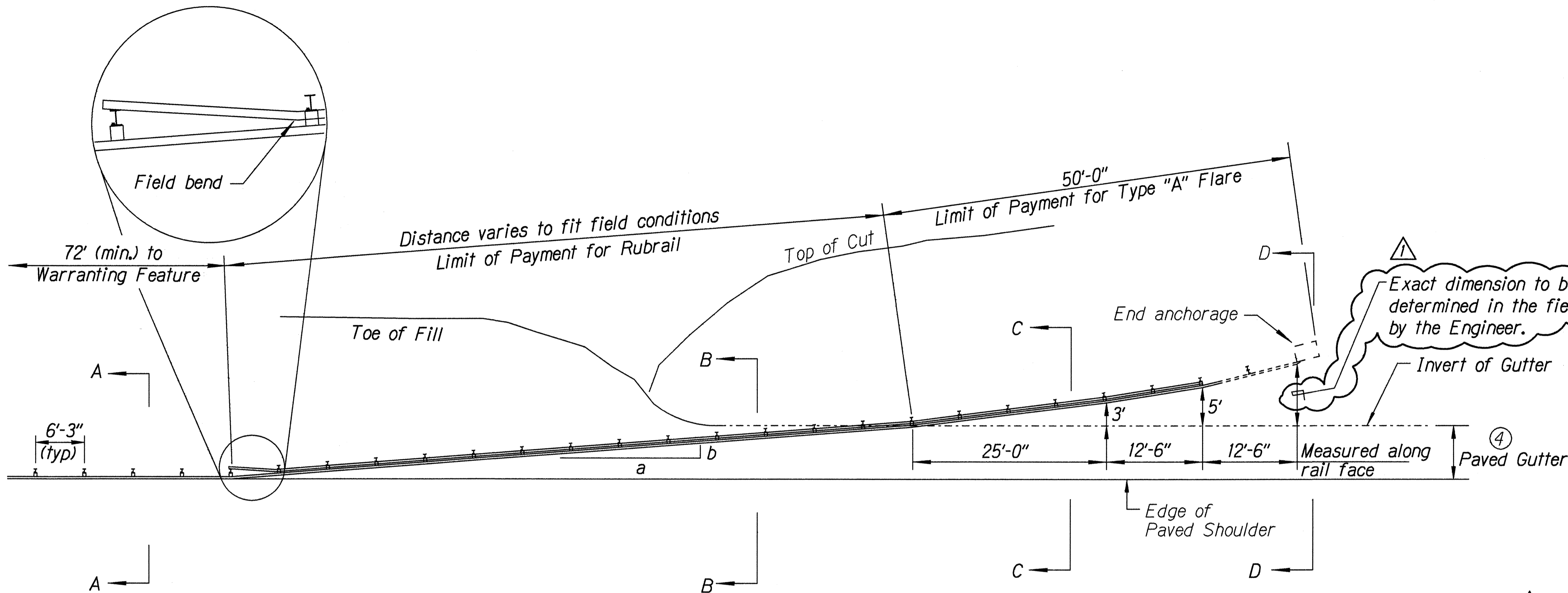


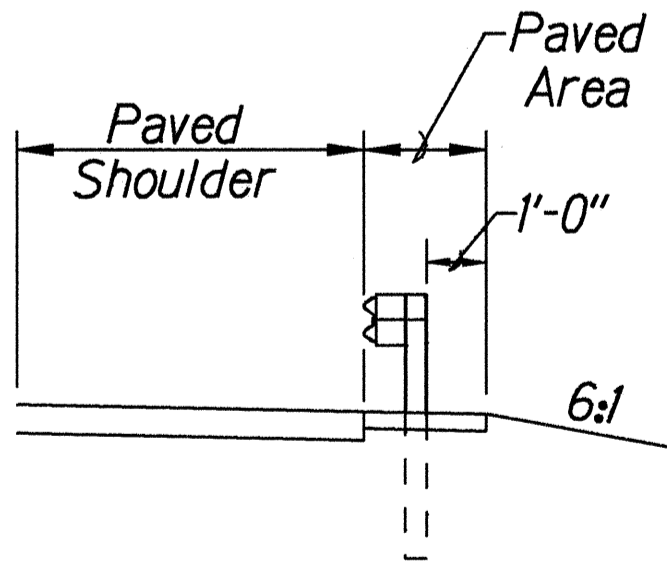
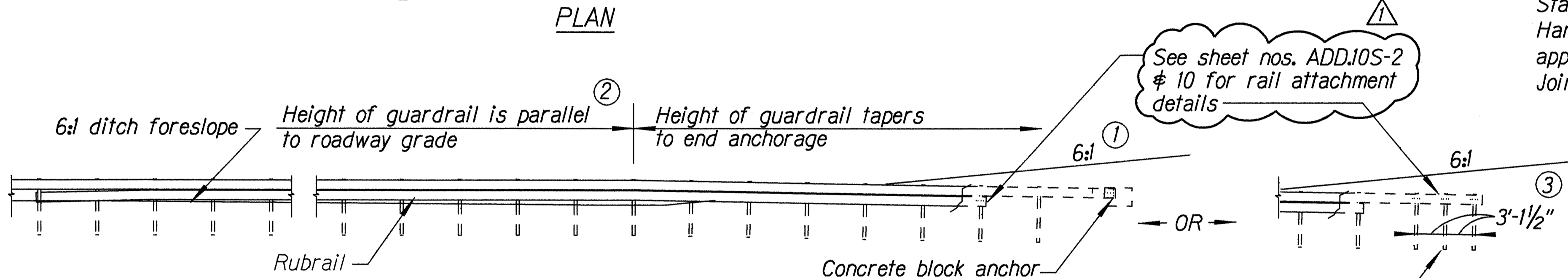
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.9	41

General Notes

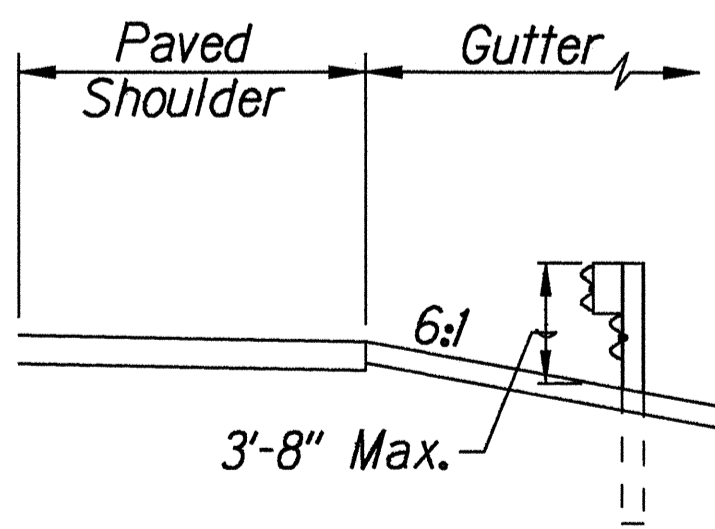
1. A 6:1 or flatter slope is desirable. However, a steeper or flatter existing slope may be used.
2. Height of guardrail may be tapered down in elevation to maintain 3'-8" maximum height.
3. All posts are 8'-0" in length from where the guardrail flares away from the shoulder back to the post anchor. Posts for the post anchor are 6'-0" long.
4. Variable Paved Gutter offsets may be used to fit field conditions.
5. The Guardrail Posts shall be located away from the gutter/swale invert.
6. All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO-AGCARTBA Joint Cooperative Committee.



