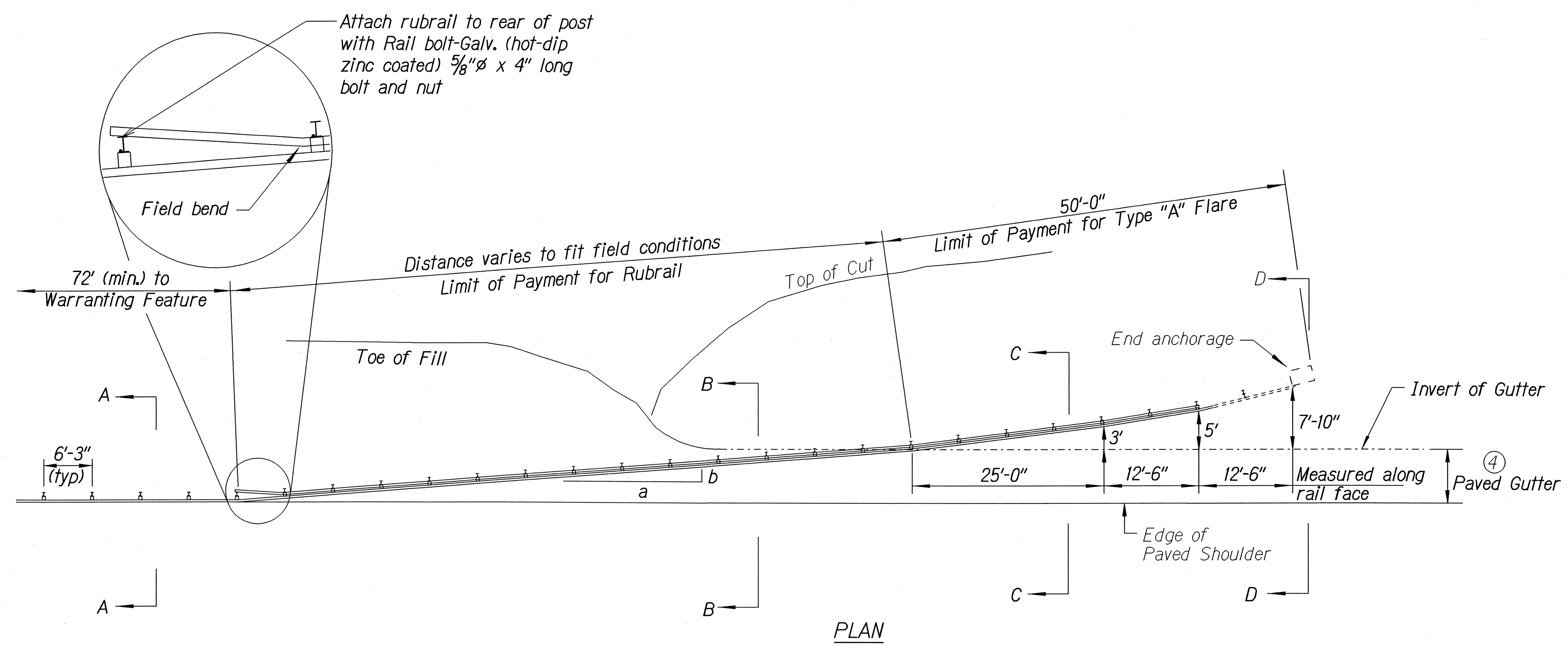


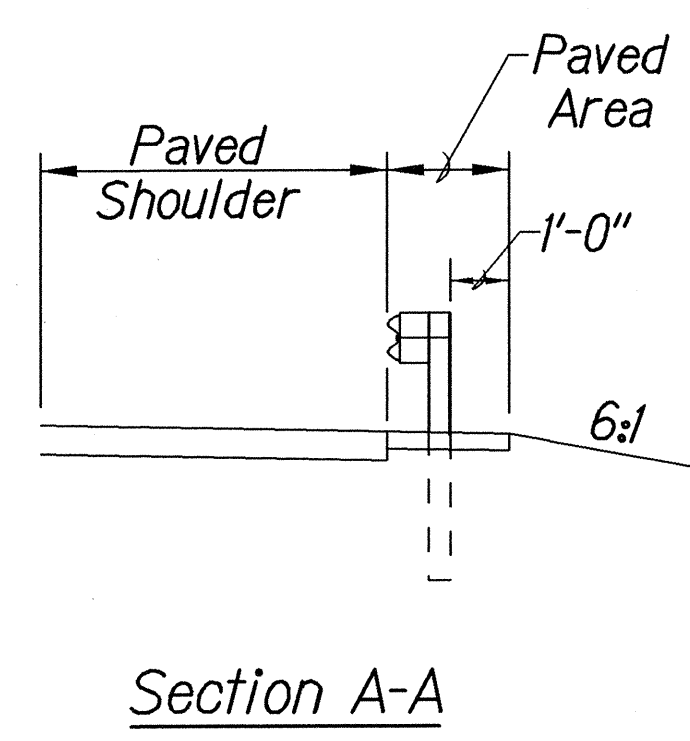
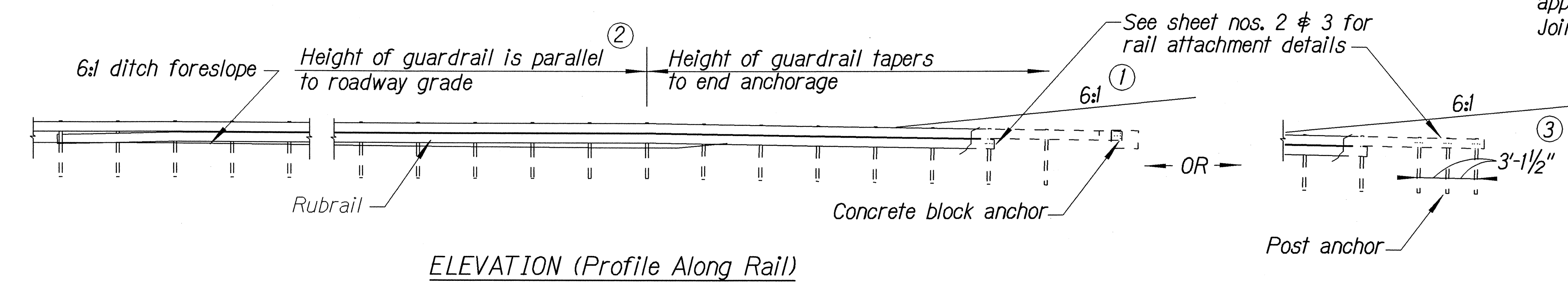
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	36AB-01-04M	2004	8	54

