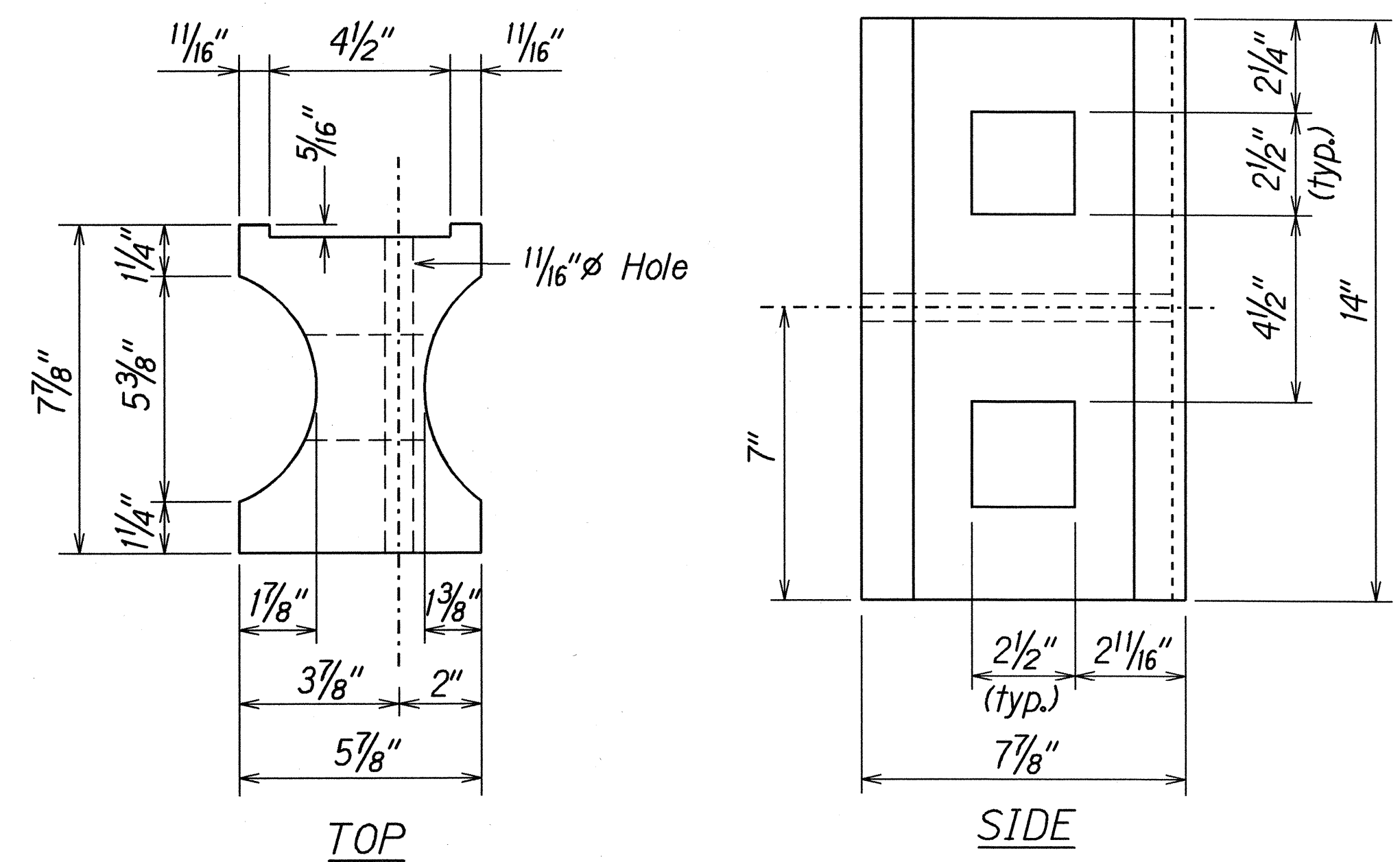
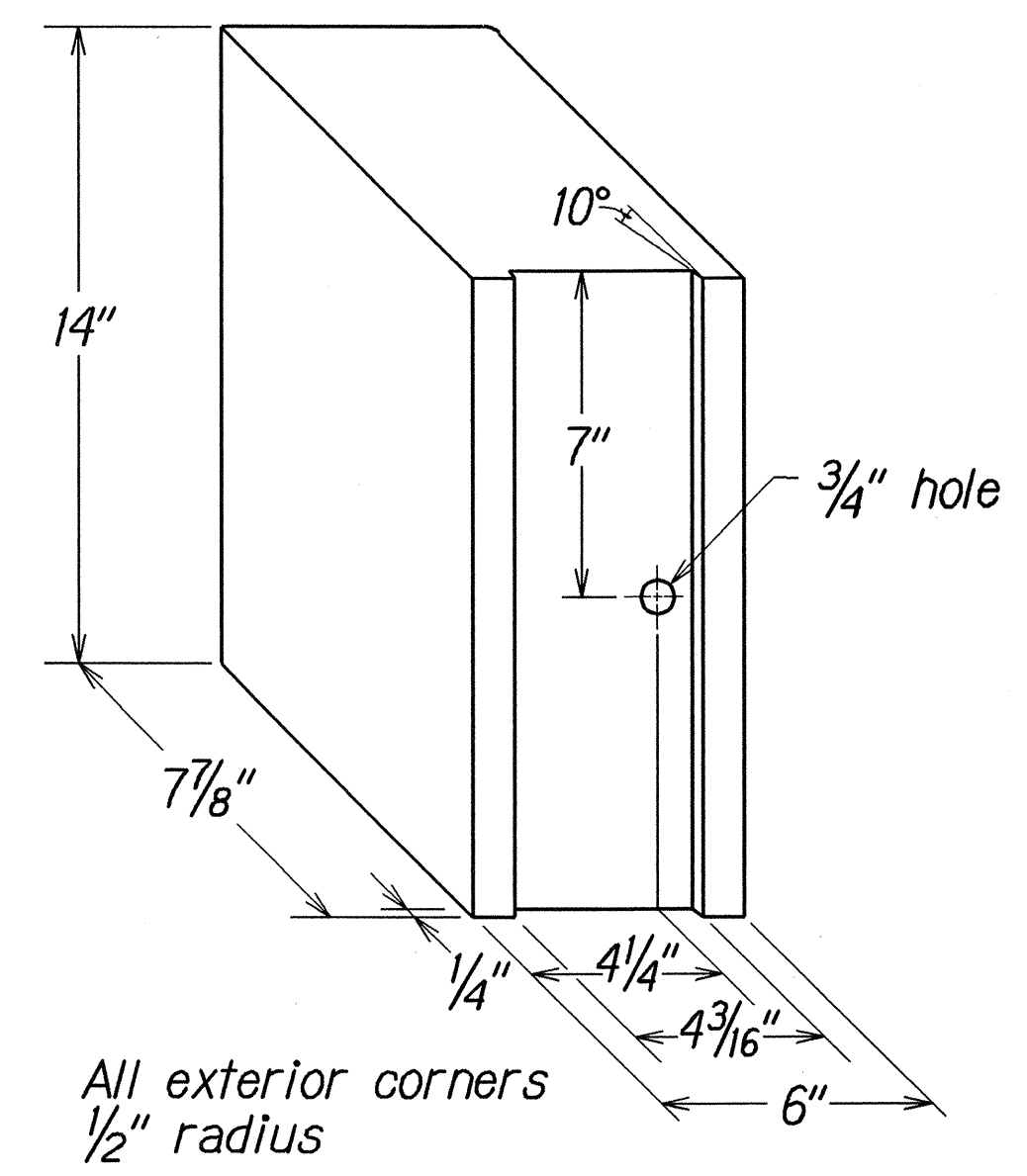


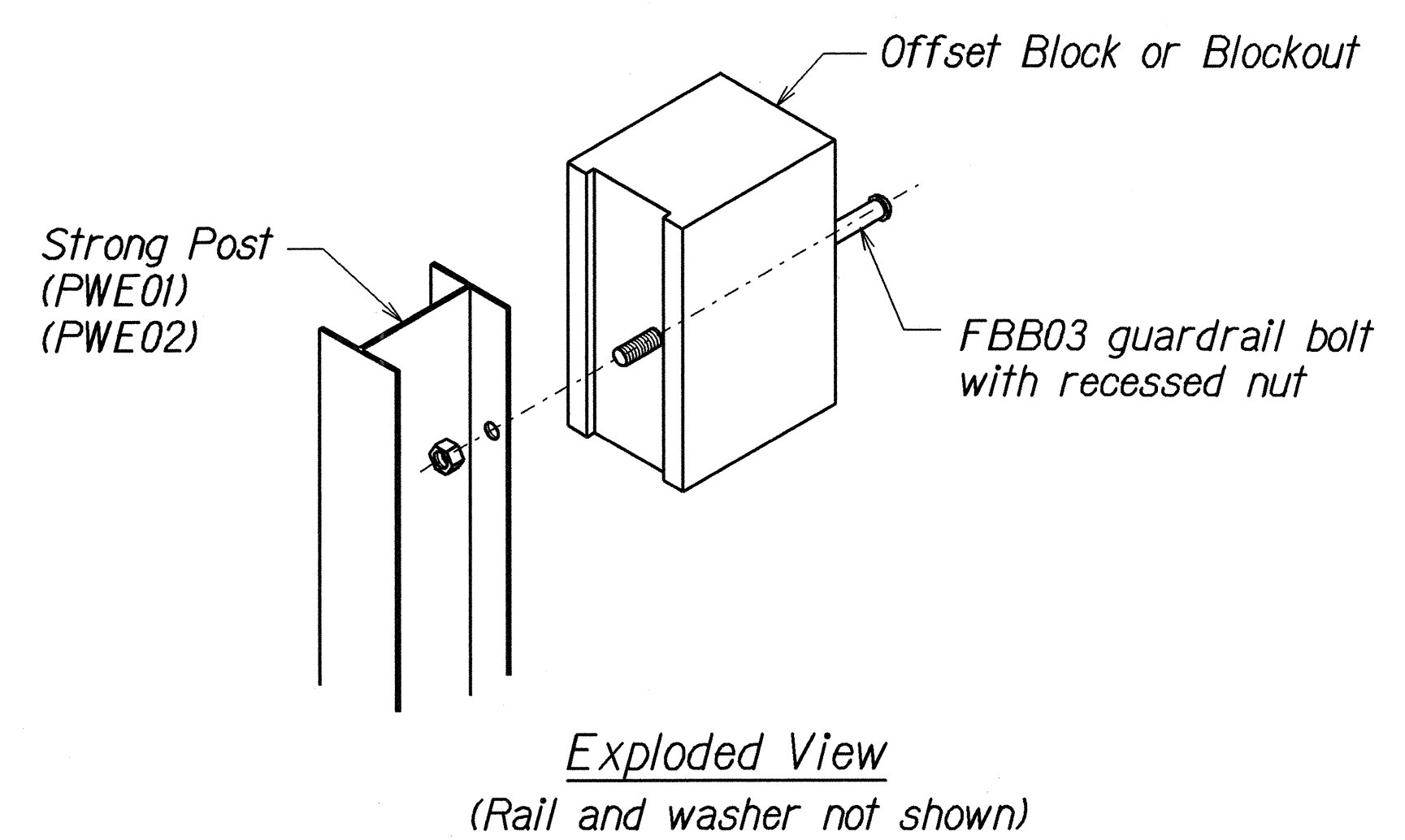
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-01-05M	2006	33	106



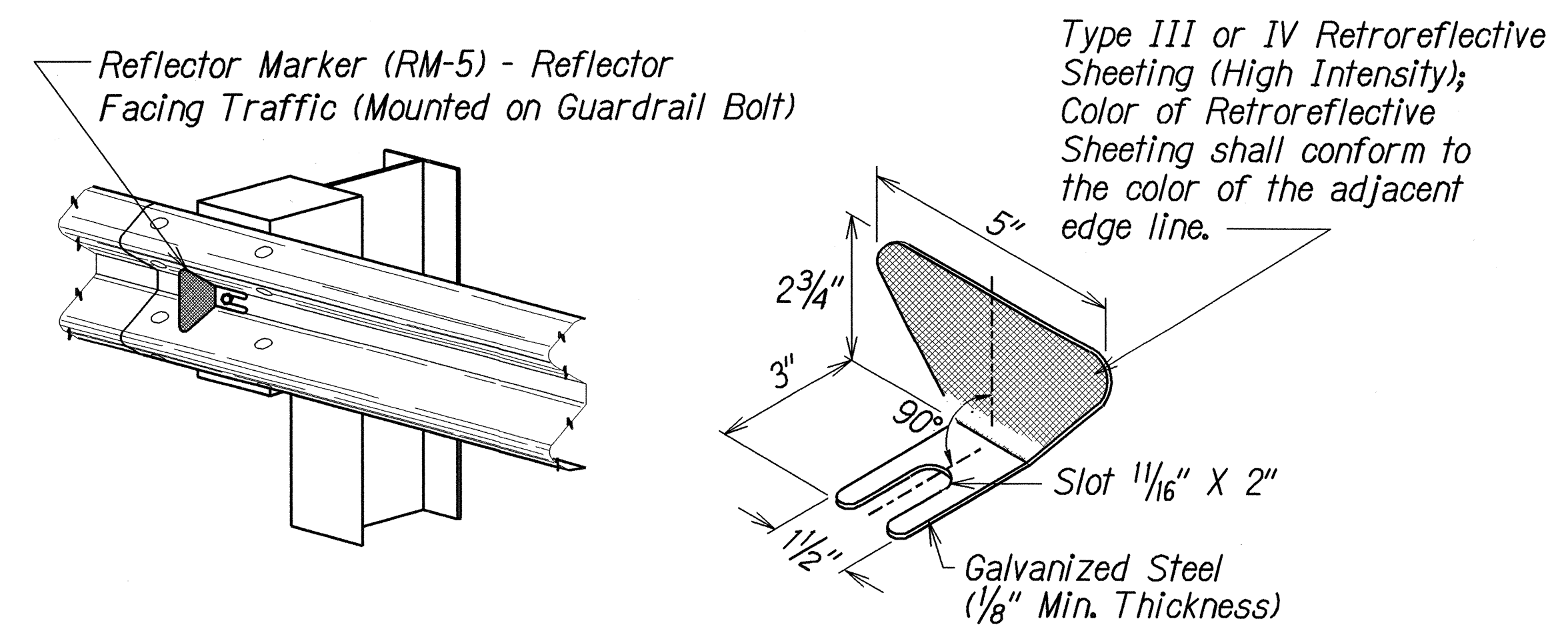
TOP
RECYCLED PLASTIC BLOCKOUT (TYPE I)



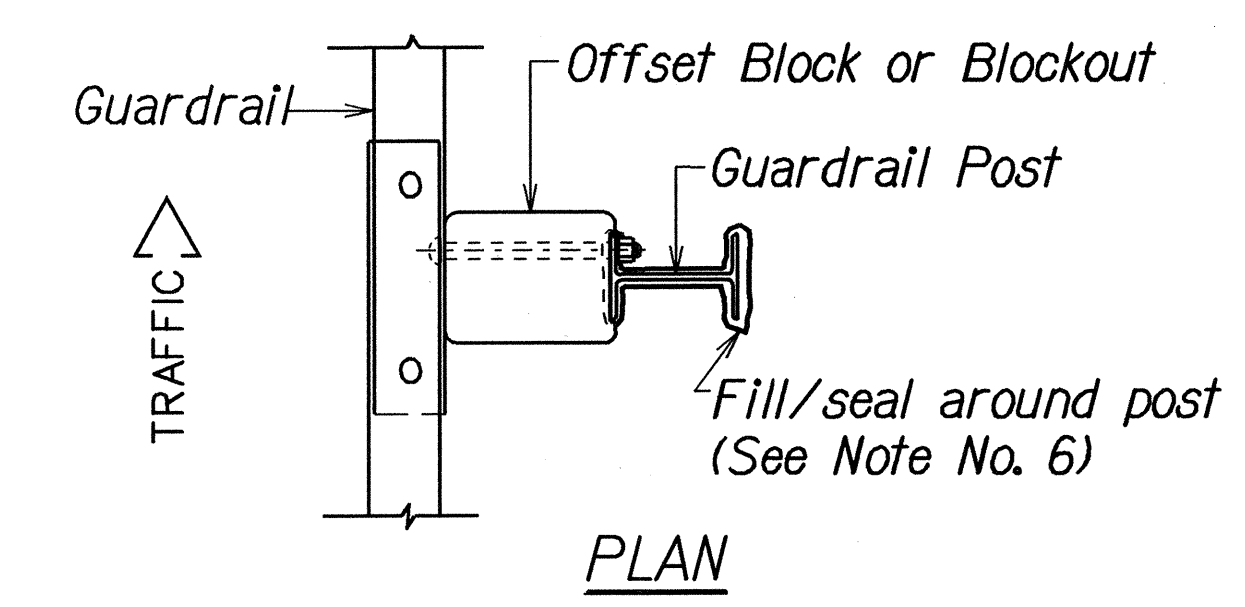
RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)



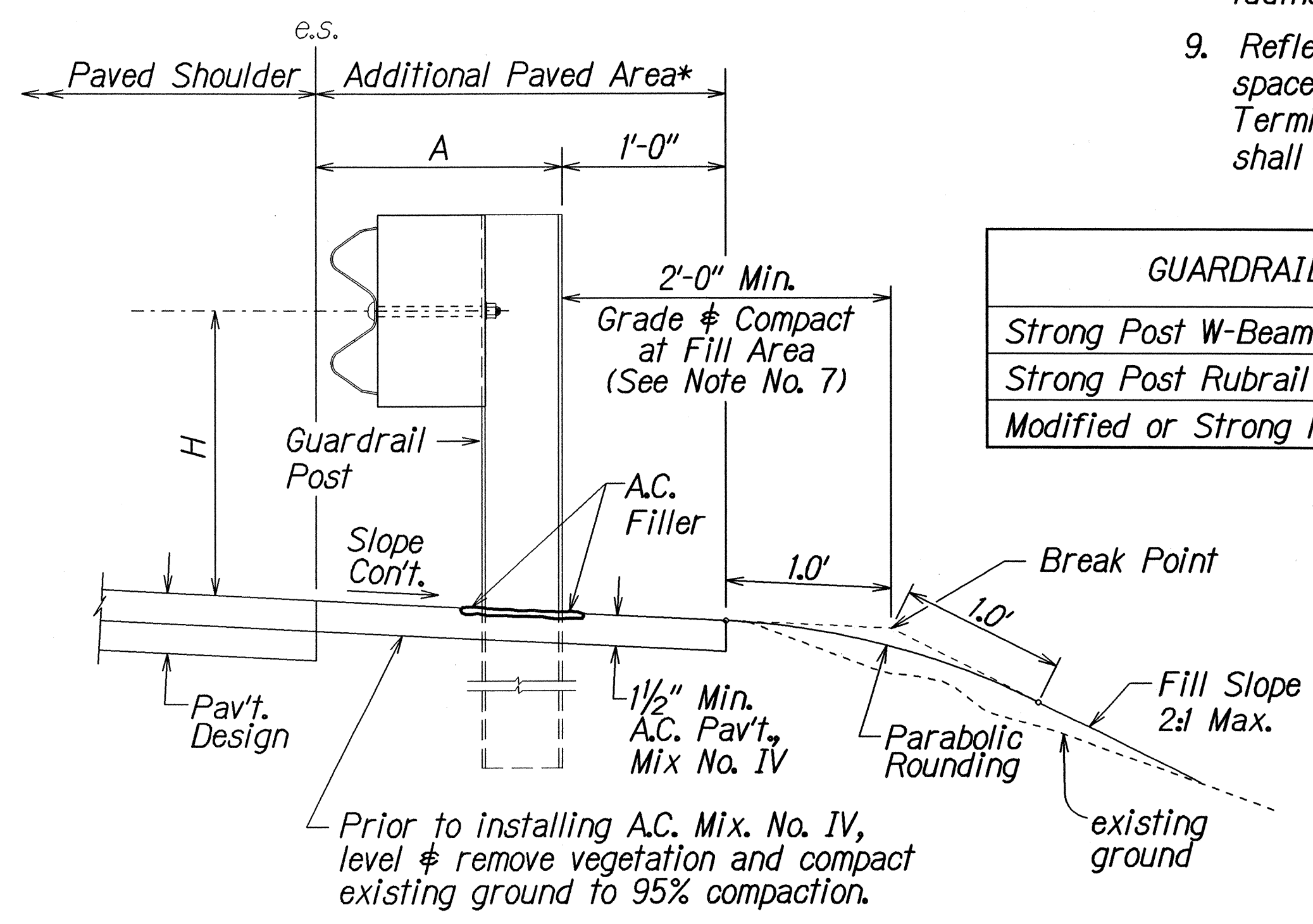
STEEL POST AND BLOCK DETAIL



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION



PLAN



ELEVATION

TYPICAL GUARDRAIL INSTALLATION

GENERAL NOTES

1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified.
3. 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.
4. The Recycled Plastic Block or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. 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.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. New A.C. pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
9. Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 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.

