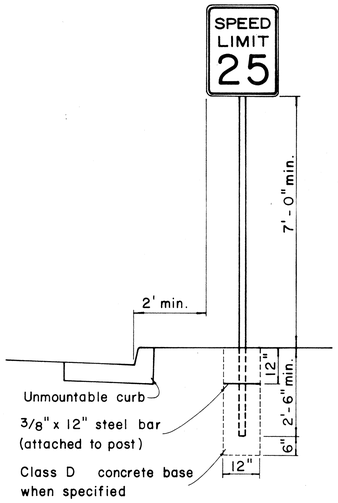
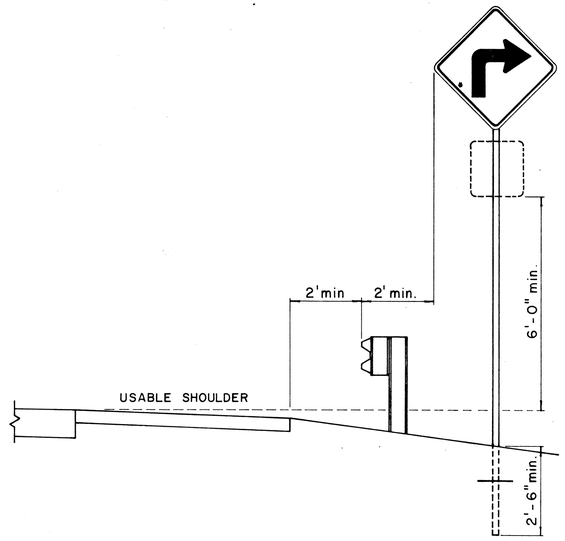
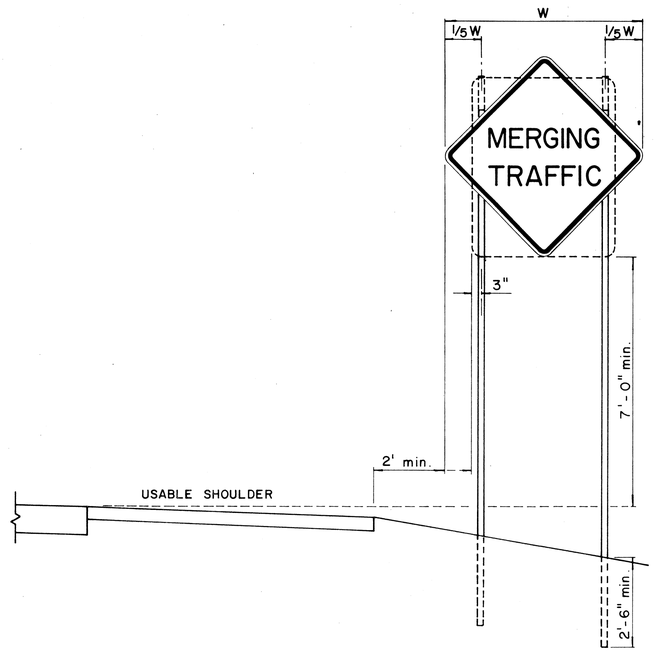
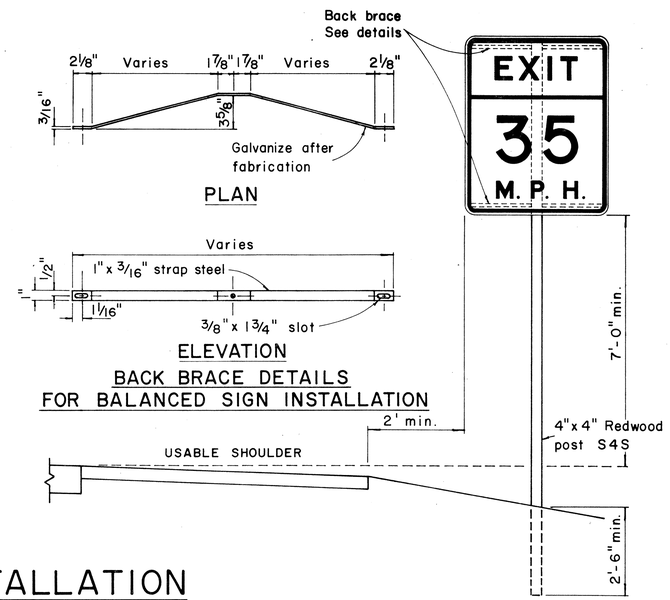
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-12-71	1971	10	17

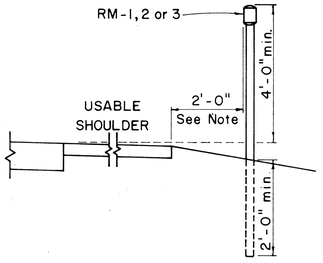




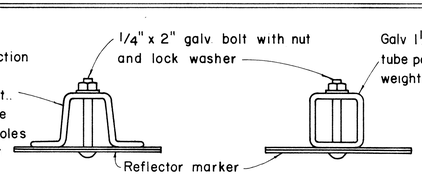




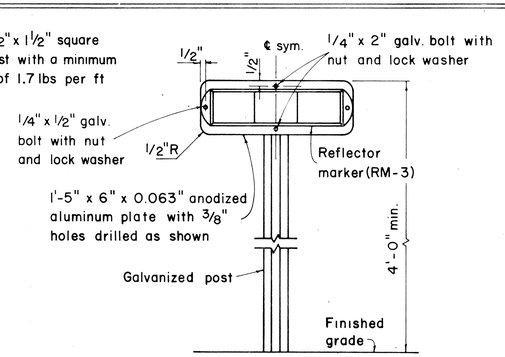
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



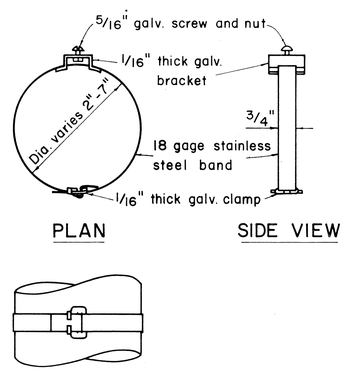
ROAD DELINEATOR

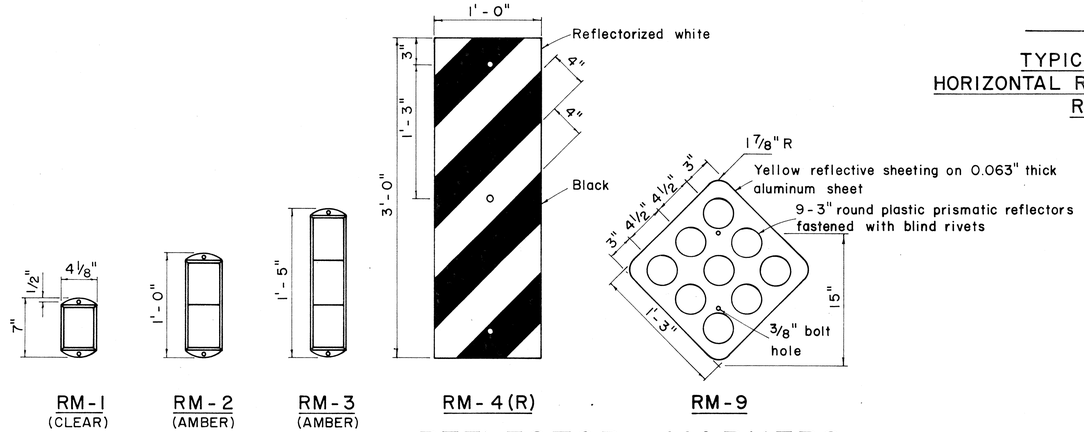


TYPICAL SECTION OF ROAD DELINEATOR



TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H





REFLECTOR MARKERS

TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

GENERAL NOTES:

1. Sign posts shall be 2" galv. standard pipe or 2" x 2" galv. sq. tube post.
2. 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.
3. 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.
4. Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
5. 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.
6. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
7. (R) or (L) indicates right or left and shall be as shown on the plans.