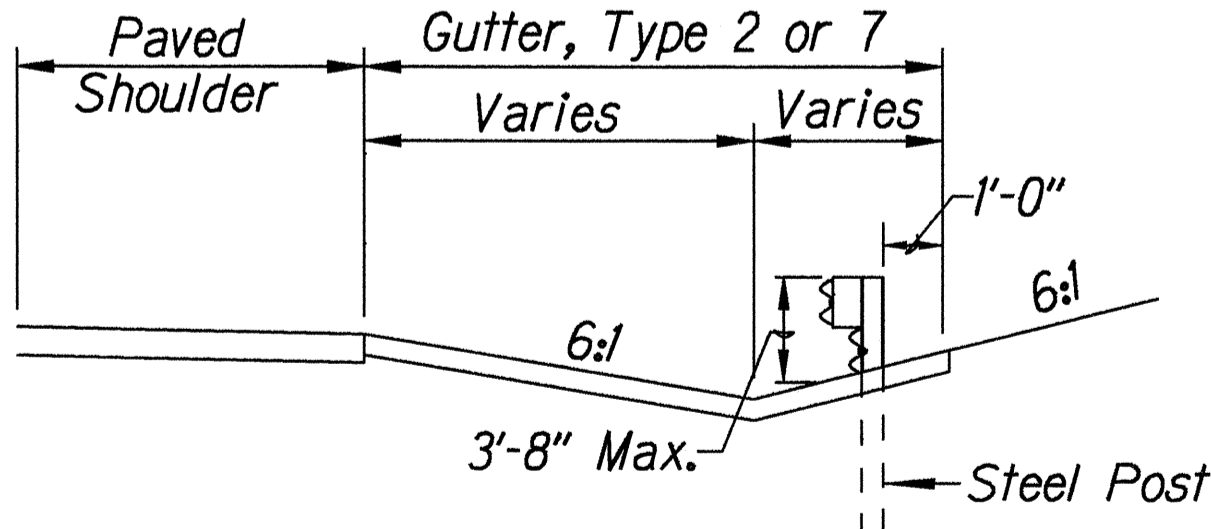
Design speed mph	a:b
68	15:1
62	13:1
56	12:1
50	11:1
43	10:1
37	9:1
31	7:1



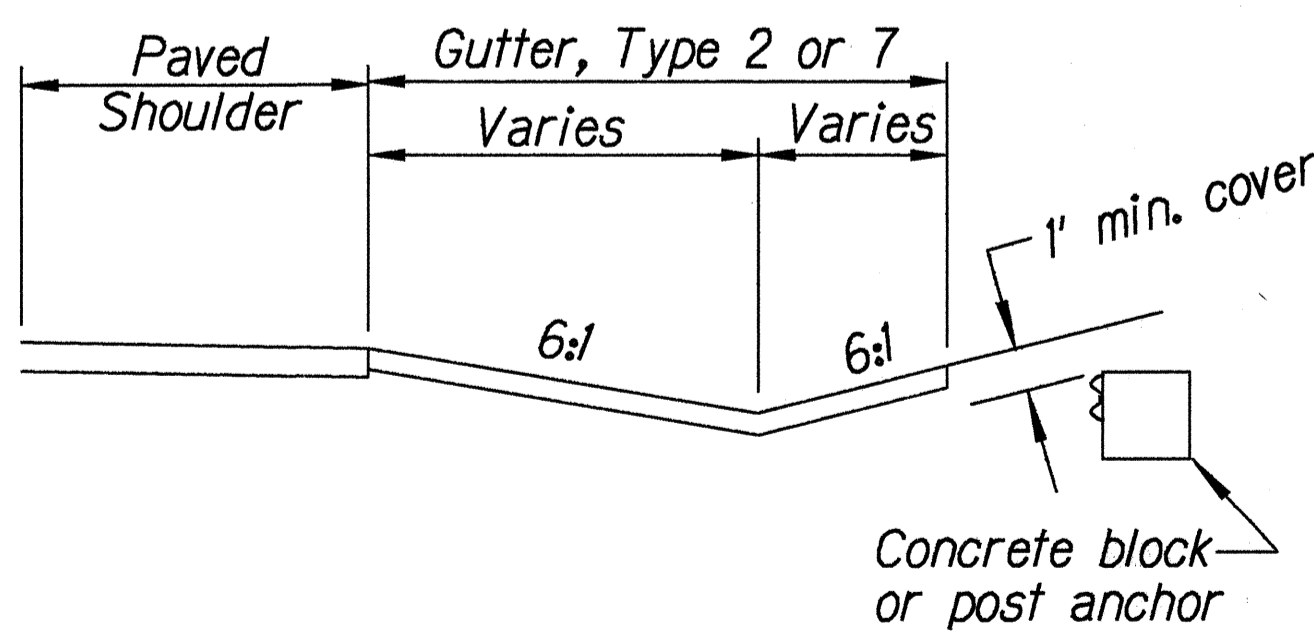
Section A-A



Section B-B
(With Rubrail)



Section C-C
(With Rubrail)



