

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-16(002)	2014	15	54

GENERAL NOTES

- All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
- Where conditions require, special post lengths in increments of 6 inches may be specified.
- All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fastners, posts and rail elements have been converted from metric units into their present form.
- The Recycled Plastic Block or Offset Block shall be approved by the State.
- All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
- After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
- When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
- New A.C. pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
- Reflector Markers (RM-5) mounted on guardrails shall be spaced every 12.5 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system.
- Guardrail paint. See Note 27 on sheet C0.2.

GUARDRAIL TYPE	DIMENSION	
	H	A
Strong Post W-Beam	1'-9 ⁵ / ₈ "	1'-6"
Strong Post Rubrail (W-Beam)	2'-0"	1'-6"
Strong Post Thrie-Beam	1'-9 ⁵ / ₈ "	1'-6"
Strong Post Modified Thrie-Beam	2'-0"	2'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

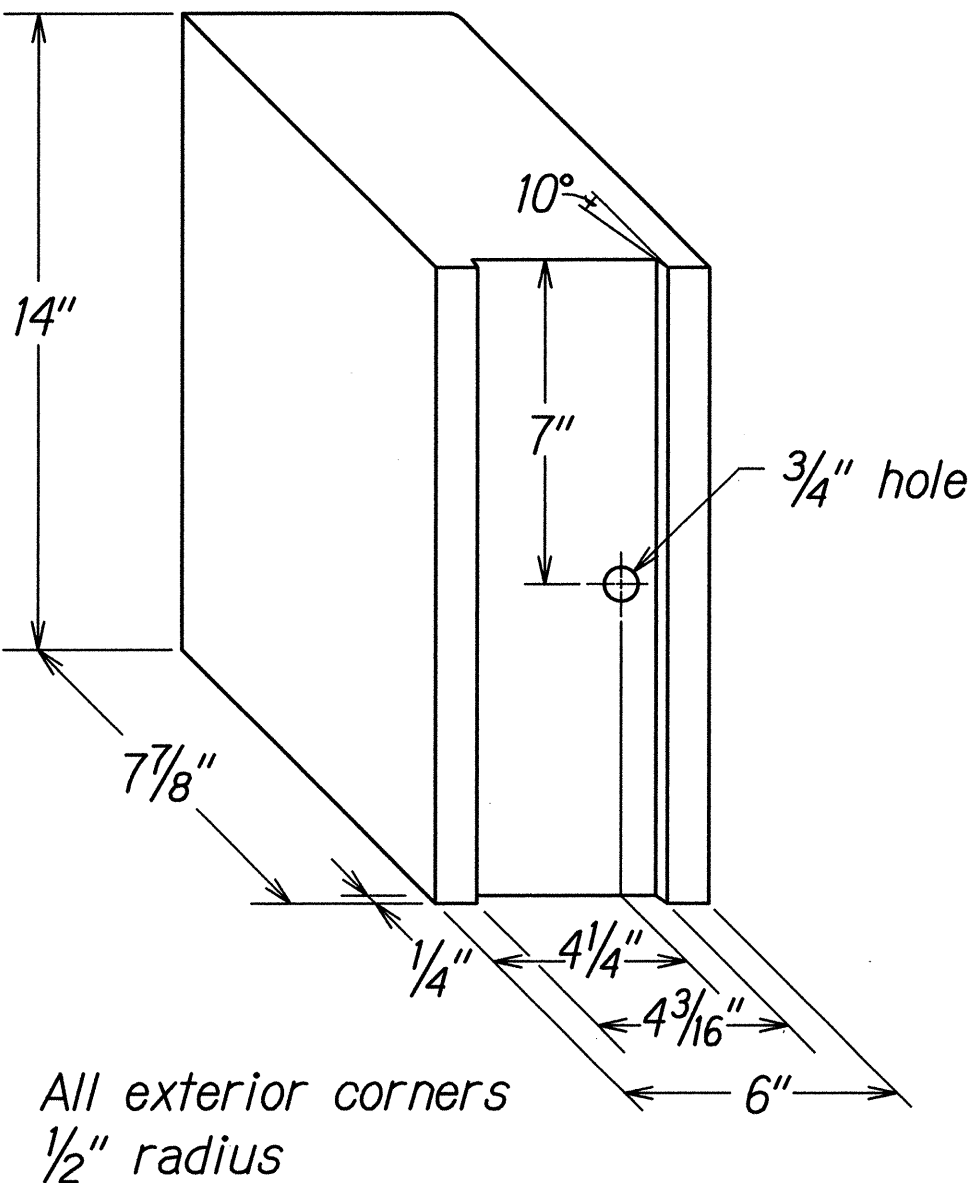
[Signature] 04/30/14
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

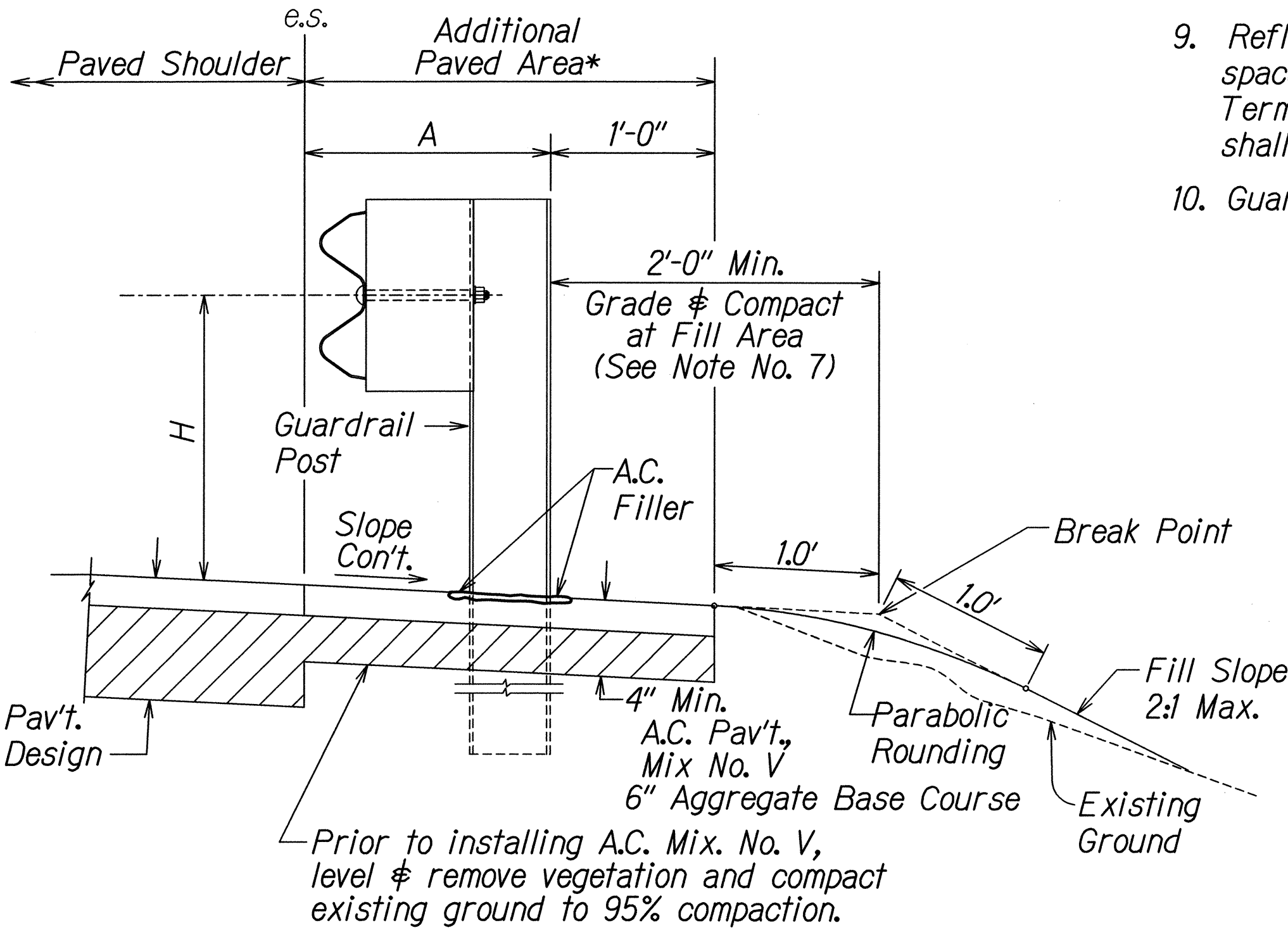
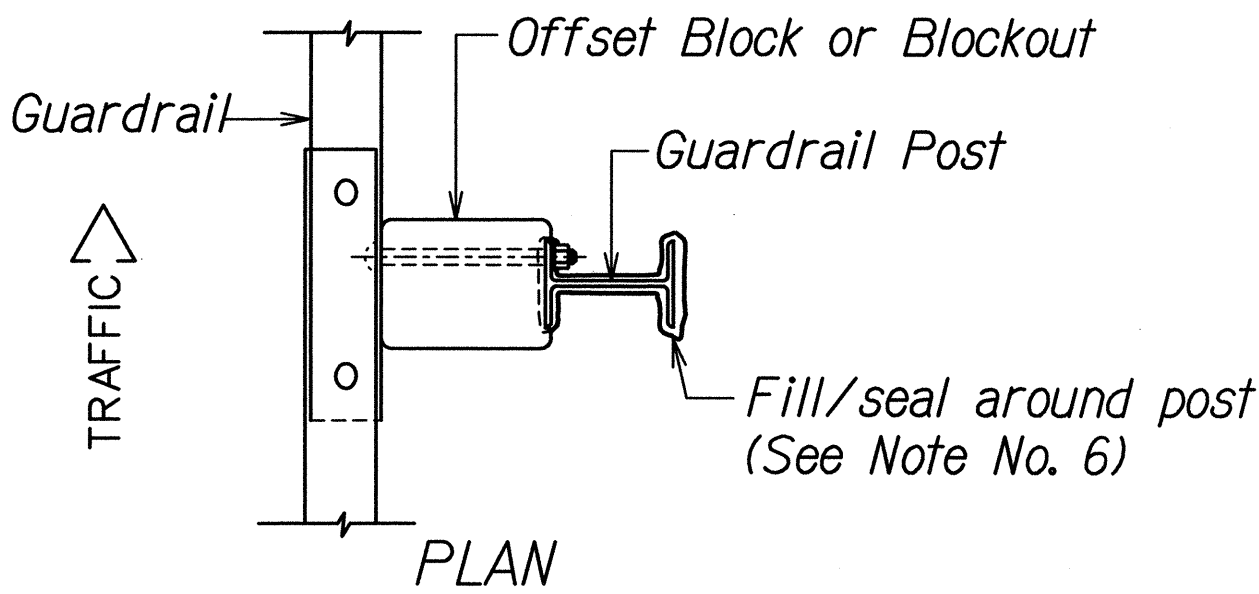
GUARDRAIL DETAILS & NOTES

