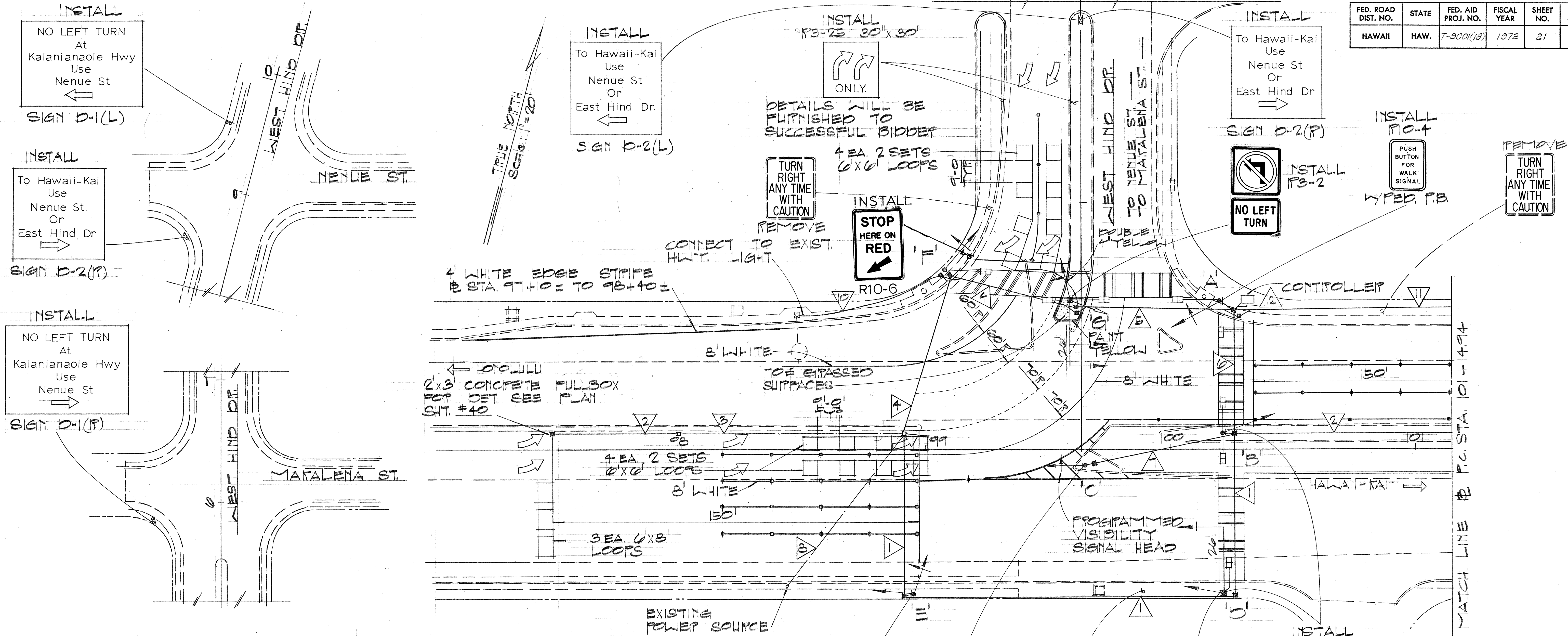
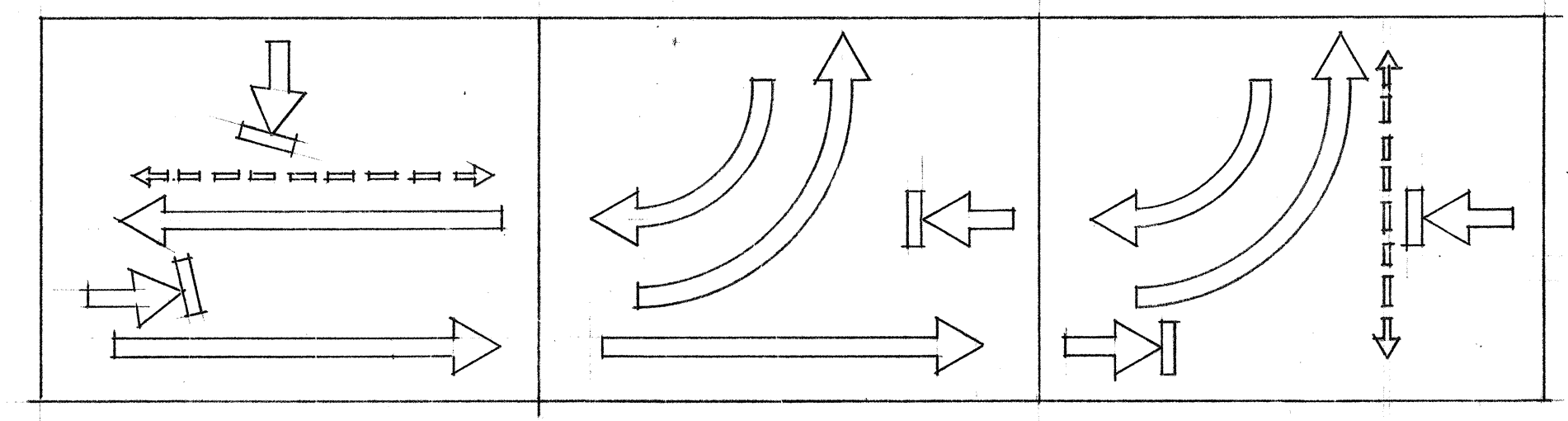


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	21	44



CONDUIT & CABLE SCHEDULE - W. HIND DR - KAL. HWY.							
RUN	1-2"	2-2"	3-2"	1-1/4" STEEL	1-1/2" EXIST.	1-2" EXIST.	1-1/2"
1	1-9c#14						
2	1-2c#14						
3					1-2c#14		
4		1-9c#14		1-2c#8			1-1c#8
5		2-2c#14		1-2c#8			1-1c#8
6		1-9c#14					
7		3-2c#14					
8		1-9c#14					
9	4-1c#14	1-2c#14					
10	INTERCONN. CABLE					1-2c#8	
11	INTERCONN. CABLE						1-1c#8
12							1-1c#8
13			1-9c#14				
14			4-2c#14				
15			INTERCONN. CABLE				
16				1-2c#8			

NOTE: LOCATION OF PROJECT INFORMATION & CONSTRUCTION IDENTIFICATION SIGNS FOR OB. LANES SHALL BE DETERMINED BY THE ENGINEER.



PHASE DIAGRAMS

ARE COMMON PLAYS BETWEEN W. HIND DR.

DATE	REVISION
6-19-73	REVISED SIGNALS, SIGNS & MAPKINGS
3-2-73	ADD "PW-W" SIGNAL TO SIG. STD. "P".

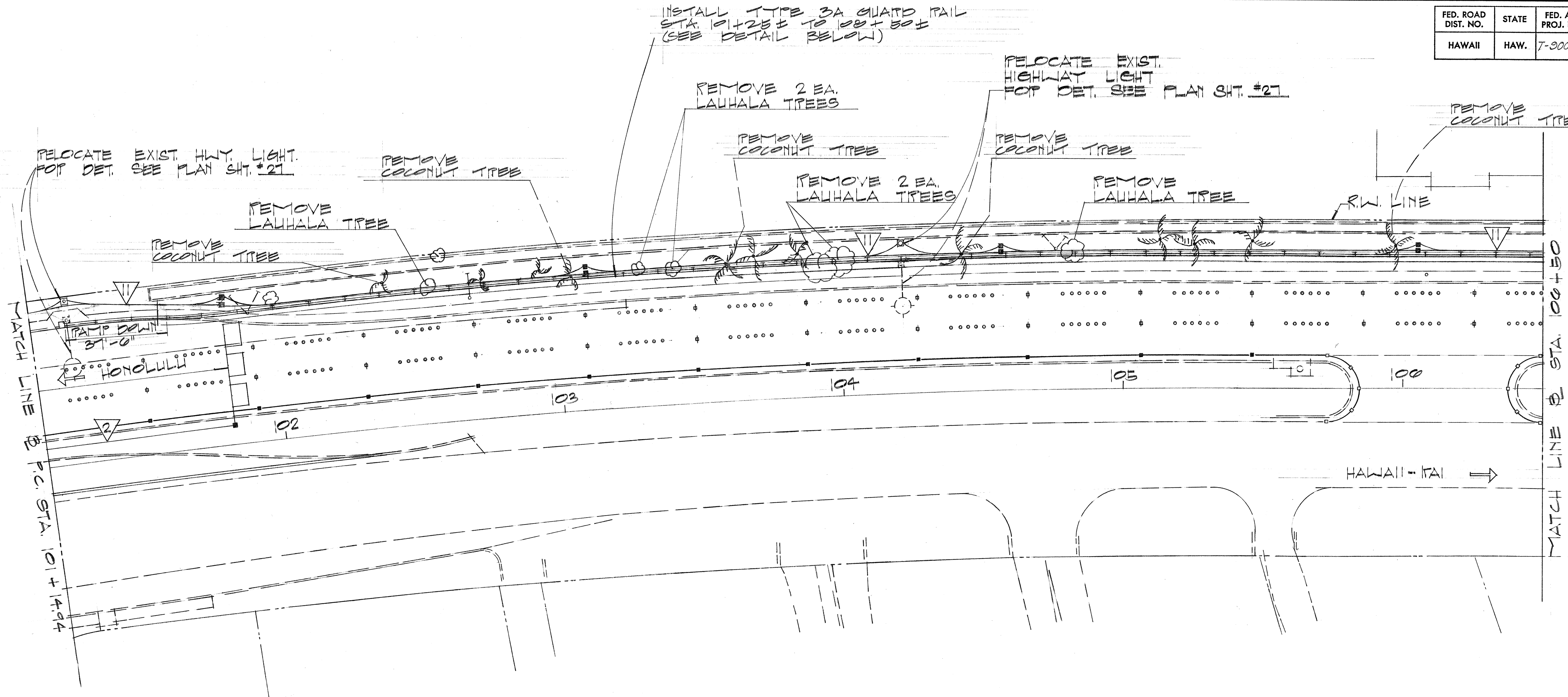
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING**

KALANIANAʻOLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown
March 1973

DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
TRACED BY	_____
NOTE BOOK	_____
QUANTITIES BY	_____
CHECKED BY	_____

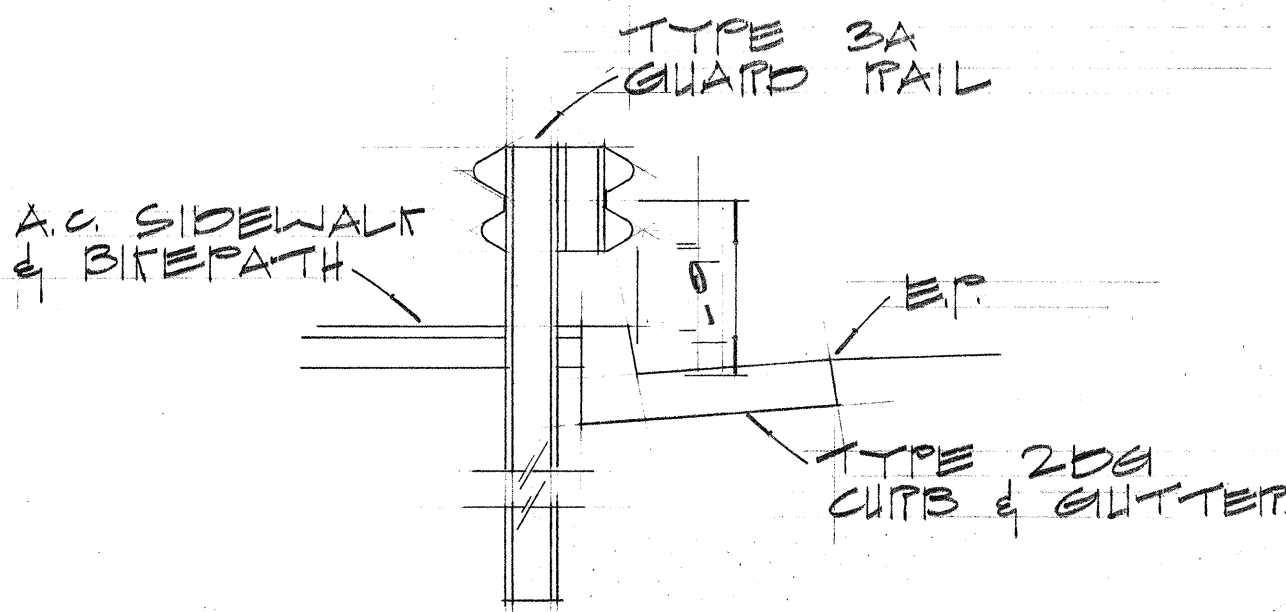
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	22	44



LANDSCAPING NOTES

TREES TO BE REMOVED ARE LAUHALA & COCONUT TREES

GRASSSED SURFACE



TYPE 3A GUARD RAIL DETAIL

SC. 1/2" = 1'-0"

DATE	REVISION
01/19/73	REVISED LANDSCAPING, MARKINGS & GUARD RAIL

DATE	REVISION
01/19/73	REVISED LANDSCAPING, MARKINGS & GUARD RAIL

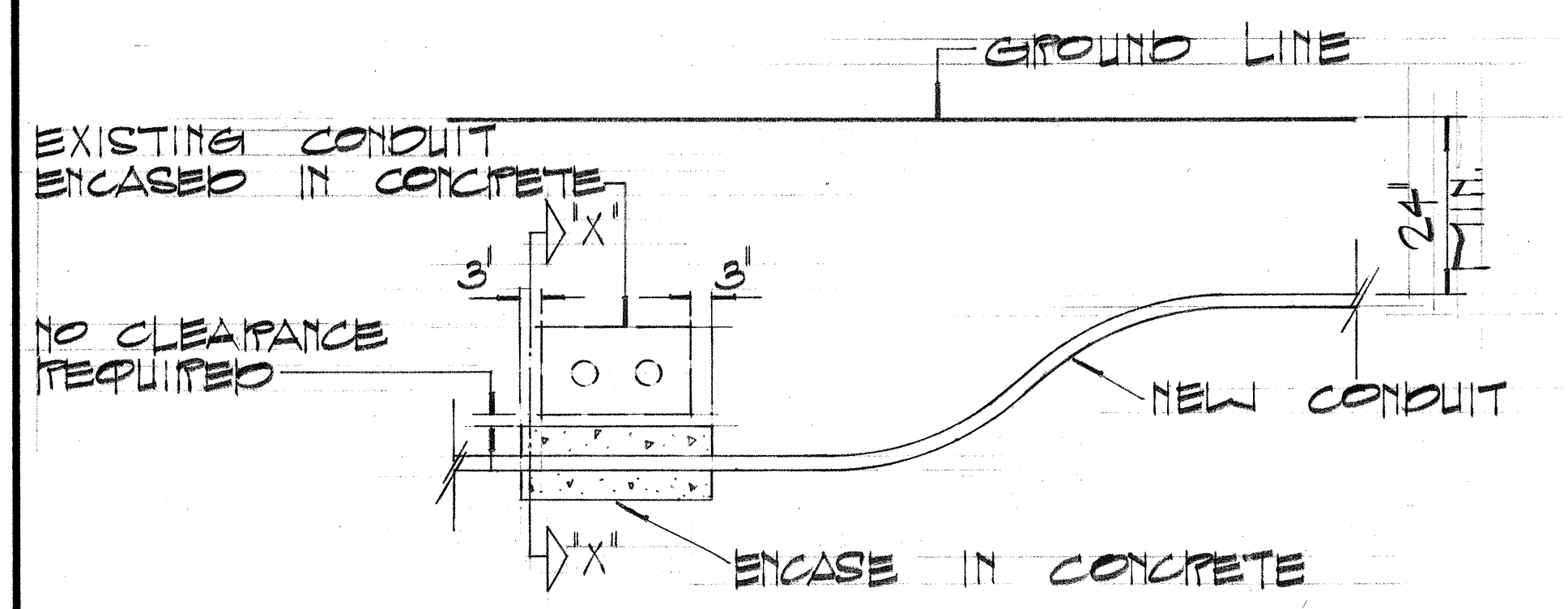
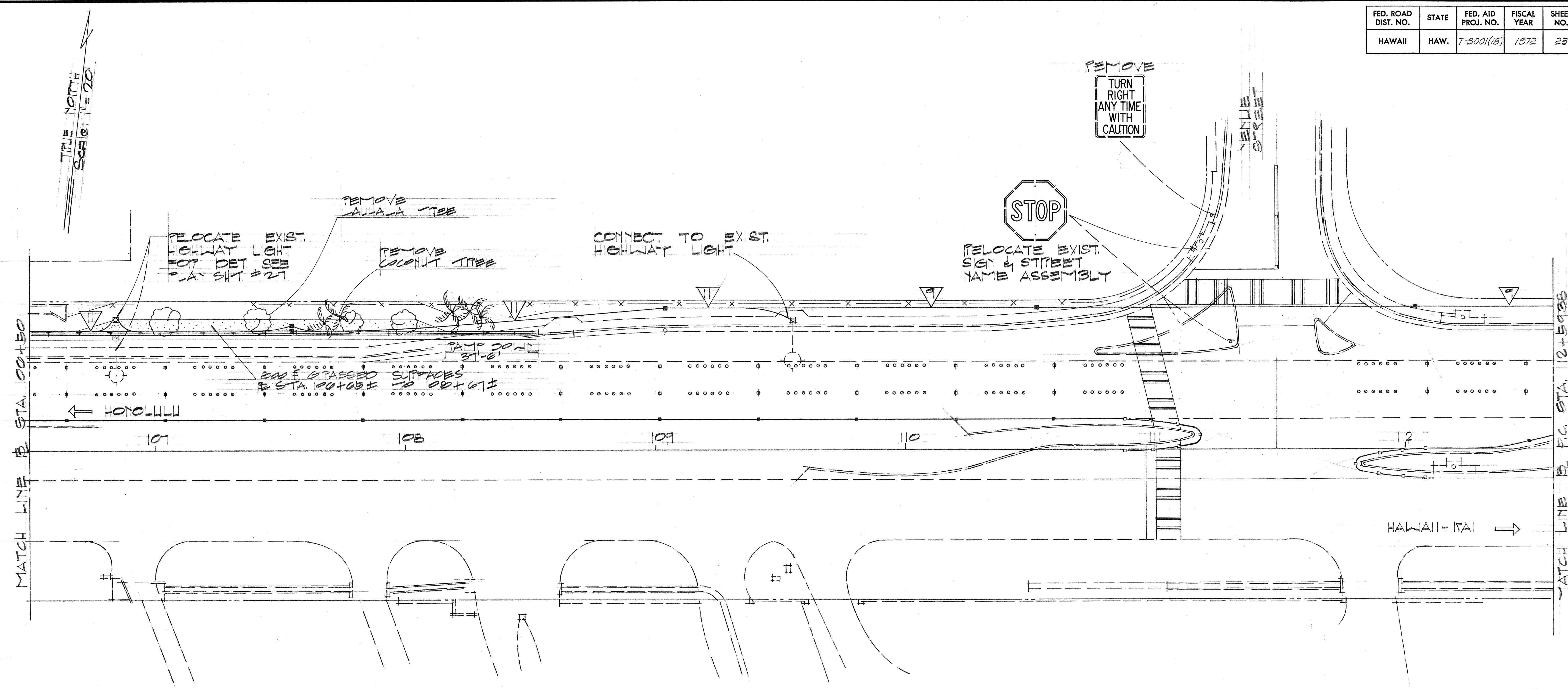
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING

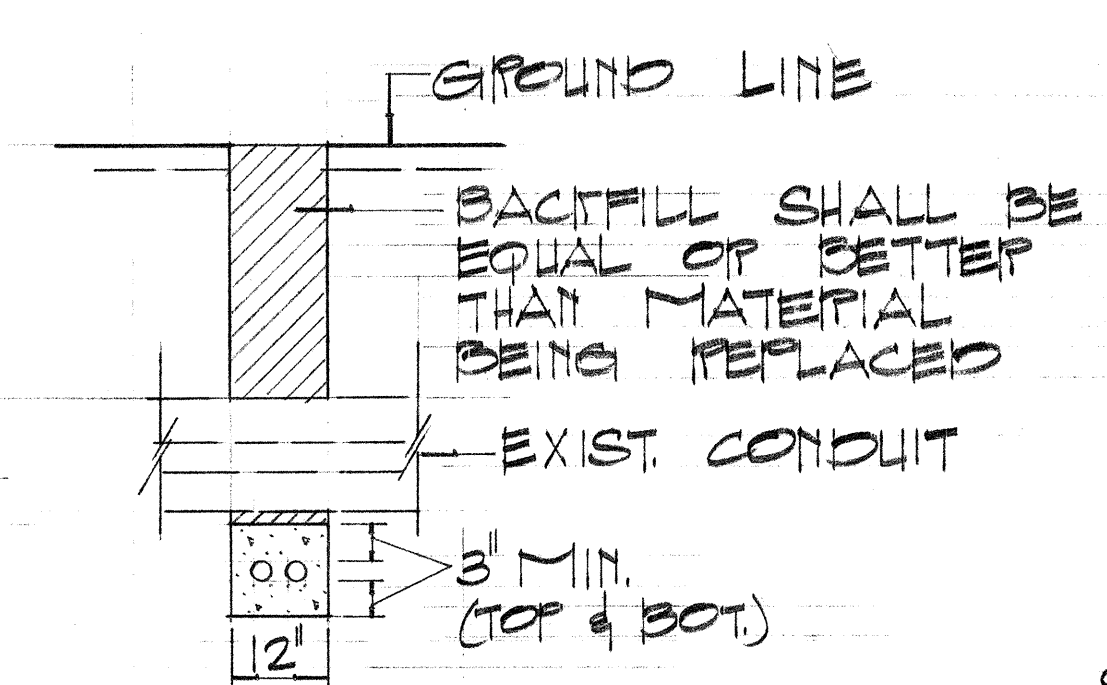
KALANIANA'OLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown March 1973

SHEET No. 2 OF 24 SHEETS

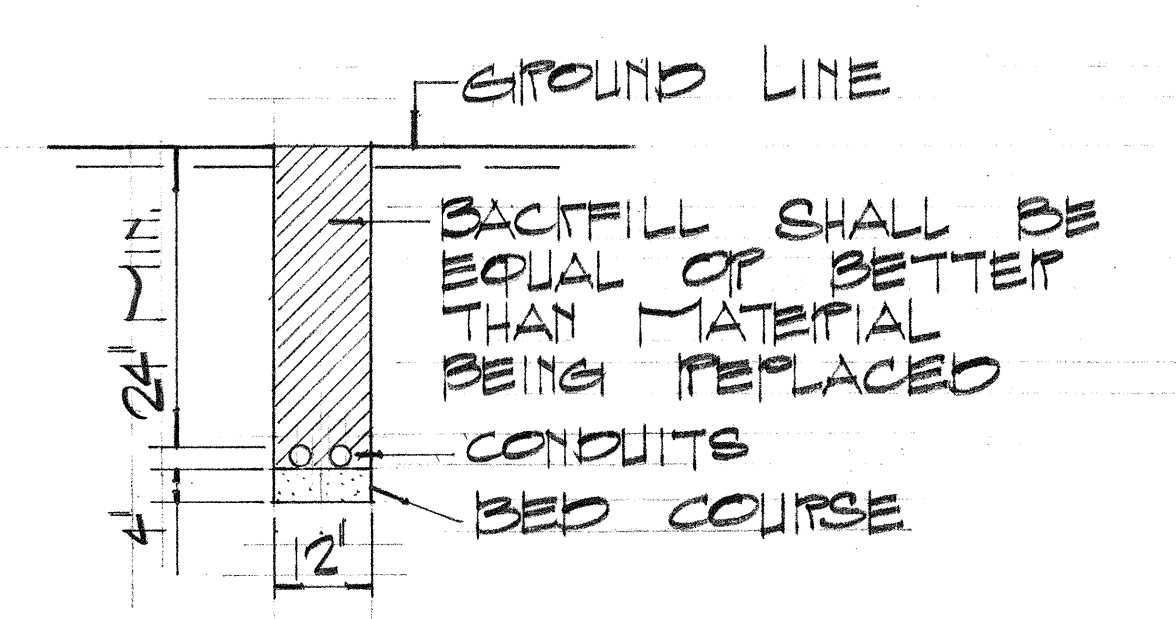
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	23	44



CONDUIT BY-PASS DETAIL
SCALE: 1/2" = 1'-0"



SECTION "X-X"



STEEL OR PVC CONDUIT DETAIL
SCALE: 1/2" = 1'-0"

6-19-73	REVISED LANDSCAPING MARKINGS & GUARD RAIL
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING**

KALANIANA'OLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown March 1973

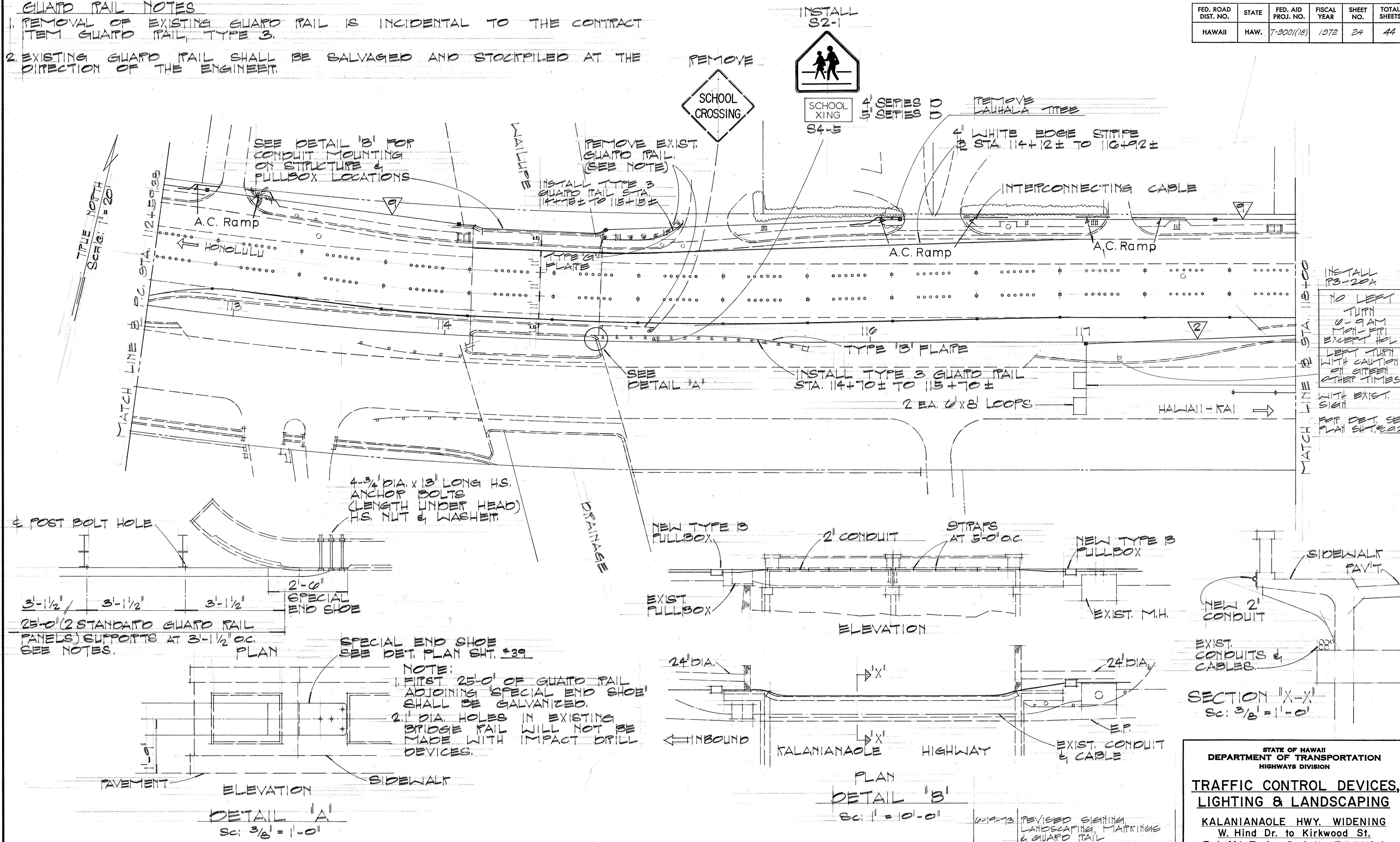
SHEET No. 3 OF 24 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
NO.	_____

GUARD RAIL NOTES

1. REMOVAL OF EXISTING GUARD RAIL IS INCIDENTAL TO THE CONTRACT ITEM GUARD RAIL TYPE 3.
2. EXISTING GUARD RAIL SHALL BE SALVAGED AND STOCKPILED AT THE DIRECTION OF THE ENGINEER.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	24	44



DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
NO.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

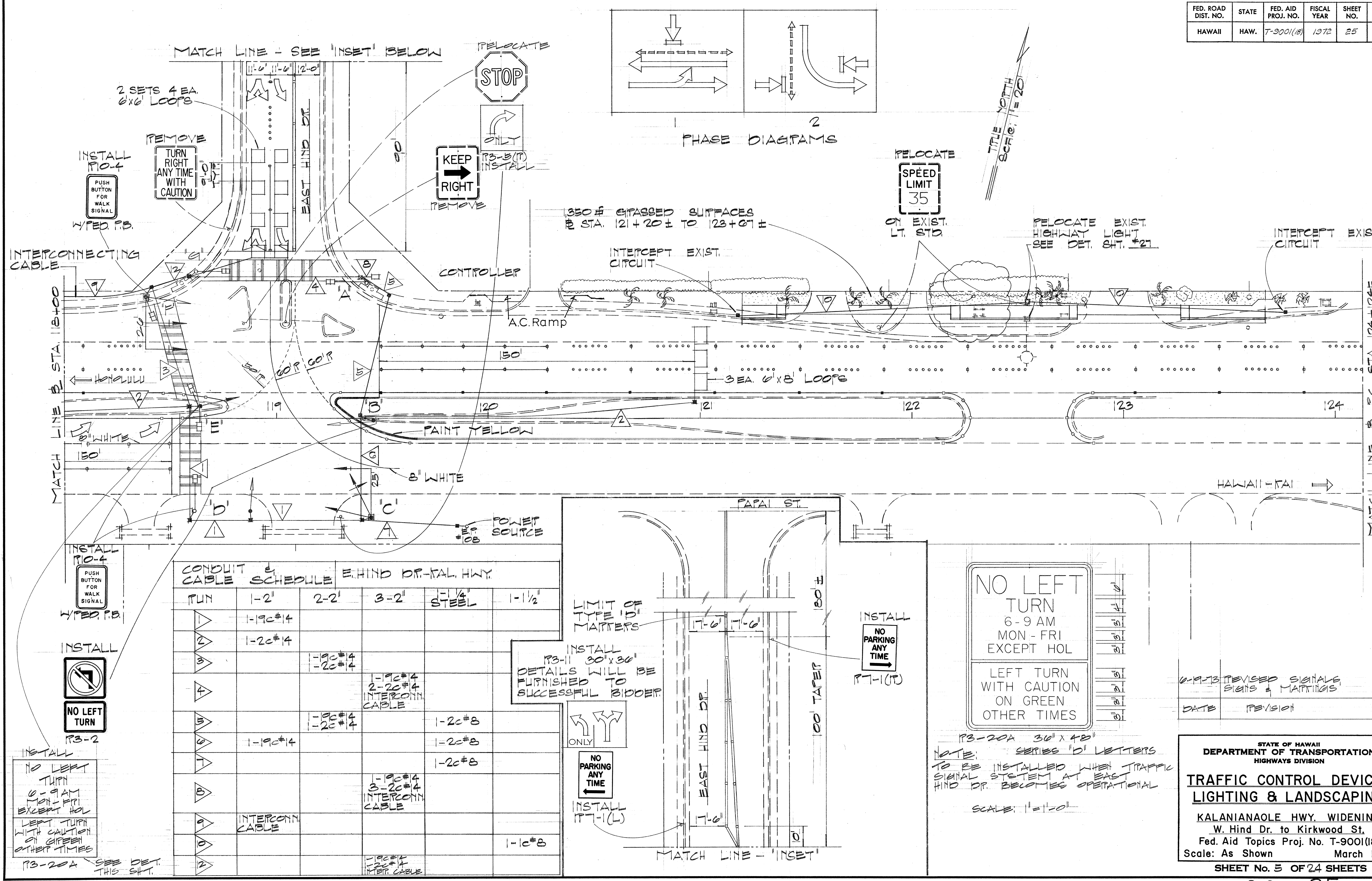
**TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING**

KALANIANA'OLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown March 1973

SHEET No. 4 OF 24 SHEETS

DATE	REVISION
02/19/73	REVISED SIGNING, LANDSCAPING, MARKINGS & GUARD RAIL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	25	44



SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
RE	

CONDUIT & CABLE SCHEDULE						EAST HIND DR. - KAL. HWY.	
RUN	1-2"	2-2"	3-2"	1-1/4"	1-1/2"		
1	1-19c#14						
2	1-2c#14						
3		1-9c#14 1-2c#14					
4			1-9c#14 2-2c#14			INTERCONN. CABLE	
5		1-9c#14 1-2c#14		1-2c#8			
6	1-19c#14			1-2c#8			
7				1-2c#8			
8			1-9c#14 3-2c#14			INTERCONN. CABLE	
9	INTERCONN. CABLE						
10					1-1c#8		
11			1-9c#14 1-2c#14			INTER. CABLE	

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

TRAFFIC CONTROL DEVICES,

LIGHTING & LANDSCAPING

KALANIANA'OLE HWY. WIDENING

W. Hind Dr. to Kirkwood St.

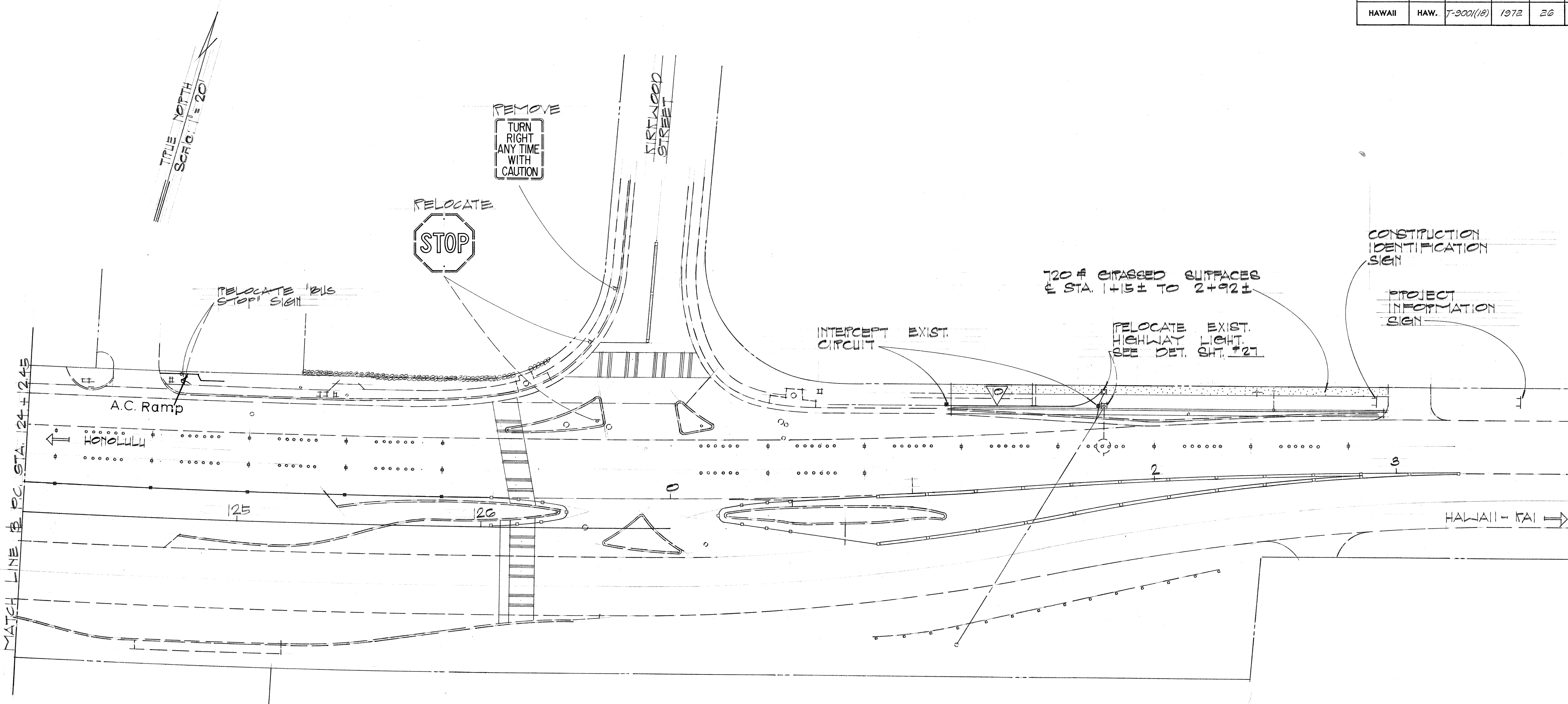
Fed. Aid Topics Proj. No. T-9001(18)

Scale: As Shown

March 1973

SHEET No. 5 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	26	44



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

6-19-73	REVISED MARKINGS & SIGNS
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING

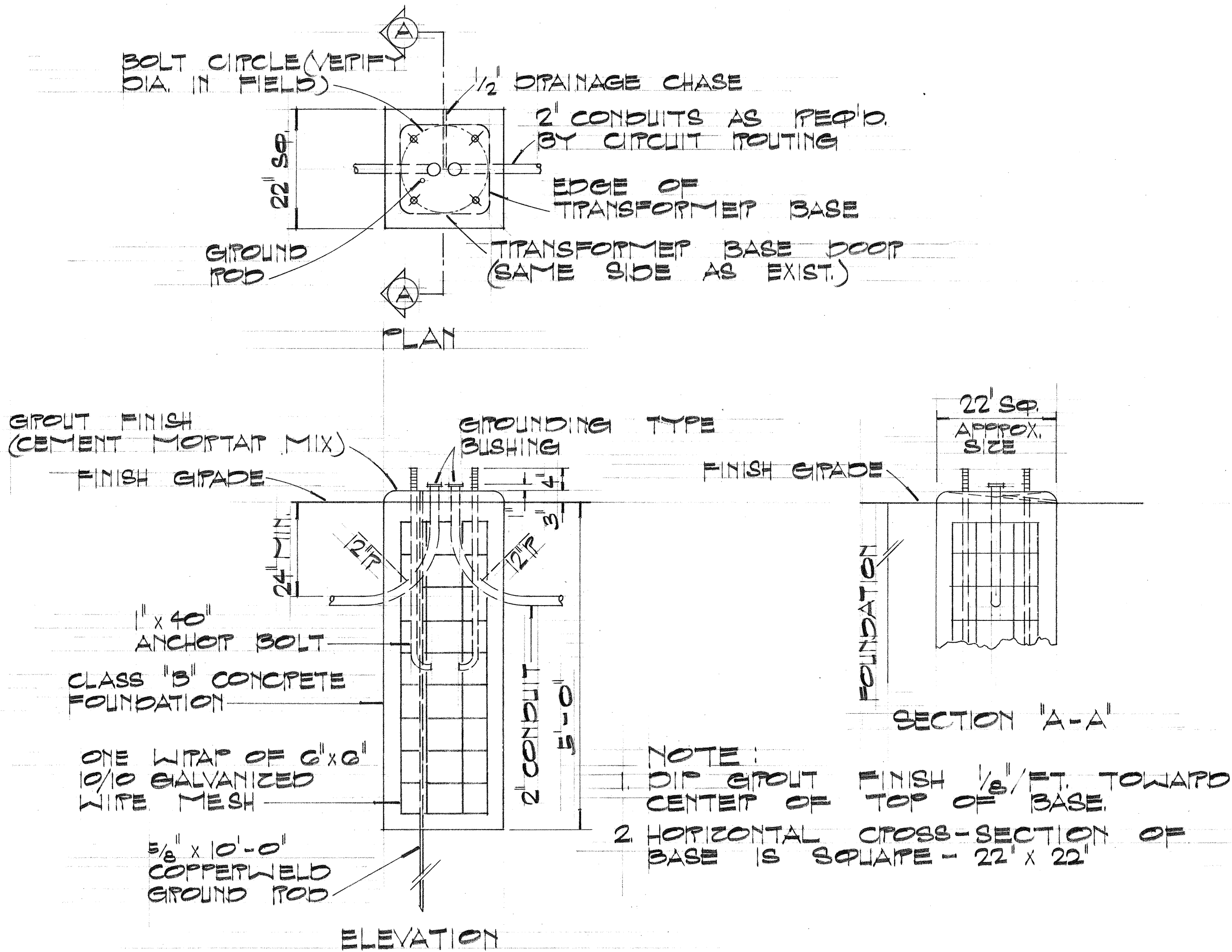
KALANIANAʻOLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown March 1973

SHEET No. 6 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	27	44

GENERAL NOTES: LIGHTING

1. EXACT LOCATIONS OF RELOCATED HIGHWAY LIGHTS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. THE CONTRACTOR SHALL VERIFY THE LOCATION & CONDITION OF EXISTING HIGHWAY LIGHTING EQUIPMENT & FACILITIES.
3. HIGHWAY LIGHTING CONDUITS, CABLES & PULLBOXES SHALL CONFORM TO SPECIFICATIONS FOR TRAFFIC SIGNAL SYSTEM.
4. RELOCATE DESIGNATED EXISTING HIGHWAY LIGHTS TO NEW CONCRETE FOUNDATIONS. PROVIDE 6'-0" CLEARANCE FROM NEW CURB.
5. WHEN NEW PULLBOXES FOR TRAFFIC SIGNAL & HIGHWAY LIGHTING SYSTEM ARE ADJACENT TO EACH OTHER EACH SHALL BE MARKED APPROPRIATELY 'TS' OR 'HL' BY A METHOD APPROVED BY THE ENGINEER.
6. SPICE NEW CABLE TO EXISTING DIRECT BURIAL CABLE. ALL SPICES SHALL BE DONE IN PULLBOX OR BASE.



DETAIL OF
CONCRETE FOUNDATION FOR
STREET LIGHT POLE

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

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING

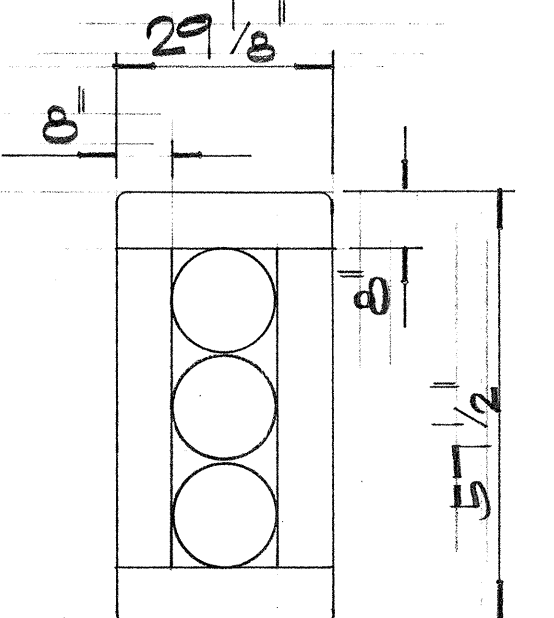
KALANIANA'OLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown
March 1973

SHEET No. 7 OF 24 SHEETS

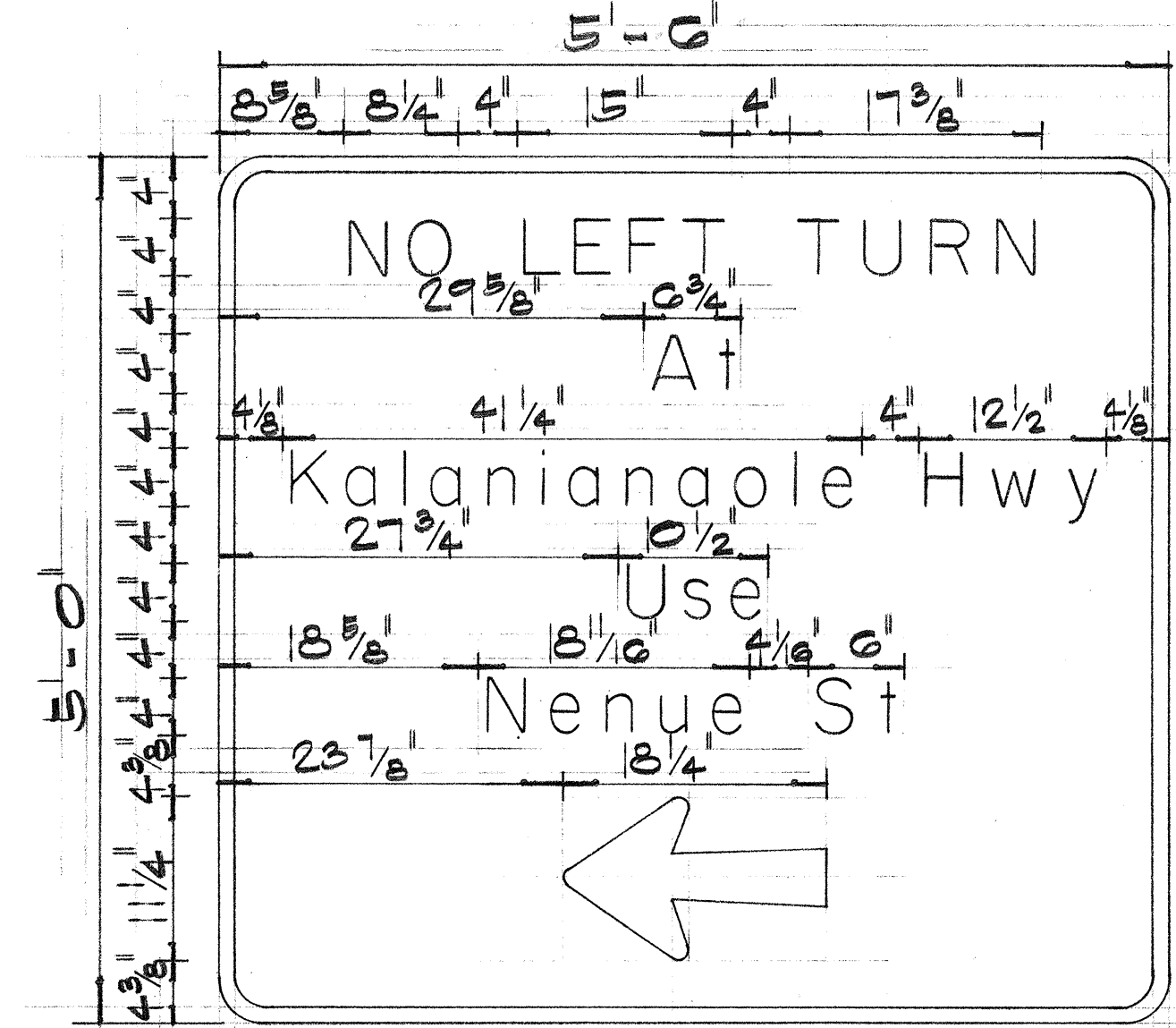
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	28	44

LEGEND: SIGNALS & LIGHTING

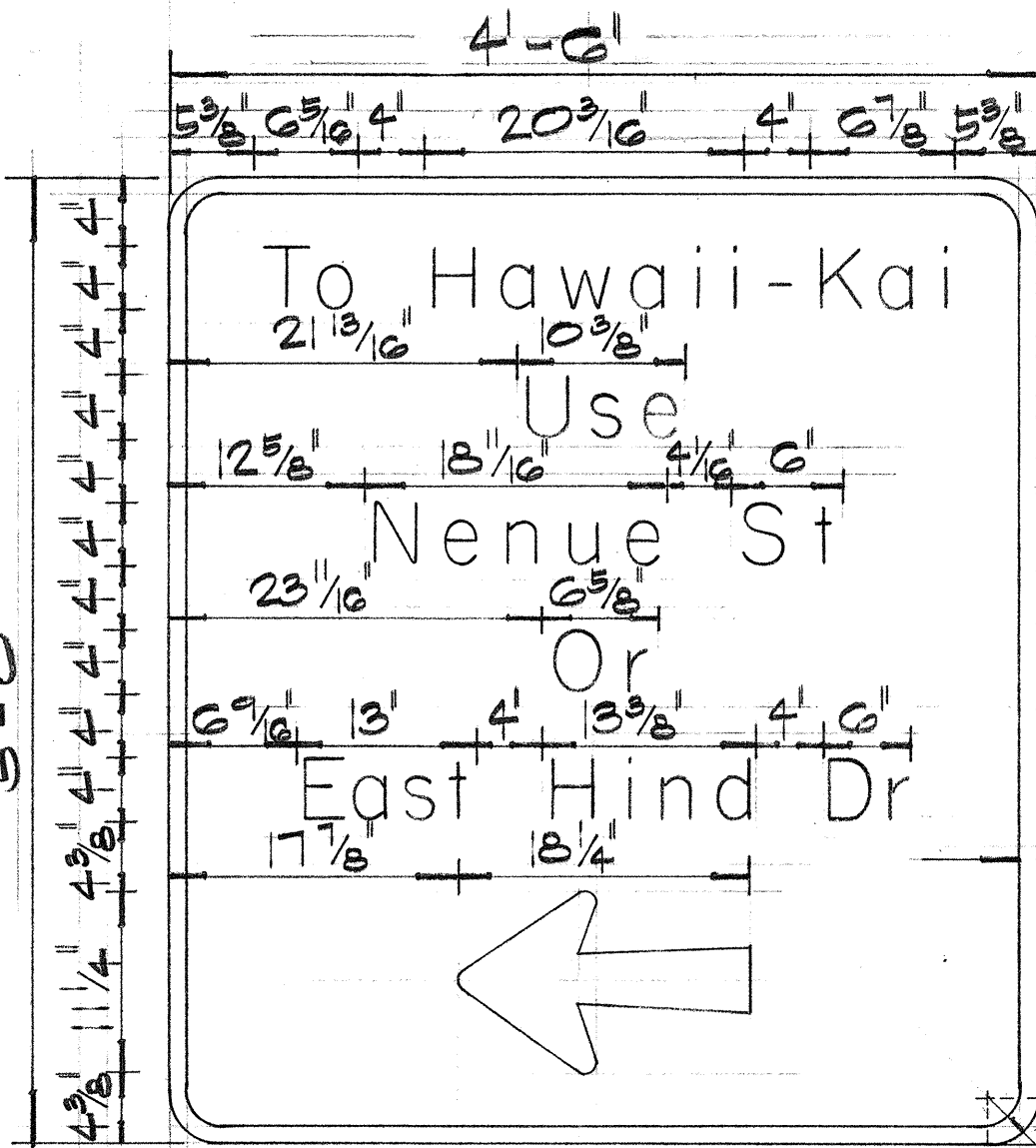
- 12" PYG SIGNAL ON 10' STANDARD
- 12" PYI SIGNAL ON 10' STANDARD
- 12" PYI SIGNAL W/ BACKPLATE ON MASTARM STANDARD (LENGTH OF ARM AS INDICATED)
- 12" PY - SIGNAL ON 10' STANDARD
- 12" PEDESTRIAN DW-W SIGNAL ON 8' STANDARD
- NEW VEHICLE LOOP DETECTORS
- NEW TYPE 'A' PULLBOX
- NEW TYPE 'B' PULLBOX (EXCEPT AS NOTED)
- NEW CONTROLLER IN TYPE M CABINET
- NEW CONDUIT & CABLE. SEE CONDUIT & CABLE SCHEDULE FOR NO. & SIZE.
- EXISTING CONDUIT TO BE USED. SEE CONDUIT & CABLE SCHEDULE FOR NO. & SIZE.
- EXISTING PULLBOX TO BE USED
- EXISTING HWY. LIGHTING CIRCUIT.
- EXISTING HWY. LIGHT STANDARD.
- NEW CONCRETE FOUNDATION FOR HWY. LIGHT STANDARD.