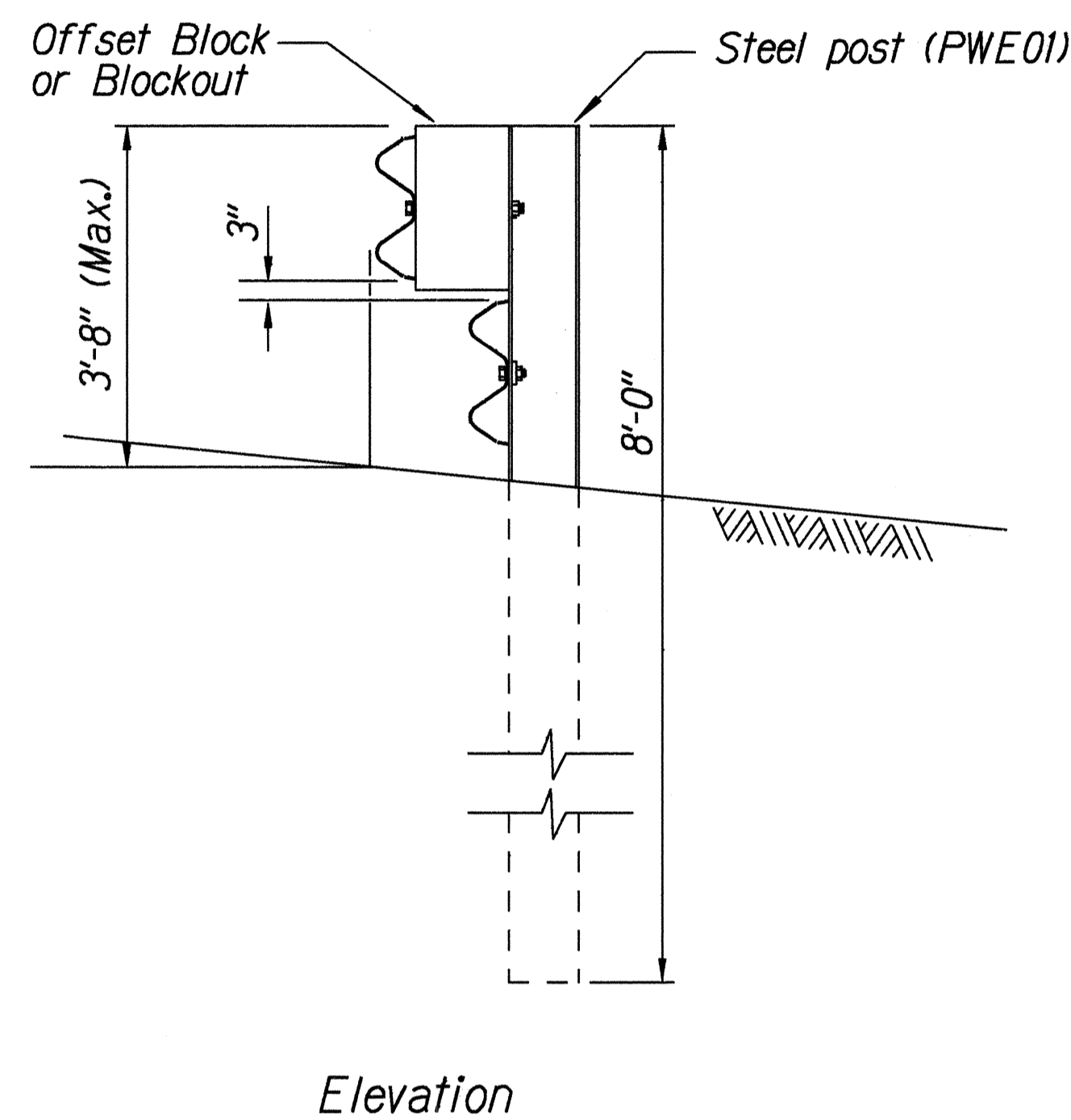
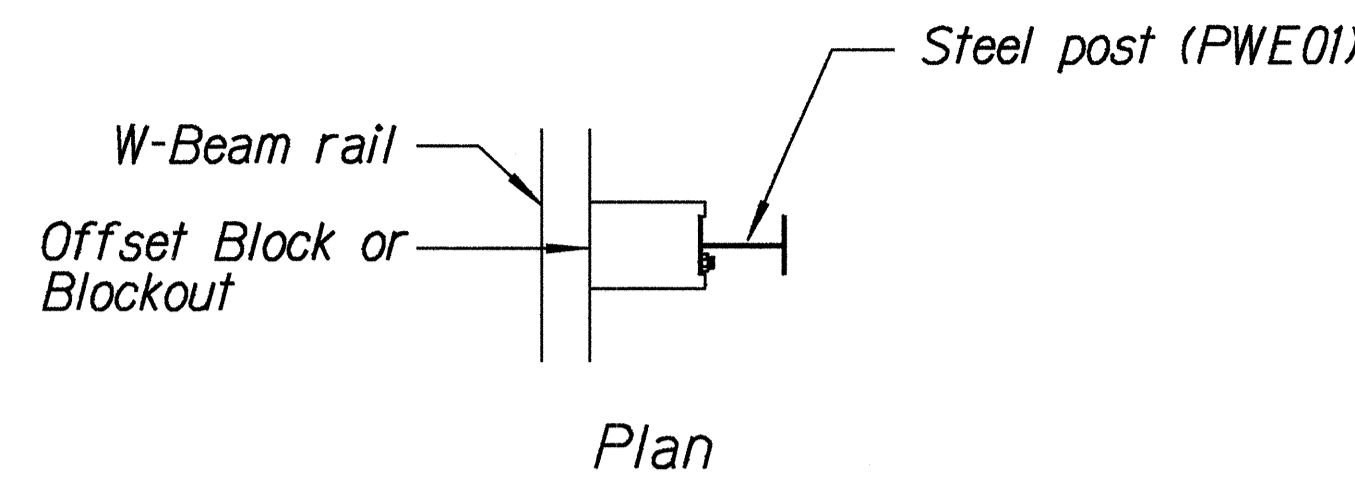
BACKSLOPE ANCHOR TERMINAL (WITH 6:1 PAVED GUTTER AND TYPE "A" FLARE)

6-2-99	Revised guardrail notes.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPE "A" FLARE	
MAUNALOA HIGHWAY RESURFACING	
Maunaloa Village to Mahana	
Project No. 460A-01-99M	
Scale: NTS	Date: April, 1999
SHEET No. 1	OF 2 SHEETS