APPROVAL RECOMMENDED:
Eiichi Tanaka — TRAFFIC ENGINEER — 12/29/69 DATE

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS SIGN DETAILS

Not to scale — March, 1968

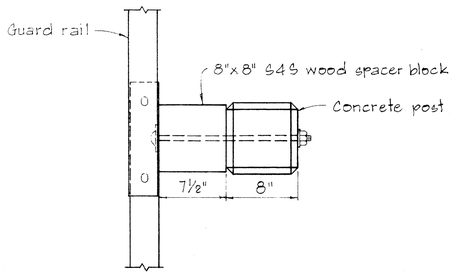
SHEET No. 1 OF 8 SHEETS DT 100

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | NOTE BOOK | QUANTITIES BY | CHECKED BY | DATE

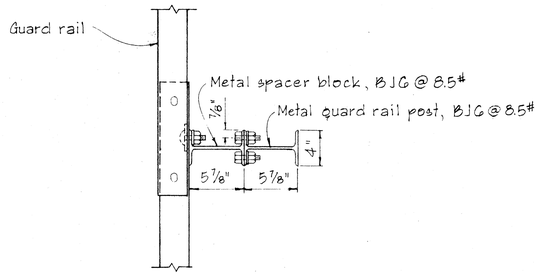
PRINTED ON NO. 1000H CLEARPRINT

10

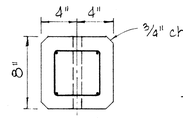
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	G3A-12-71	1971	11	17



PLAN

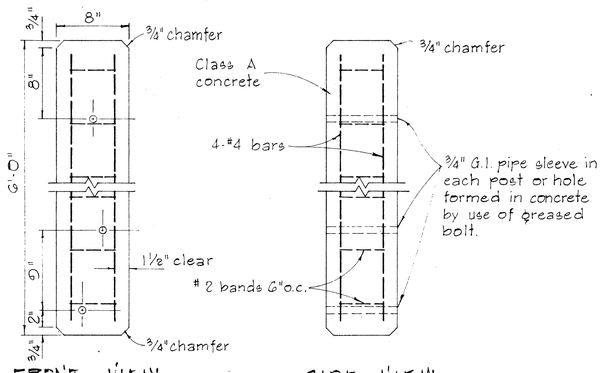


PLAN



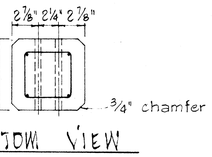
TOP VIEW

NOTE:
Concrete post shall be precast



FRONT VIEW

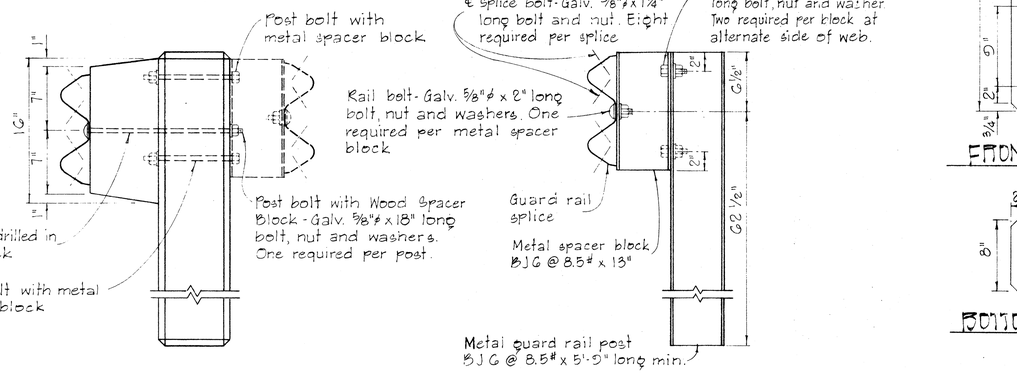
SIDE VIEW



BOTTOM VIEW

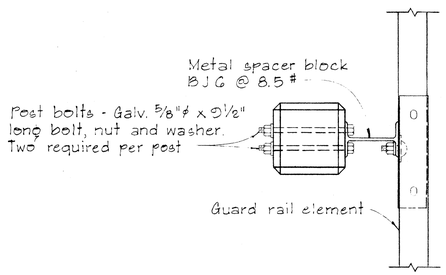
DETAIL OF CONCRETE POST

SCALE : 1½" = 1'-0"

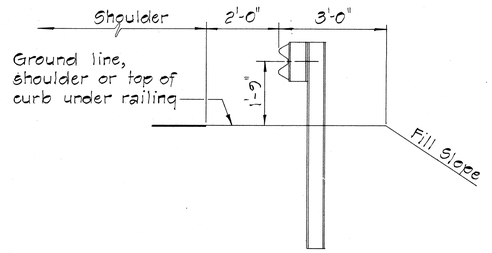


SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

SCALE : 1½" = 1'-0"



PLAN



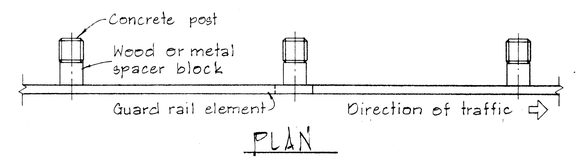
AT SHOULDER SECTION

SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK

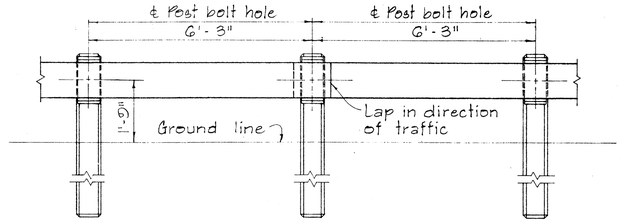
SCALE : 1½" = 1'-0"

TYPICAL METAL GUARD RAIL DETAIL

SCALE: ½" = 1'-0"



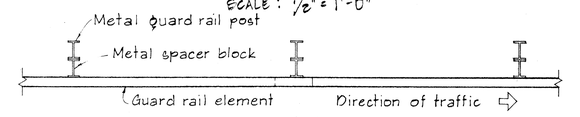
PLAN



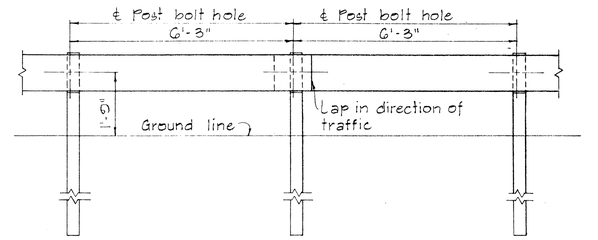
ELEVATION

METAL GUARD RAIL ON CONCRETE POST WITH WOOD OR METAL SPACER BLOCK.