KUHIO HIGHWAY (ROUTE 560)
EMERGENCY SLOPE STABILIZATION IN LUMAHI
IN THE VICINITY OF M.P. 5.1 TO 5.3
Fed. Aid Proj. No. ER-16(002)

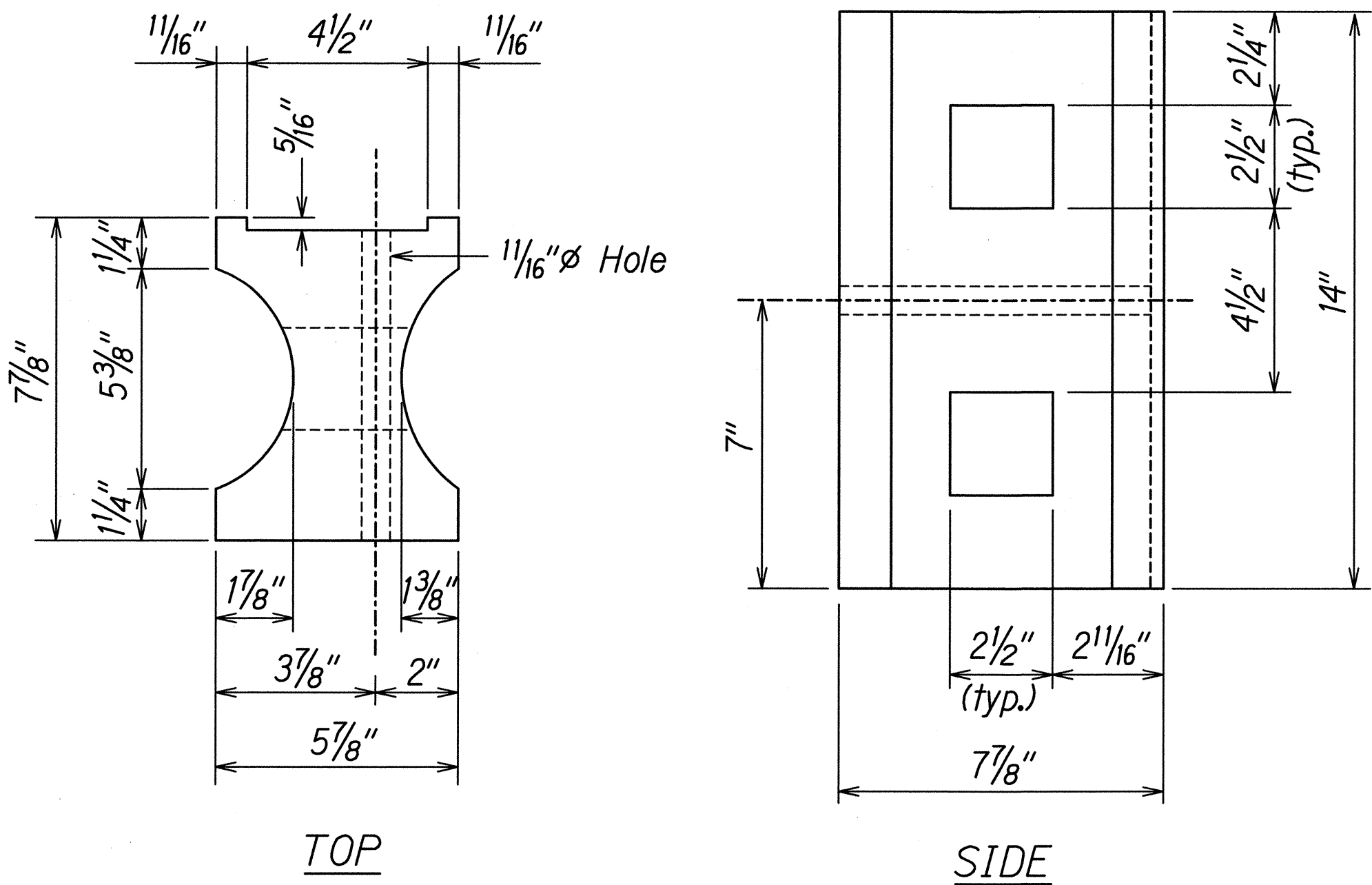
Scale: None Date: Oct. 25, 2013



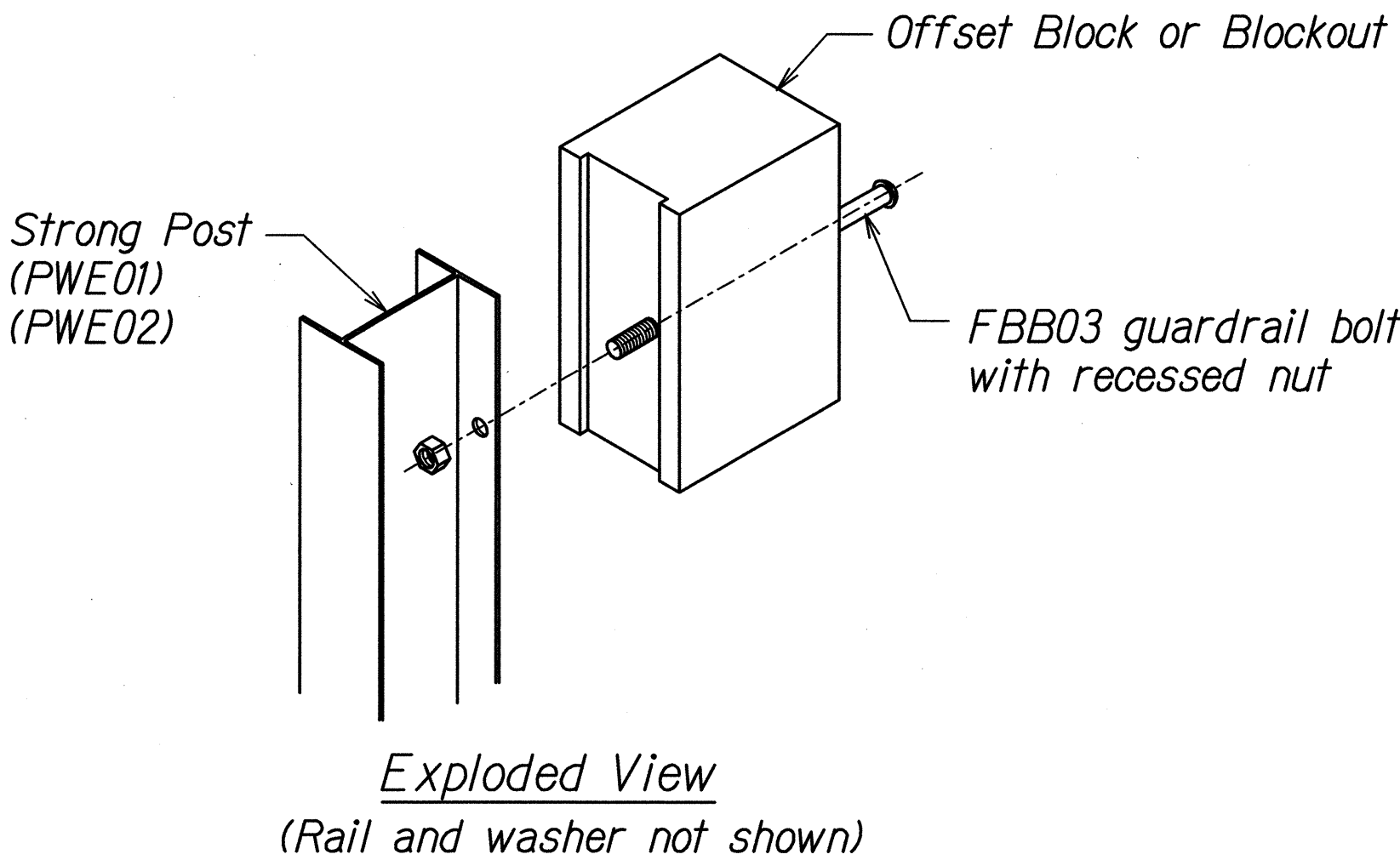
RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)



