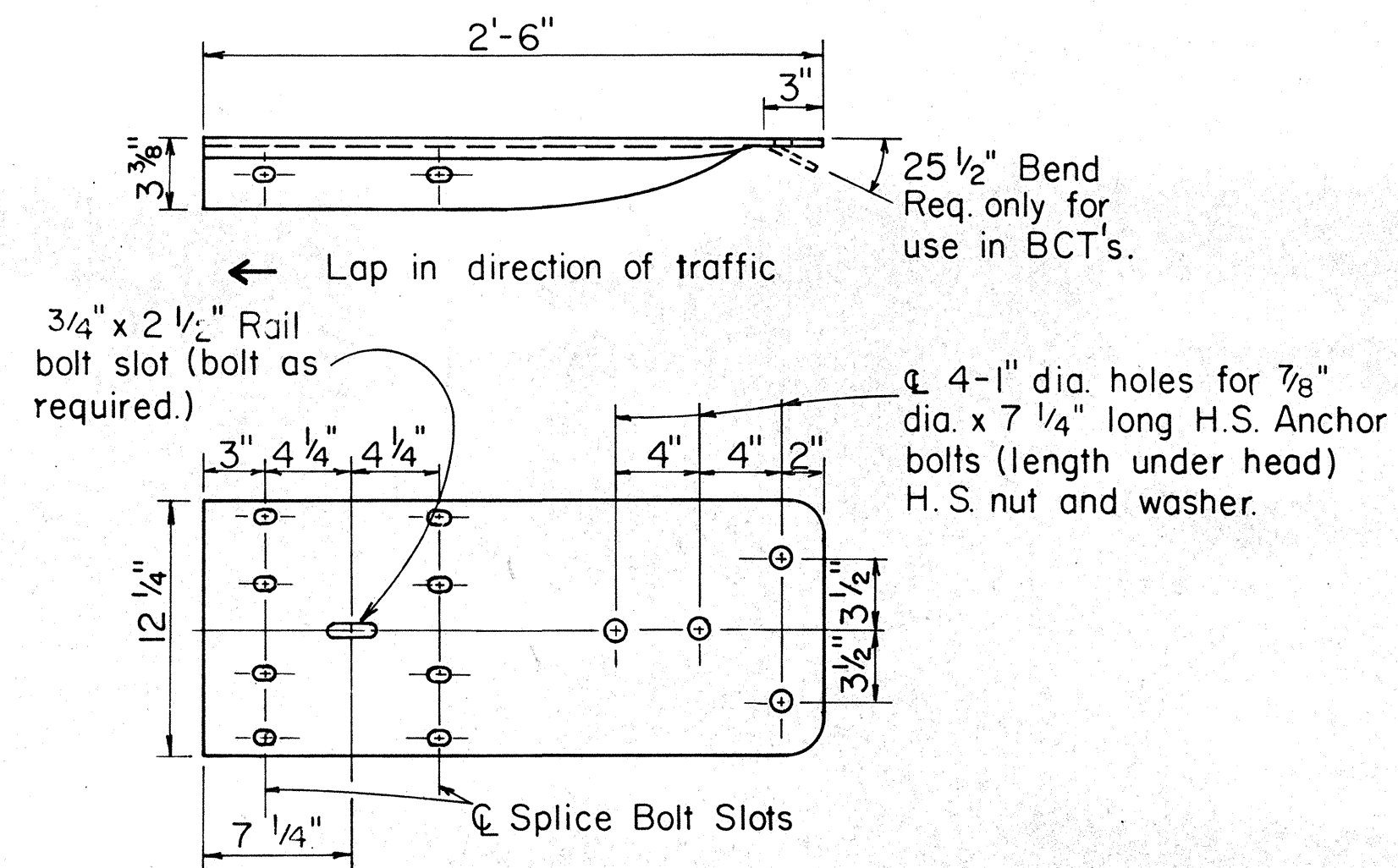
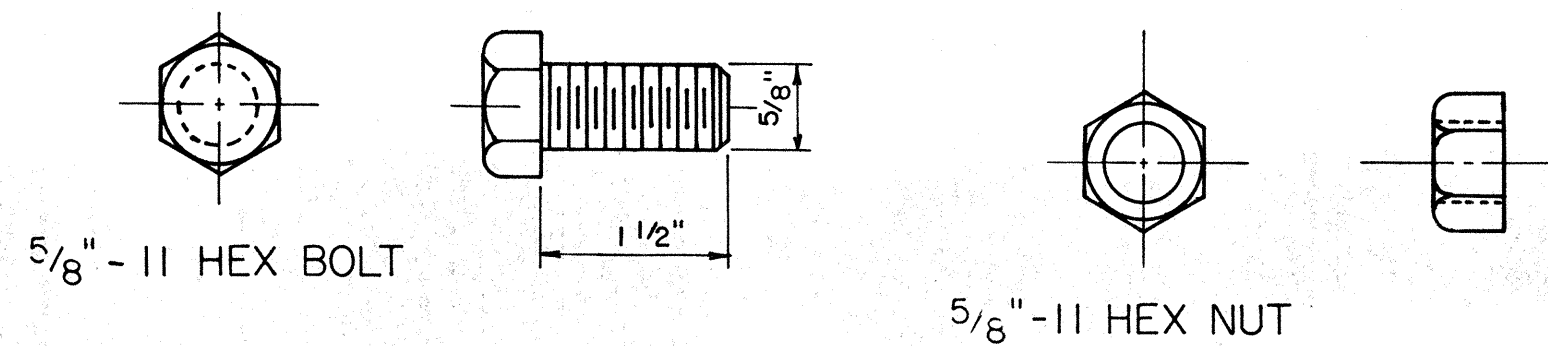