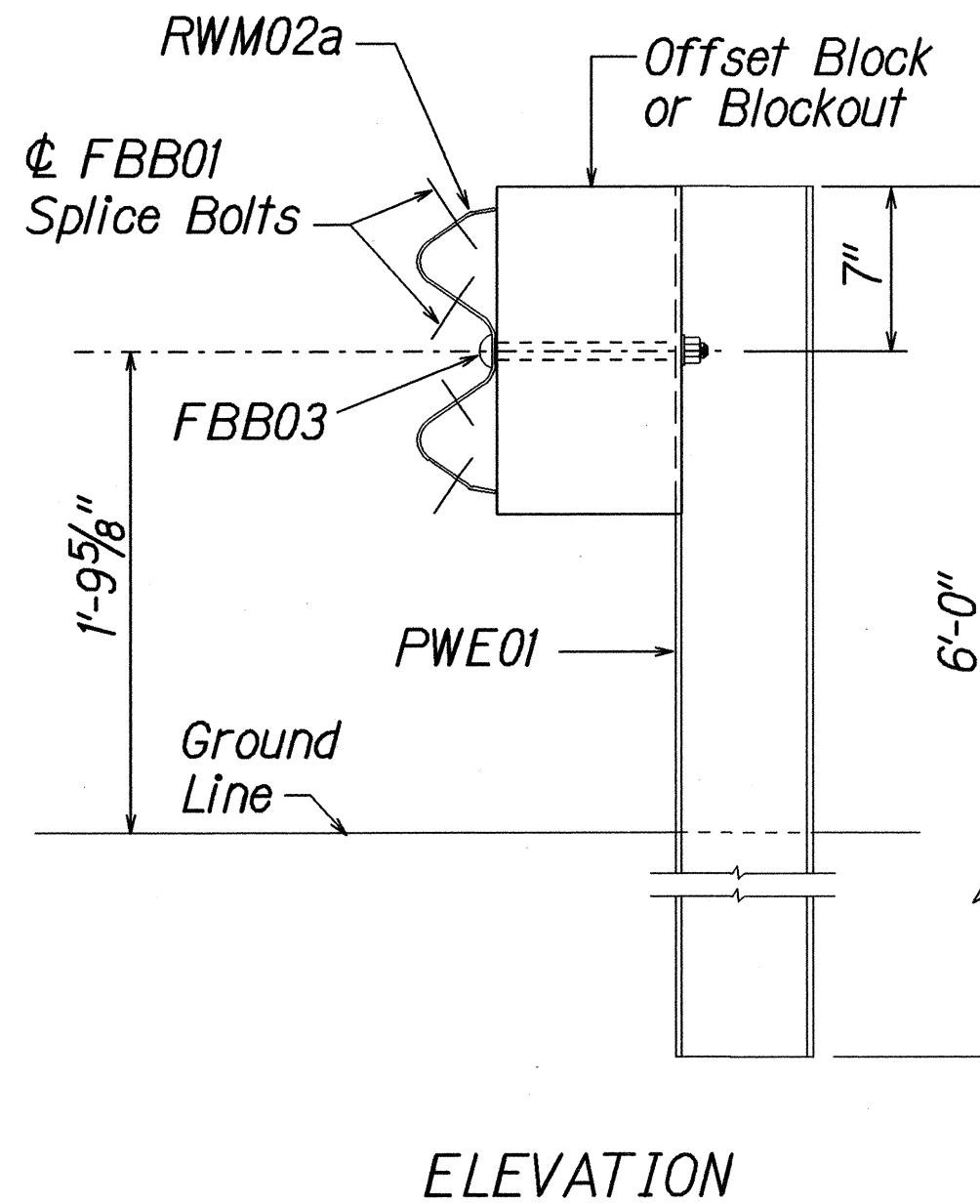
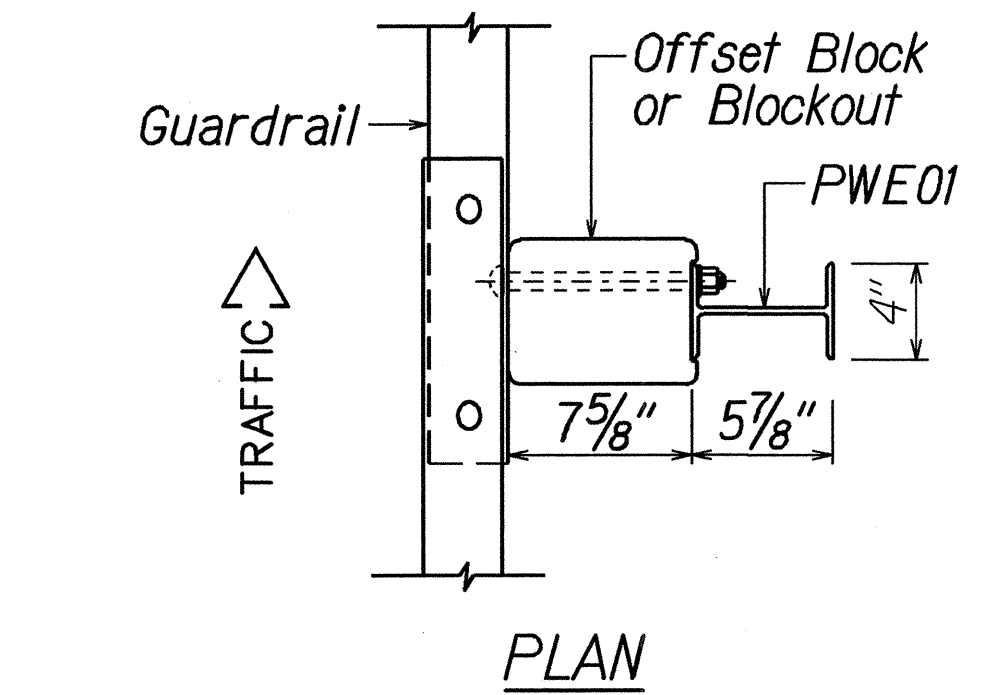
GUARDRAIL TYPE	DIMENSION	
	H	A
Strong Post W-Beam	1'-9 5/8"	1'-6"
Strong Post Rubrail (W-Beam)	2'-0"	1'-6"
Modified or Strong Post Thrie Beam	2'-0"	2'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

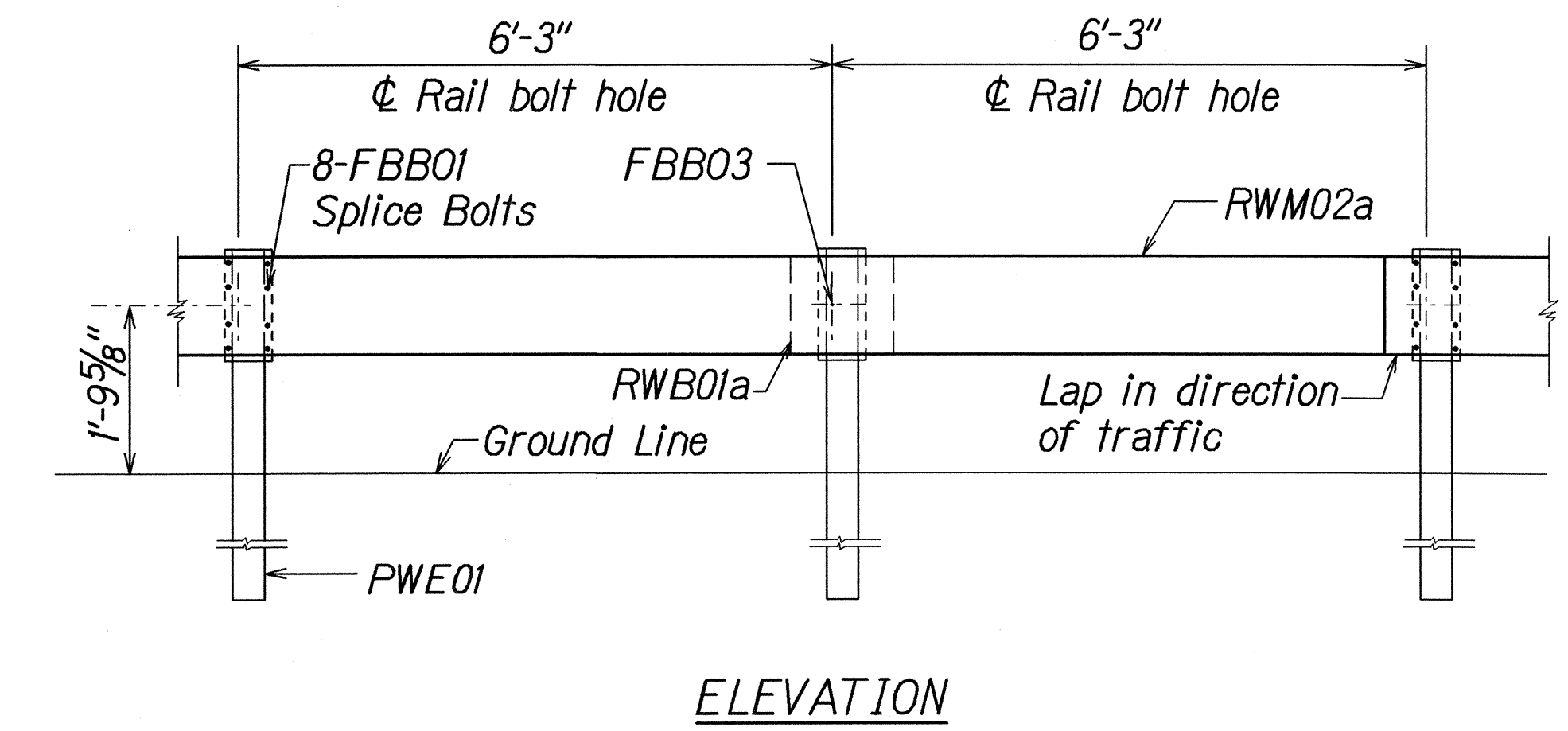
GUARDRAIL DETAILS & NOTES
AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-O-01-05M
Scale: NTS Date: June, 2005
SHEET No. 1 OF 12 SHEETS

SURVEY PLOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
DATE: _____
12/23/03 tdr/rubby/guardrail/rev50revdgn (standard plan TE-50-r09-01/00)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	34	106

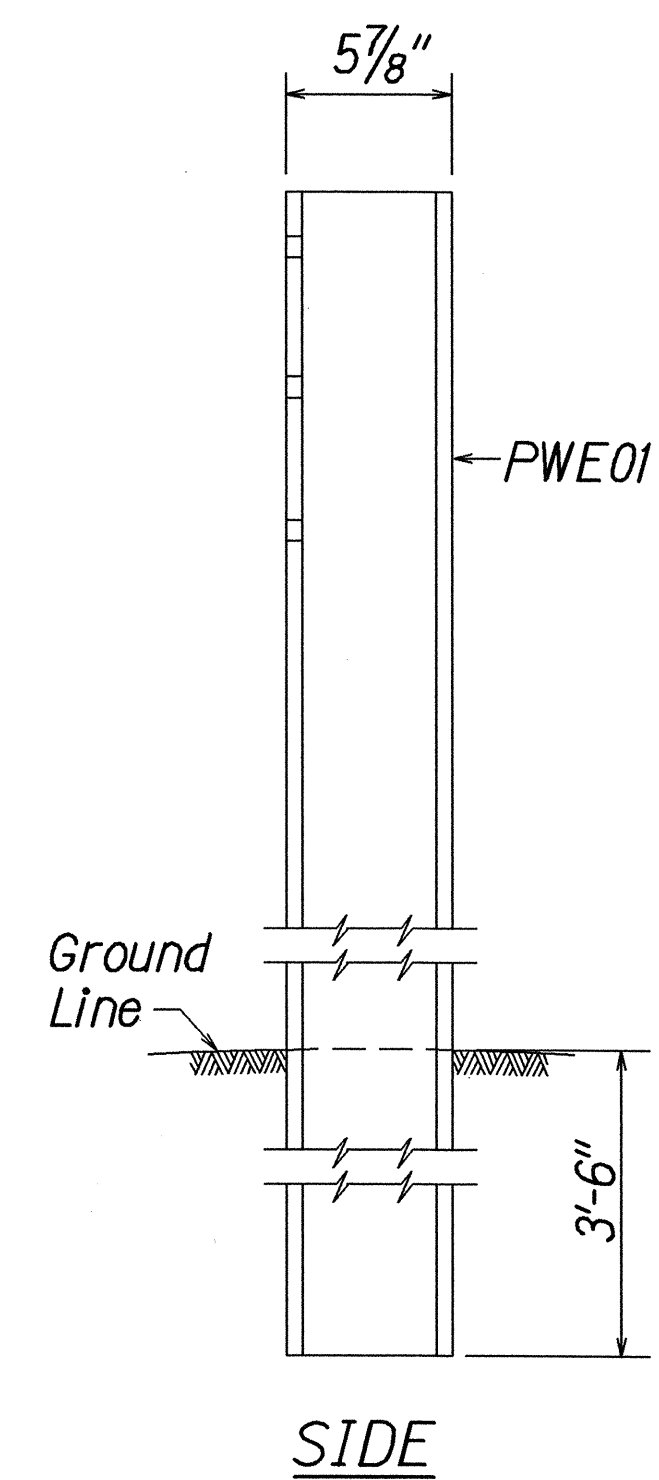


STRONG POST W-BEAM GUARDRAIL (SGR04a)

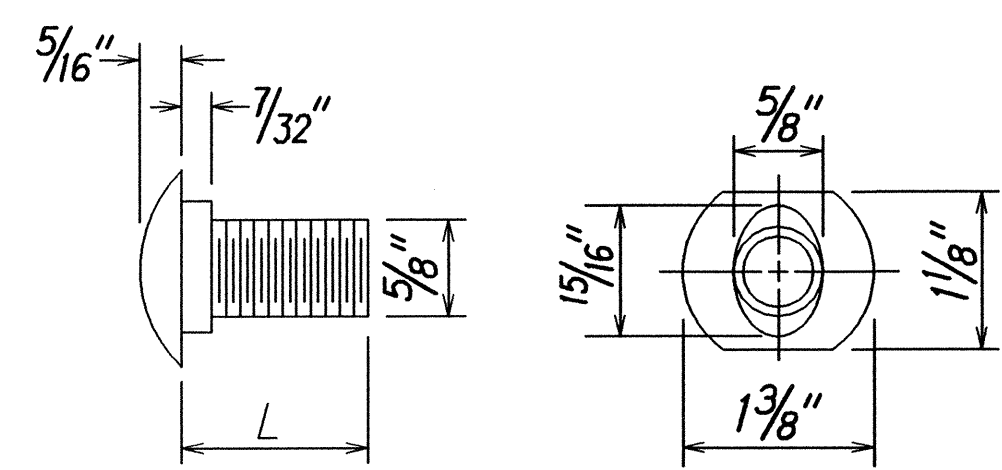
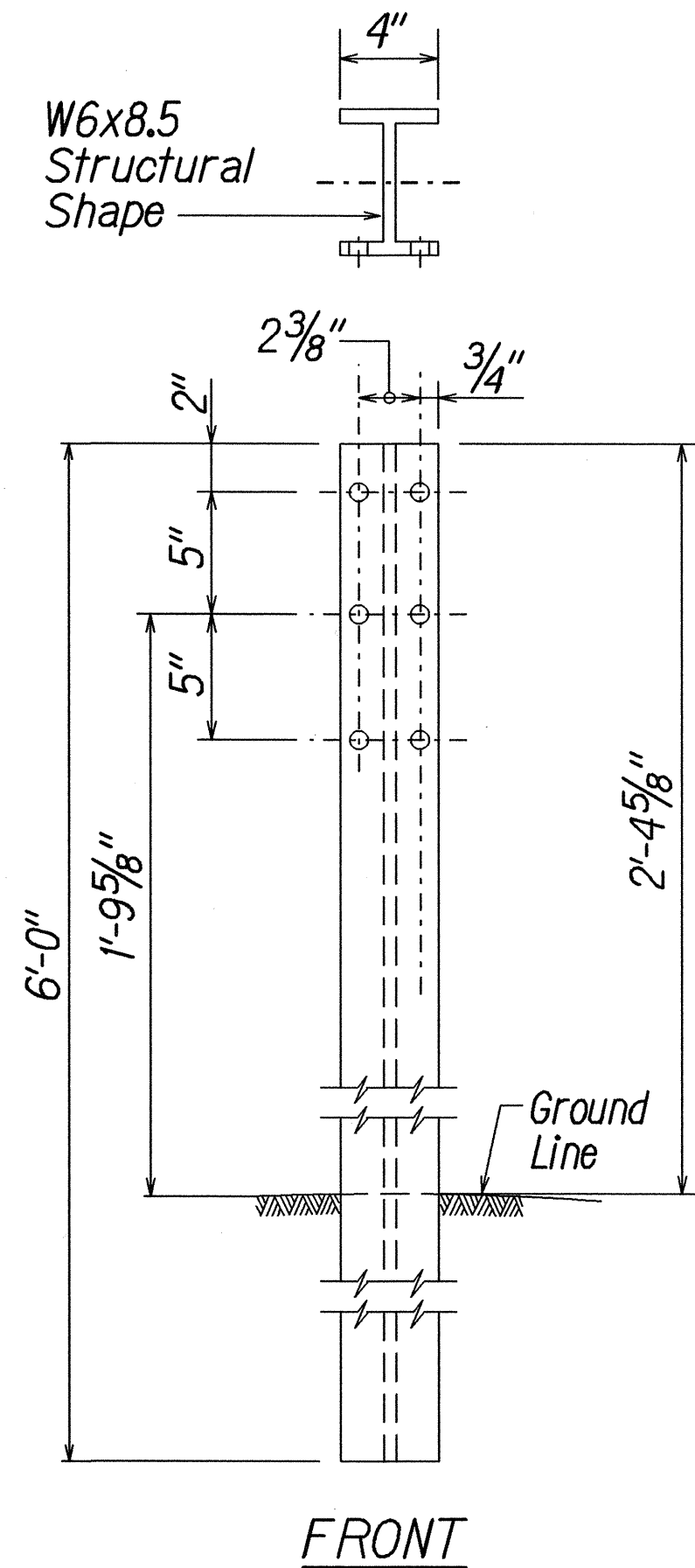


STRONG POST W-BEAM GUARDRAIL WITH RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT

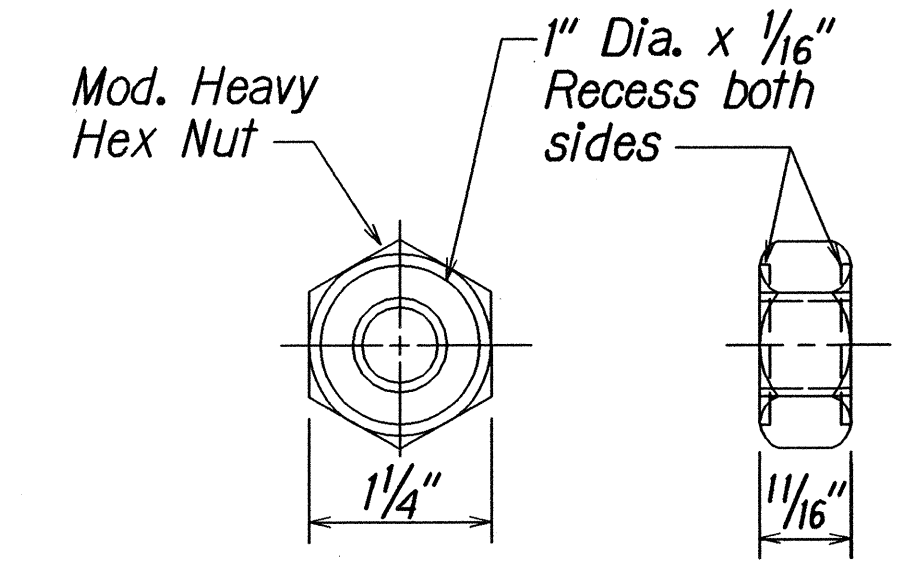
NOTE:
All Holes are 3/4" Dia.