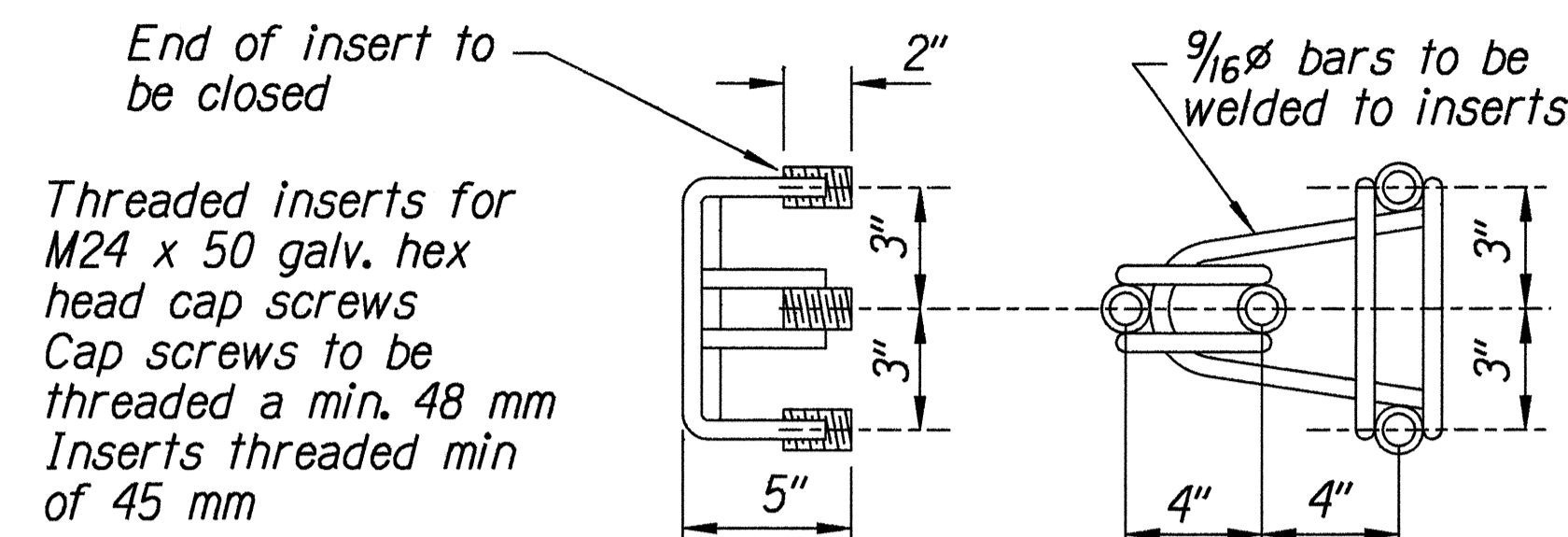
DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
SCALE	

r:3/01/99 tdl:rubby/guardrail/cg/rev02/01/99 (standard plan TE-58 07/01/86, TE-59, RL/03/89 & TE-60 07/01/86)

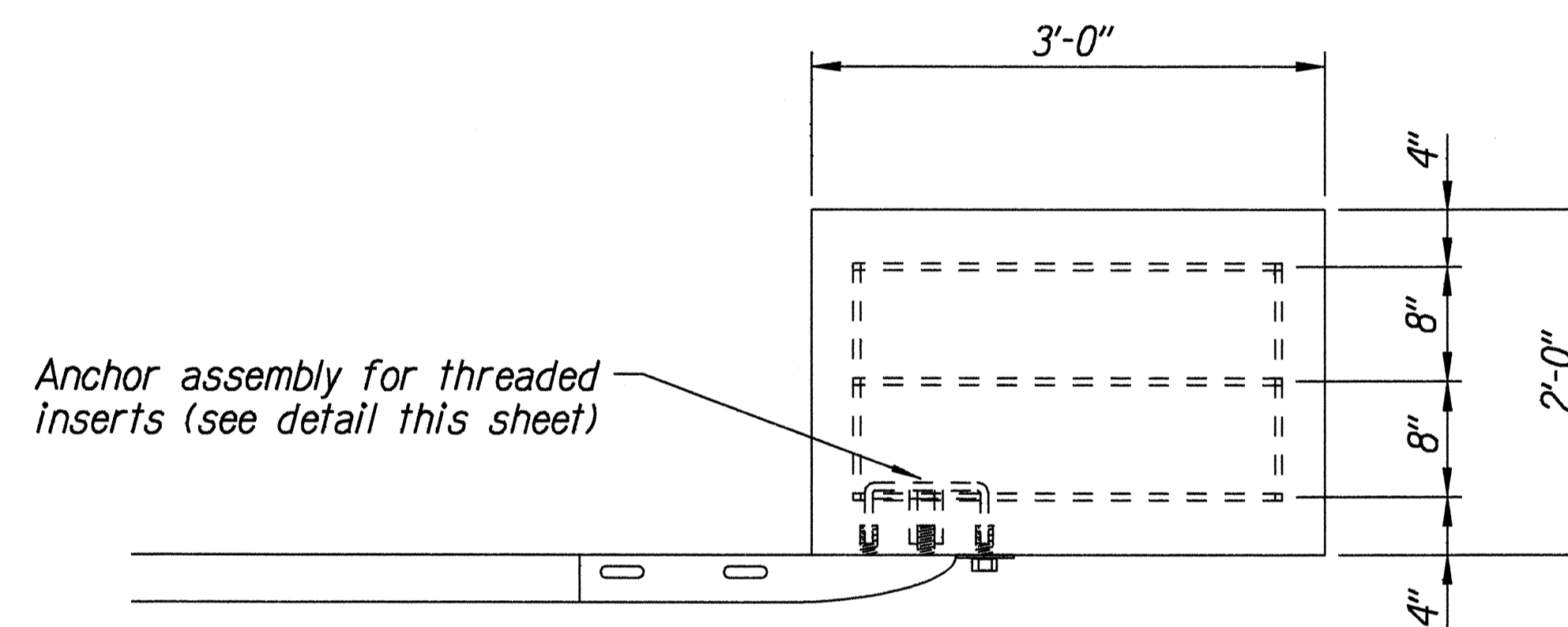
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	10	41