SCALE : ½" = 1'-0"



PLAN



ELEVATION

METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

SCALE: ½" = 1'-0"

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
Eiichi Tanaka — TRAFFIC ENGINEER — 12/23/69 DATE

APPROVED:
Hubert S. Schenck — ASSISTANT CHIEF, ENGINEERING — 12-30-69 DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

METAL GUARD RAIL

SCALE : AS SHOWN — NOV. 1968

SHEET No. 2 OF 8 SHEETS | DT 500

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

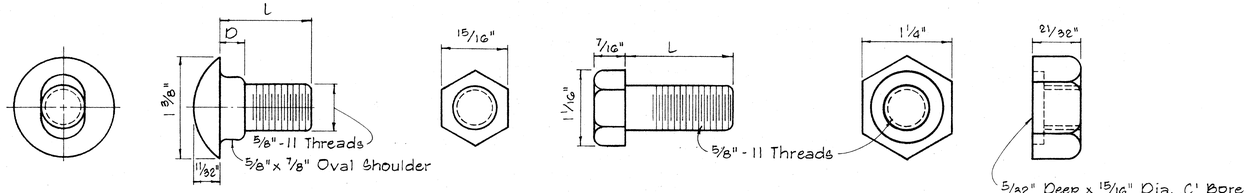
PRINTED ON NO. 1000H CLEARPRINT

11

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	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	G3A-12-71	1971	12	17



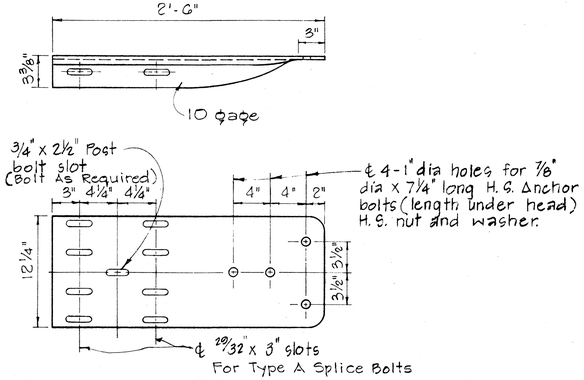
TYPE A BOLT TYPE B BOLT

SPLICE RAIL AND POST BOLTS

Scale : Full Size

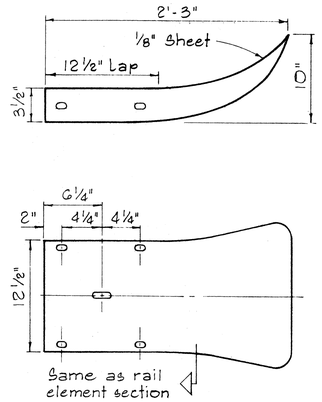
HEXAGON NUT

Scale: Full Size



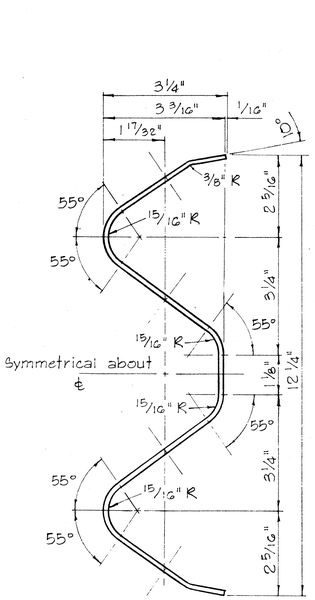
SPECIAL END SHOE

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



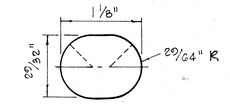
FLARED END

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

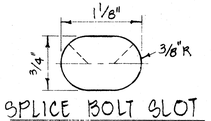


RAIL ELEMENT SECTION

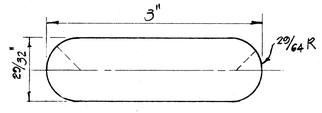
Scale: 6" = 1'-0"



SPLICE BOLT SLOT

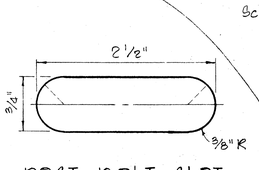


SPLICE BOLT SLOT FOR ALL ENDS

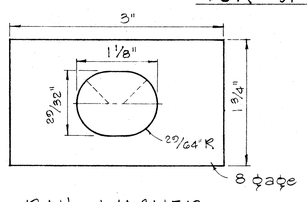


SPLICE BOLT SLOT FOR SPECIAL END SHOE

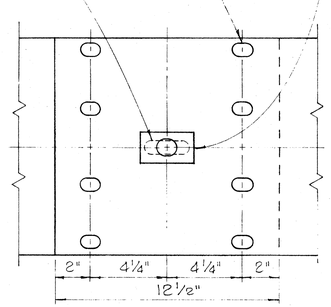
Scale: Full Size



POST BOLT SLOT



RAIL WASHER



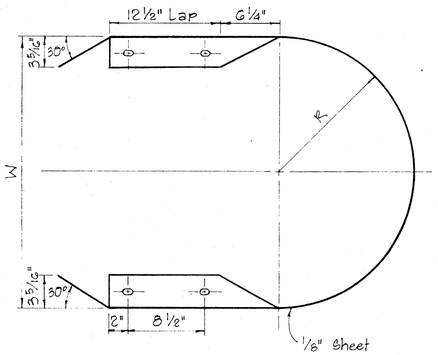
RAIL SPLICE

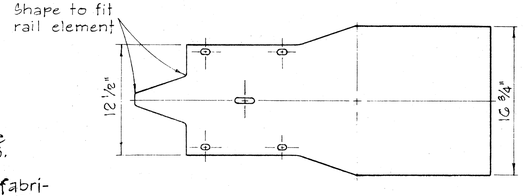
Scale: 3" = 1'-0"

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 AASHO M 180.