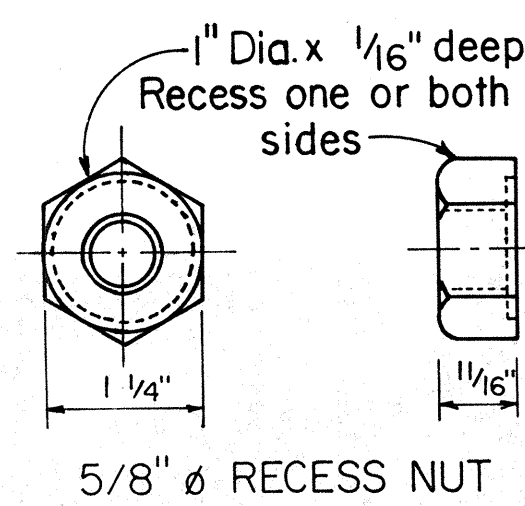
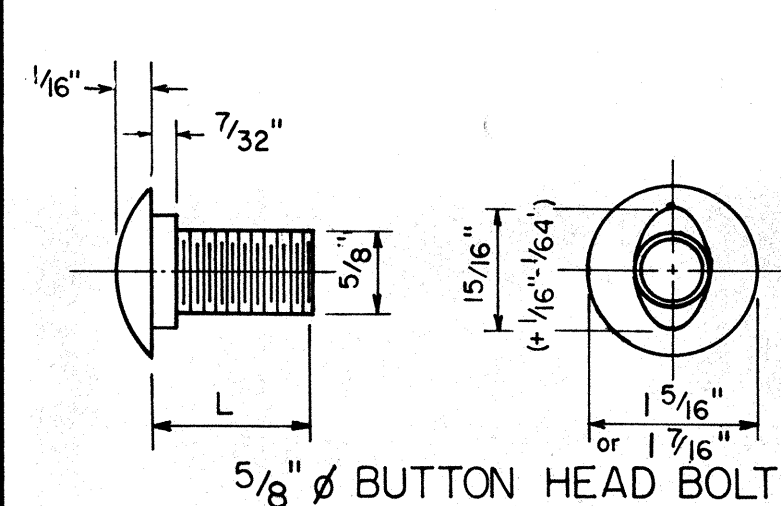
July, 1982