General Notes

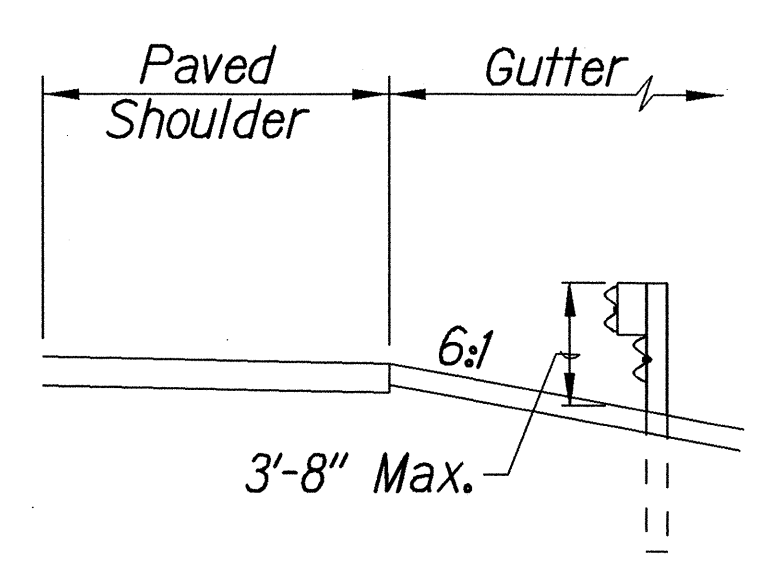
1. A 6:1 or flatter slope is desirable. However, a steeper or flatter existing slope may be used.
2. Height of guardrail may be tapered down in elevation to maintain 3'-8" maximum height.
3. All posts are 8'-0" in length from where the guardrail flares away from the shoulder back to the post anchor. 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.



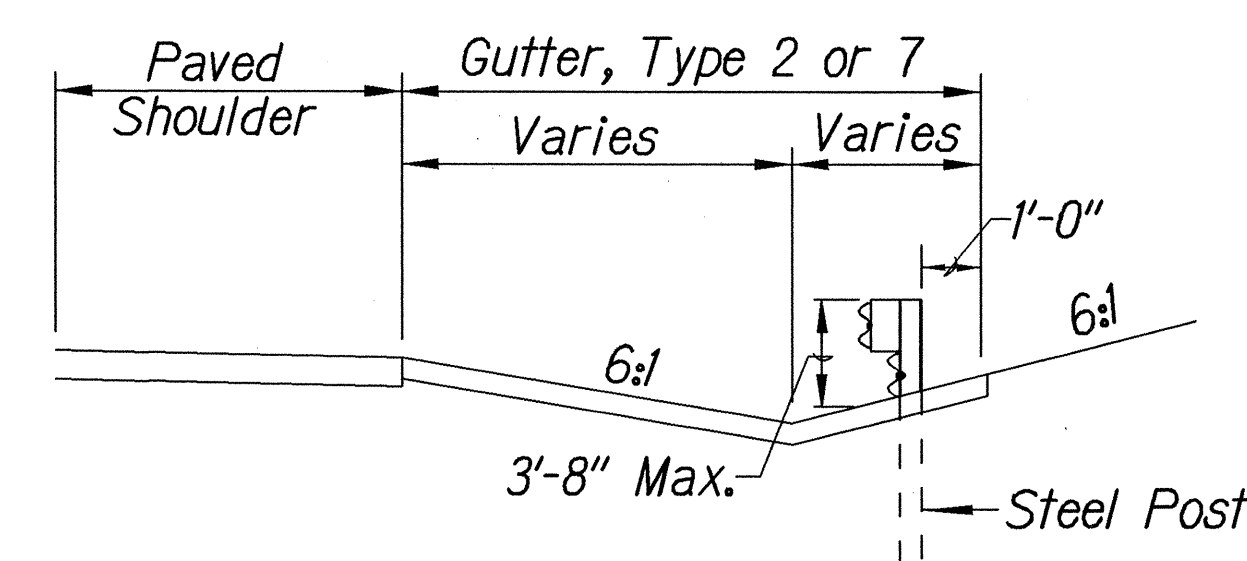
Design speed mph	a:b
68	15:1
62	13:1
56	12:1
50	11:1
43	10:1
37	9:1
31	7:1



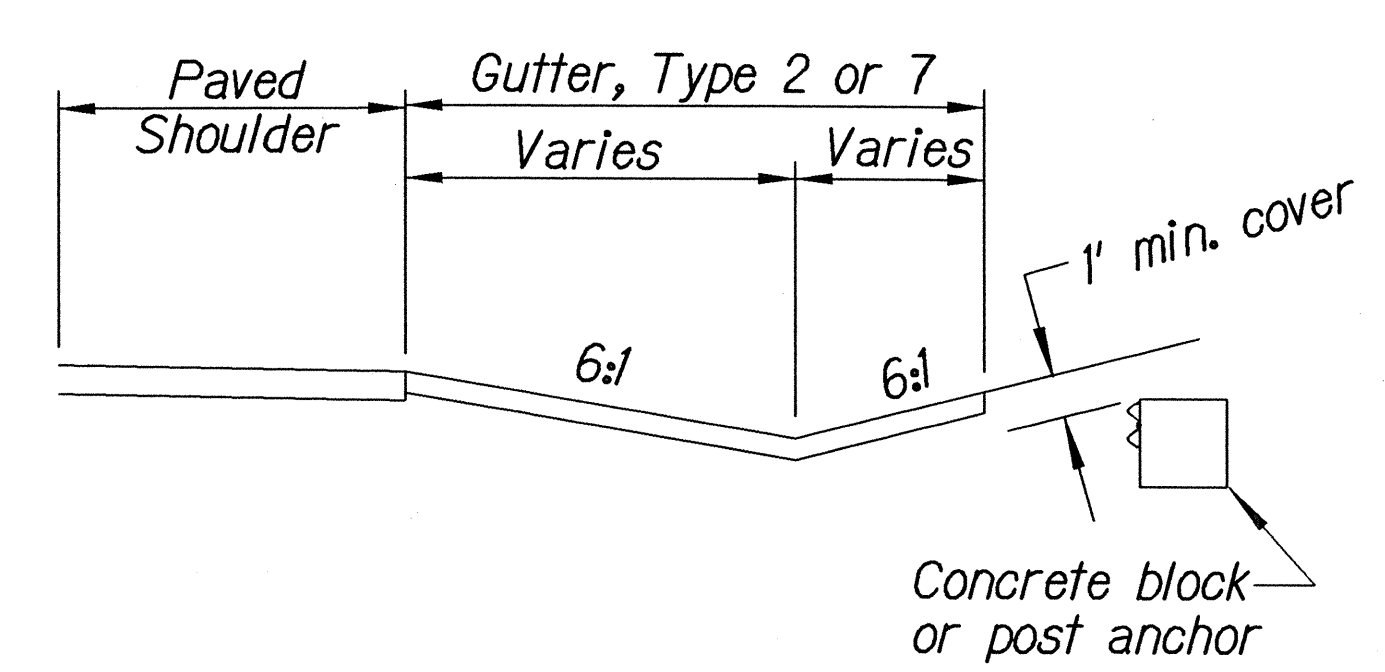
Section A-A



Section B-B
(With Rubrail)