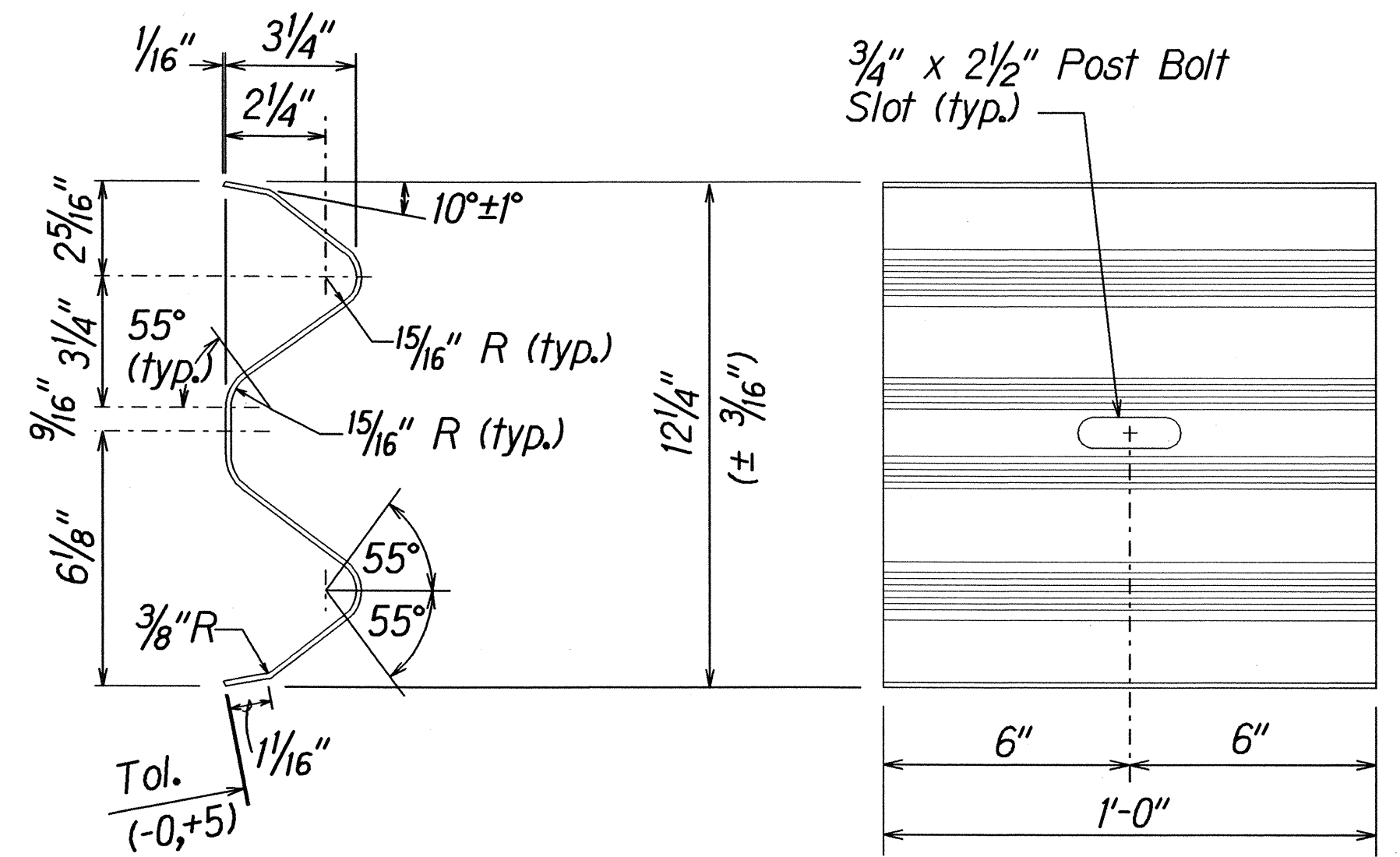
W-BEAM STRONG POST (PWE01)



DESIGNATOR	L
FBB01	1 3/8"
FBB02	2"
FBB03	10"

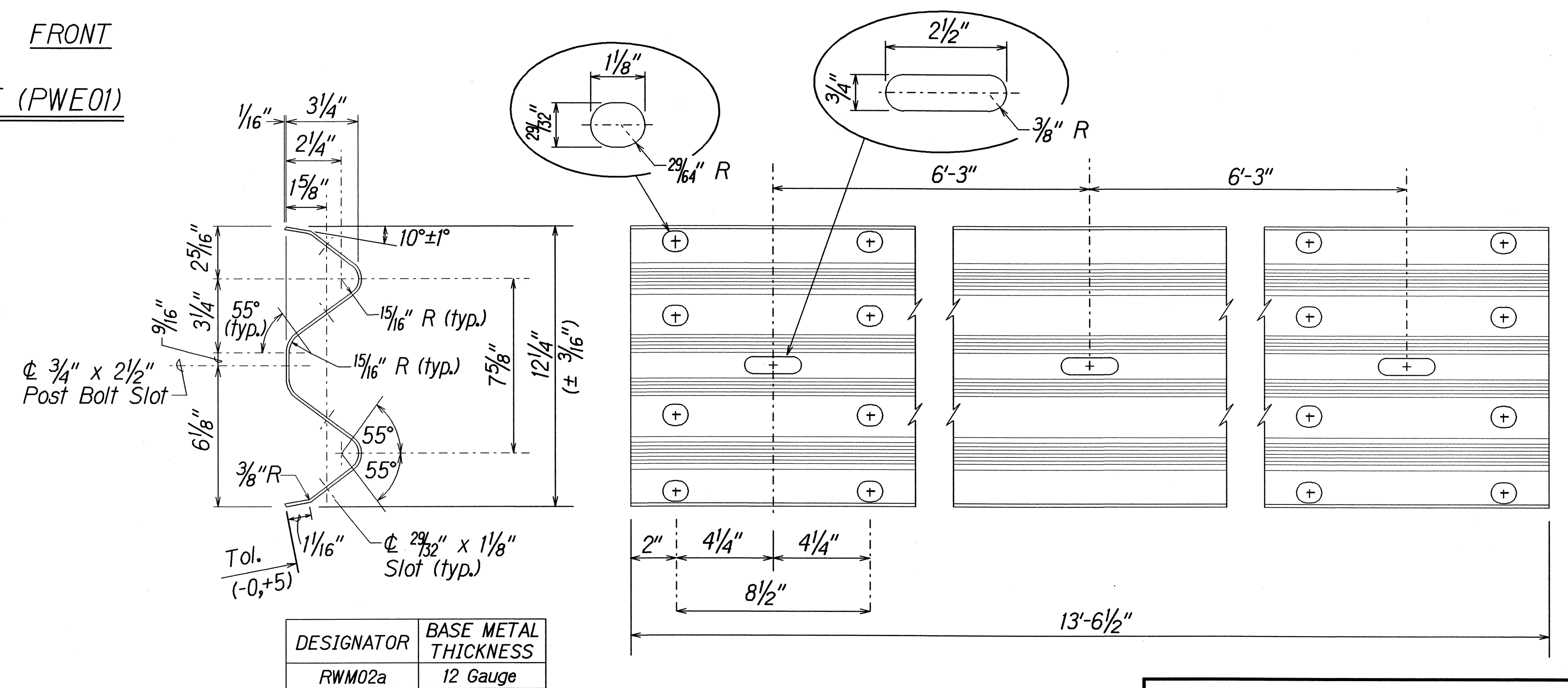


GUARDRAIL BOLTS AND RECESSED NUT



DESIGNATOR	BASE METAL THICKNESS
RWB01a	12 Gauge

W-BEAM BACK-UP-PLATE (RWB01a)



DESIGNATOR	BASE METAL THICKNESS
RWM02a	12 Gauge

2 SPACE W-BEAM GUARDRAIL (RWM02a)

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STRONG POST W-BEAM GUARDRAIL

AIEA ACCESS ROAD RESURFACING

MOANALUA ROAD

TO KAMEHAMEHA HIGHWAY

Project No. HWY-0-01-05M

Scale: NTS

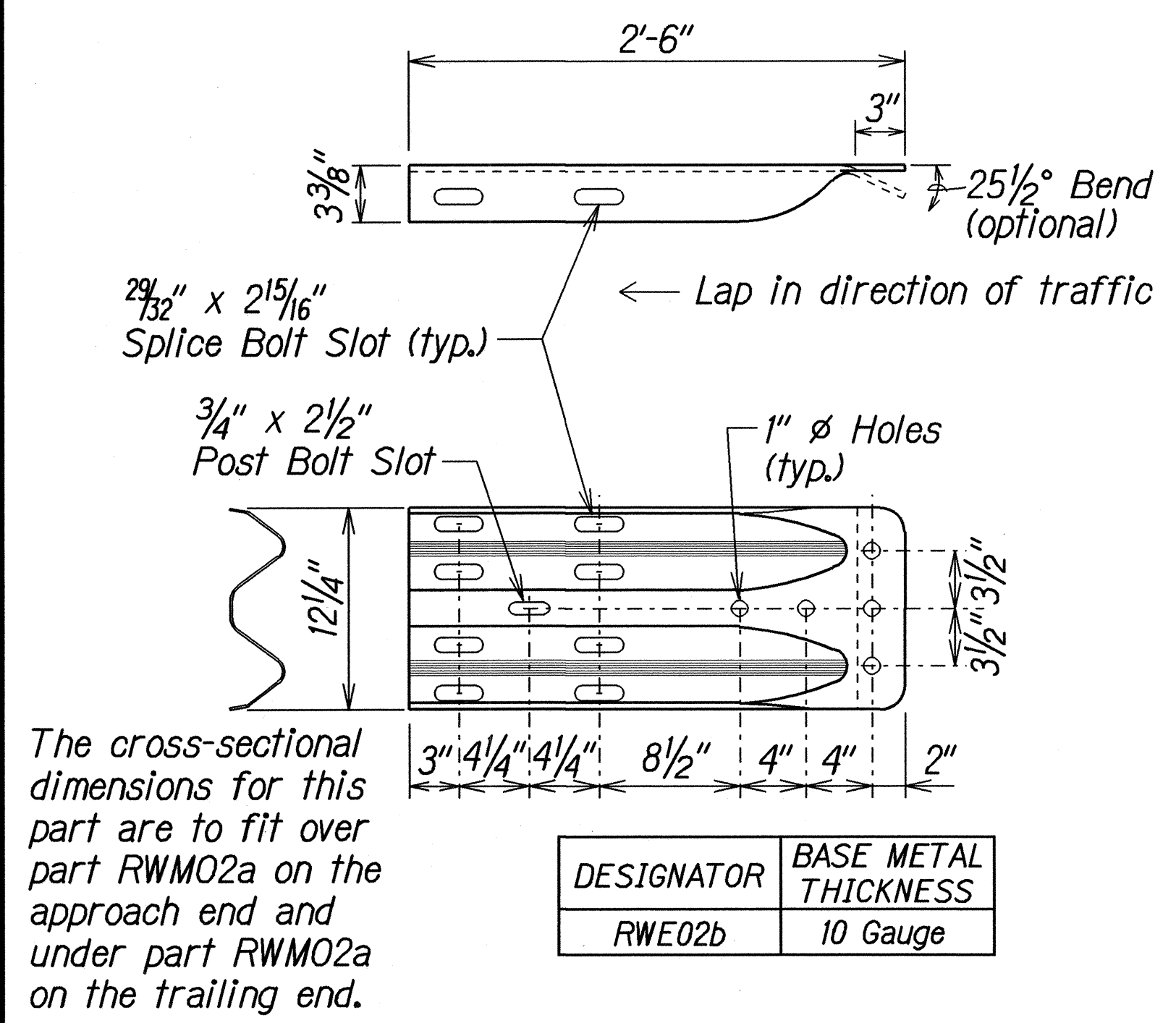
Date: June, 2005

SHEET No. 2 OF 12 SHEETS

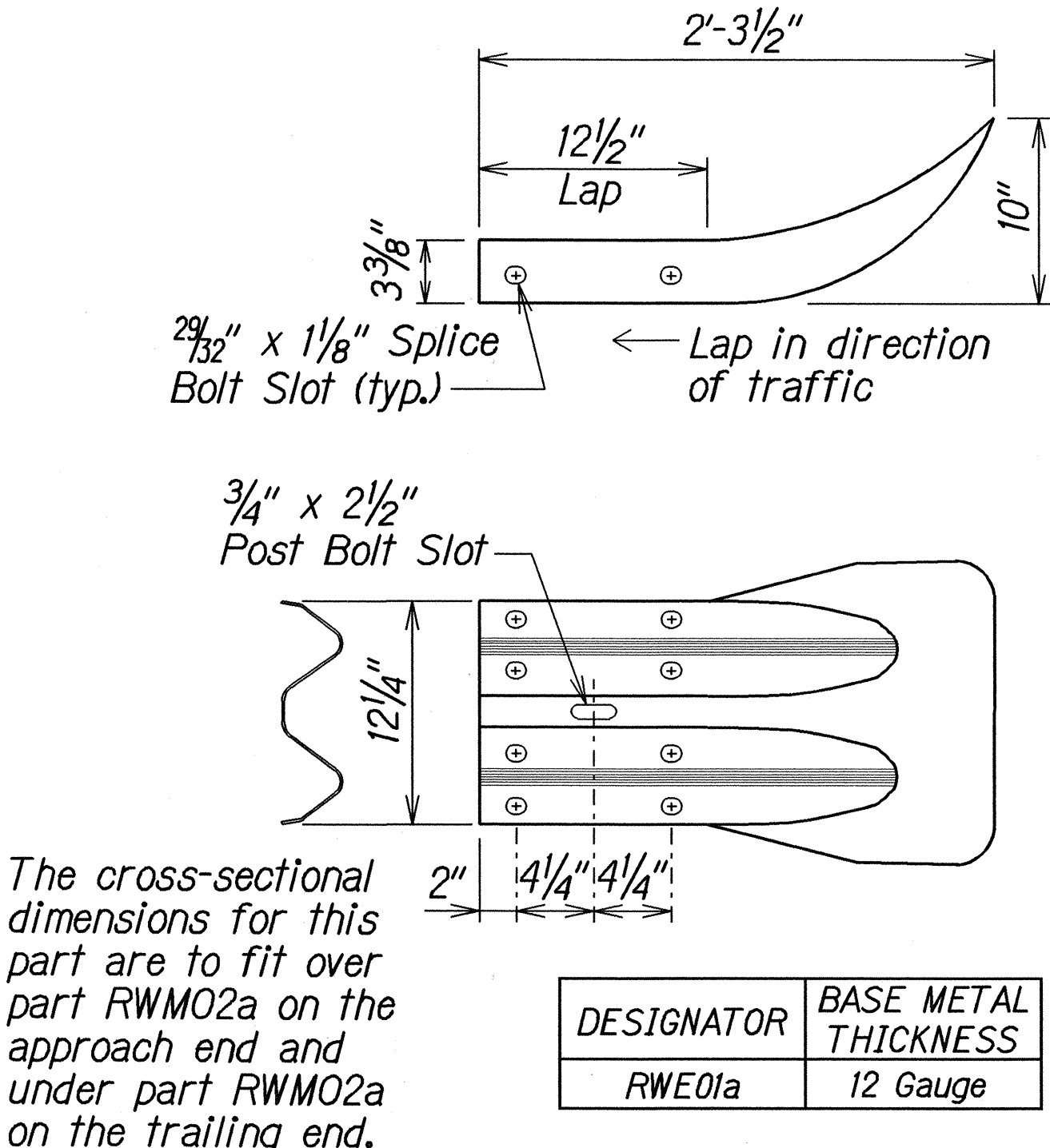
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	

141-ruby/guardrail/wbeamsdgn (standard plan TE-50-r03/06/87)

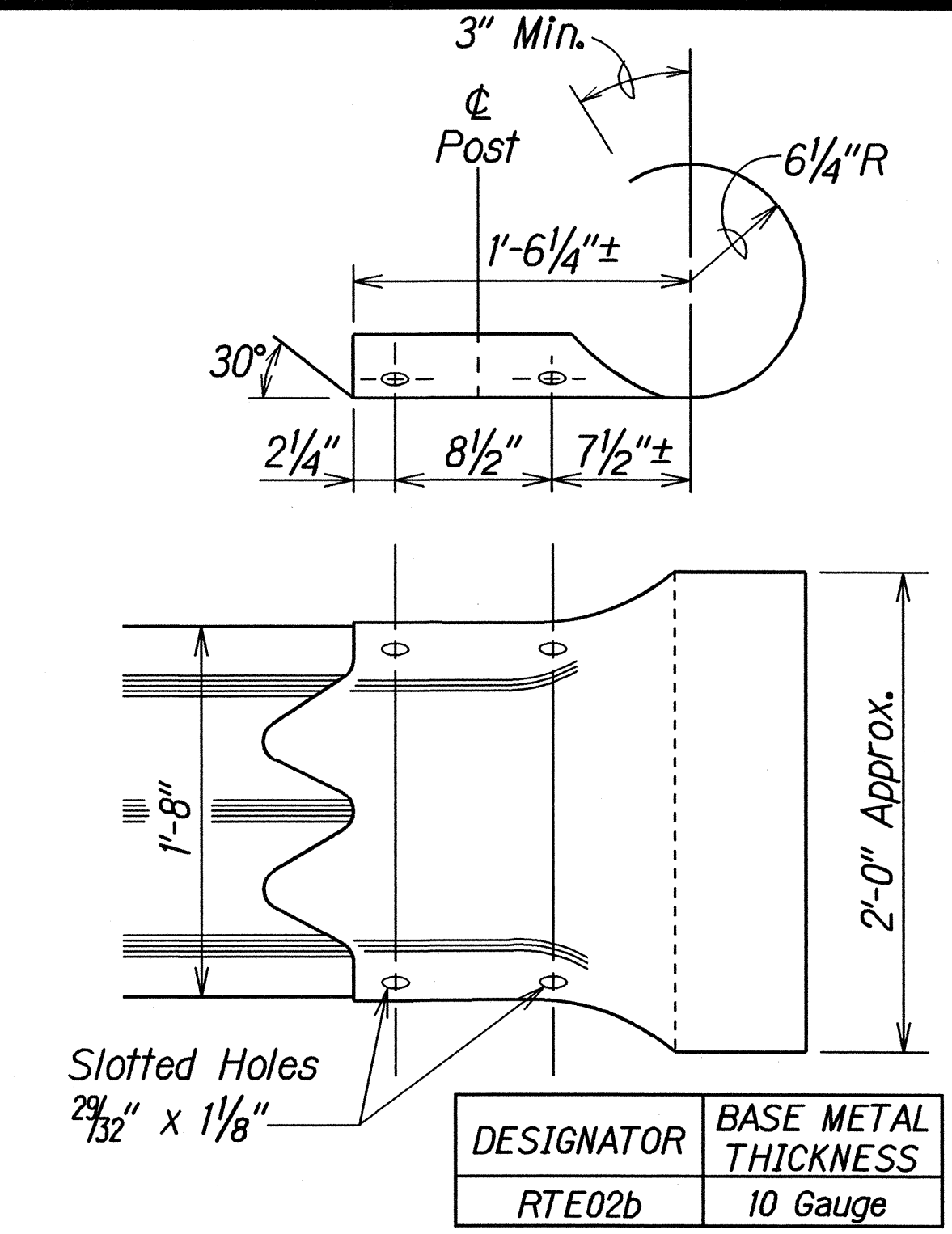
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	35	106



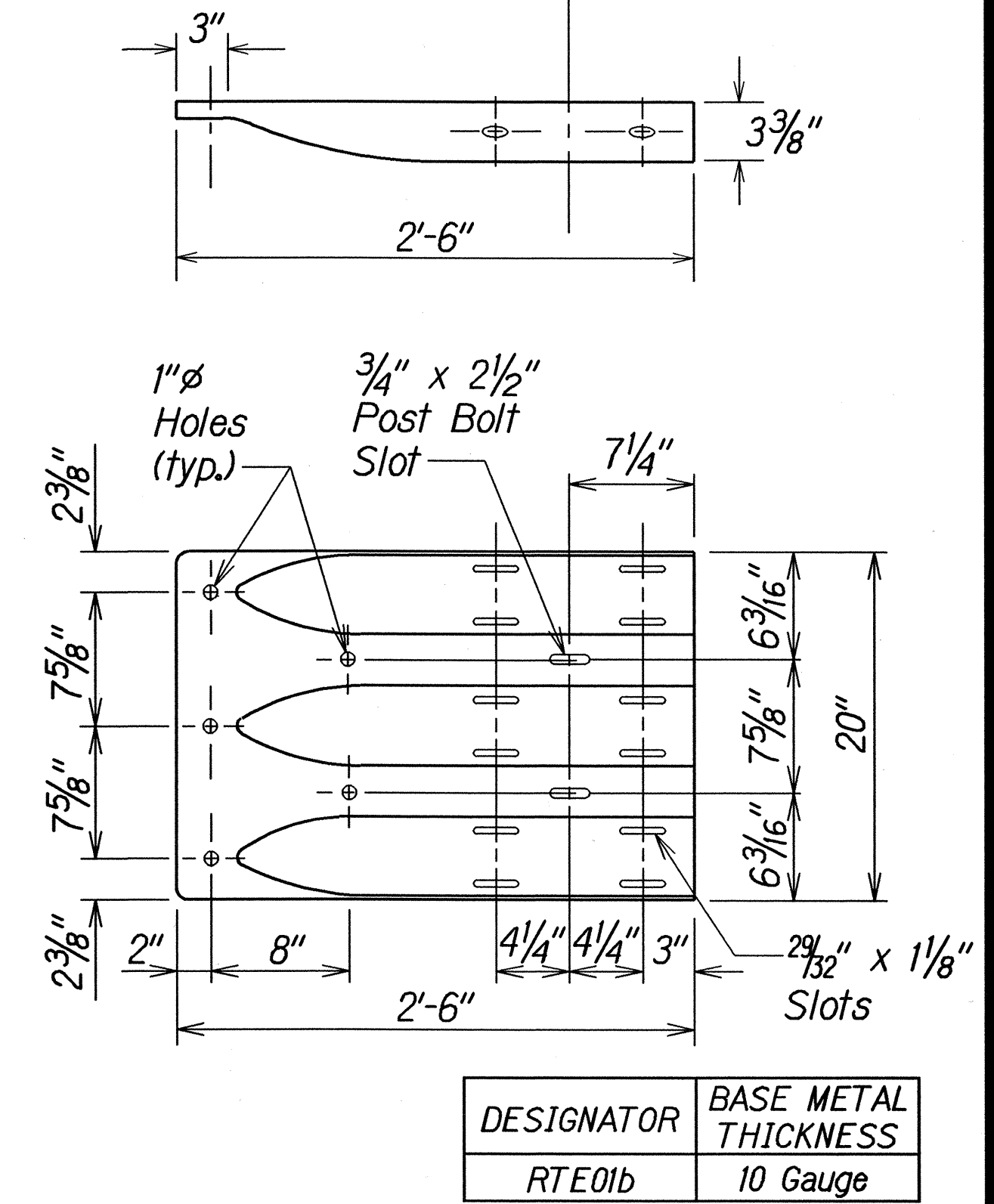
W-BEAM TERMINAL CONNECTOR (RWE02b)