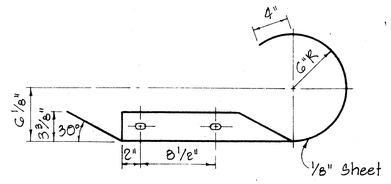
MEDIAN END DIMENSIONS		
TYPE OF POST AND BLOCK	W	R
Double Metal Guard Rail on Concrete Post with Wood Blocks	29 3/4"	14 7/8"
Double Metal Guard Rail on Concrete Post with Metal Blocks (BJG)	26 1/2"	13 1/4"
Double Metal Guard Rail on Metal Post with Metal Blocks (BJG)	24 3/8"	12 3/16"

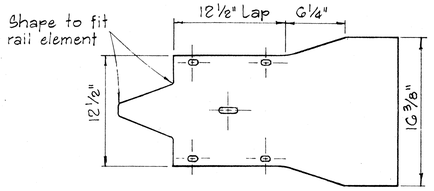




MEDIAN END

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





CURVED END

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

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

APPROVED:
Walter S. Hall 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted August, 1968.

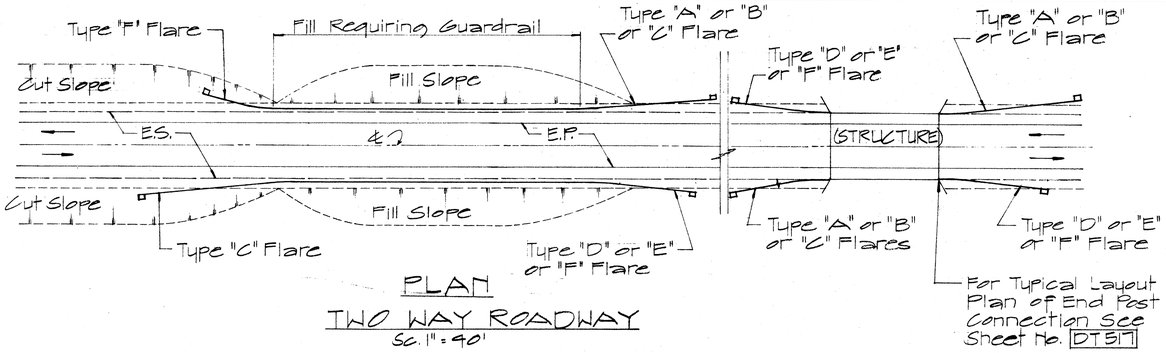
SHEET No. 3 OF 8 SHEETS | DT 501

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

PRINTED ON NO. 1000H CLEARPRINT

1 82

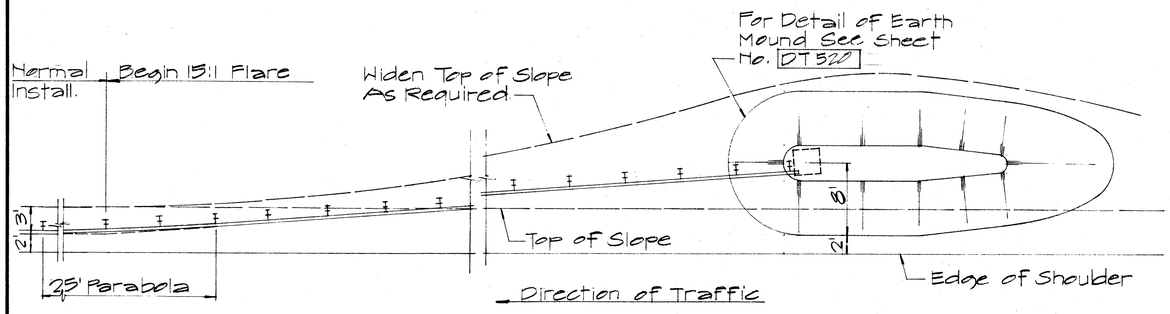
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-12-71	1971	13	17



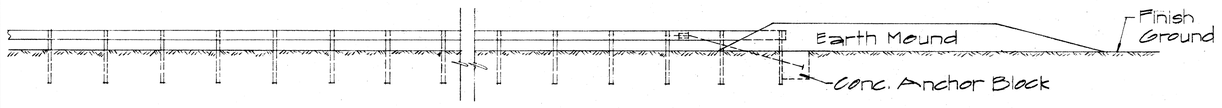
PLAN

TWO WAY ROADWAY

Sc. 1" = 40'



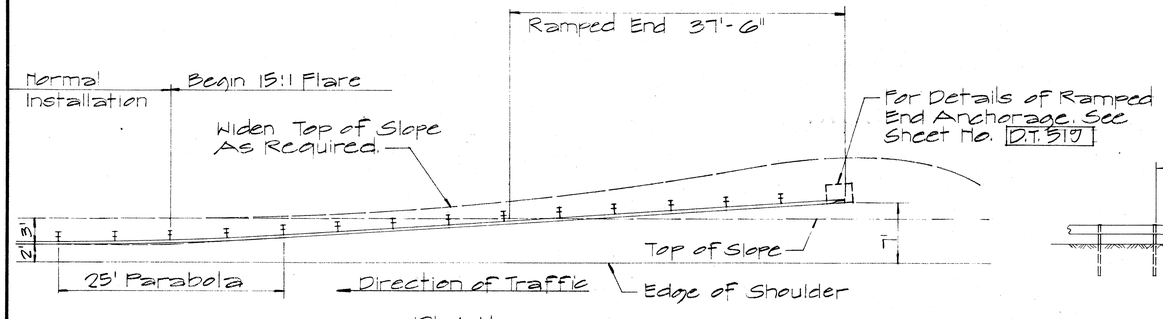
PLAN



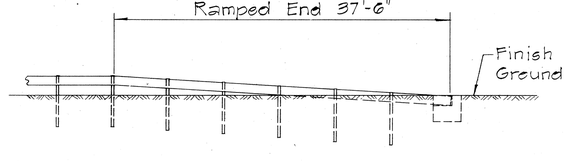
ELEVATION

TYPE "A" FLARE

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



PLAN



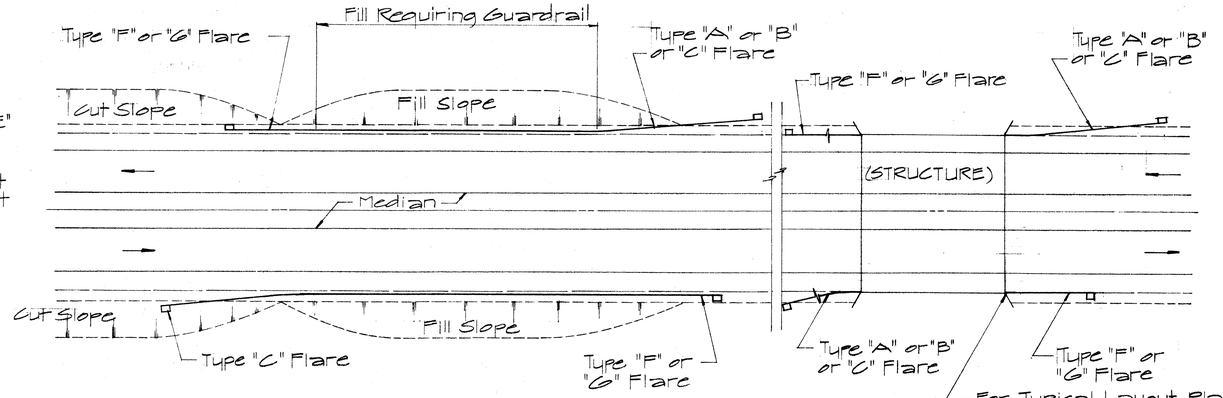
ELEVATION

TYPE "B" FLARE

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

NOTE!