Section C-C
(With Rubrail)



Concrete block
or post anchor

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

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

TYPE "A" FLARE

HANA HIGHWAY RESURFACING

Haleakala Highway to Hookipa Park

Project No. 36AB-01-04M

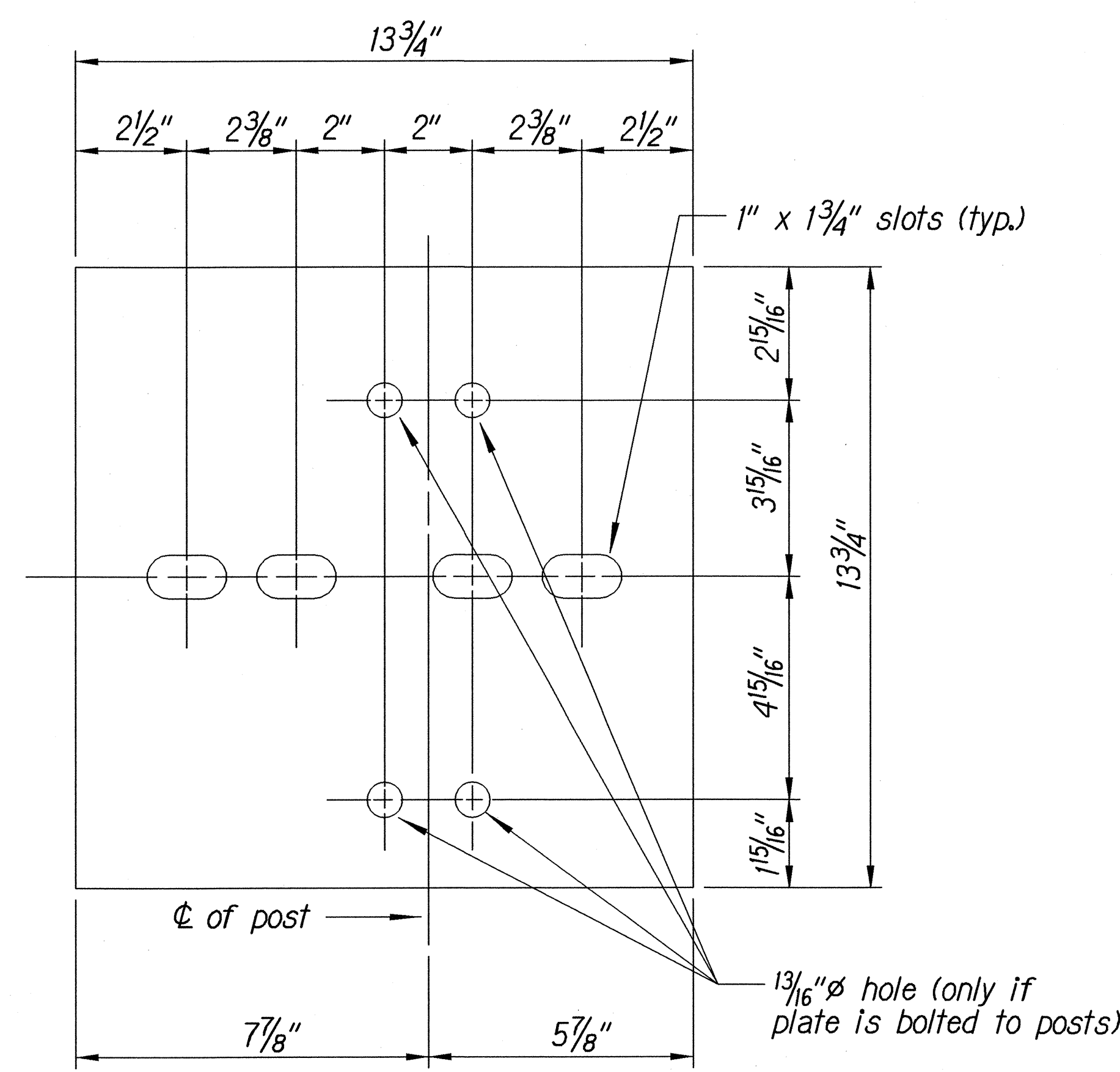
Scale: NTS

Date: December, 2003