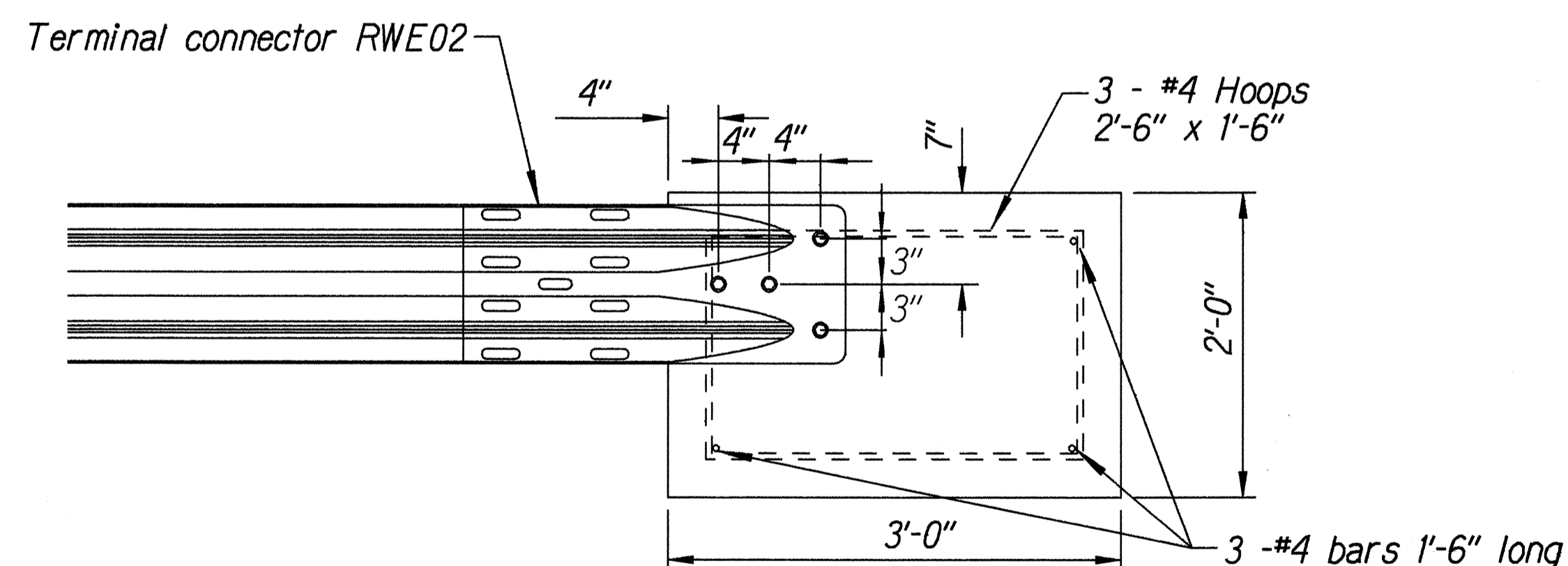
STEEL POST GUARDRAIL
WITH RUBRAIL



ANCHOR ASSEMBLY
CONCRETE BLOCK ANCHOR



Plan



Elevation

CONCRETE BLOCK ANCHOR
(2' X 2' X 3')

BACKSLOPE ANCHOR TERMINAL END ANCHORAGE DETAILS
TYPE "A" FLARE)

Note:

All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO-AGCARTBA Joint Cooperative Committee.

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

Standard Plan TE-58 07/01/86, TE-59 11/03/88 & TE-60 07/01/89
13/01/99 tdruby/guardrail/gdell.dgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "A" FLARE