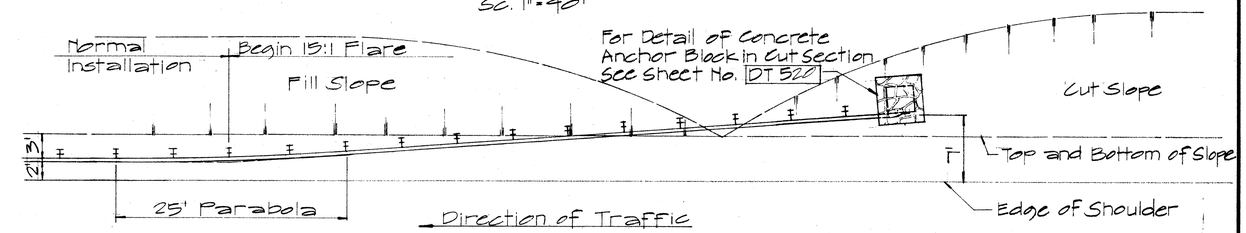
Metal guard rail connection to structures requires End Post Connection. See structure plans.



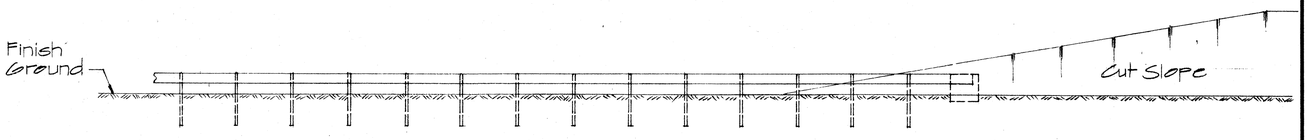
PLAN

ONE WAY ROADWAY (DIVIDED HIGHWAY)

Sc. 1" = 40'



PLAN



ELEVATION

TYPE "C" FLARE

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

APPROVAL RECOMMENDED:

Eiichi Tanaka — TRAFFIC ENGINEER — 12/23/69 DATE

APPROVED:

— ASSISTANT CHIEF, ENGINEERING — 12-30-69 DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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

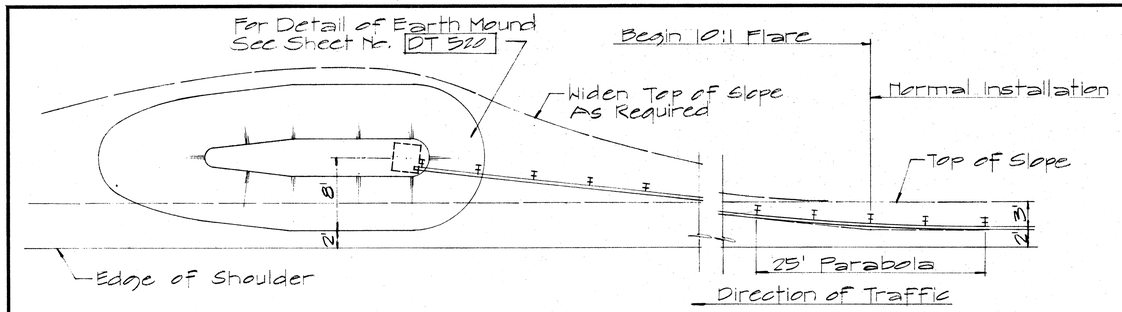
Sc. As Noted — April 1969

SHEET No. 4 OF 8 SHEETS DT 516

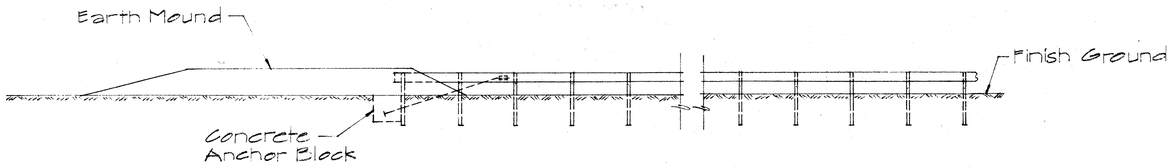
ORIGINAL PLAN	SURVEY PLOTTED BY:	DATE
	DRAWN BY:	
	TRACED BY:	
NOTE BOOK	DESIGNED BY:	
	QUANTITIES BY:	
No.	CHECKED BY:	