BACKPLATE DETAIL
NOT TO SCALE



SIGN D-1(L)



SIGN D-2(L)

DIRECTIONAL SIGNS

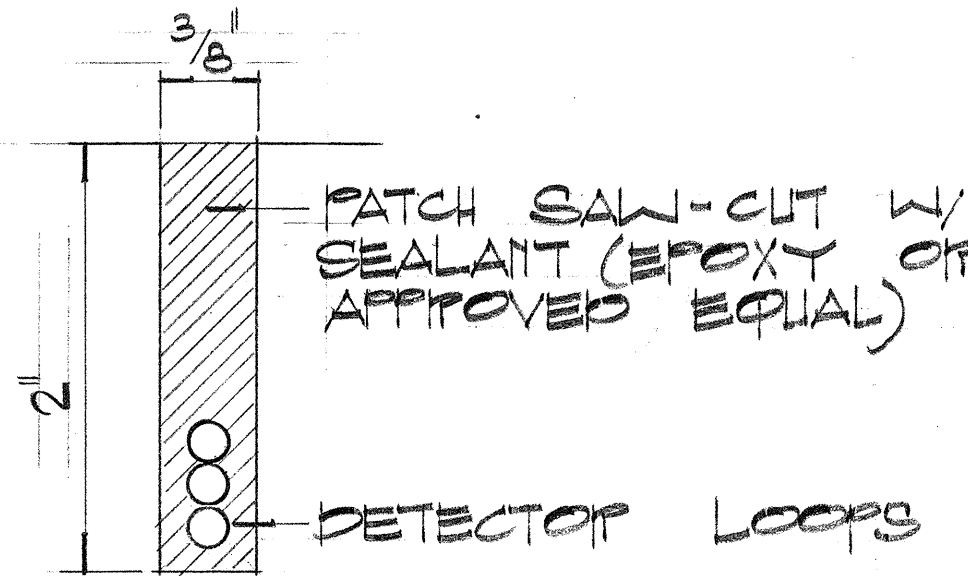
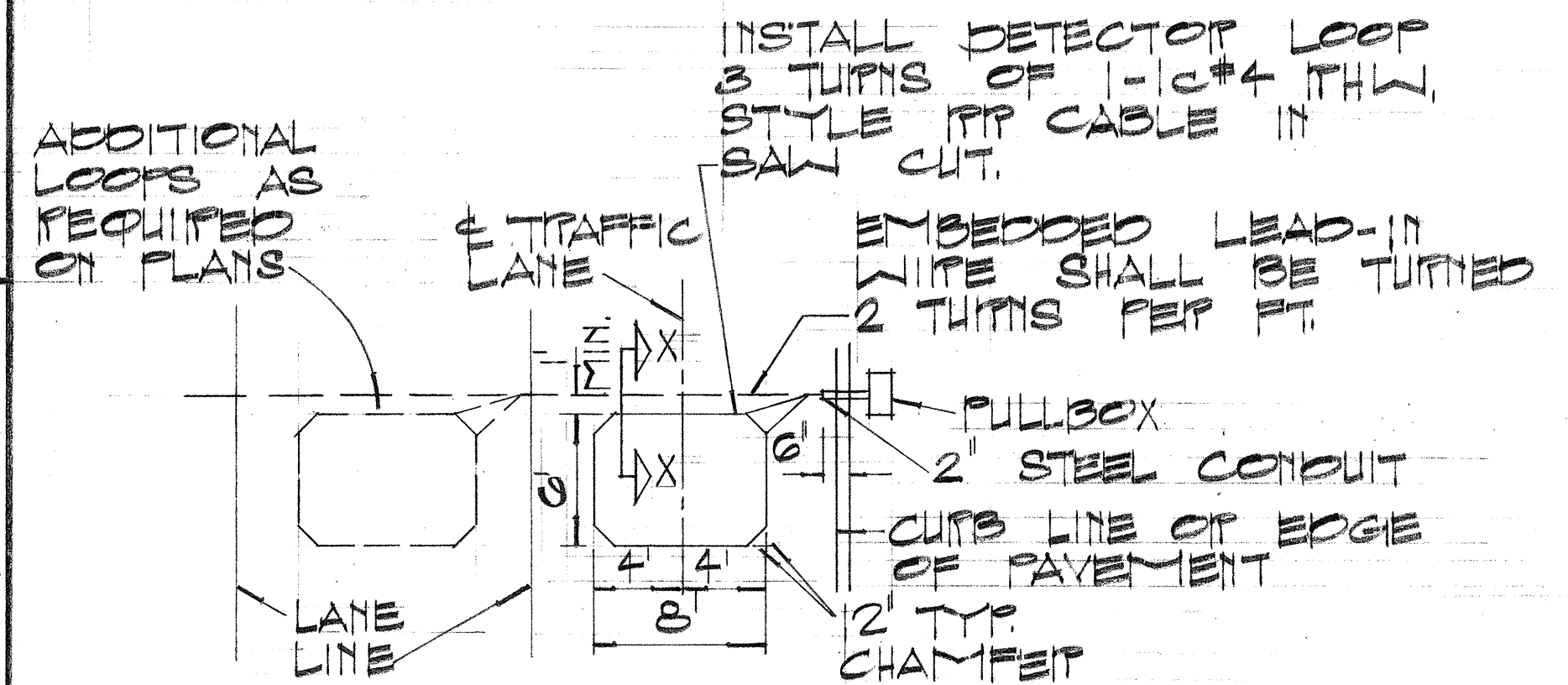
NOT TO SCALE

NOTE:

- DIRECTIONAL (D) SIGNS SHALL CONFORM TO PLANS & SPECIFICATIONS FOR REGULATORY & WARNING SIGNS EXCEPT AS NOTED.
- LETTERING SHALL CONFORM TO BPP MANUAL 'STANDARD ALPHABETS FOR HIGHWAY SIGNS', 1966. USE SERIES 'E' MODIFIED LETTERS.
- ARROWS & BORDERS SHALL CONFORM TO DETAILS AS SHOWN ON PLANS.
- LEGEND ARROWS & BORDERS SHALL BE REFLECTORIZED WHITE ON REFLECTORIZED GREEN BACKGROUND.
- FOR MOUNTING DETAILS SEE PLAN SHT. #30.

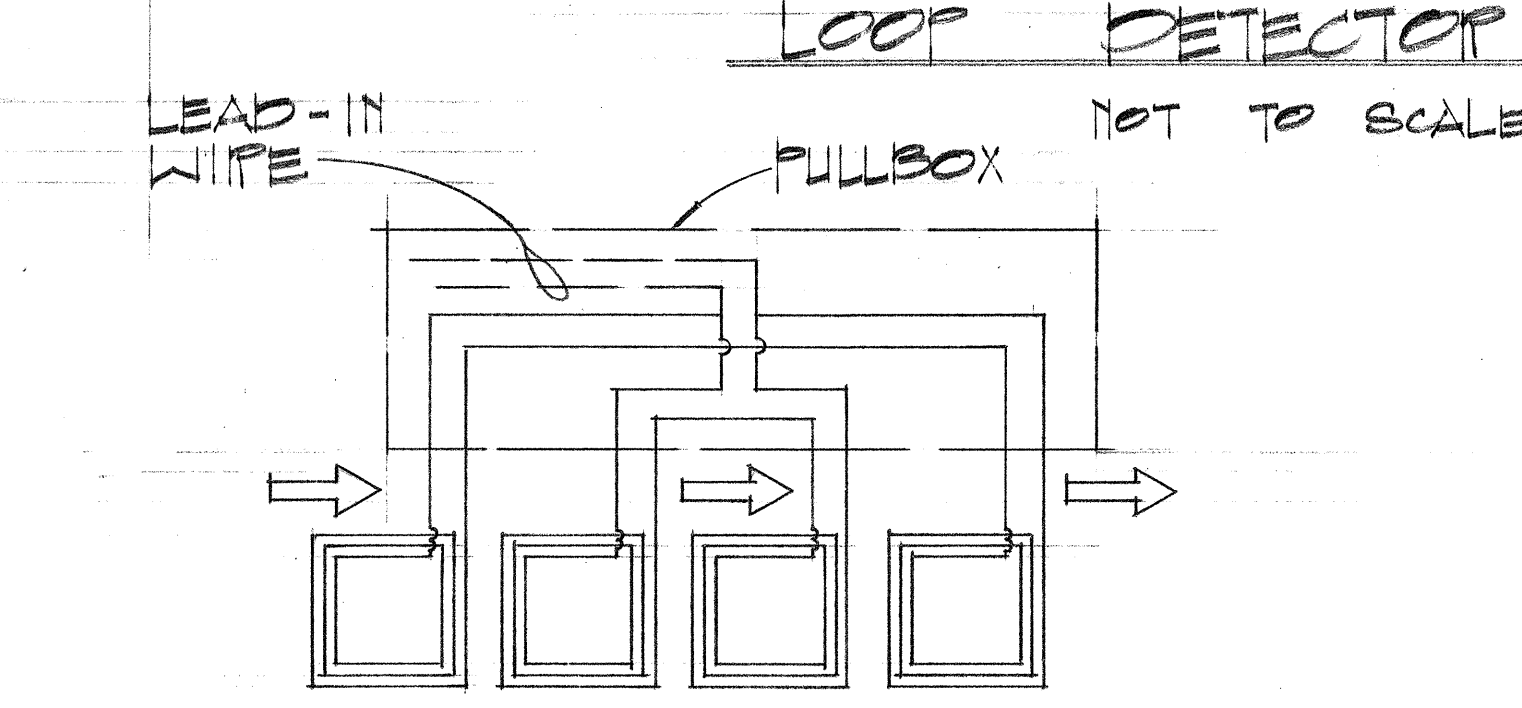
GENERAL NOTES: TRAFFIC SIGNALS

- THE EXACT LOCATION OF TRAFFIC SIGNAL STANDARDS, MASTARMS, PULLBOXES, CONTROLLER BASES & CONDUITS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- EXISTING CABLES, CONDUITS, PULLBOXES & LOOP DETECTORS NOT INCORPORATED IN THE FINAL SIGNAL SYSTEM SHALL BE ABANDONED OR REMOVED AS DIRECTED BY THE ENGINEER. ALL COSTS INCIDENTAL TO TRAFFIC SIGNAL SYSTEM ON KALANIANA'OLE HWY. AT WEST HIND DR.
- THE CONTRACTOR SHALL VERIFY LOCATION & CONDITION OF EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REUSED.
- EXISTING TRAFFIC SIGNAL EQUIPMENT NOT TO BE REUSED SHALL BE SALVAGED & STOCKPILED AS DIRECTED BY THE ENGINEER.
- LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN ON PLAN SHTS. #4 THRU #9.
- NEW 2" CONDUITS UNDER ROADWAY (INCLUDING DRIVEWAYS) SHALL BE STEEL. CONTRACTOR SHALL HAVE THE OPTION OF USING PVC FOR NEW 2" CONDUITS NOT UNDER ROADWAY.
- COST FOR SALVAGING & STOCKPILED EXISTING TRAFFIC SIGNAL EQUIPMENT NOT TO BE REUSED SHALL BE INCIDENTAL TO TRAFFIC SIGNAL SYSTEM ON KALANIANA'OLE HWY. AT WEST HIND DR.



SECTION "X-X"

NO	REVISION	APPROVED BY	DATE
1	Revise location of Loop Detector Lead-In Wire. Revise Steel Conduit size. Revise General Notes.	H.P.	4-2-73



SERIES PARALLEL LOOP CONNECTION

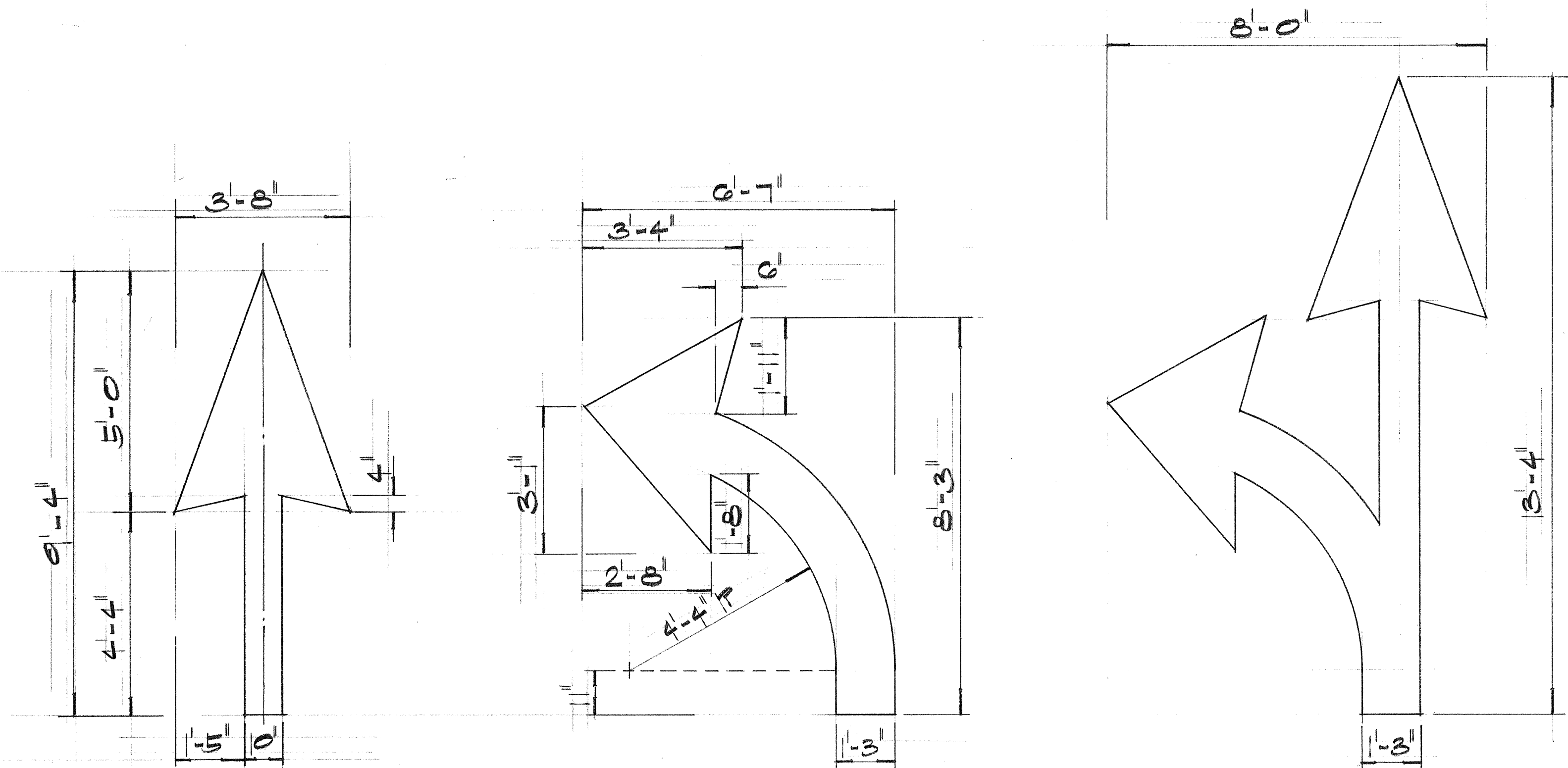
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING**

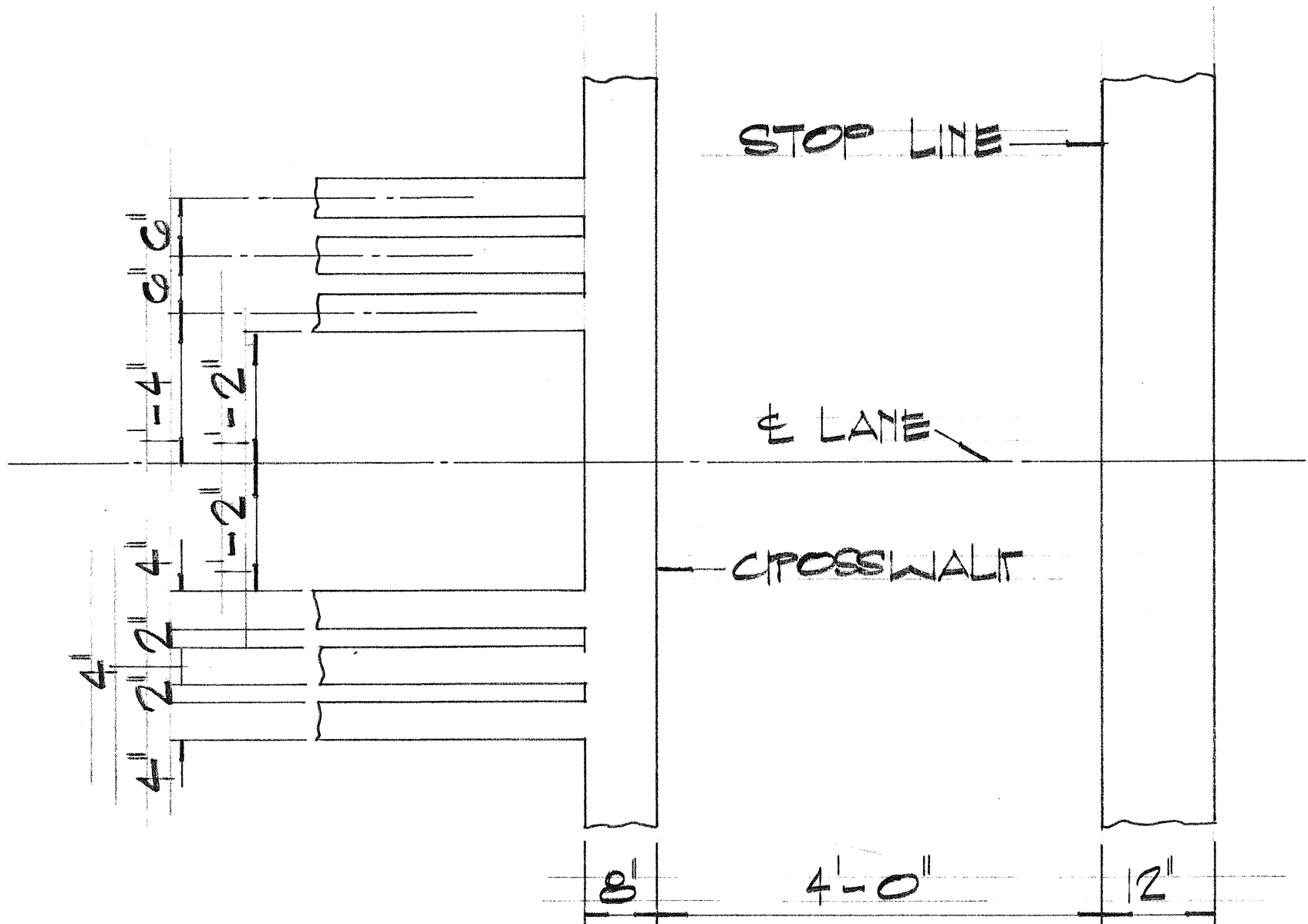
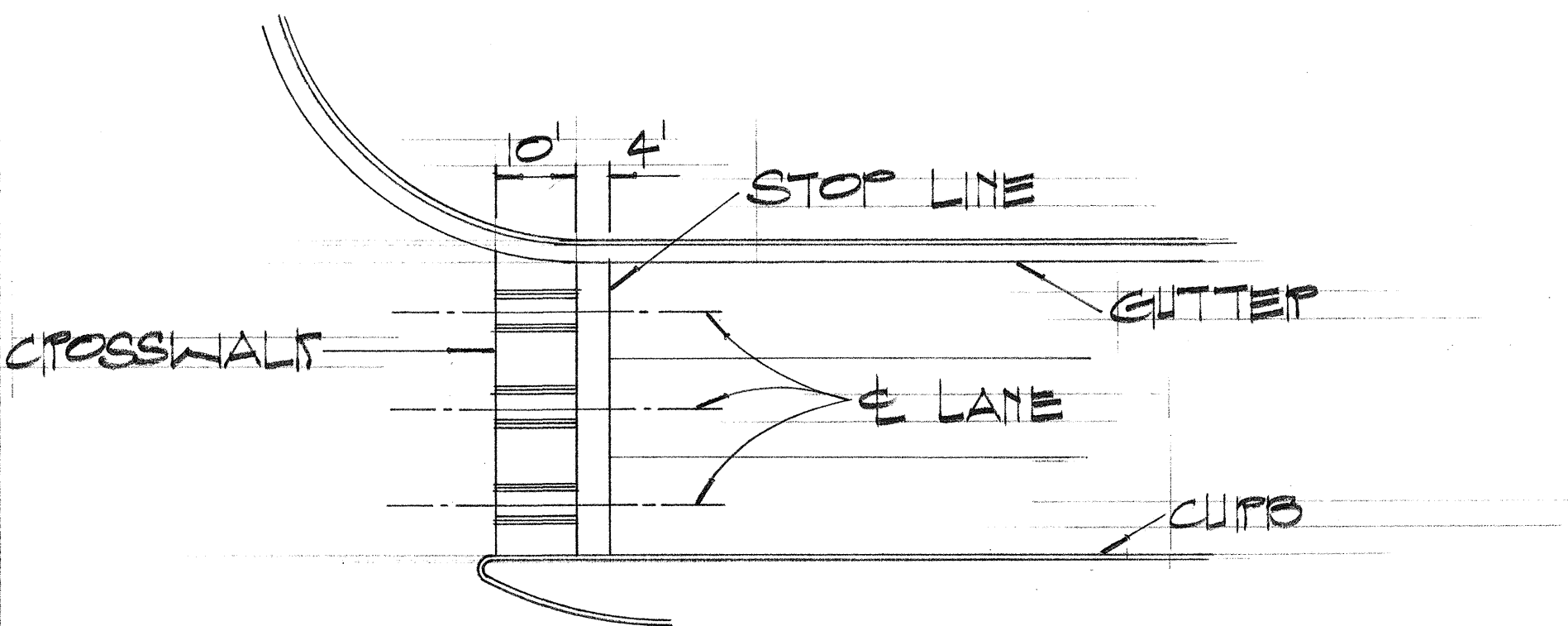
KALANIANA'OLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown March 1973

SHEET No. 28 OF 24 SHEETS

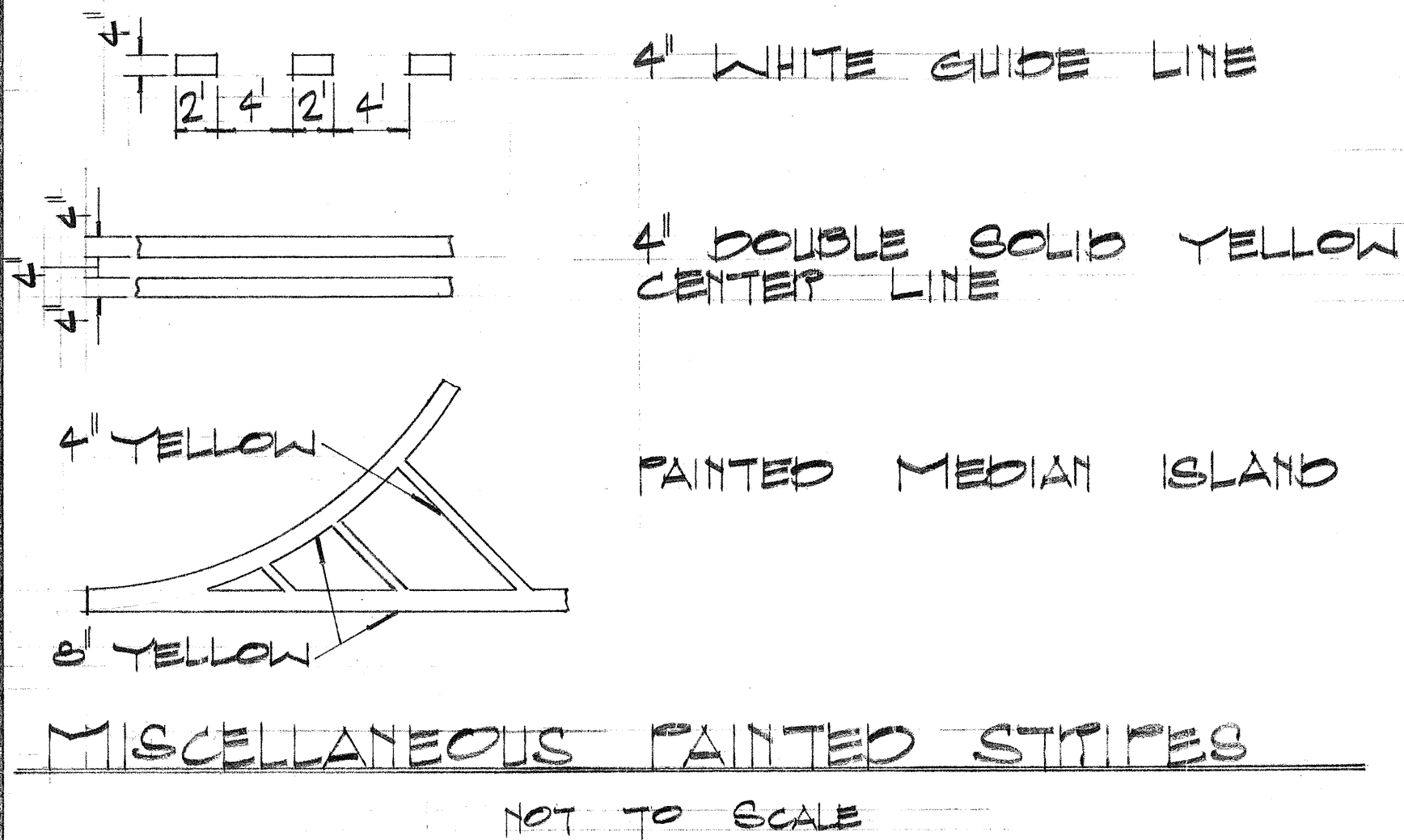
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	29	44



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



CROSSWALK & STOP LINE DETAIL
NOT TO SCALE



NOT TO SCALE

- GENERAL NOTES: PAVEMENT MARKING**
- PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS, 1971, AND AS SHOWN ON THE PLANS.
 - PAVEMENT MARKINGS SHALL BE DONE BY THE CONTRACTOR. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
 - EXISTING PAVEMENT MARKINGS NOT INCORPORATED IN THE FINAL TRAFFIC PATTERN SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. ALL COSTS SHALL BE INCIDENTAL TO THE CONTRACT ITEM "PAVEMENT STRIPING."

- LEGEND: PAVEMENT MARKING**
- TYPE 'A' RAISED PAVEMENT MARKS
 - + TYPE 'C' RAISED PAVEMENT MARK
 - o TYPE 'D' RAISED PAVEMENT MARK
 - 4" SOLID WHITE LANE LINE W/ TYPE 'C' MARKS 20' OC.
 - == 4" DOUBLE SOLID YELLOW LANE W/ TYPE 'D' MARKS 20' OC.
 - == 4" DOUBLE SOLID YELLOW CENTER LINE (SEE DETAIL THIS SHT.).
 - - - 4" WHITE GUIDE LINE (SEE DETAIL THIS SHT.).
 - 8" WHITE CHANNELIZING LINE
 - PAVEMENT ARROW (SEE DETAIL THIS SHT.).

- ||||| CROSSWALK & STOP LINE (SEE DETAIL THIS SHT.).
- PAINTED MEDIAN ISLAND (SEE DETAIL THIS SHT.).

NOTE:
FOR ADDITIONAL DETAILS ON RAISED PAVEMENT MARKS & PAINTED STRIPES, SEE PLAN SHT. #35

- LEGEND: PAVEMENT MARKING (CONT.)**
- TYPE 'H' RAISED PAVEMENT MARKS
 - 4" SOLID YELLOW LINE W/ TYPE 'H' MARKS AT 10' OC.
 - 4" SOLID YELLOW LINE W/ TYPE 'D' MARKS AT 10' OC.

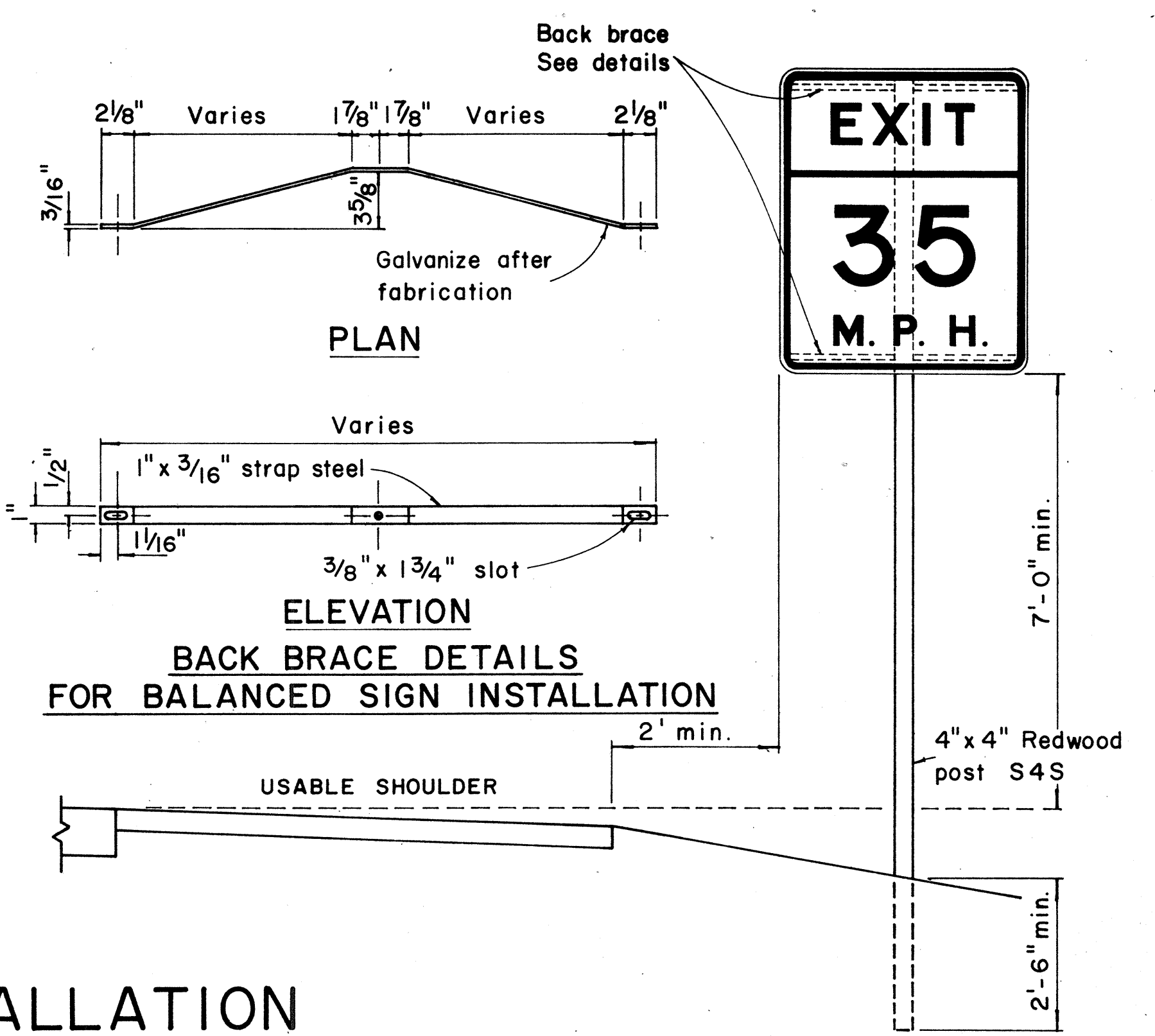
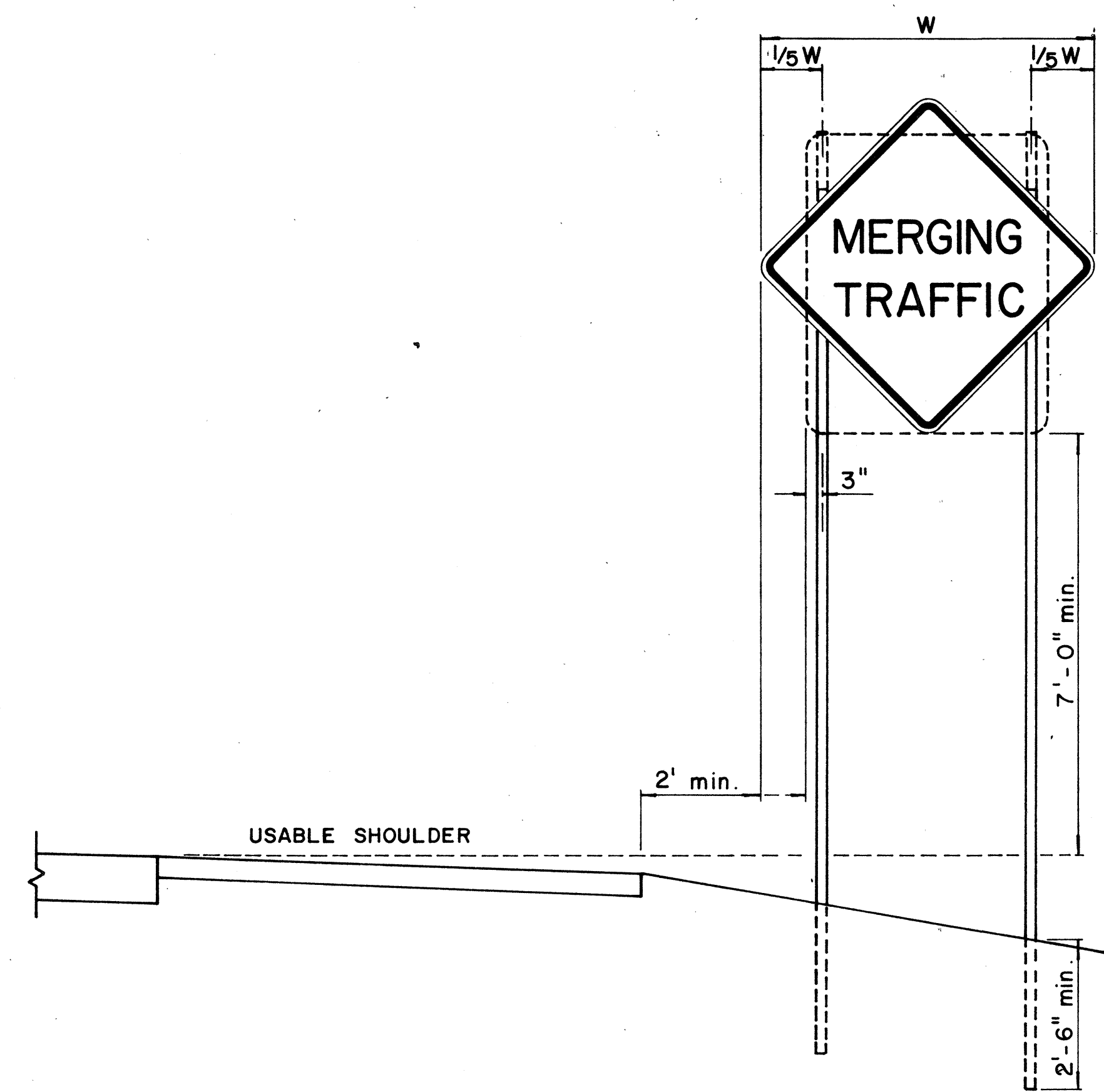
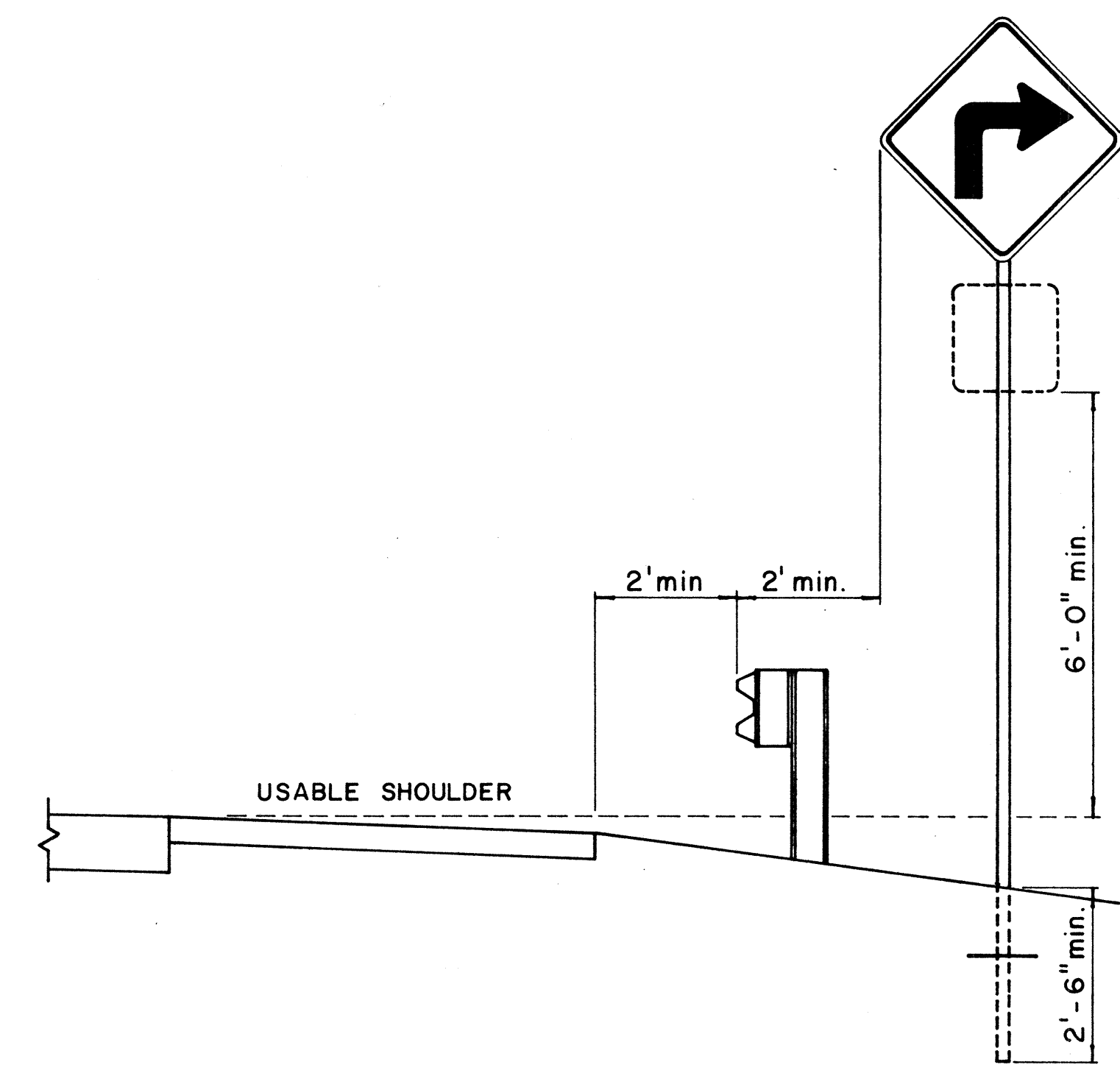
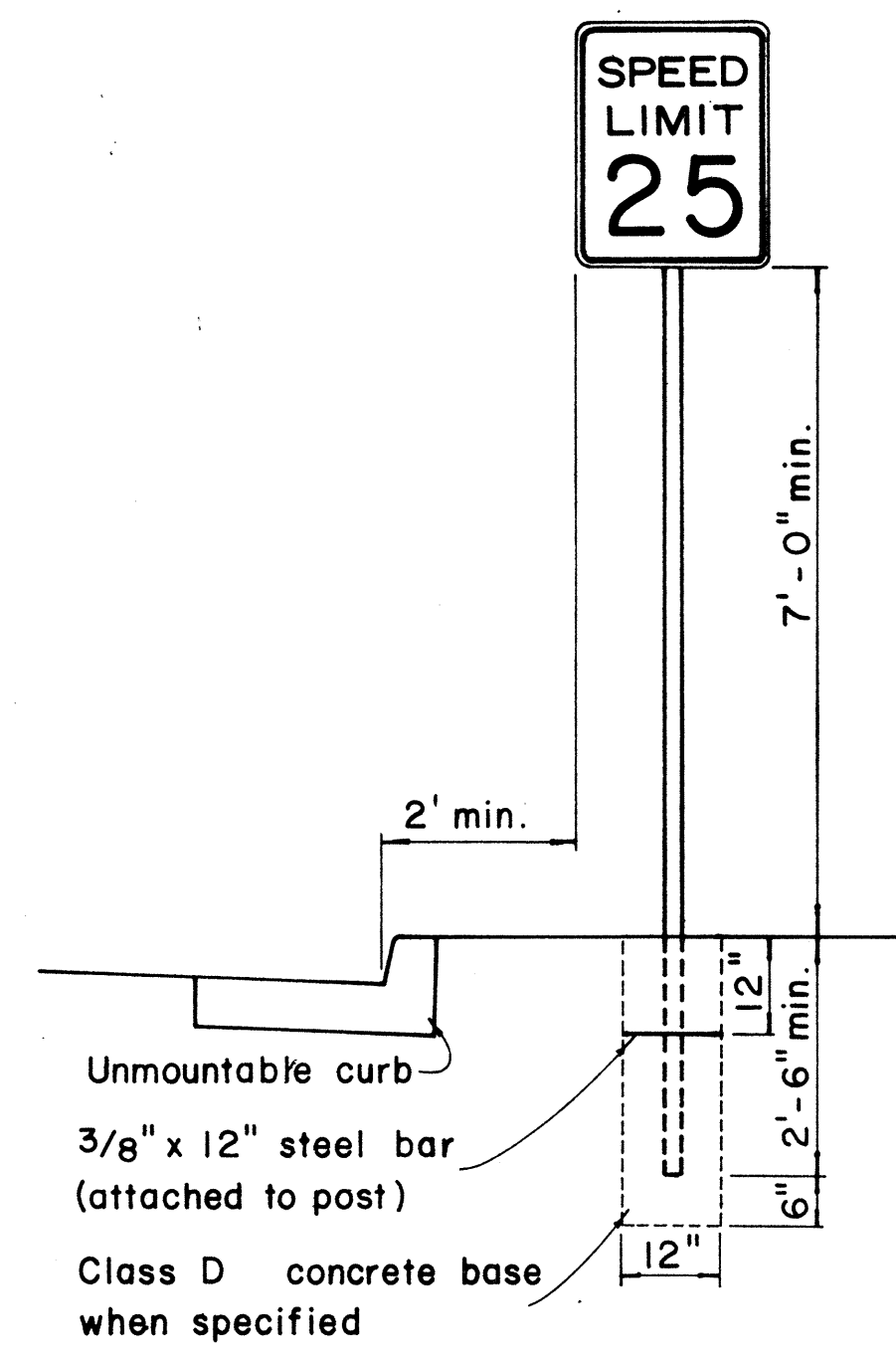
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TRAFFIC CONTROL DEVICES,
LIGHTING & LANDSCAPING**