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

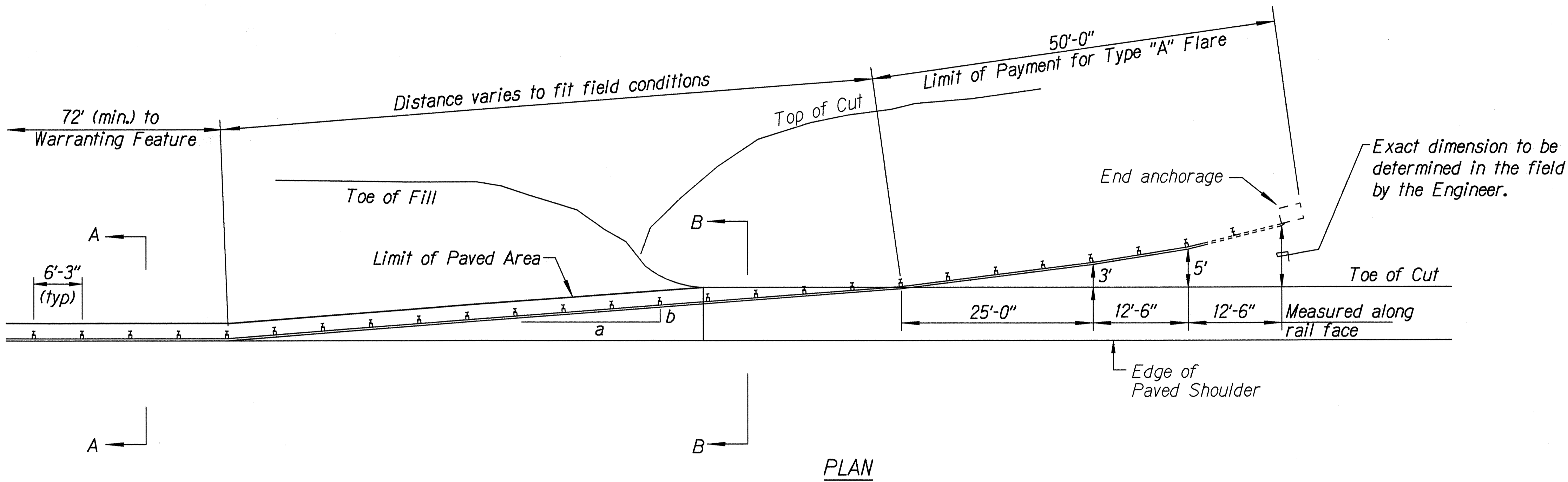
Scale: NTS Date: April, 1999

SHEET No. 2 OF 2 SHEETS

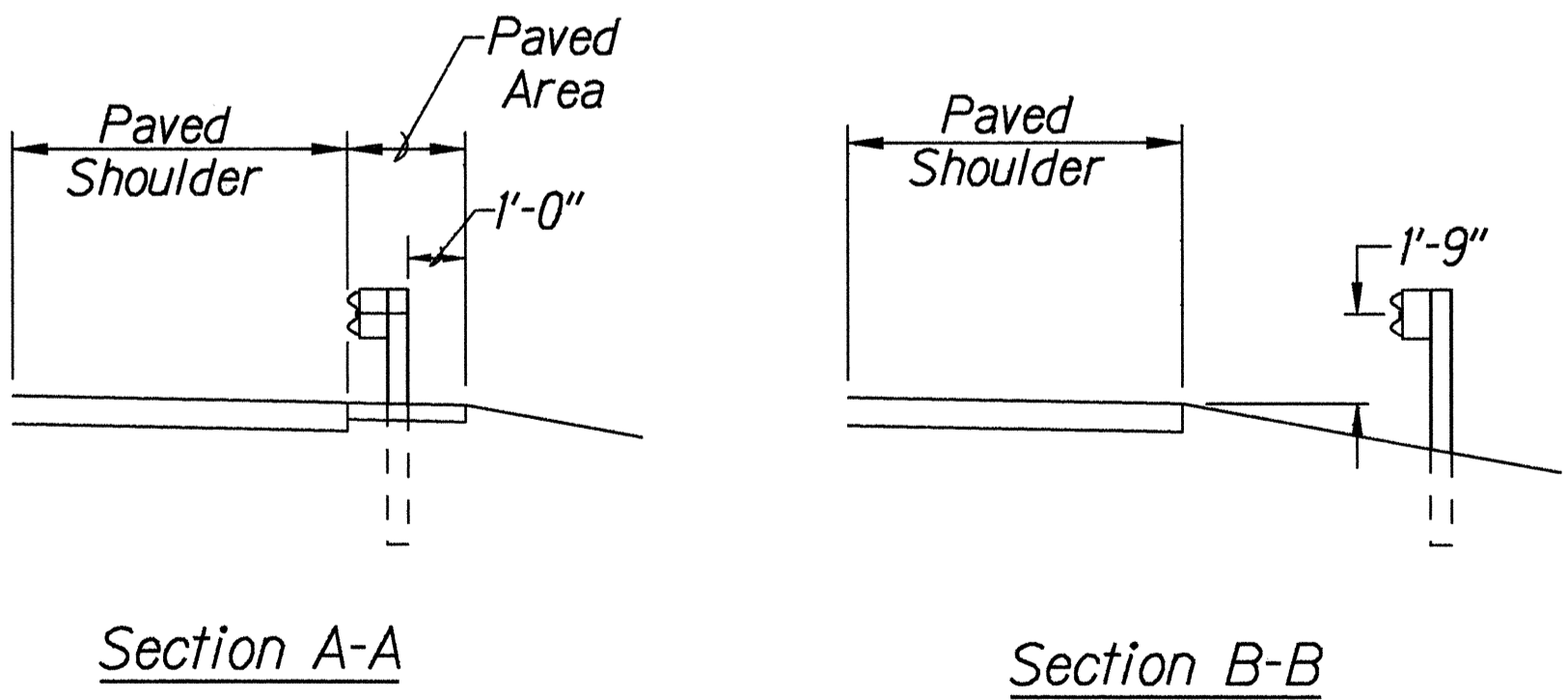
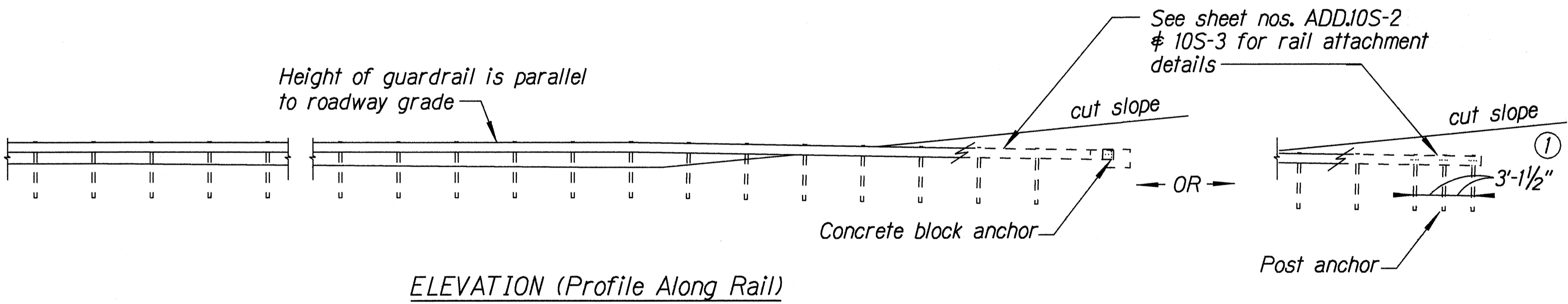
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.10S-1	41

General Notes

1. All posts from where the guardrail flares away from the shoulder back to the post anchor are 8'-0" in length. Posts for the post anchor are 6'-0" long.
2. All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO-AGCARTBA Joint Cooperative Committee.
3. Concrete block or post anchor shall be buried with a minimum one foot of cover.



Design speed mph	a:b
68	15:1
62	13:1
56	12:1
50	11:1
43	10:1
37	9:1
31	7:1



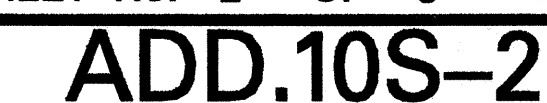
BACKSLOPE ANCHOR TERMINAL

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
DATE	

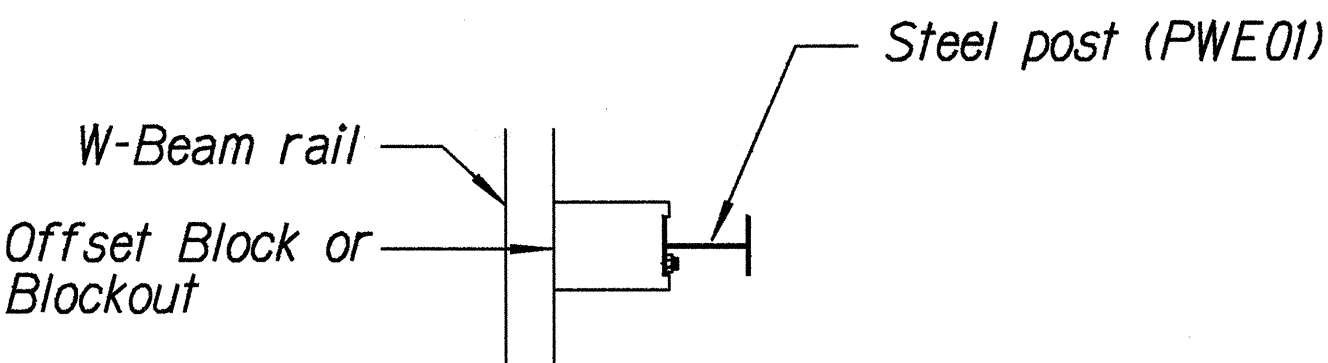
13/01/99 tdr/rub/guardrail/gp/guardrailb.dgn (standard plan TE-59 07/01/86, TE-59 01/03/89 & TE-60 07/01/86)

6-2-99	This sheet added to the Original Contract Plans.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION MODIFIED TYPE "A" FLARE MAUNALOA HIGHWAY RESURFACING Maunaloa Village to Mahana Project No. 460A-01-99M Scale: NTS Date: April, 1999 SHEET No. 1 OF 3 SHEETS	