SHEET No. 7 OF 9

SHEETSDT 500

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-86M 63A-02-86	1986	25	58



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.

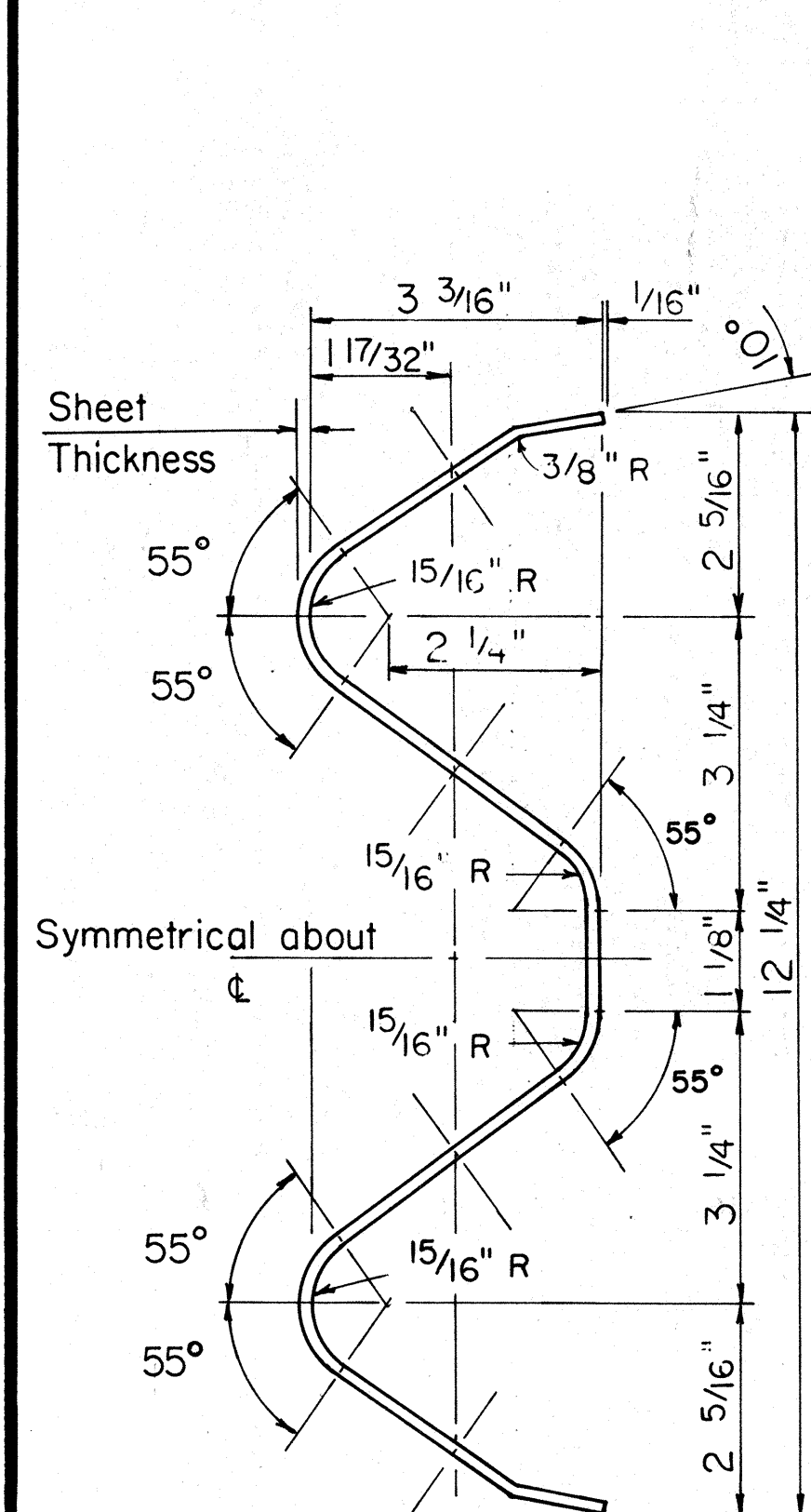
W BEAM TERMINAL CONNECTOR

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

← Lap in direction
of traffic

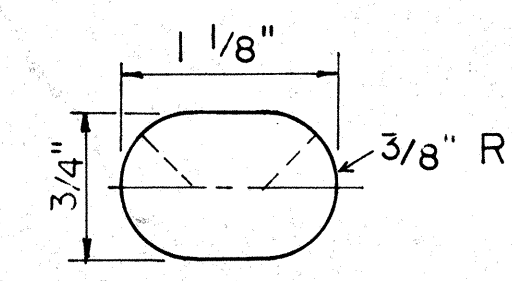
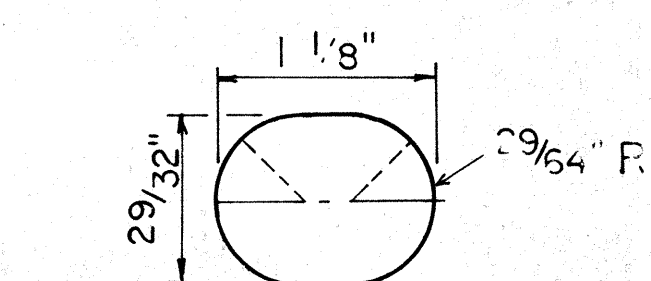
W BEAM END SECTION (FLARED)

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



RAIL ELEMENT SECTION

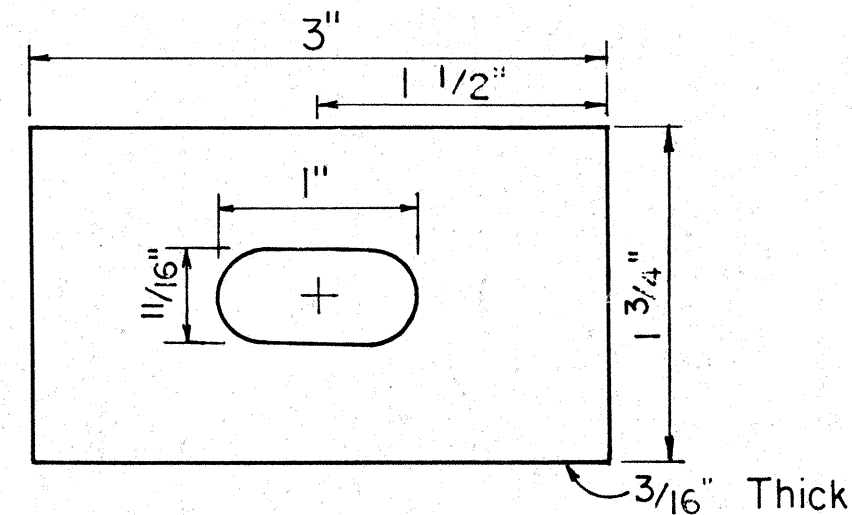
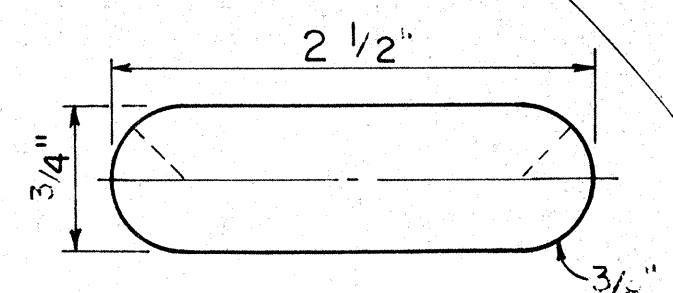
Scale: 6" = 1'-0"