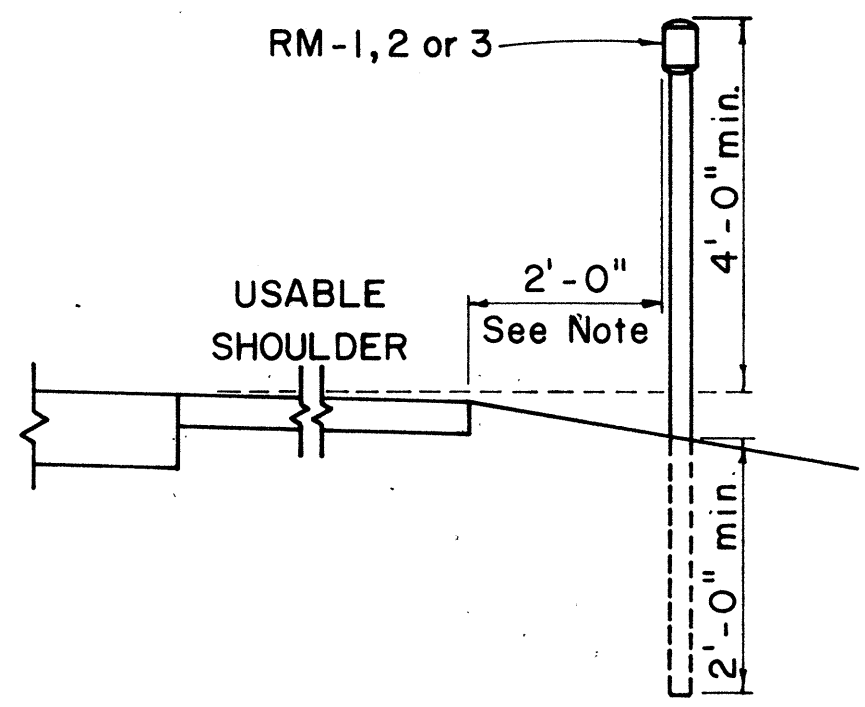
KALANIANA'OLE HWY. WIDENING
W. Hind Dr. to Kirkwood St.
Fed. Aid Topics Proj. No. T-9001(18)
Scale: As Shown March 1973

SHEET No. 9 OF 24 SHEETS

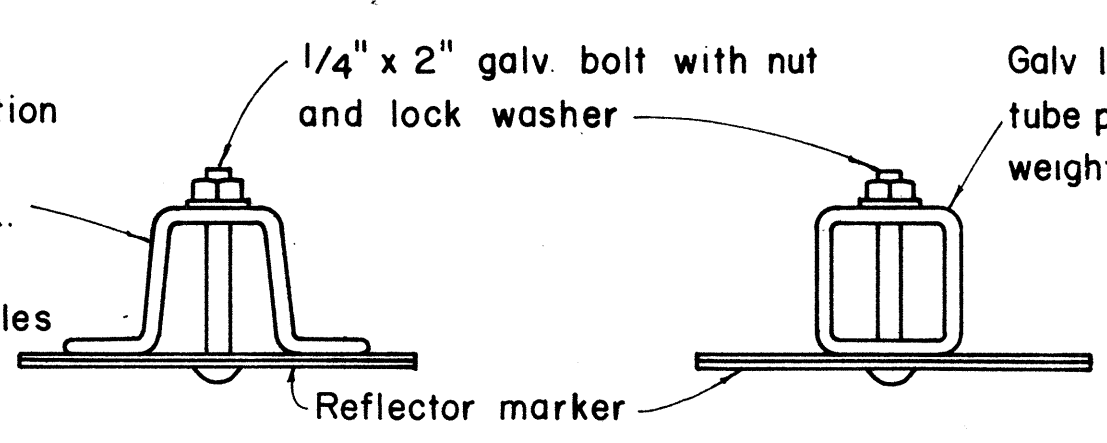
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-300(18)	1972	30	44



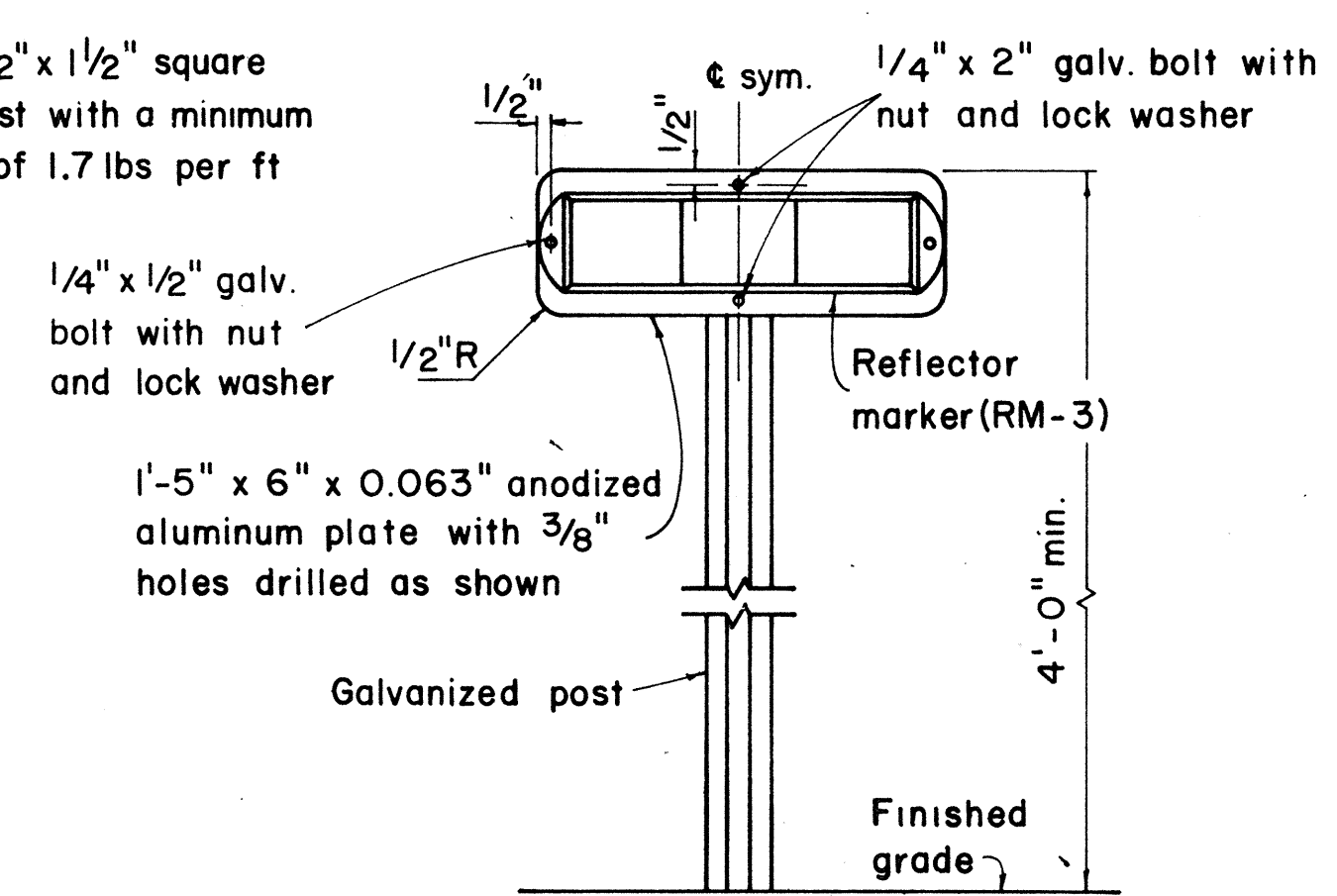
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



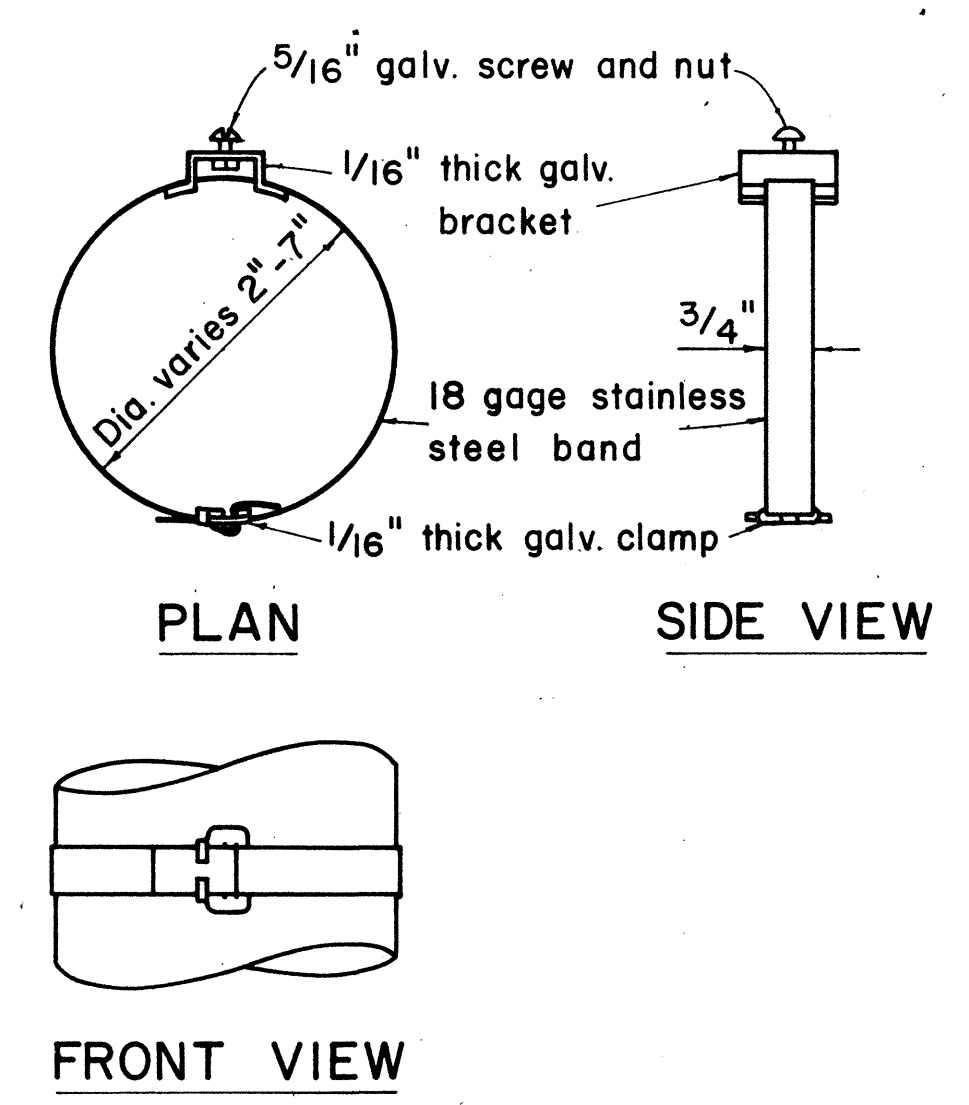
Galv. flanged channel 1/8" x 3/16" rolled section post with a minimum weight of 2 lbs. per ft.. Upper 2 ft. shall have a single row of 3/8" holes centered in the web at 1" o.c.



TYPICAL SECTION OF ROAD DELINEATOR



TYPICAL DETAIL HORIZONTAL REFLECTOR MARKER RM-3H



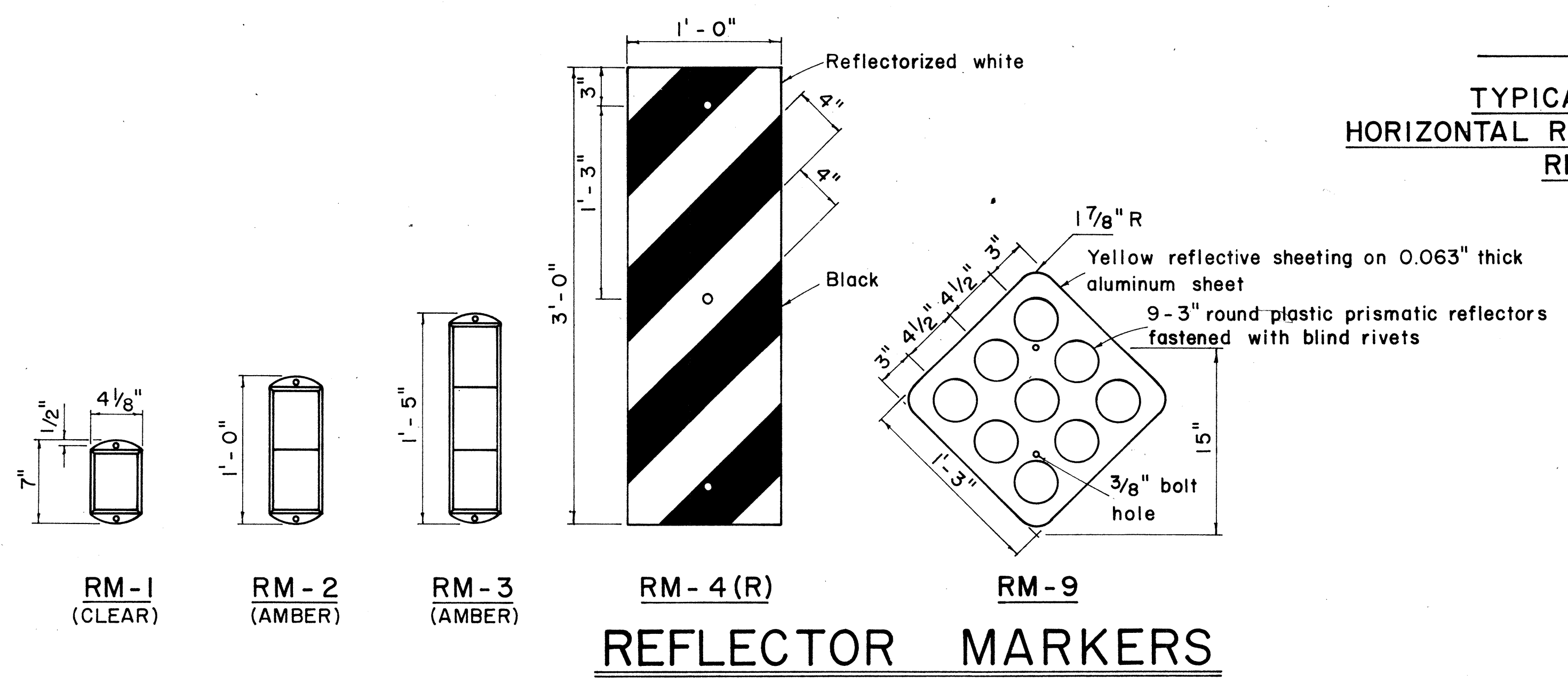
TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

- GENERAL NOTES:**
- Sign posts shall be 2" galv. standard pipe or 2" x 2" galv. sq. tube post.
 - Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two 2" galv. standard pipe or two 2" x 2" galv. sq. tube post or 4" x 4" redwood post S4S.
 - Signs shall be attached to post with 5/16" galv. bolts with nuts and 7/8" x 0.06 stainless steel washers with neoprene rubber gasket.
 - Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
 - Reflector markers RM-1, 2, 3 shall be glass sphere reflector markers with 4" x 5" reflector units (as shown) or plastic prismatic reflector markers with 3" diameter reflector units.
 - Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
 - (R) or (L) indicates right or left and shall be as shown on the plans.

APPROVAL RECOMMENDED: E. Tanaka 12/29/69
TRAFFIC ENGINEER DATE

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

ROAD DELINEATOR



REFLECTOR MARKERS

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

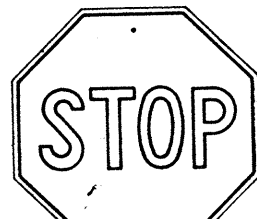
STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968

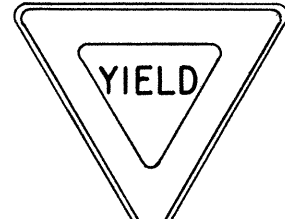
SHEET No. 10 OF 24 SHEETS DT 100

DATE	
DESIGNED BY	
CHECKED BY	
QUANTITIES BY	
NOTES BY	
ORIGINAL PLAN	
DRAWN BY	
SURVEY PLANNED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-300(118)	1972	31	44



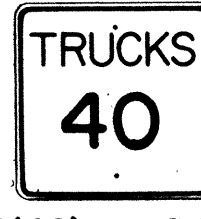
R1-1 30" x 30"
R1-1-A 36" x 36"
4-WAY
R1-3 12" x 6"
R1-3-A 18" x 9"



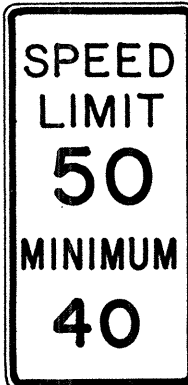
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



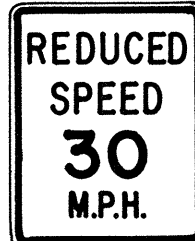
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



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



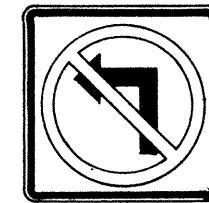
R2-4a(50/40) 24" x 48"
R2-4a(50/40)-A 48" x 96"



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



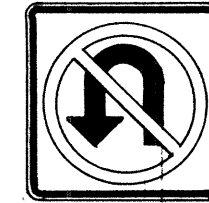
R3-1 24" x 24"
24" x 18"
R3-1-A 48" x 48"
48" x 36"



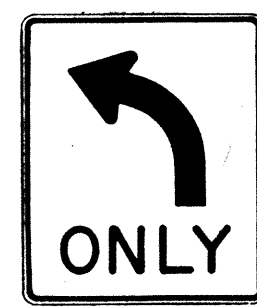
R3-2 24" x 24"
24" x 18"
R3-2-A 48" x 48"
48" x 36"



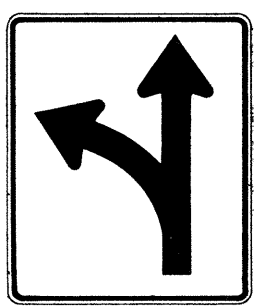
R3-3 24" x 24"
R3-3-A 48" x 48"



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



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



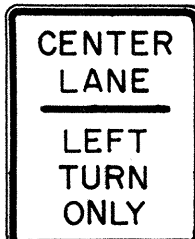
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



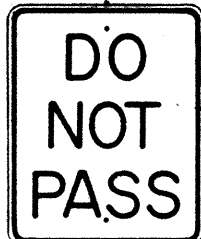
R3-7(R) 30" x 30"
R3-7(R)-A 48" x 48"



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



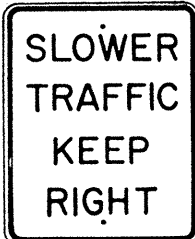
R3-9 24" x 30"



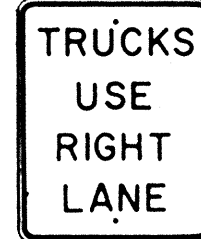
R4-1 24" x 30"



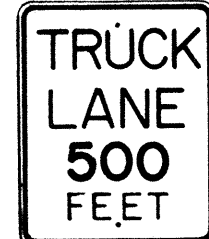
R4-2 24" x 30"



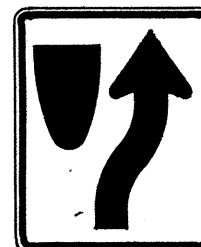
R4-3 24" x 30"
R4-3-A 48" x 60"



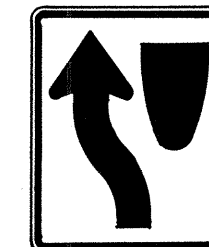
R4-5 24" x 30"



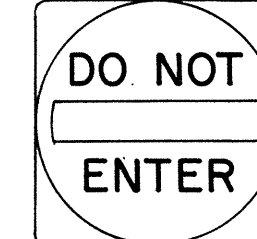
R4-6(500) 24" x 30"



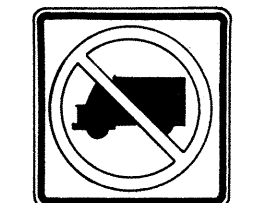
R4-7 24" x 30"
24" x 18"



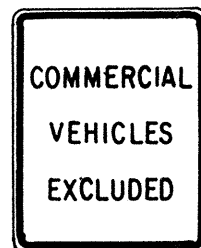
R4-8 24" x 30"
24" x 18"



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



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



R5-4 24" x 30"



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



R5-9 36" x 24"



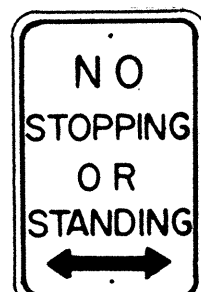
R6-1(R) 36" x 12"



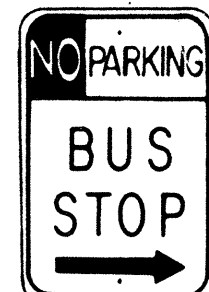
R6-2(R) 18" x 24"



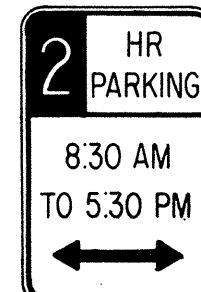
R7-1 12" x 18"
R7-1-A 24" x 30"



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



R7-107(R) 12" x 18"



R7-108 12" x 18"



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



R8-1 24" x 30"



R8-2 24" x 30"



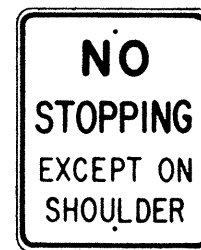
R8-3 24" x 30"



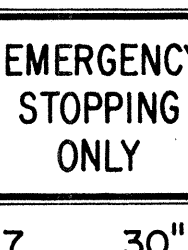
R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



R8-6 24" x 30"



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



R9-1 18" x 24"



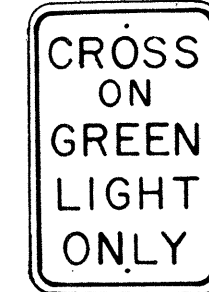
R9-2 12" x 18"



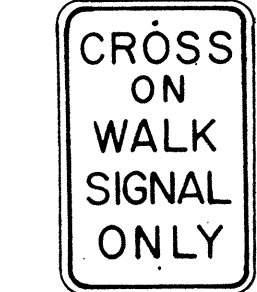
R9-3 12" x 18"



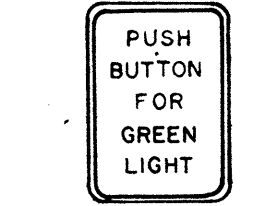
R9-4 18" x 24"



R10-1 12" x 18"



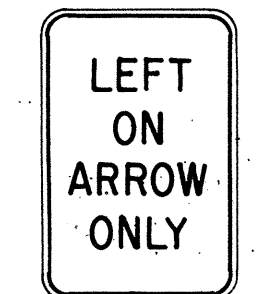
R10-2 12" x 18"



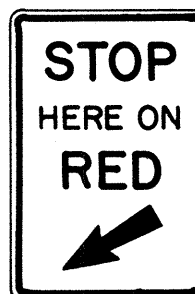
R10-3 9" x 12"



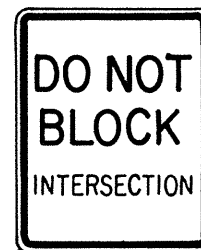
R10-4 9" x 12"



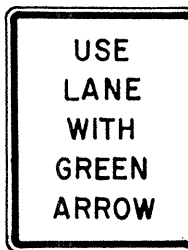
R10-5 24" x 30"



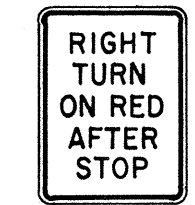
R10-6 24" x 36"



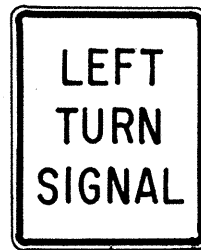
R10-7 24" x 30"



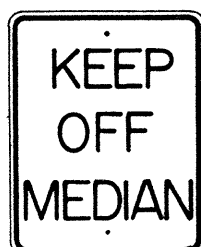
R10-8 24" x 30"



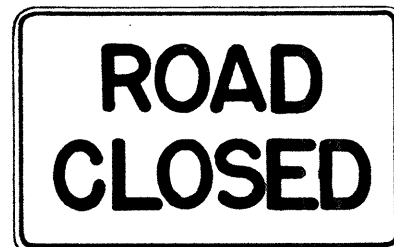
R10-9 24" x 30"



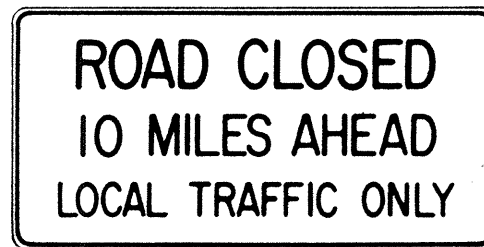
R10-10 24" x 30"



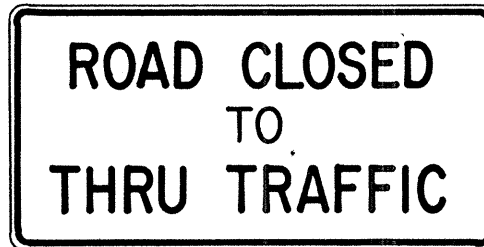
R11-1 24" x 30"



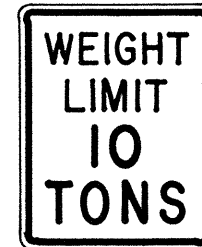
R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

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

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

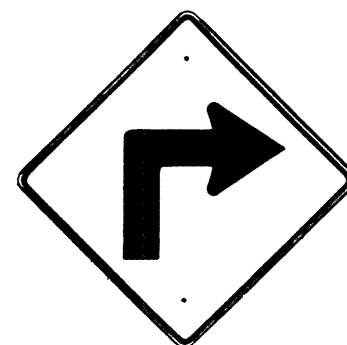
APPROVED:
Robert J. ... 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.T.	3/20/72

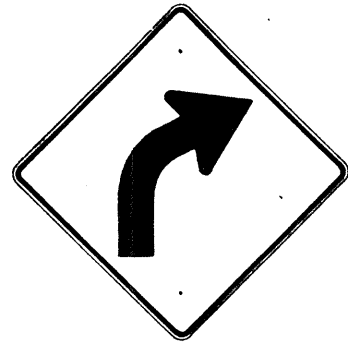
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS REGULATORY SIGNS
NOT TO SCALE
SHEET No. 31 OF 24 SHEETS DT 101

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

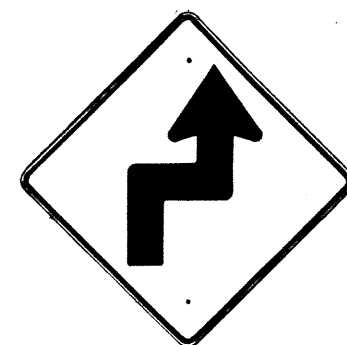
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-3001(18)	1972	32	44



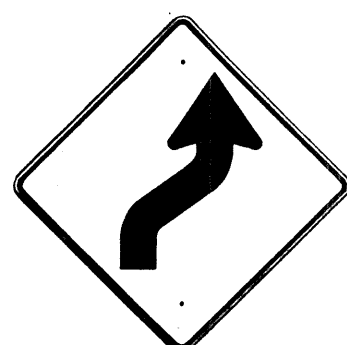
W1-1(R) 30"x30"
W1-1(R)-A 48"x48"



W1-2(R) 30"x30"
W1-2(R)-A 48"x48"



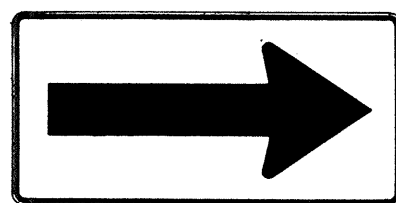
W1-3(R) 30"x30"
W1-3(R)-A 48"x48"



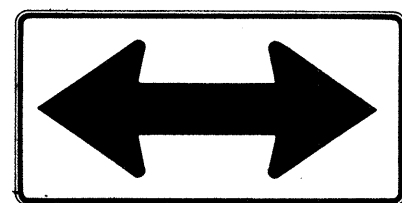
W1-4(R) 30"x30"
W1-4(R)-A 48"x48"



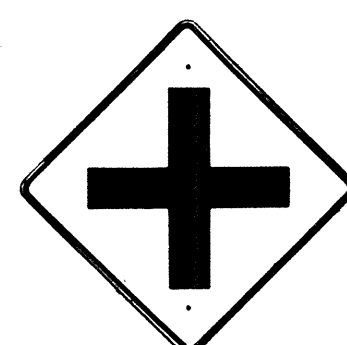
W1-5(R) 30"x30"
W1-5(R)-A 48"x48"



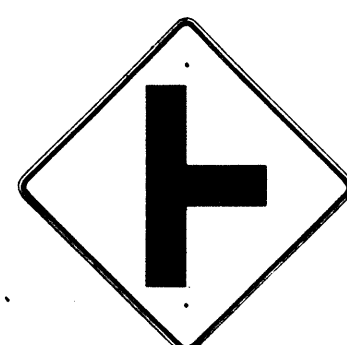
W1-6 48"x24"



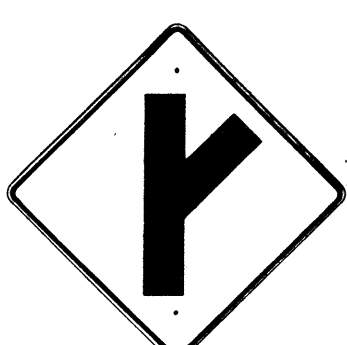
W1-7 48"x24"



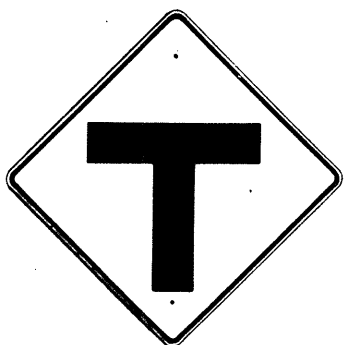
W2-1 30"x30"
W2-1-A 48"x48"



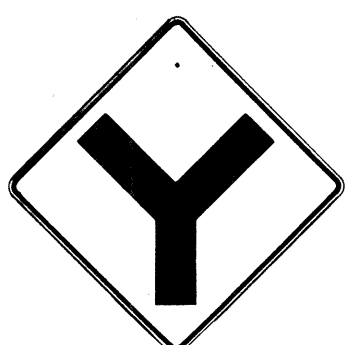
W2-2 30"x30"
W2-2-A 48"x48"



W2-3(R) 30"x30"
W2-3(R)-A 48"x48"



W2-4 30"x30"
W2-4-A 48"x48"



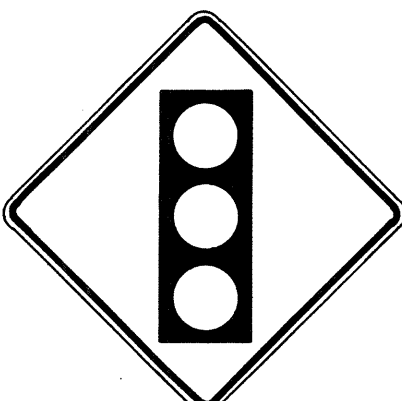
W2-5 30"x30"
W2-5-A 48"x48"



W3-1 30"x30"
W3-1-A 36"x36"



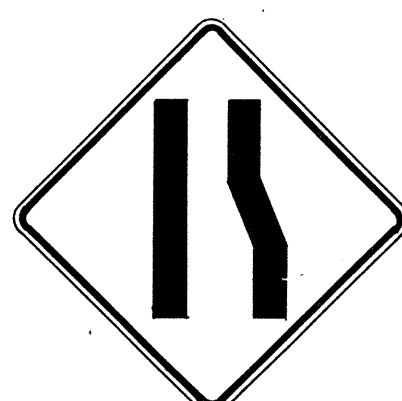
W3-2 30"x30"
W3-2-A 36"x36"



SIGNAL
AHEAD
W3-3 36"x36"
24"x18"



MERGE
W4-1(R) 30"x30"
24"x18"
W4-1(R)-A 48"x48"
24"x18"



W4-2(R) 36"x36"
W4-2(R)-A 48"x48"



W5-1 36"x36"



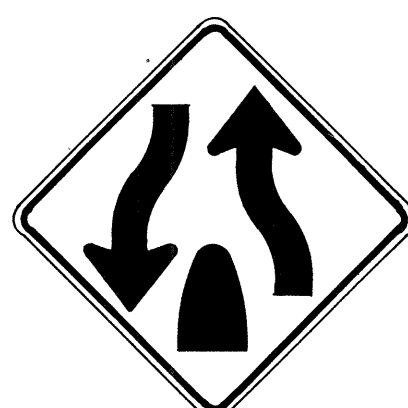
W5-2 30"x30"
W5-2-A 36"x36"



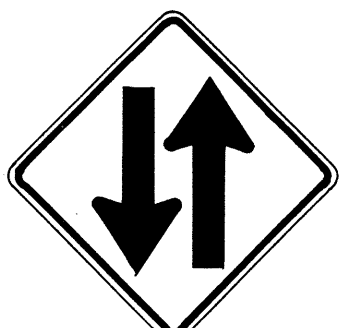
W5-3 36"x36"



DIVIDED
HIGHWAY
W6-1 36"x36"
24"x18"



DIVIDED
HIGHWAY
ENDS
W6-2 36"x36"
24"x18"



TWO WAY
TRAFFIC
W6-3 30"x30"
24"x18"
W6-3-A 36"x36"
24"x18"
W6-3-B 48"x48"
24"x18"



HILL
W7-1 30"x30"
24"x18"
W7-1-A 36"x36"
24"x18"



USE LOW
GEAR
W7-2 24"x18"



BUMP
W8-1 30"x30"
W8-1-A 36"x36"



DIP
W8-2 30"x30"
W8-2-A 36"x36"



PAVEMENT
ENDS
W8-3 30"x30"
W8-3-A 36"x36"



SOFT
SHOULDER
W8-4 30"x30"
W8-4-A 36"x36"



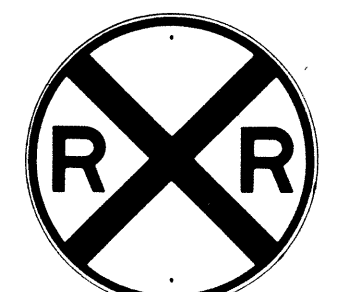
SLIPPERY
WHEN WET
W8-5 30"x30"
24"x18"
W8-5-A 36"x36"
24"x18"



RIGHT
LANE
ENDS
W9-1(R) 30"x30"
W9-1(R)-A 36"x36"
W9-1(R)-B 48"x48"



LANE ENDS
MERGE
LEFT
W9-2(L) 36"x36"
W9-2(L)-A 48"x48"



W10-1 36" Diameter



BIKE
XING
W11-1 30"x30"
24"x18"
W11-1-A 36"x36"
24"x18"



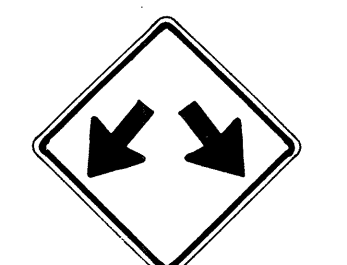
PED
XING
W11-2 30"x30"
24"x18"
W11-2-A 36"x36"
24"x18"



CATTLE
XING
W11-4 30"x30"
24"x18"
W11-4-A 36"x36"
24"x18"



FARM
MACHINERY
W11-5 30"x30"
24"x18"
W11-5-A 36"x36"
24"x18"



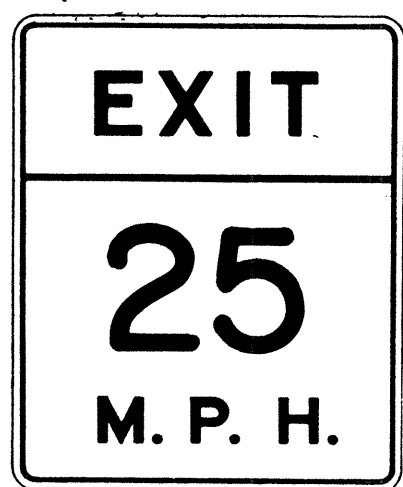
W12-1 24"x24"
W12-1-A 36"x36"
W12-1-B 48"x48"



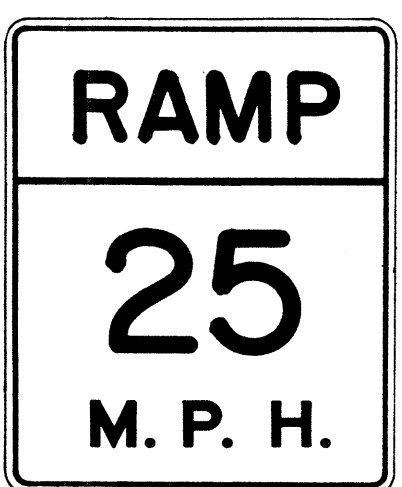
LOW
CLEARANCE
W12-2(12'-6") 36"x36"
24"x18"



W13-1(25) 18"x18"
W13-1(25)-A 24"x24"



W13-2(25) 48"x60"



W13-3(25) 48"x60"



W14-1 30"x30"



W14-3 36"x48"x48"

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."
- 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.

APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:
Walter Dalsin
ASSISTANT CHIEF, ENGINEERING

3-20-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.T.	3/20/72

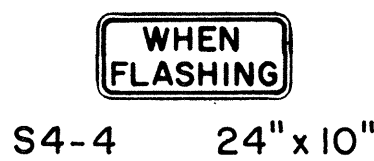
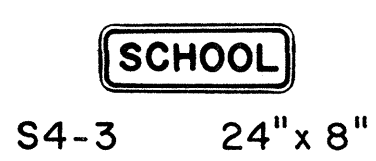
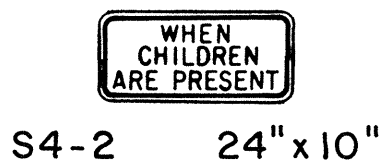
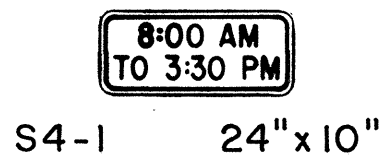
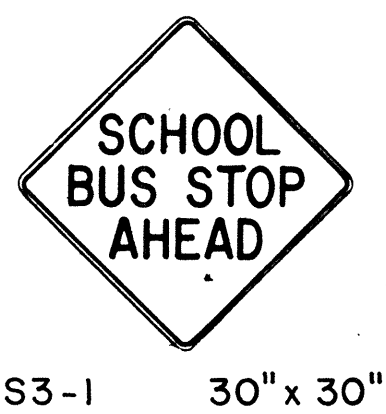
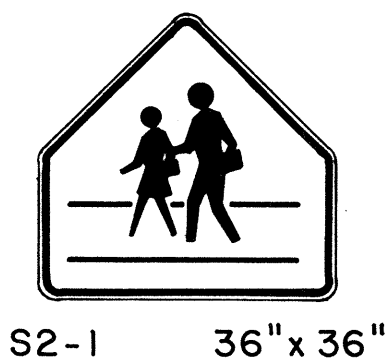
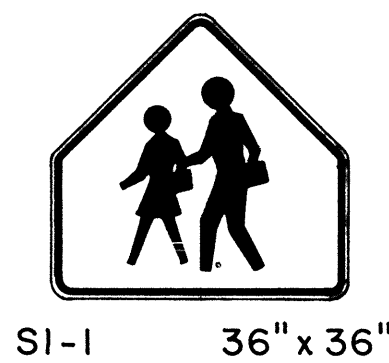
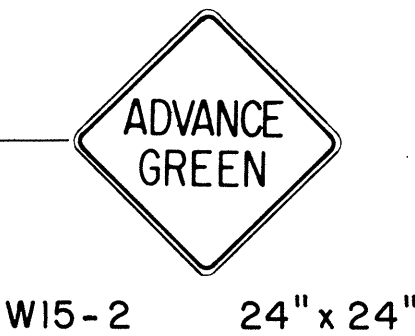
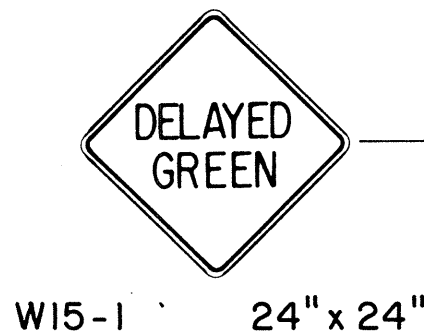
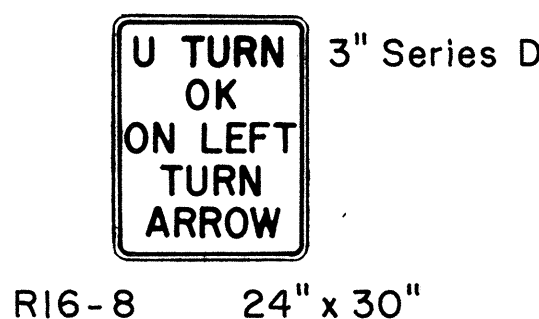
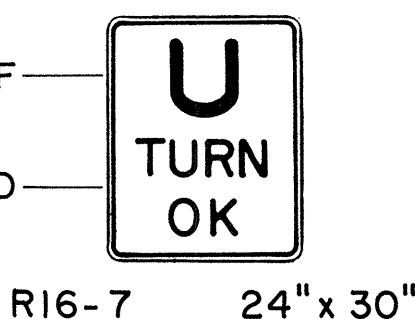
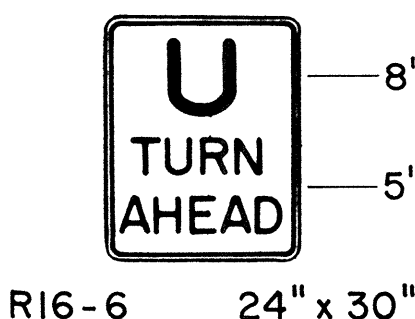
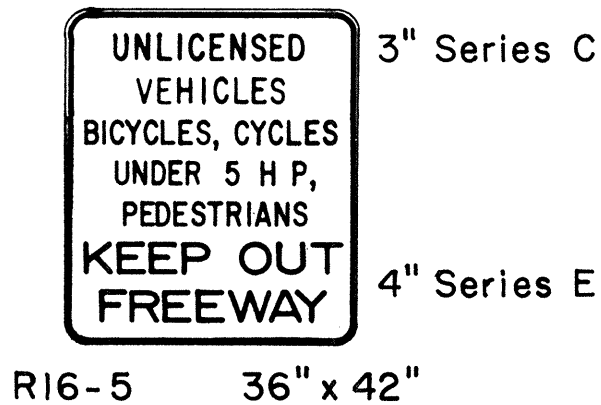
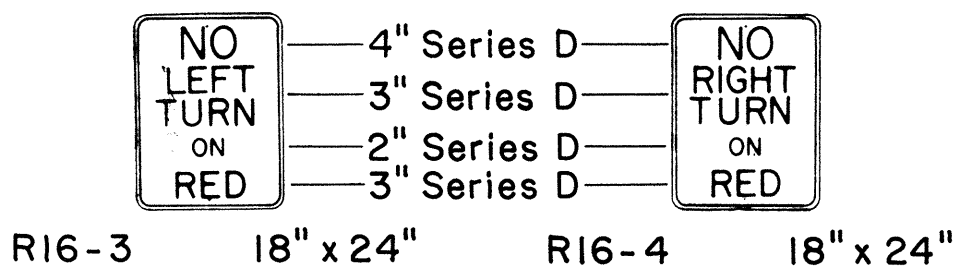
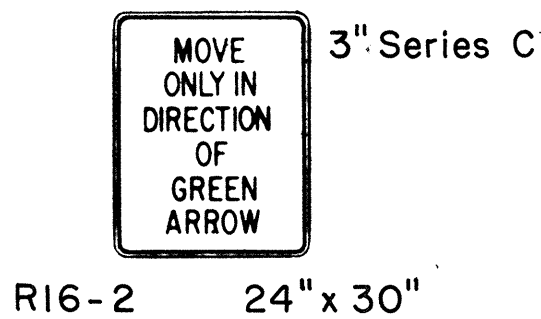
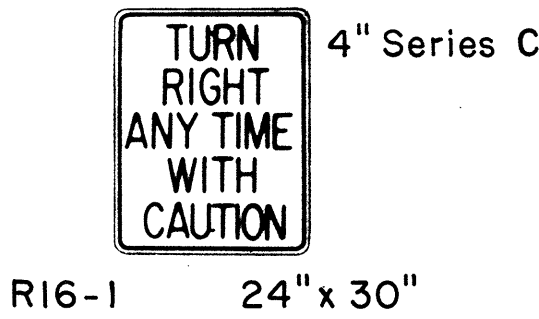
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

SHEET No. 12 OF 24 SHEETS DT 102

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-3001(18)	1972	33	44



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."
- All regulatory and warning signs shall be reflectorized unless otherwise specified.
- All regulatory and 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.