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	G3A-12-71	1971	14	17



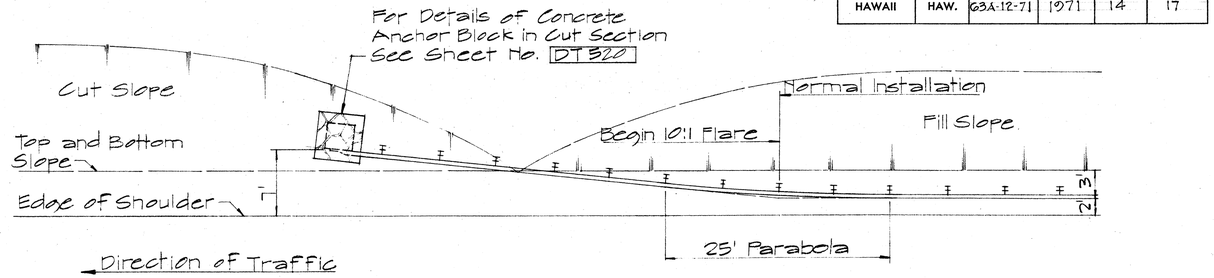
PLAN



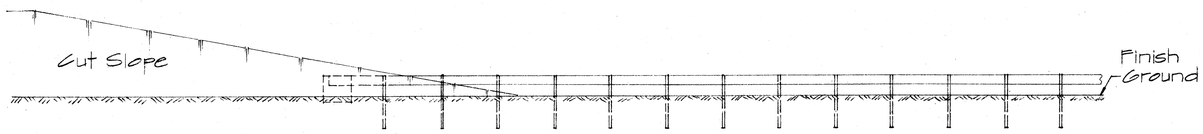
ELEVATION

TYPE "D" FLARE

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



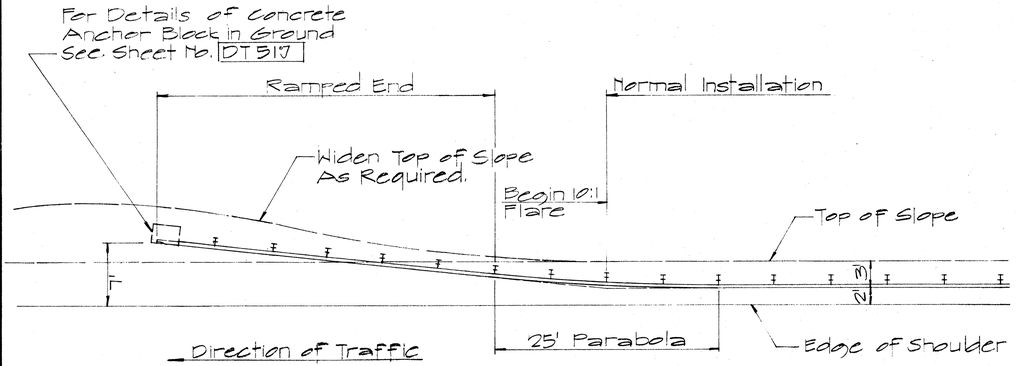
PLAN



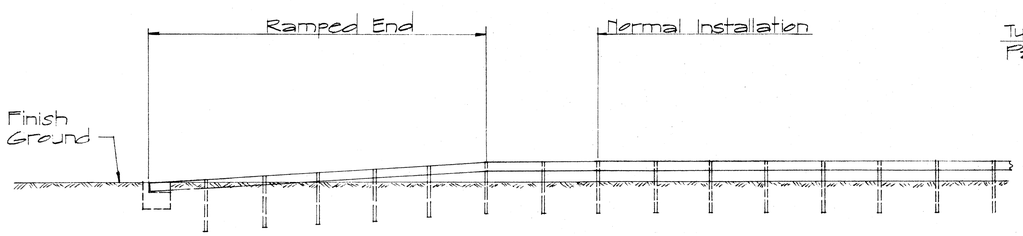
ELEVATION

TYPE "F" FLARE

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



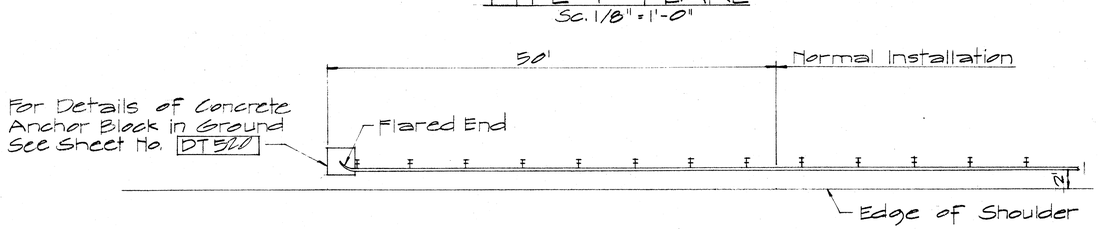
PLAN



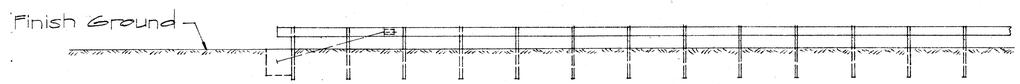
ELEVATION

TYPE "E" FLARE

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



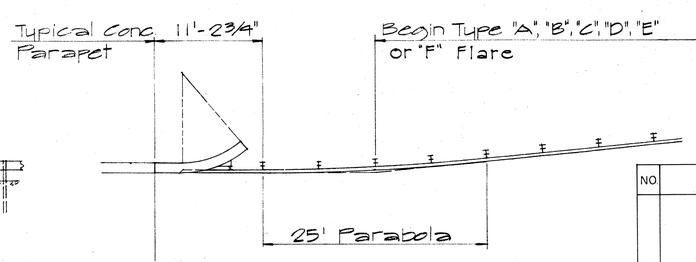
PLAN



ELEVATION

TYPE "G" FLARE

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



TYPICAL LAYOUT PLAN OF END POST CONNECTION

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

APPROVAL RECOMMENDED:

Eiichi Tanaka — 12/29/69

TRAFFIC ENGINEER — DATE

APPROVED:

[signature] — 12-30-69

ASSISTANT CHIEF, ENGINEERING — DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

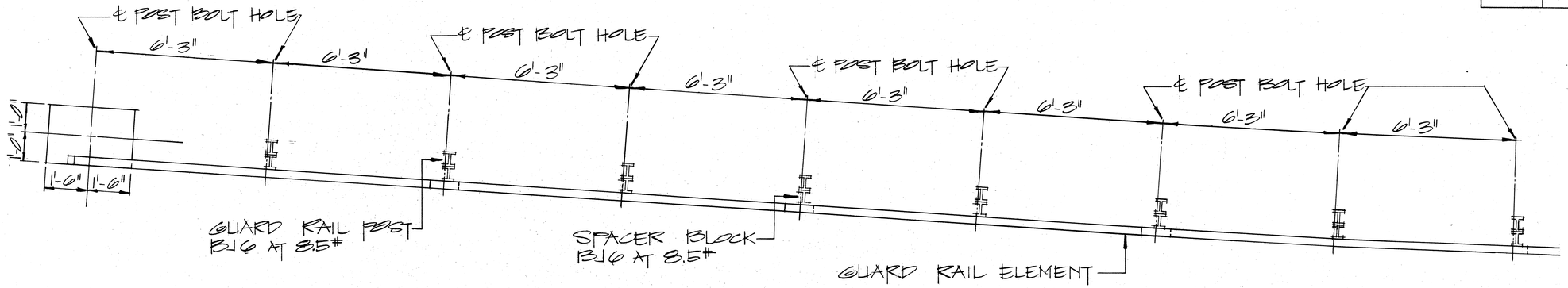
STANDARD DETAILS OF TRAILING END FLARE - ONE & TWO WAY ROADWAY

Sc. As Noted — April 1960

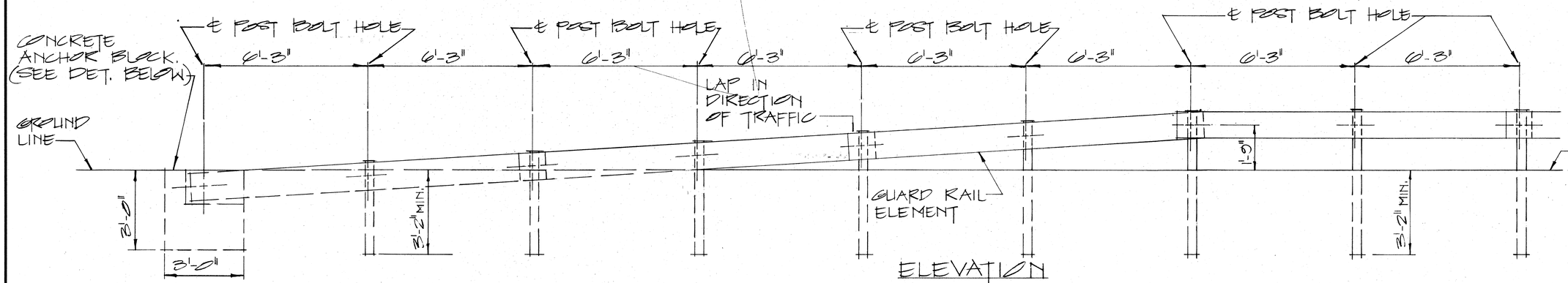
SHEET No. 5 OF 8 SHEETS | DT 517

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	G3A-12-71	1971	15	17



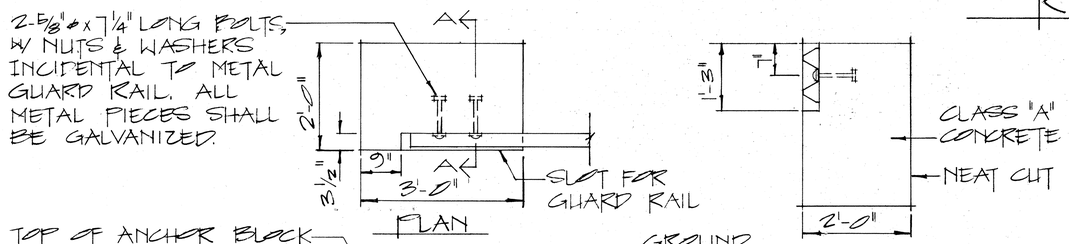
PLAN



ELEVATION

RAMP END ANCHORAGE

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



CONCRETE ANCHOR BLOCK

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

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

ORIGINAL PLAN — NOTE BOOK — No.