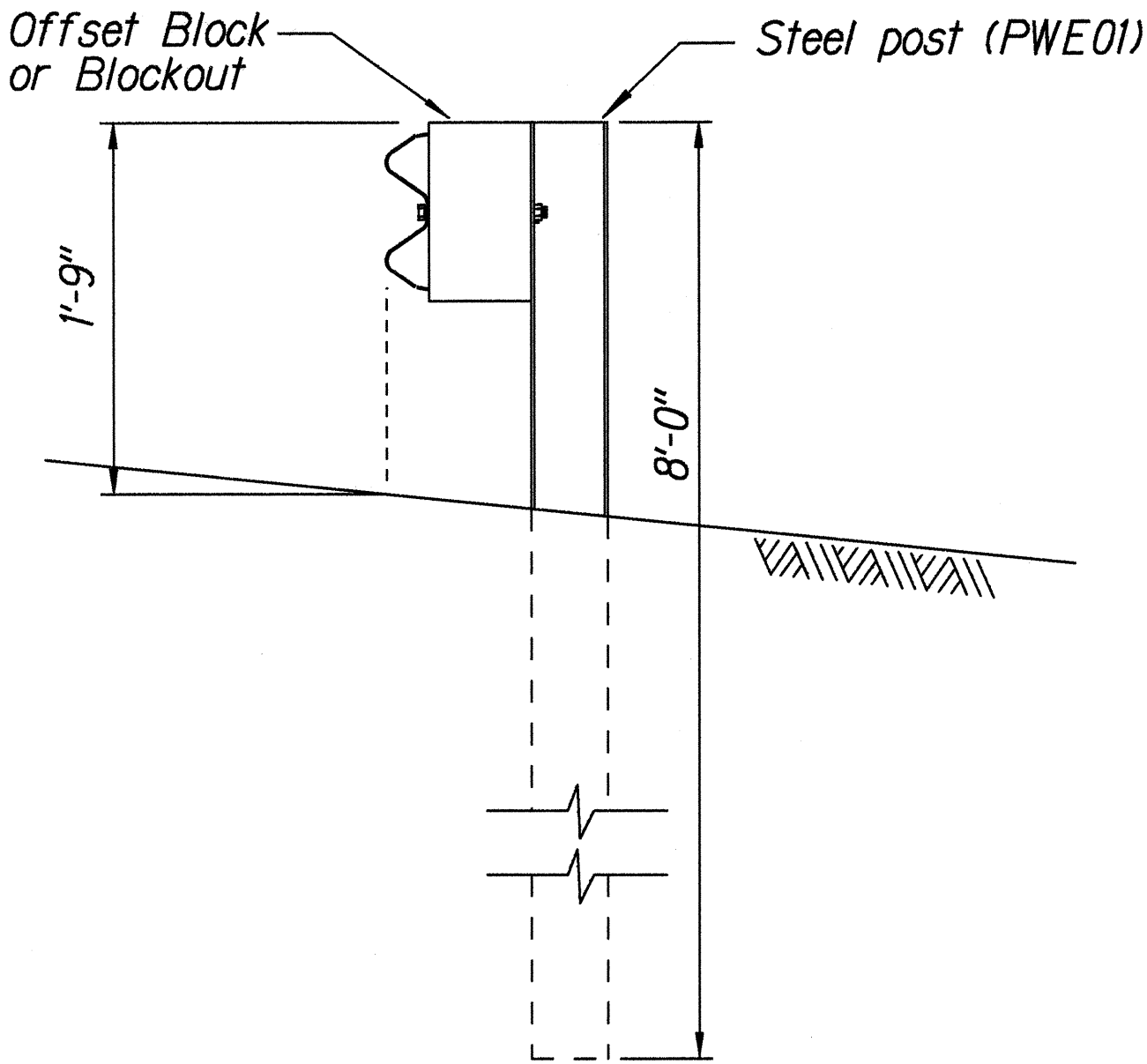
3/01/99 tdl.ruby/quardrail/q4dettl.dgn (standard plan TF-58 07/01/86. TF-59 r11/03/89 \$ TF-60 07/01/86)