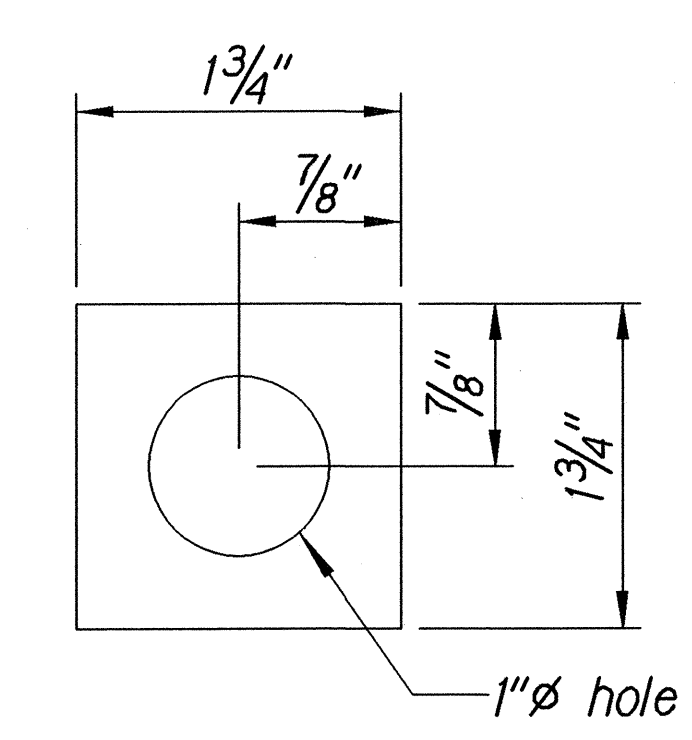
SHEET No. 1 OF 3

SHEETS

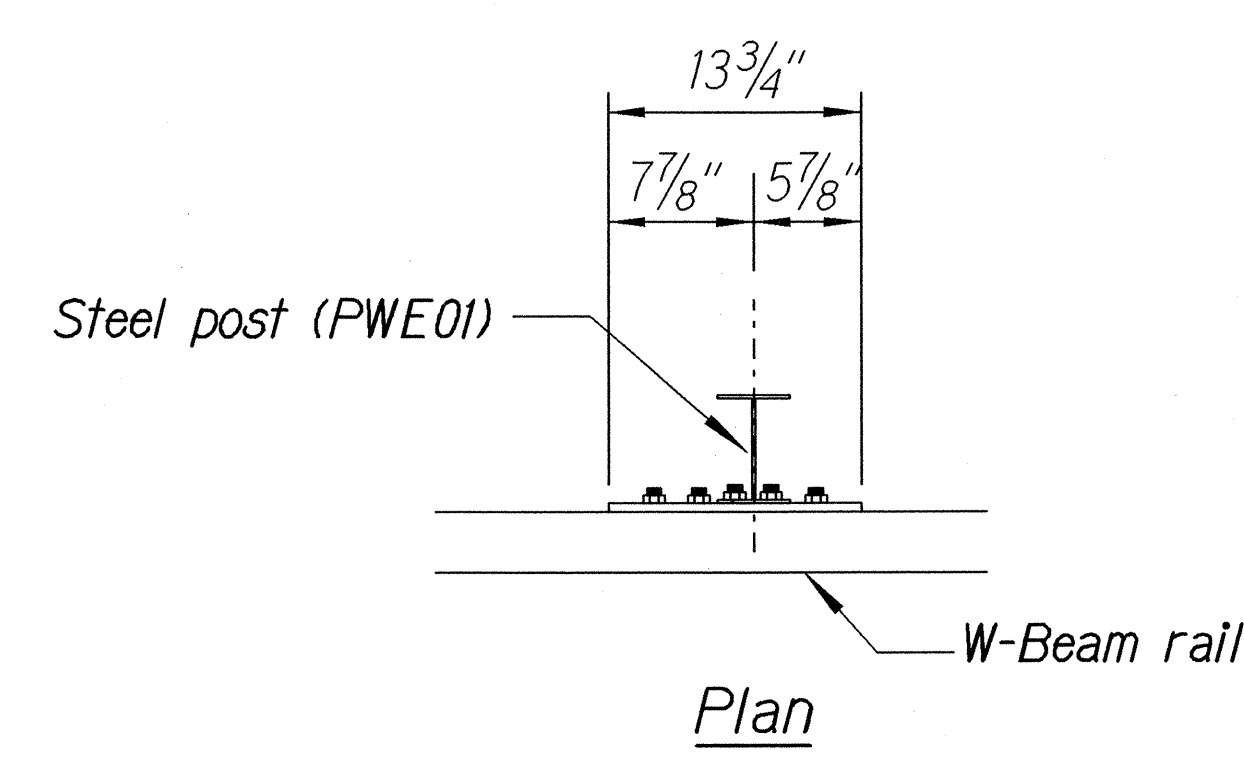
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	36AB-01-04M	2004	9	54



Steel Plate - 1/2"
(Hot-dip Zinc Coated Galvanized
Welded or Bolted to Post)

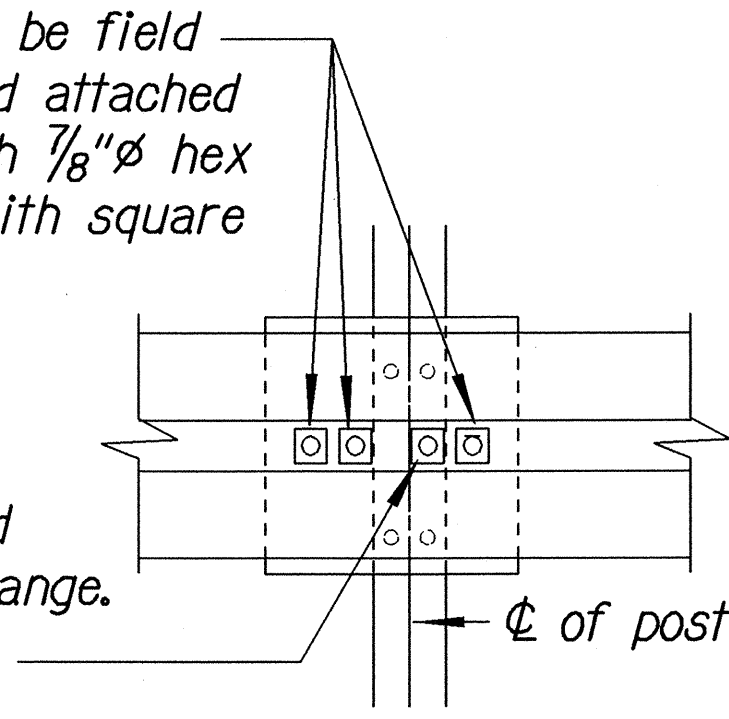


Square Washer
(3/16" Thick - Hot-dip
Zinc Coated Galvanized)