TRAFFIC ENGINEER

NO.	REVISION	APPROVED BY	DATE

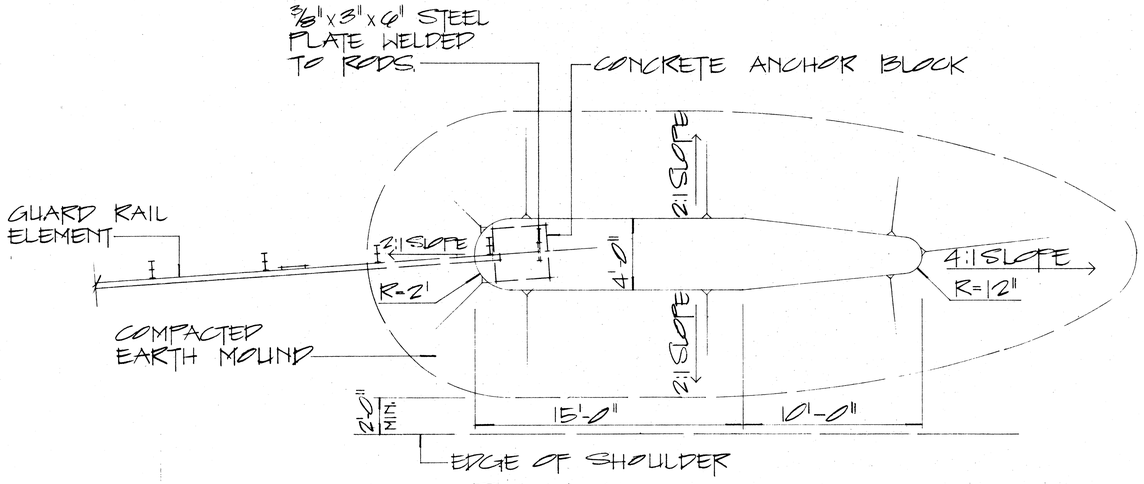
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARD RAIL, TYPE 3
RAMP END ANCHORAGE

SCALE: AS SHOWN

SHEET No. 6 OF 8 SHEETS | DT-512

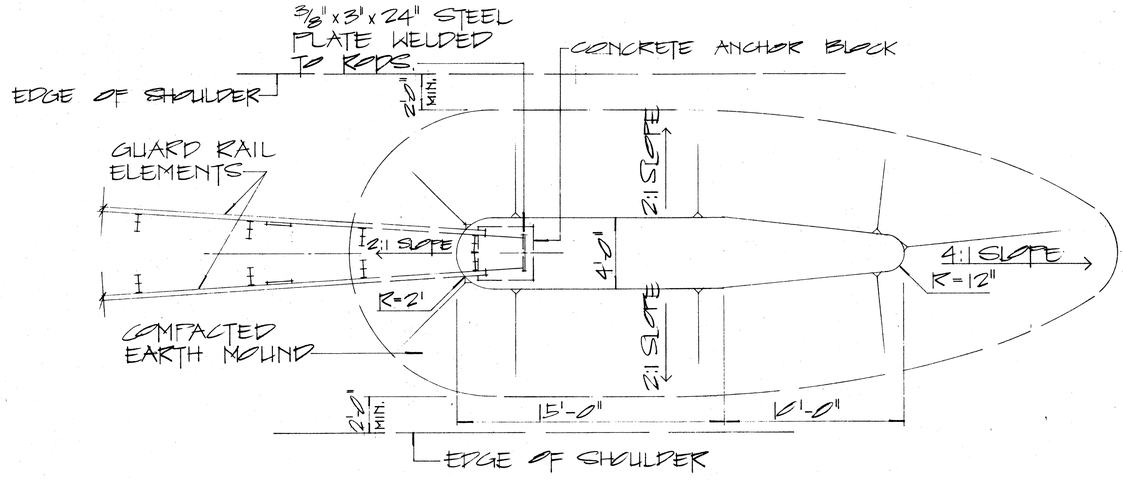
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	G3A-12-71	1971	16	17



PLAN

EARTH MOUND DETAIL (SINGLE GUARD RAIL)

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

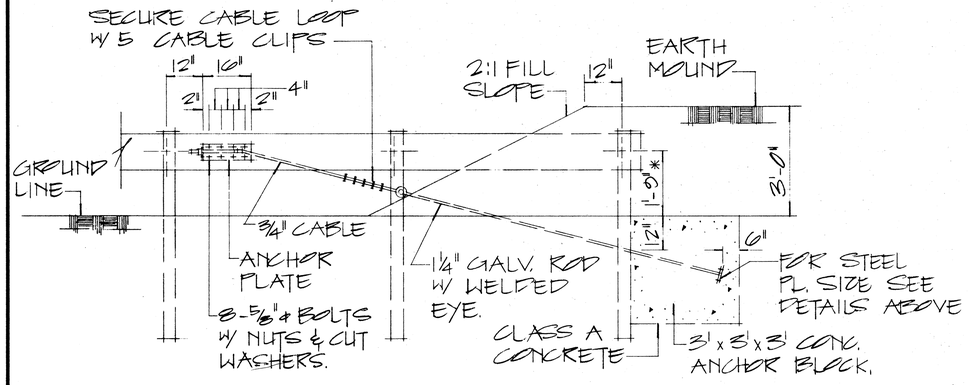


PLAN

EARTH MOUND DETAIL (DOUBLE GUARD RAIL)

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

*NOTE: 2'-0" WHEN INSTALLED WITH RUB RAIL.