SPLICE BOLT SLOT

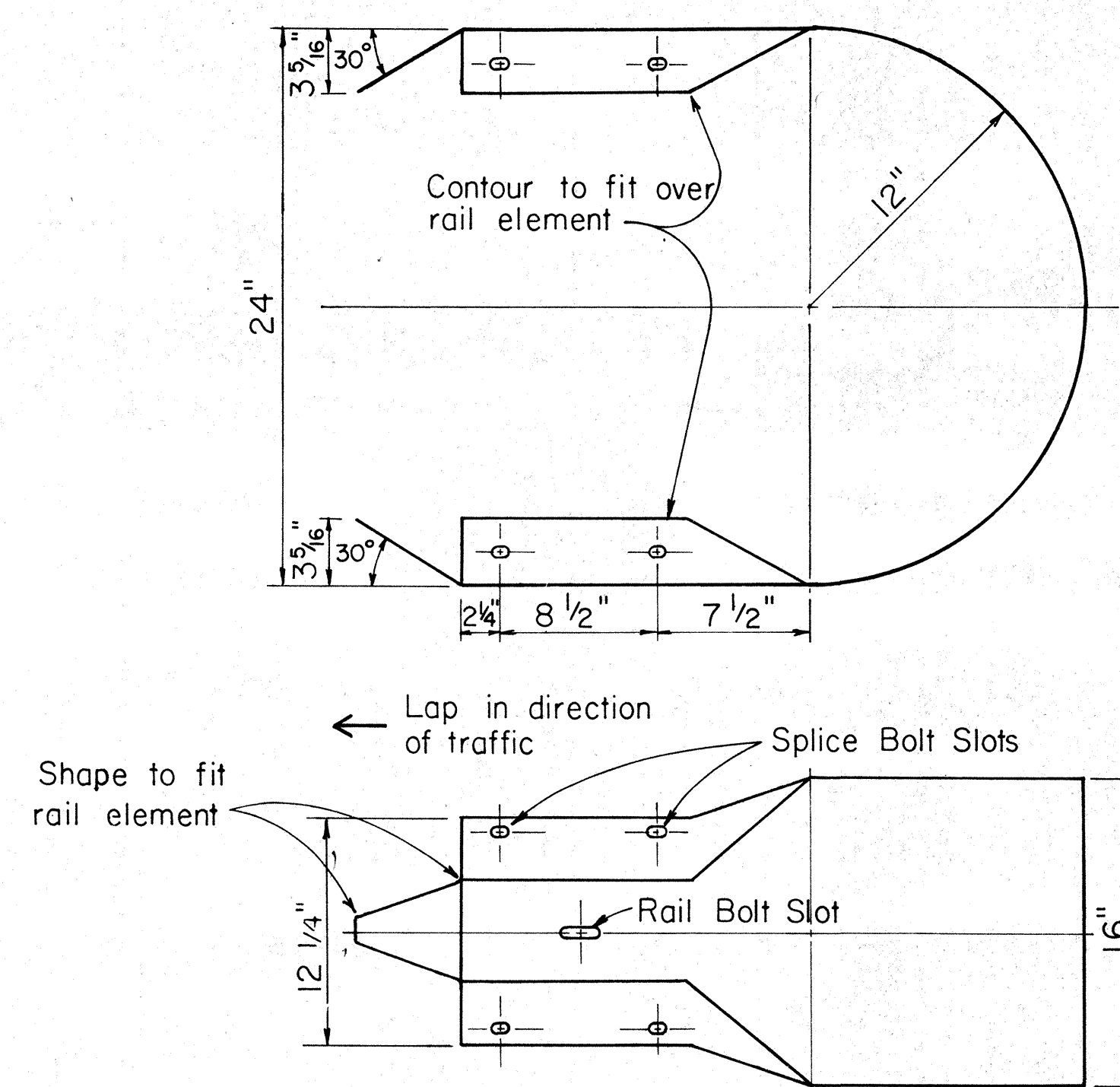
SPLICE BOLT SLOT
FOR ALL ENDS

Scale: Full Size



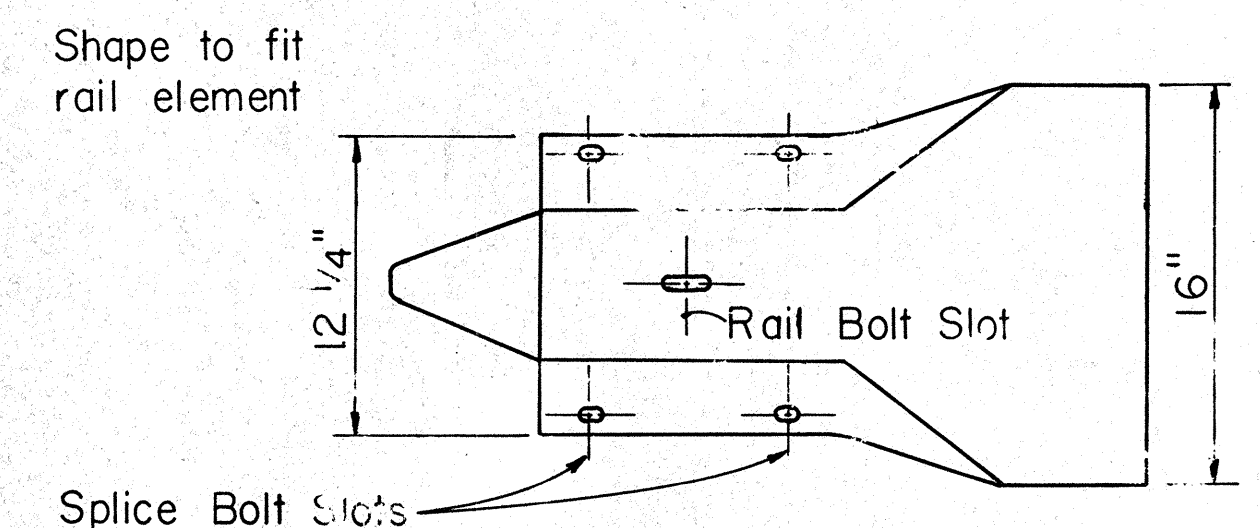
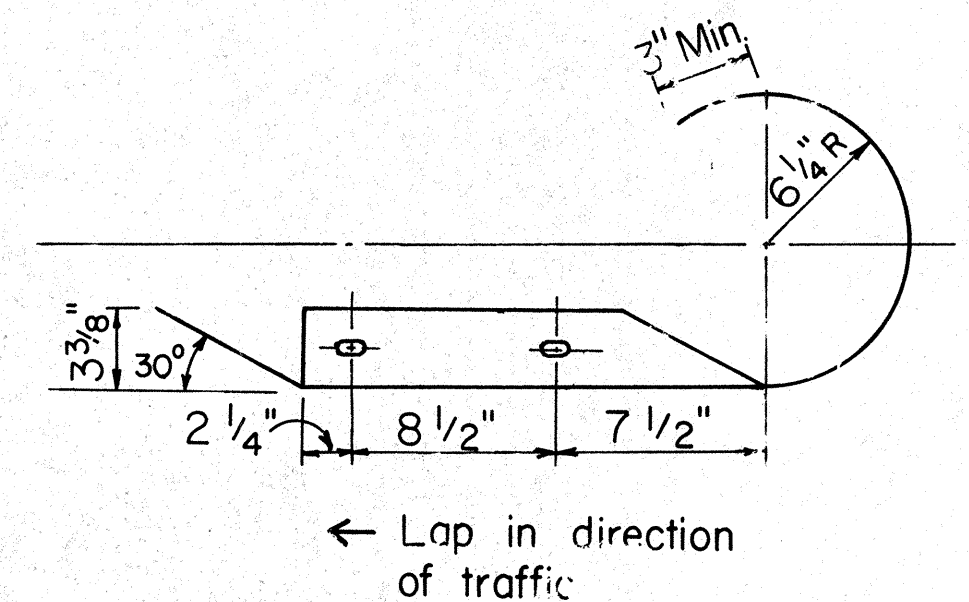
RAIL BOLT SLOT

RAIL BOLT WASHER



W BEAM END SECTION (BUFFER)

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



W BEAM END SECTION (ROUNDED)

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

APPROVAL RECOMMENDED:

Eiichi Tanaka
TRAFFIC ENGINEER

9/20/82
DATE

APPROVED:

Herbert Zisch
ASSISTANT CHIEF, ENGINEERING

122/82
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 501 approved 12/30/69	H.T.	9/22/8