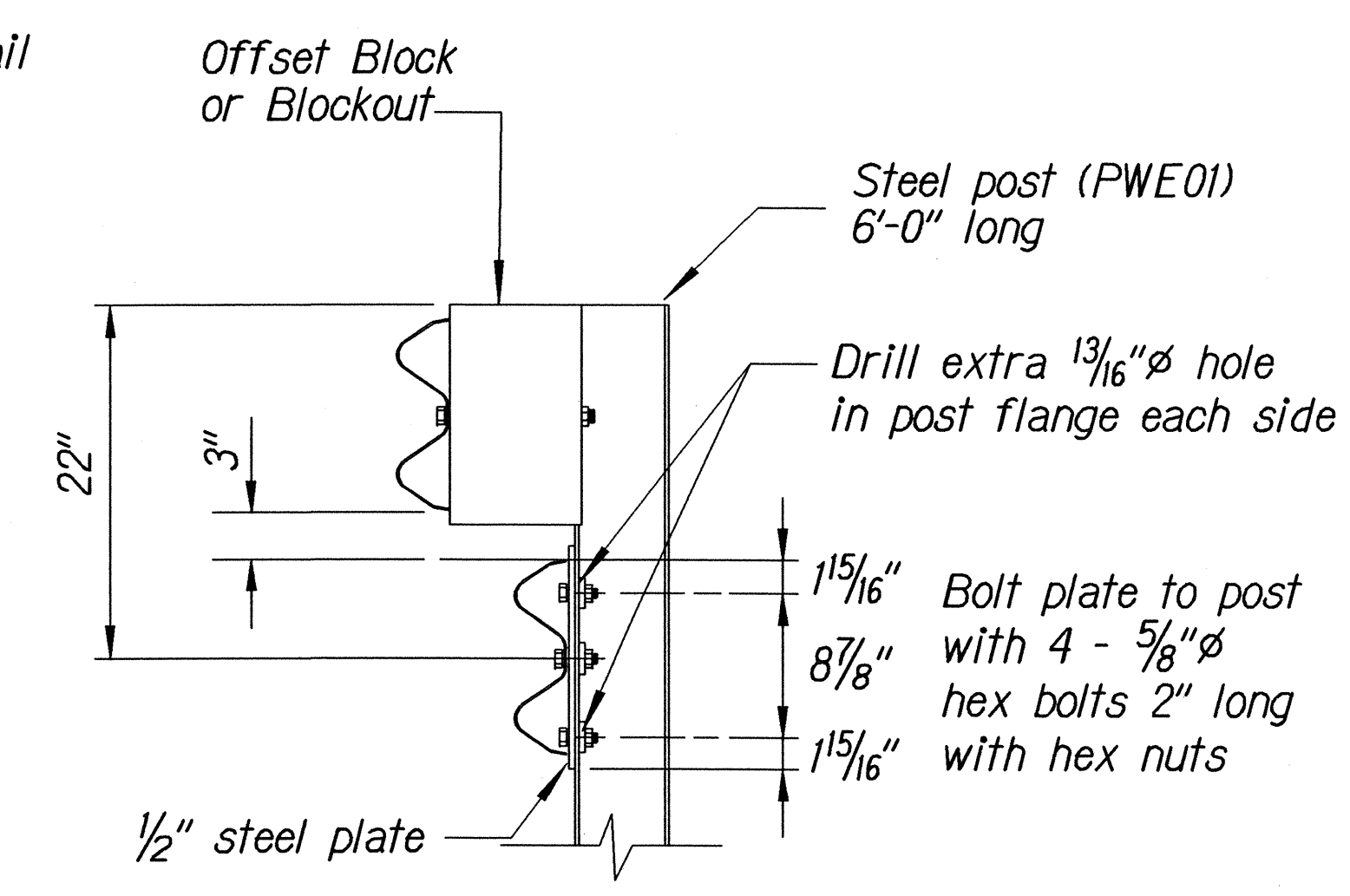


3 - 7/8"ø holes to be field drilled in rail and attached to steel plate with 7/8"ø hex bolts 1 5/16" long with square washer

1"ø holes to be field drilled in rail and through post flange. Attach to steel plate with 7/8"ø hex bolts 2" long with square washer



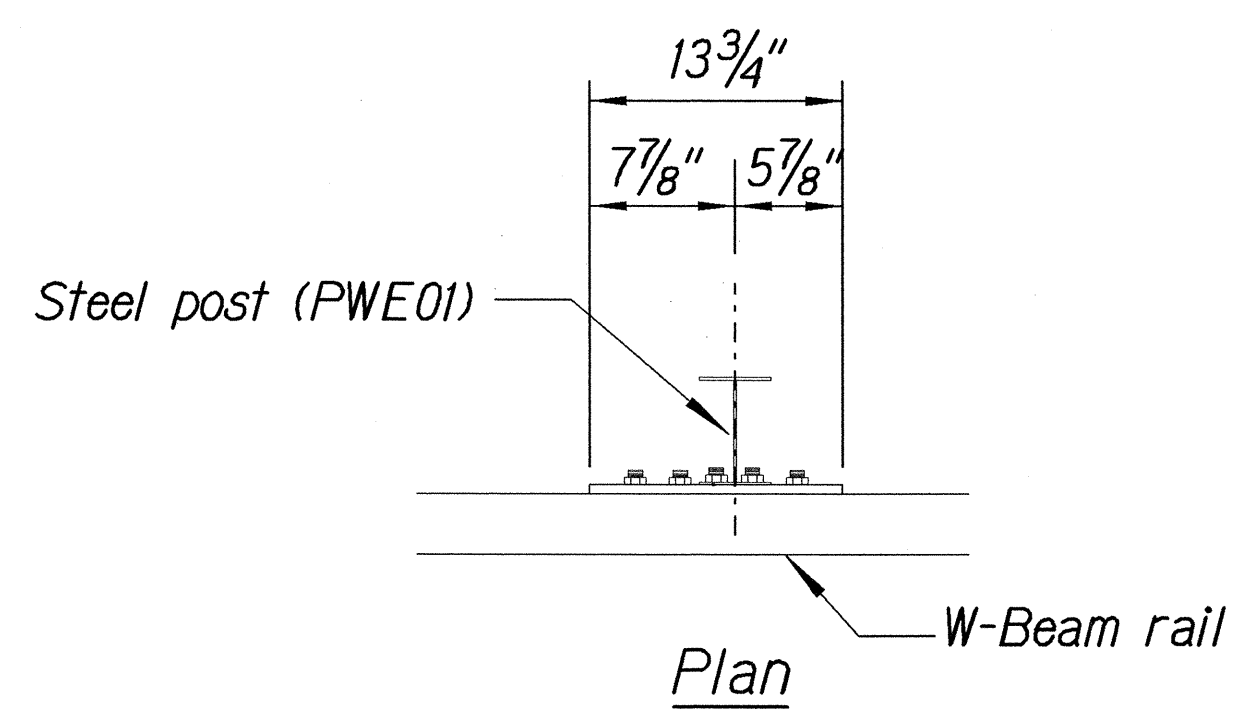
Front View



Elevation

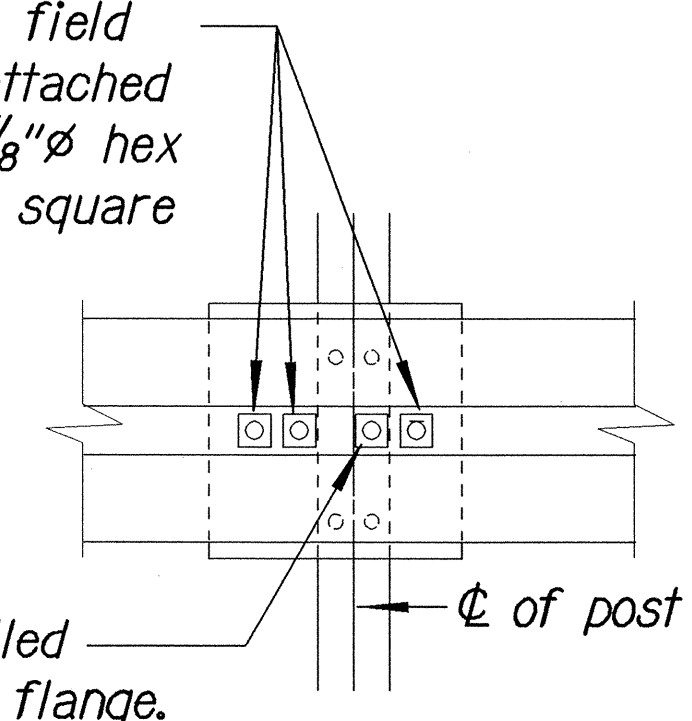
RUBRAIL ANCHOR DETAILS

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.