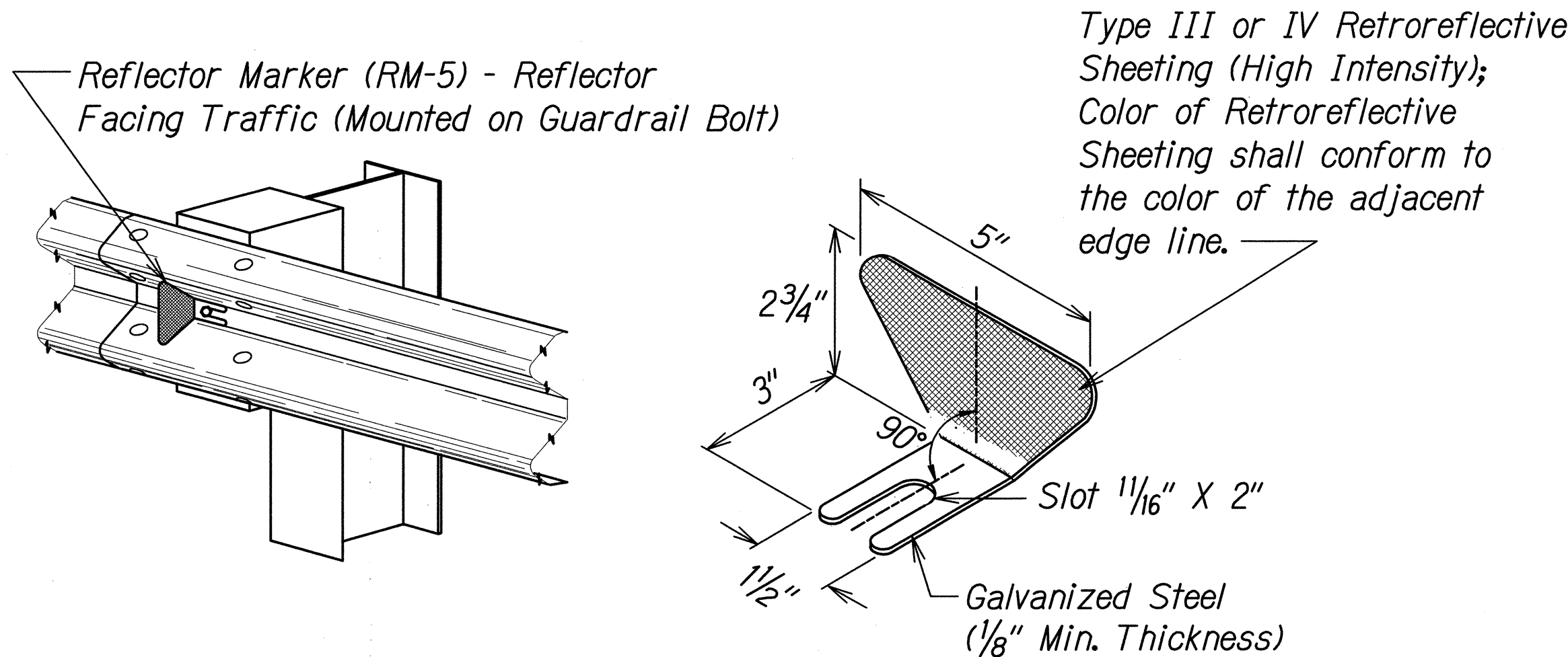
TYPICAL GUARDRAIL INSTALLATION



RECYCLED PLASTIC BLOCKOUT (TYPE I)



STEEL POST AND BLOCK DETAIL

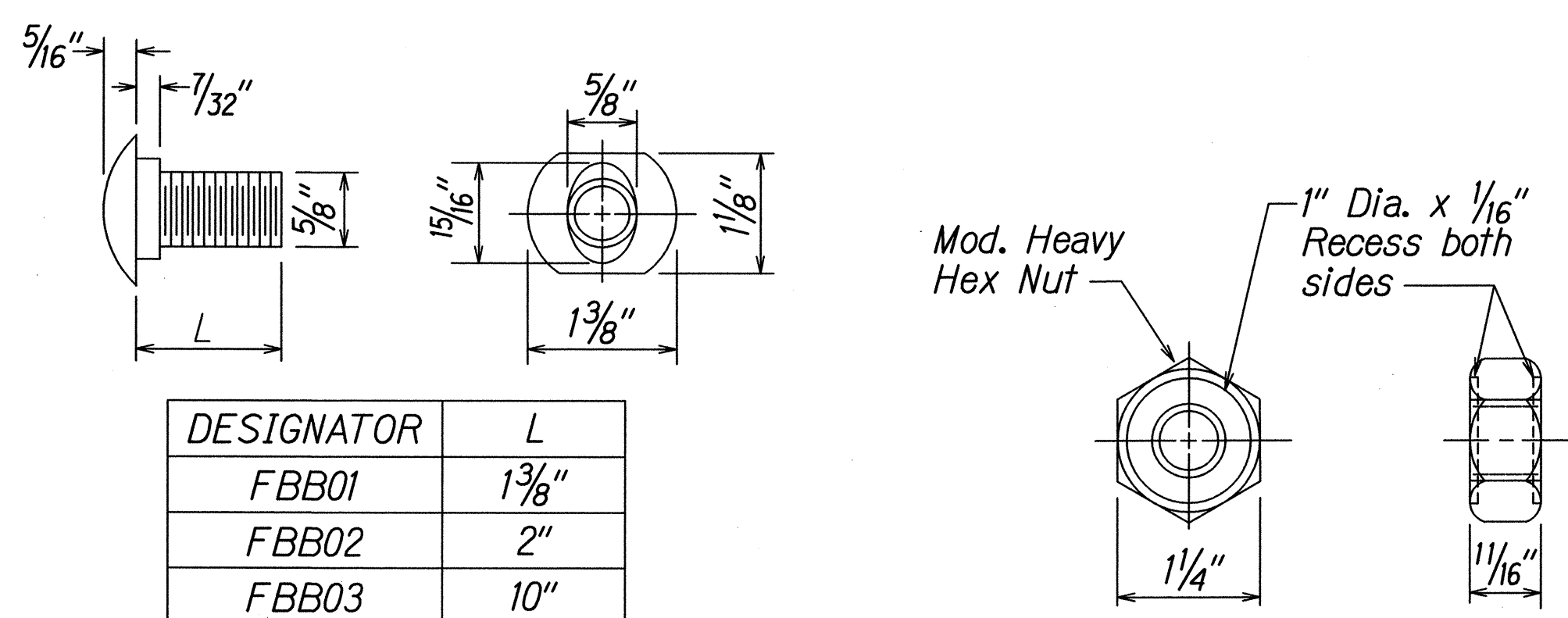
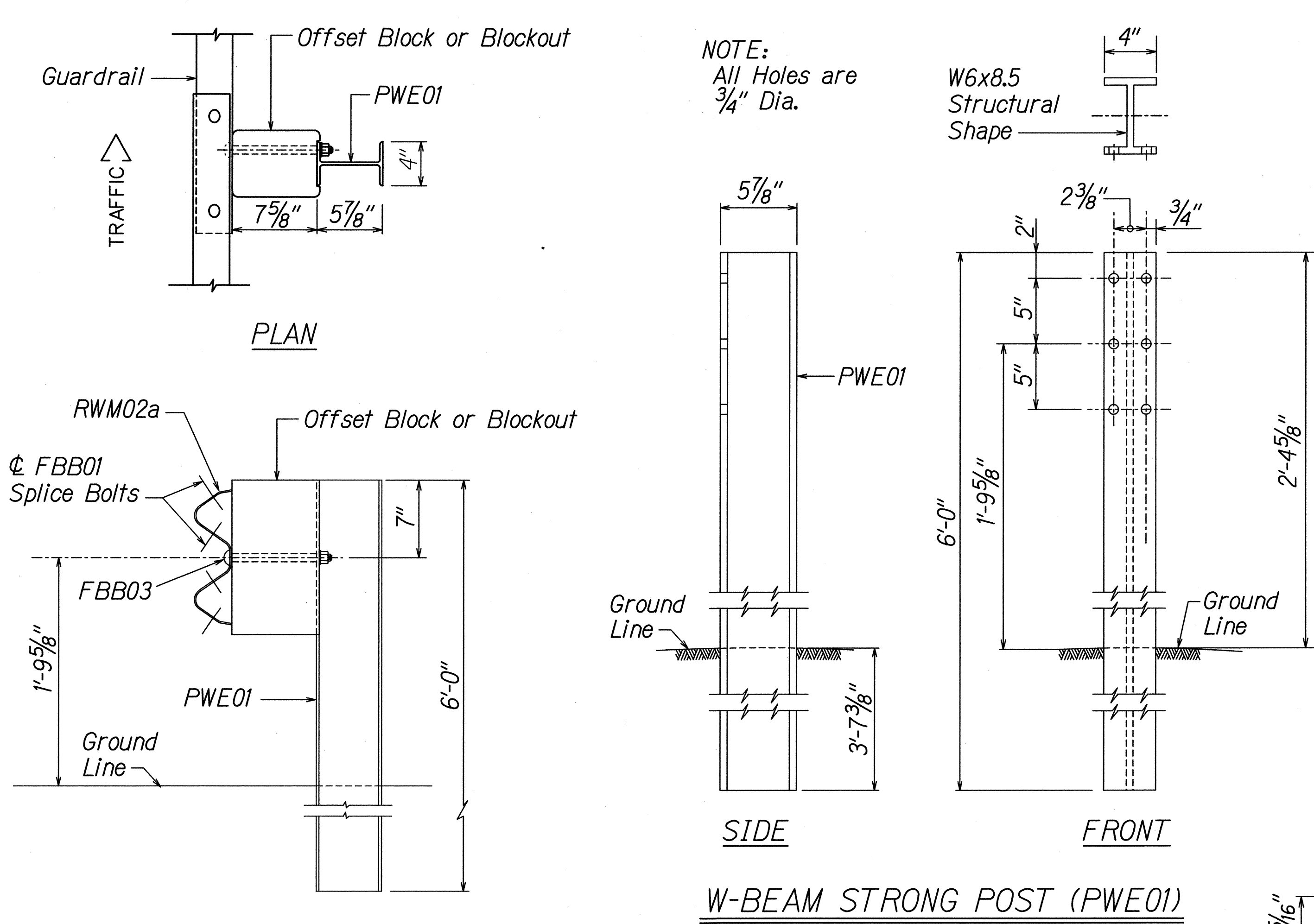


REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION

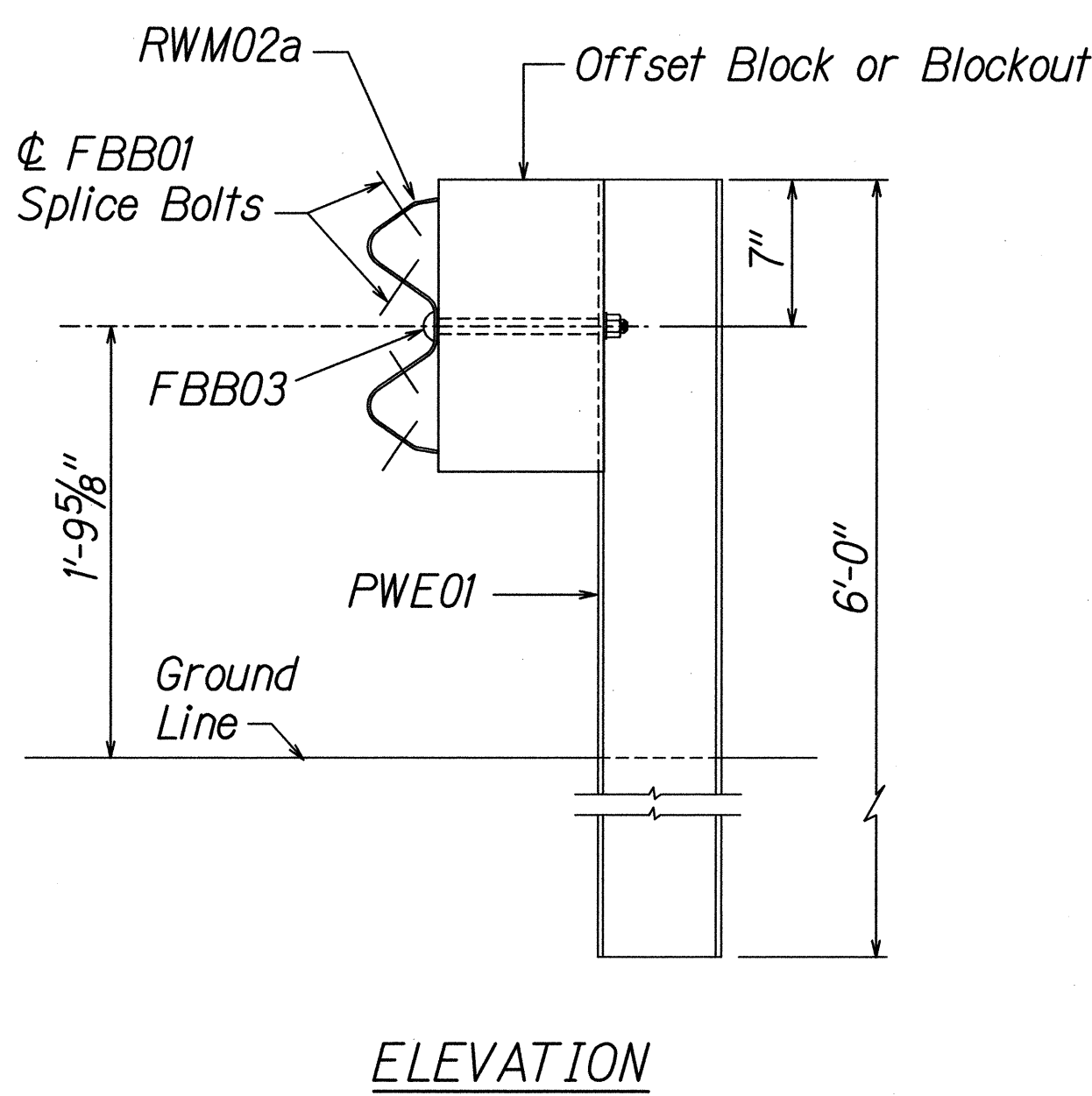
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NA	

T:\16524A\Lumahal\CADD\Phase 3\Sheets\GRI_1650rev_Bldgn

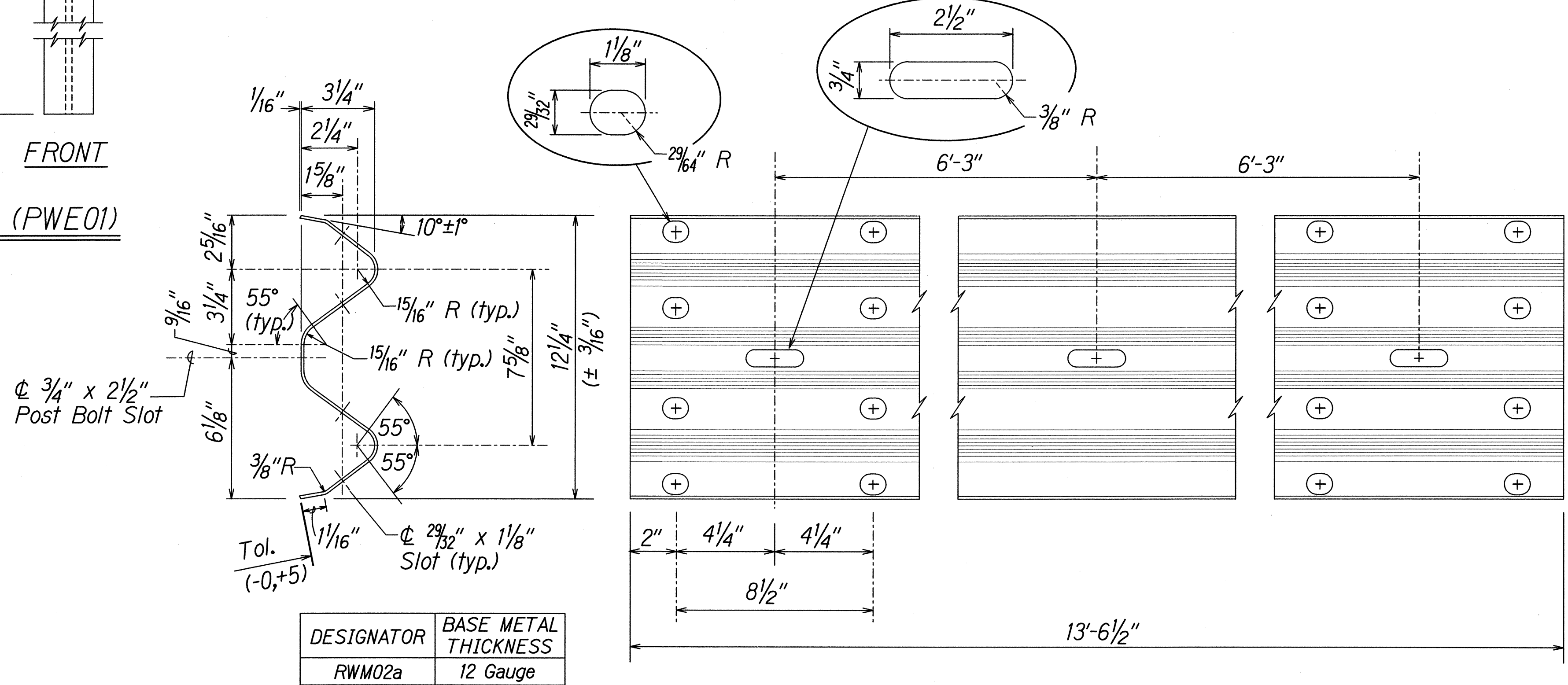
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-16(002)	2014	17	54