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

STANDARD DETAILS

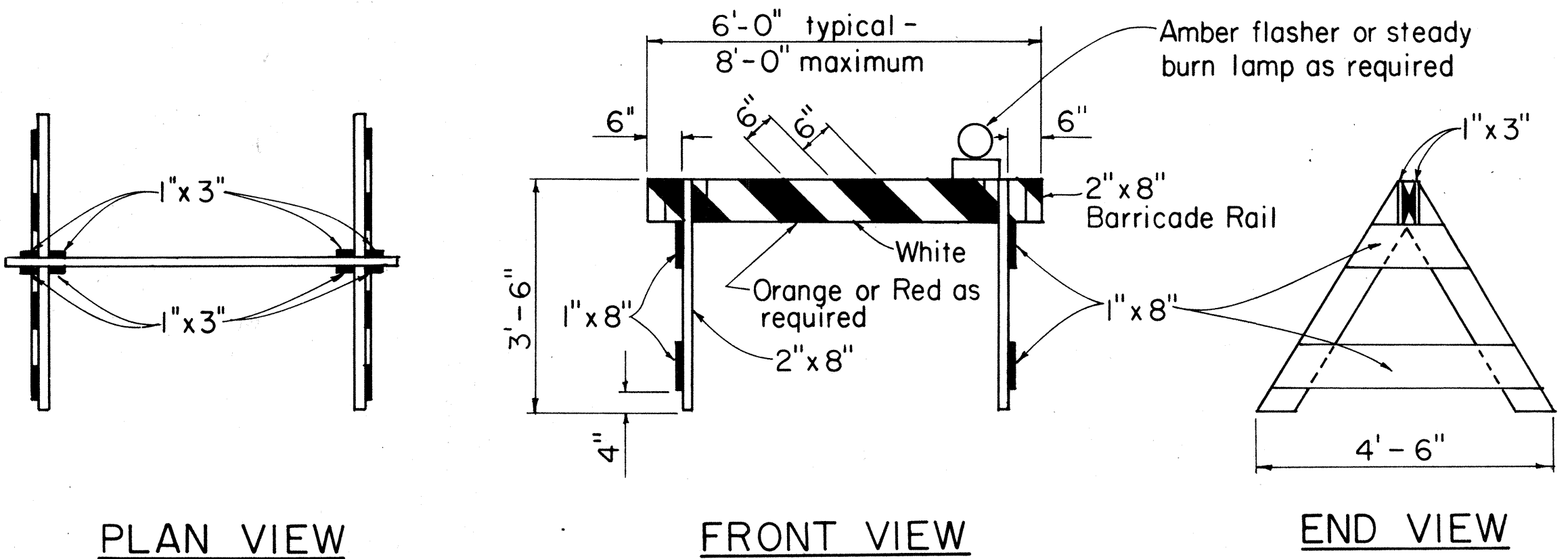
METAL GUARDRAIL

Scale: As Noted July, 1982

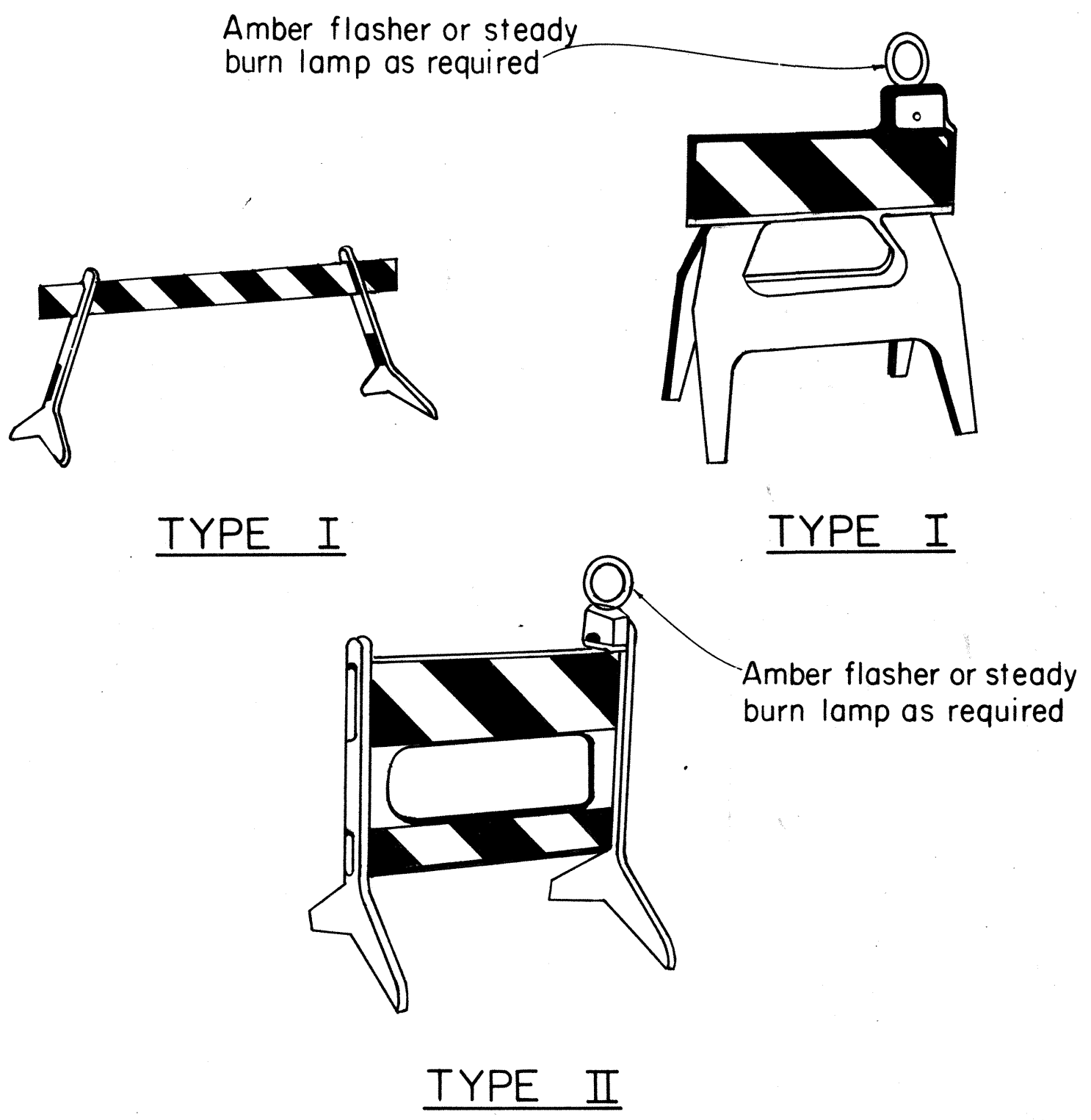
SHEET No. 8 OF 9 SHEETS DT 501