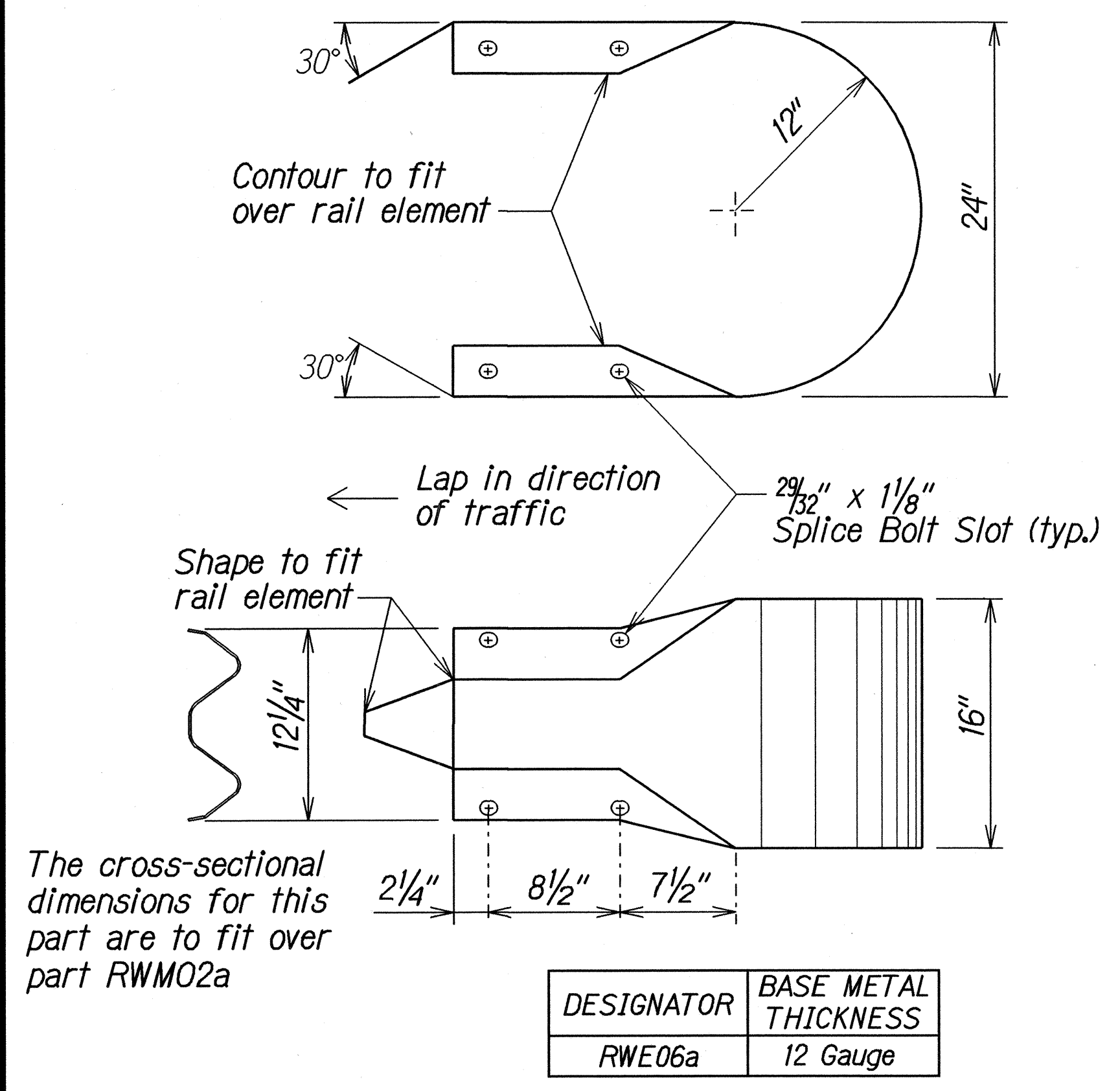
W-BEAM END SECTION (FLARED RWE01a)



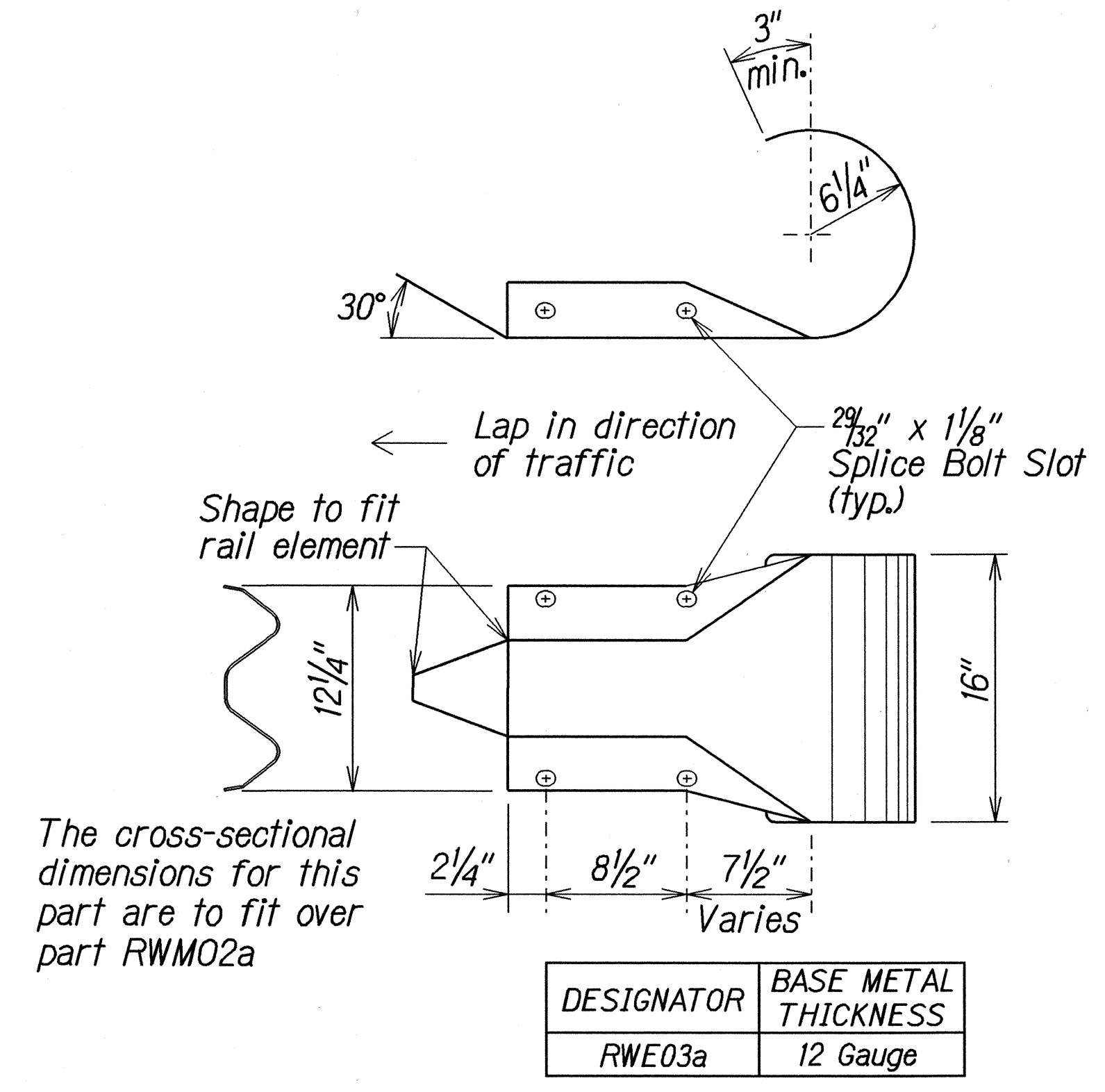
THRIE-BEAM SECTION (ROUNDED) (RTE02b)



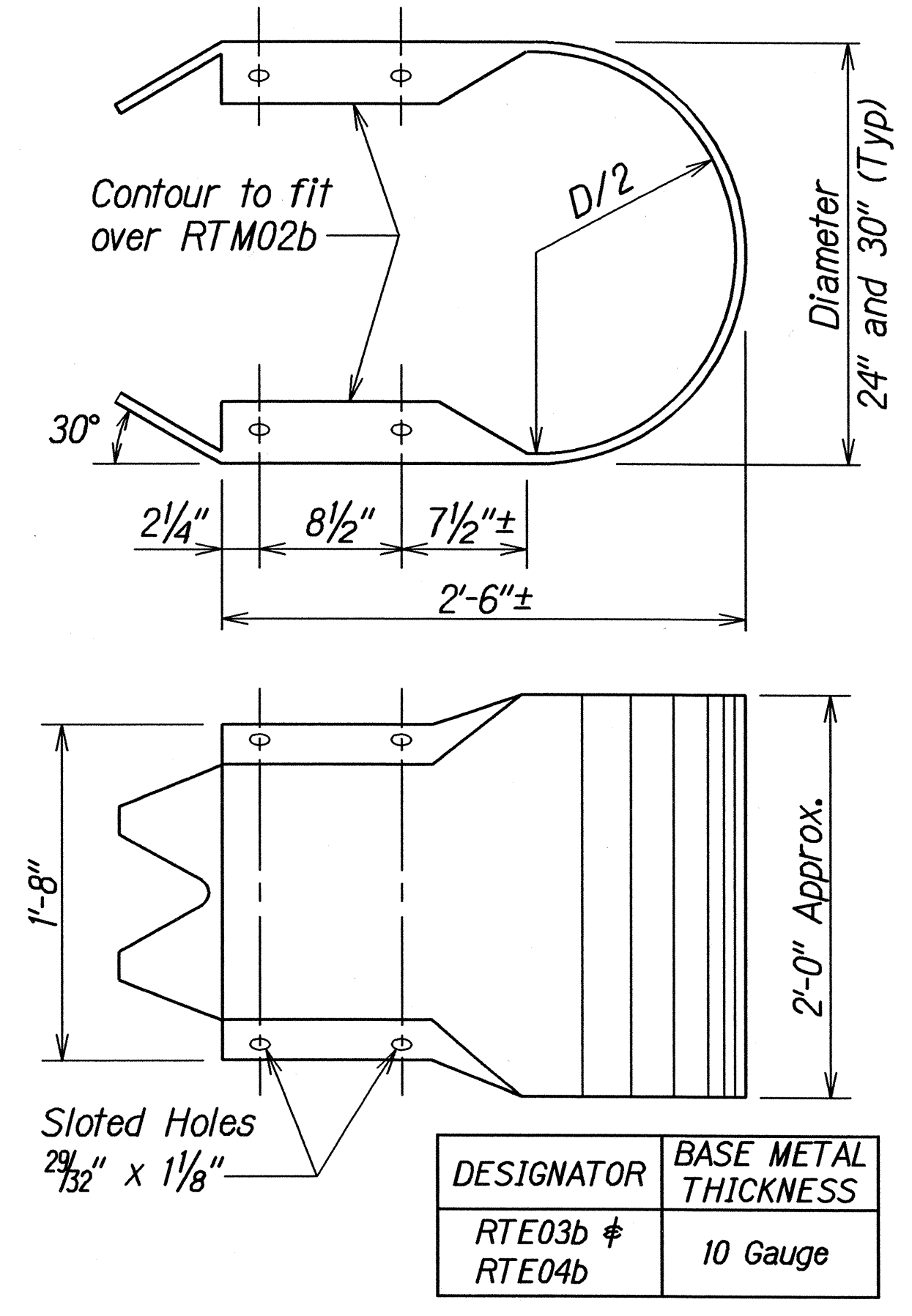
THRIE-BEAM TERMINAL CONNECTOR (RTE01b)



W-BEAM END SECTION (BUFFER RWE06a)



W-BEAM END SECTION (ROUNDED RWE03a)



THRIE-BEAM END SECTION (BUFFER RTE03b or RTE04b)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL TERMINAL CONNECTORS AND END SECTIONS

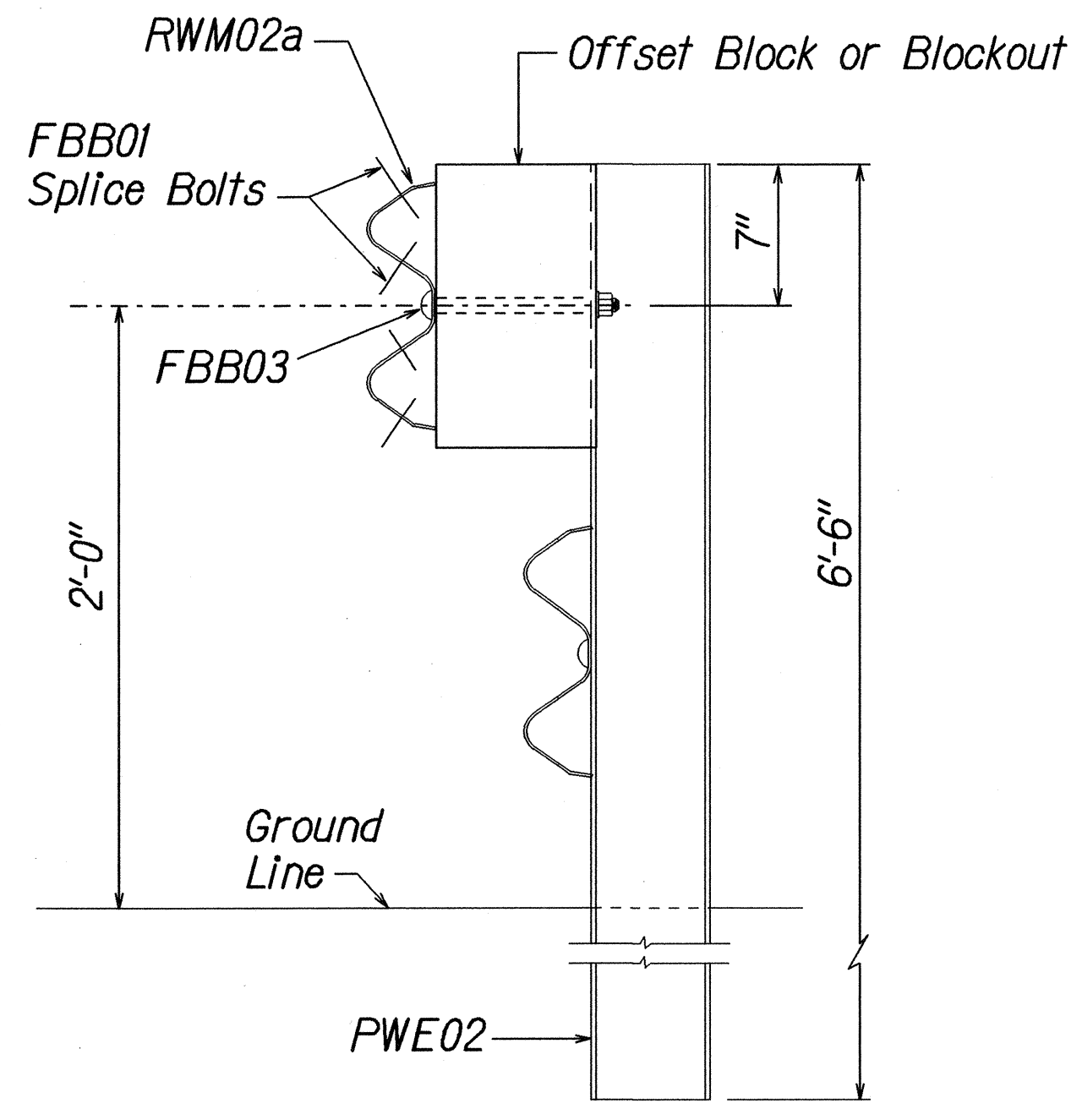
AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-0-01-05M

Scale: NTS Date: June, 2005

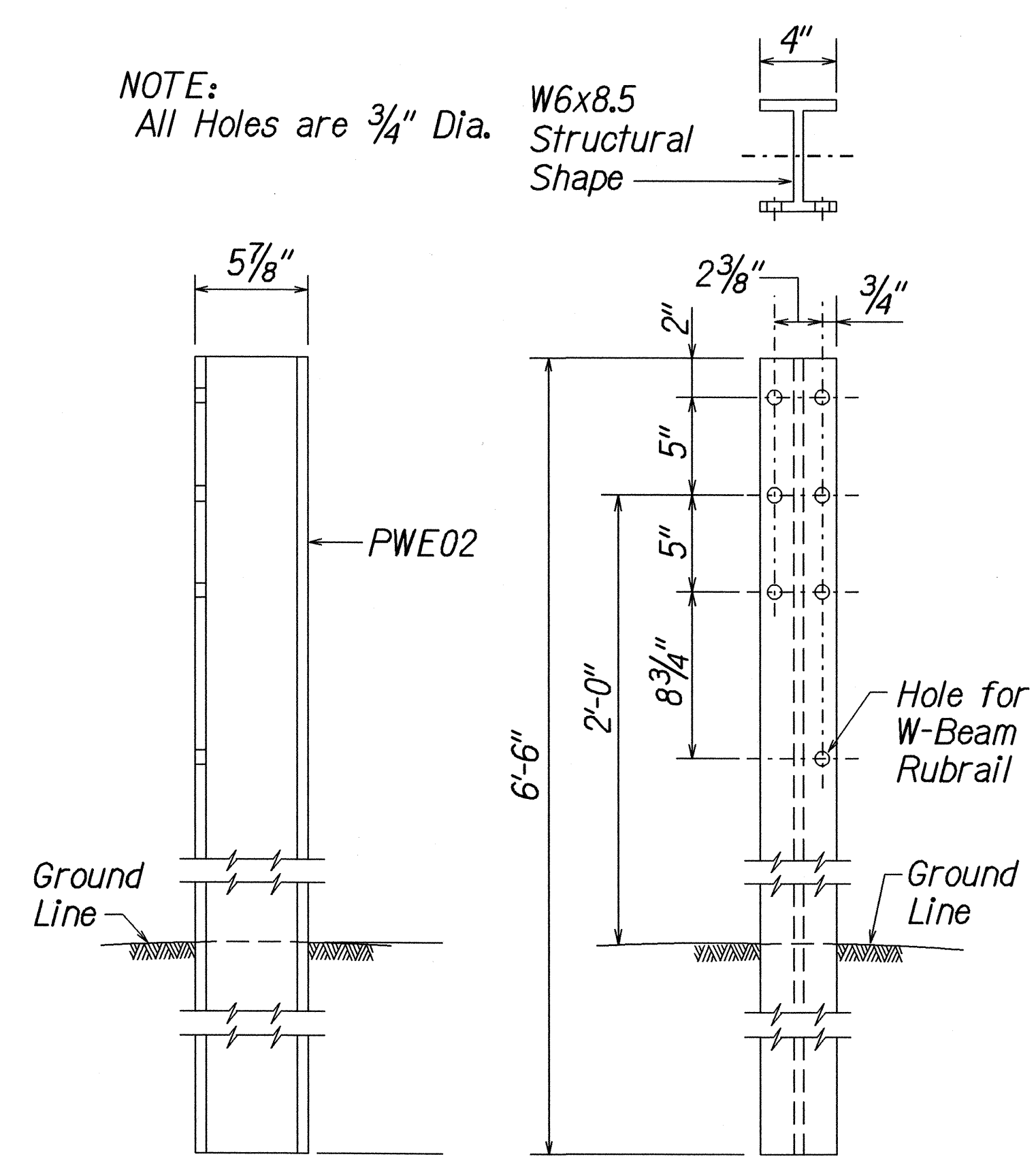
SHEET No. 3 OF 12 SHEETS

ORIGINAL PLANNED BY: DATE: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
16/2/01 101rubby/guardrail/rev5rev.dgn (standard plan TE-51, 09/01/87)