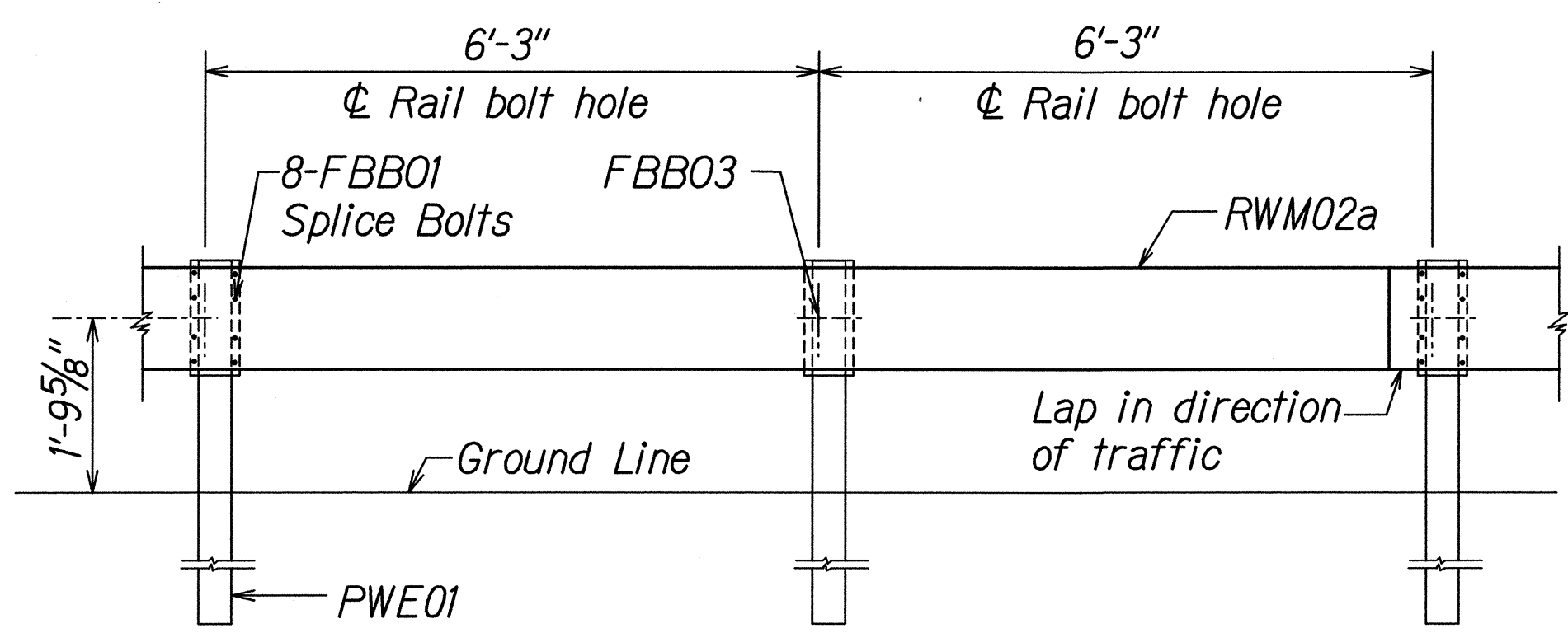
GUARDRAIL BOLTS AND RECESSED NUT



STRONG POST W-BEAM GUARDRAIL (SGR04a)



2 SPACE W-BEAM GUARDRAIL (RWM02a)



STRONG POST W-BEAM GUARDRAIL WITH RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
DATE	

T:\16524A\Lumhai\CAD\Phase 3\Sheets\GR4_wbeamsp_b2.dgn

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *Pamela K. Uyeda* 04/30/14 EXPIRATION DATE OF THE LICENSE