25

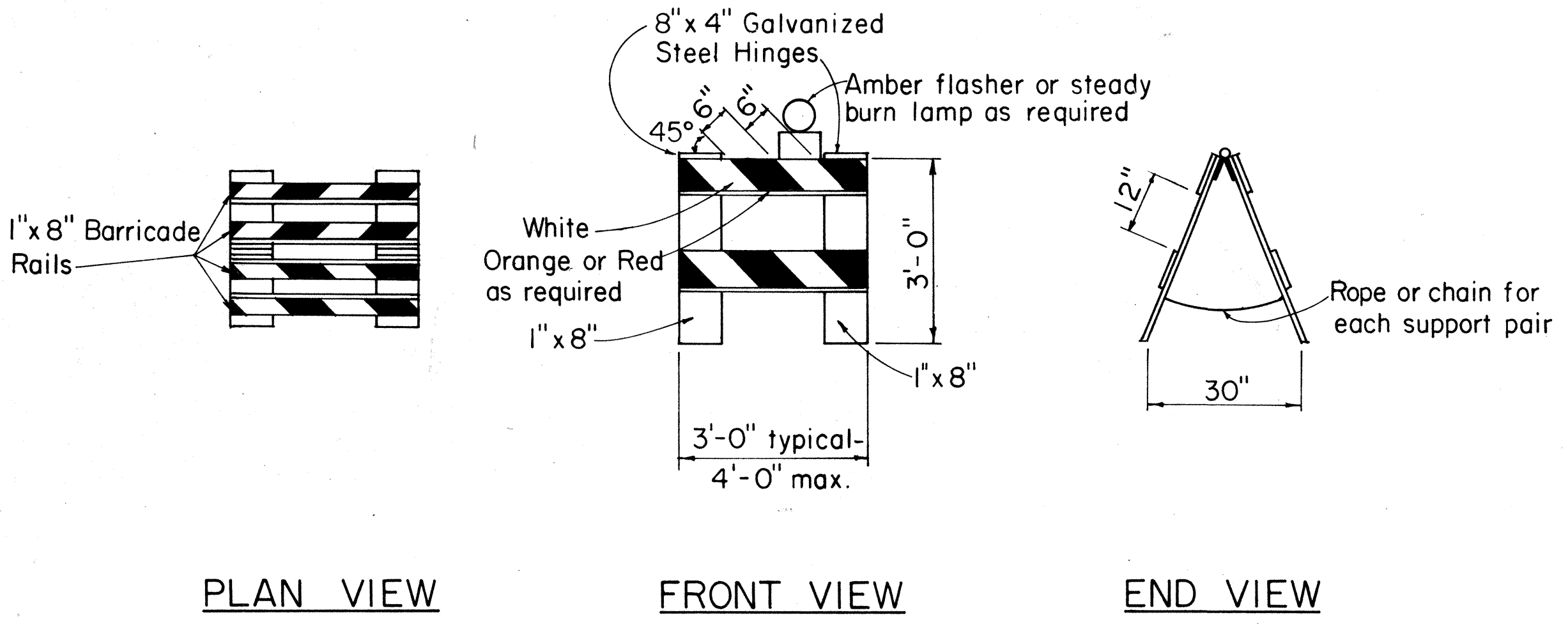
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-B&M 63A-02-B&C	1986	26	58



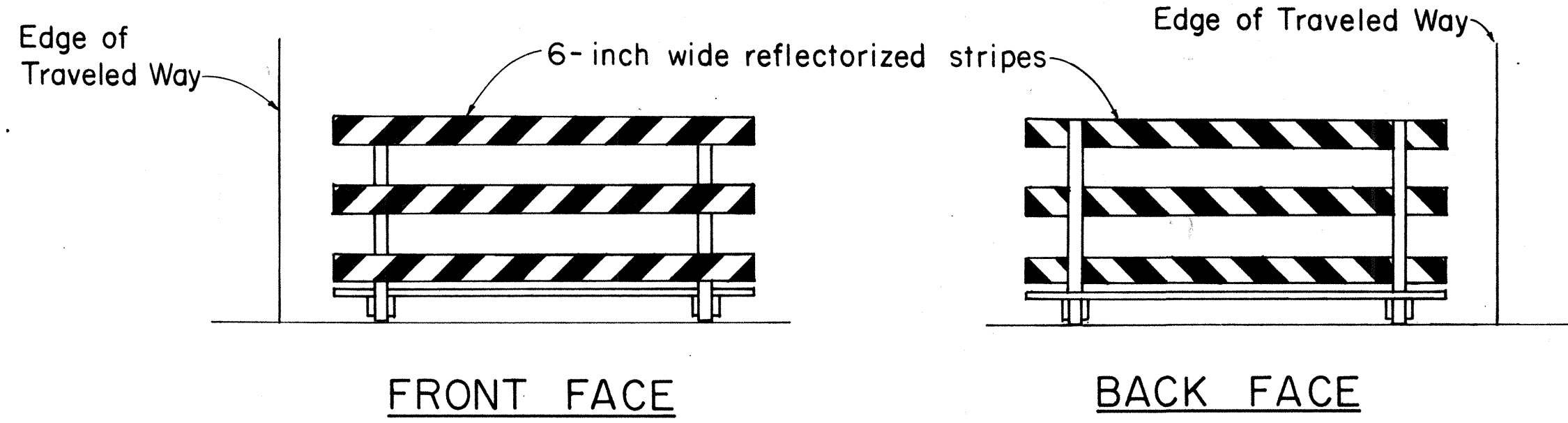
TYPE I BARRICADE
Scale: 1/2" = 1'-0"