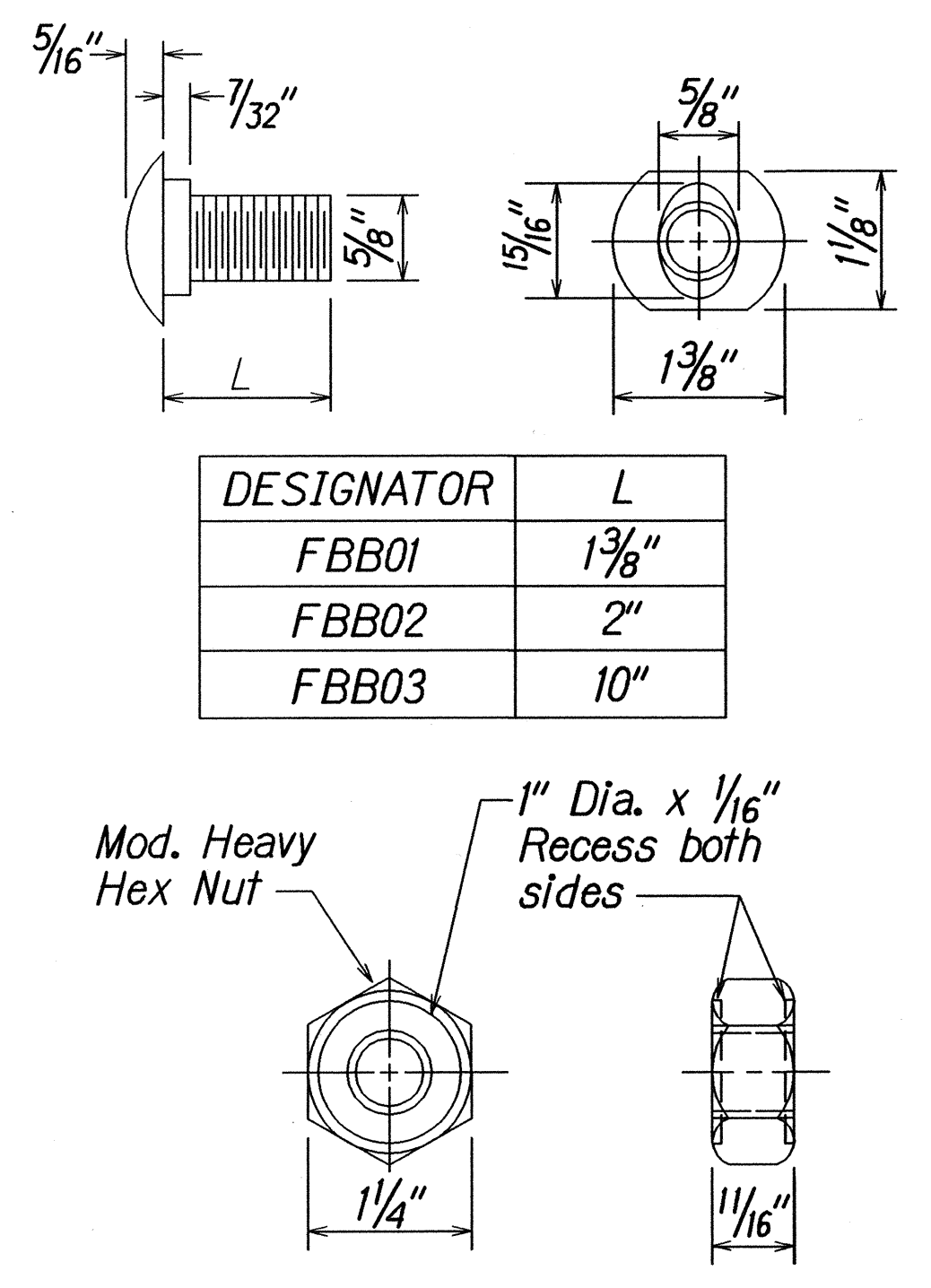
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	36	106



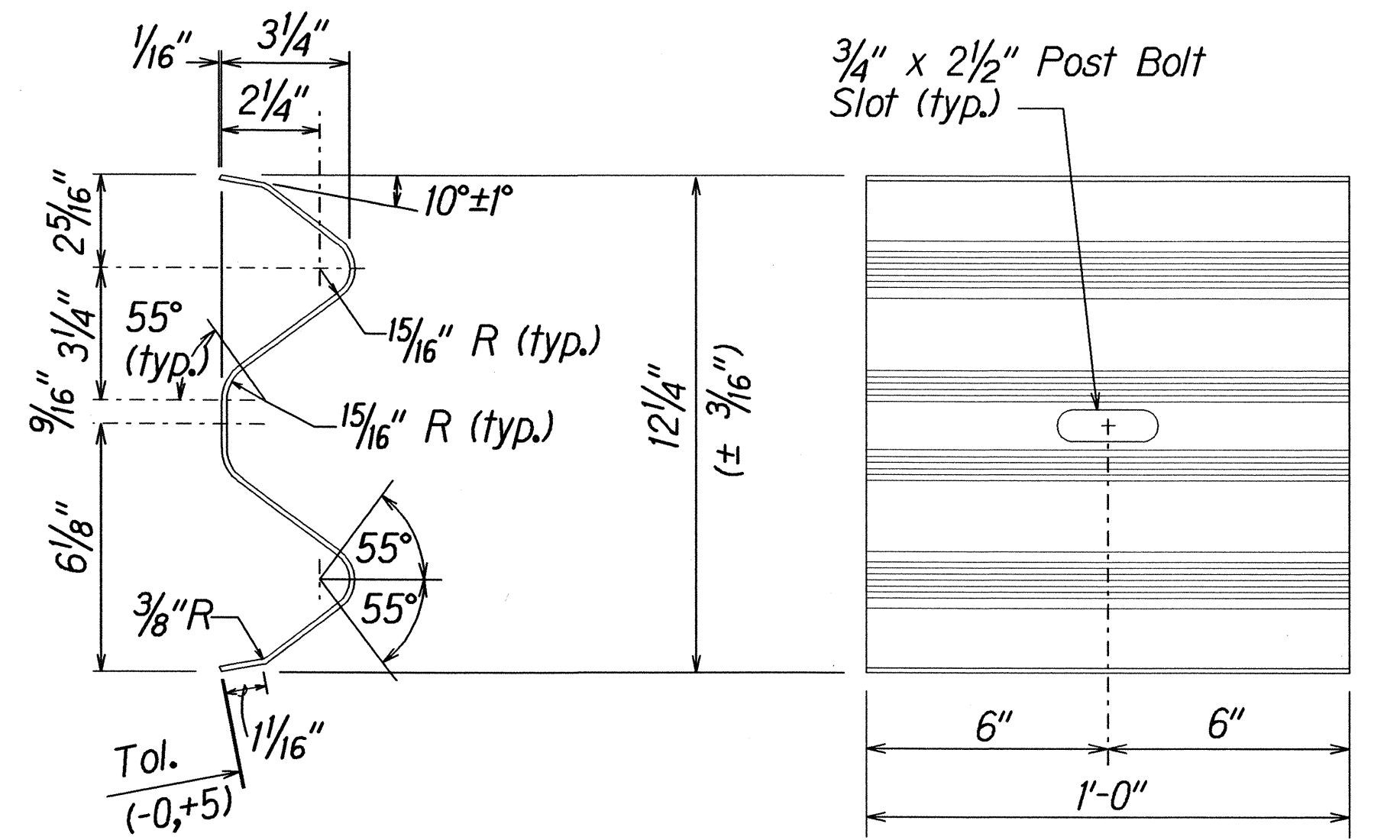
ELEVATION
STRONG POST RUBRAIL
(W-BEAM) GUARDRAIL



SIDE
FRONT
W-BEAM STRONG POST (PWE02)

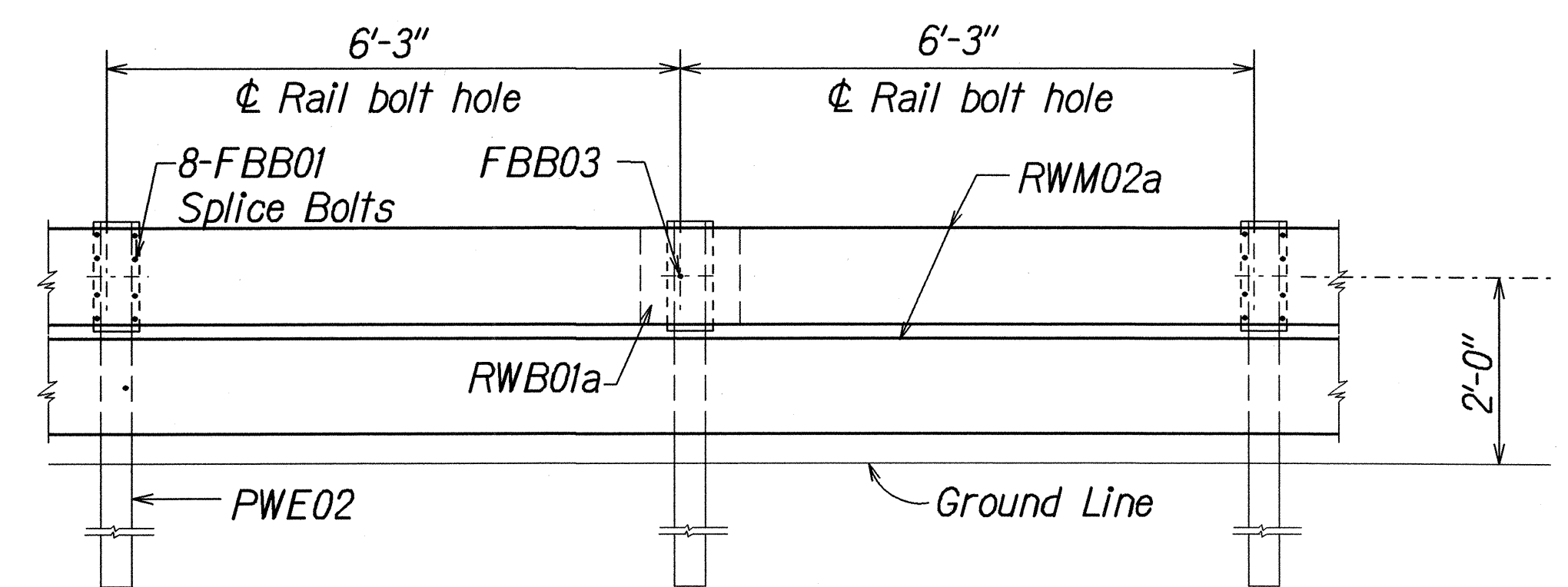


GUARDRAIL BOLTS AND
RECESSED NUT

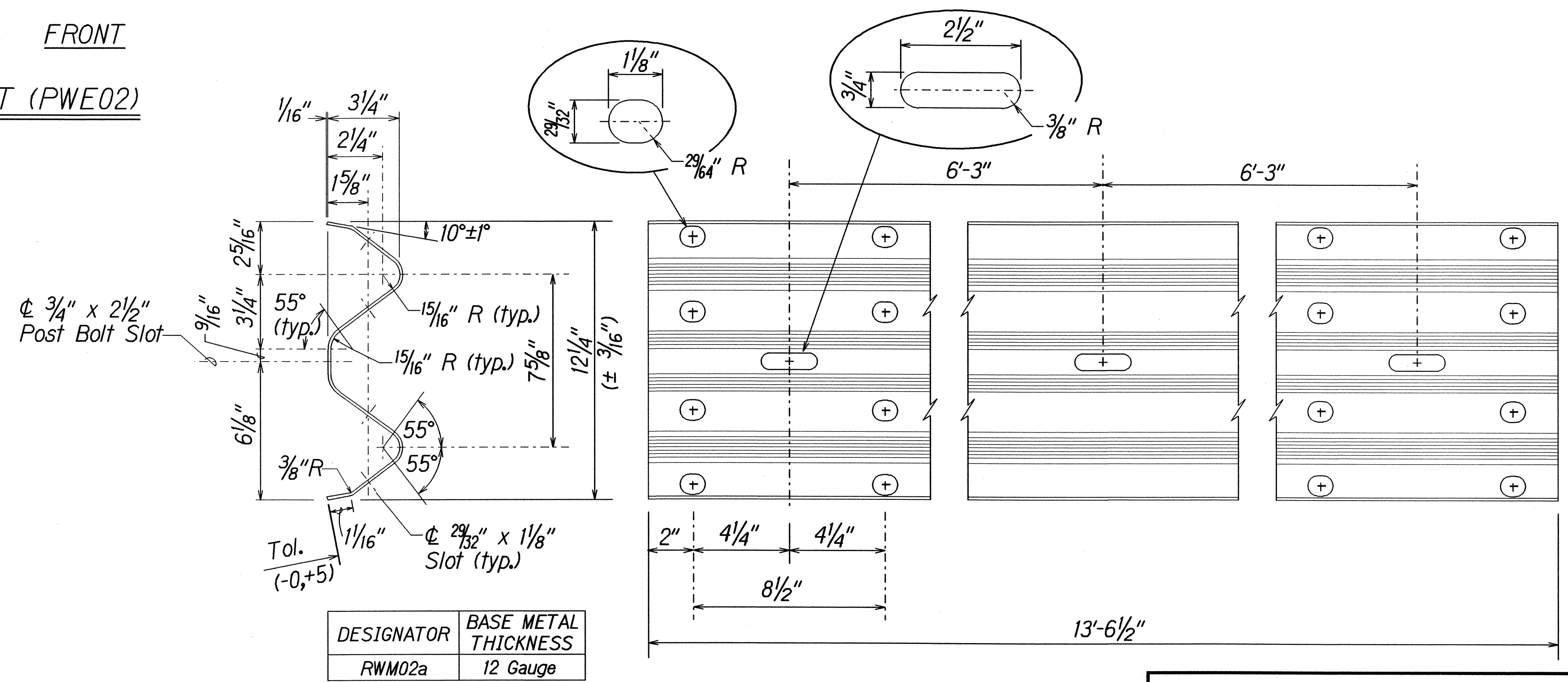


DESIGNATOR	BASE METAL THICKNESS
RWB01a	12 Gauge

W-BEAM BACK-UP-PLATE (RWB01a)

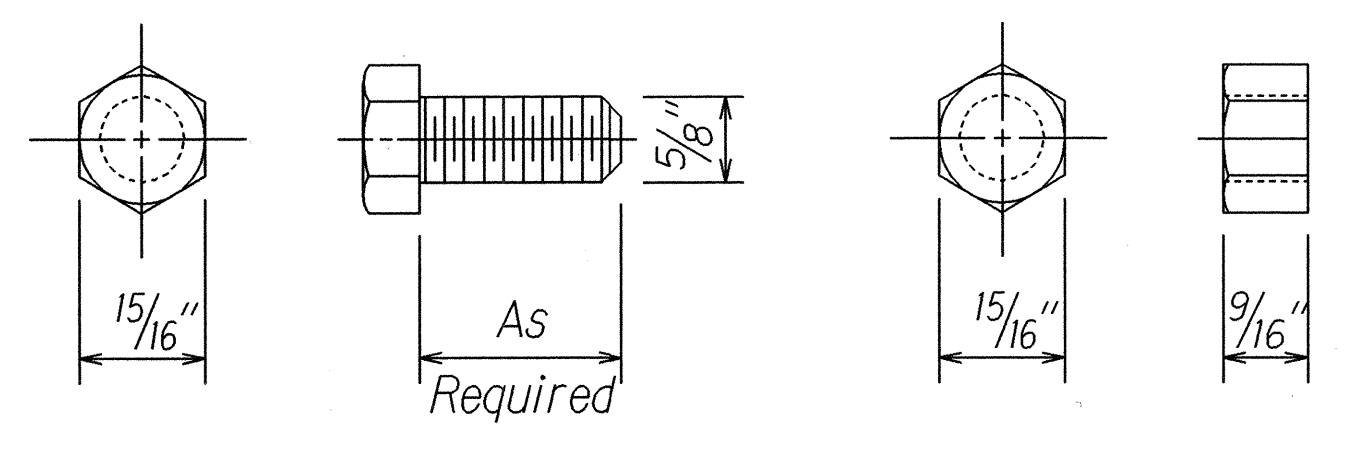


ELEVATION
STRONG POST RUBRAIL (W-BEAM) GUARDRAIL WITH
RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT



DESIGNATOR	BASE METAL THICKNESS
RWM02a	12 Gauge

2 SPACE W-BEAM GUARDRAIL (RWM02a)



HEX BOLT & NUT (FBX16a)