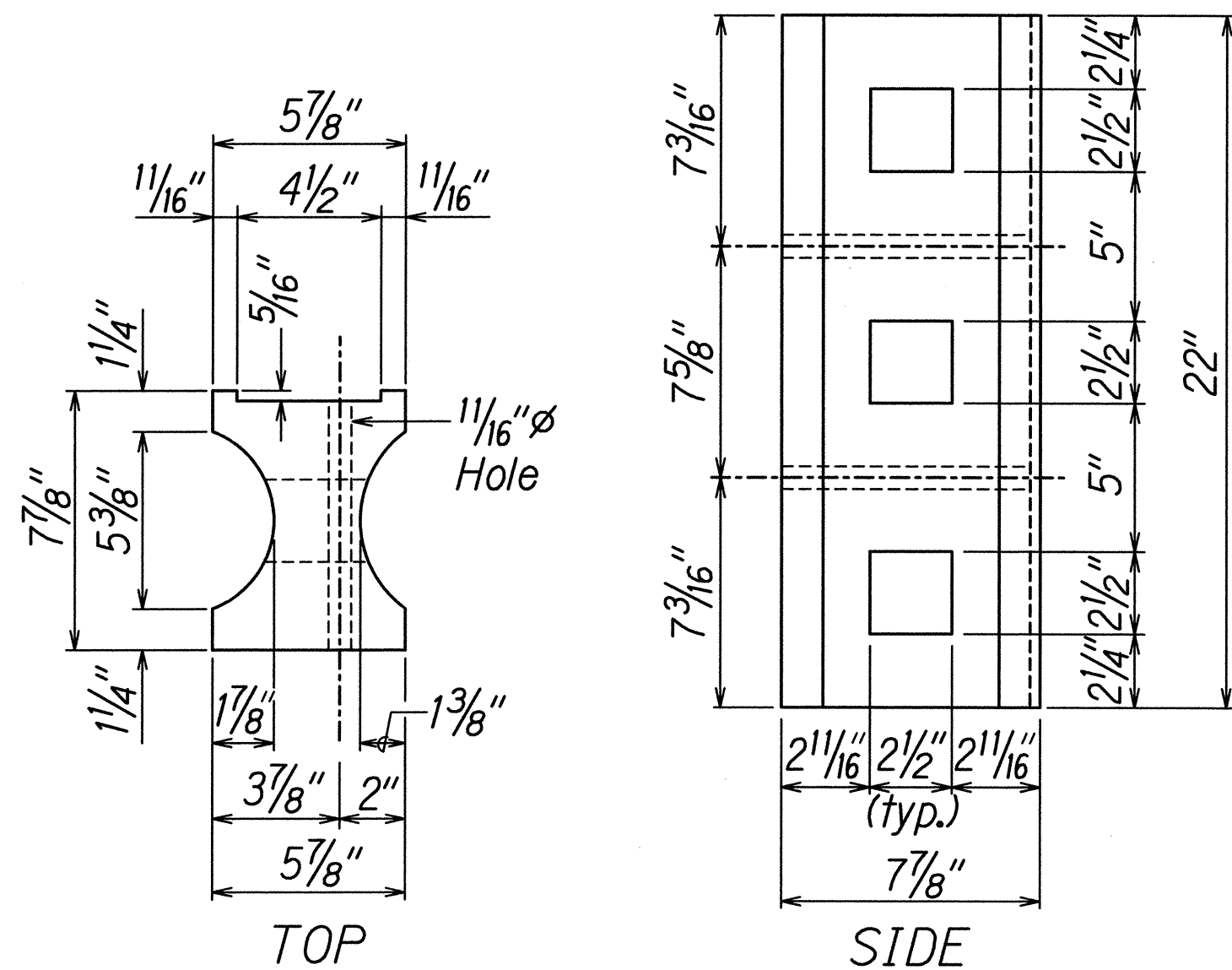
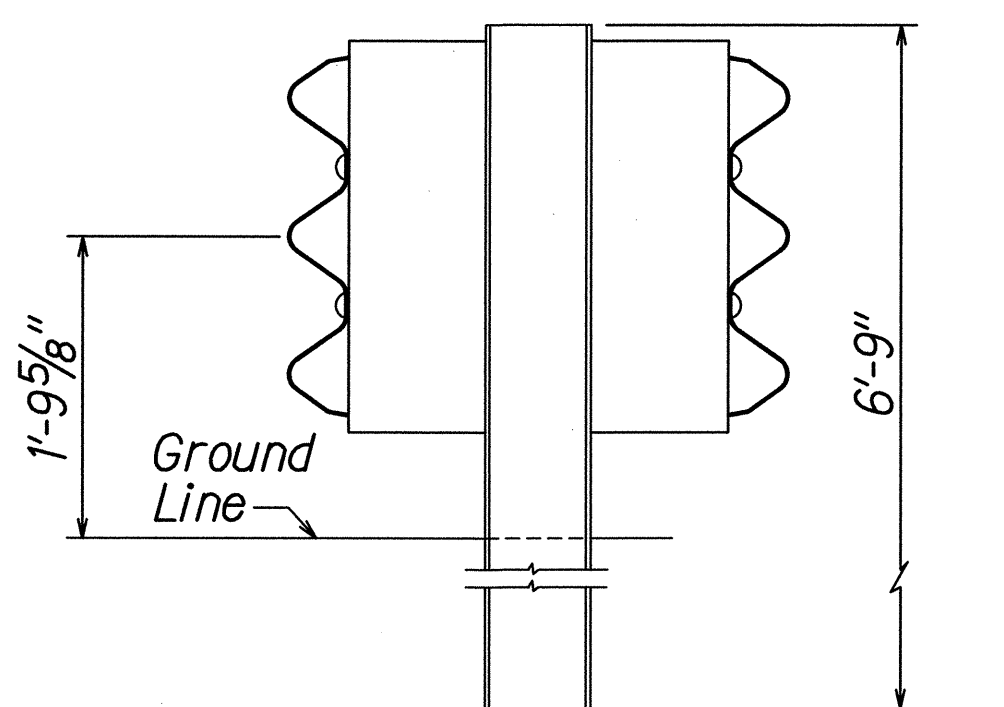
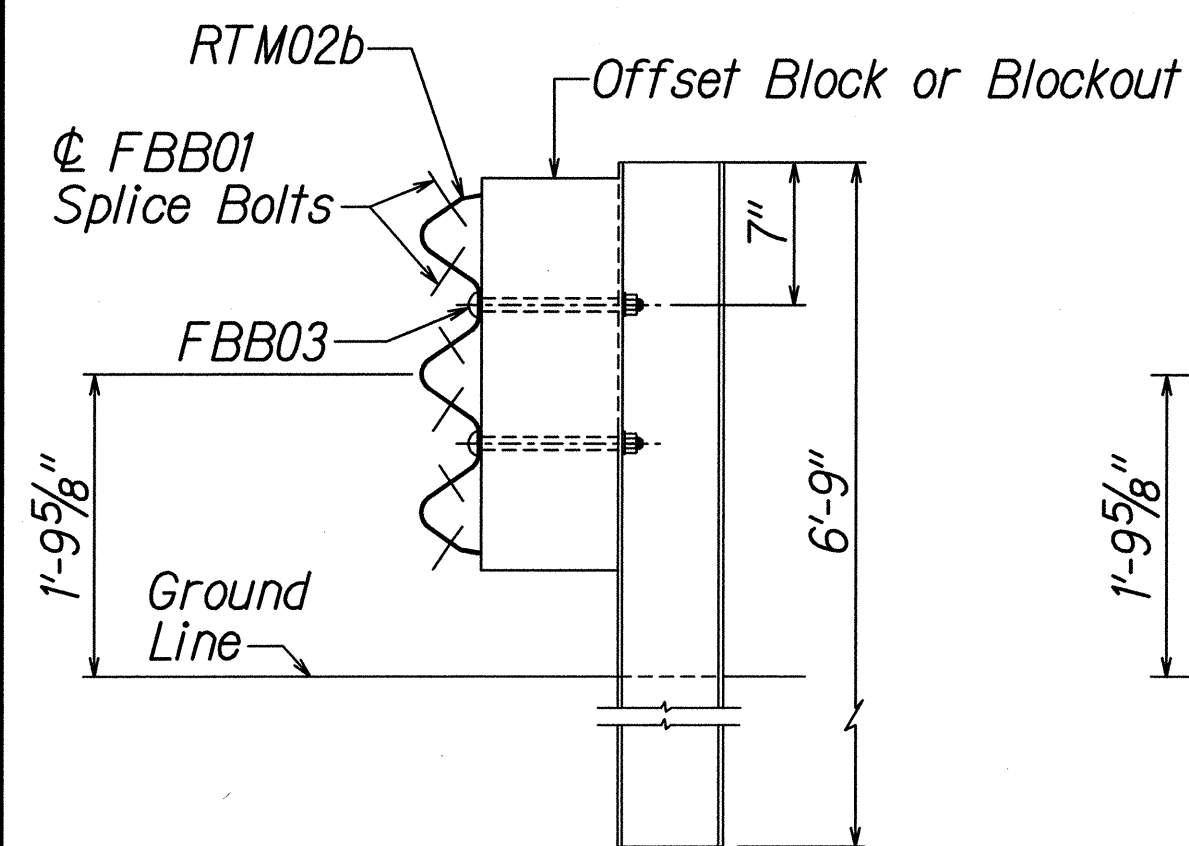
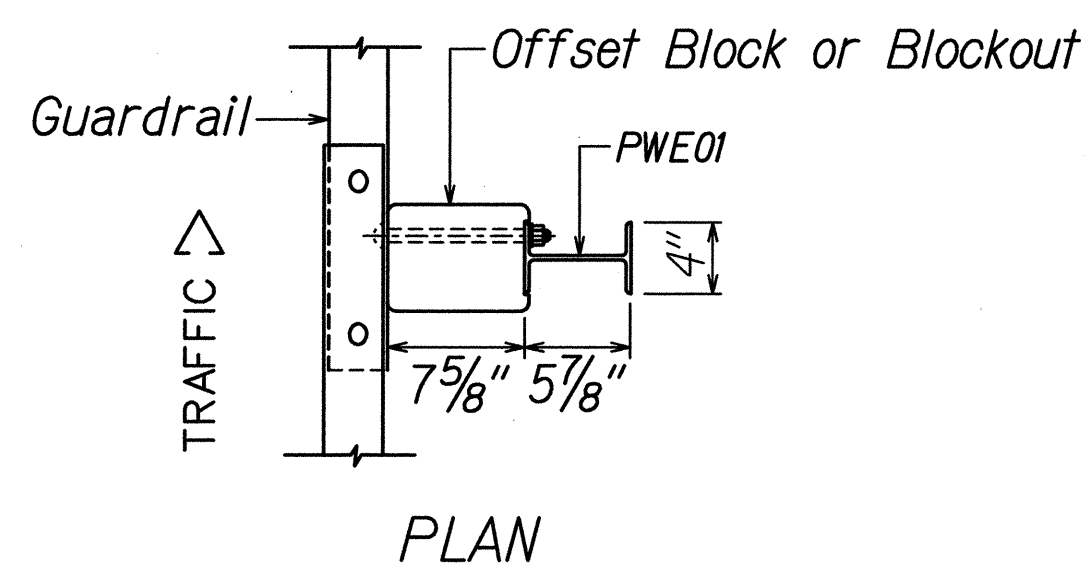
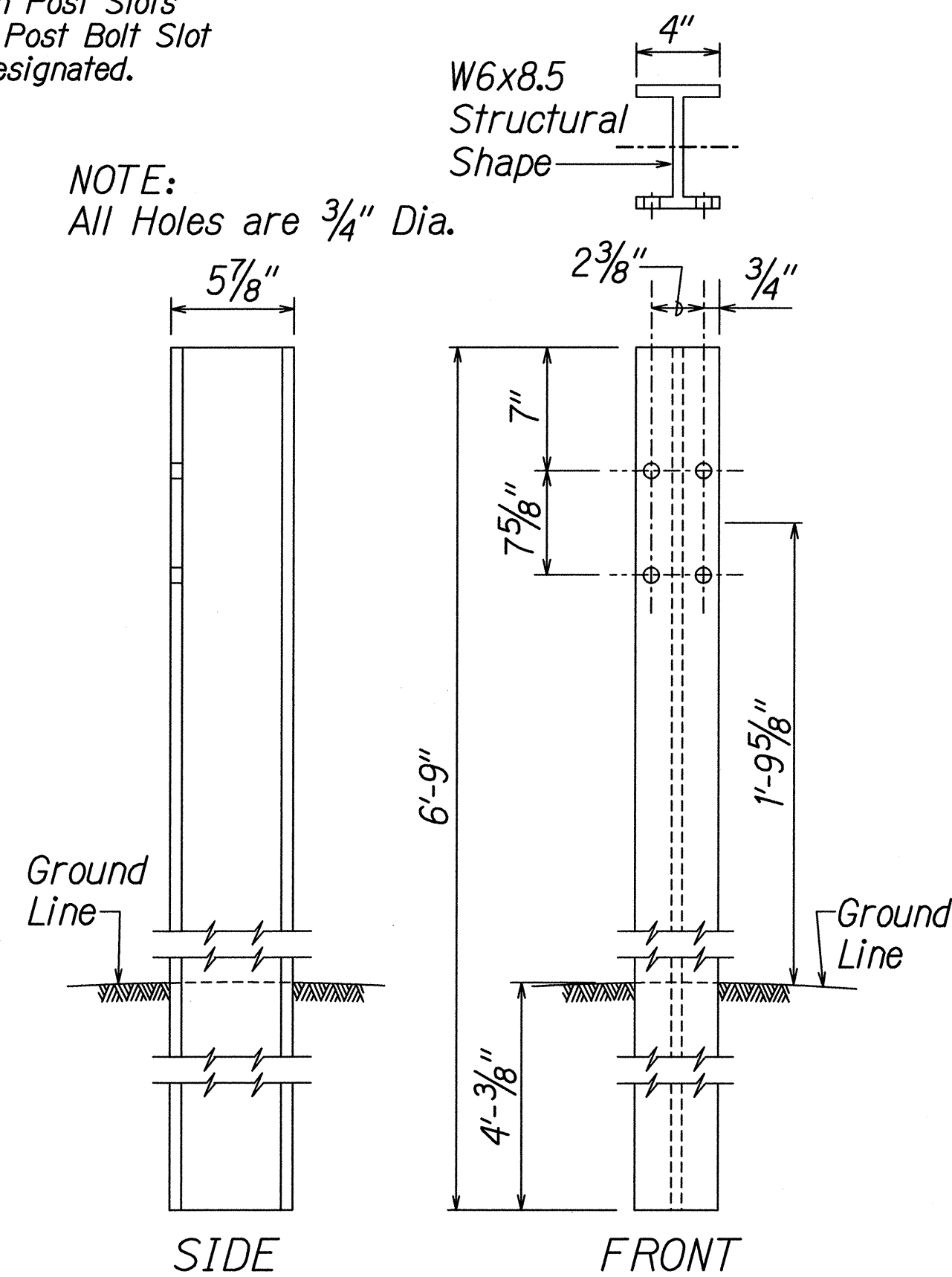
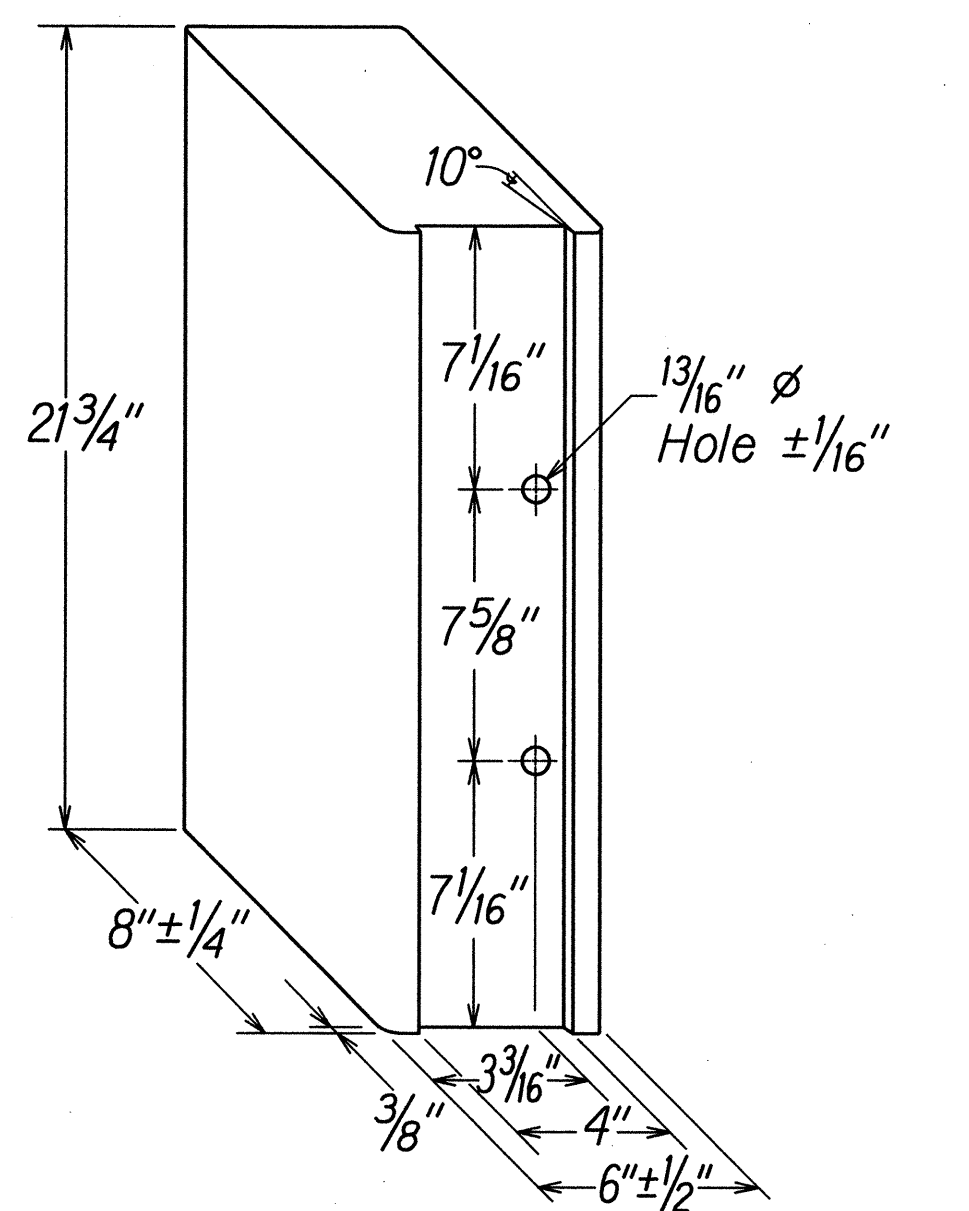
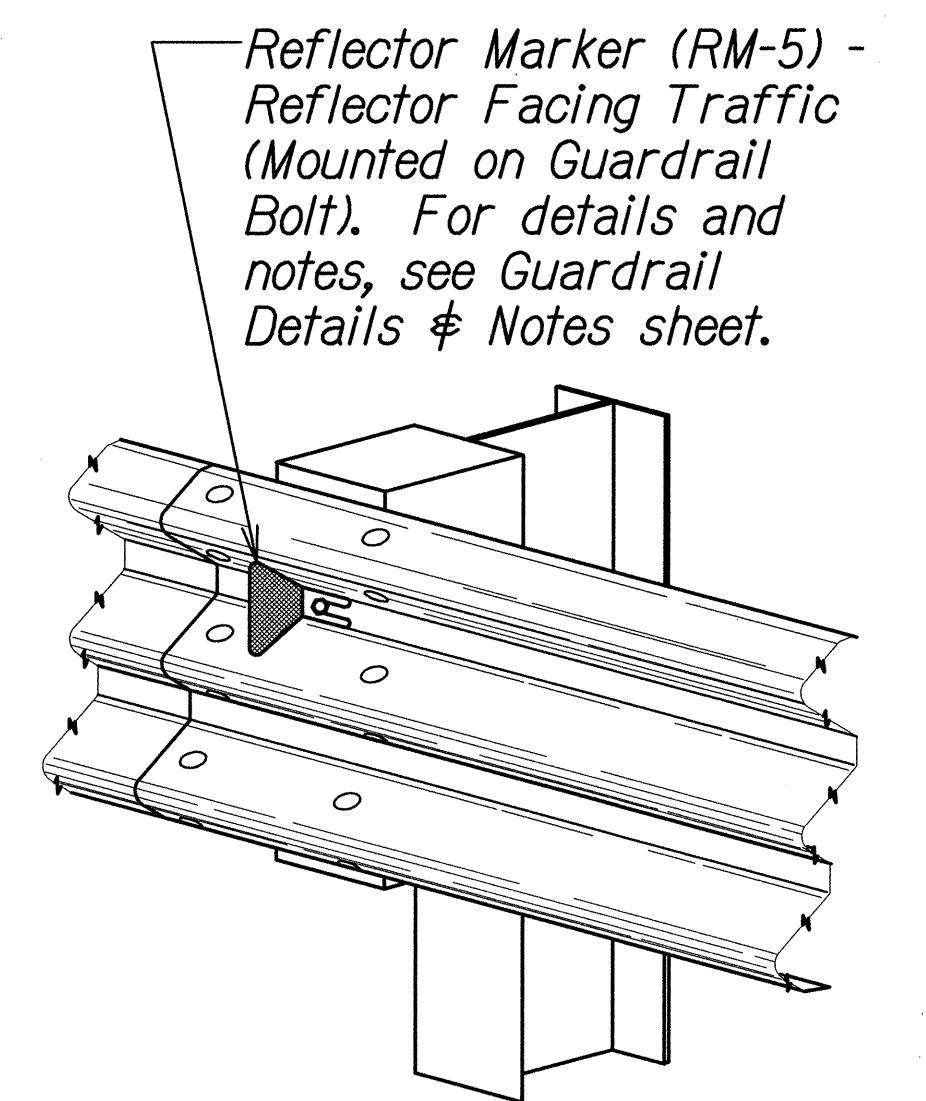
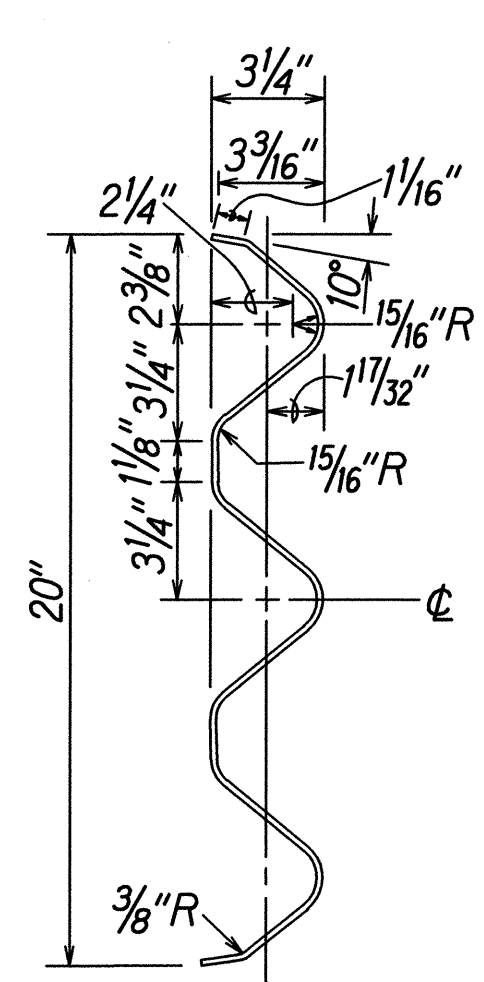
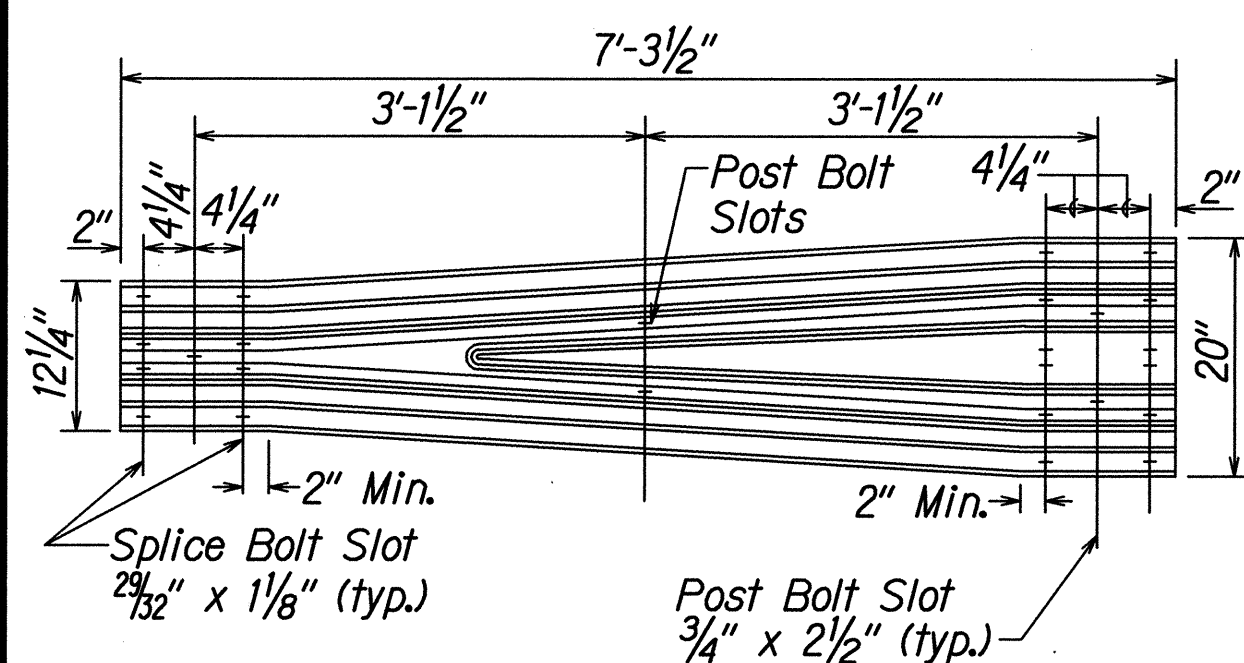