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

APPROVED:
Harold Sakai 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 103 Approved 12-30-69	H.T.	3/20/72

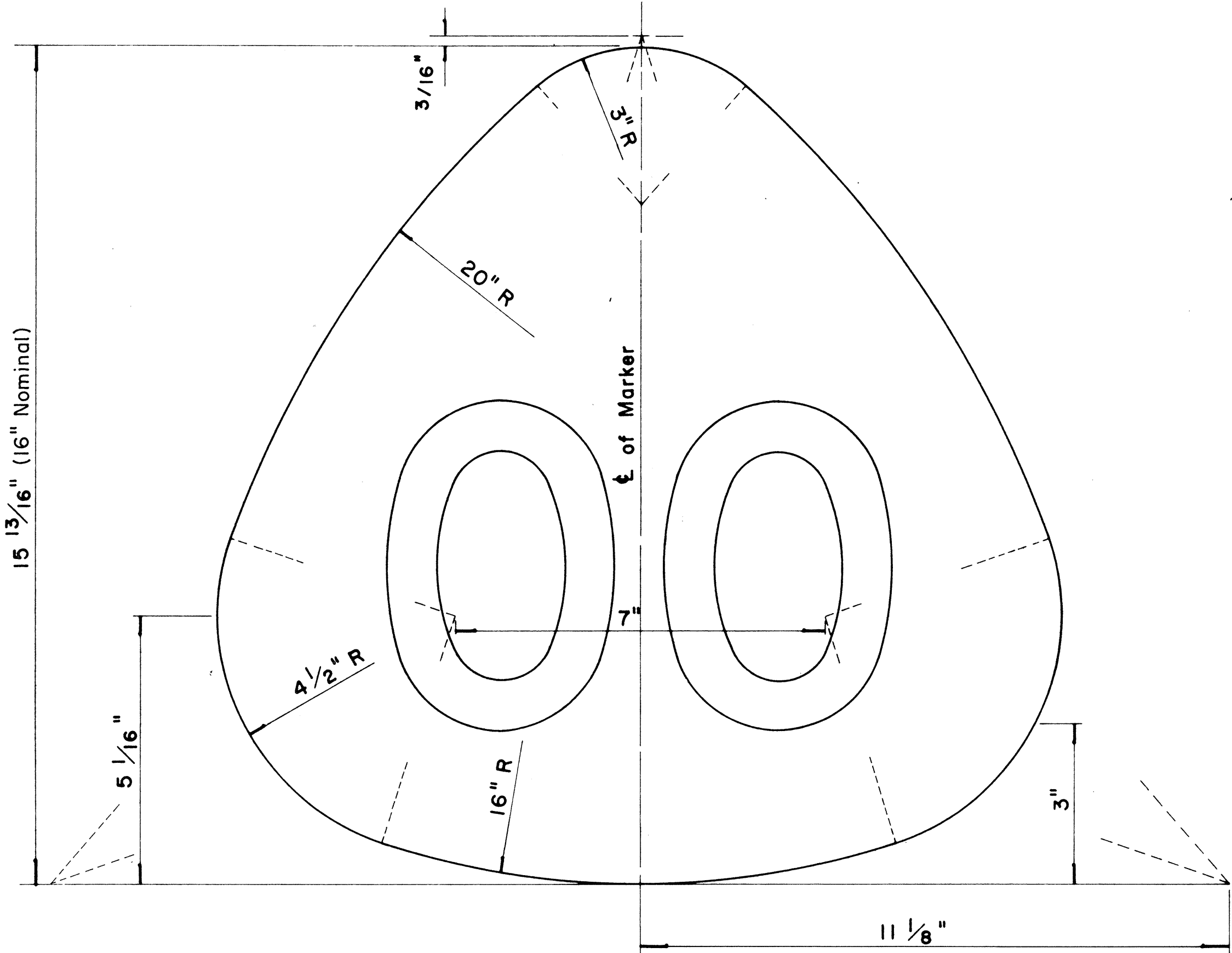
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS

NOT TO SCALE
SHEET No. 13 OF 24 SHEETS DT 103

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

MARKER SIZE	MULTIPLY DIMENSIONS BY	NUMERAL SIZE
		2 Digit - Series D 3 Digit - Series C
16"	1	6"
21"	1.3	8"
32"	2.0	12"
42"	2.63	16"



STATE ROUTE MARKER FOR GUIDE SIGNS

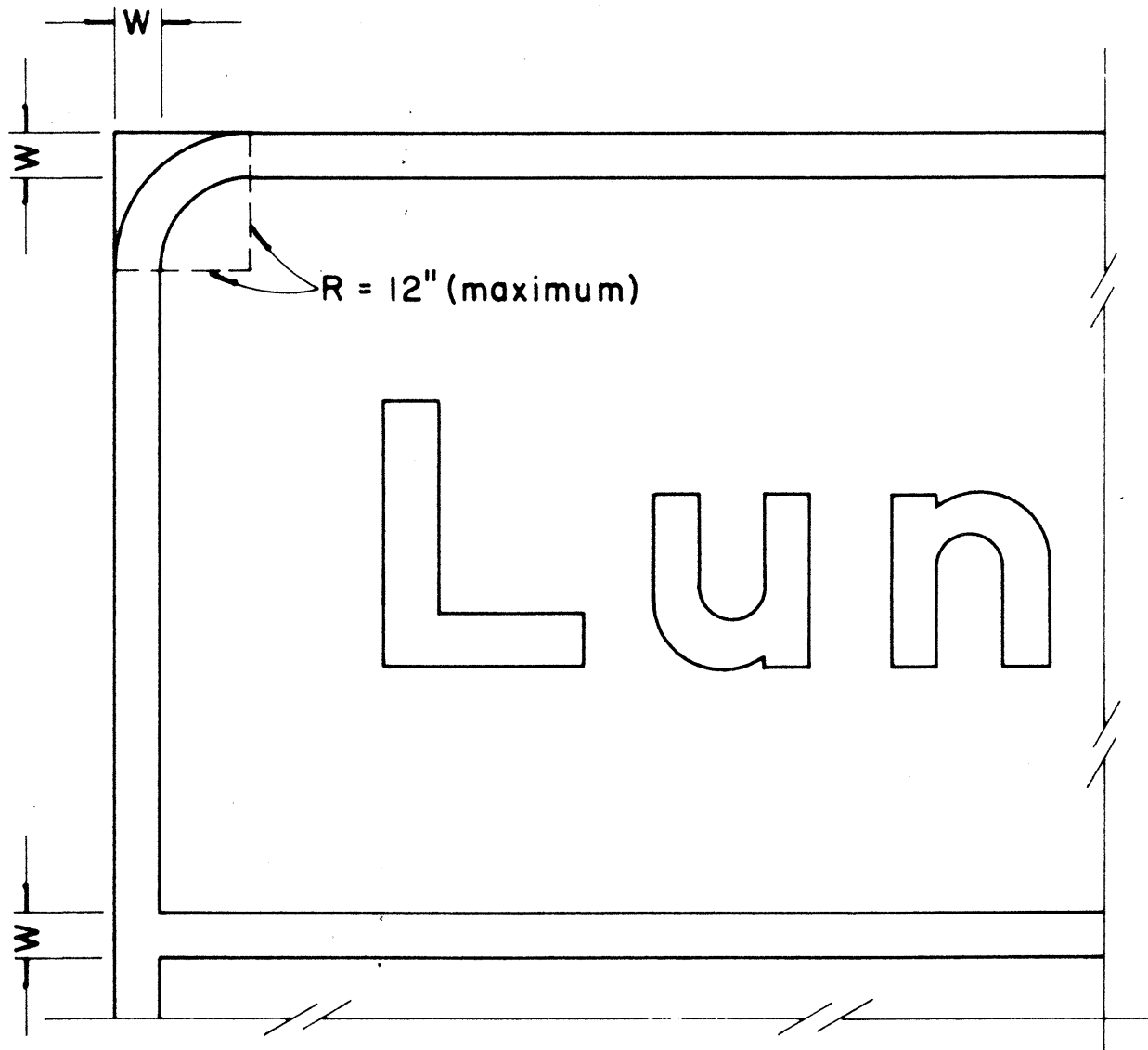
Scale: Half Size

NOTE :

1. State Route Markers on Guide signs shall have black numerals on a white reflectorized background mounted on a flat aluminum cut-out.
2. Numerals shall conform to the FHWA publication "Standard Alphabets for Highway Signs," 1966.
3. Cut-outs shall be fastened on sign panel with aluminum blind rivets. See Standard Specifications.
- * 4. The 16" State Route Marker shall be used only with the Construction Identification sign.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-9001(18)	1972	34	44

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



BORDER DETAIL FOR GUIDE SIGNS

Not to Scale

NOTE:

1. Area outside corner radius need not be trimmed.
2. All borders shall be embossed cut-outs, white and reflectorized.
3. All Guide signs shall have borders.

APPROVAL RECOMMENDED:

Erich Tanaka 4/11/72
TRAFFIC ENGINEER DATE

APPROVED:

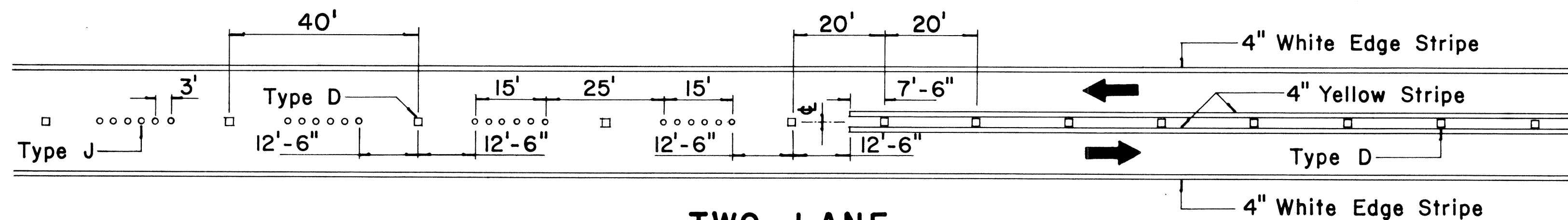
Walter Z. Sakai 4/12/72
ASSISTANT CHIEF, ENGINEERING DATE

NO	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 209 Approved 12-30-69	H.T.	4/12/72

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS STATE ROUTE MARKER AND BORDER DETAIL FOR GUIDE SIGNS	
Scale: As Shown	

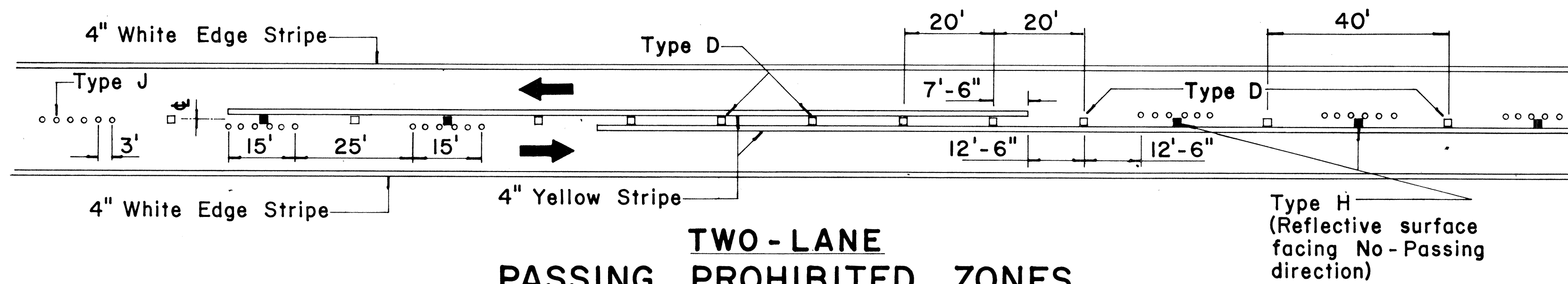
SHEET No. 14 OF 24 SHEETS DT 209

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-300(18)	1972	35	44



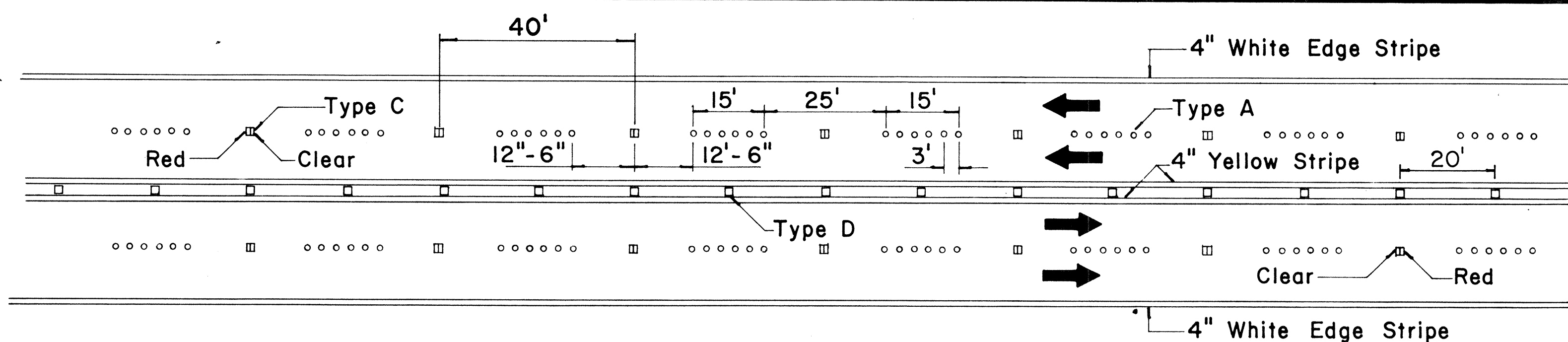
**TWO-LANE
PASSING PERMITTED AND PASSING PROHIBITED**

TWO - LANE



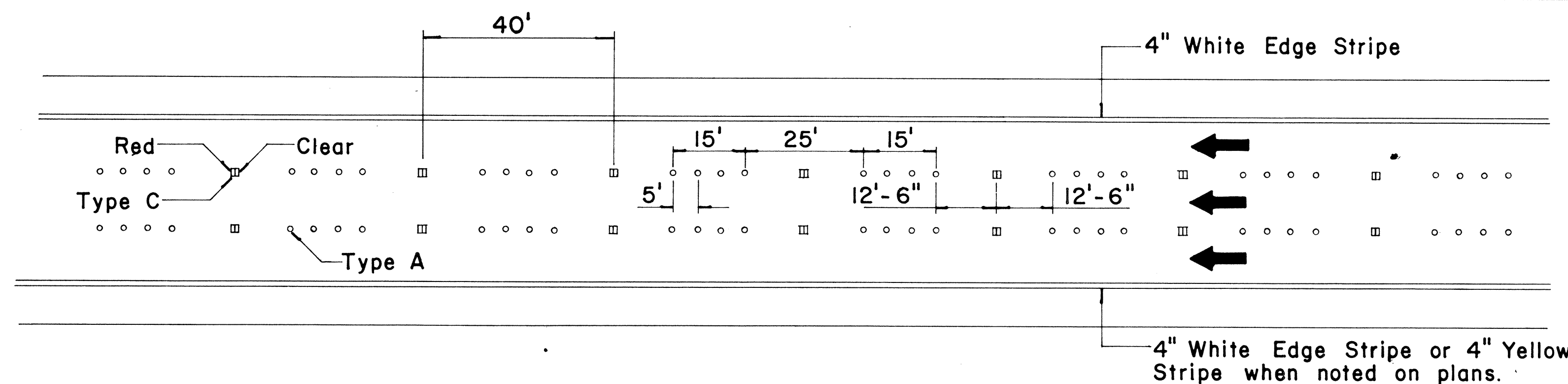
**TWO-LANE
PASSING PROHIBITED ZONES**

MULTI - LANE

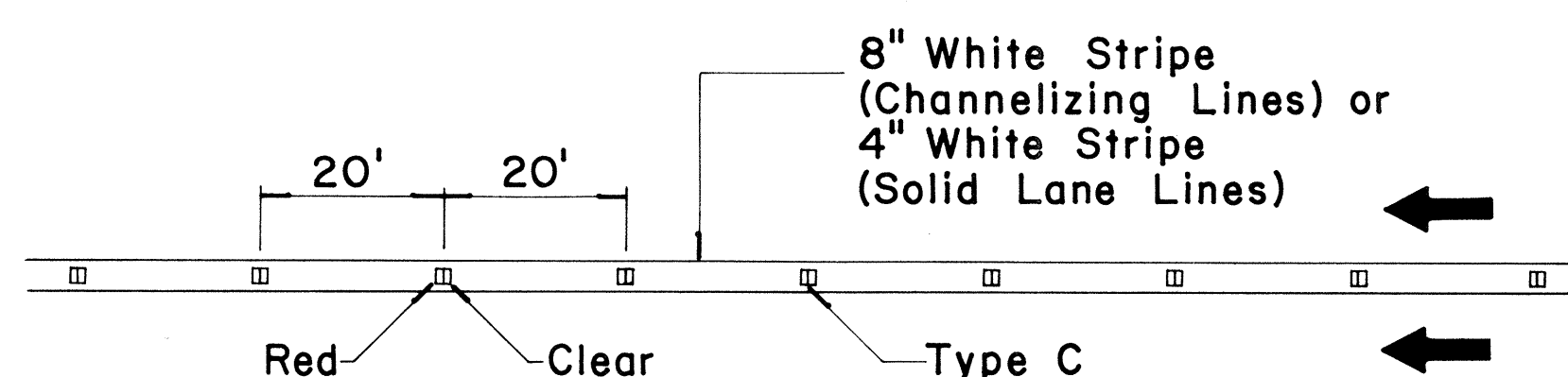


**MULTI-LANE
LANE LINES AND CENTER LINE**

FREEWAY

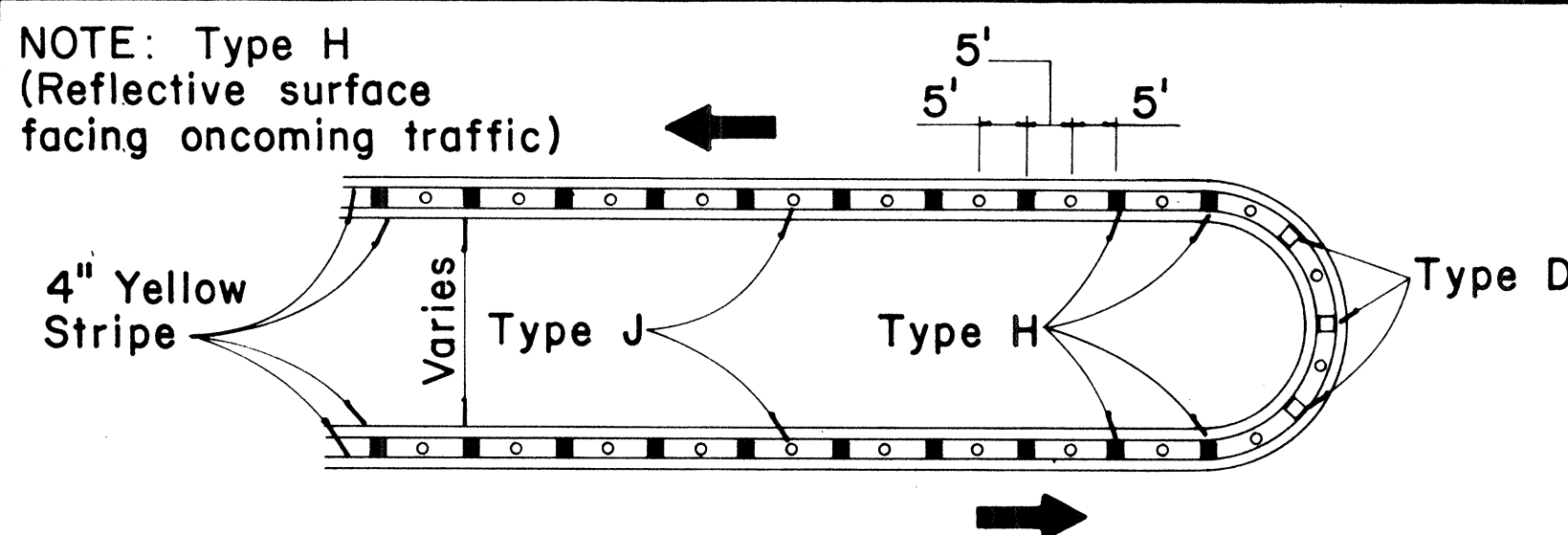


FREEWAY LANE LINES



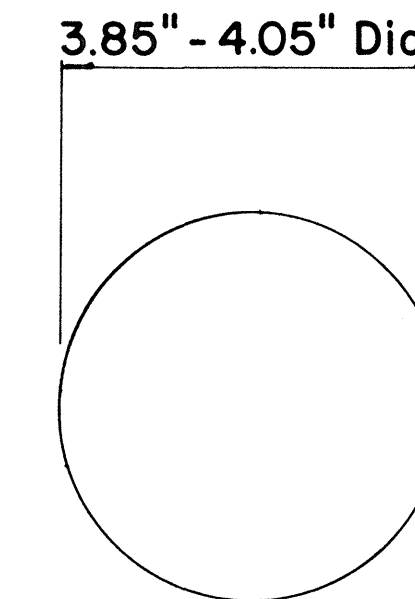
**CHANNELIZING LINES
OR SOLID LANE LINES**

NOTE: Type H (Reflective surface facing oncoming traffic)

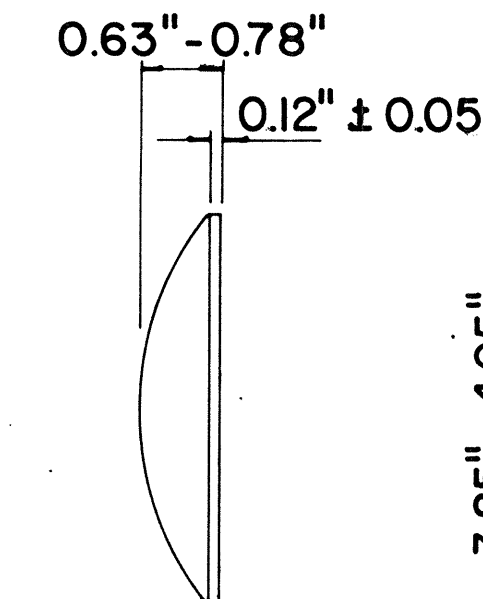


MEDIAN NOSE DELINEATION

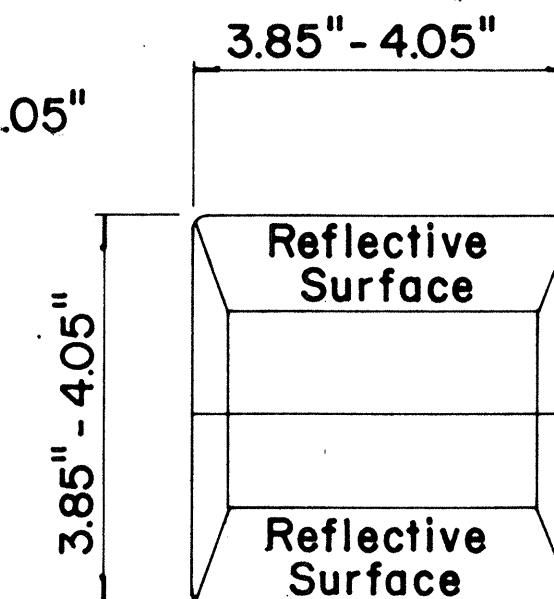
MISCELLANEOUS



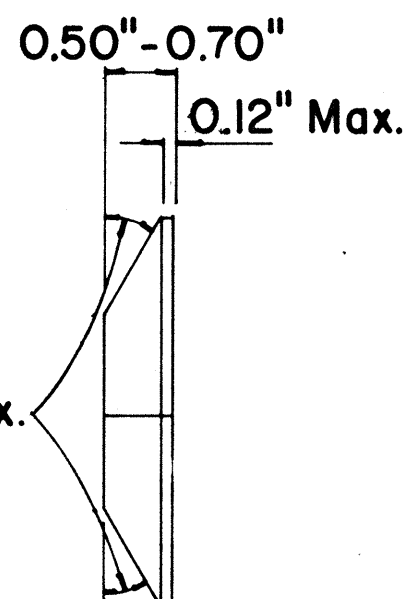
**TYPE A
NON-REFLECTIVE WHITE MARKER**



**TYPE C
RED-CLEAR REFLECTIVE MARKER**



**TYPE J
NON-REFLECTIVE YELLOW MARKER**



**TYPE H
ONE-WAY YELLOW REFLECTIVE MARKER**

GENERAL NOTES

1. Painted stripes to be done by State forces unless otherwise specified.

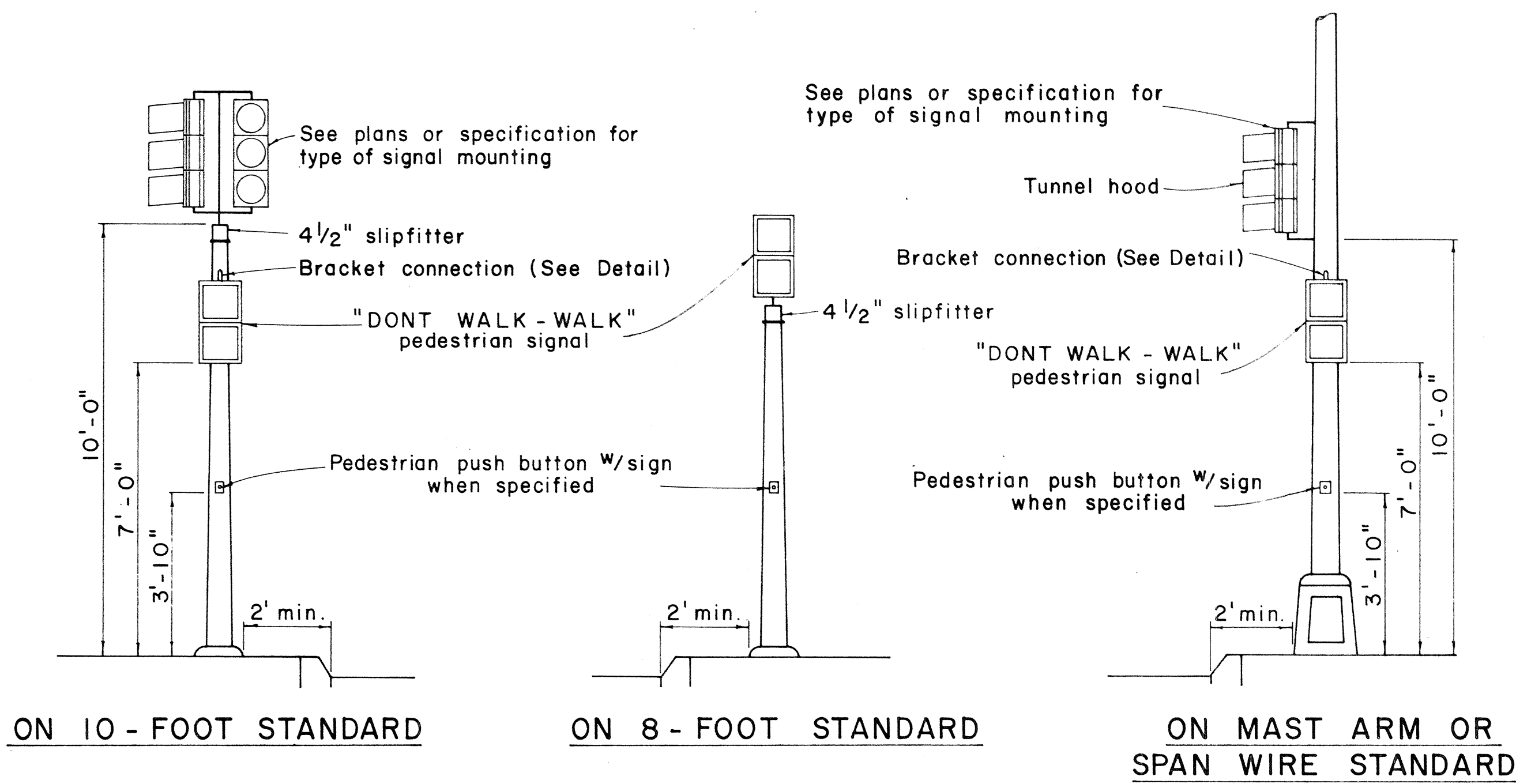
APPROVAL RECOMMENDED:
E. J. Tanaka 11/18/71
TRAFFIC ENGINEER DATE

APPROVED:
Shirley S. Sato 11/18/71
ASSISTANT CHIEF, ENGINEERING DATE

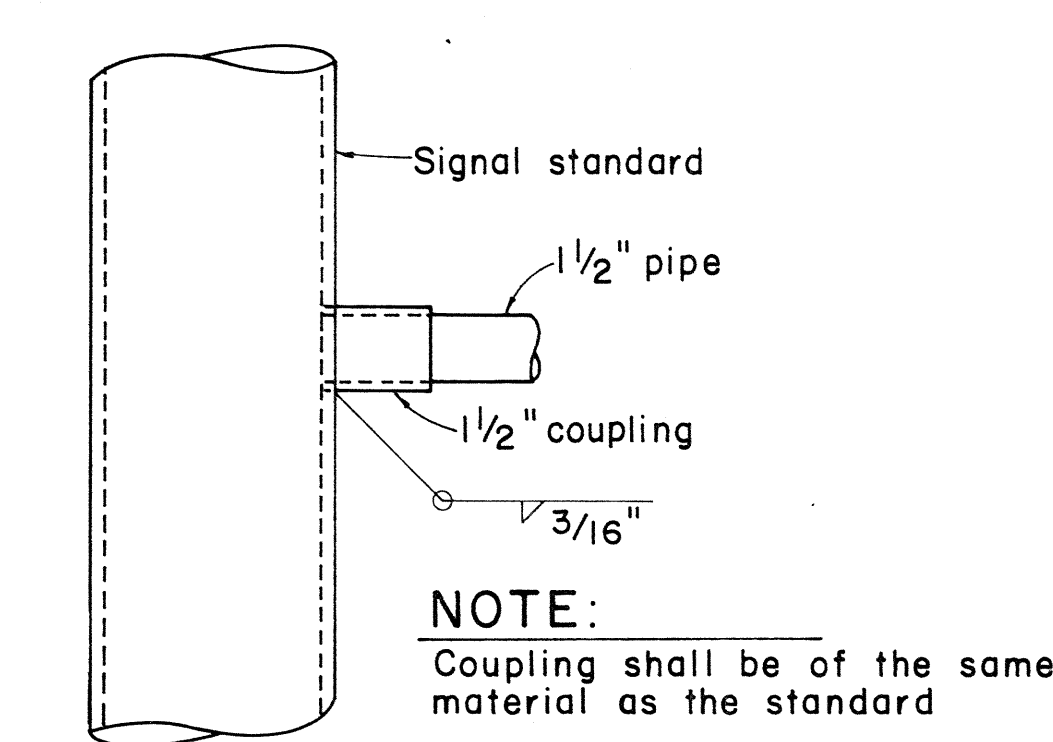
No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-27-72
2	Revised General Notes.	H.C.	10-27-72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**STANDARD DETAILS
RAISED PAVEMENT MARKERS**
Not to Scale October 1971
SHEET No. 15 OF 24 SHEETS DT 300

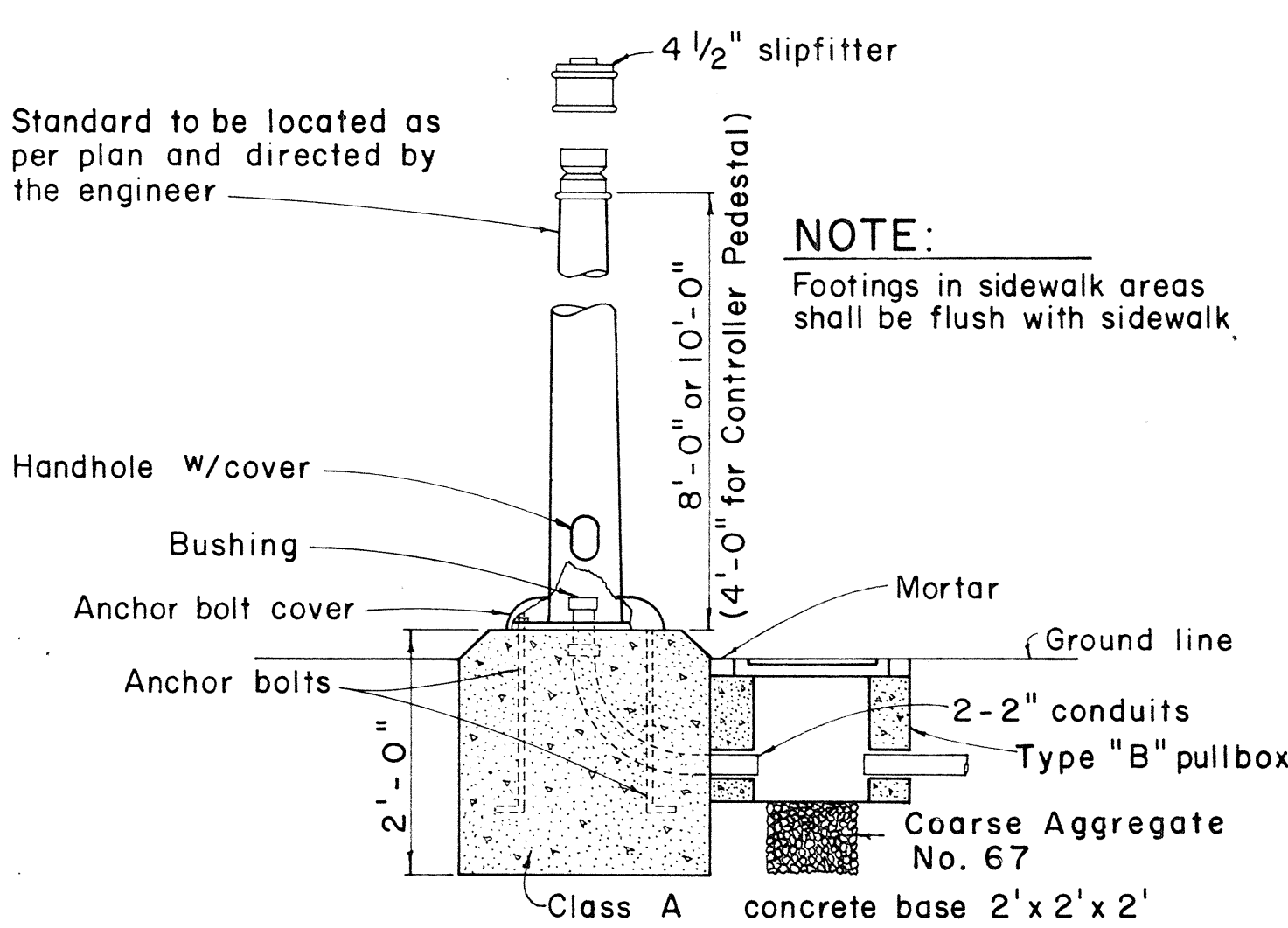
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-900(18)	1972	36	44



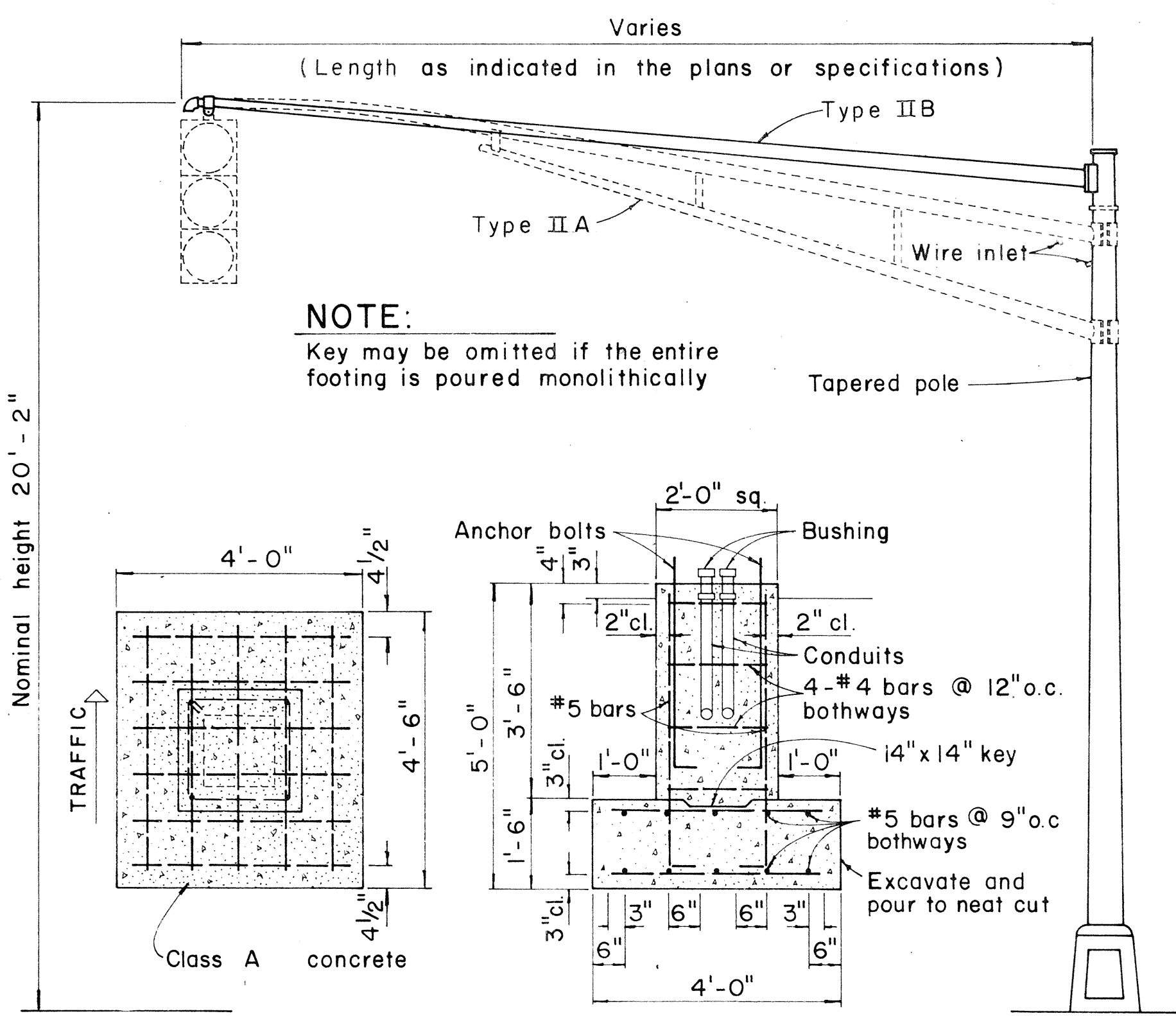
TYPICAL EQUIPMENT MOUNTINGS



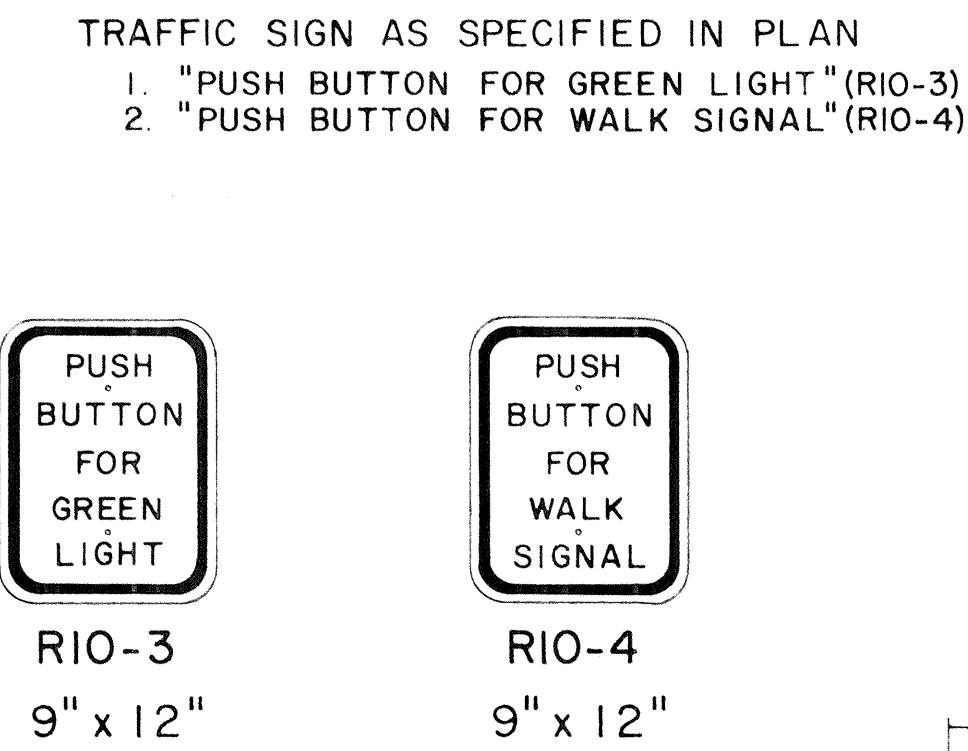
DETAIL OF BRACKET CONNECTION



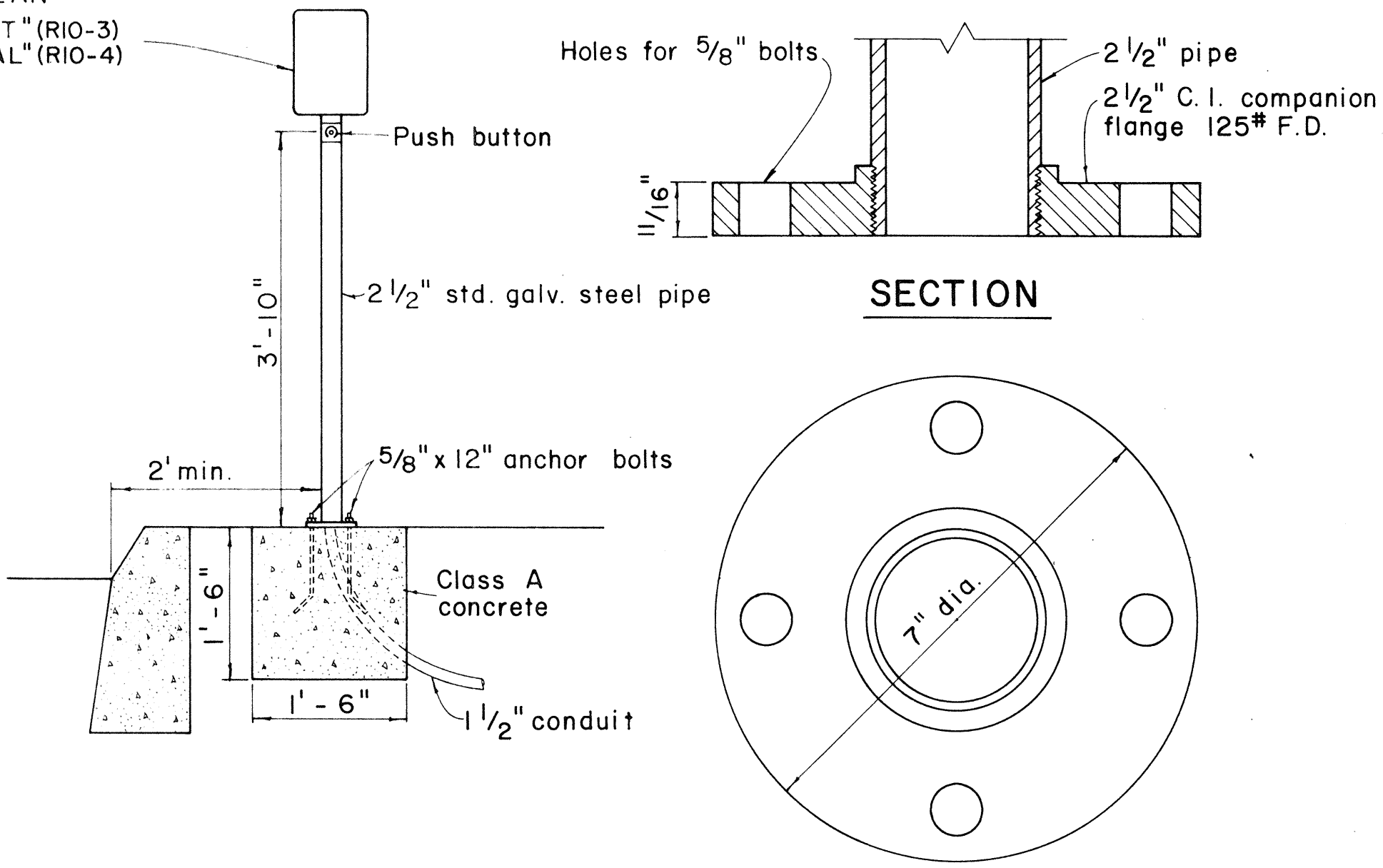
FOOTING FOR SIGNAL STANDARD OR CONTROLLER PEDESTAL



MAST ARM FOOTING AND STANDARD

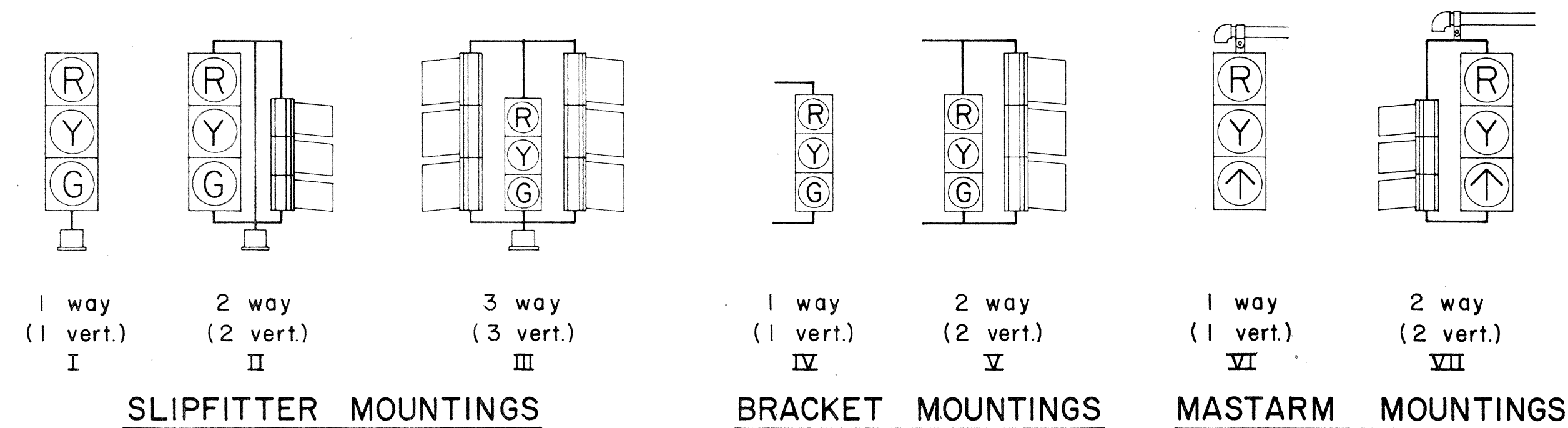


- NOTE:
- Conduits shall protrude 2" max. above finished surface of foundation.
 - Conduits shall slope away from pole foundation.
 - Post and base shall be painted with one coat of approved weather proof dark green enamel.