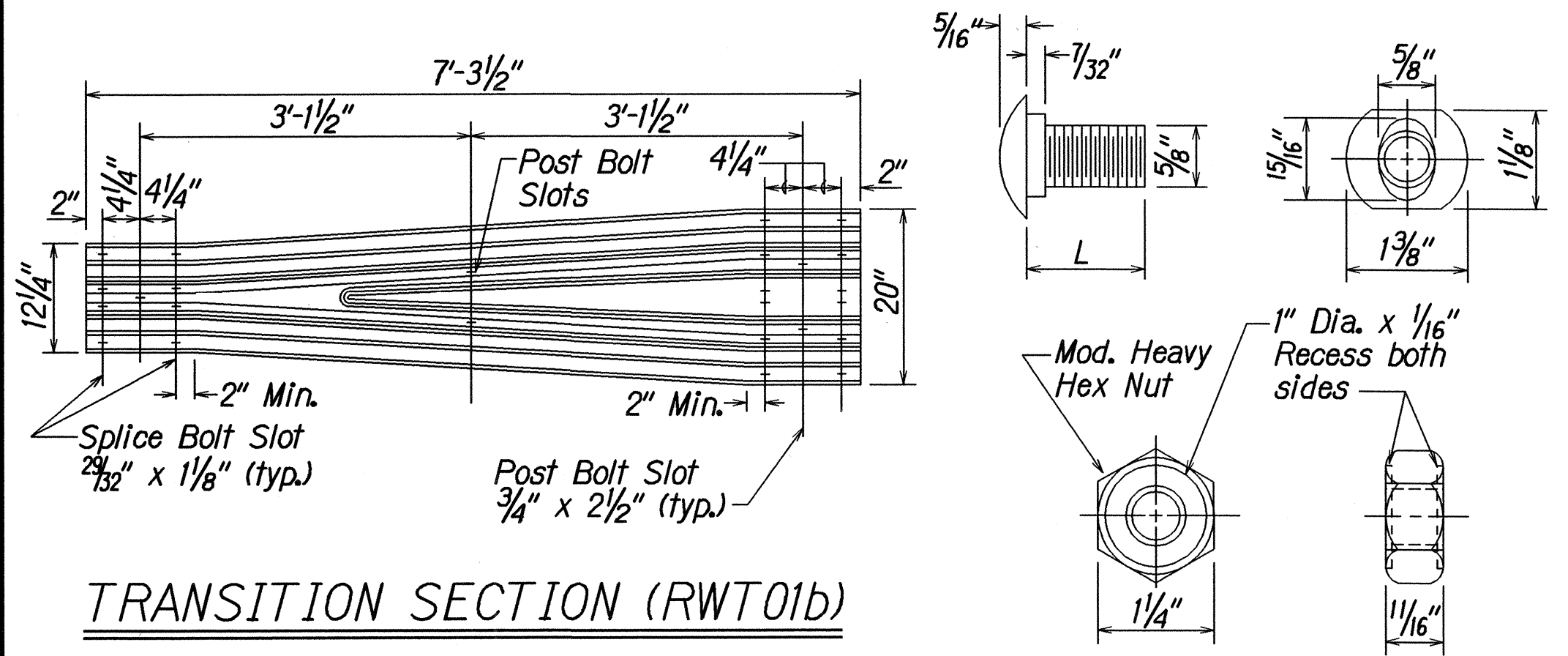
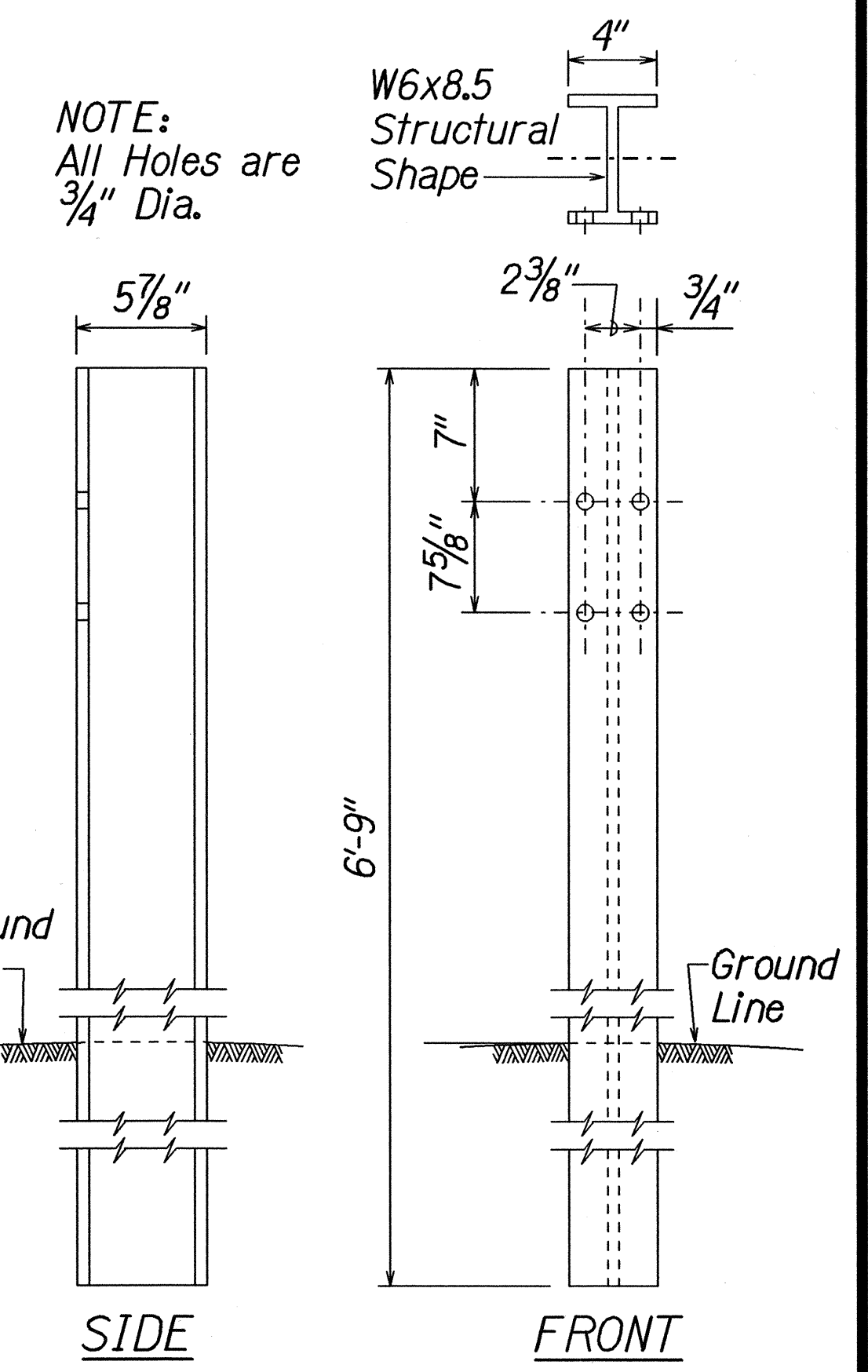
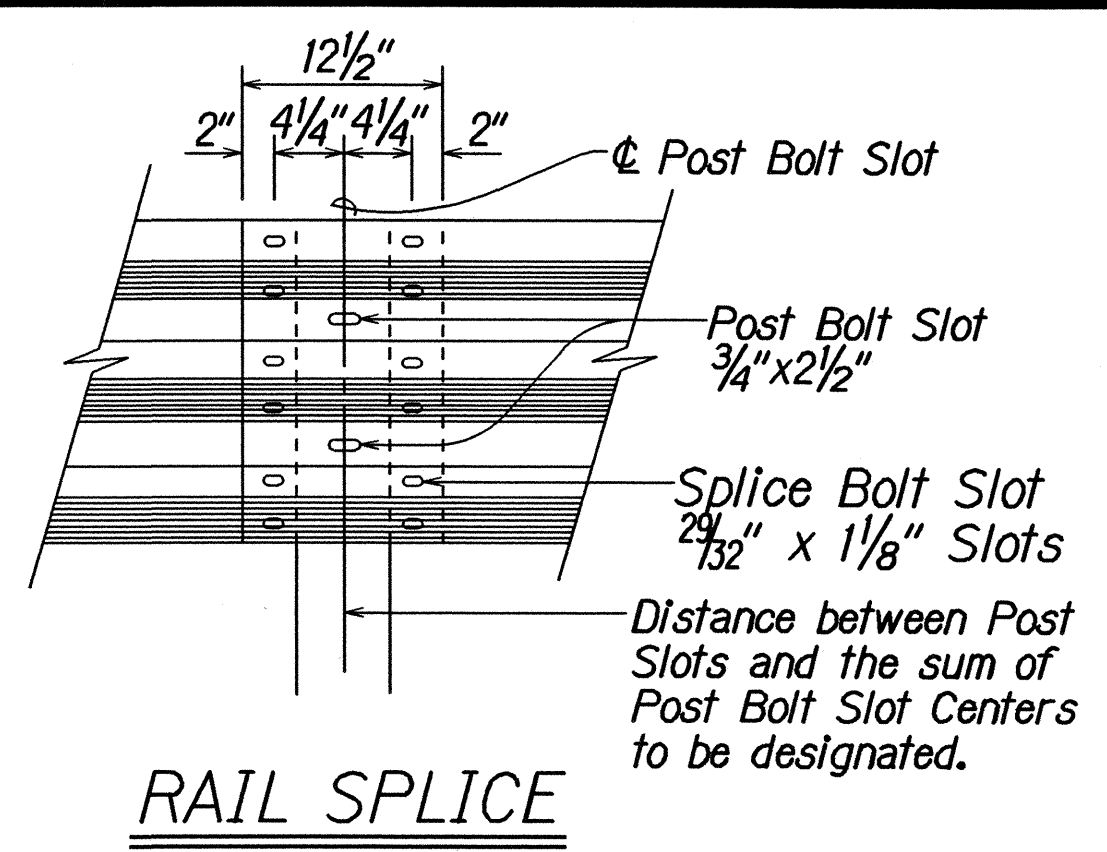
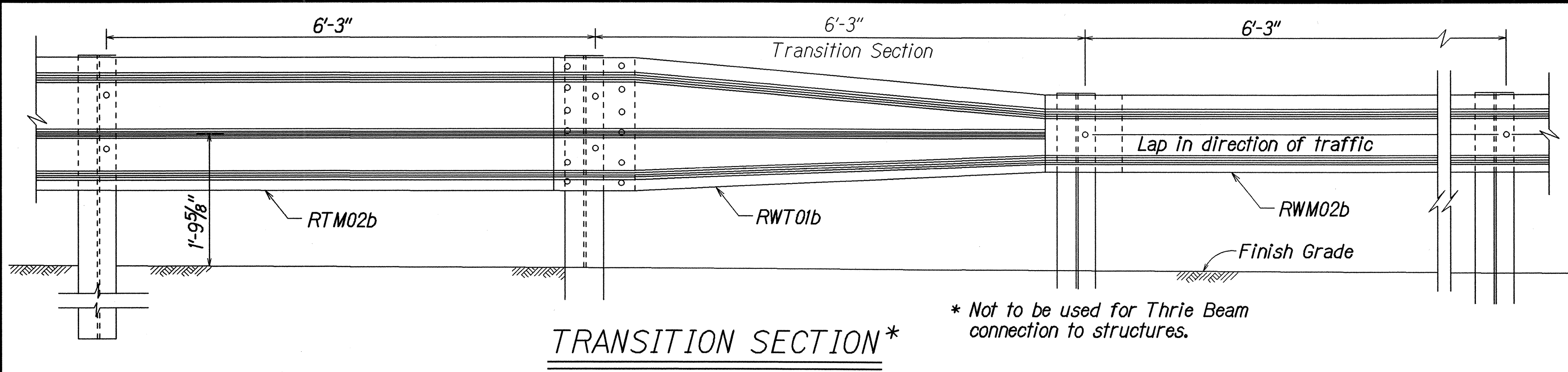
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST RUBRAIL
(W-BEAM) GUARDRAIL
AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-0-01-05M
Scale: NTS
Date: June, 2005

SHEET No. 4 OF 12 SHEETS

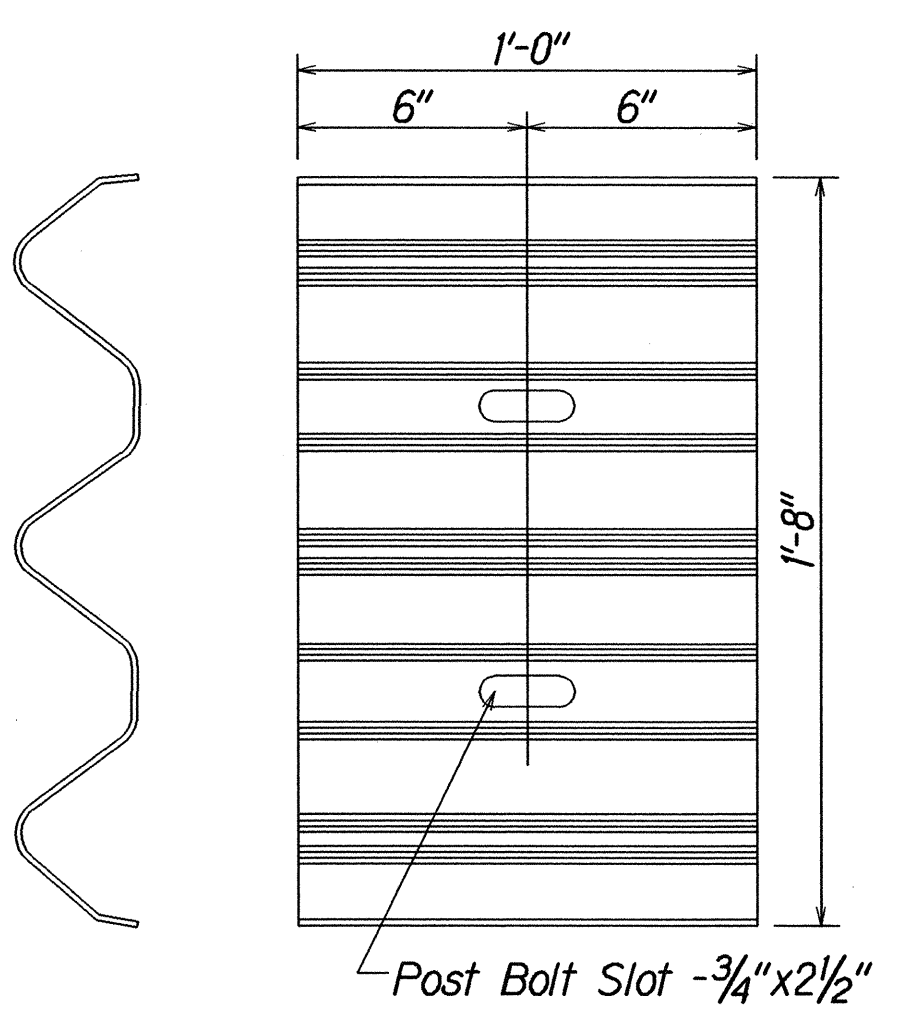
SURVEY PLOTTED BY: _____
 DATE: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 CHECKED BY: _____
 APPROVED BY: _____
 03/24/03 141rubr/guardrail/rubrail.dgn (standard plan TE-52 ril/03/03)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	37	106

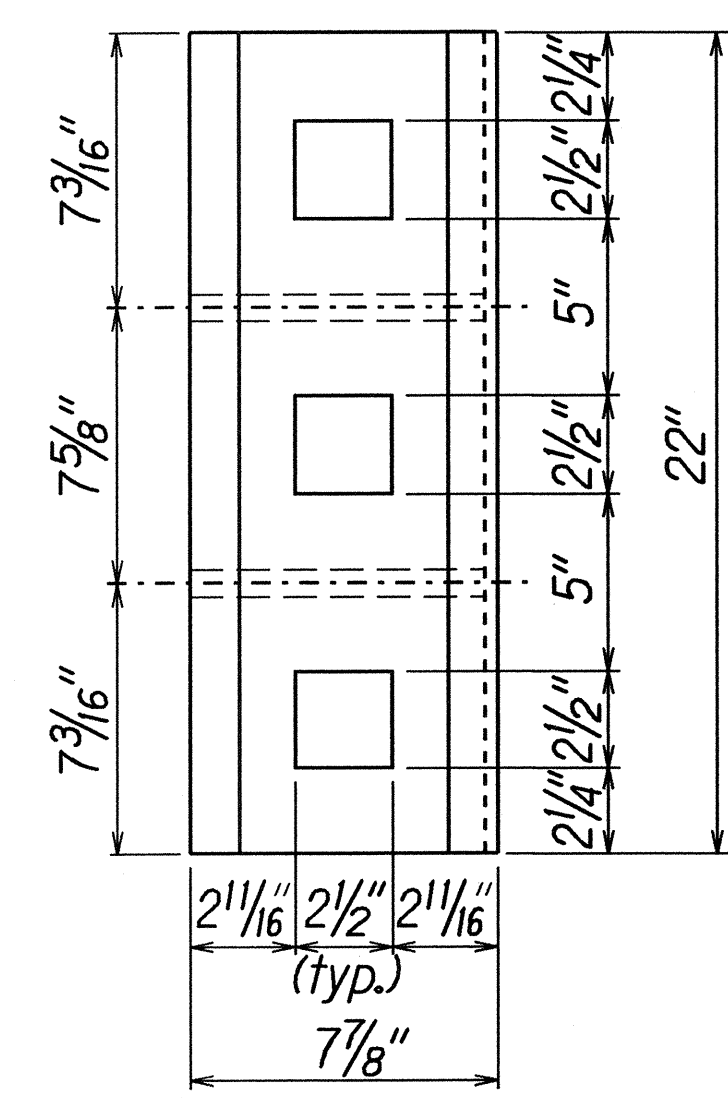
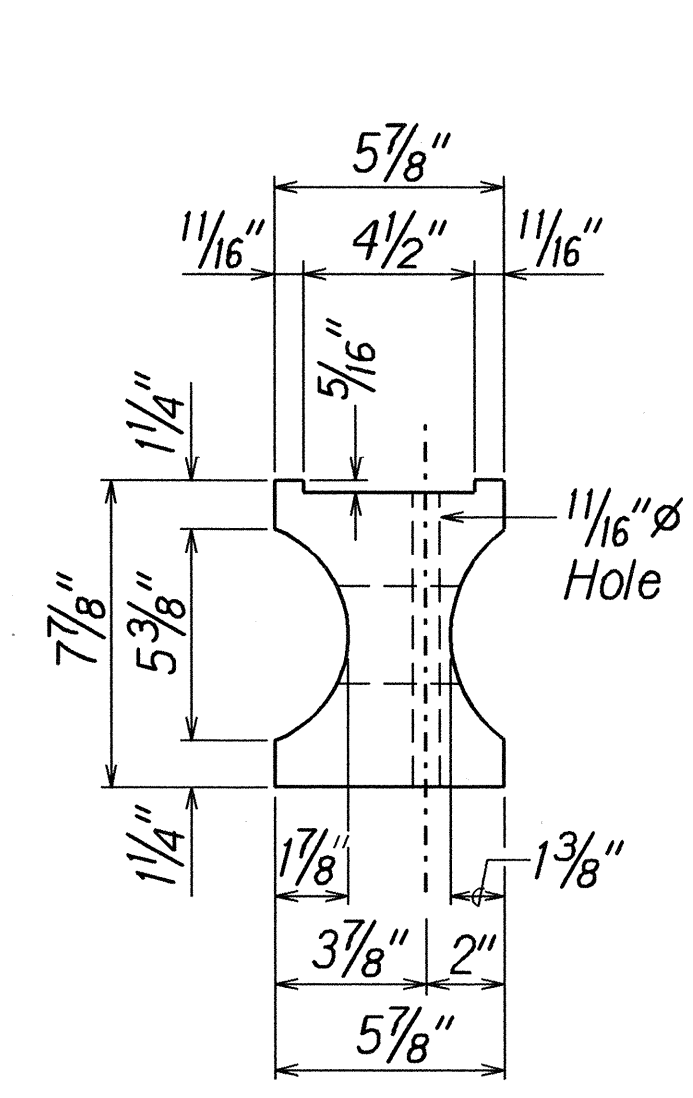
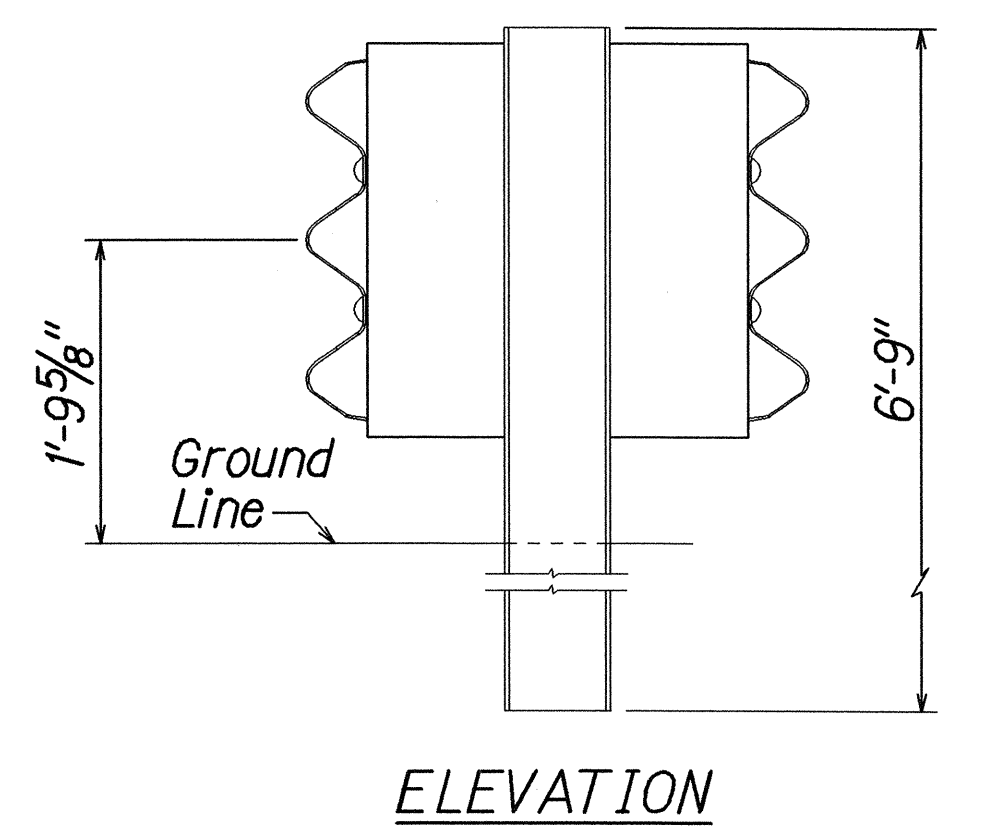
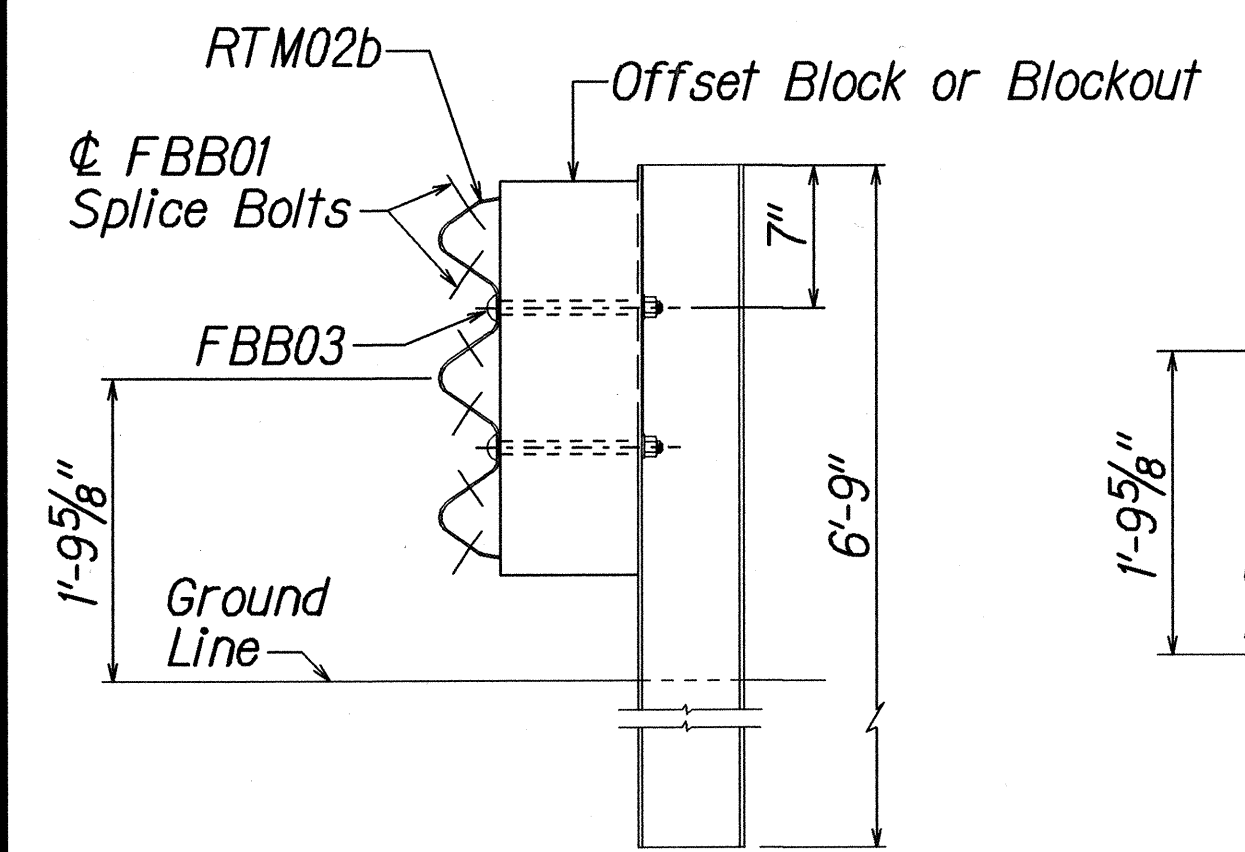
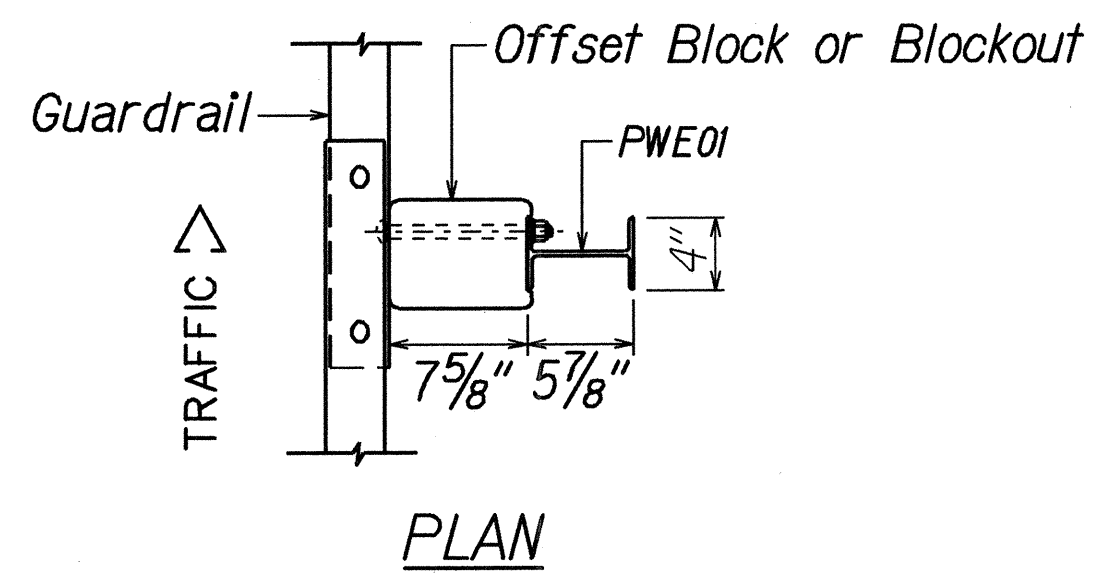
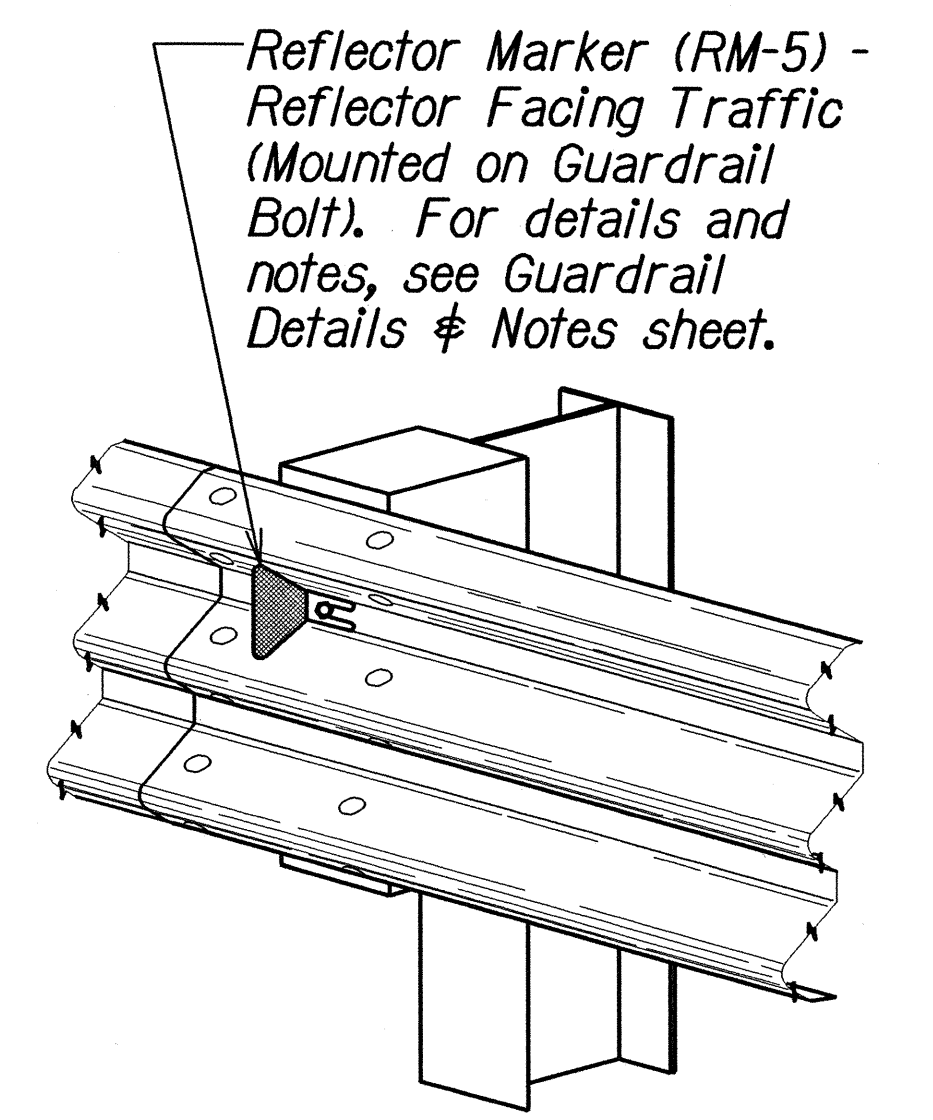
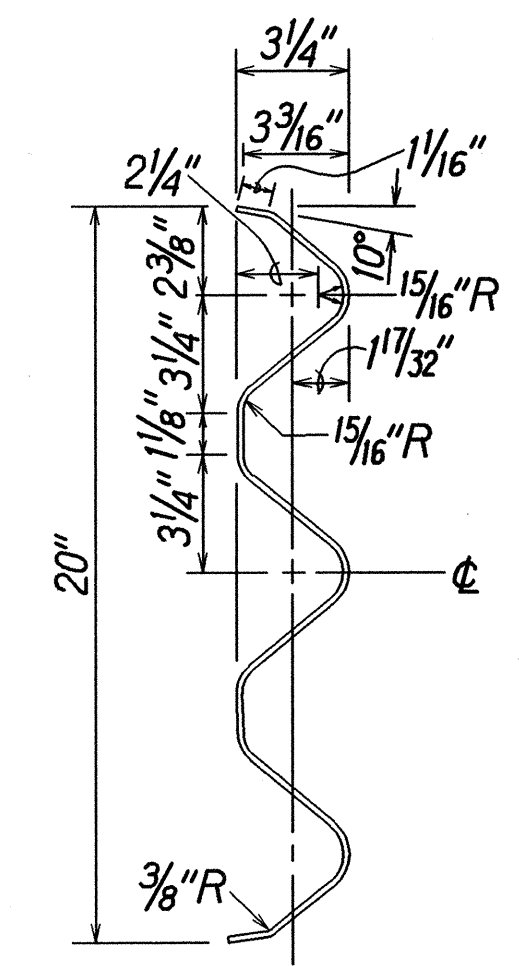