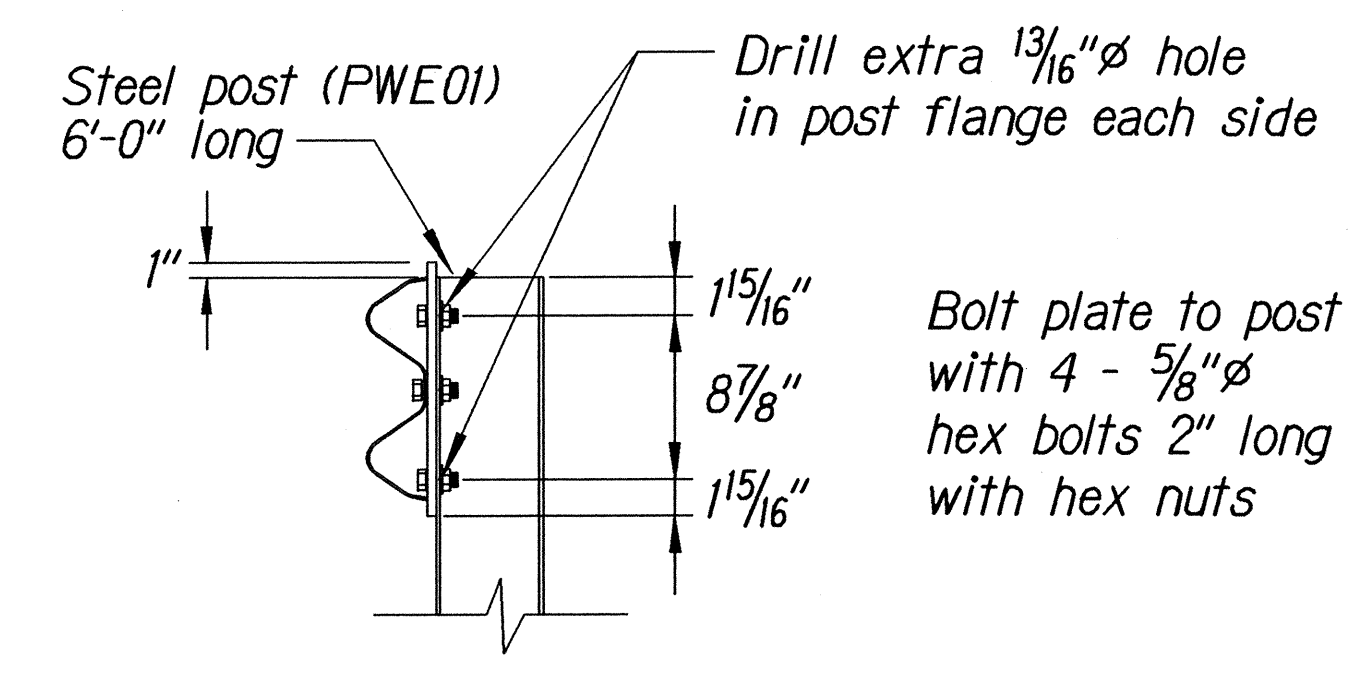


3 - 7/8"ø holes to be field drilled in rail and attached to steel plate with 7/8"ø hex bolts 1 5/16" long with square washer

1"ø holes to be field drilled in rail and through post flange. Attach to steel plate with 7/8"ø hex bolts 2" long with square washer



Front View



Elevation

POST ANCHOR DETAILS

BACKSLOPE ANCHOR TERMINAL END ANCHORAGE DETAILS
TYPE "A" FLARE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "A" FLARE

HANA HIGHWAY RESURFACING
Haleakala Highway to Hookipa Park
Project No. 36AB-01-04M