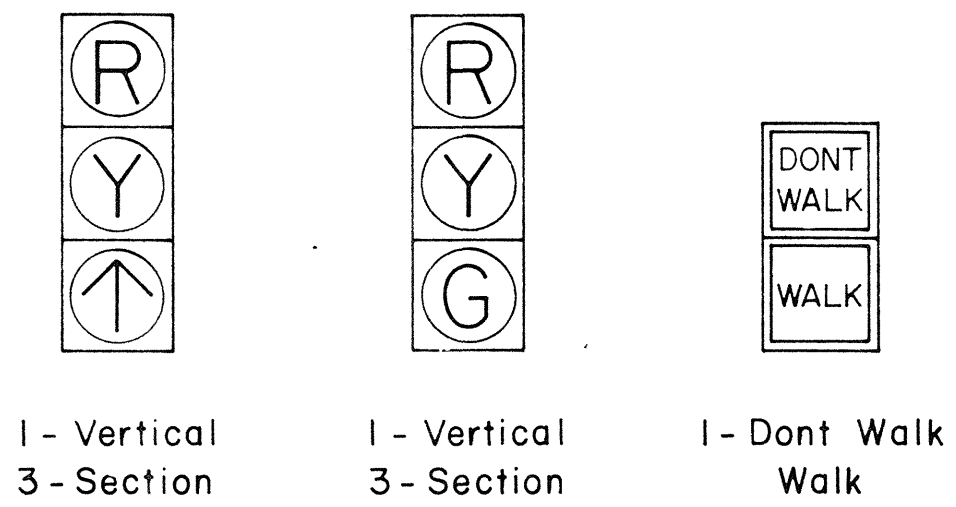


BASE DETAIL

PEDESTRIAN PUSH BUTTON POST AND FOOTING



TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTINGS



TYPICAL SIGNAL ARRANGEMENTS

NO.	REVISION	APPROVED BY	DATE
1	Mast Arms labeled Type IIA & IIB. Mast Arm dimension changed.		1-13

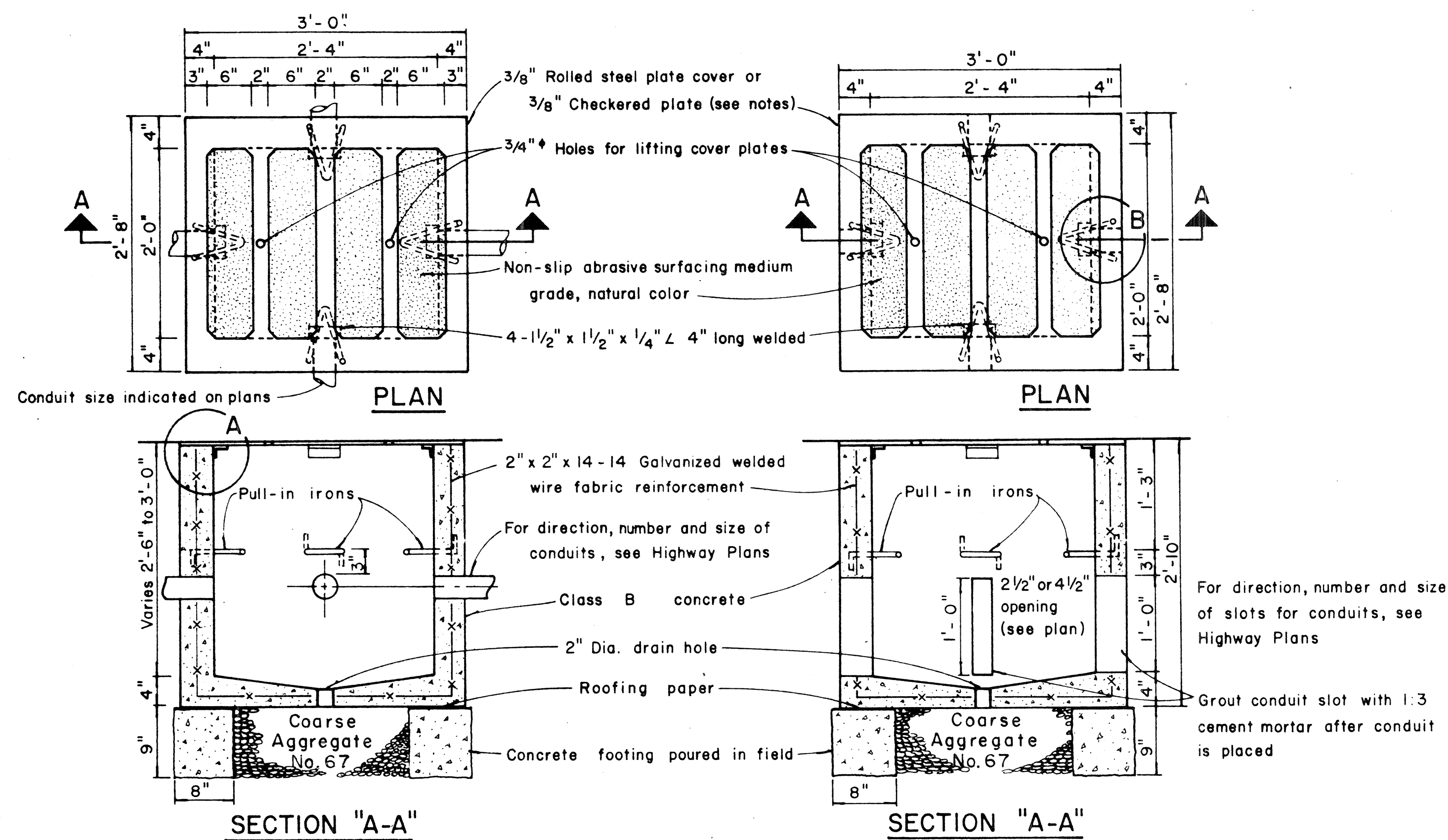
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM
MISCELLANEOUS DETAILS

Not to Scale

SHEET No. 16 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-9001(18)	1972	37	44

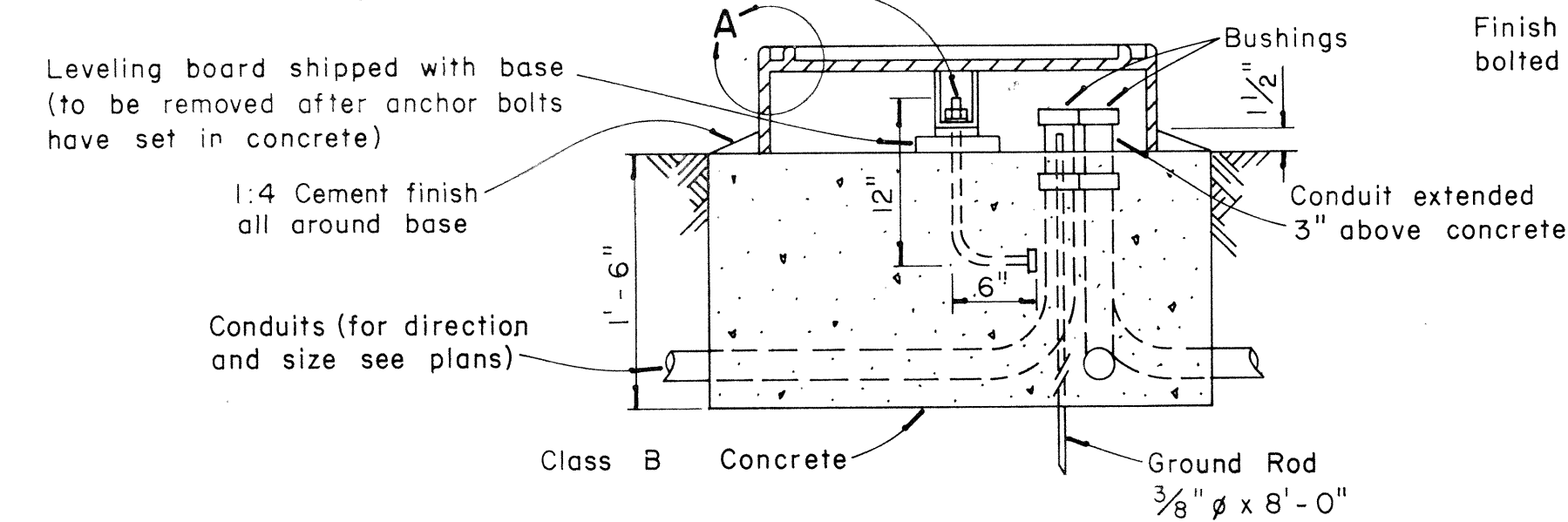
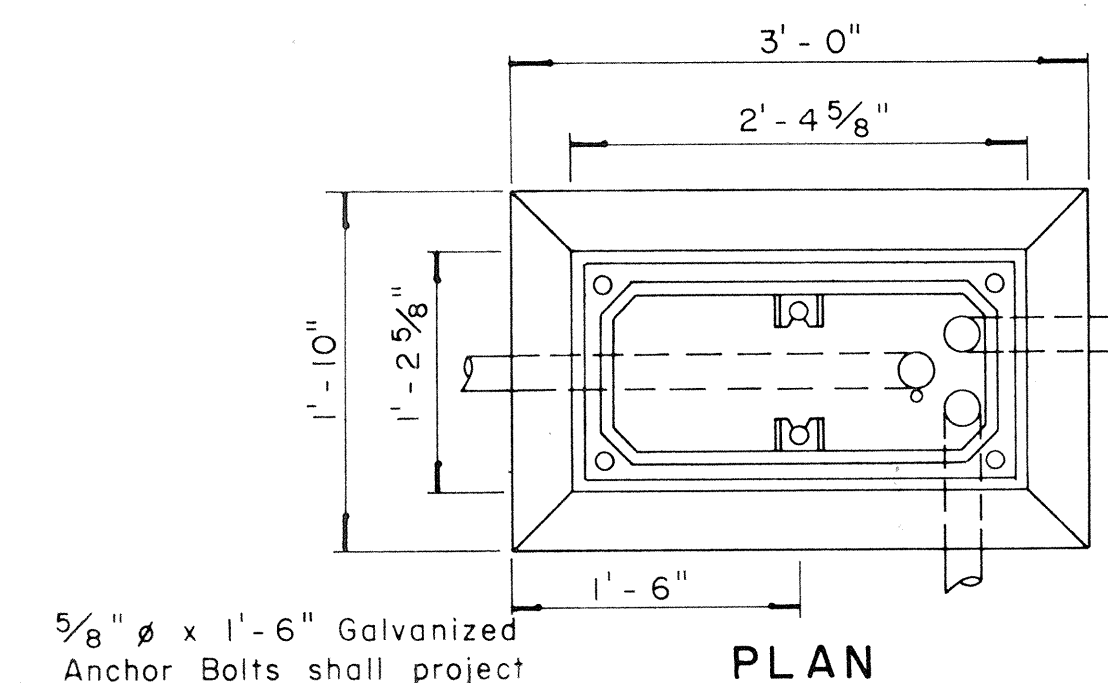


TYPE "A" PULLBOX CAST-IN-PLACE

Scale: 1" = 1' - 0"

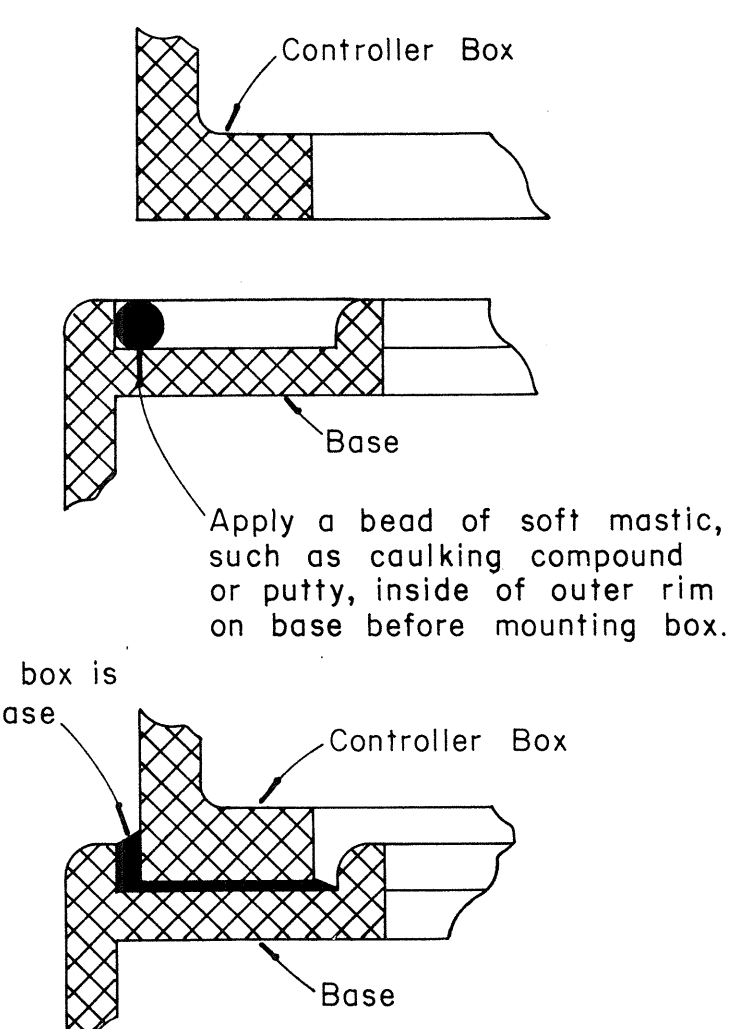
TYPE "A" PULLBOX PRECAST

Scale: 1" = 1' - 0"



ELEVATION

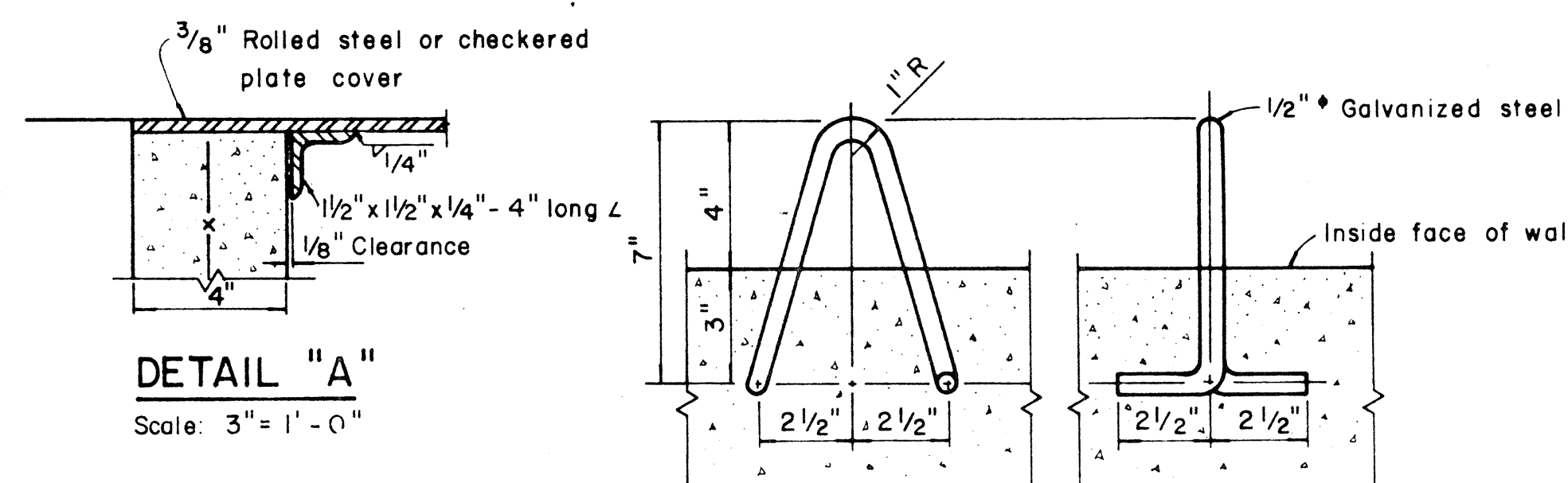
NOTE:
Dimensions and details are approximate only. Exact details and dimensions shall be furnished by the manufacturer and as directed by the Engineer.



DETAIL "A"

INSTALLATION DETAILS FOR TYPE "M" CONTROLLER BOX

Scale: 1" = 1' - 0"

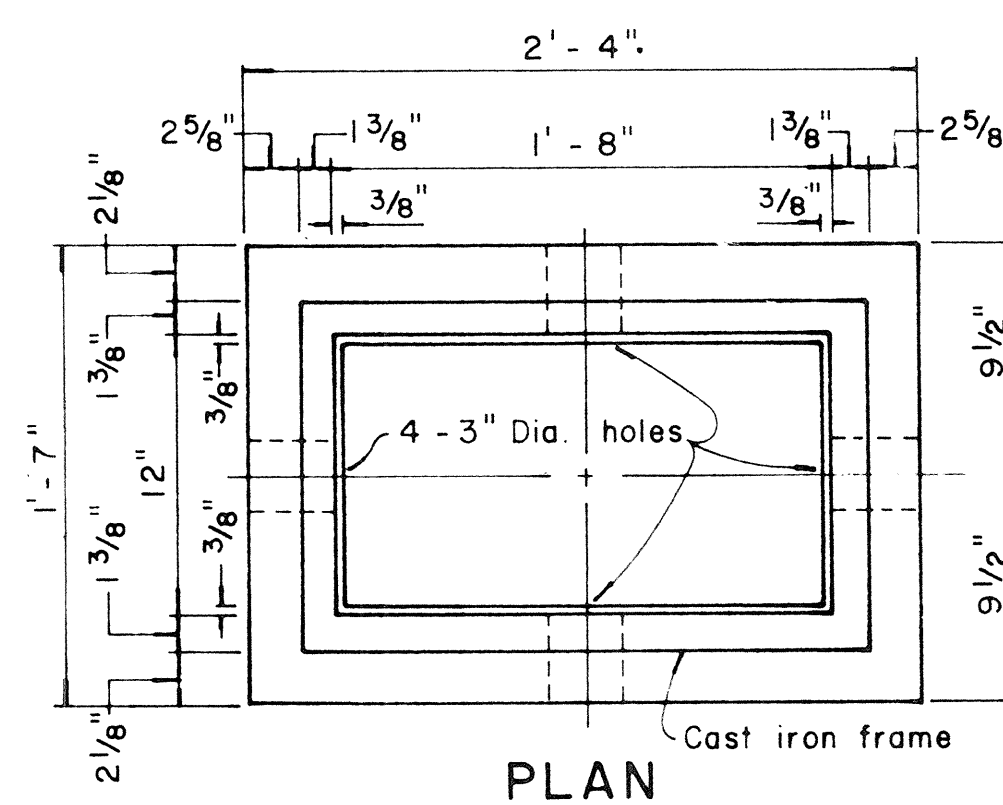


PULL-IN IRON DETAIL "B"

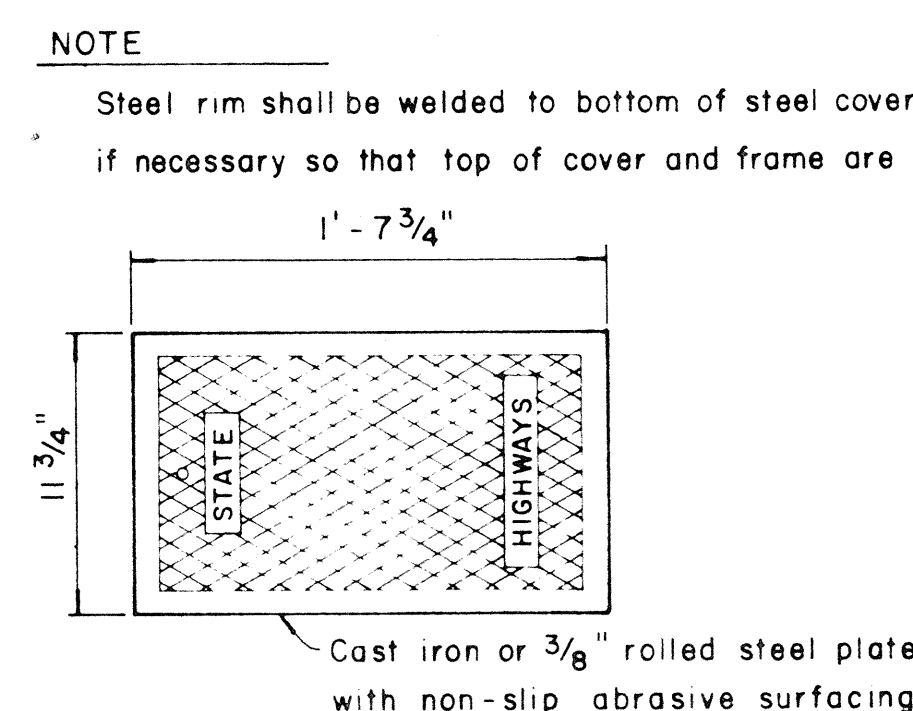
Scale: 3" = 1' - 0"

NOTES: (FOR TYPE "A" PULLBOX)

1. $\frac{3}{8}$ " Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
2. $\frac{3}{8}$ " Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
3. Pull irons shall be placed opposite each conduit slot.
4. Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
5. Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.



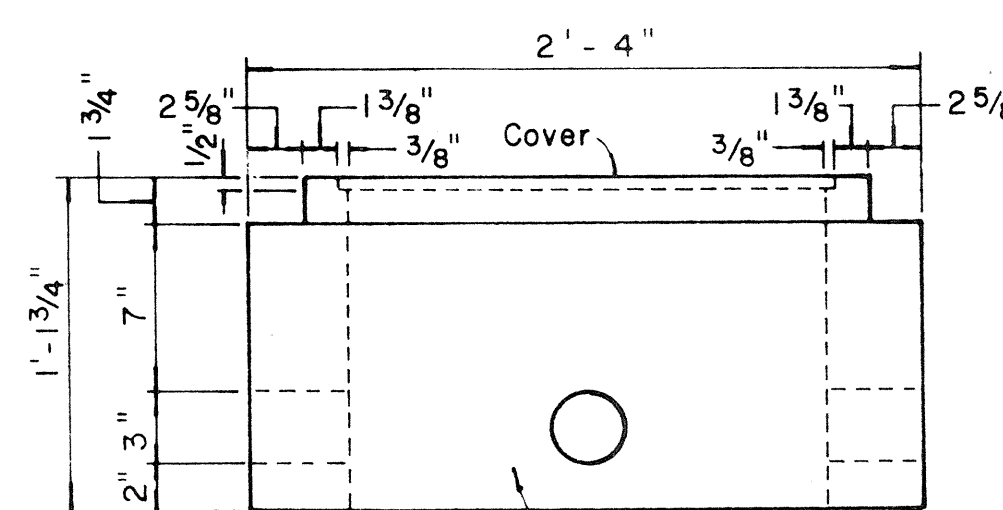
PLAN



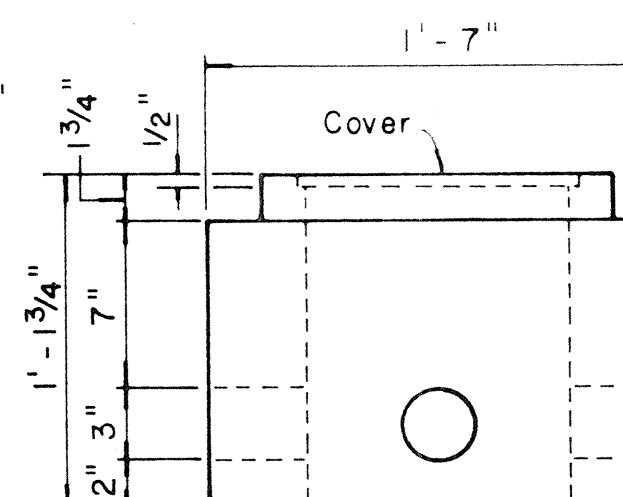
PLAN OF COVER

NOTE

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



SIDE ELEVATION



END ELEVATION

TYPE "B" PULLBOX

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

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

APPROVED: _____
ASSISTANT CHIEF, ENGINEERING

DATE 12-30-99

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

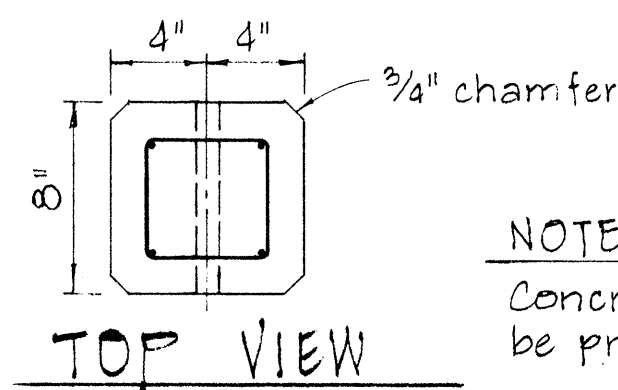
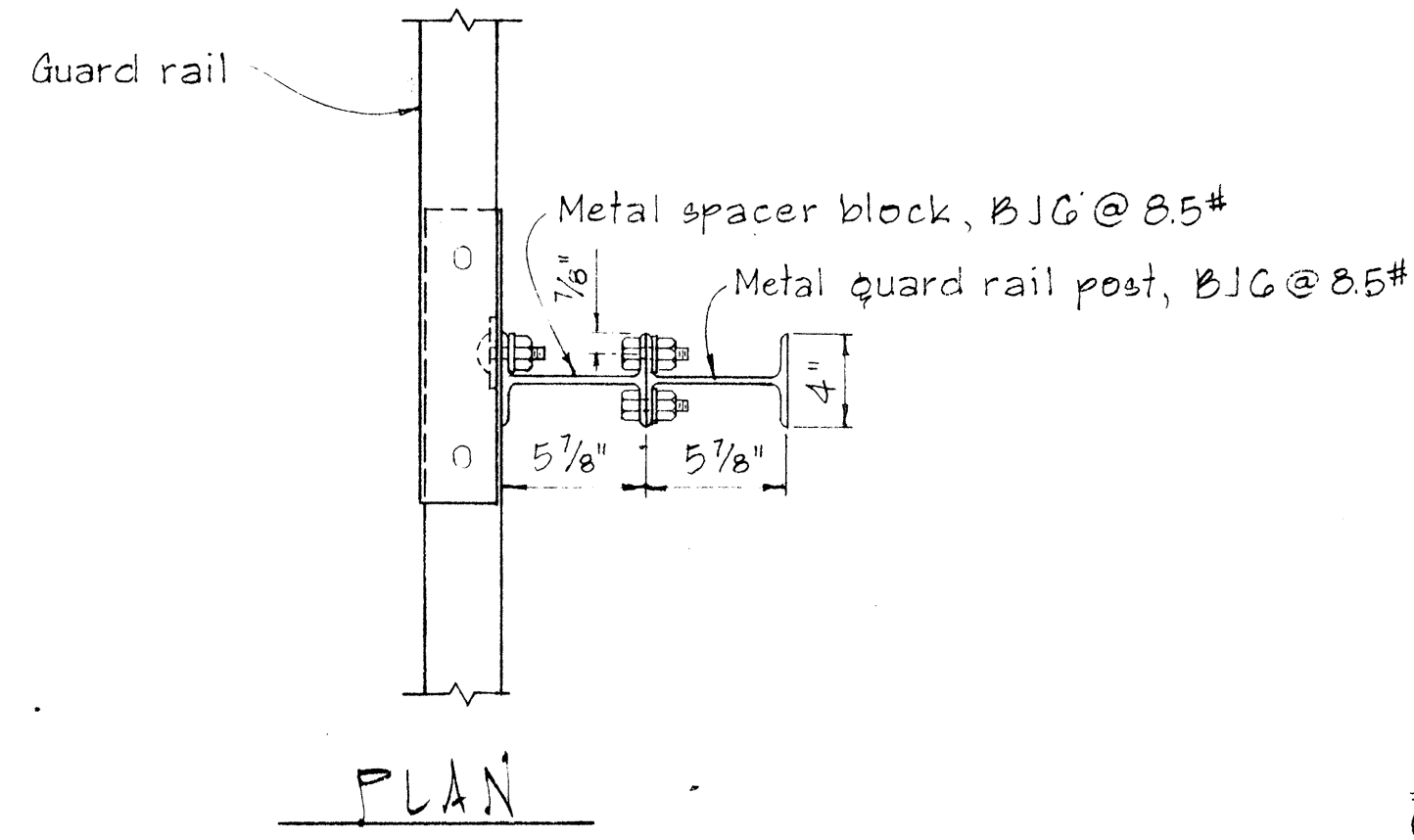
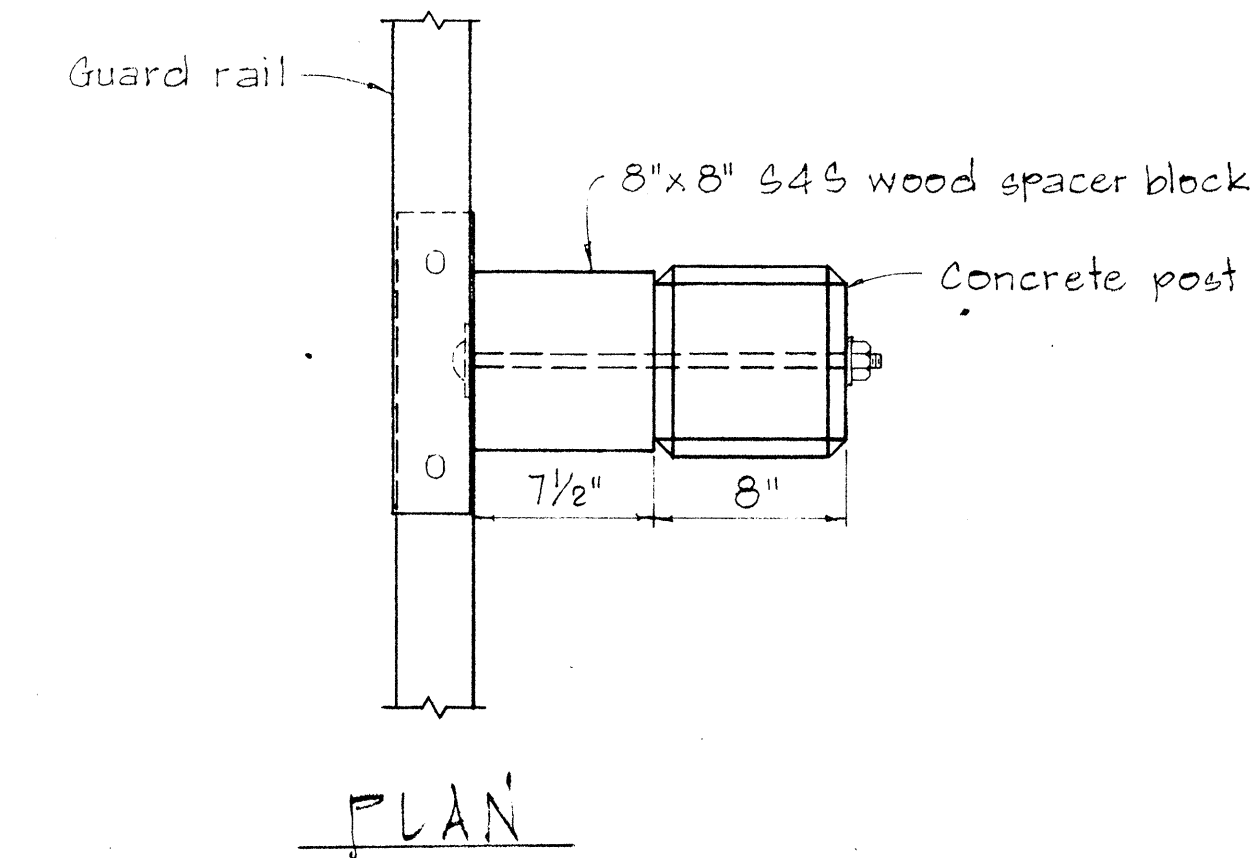
PULLBOXES

AND
TYPE "M" CONTROLLER BOX

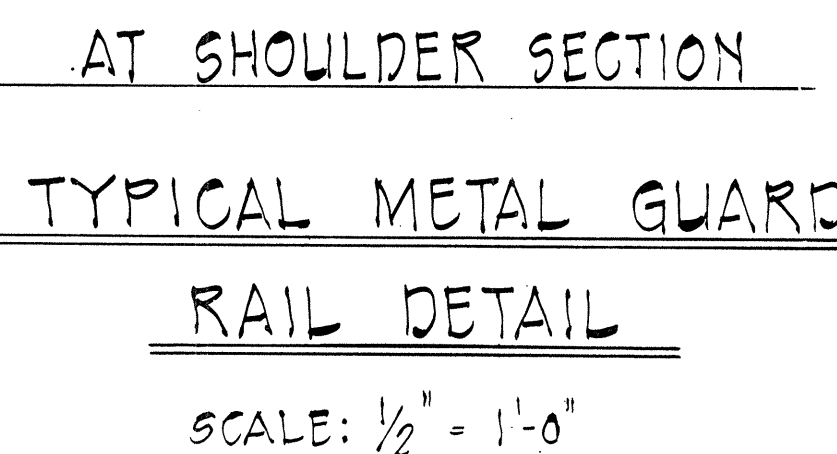
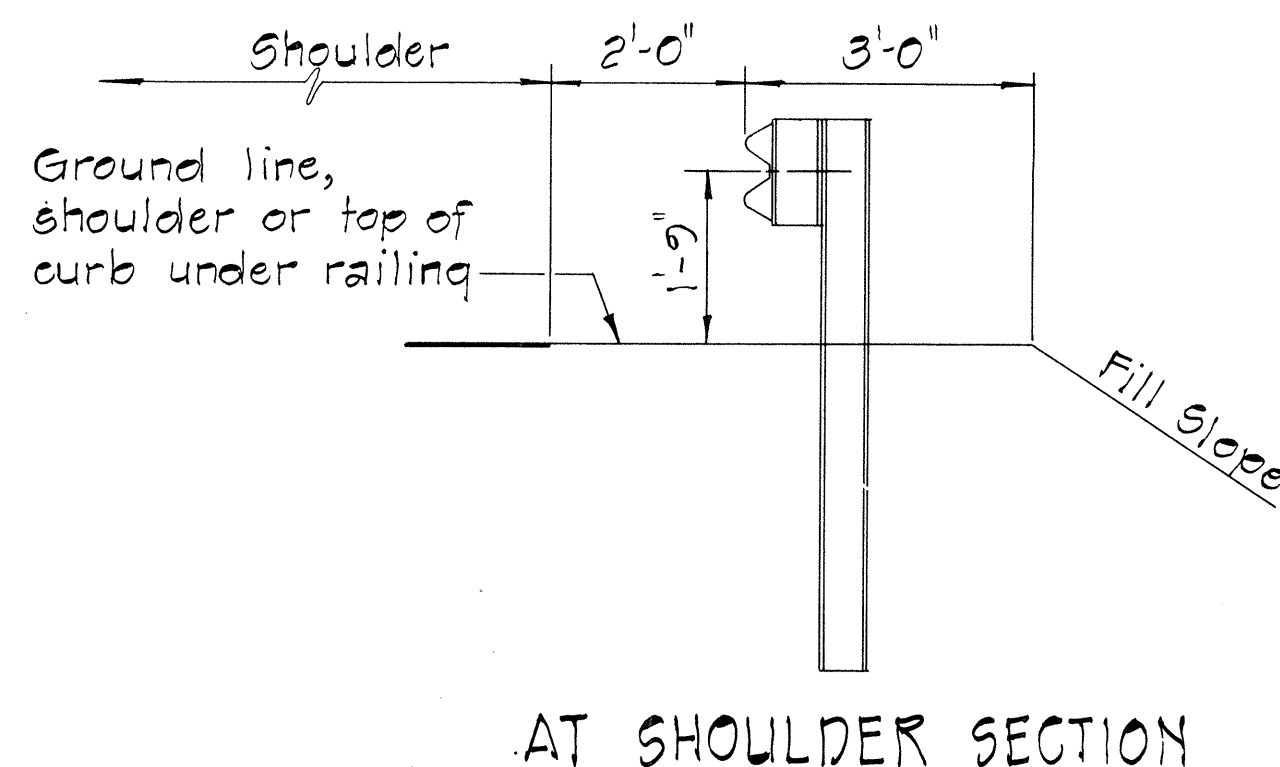
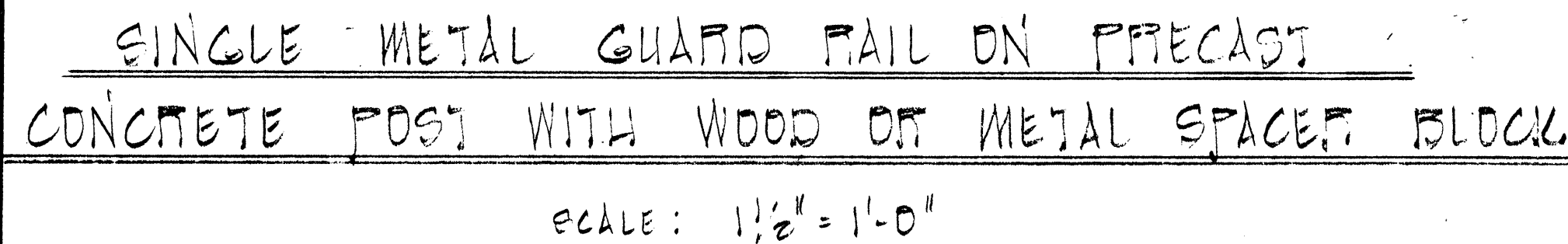
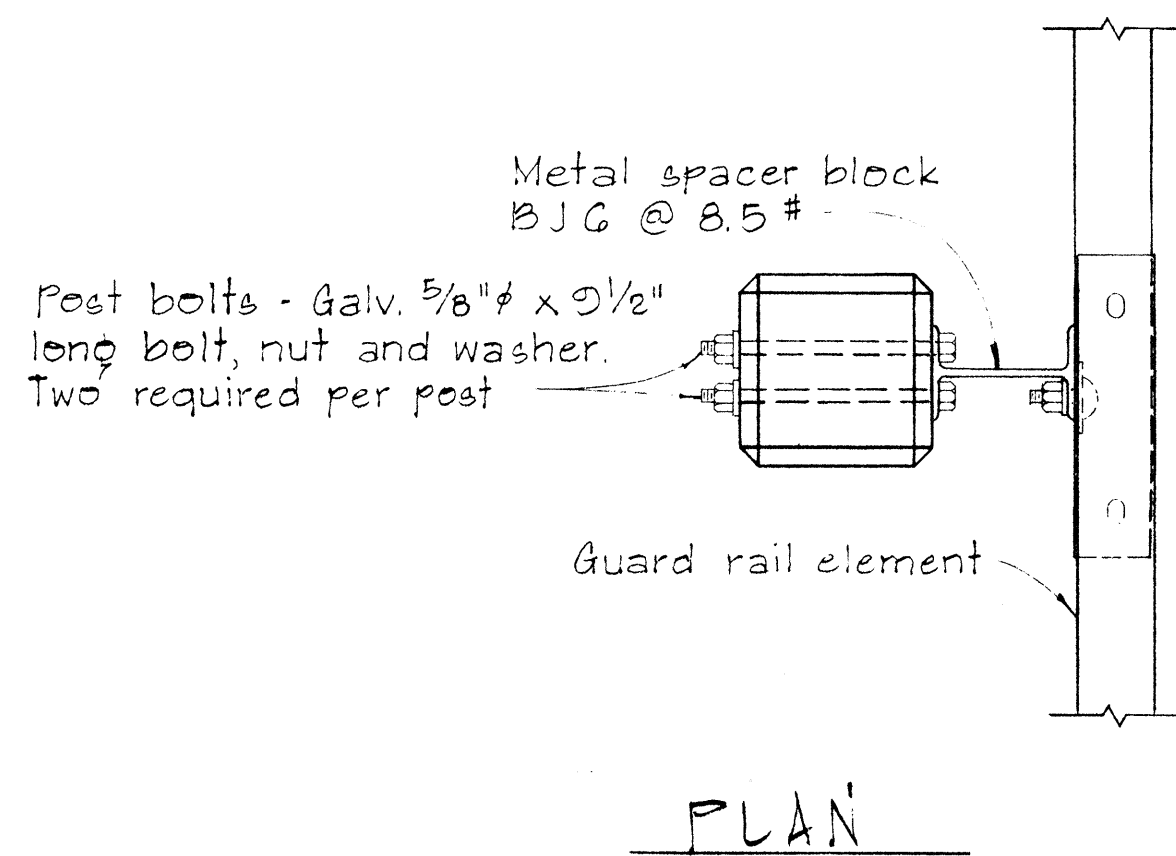
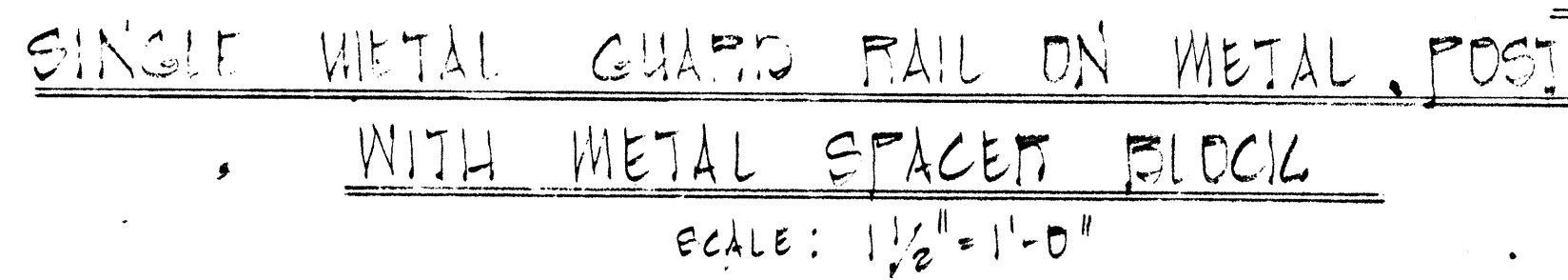
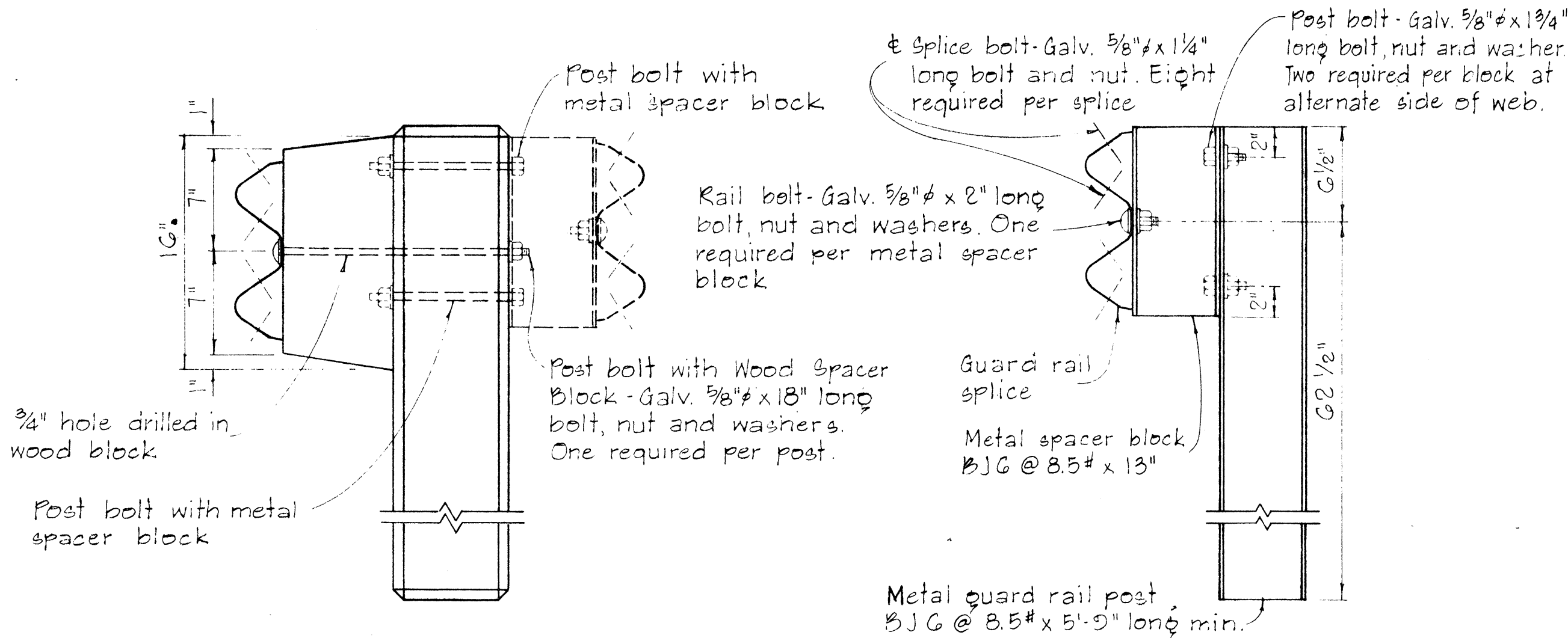
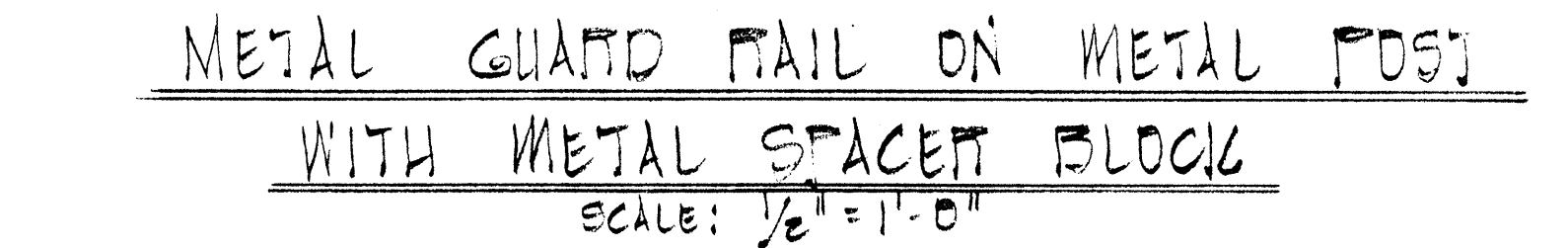
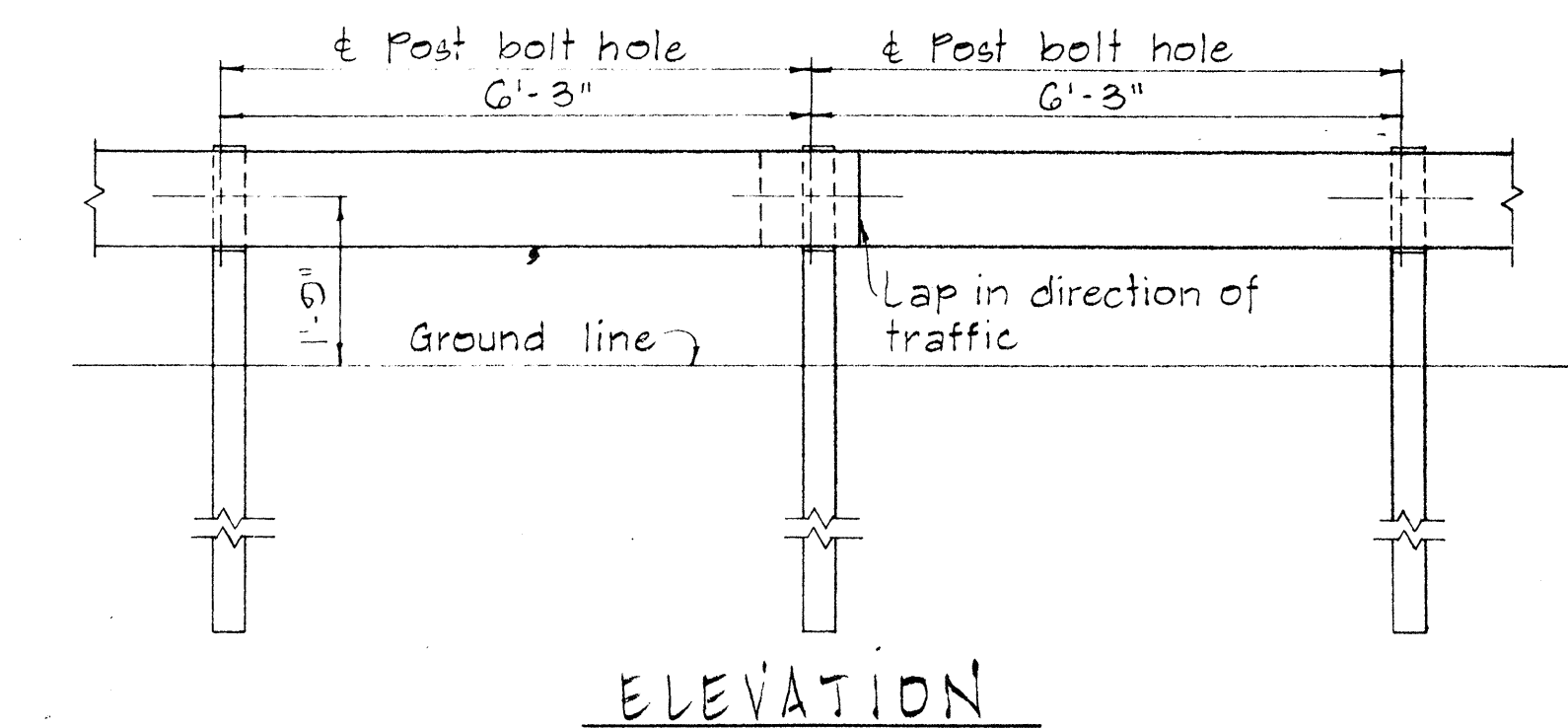
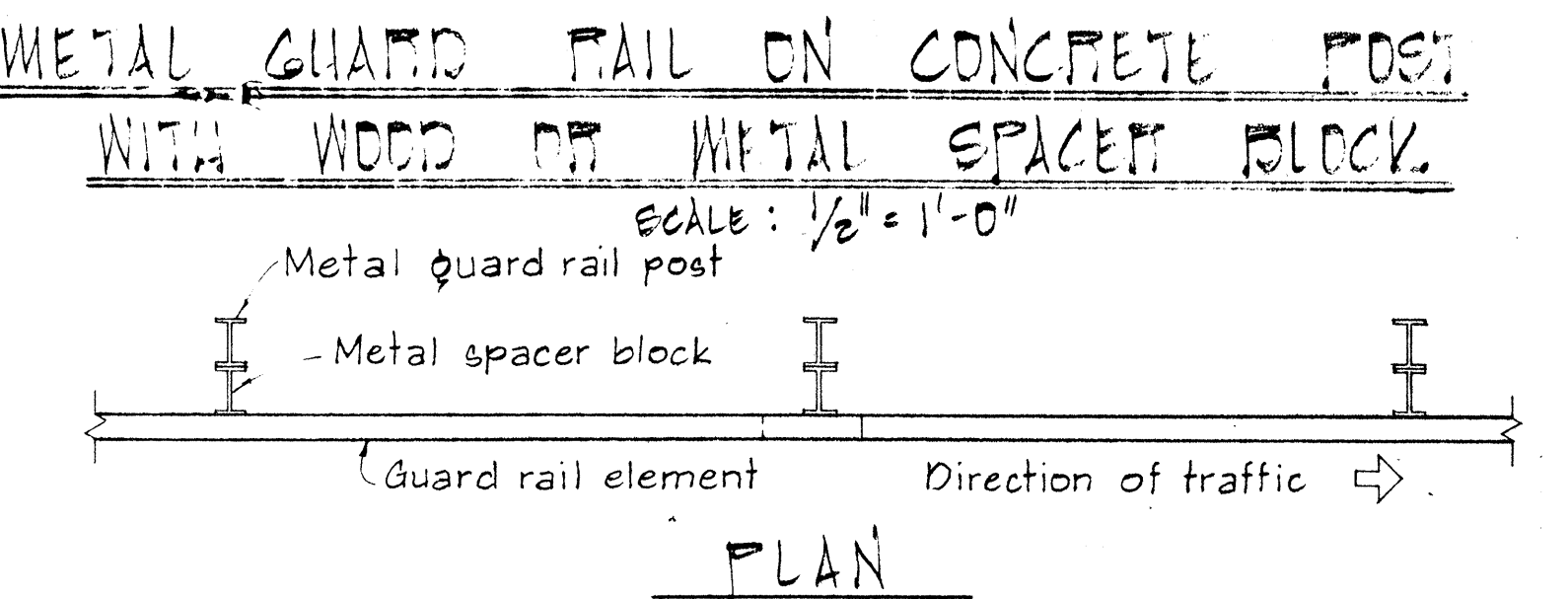
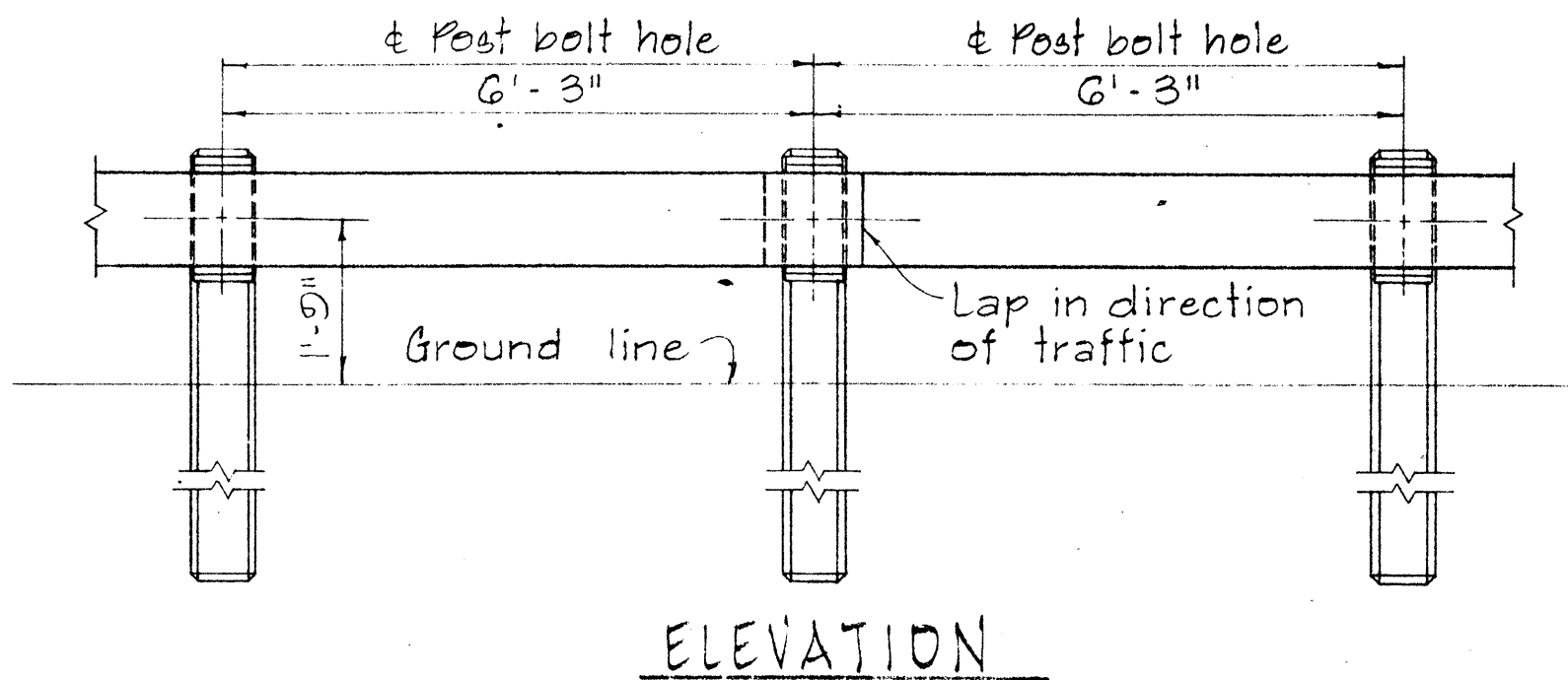
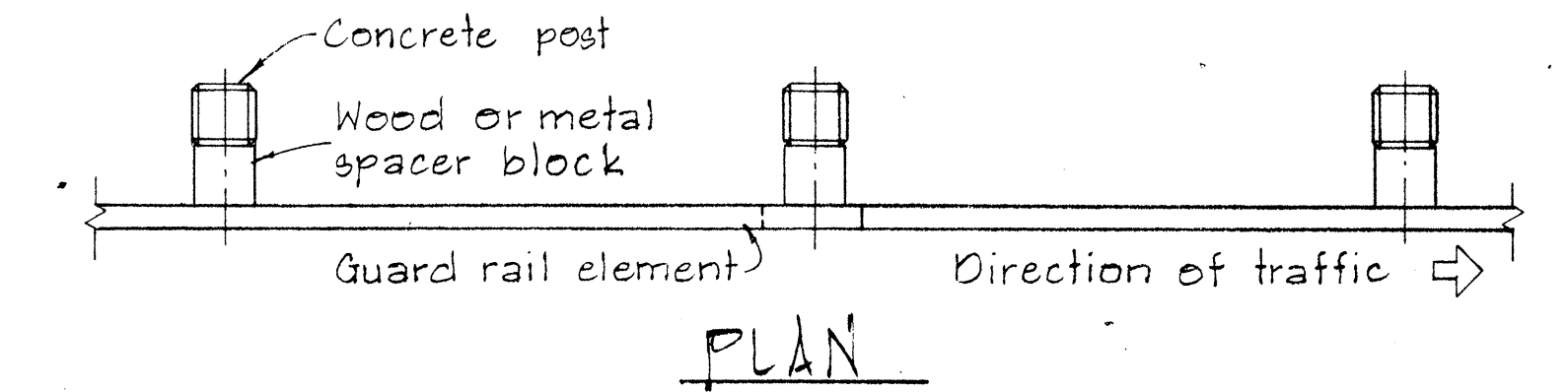
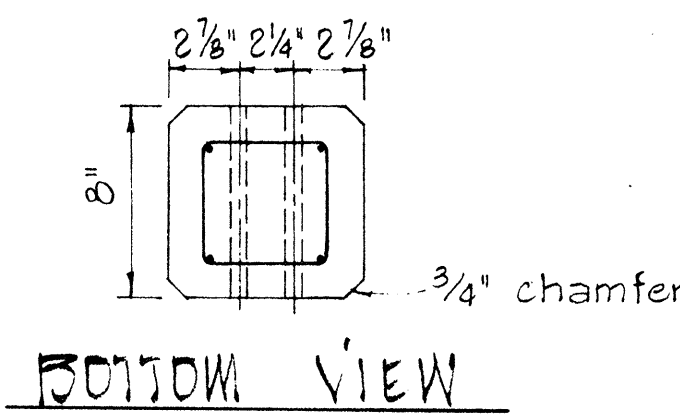
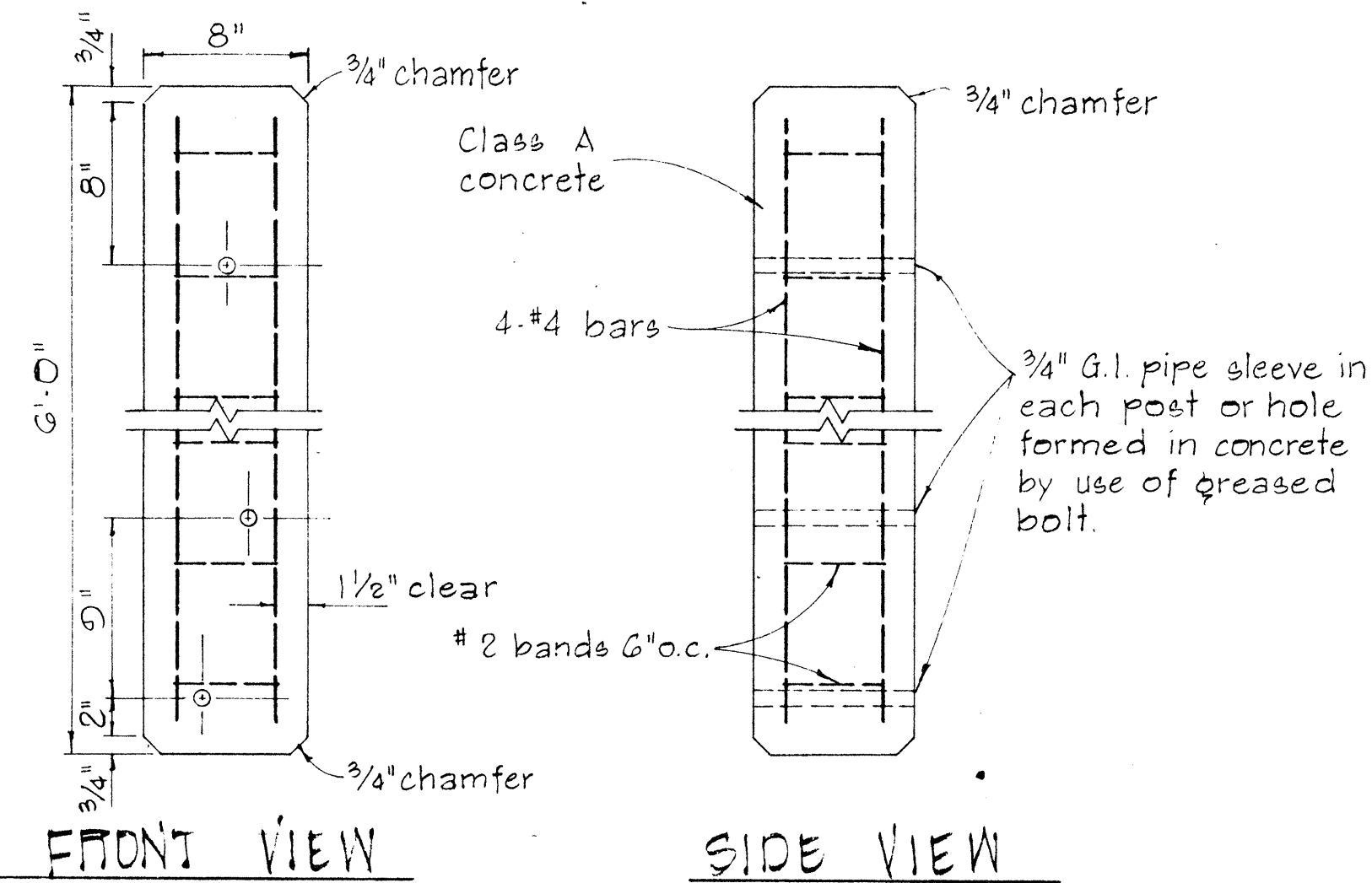
Scale as noted Date:

SHEET No. 17 OF 24 SHEETS DT 402

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-300(118)	1972	88	44



NOTE:
Concrete post shall be precast



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

APPROVED:
Richard J. DeLeon
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

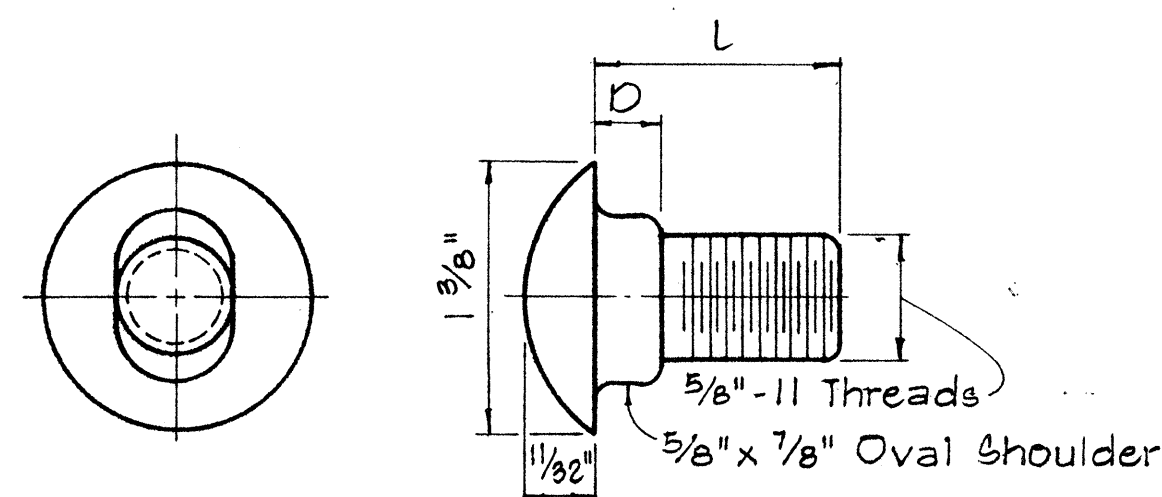
SCALE: AS SHOWN
NOV. 1968

SHEET No. 18 OF 24 SHEETS DT 500

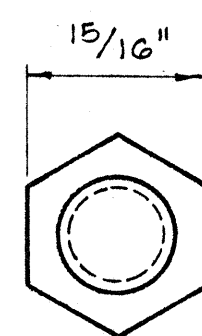
BOLT DIMENSIONS		
TYPE A BOLT		
	D	L
Splice Bolt	5/16"	1 1/4"
Post Bolt for Conc. Post w/ Double Wood Blocks	3/32"	24"
Post Bolt for Conc. Post w/ Single Wood Block	3/32"	18"
Rail Bolt for Metal Block	3/32"	2"

BOLT DIMENSIONS	
TYPE B BOLT	
	L
Post Bolt for Conc. Post w/ Metal Blocks	9 1/2"
Post Bolt for Metal Post w/ Metal Block	1 3/4"

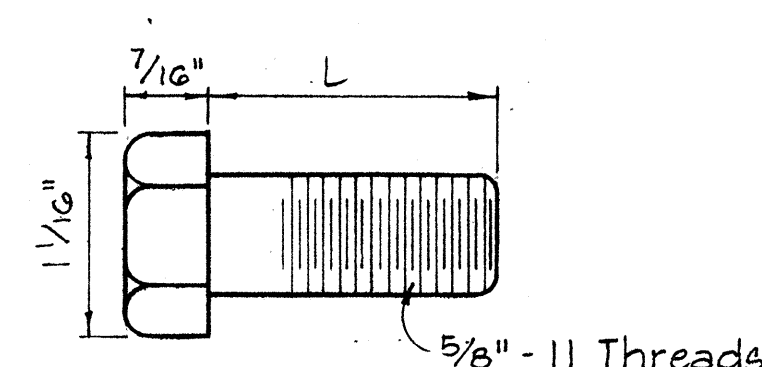
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-3001(8)	1972	39	44



TYPE A BOLT

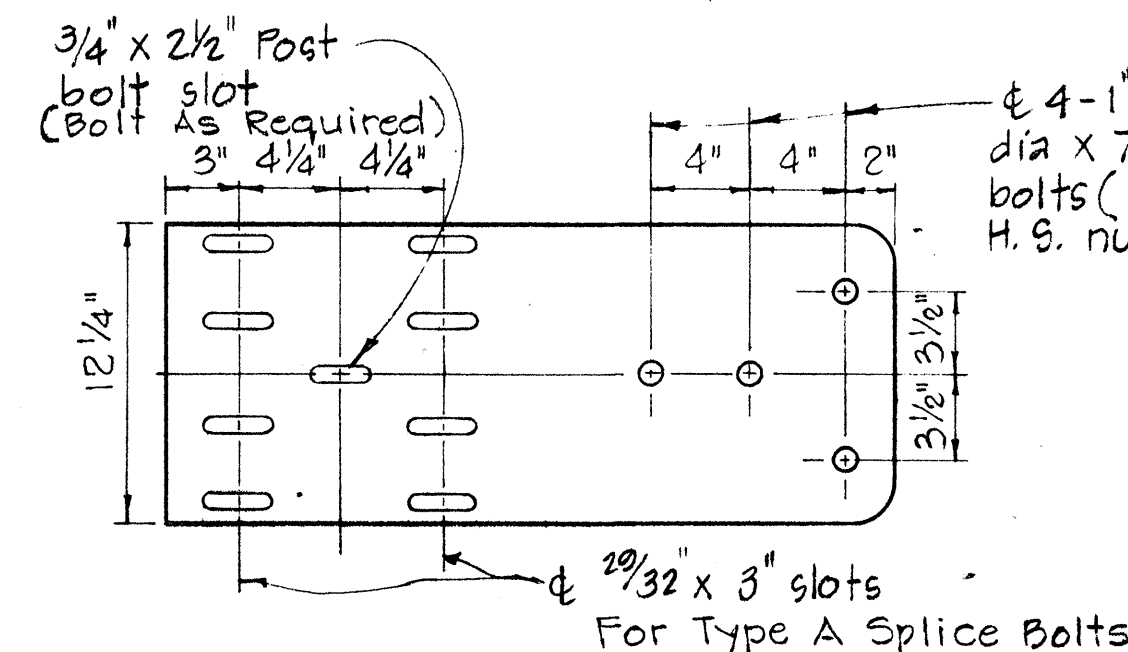
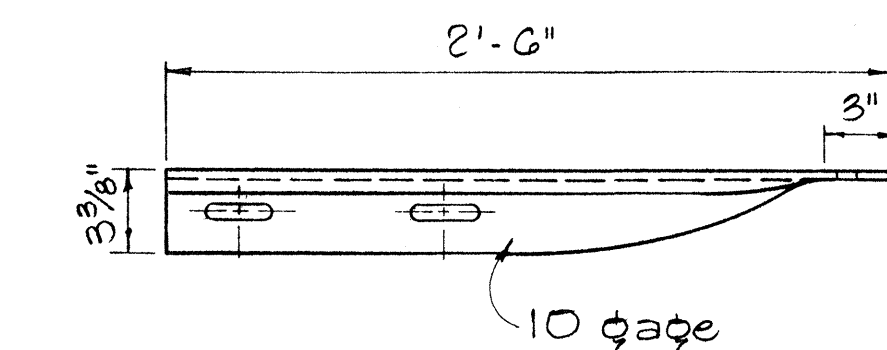


TYPE B BOLT



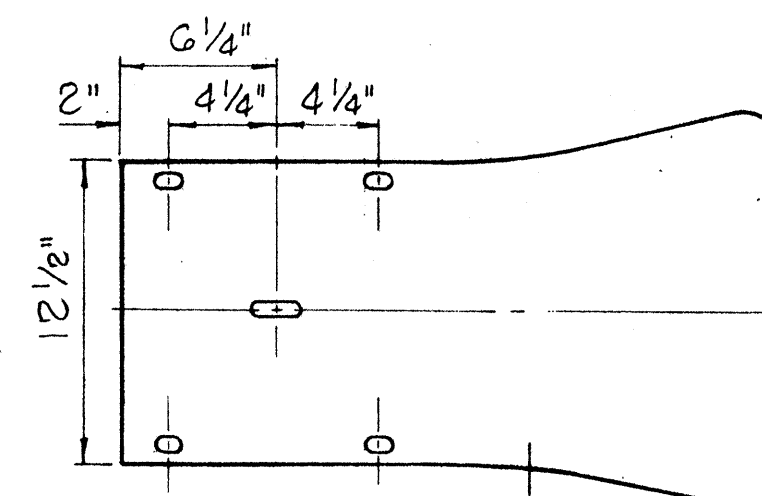
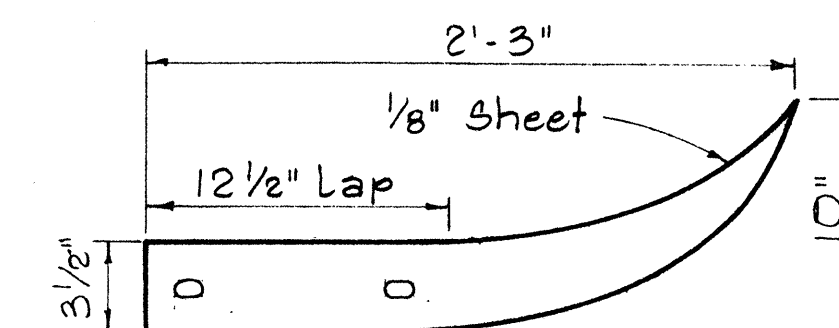
HEXAGON NUT

5/32" Deep x 1 5/16" Dia. C' Bore for Type A Bolt only. Plain nut for Type B Bolt.



SPECIAL END SHOE

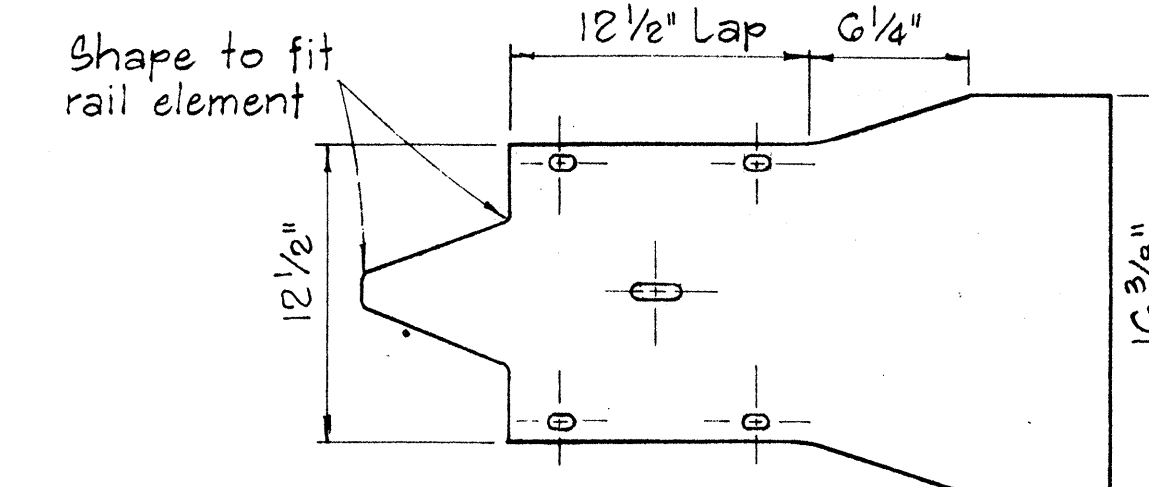
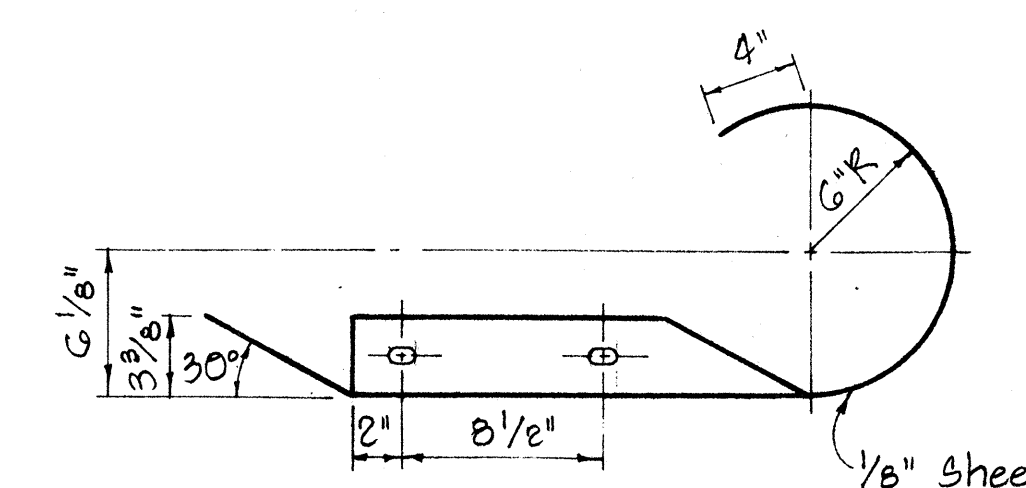
Scale: 1 1/2" = 1'-0"



Same as rail element section

FLARED END

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



CURVED END

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

APPROVAL RECOMMENDED:

TRAFFIC ENGINEER

APPROVED:

ASSISTANT CHIEF, ENGINEERING

12/29/69

DATE

12-30-69

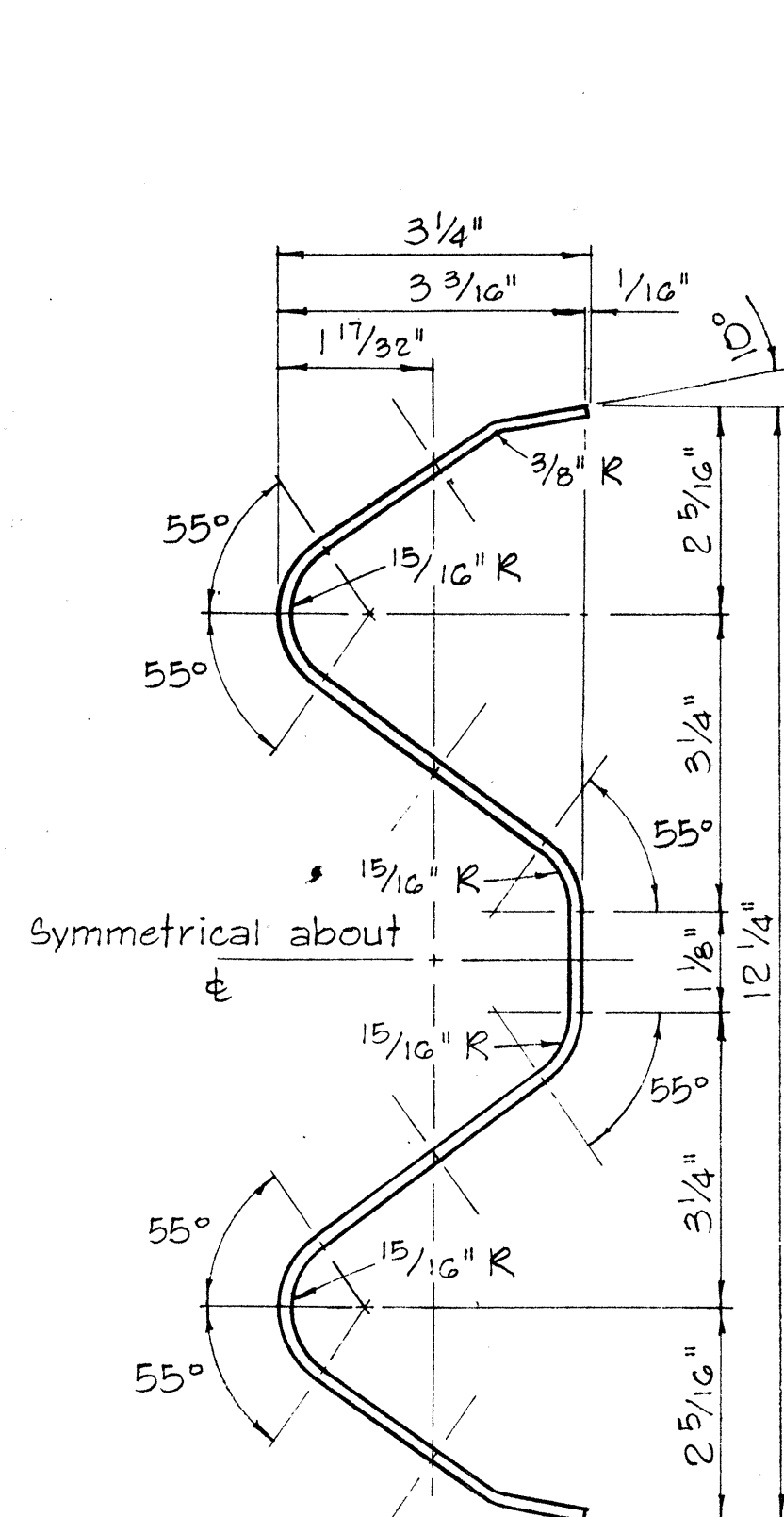
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

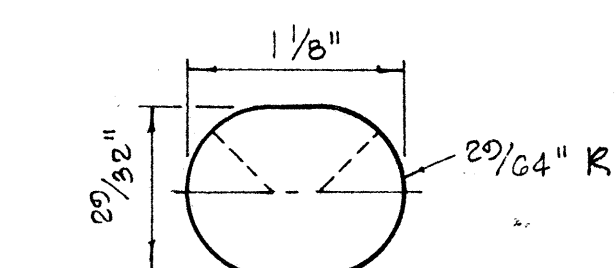
Scale: As Noted August, 1968

SHEET No. 39 OF 44 SHEETS DT 501

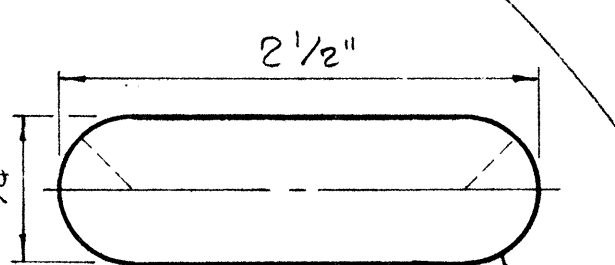


RAIL ELEMENT SECTION

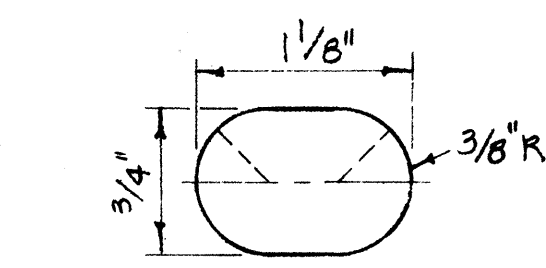
Scale: 6" = 1'-0"



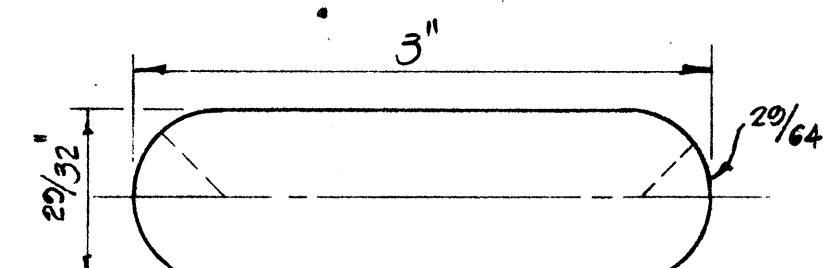
SPlice BOLT SLOT



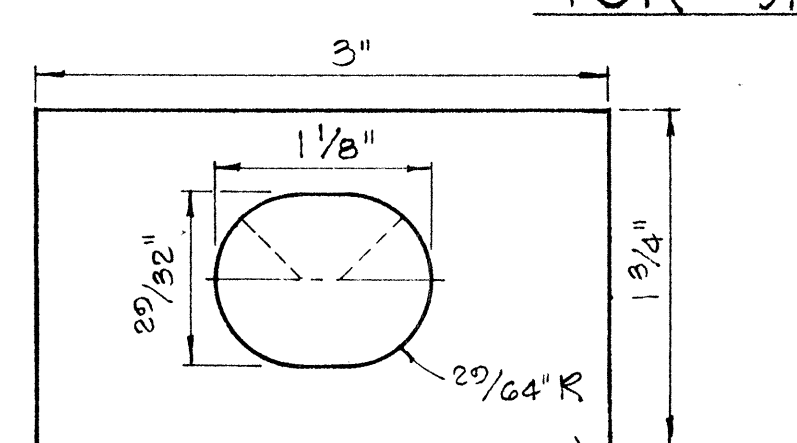
POST BOLT SLOT



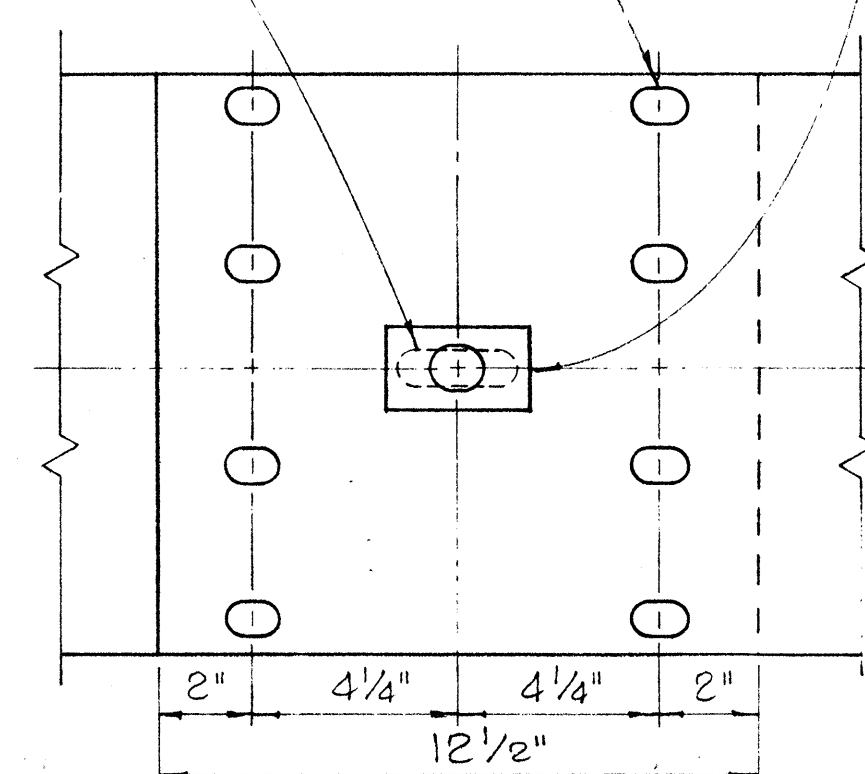
SPlice BOLT SLOT FOR ALL ENDS



SPlice BOLT SLOT FOR SPECIAL END SHOE



RAIL WASHER



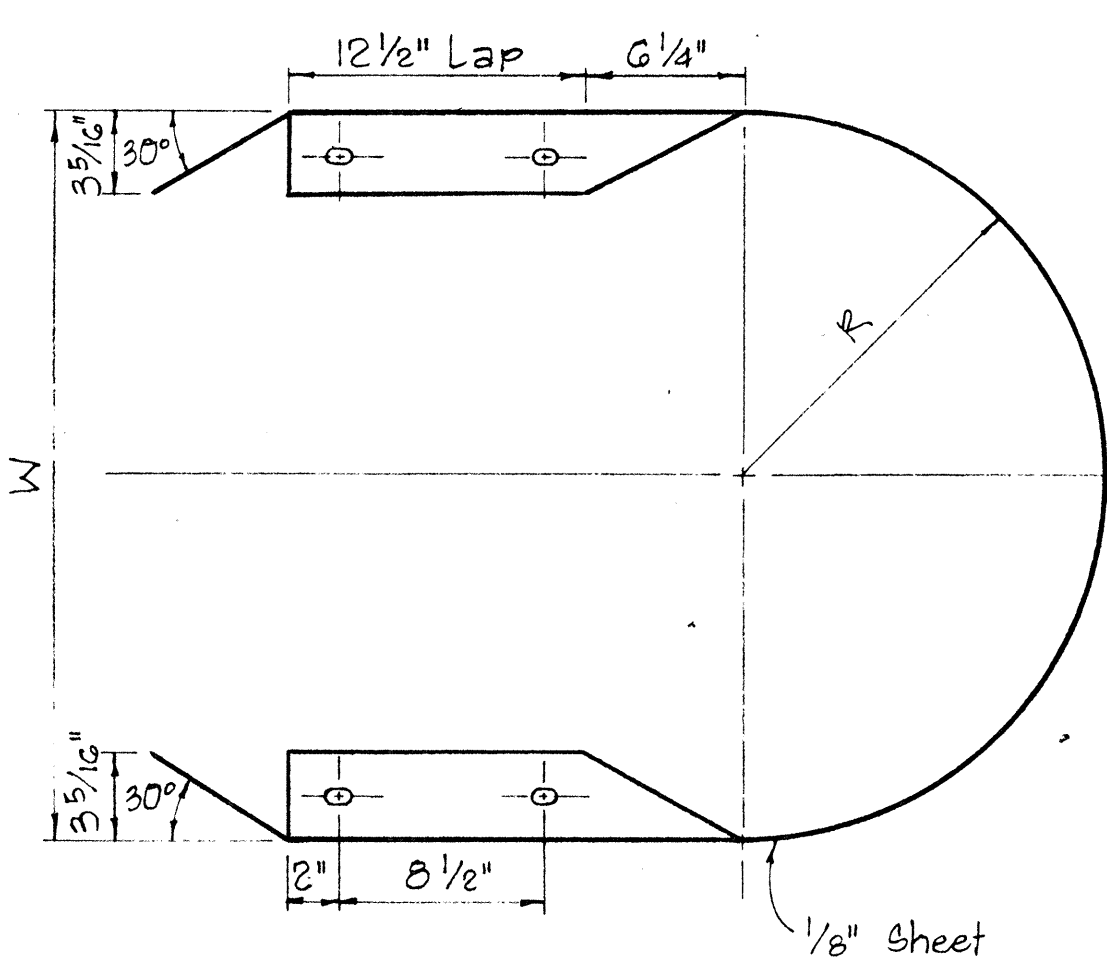
RAIL SPLICE

Scale: 3" = 1'-0"

NOTES:

1. H.S. Bolts shall conform to the requirements of ASTM A 325.
2. Special End Shoe shall be fabricated from 10 Gage steel conforming to the requirements of AASHTO 180.

MEDIAN END DIMENSIONS		
TYPE OF POST AND BLOCK	W	R
Double Metal Guard Rail on Concrete Post with Wood Blocks	29 3/4"	14 3/8"
Double Metal Guard Rail on Concrete Post with Metal Blocks (BJG)	26 1/2"	13 1/4"
Double Metal Guard Rail on Metal Post with Metal Blocks (BJG)	24 3/8"	12 3/16"

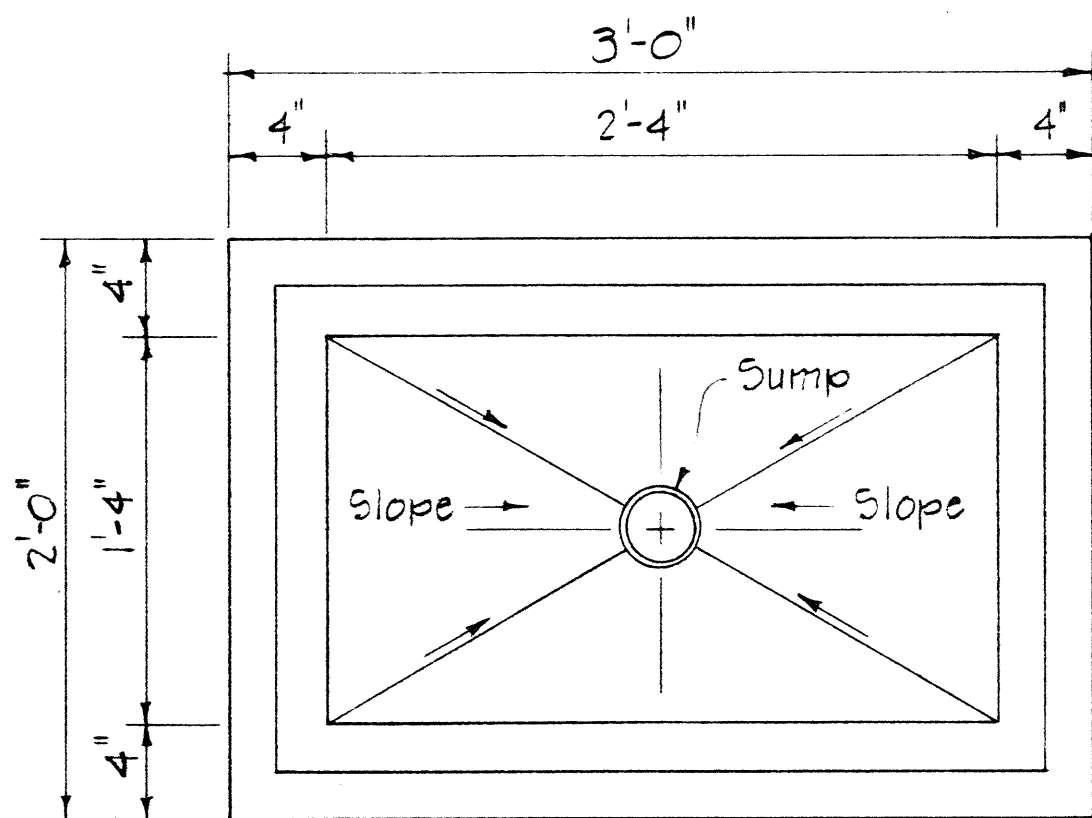


MEDIAN END

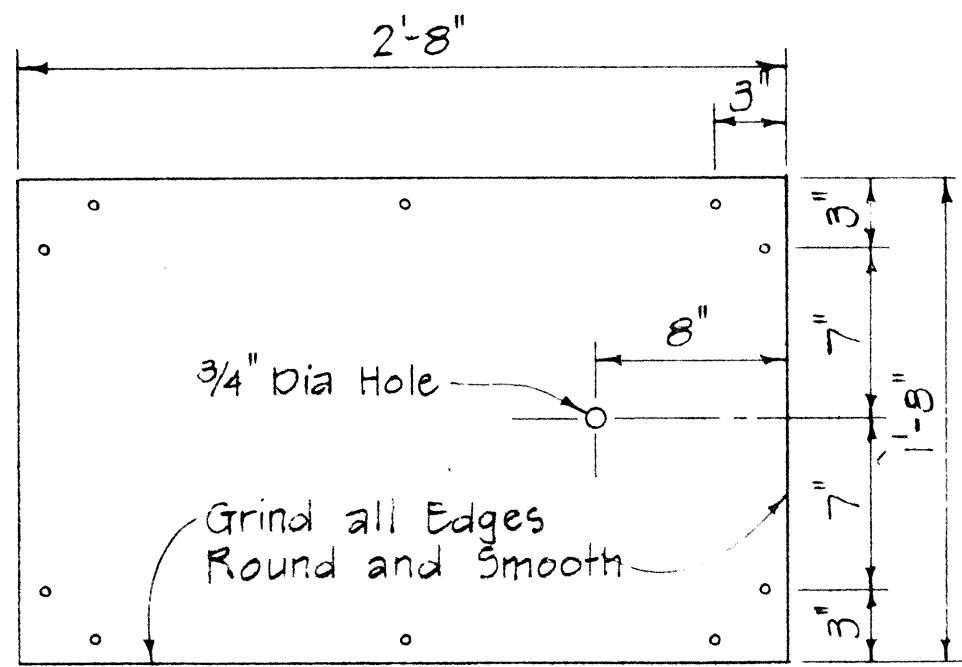
Scale: 1 1/2" = 1'-0"

NO	REVISION	APPROVED BY	DATE

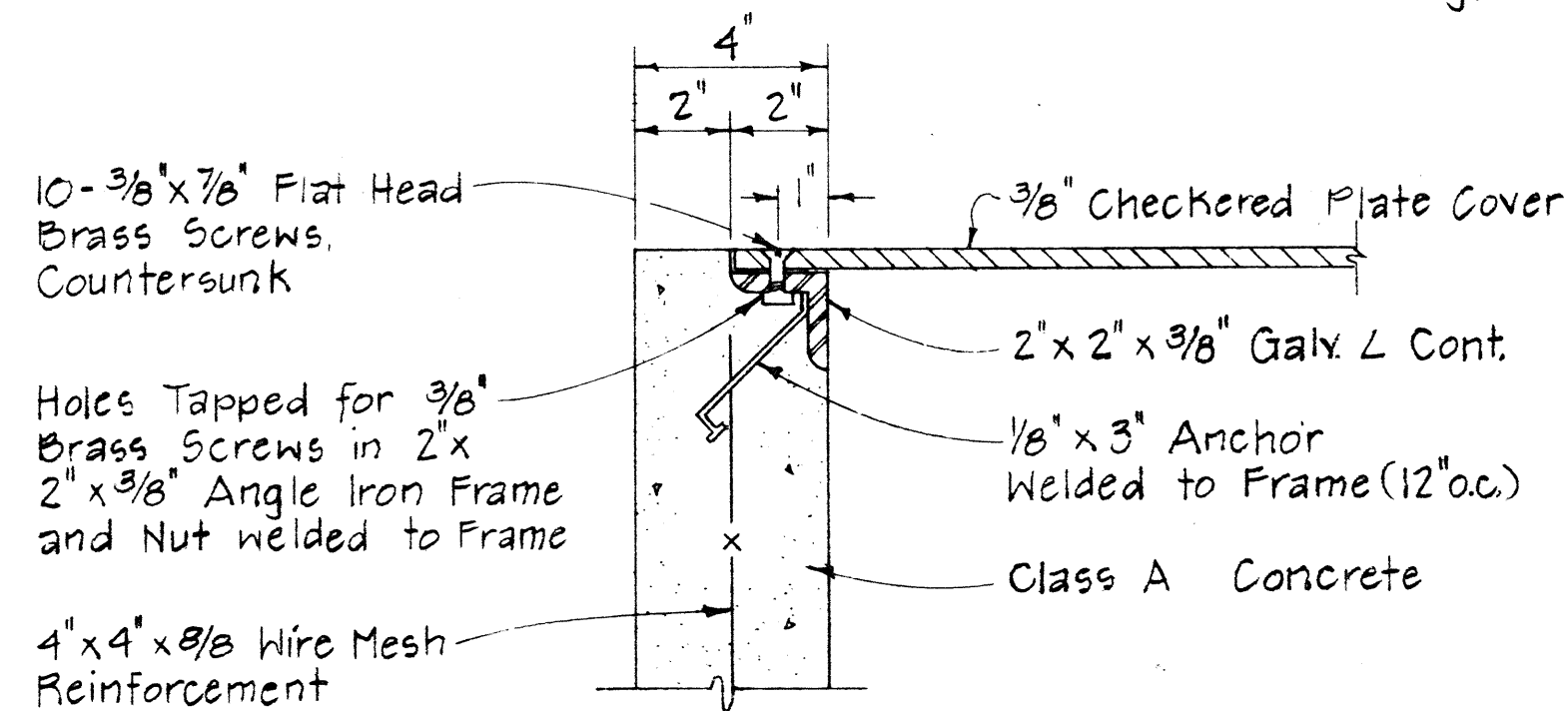
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-300(18)	1972	40	44



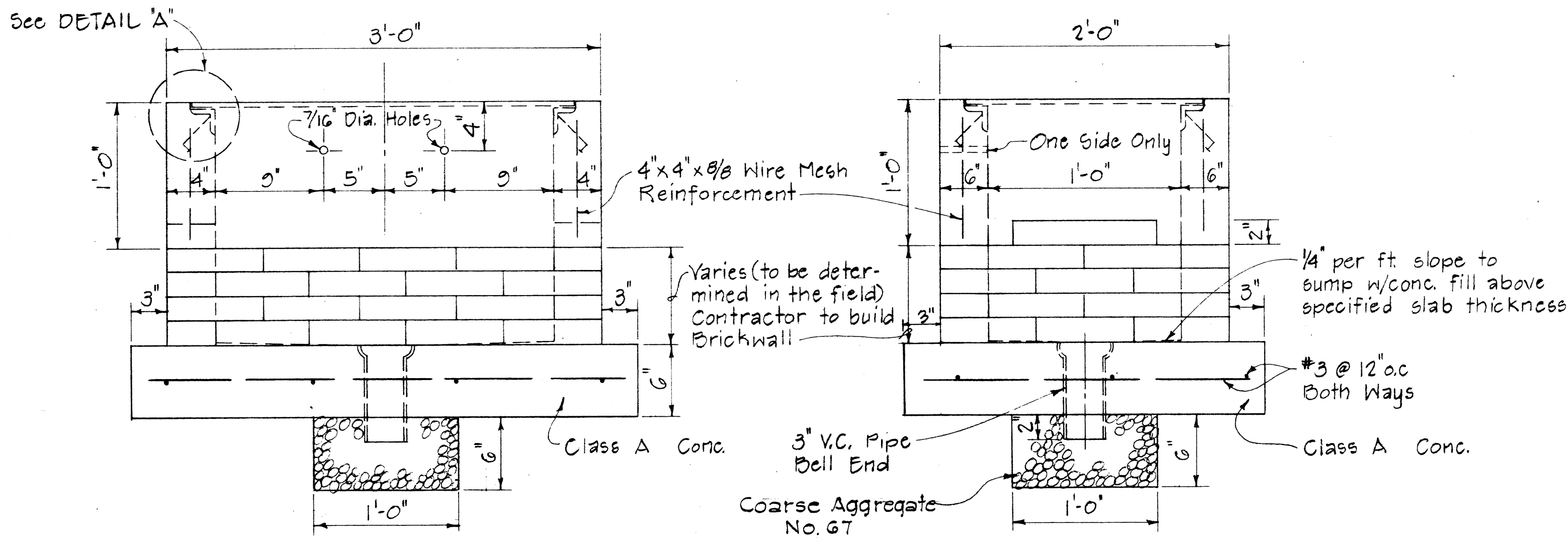
PLAN
Scale: 1/2" = 1'-0"