DESIGNATOR	L
FBB01	1 3/8"
FBB02	2"
FBB03	10"

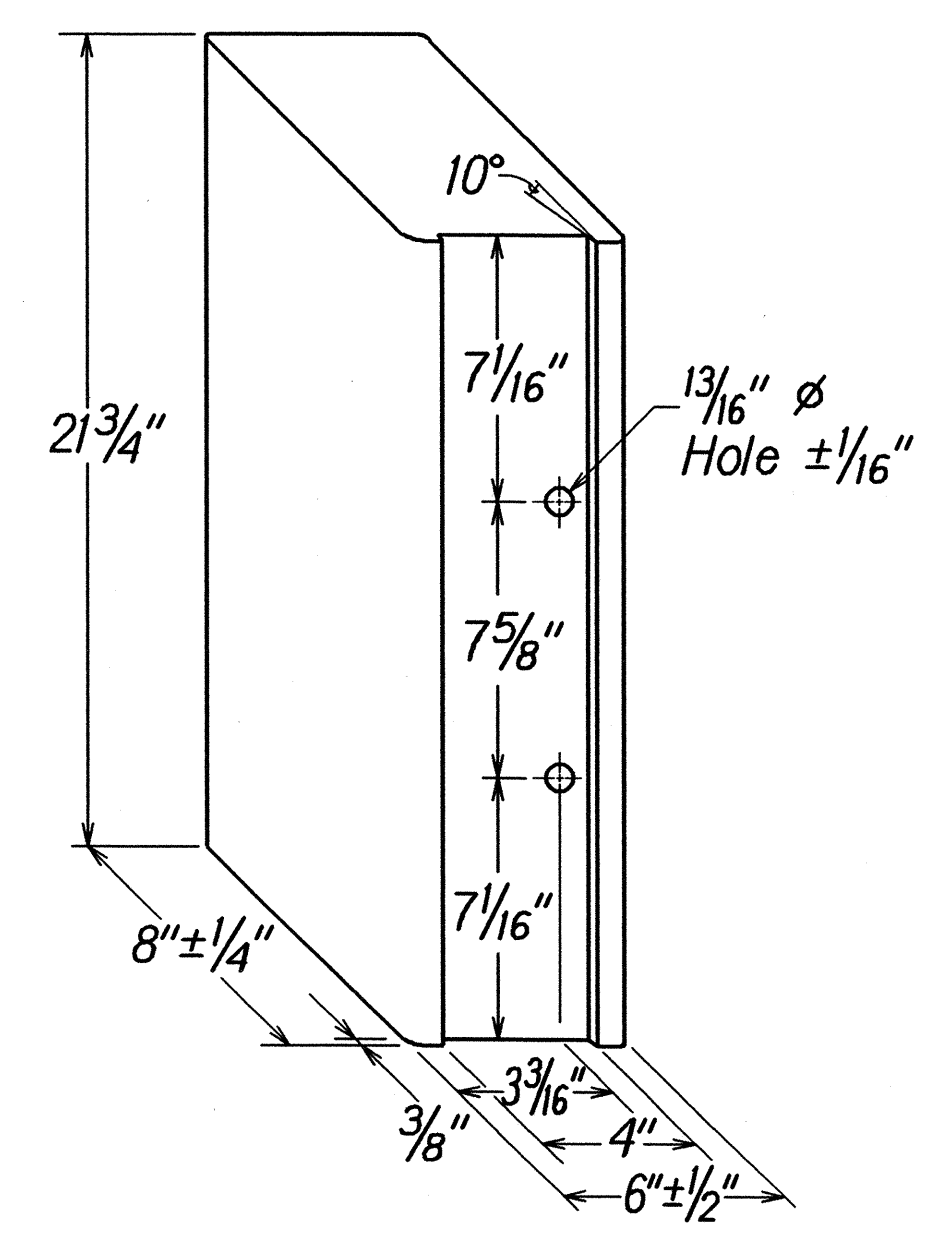
GUARDRAIL BOLTS AND RECESSED NUT



(Use at Posts where Splices do not occur)



MODIFIED 6X8X22 PLASTIC BLOCKOUT (TYPE I-THRIE)



RECYCLED POLYETHYLENE THRIE-BEAM OFFSET BLOCK (TYPE II - THRIE)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STRONG POST
THRIE-BEAM GUARDRAIL**

AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-0-01-05M

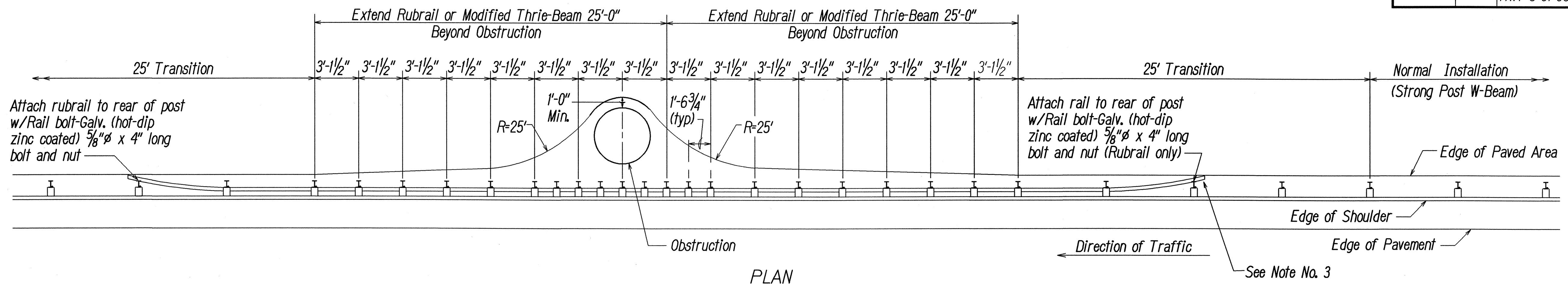
Scale: NTS Date: June, 2005

SHEET No. 5 OF 12 SHEETS

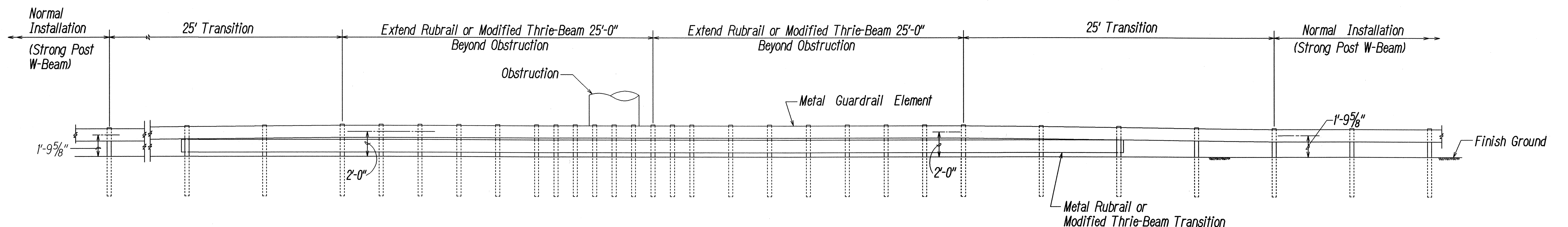
ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	

19/17/03 101r.rub/guardrail/thriebeam.dgn (standard plan TE-57 r1/03/89 & TE-57a r1/03/89)

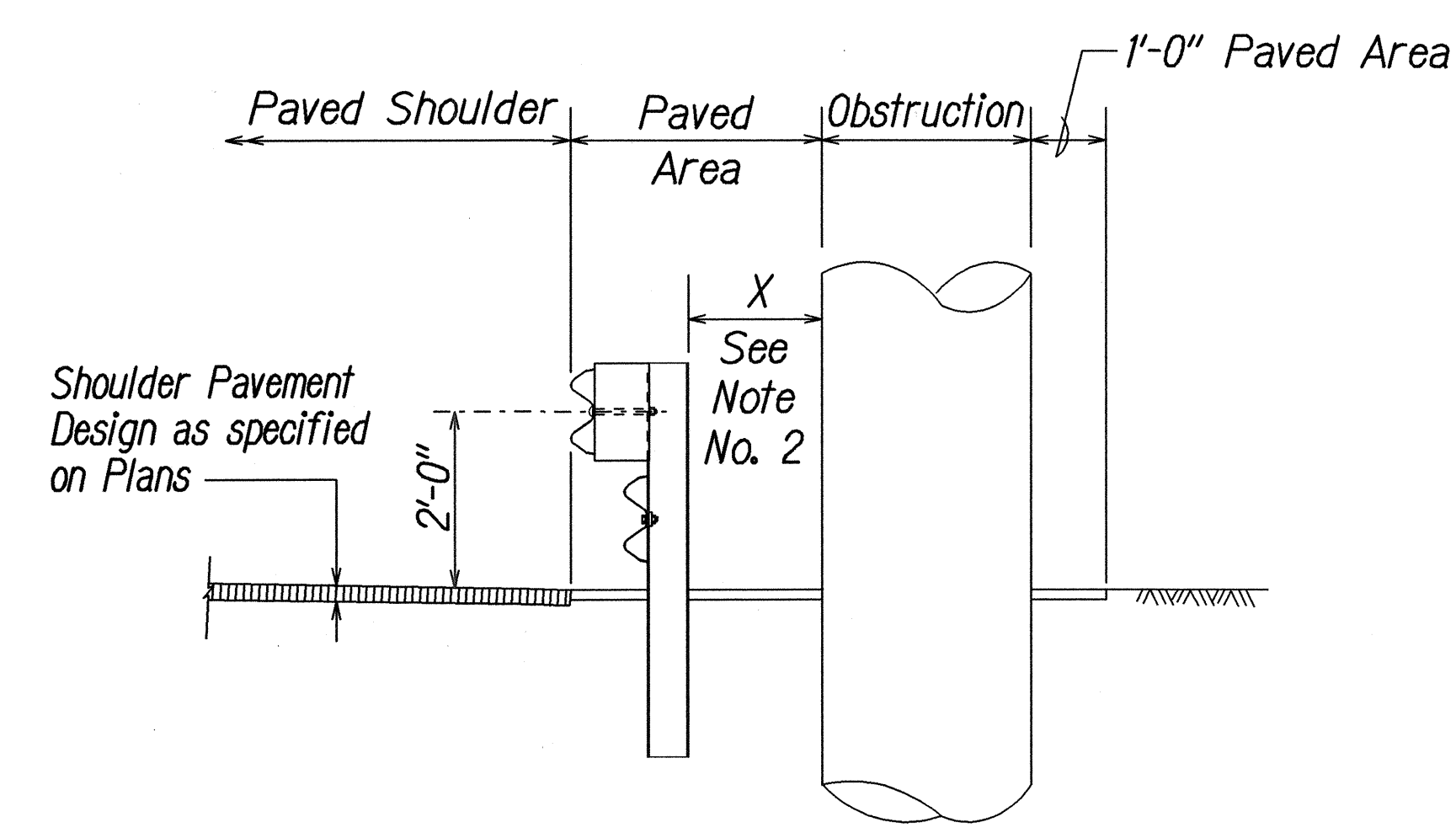
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	38	106



PLAN



ELEVATION



TYPICAL SECTION AT OBSTRUCTION

DETAIL OF GUARDRAIL INSTALLATION AT OBSTRUCTION

NOTES:

1. All Guardrail and Concrete Barrier Designs at Obstructions shall be approved by the Engineer.
2. If $X < 2'-0"$, Concrete Barrier or special guardrail design;
 $2'-0" \leq X < 3'-0"$, Strong Post Rubrail or Strong Post Thrie-Beam with reduced post spacing;
 $3'-0" \leq X$, Strong Post W-Beam with 6'-3" post spacing (Normal Installation).
3. If a pedestrian walkway or bicycle route is located behind the guardrail, the Engineer should install the Modified Thrie-Beam System. The Rubrail termini may become a hazard to pedestrians & bicyclists.

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

TE-53 r09/01/87 & TE-54 r11/03/88
 rdRubby/guardrail/tech-dwg (standard plan TE-53 r09/01/87 & TE-54 r11/03/88)
 r8/21/01

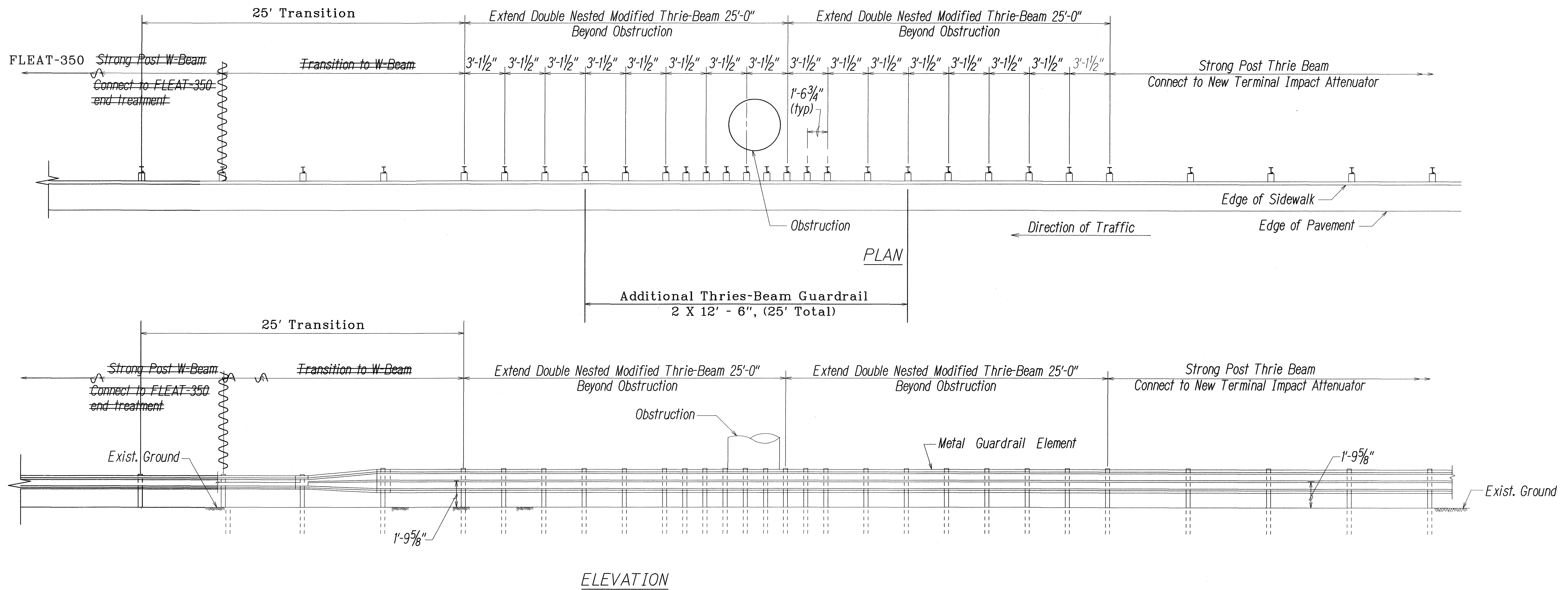
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

GUARDRAIL DETAILS
 (AT OBSTRUCTION)

AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-0-01-05M

Scale: NTS Date: June, 2005
 SHEET No. 6 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	39	106



SPECIAL DETAIL OF GUARDRAIL INSTALLATION AT OBSTRUCTION
AT AIEA ACCESS ROAD @ STA. 6+14±

- NOTES:**
1. All Guardrail and Concrete Barrier Designs at Obstructions shall be approved by the Engineer.