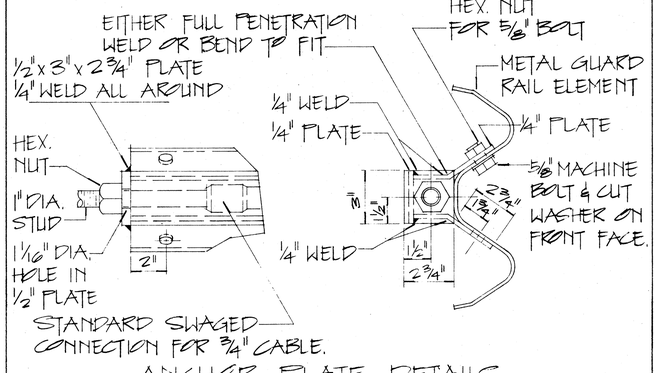


ANCHOR BLOCK DETAIL IN EARTH MOUND

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

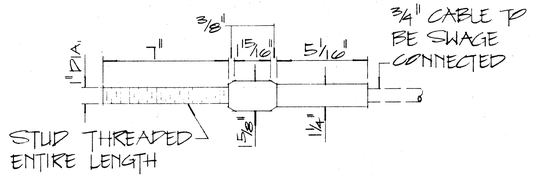
NOTE:

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



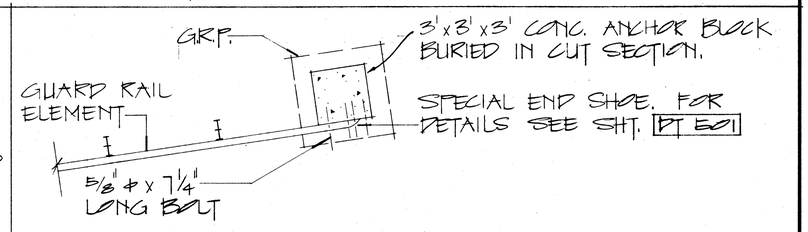
ANCHOR PLATE DETAILS

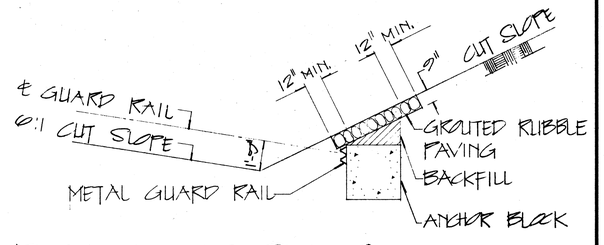
SCALE: 1" = 3"



STANDARD SWAGED FITTING AND STUD

SCALE: 1" = 3"





ANCHOR BLOCK IN CUT SECTION

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EARTH MOUND AND ANCHOR BLOCK DETAILS

SCALE: AS SHOWN OCT 1969

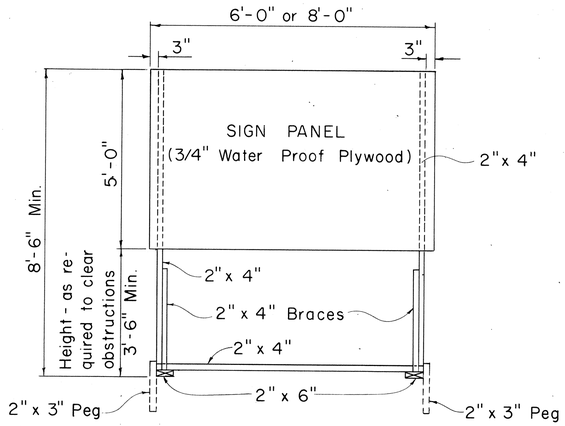
SHEET No. 7 OF 8 SHEETS PT520

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

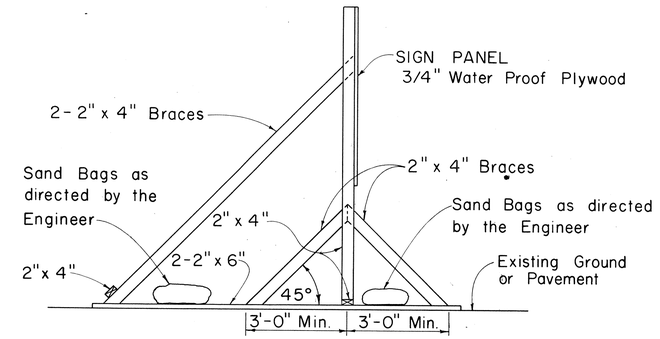
K+E CRYSTALENE® LA 2920 TRACING PAPER

16

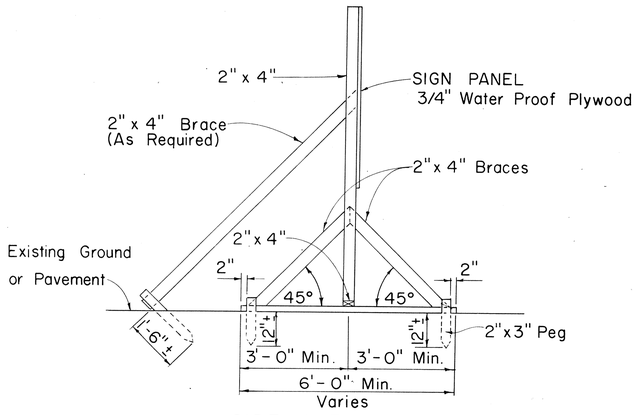
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	G3A-12-71	1971	17	17



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

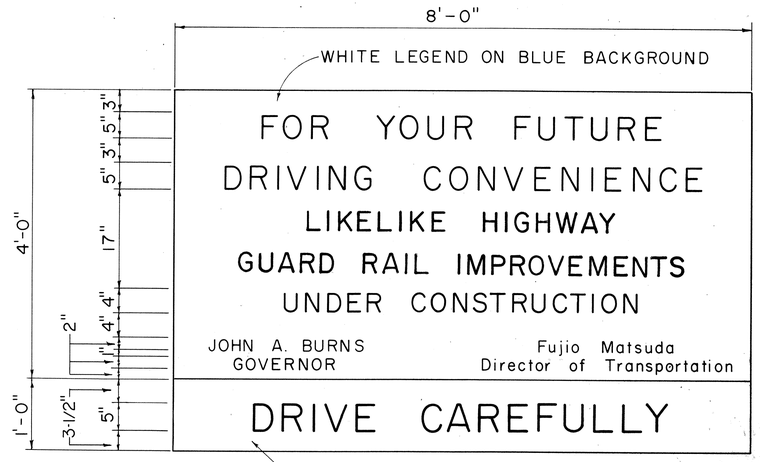


SIDE VIEW
(SIGN SUPPORT AND FRAME WEIGHTED DOWN)
Scale: 1/2" = 1'-0"



SIDE VIEW
(SIGN SUPPORT AND FRAME ANCHORED IN GROUND)
Scale: 1/2"=1'-0"

SIGN SUPPORT AND FRAME
Scale: As Shown



USE SERIES "D" LETTERS

GENERAL NOTES

1. The sign panels will be constructed by the State and will be available for pick up by the Contractor from the State Highway Maintenance Yard.
2. The Contractor shall construct the sign supports and frames and install the sign panels at the locations shown on the plans and as ordered by the Engineer.
3. At the end of construction the Contractor shall remove the sign panels and return it to the State Highway Maintenance Yard. Sign supports and frames shall be removed and cleared from the project site.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS

PROJECT INFORMATION SIGN

Scale: As Shown

SHEET No. 8 OF 8 SHEETS

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