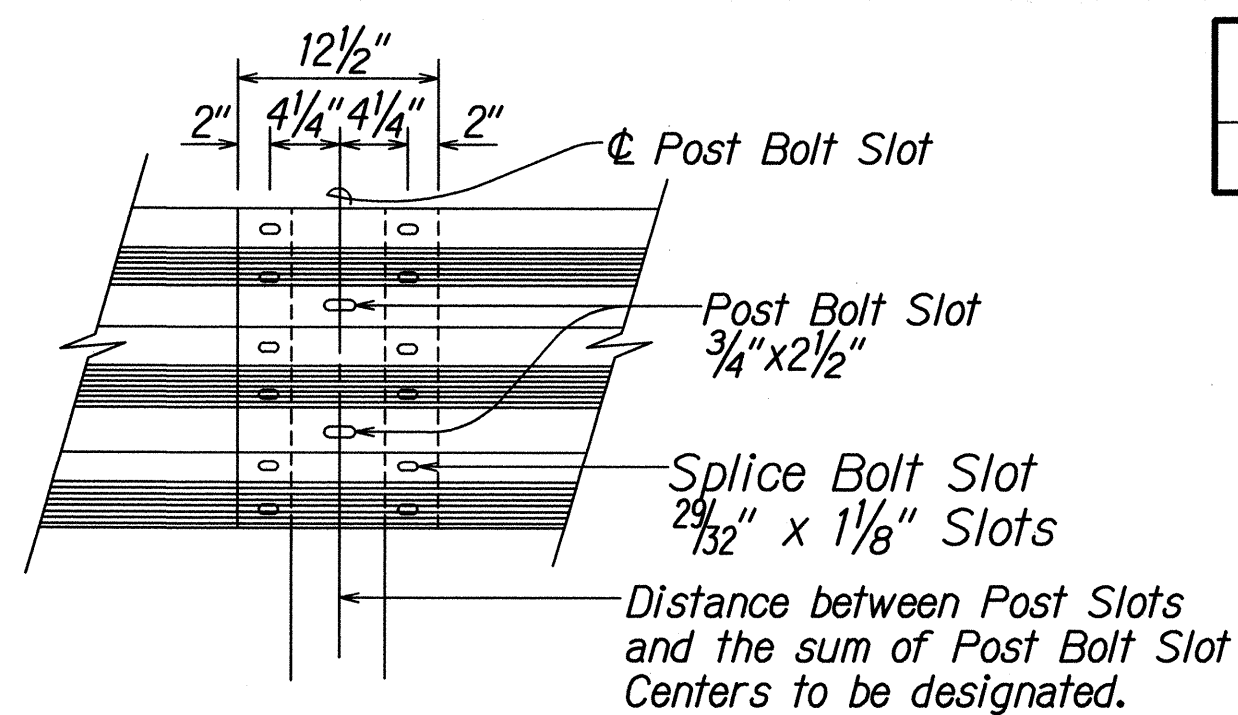
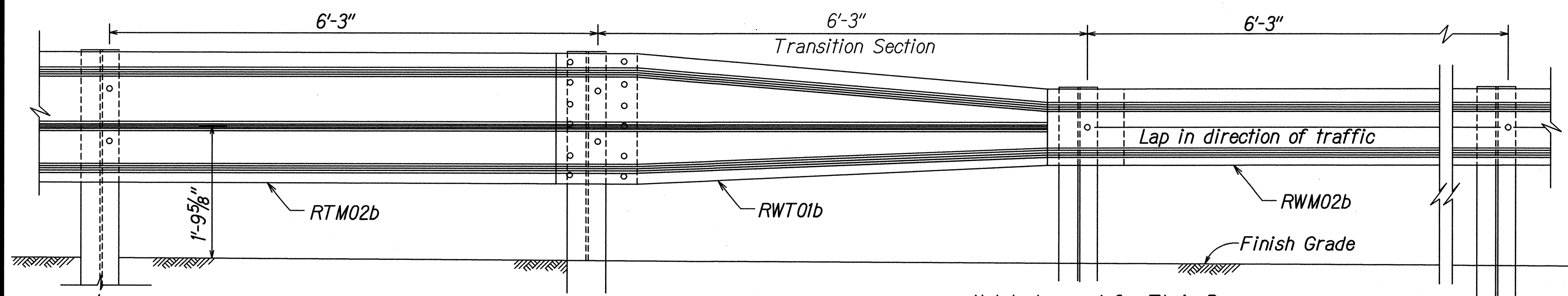
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST W-BEAM GUARDRAIL

KUHIO HIGHWAY (ROUTE 560)
EMERGENCY SLOPE STABILIZATION IN LUMAHAI
IN THE VICINITY OF M.P. 5.1 TO 5.3
Fed. Aid Proj. No. ER-16(002)

Scale: None Date: Oct. 25, 2013

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-16(002)	2014	18	54



DATE: _____

DESIGNED BY: _____

CHECKED BY: _____

NO. _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STRONG POST
THRIE-BEAM GUARDRAIL**

KUHIO HIGHWAY (ROUTE 560)
EMERGENCY SLOPE STABILIZATION IN LUMAHAI
IN THE VICINITY OF M.P. 5.1 TO 5.3
Fed. Aid Proj. No. ER-16(002)

Scale: None Date: Oct. 25, 2013

SHEET No. C210 OF 10 SHEETS