3/8" CHECKED PLATE COVER
(Hot Dip Galvanizing Checked Plate after Drilling, Countersinking and Grinding Edge)
Scale: 1/2" = 1'-0"



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



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

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

2'-0" x 3'-0" CONCRETE PULLBOX

NOTES:

- Concrete Pullbox shall consist of all work necessary for constructing the Pullbox for the Highway Lighting System shall include furnishing & installing all materials, appurtenances and galvanizing as shown above.
- A mounting bracket or a 10" x 10" x 6" high (minimum) shelf shall be provided in each Pullbox for the installation of an isolating transformer (Incidental to Highway Lighting System)

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

APPROVED:
William J. J. J.
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

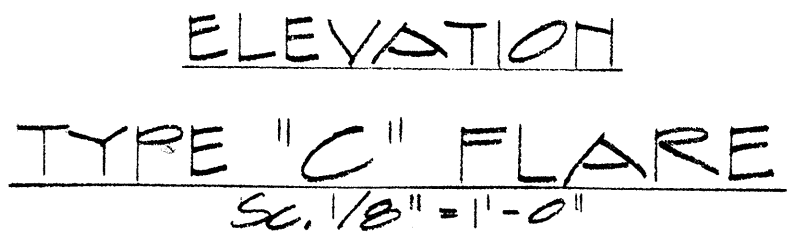
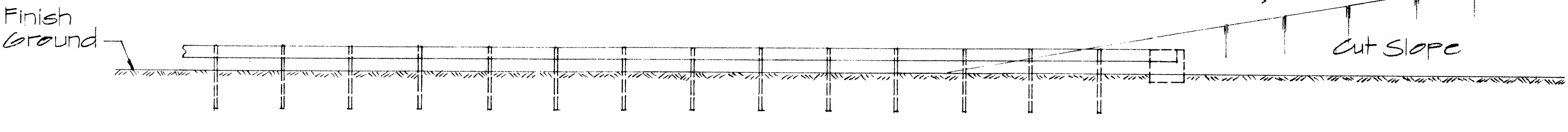
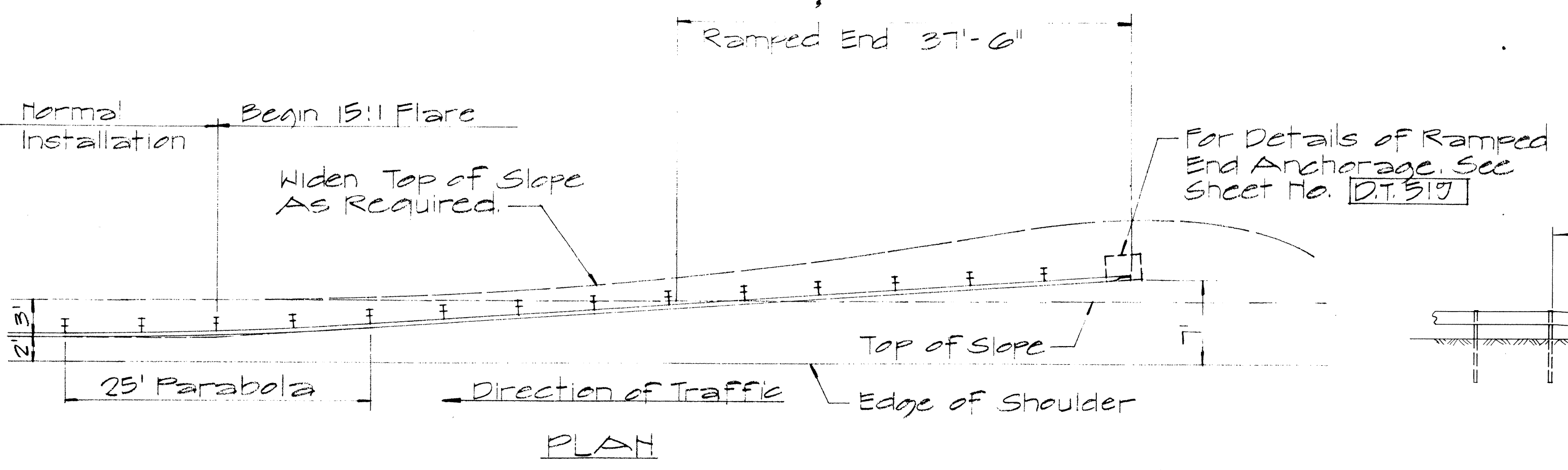
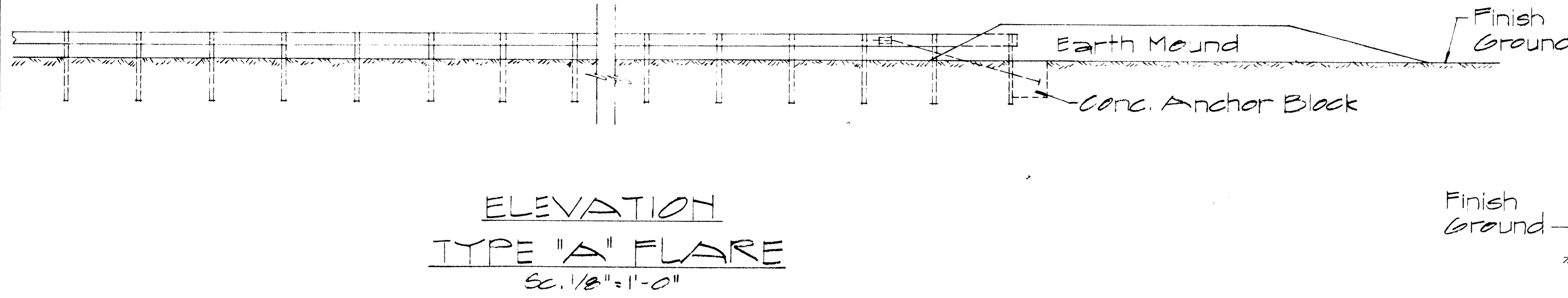
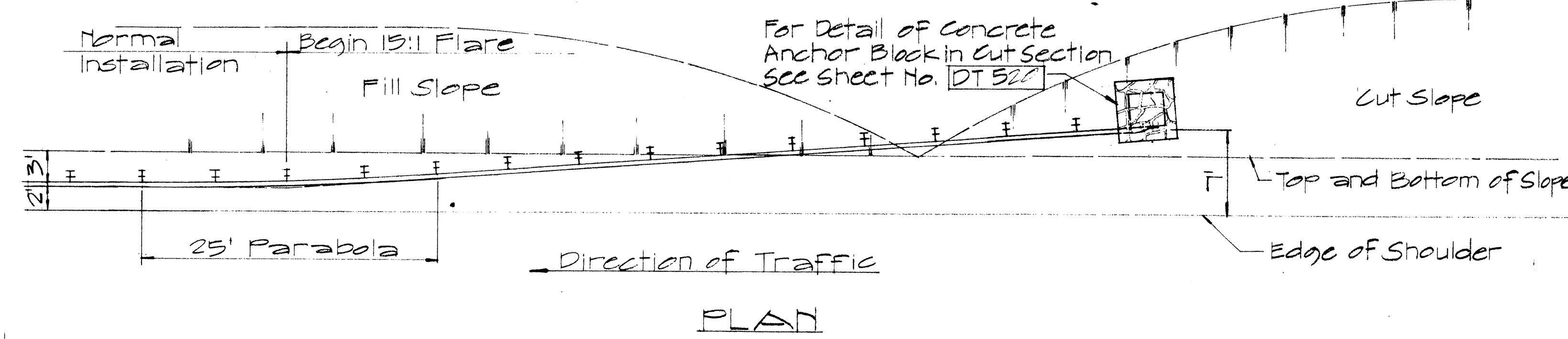
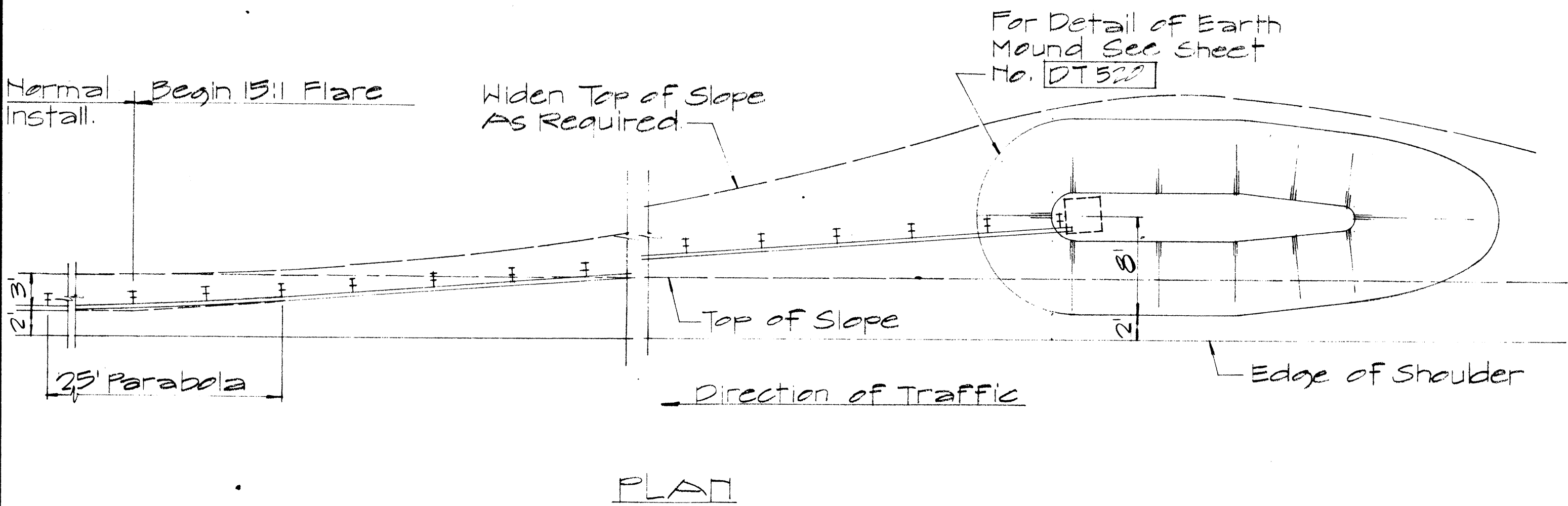
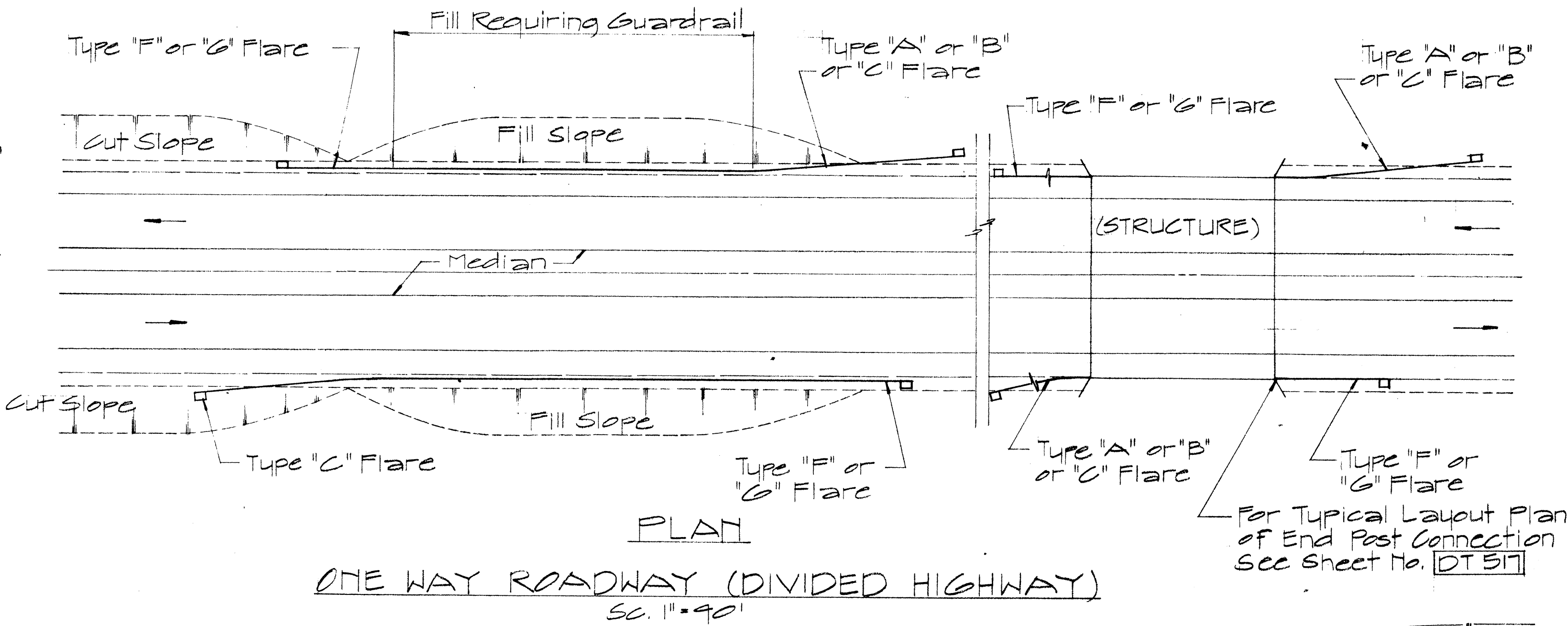
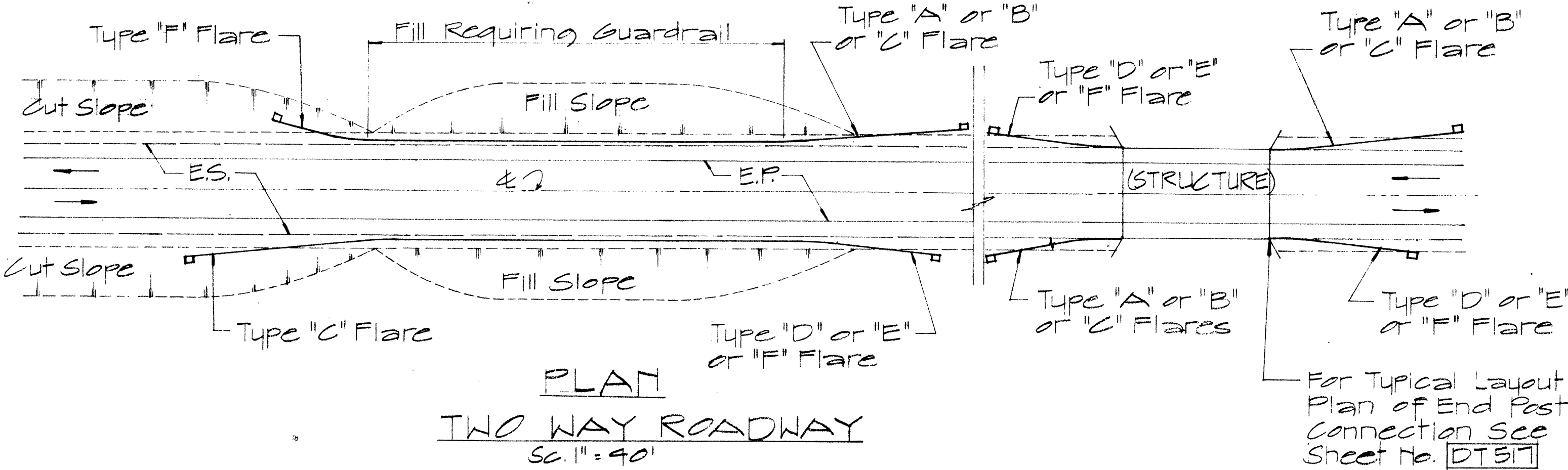
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DETAIL OF 2'x3' CONCRETE PULLBOX	
SCALE AS SHOWN	FEB 1969
SHEET No. 20 OF 24 SHEETS DT 510	

DATE	
DESIGNED BY	
TRACED BY	
NOTED 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.	7-300(18)	1972	41	44

NOTE:
Metal guard rail connection to structures requires End Post Connection. See structure plans.



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

APPROVED:
W. B. Smith 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

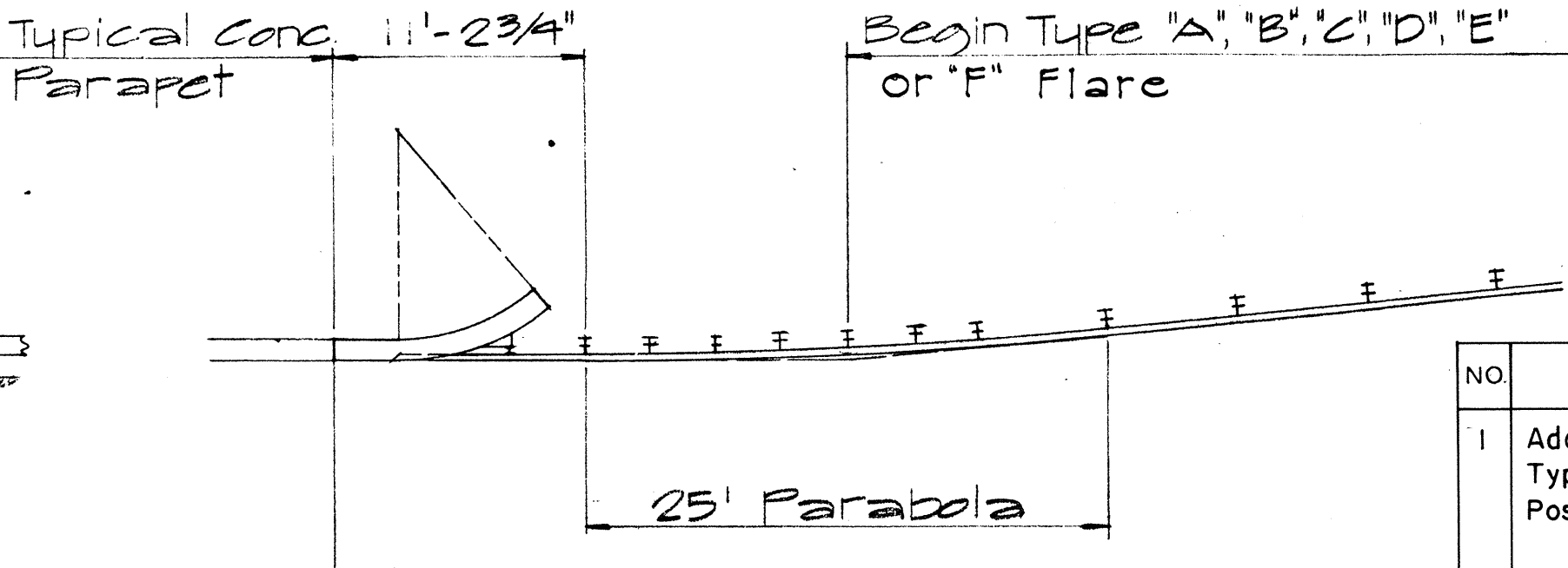
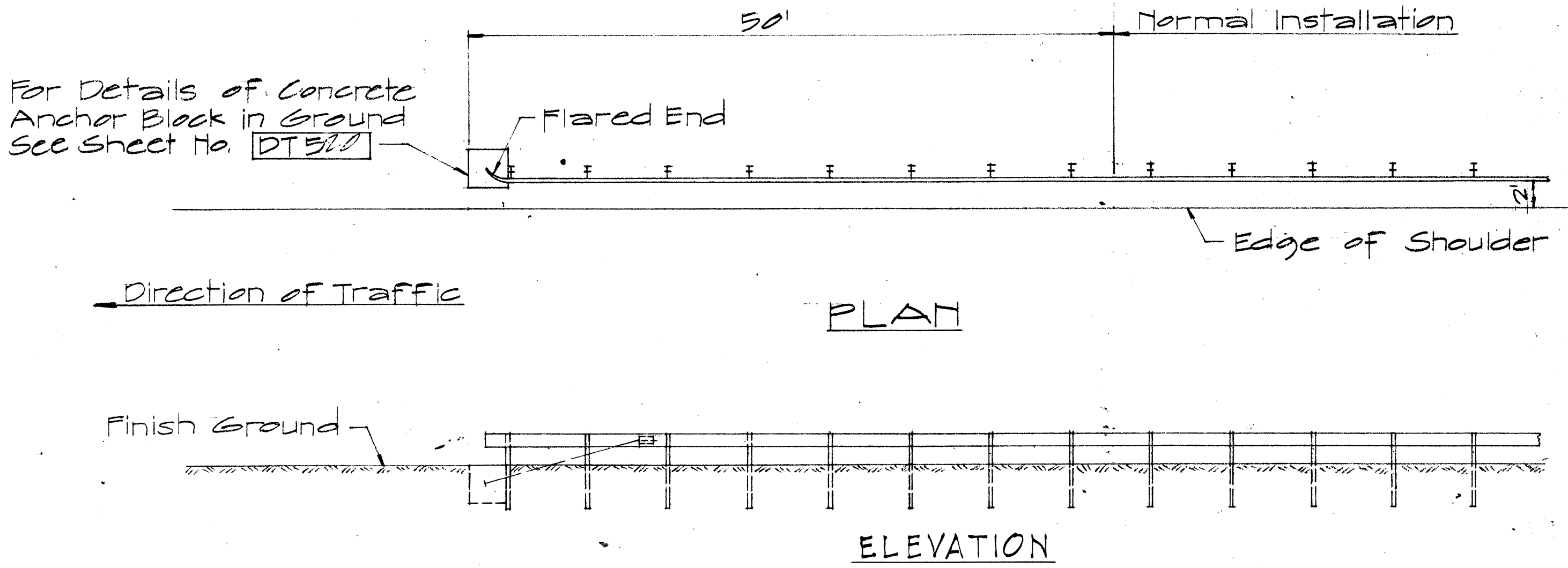
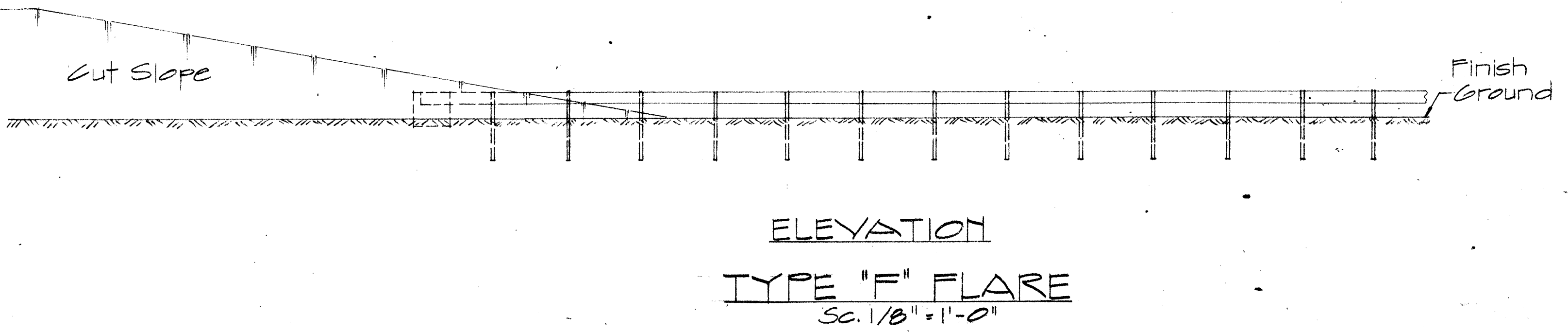
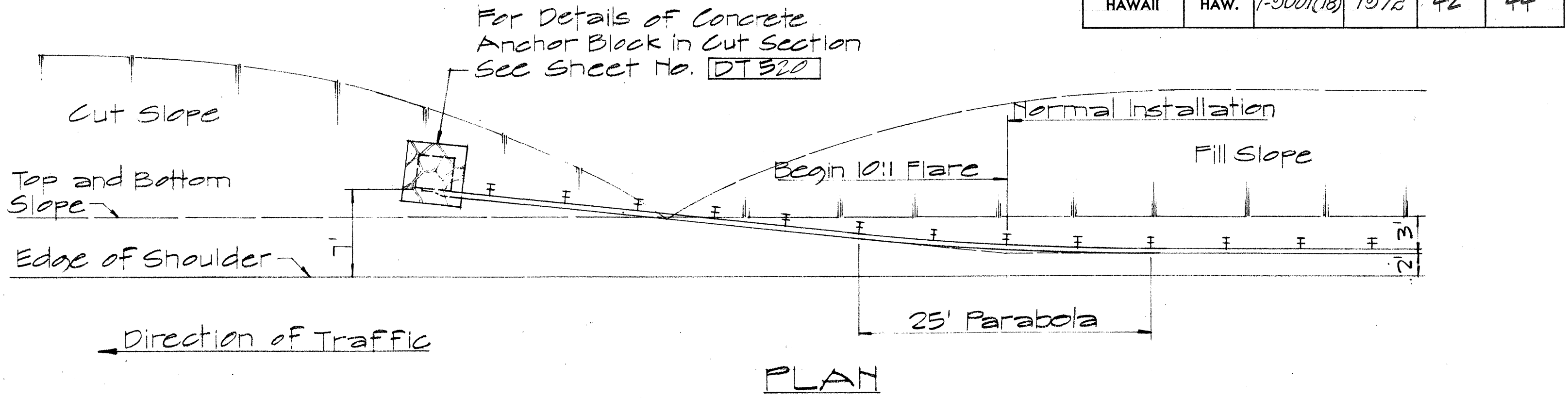
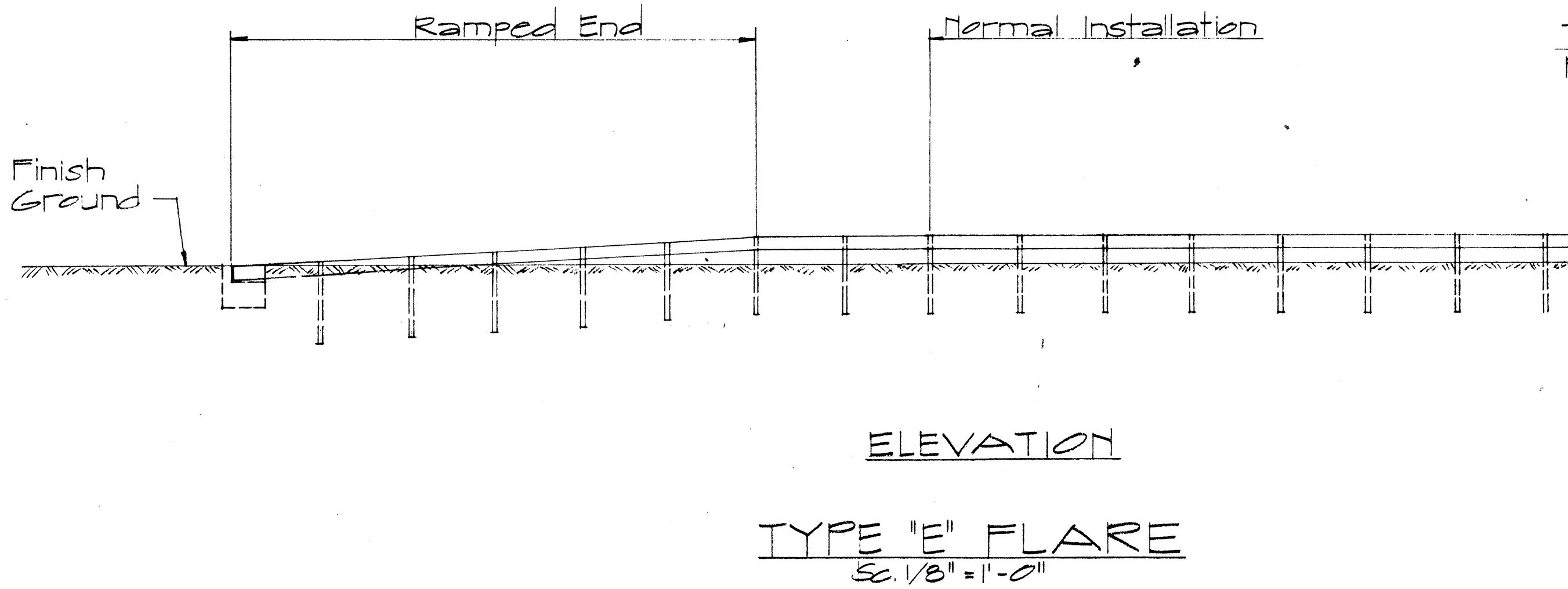
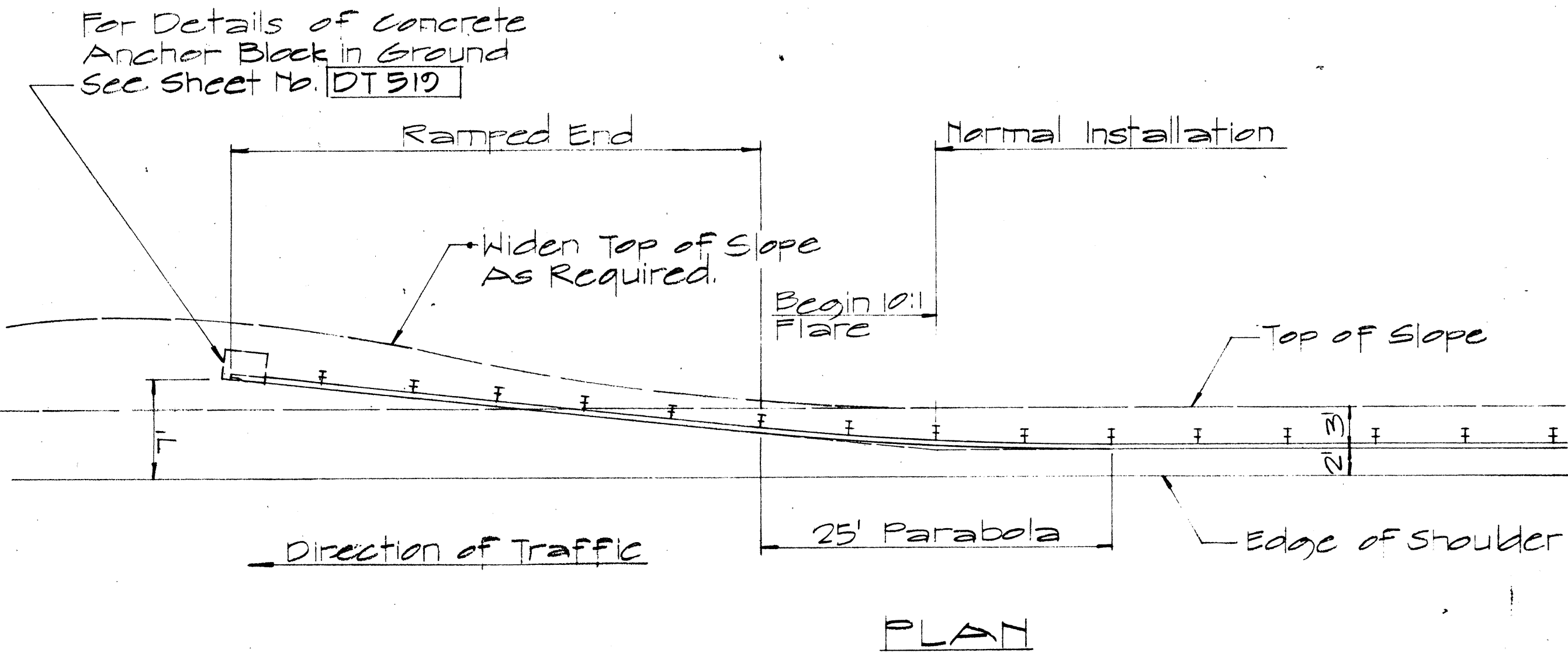
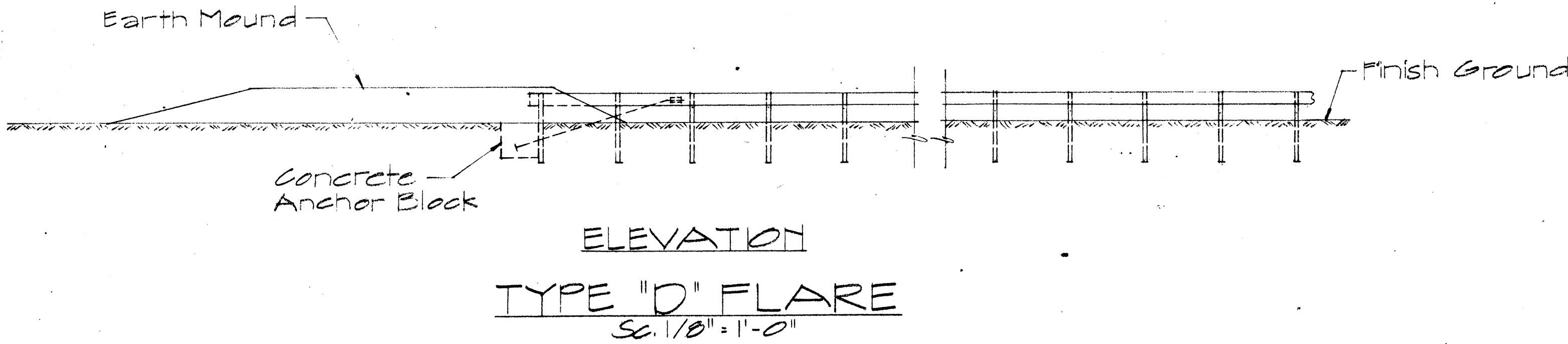
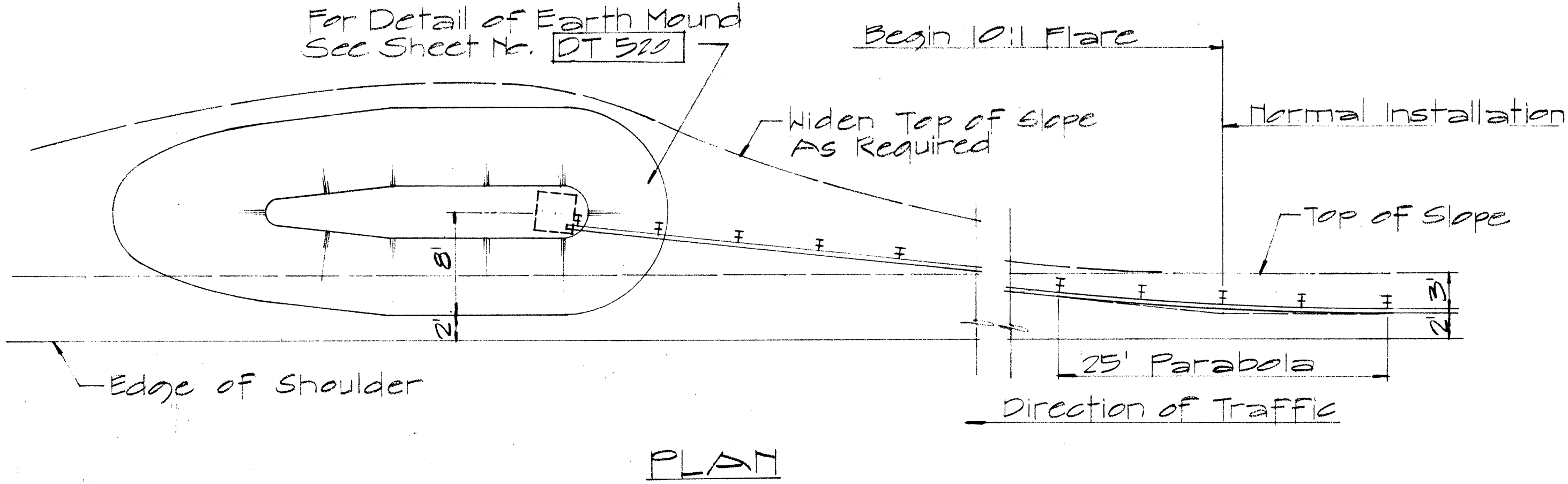
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
OF APPROACH END
FLARE - ONE & TWO
WAY ROADWAY

Scale: As Noted April 1967
SHEET No. 21 OF 24 SHEETS DT 516

DATE	
DESIGNED 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.	7-0001(18)	1972	42	44



TYPICAL LAYOUT PLAN OF END POST CONNECTION

Sc. 1/8" = 1'-0"

NO.	REVISION	APPROVED BY	DATE
1	Additional Posts Added to Typical Layout Plan Of End Post Connection	H.T.	4-12-72

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

APPROVED:
W. S. Sal 12-29-69
 ASSISTANT CHIEF, ENGINEERING DATE

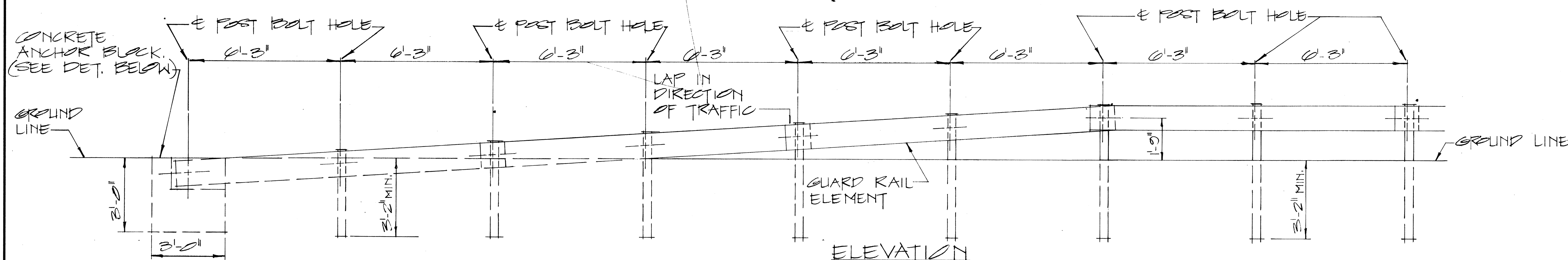
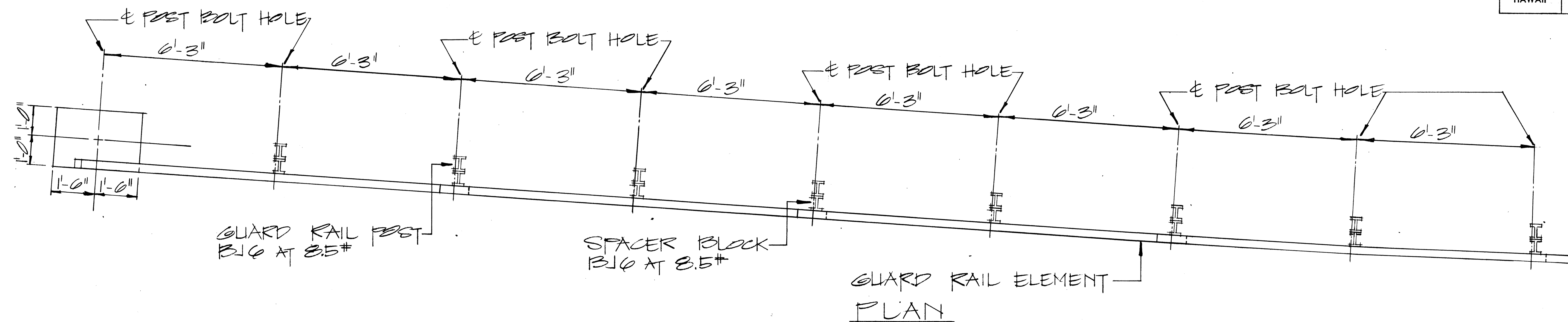
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
 TRAILING END
 FLARE - ONE & TWO
 WAY ROADWAY

Scale: As Noted April 1969

SHEET No. 22 OF 24 SHEETS DT 517

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-9001(18)	1972	43	44

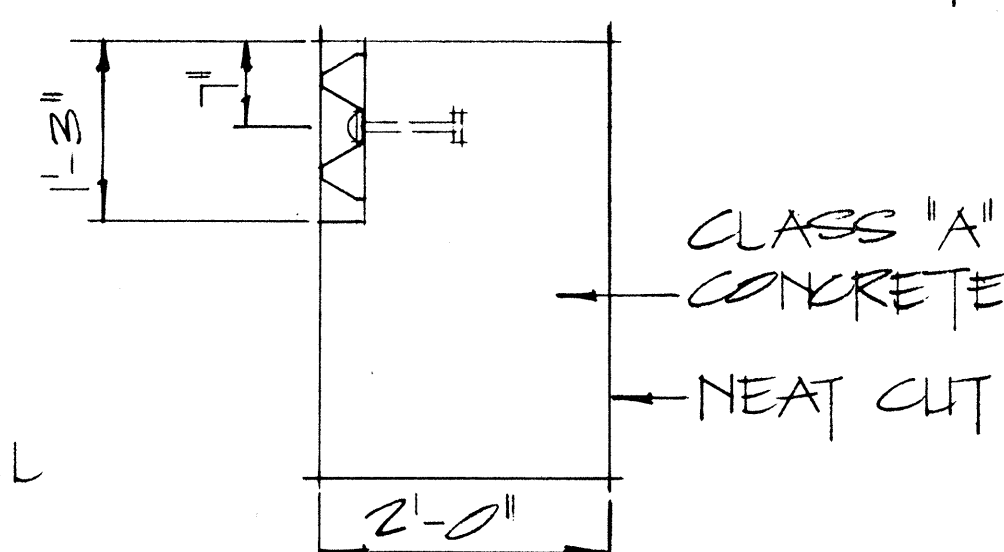
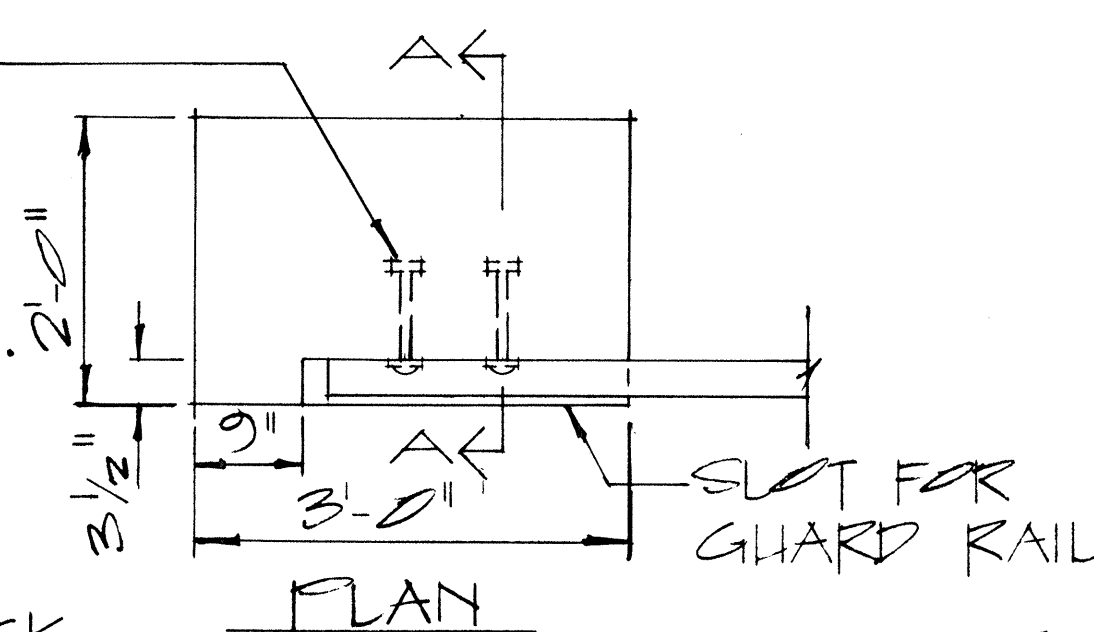


RAMP END ANCHORAGE

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

2-5/8" x 7/4" LONG BOLTS, W/ NUTS & WASHERS INCIDENTAL TO METAL GUARD RAIL. ALL METAL PIECES SHALL BE GALVANIZED.

TOP OF ANCHOR BLOCK TO BE FLUSH W/ GROUND.



SECTION A-A'

NOTE: CONCRETE, EXCAVATION AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS, SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.