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

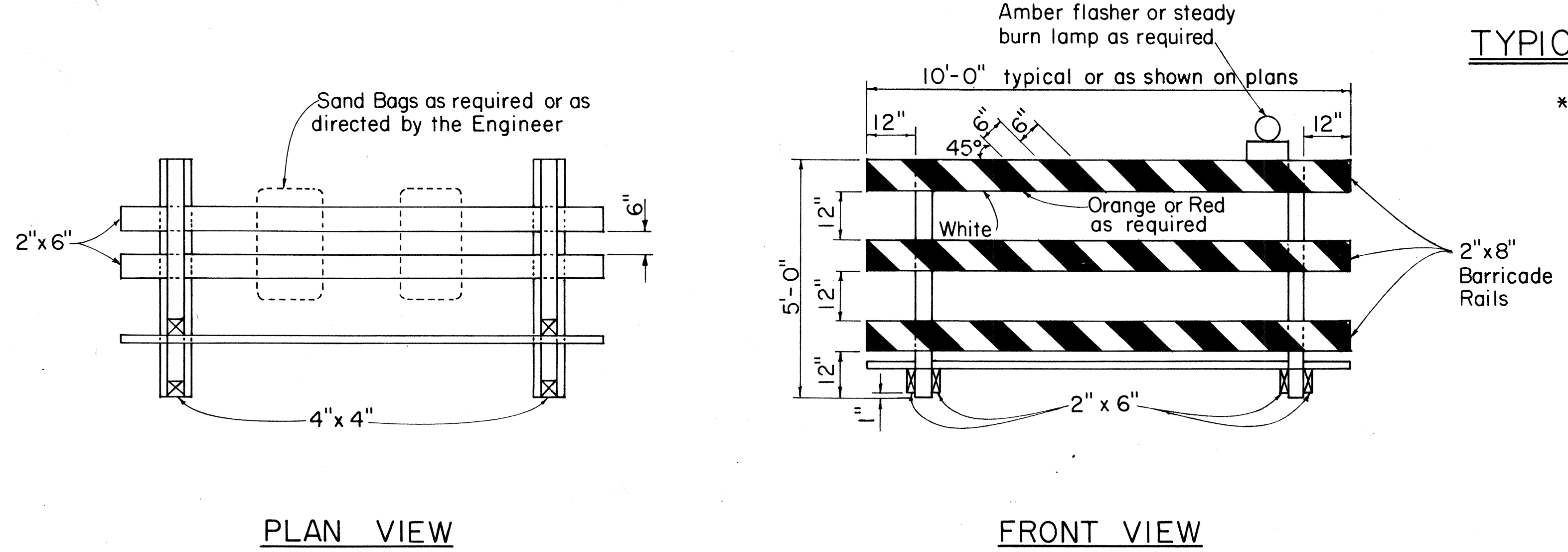


TYPE II BARRICADE
Scale: 1/2" = 1'-0"

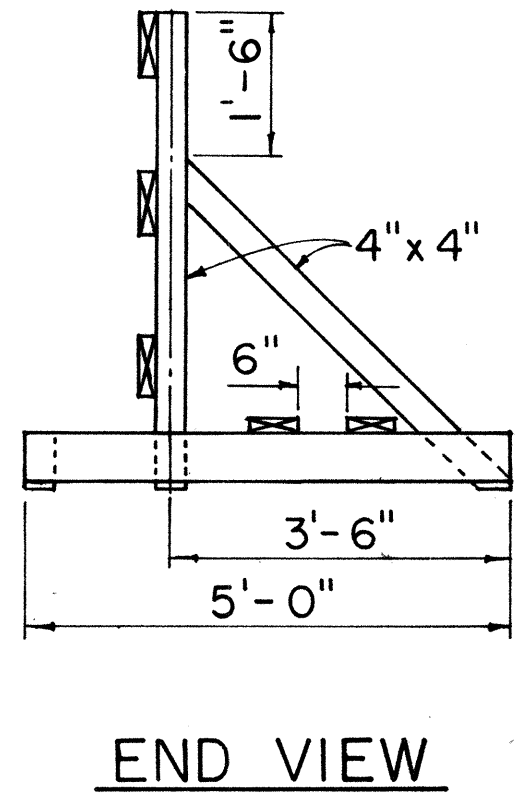


TYPICAL BARRICADE STRIPING DETAILS**
Not to Scale
** Similar for Types I & II

DATE	10/21/81
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



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



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

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

APPROVED:
Robert P. Delishio 10/23/81
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
BARRICADES

SCALE: As Shown

SHEET No. 26 OF 2 SHEETS DT 800