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.10S-3	41

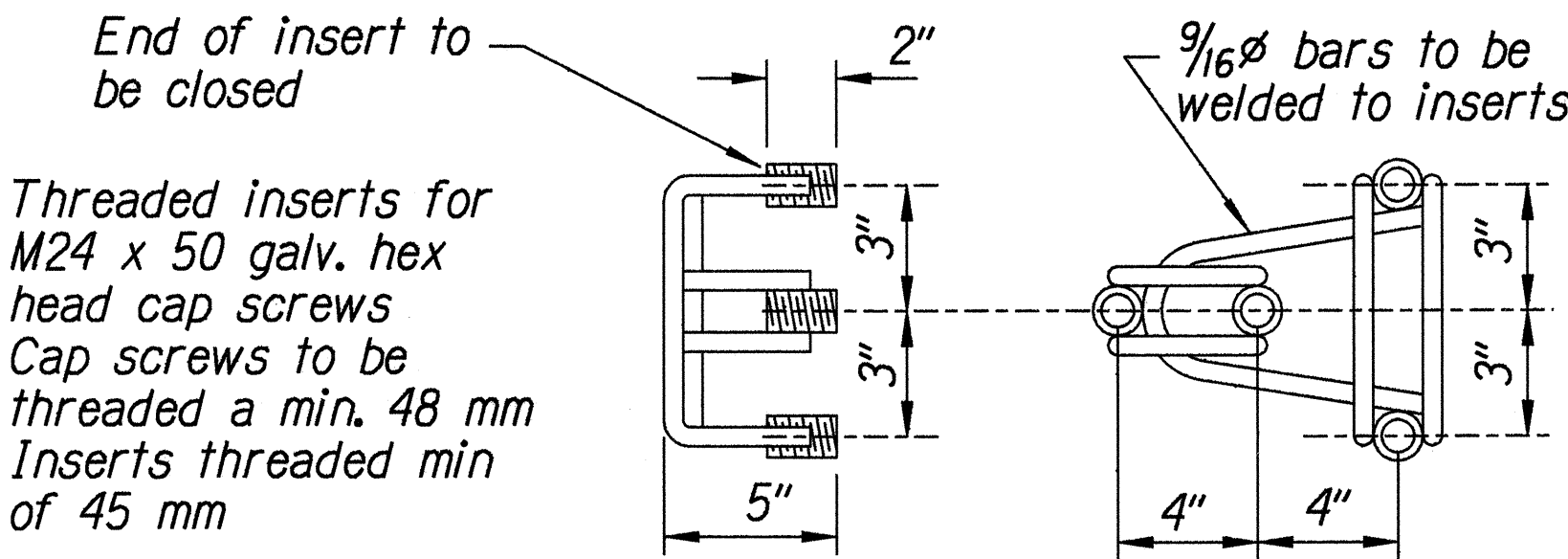


Plan

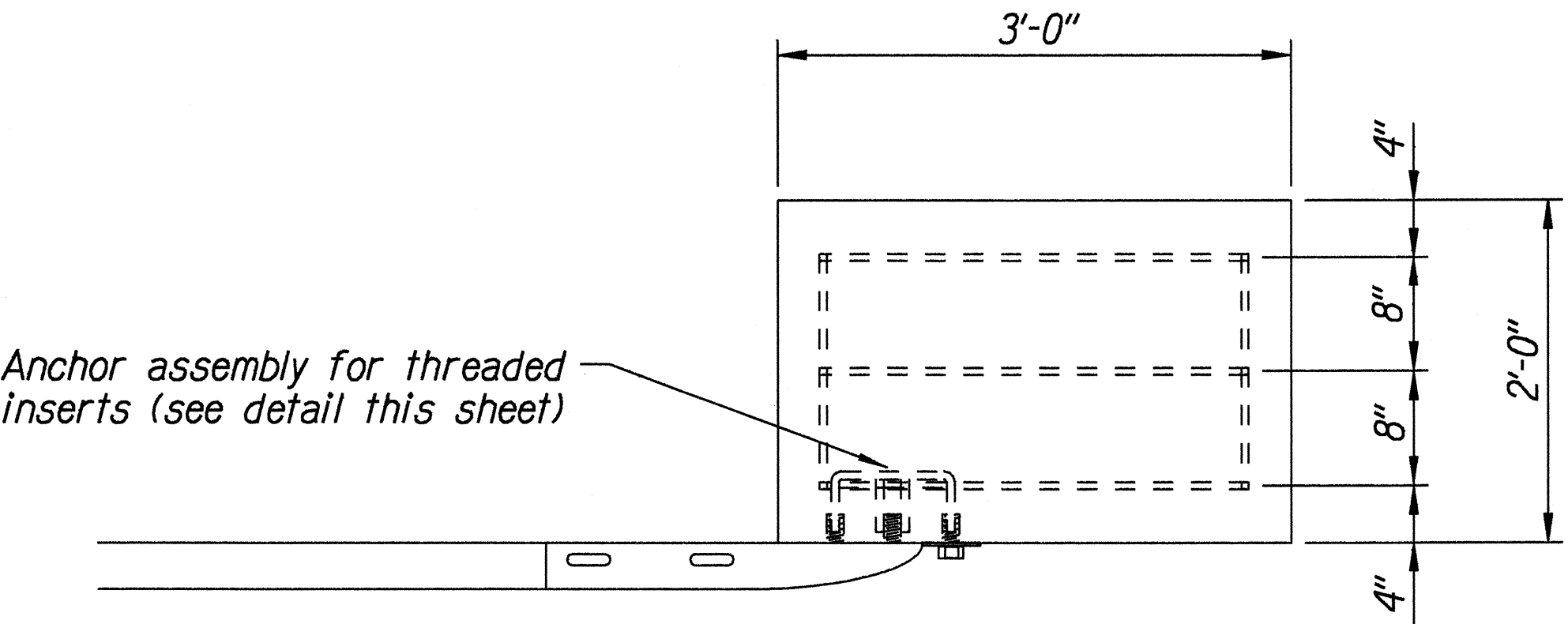


Elevation

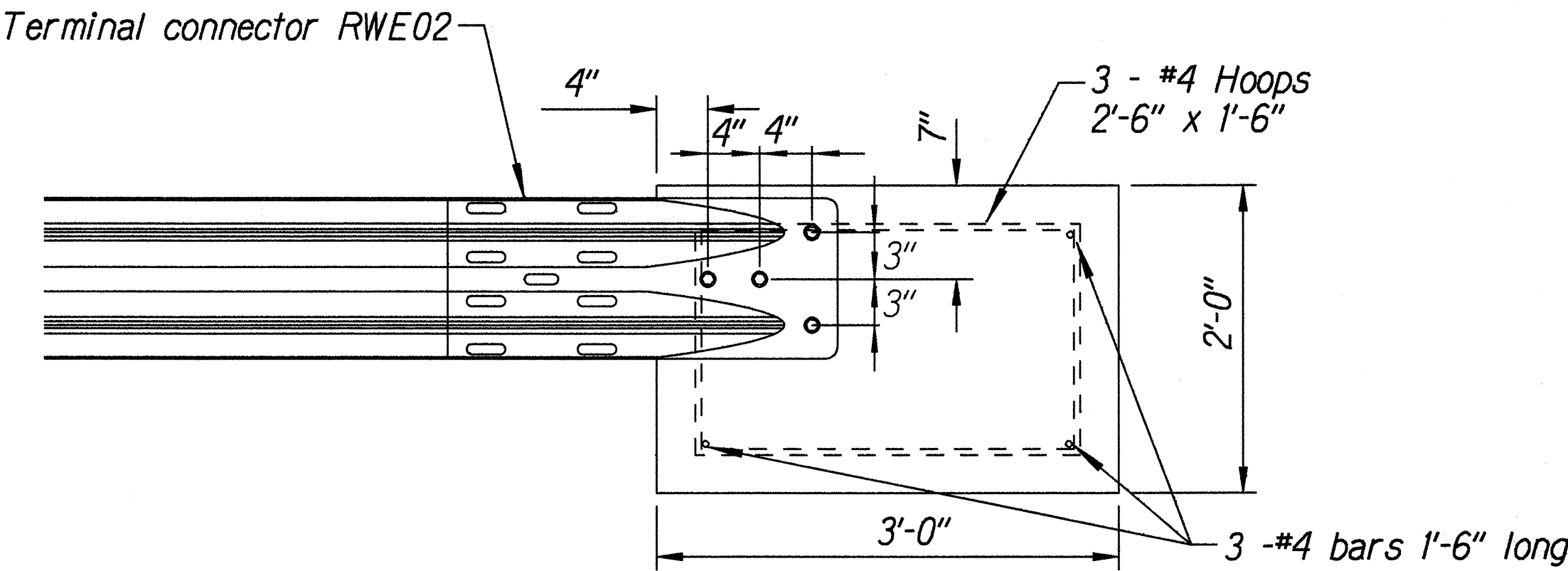
STEEL POST GUARDRAIL
WITH RUBRAIL



ANCHOR ASSEMBLY
CONCRETE BLOCK ANCHOR



Plan



Elevation

CONCRETE BLOCK ANCHOR
(2' X 2' X 3')

BACKSLOPE ANCHOR TERMINAL END ANCHORAGE DETAILS
TYPE "A" FLARE

Note:

All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO-AGCARTBA Joint Cooperative Committee.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED	DRAWN BY	X
DESIGNED BY	DESIGNED BY	
CHECKED BY	CHECKED BY	
DATE	DATE	

r3/01/99 hdlrudy/guardrail/gk4dell.dgn (standard plan TE-58 07/01/86, TE-59 rlv/03/88 & TE-60 07/01/86)

6-2-99 This sheet added to the Original Contract Plans.

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MODIFIED TYPE "A" FLARE

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: NTS Date: April, 1999

SHEET No. 3 OF 3 SHEETS

ADD.10S-3