CONCRETE ANCHOR BLOCK

SCALE: $\frac{3}{4}'' = 1'-0''$

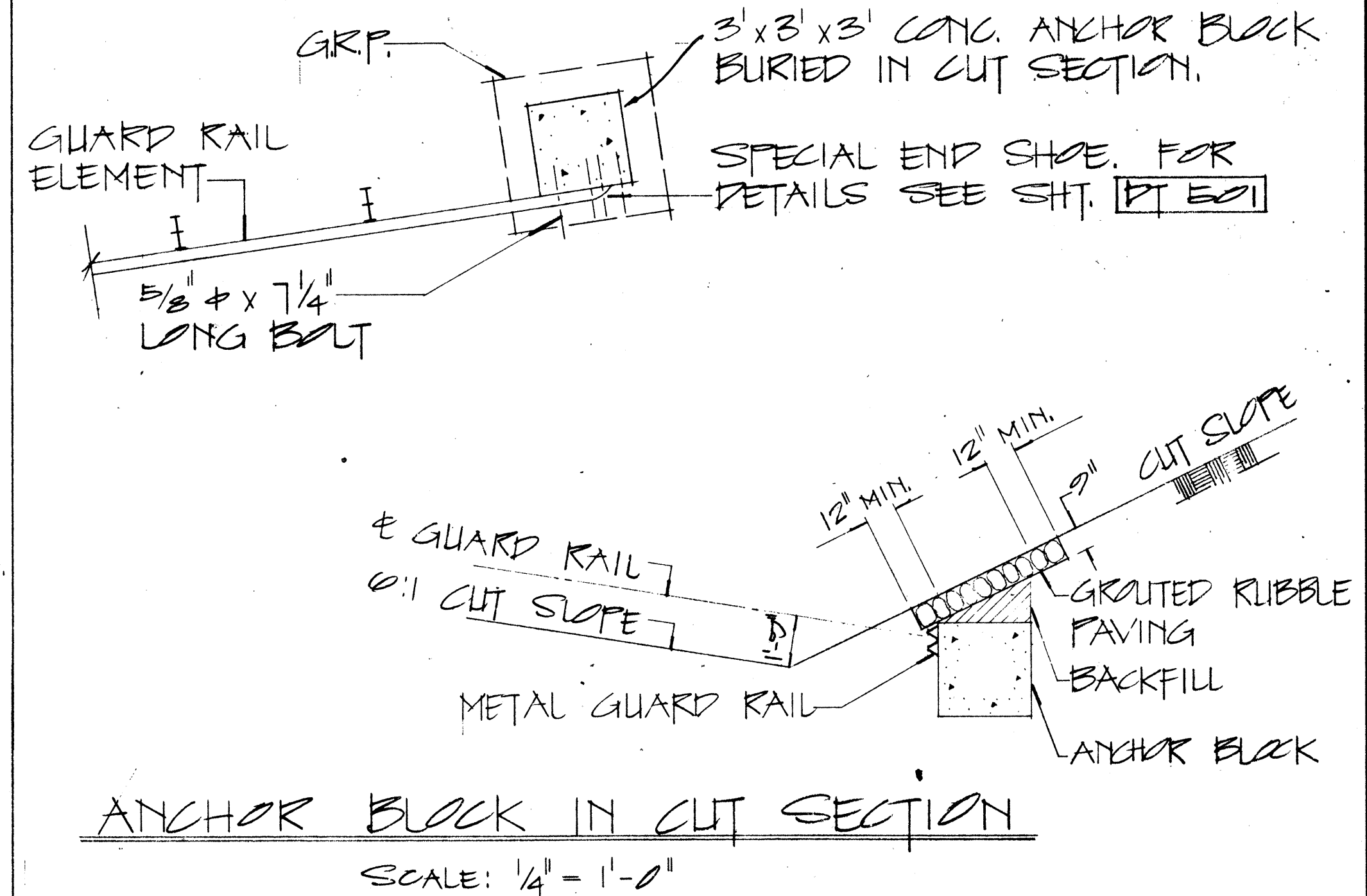
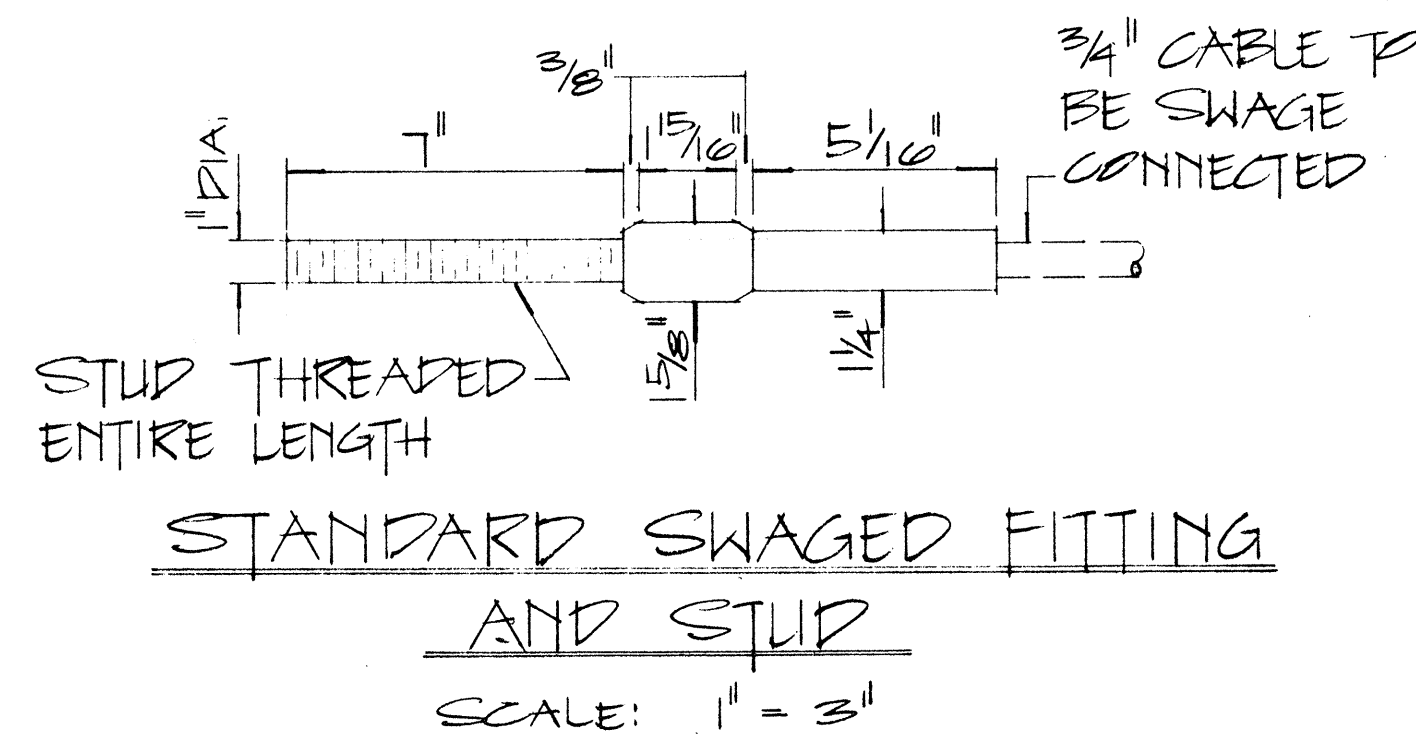
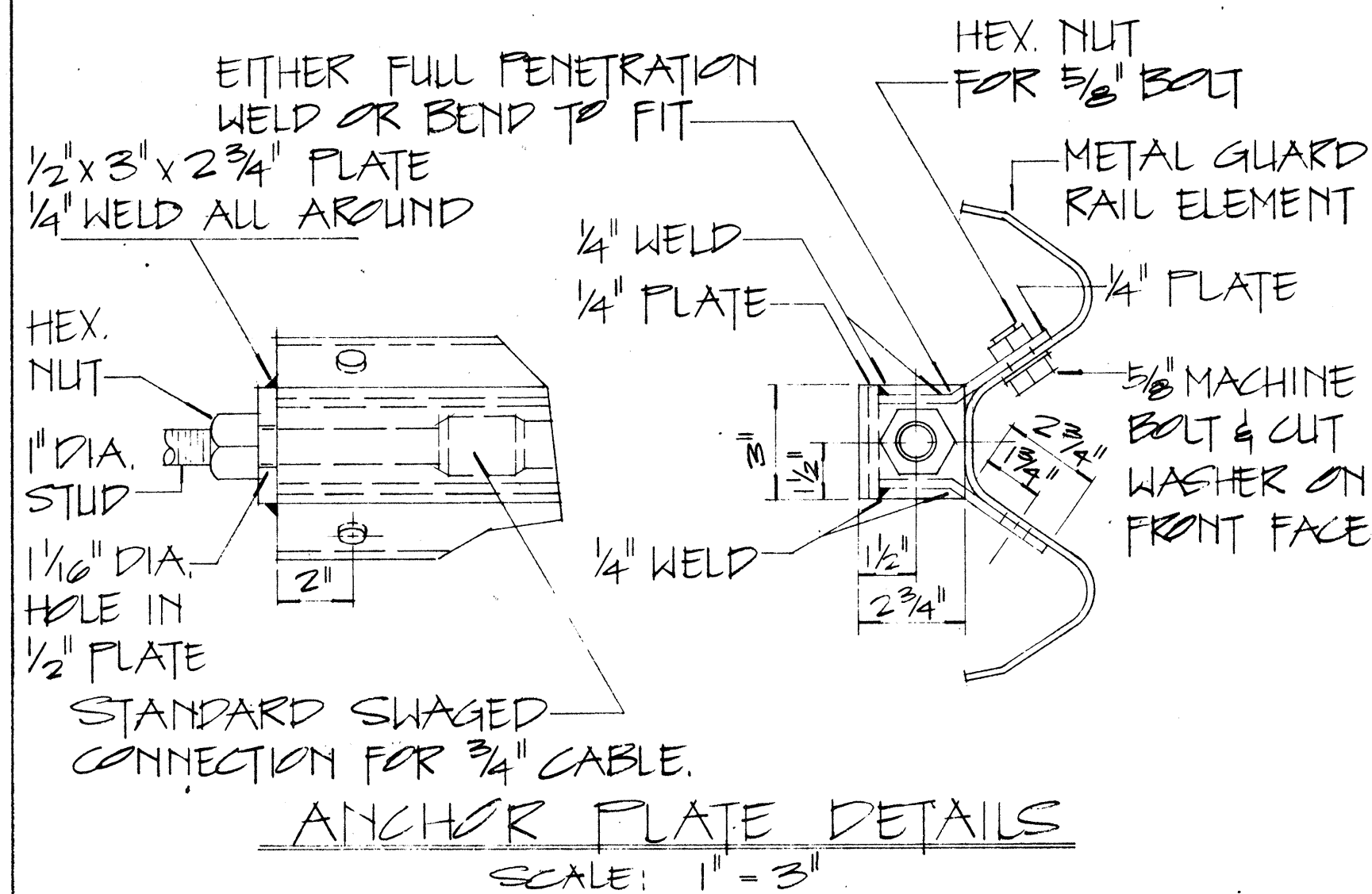
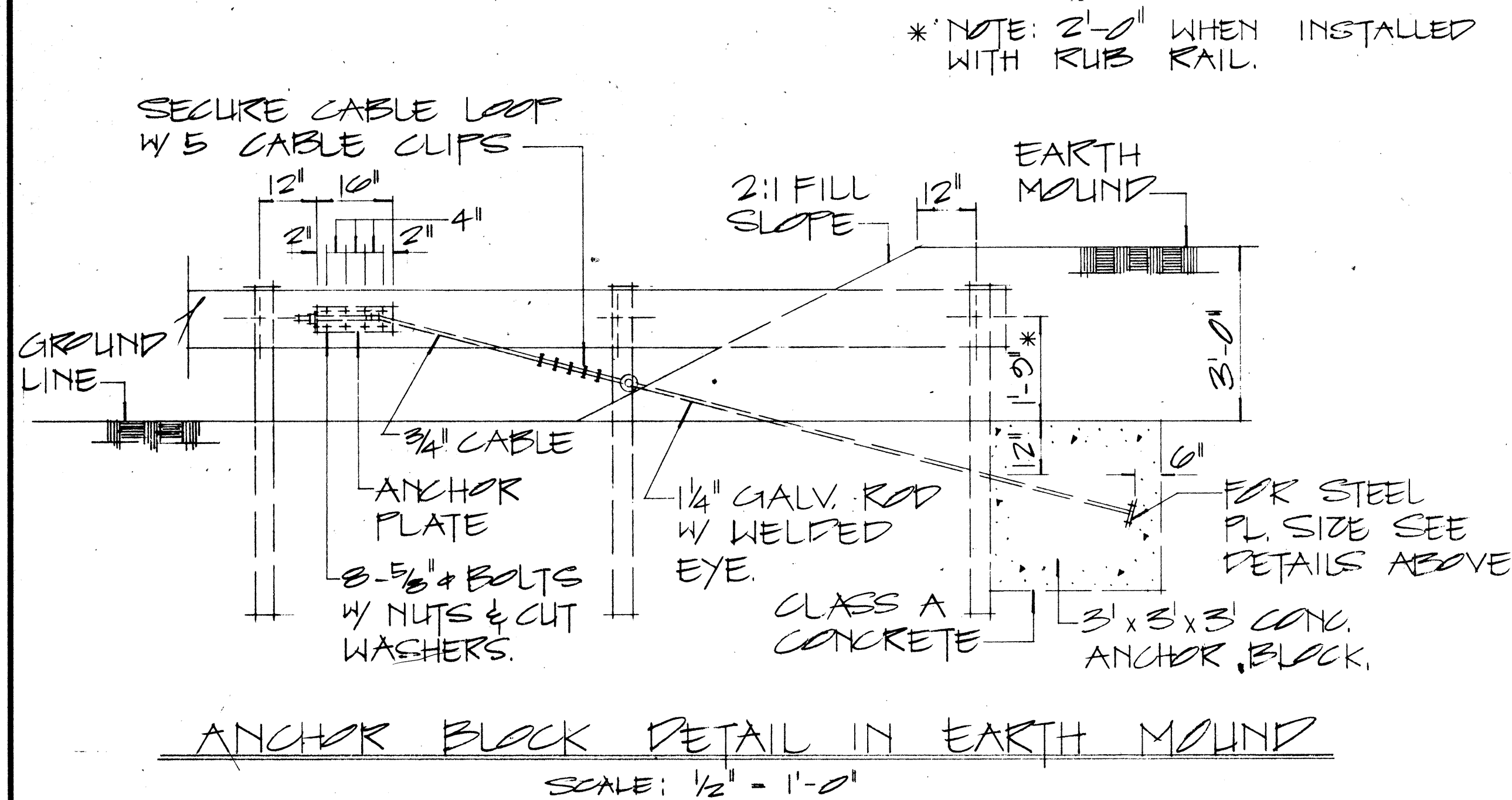
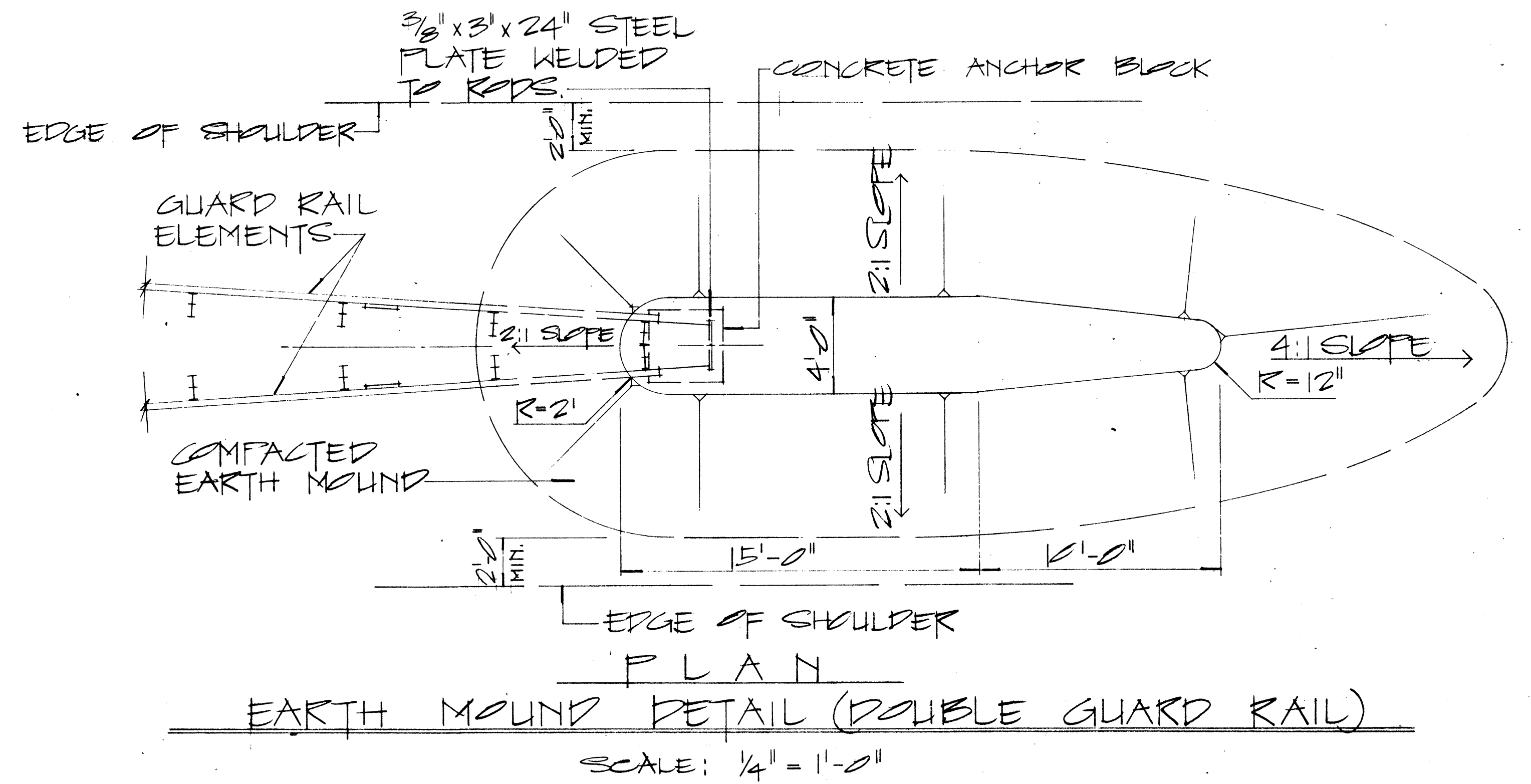
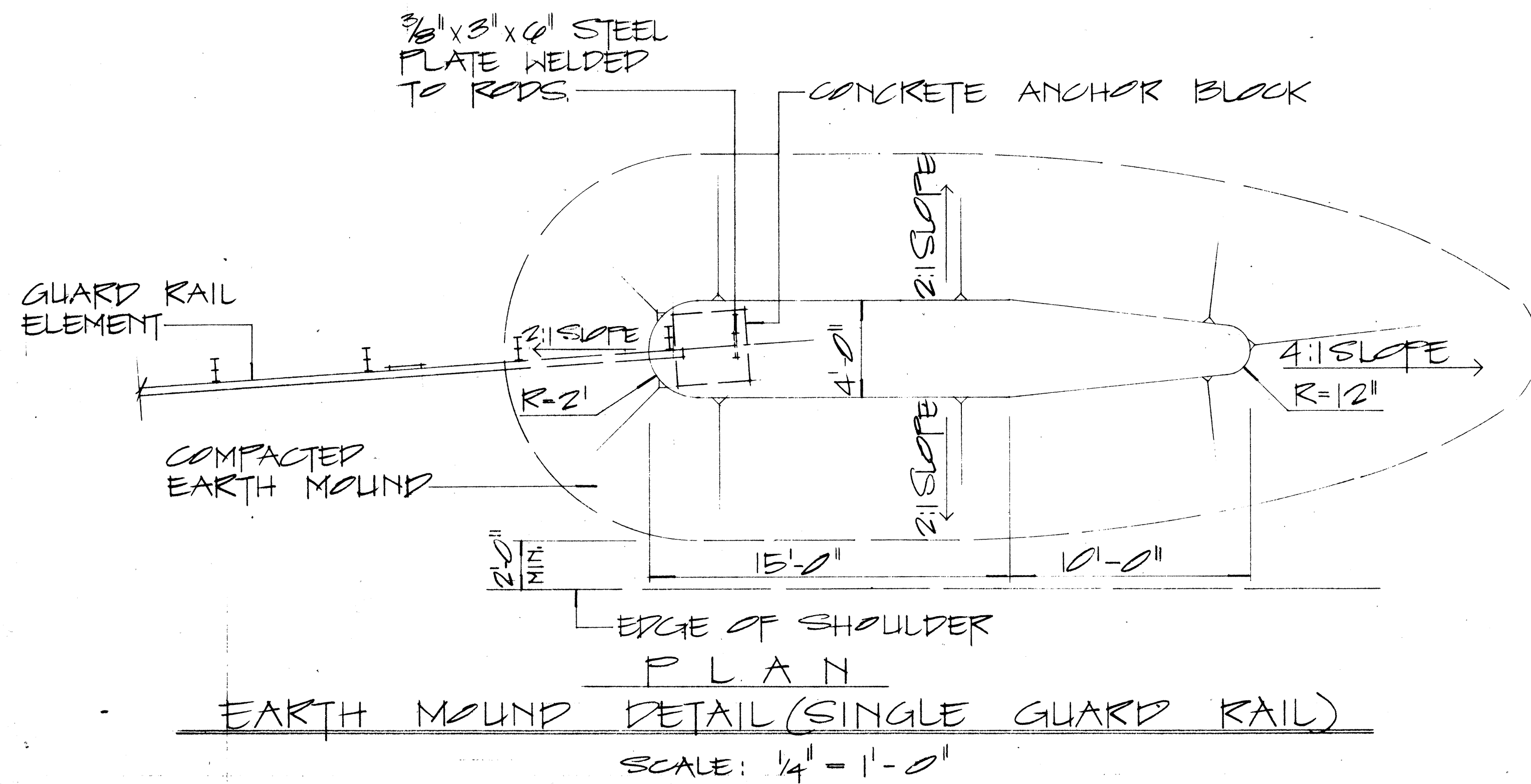
APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER
12/29/69
DATE

APPROVED:
W. J. J. J.
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
GUARD RAIL, TYPE 3
RAMP END ANCHORAGE
SCALE: AS SHOWN
SHEET No. 23 OF 24 SHEETS DT510

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-9001(10)	1972	60405	44



APPROVAL RECOMMENDED: *Euske Tanaka* 12/23/62 DATE

TRAFFIC ENGINEER

APPROVED: *W. J. J. J.* 12-30-69 DATE

ASSISTANT CHIEF, ENGINEERING

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
EARTH MOUND AND ANCHOR BLOCK DETAILS

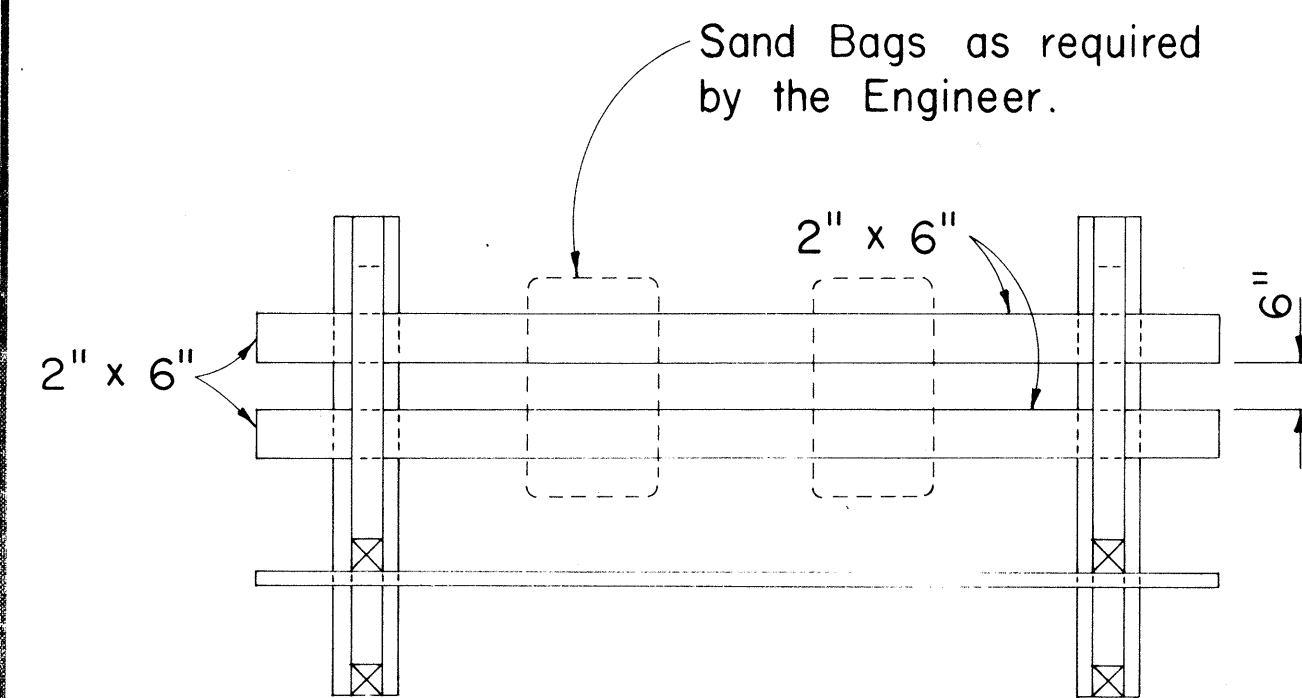
SCALE: AS SHOWN 12/10/69

SHEET No. OF SHEETS 1520

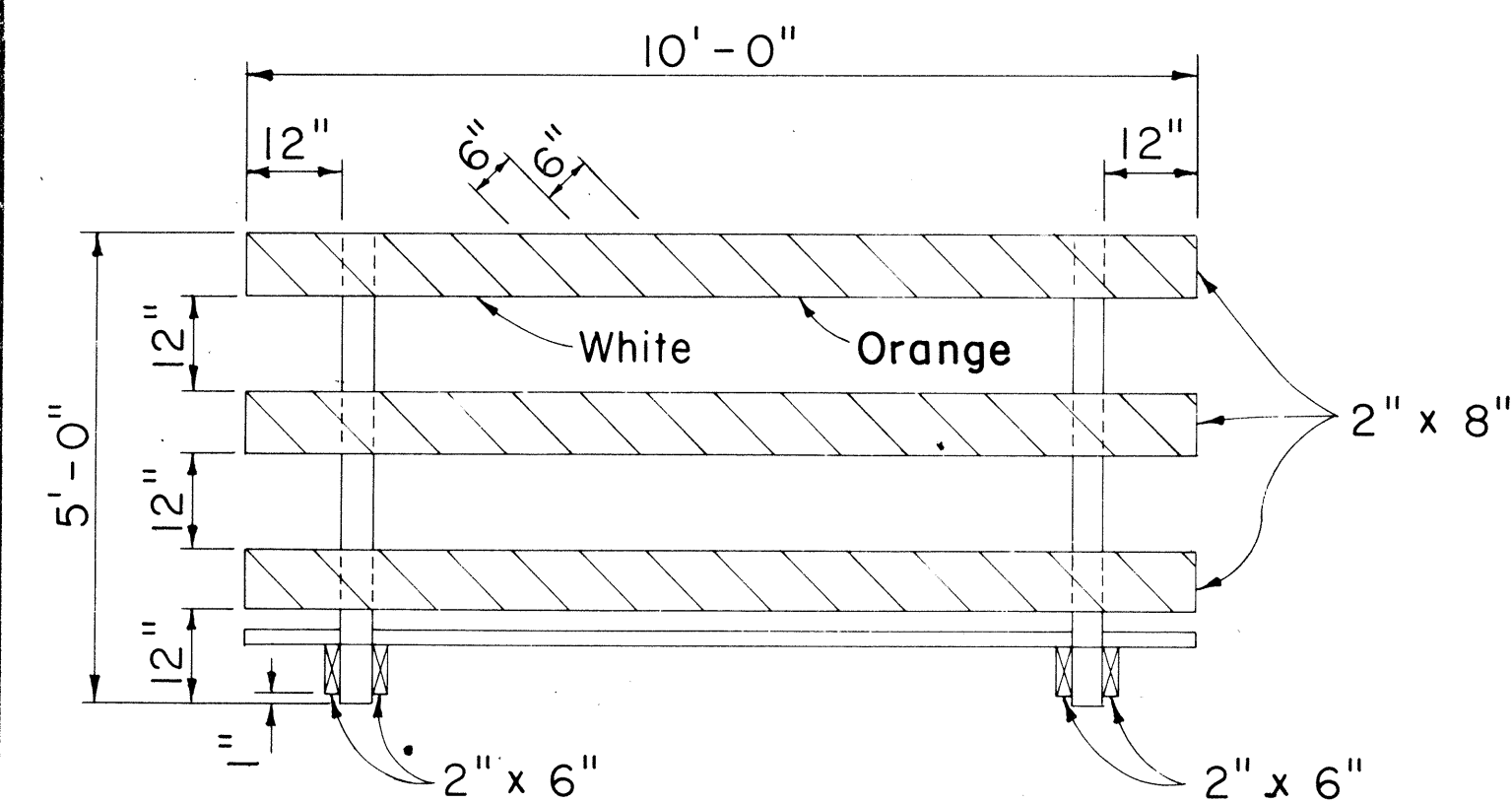
DATE	
SURVEY PLOTTED BY	
PLAN	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL	
BOOK	
NO.	

- NOTE:
1. GALVANIZED ANCHOR ROD, METAL GUARD RAIL AND POST BURIED IN GROUND SHALL BE COVERED WITH A MIN. 20-MIL THICKNESS OF COAL TAR ENAMEL, CONFORMING TO AWWA STANDARD: C 203
 2. CONCRETE, GRP, EXCAVATION, EARTH MOUND, ANCHOR RODS AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-2001(18)	1972	44	44



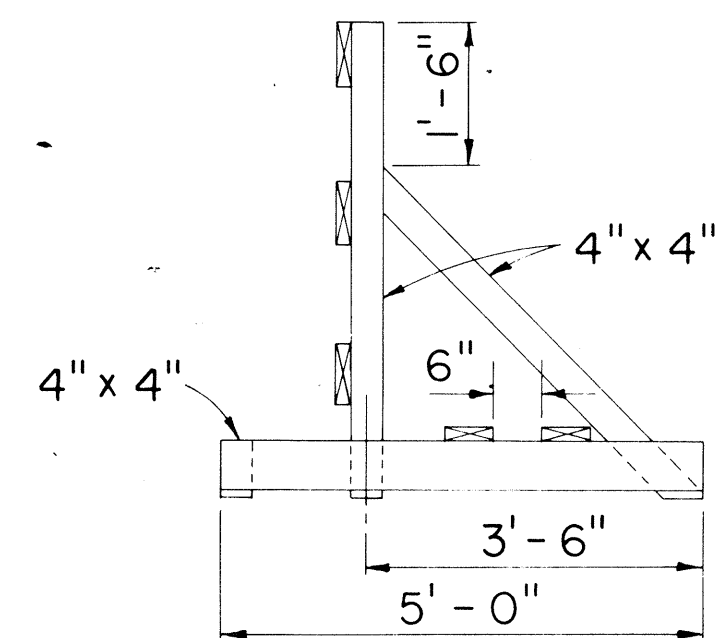
PLAN VIEW



FRONT VIEW

CLASS I BARRICADE

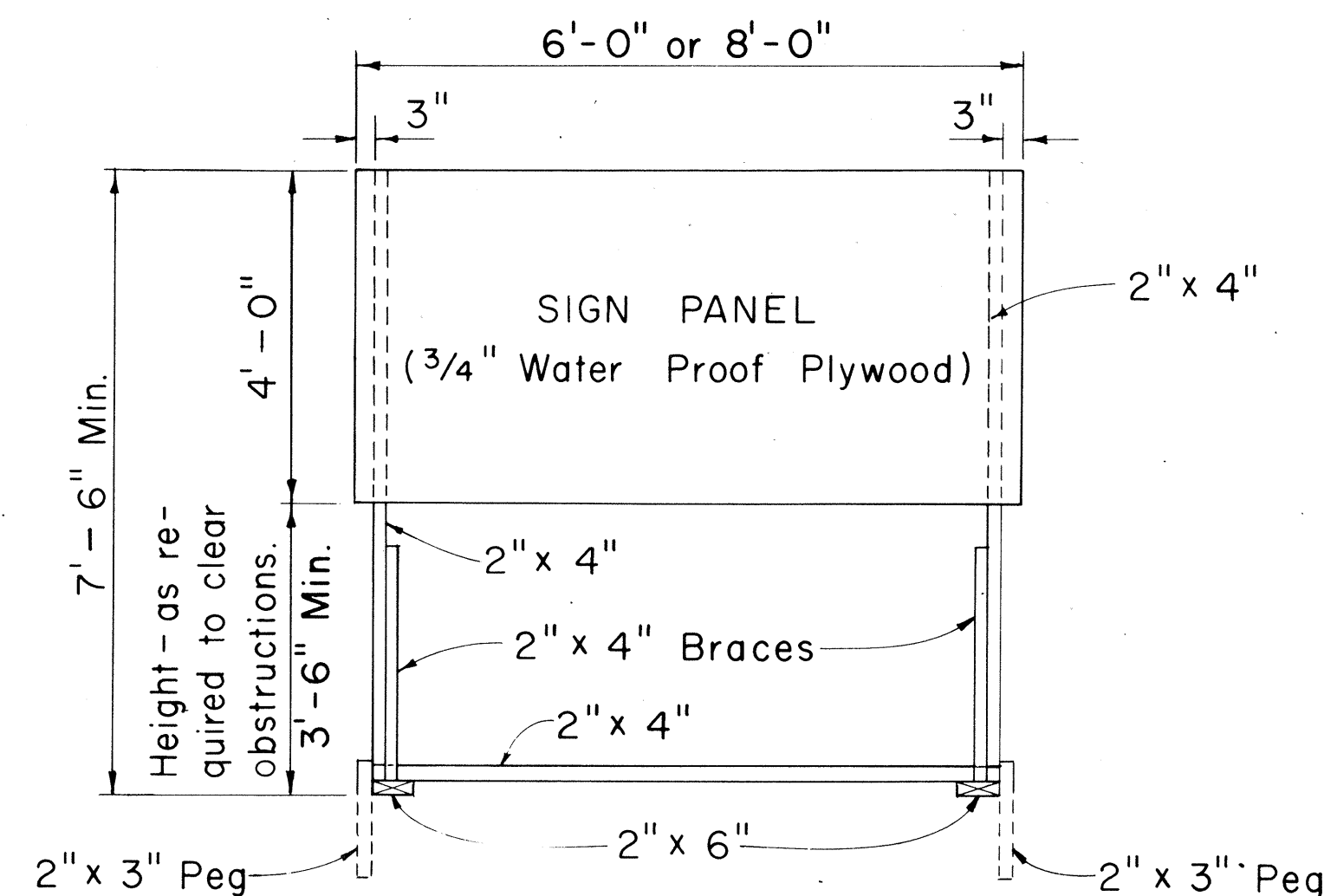
Scale: 1/2" = 1'-0"



END VIEW

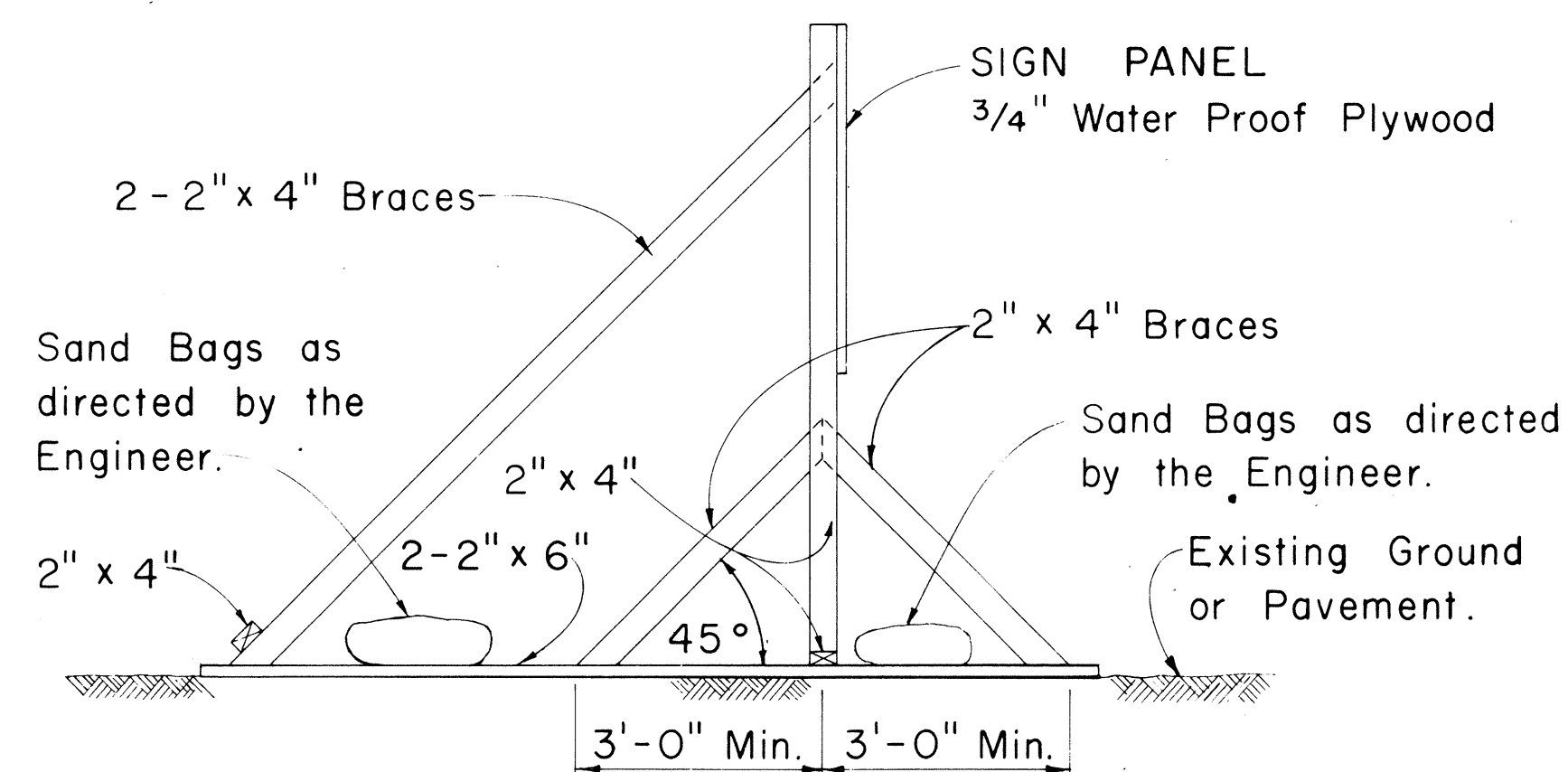
GENERAL NOTES

1. The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
2. The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.
3. The orange and white stripes shall slant downward toward the side on which traffic is to pass and shall be reflectorized.



FRONT VIEW

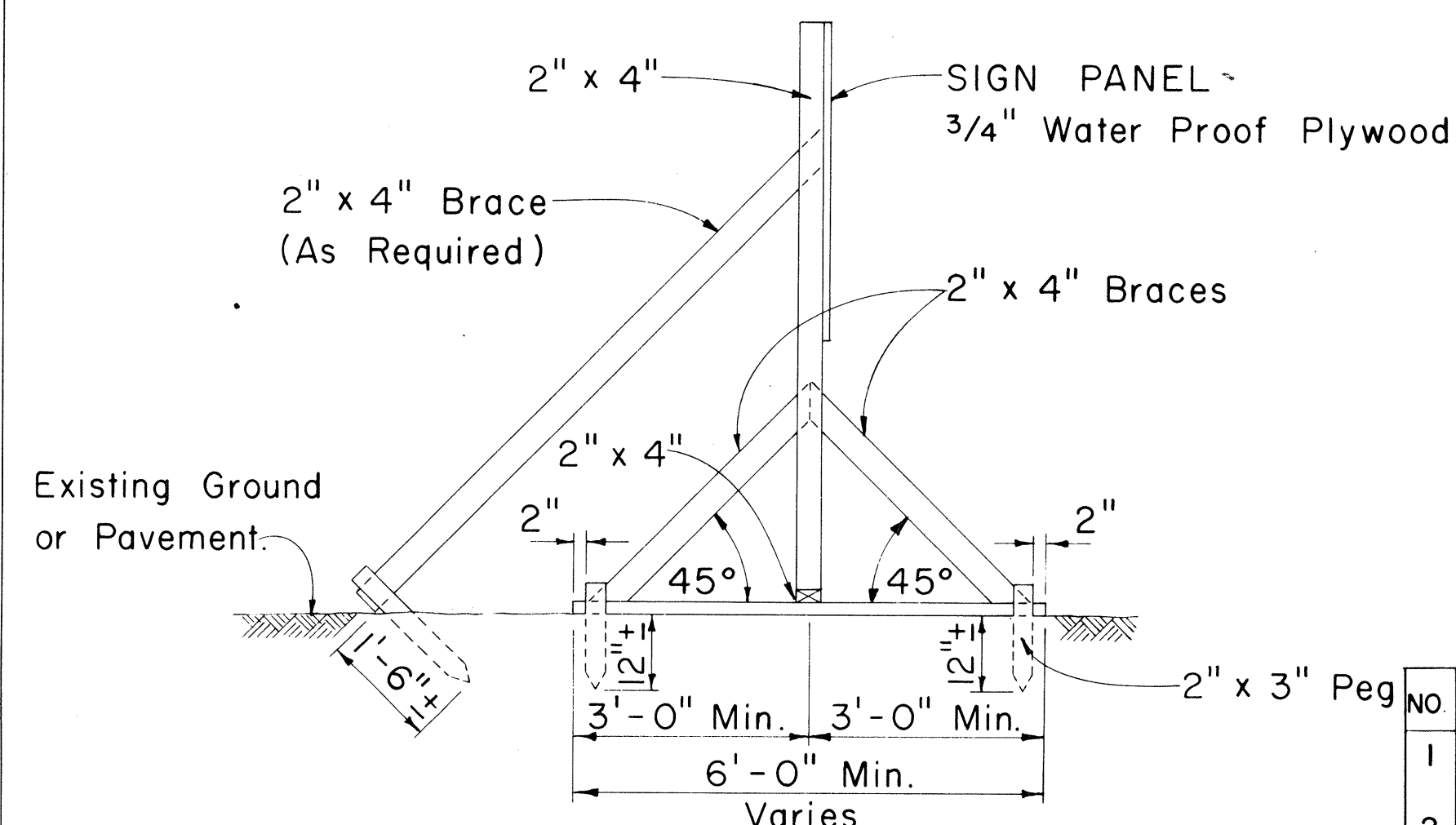
Scale: 1/2" = 1'-0"



SIDE VIEW

(SIGN FRAME WEIGHTED DOWN)

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



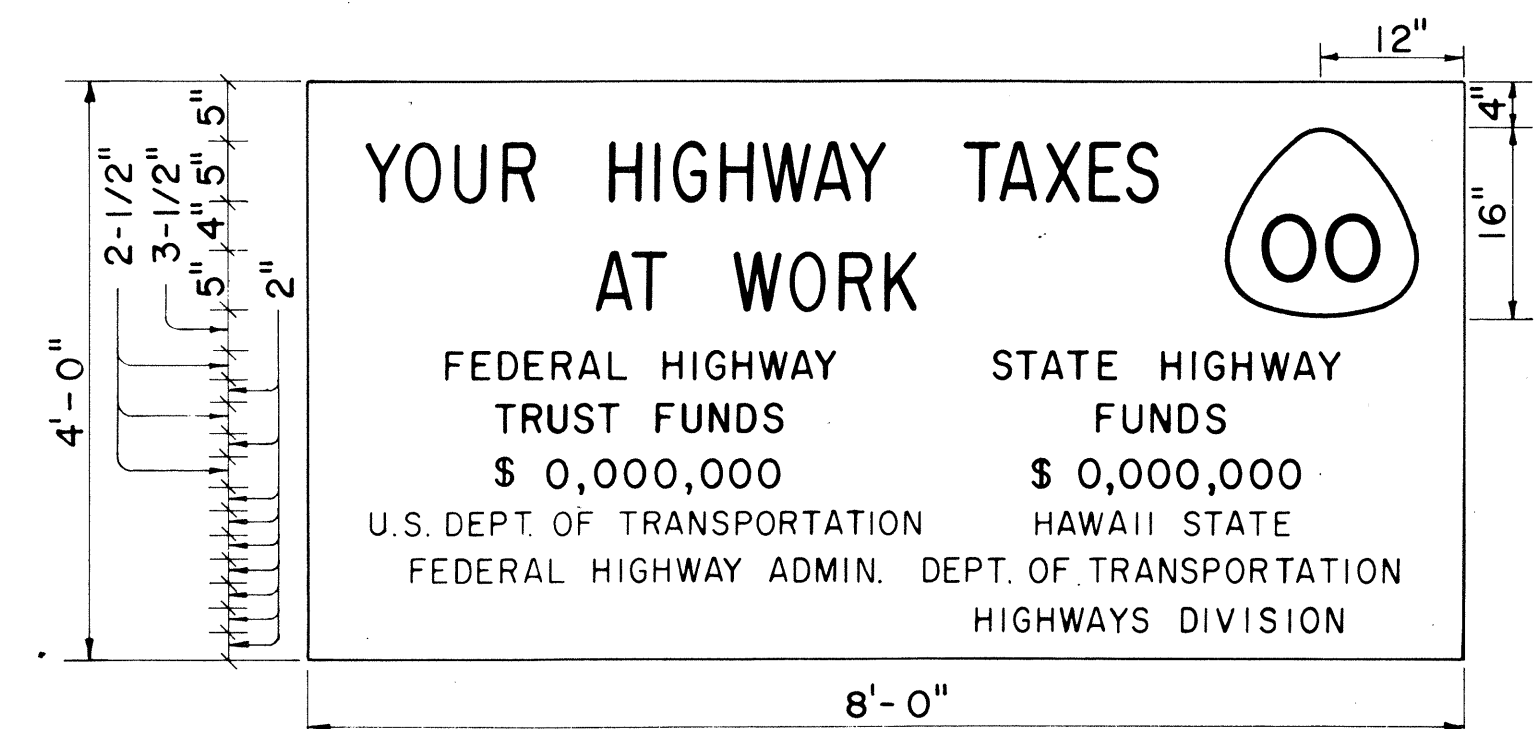
SIDE VIEW

(SIGN FRAME ANCHORED IN GROUND)

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

CONSTRUCTION IDENTIFICATION SIGN

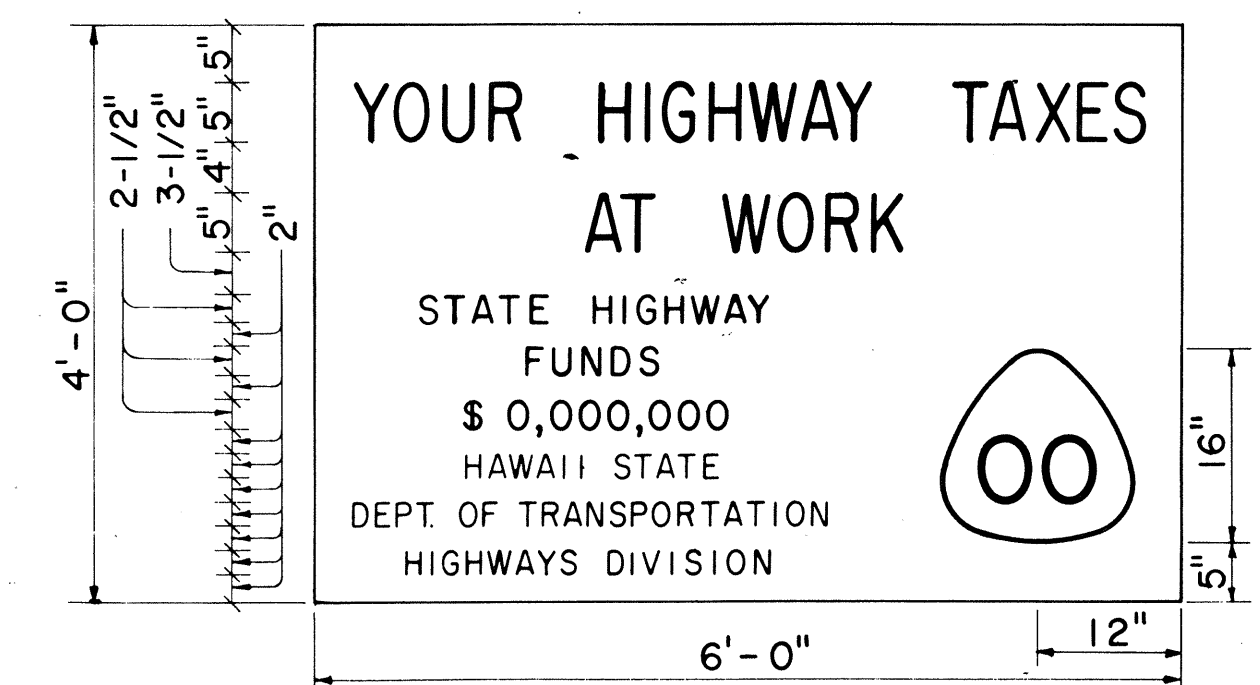
Scale: As Shown



SIGN PANEL

PRIMARY AND SECONDARY SYSTEMS

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



SIGN PANEL

NON-FEDERAL AID PROJECT

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

GENERAL NOTES

1. The sign legend shall be black on white background.
2. The Contractor shall construct, install and maintain the project signs at the locations shown on the plans and as ordered by the Engineer.
3. Letters shall be Series "C" of the sizes shown on the plan and shall conform to the FHWA publication "Standard Alphabets for Highway Signs," 1966.
4. The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.
5. For State Route Marker detail, see sht. DT 209. Include 1/2 inch black border around edge of marker.

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
DATE 12/29/69

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

NO	REVISION	APPROVED BY	DATE
1	Delete "Bureau of Public Roads"	H.T.	9-29-70
2	Add Note No. 3 for Barricades	H.T.	5-4-71
3	Revise Route Marker	H.T.	4-12-72
4	Revise stripe color for Barricades.	H.T.	10-21-72

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION STANDARD DETAILS CONSTRUCTION IDENTIFICATION SIGN AND WOOD BARRICADES
Scale: As Shown