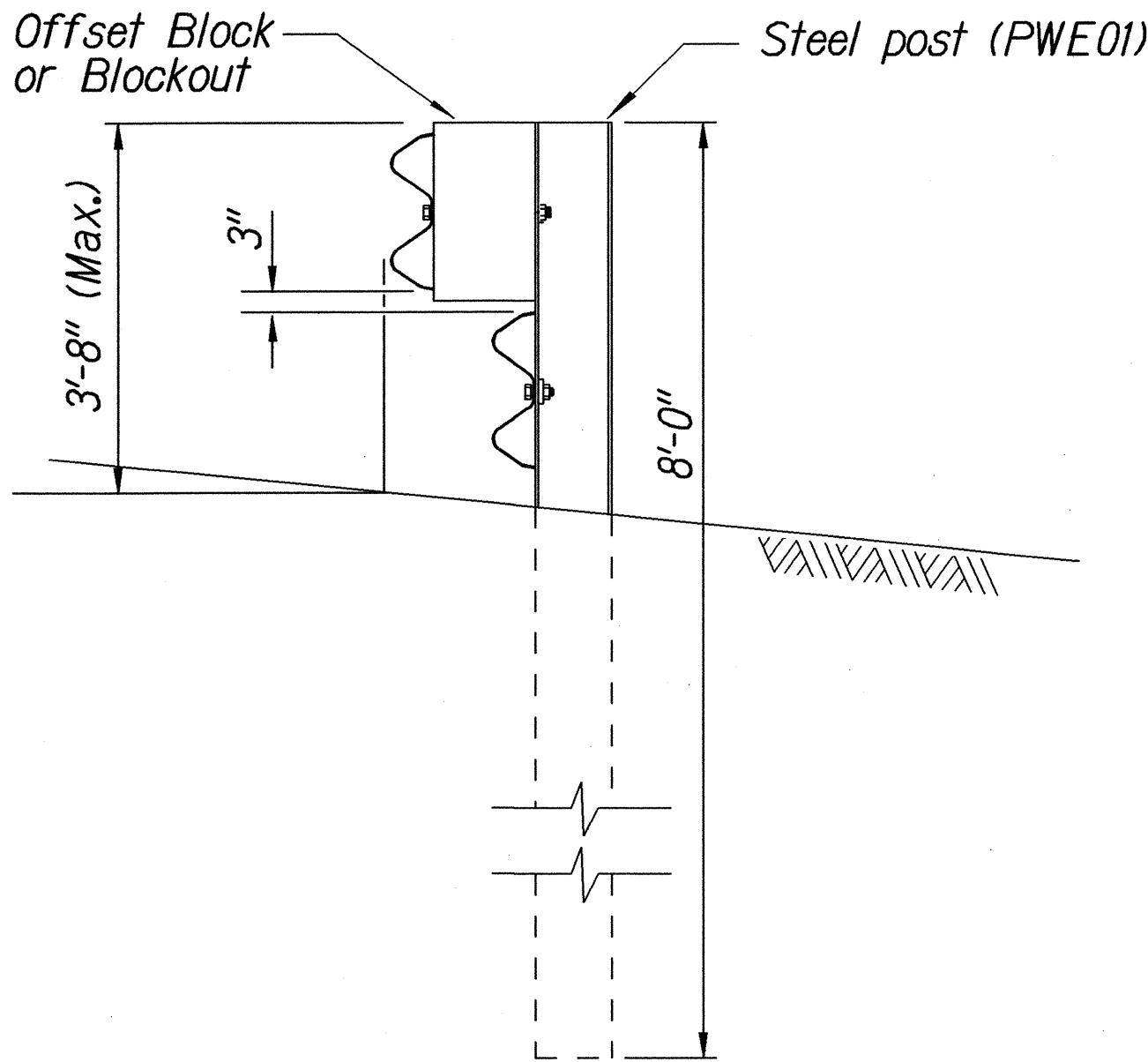
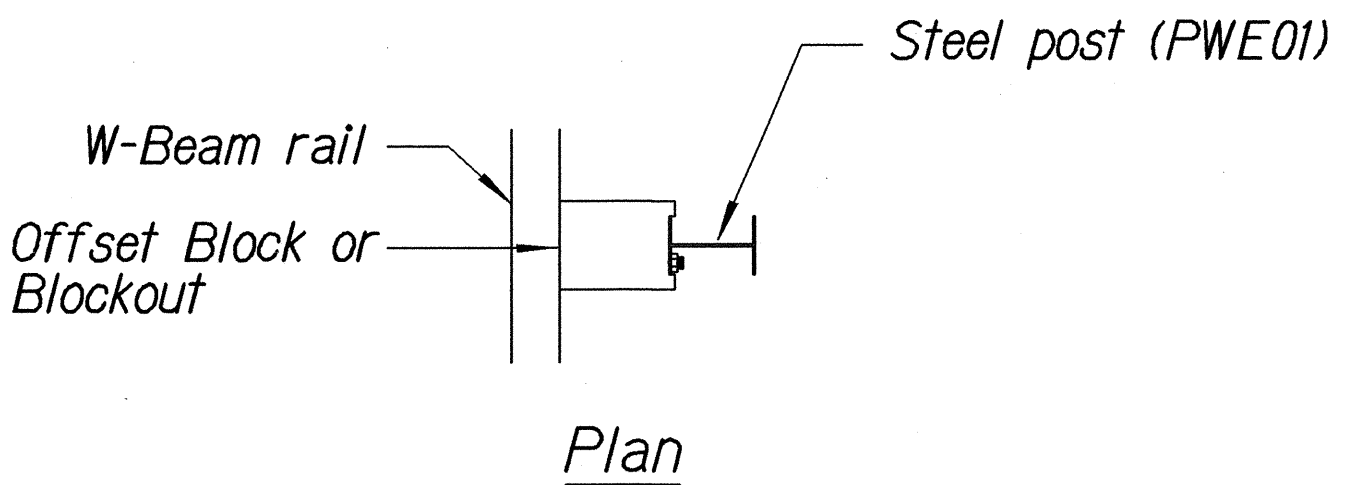
Scale: NTS
Date: December, 2003

SHEET No. 2 OF 3 SHEETS

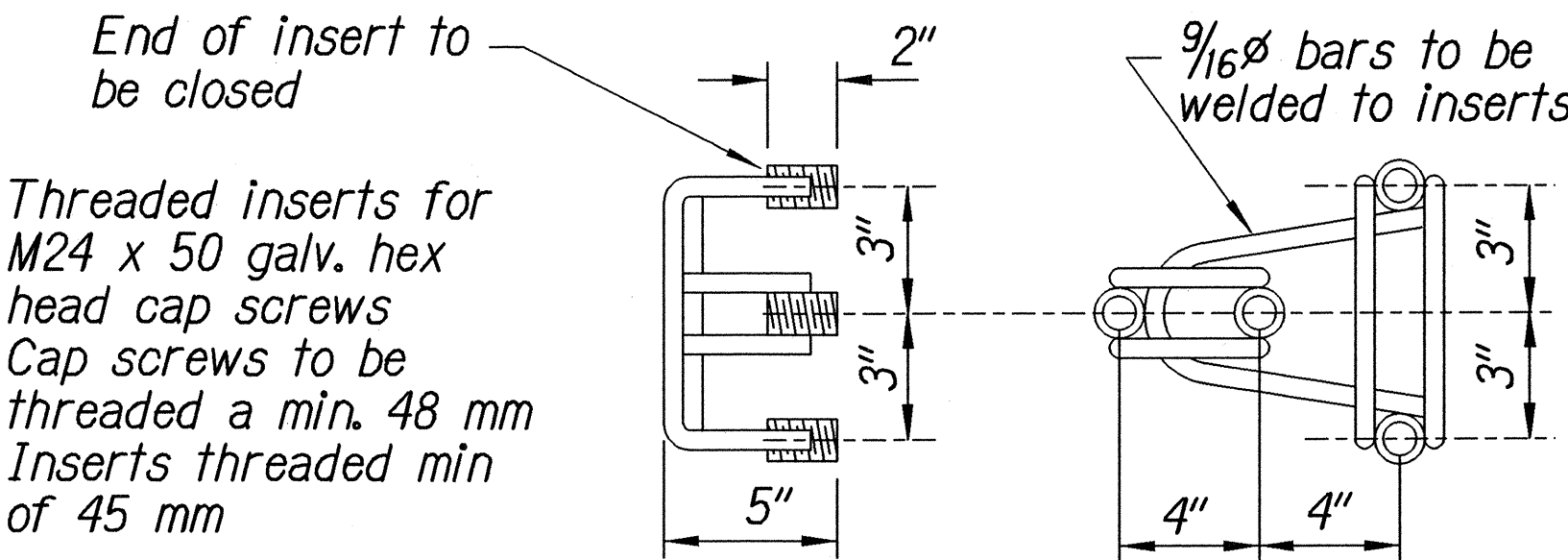
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DATE	
NO.	

12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM 12/31/03 10:40:00 AM

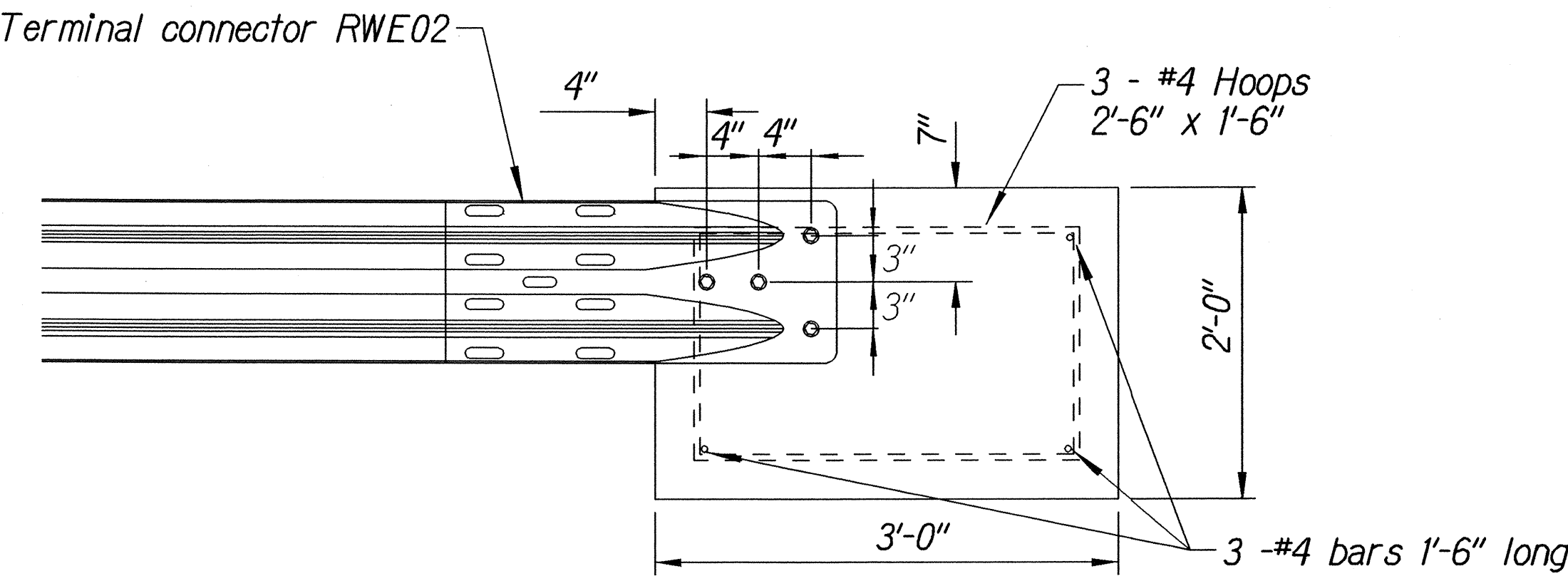
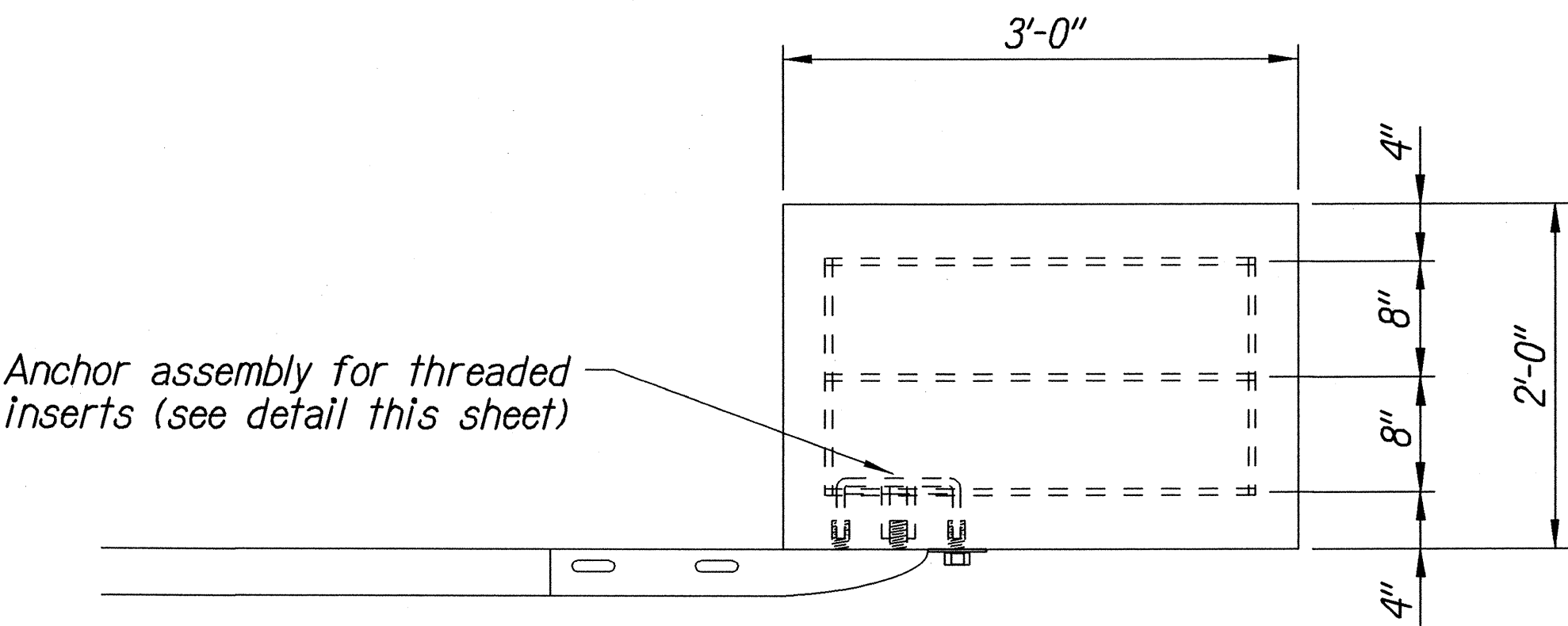
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	36AB-01-04M	2004	10	54



STEEL POST GUARDRAIL
WITH RUBRAIL



ANCHOR ASSEMBLY
CONCRETE BLOCK ANCHOR



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
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

r3/01/99 rdw:rdw/guardrail/cd4del.dgn (standard plan TE-58 07/01/86, TE-59 r11/03/89 & TE-60 07/01/86)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "A" FLARE
HANA HIGHWAY RESURFACING
Haleakala Highway to Hookipa Park
Project No. 36AB-01-04M
Scale: NTS Date: December, 2003

SHEET No. 3 OF 3 SHEETS