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

rd/ruby/guardrail/resurfacing (standard plan TE-53 r09/01/87 # TE-54 r11/03/89)

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

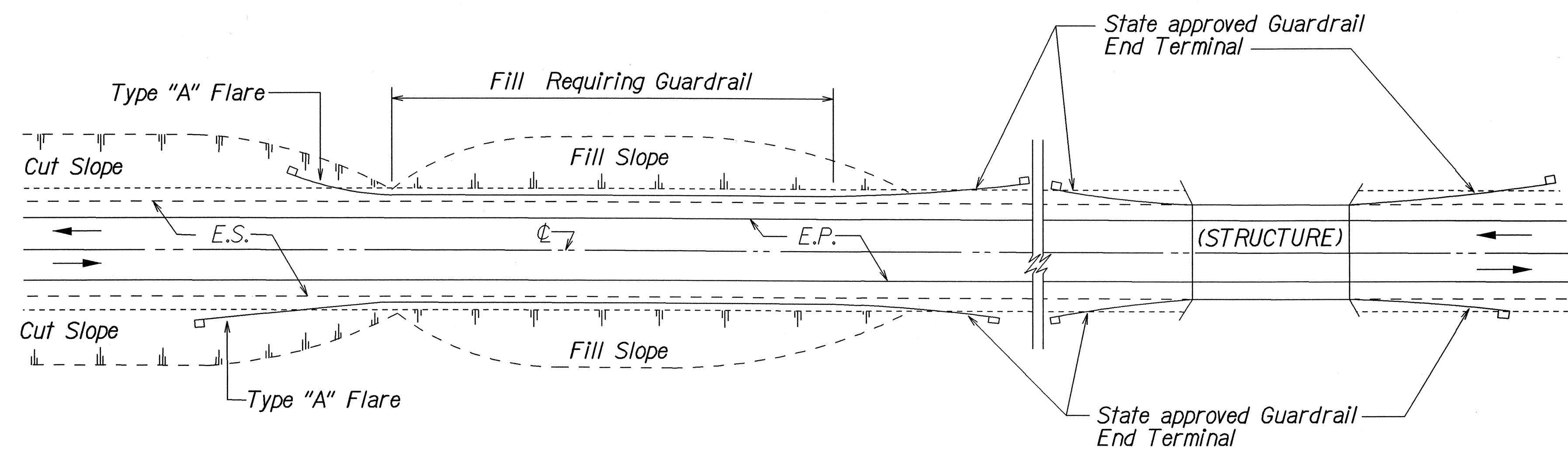
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS
(AT OBSTRUCTION - SPECIAL DESIGN)

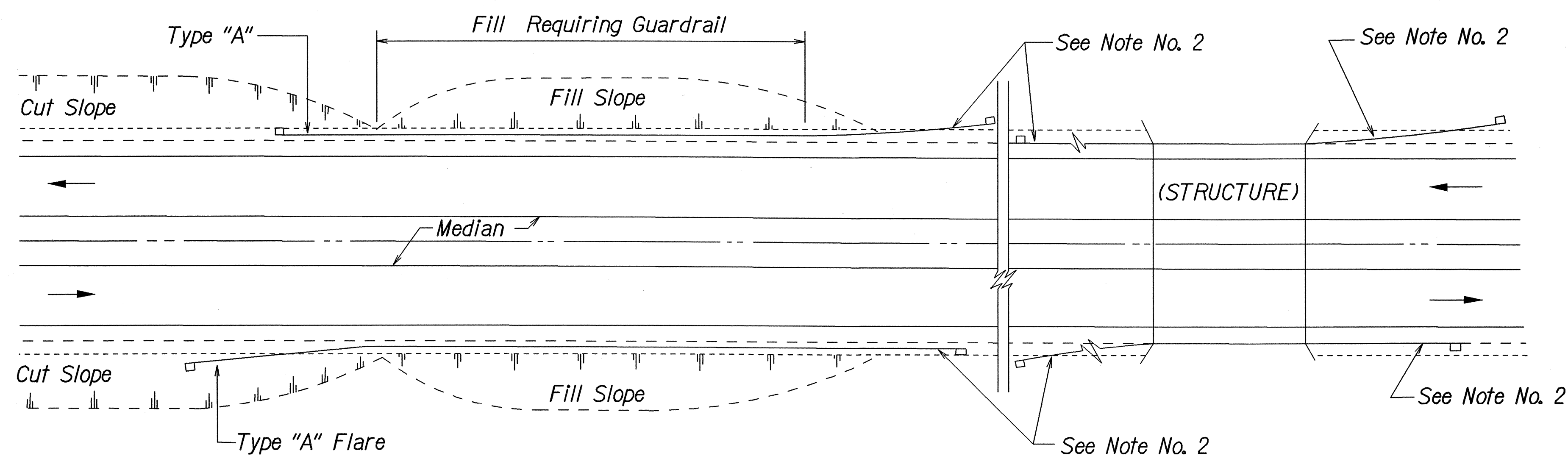
AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-0-01-05M

Scale: NTS Date: June, 2005
SHEET No. 7 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-01-05M	2006	40	106



PLAN
TWO WAY ROADWAY



PLAN
ONE WAY ROADWAY (DIVIDED HIGHWAY)

NOTES:

1. Metal Guardrail connection to concrete structures requires End Post Connection. See Structure Plans.
2. Depending on the existing field conditions, the Engineer shall determine which guardrail end terminal should be installed.
3. Refer to State's most current approved Product List for NCHRP 350 approved Guardrail End Terminals.

ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	
NOTE	DESIGNED BY	
QUANTITIES BY	CHECKED BY	
4/1/2005		

r3/01/99 101rudy/guardrail/resgredgn (standard plan TE-58 rev 01/01/88)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

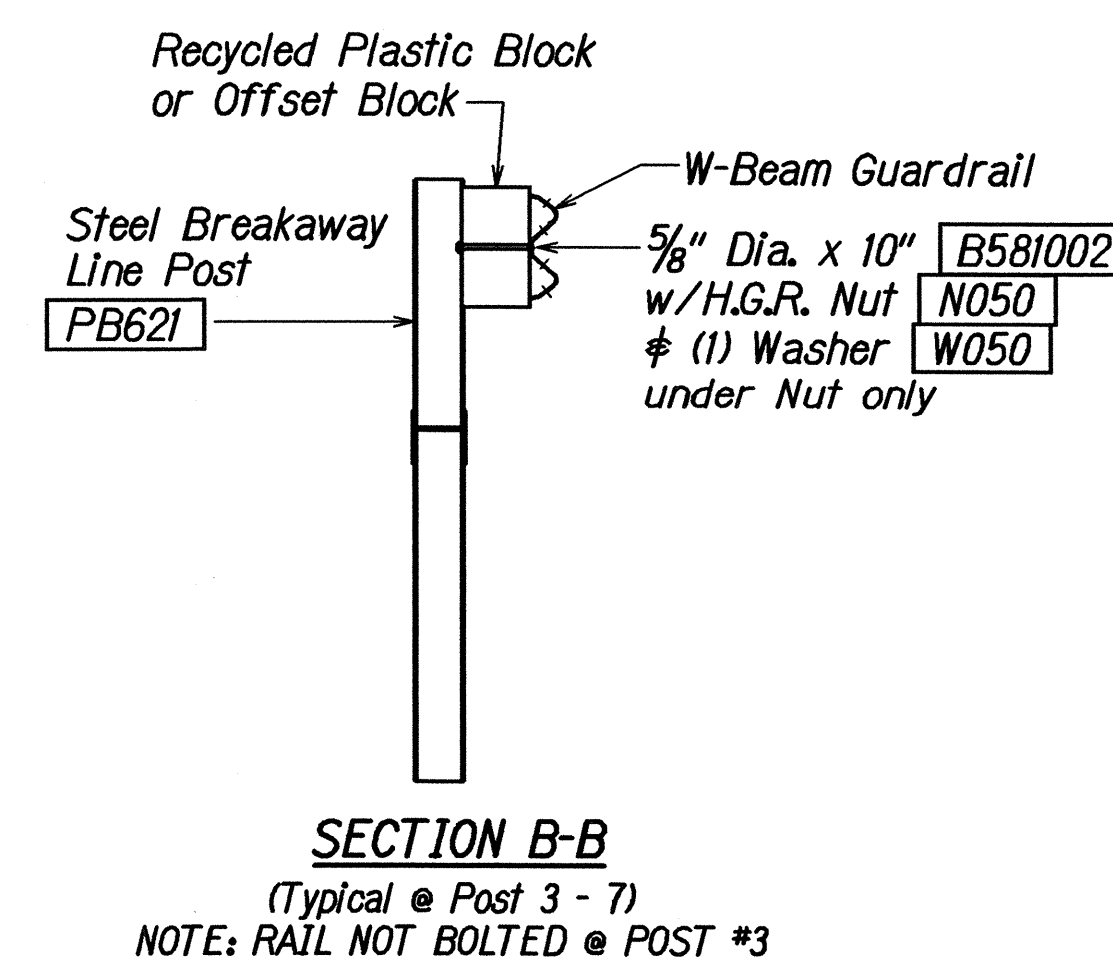
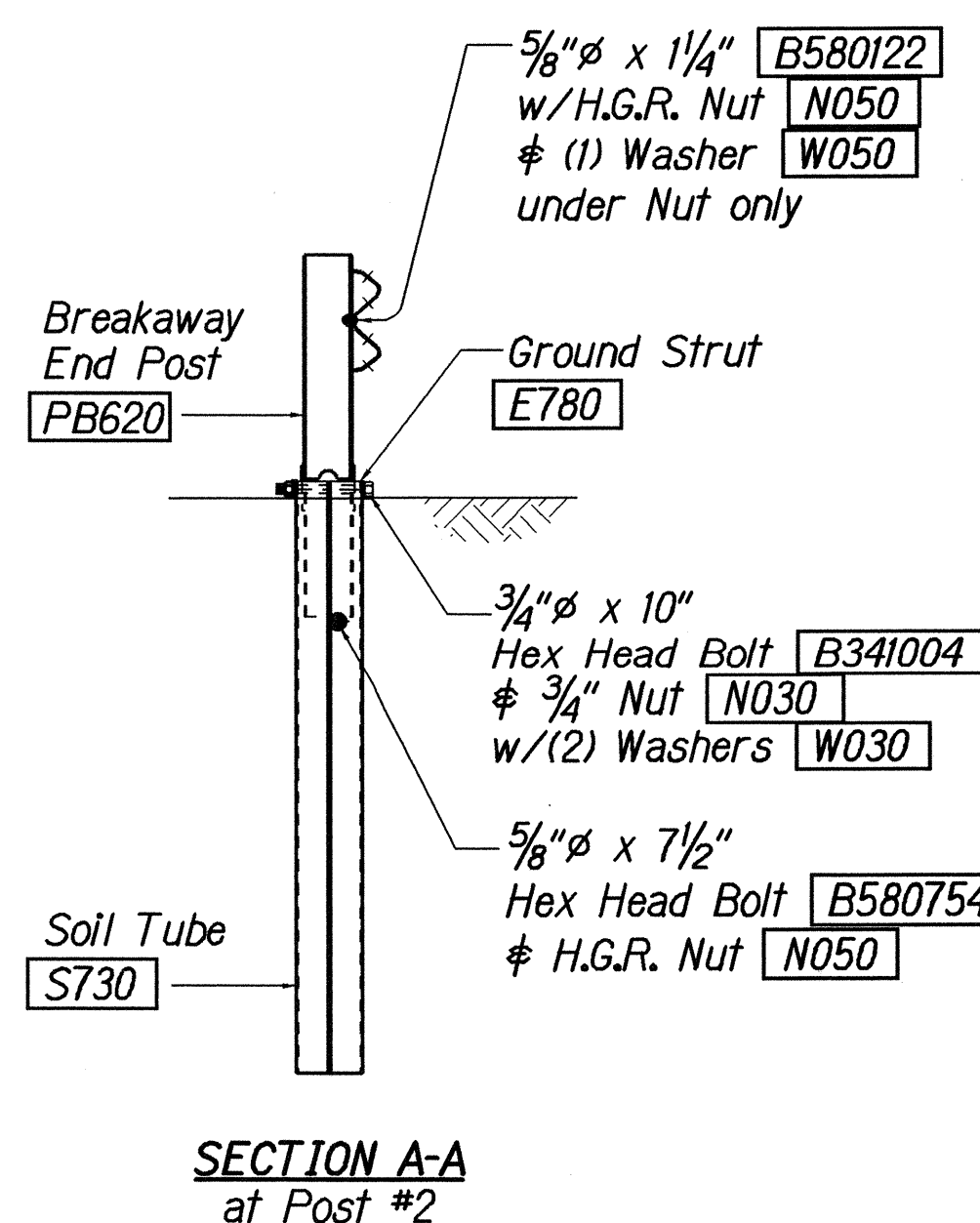
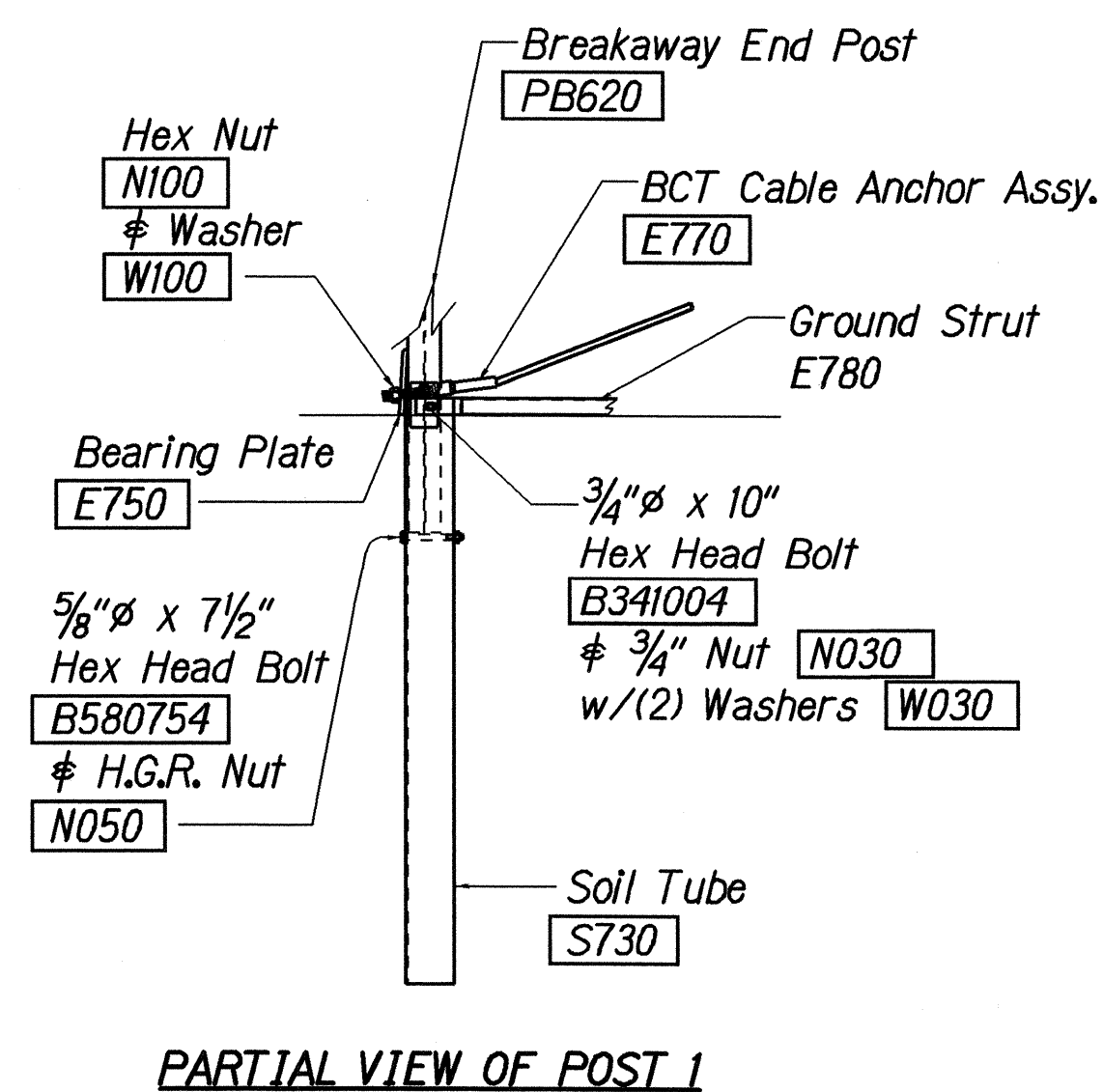
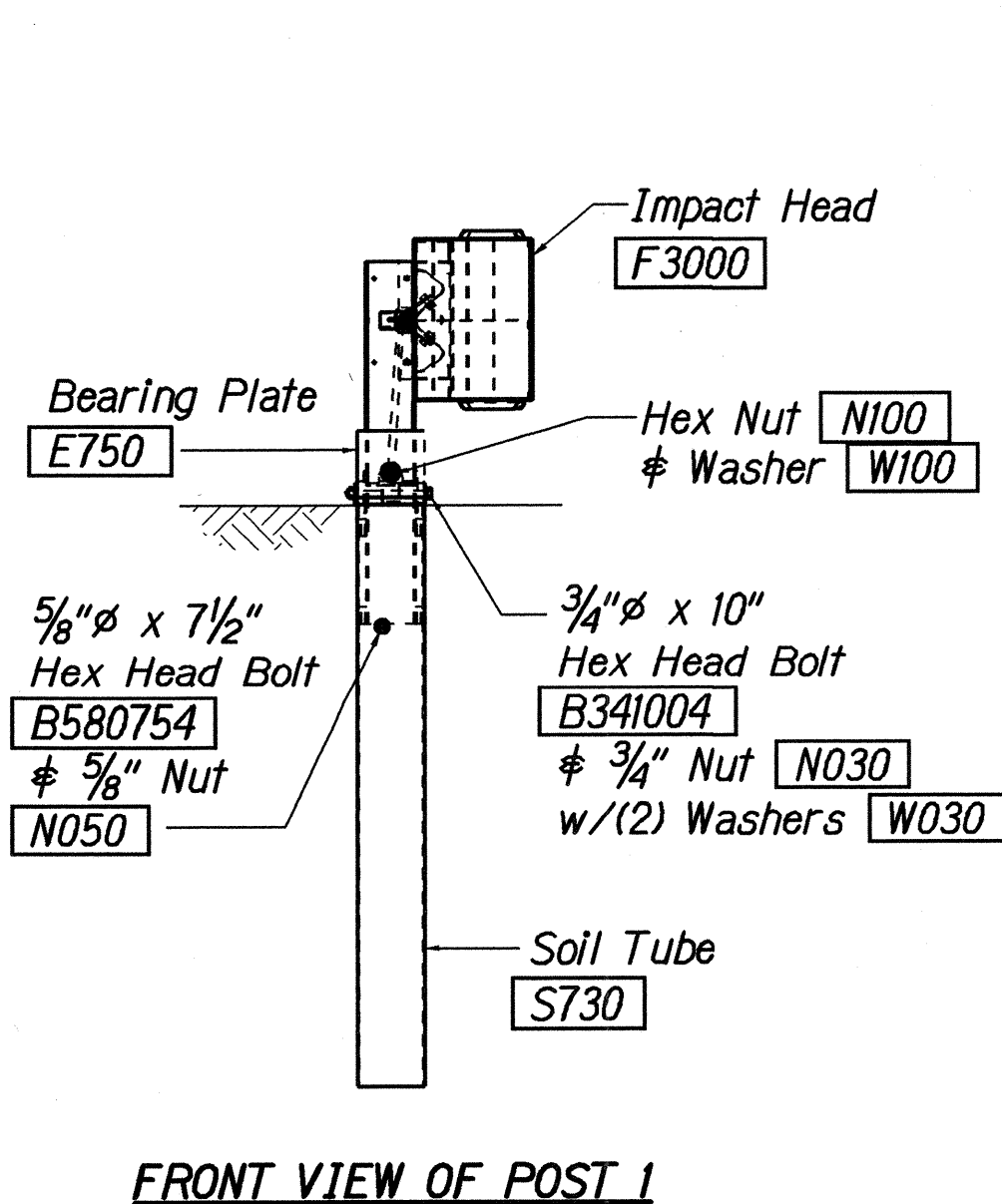
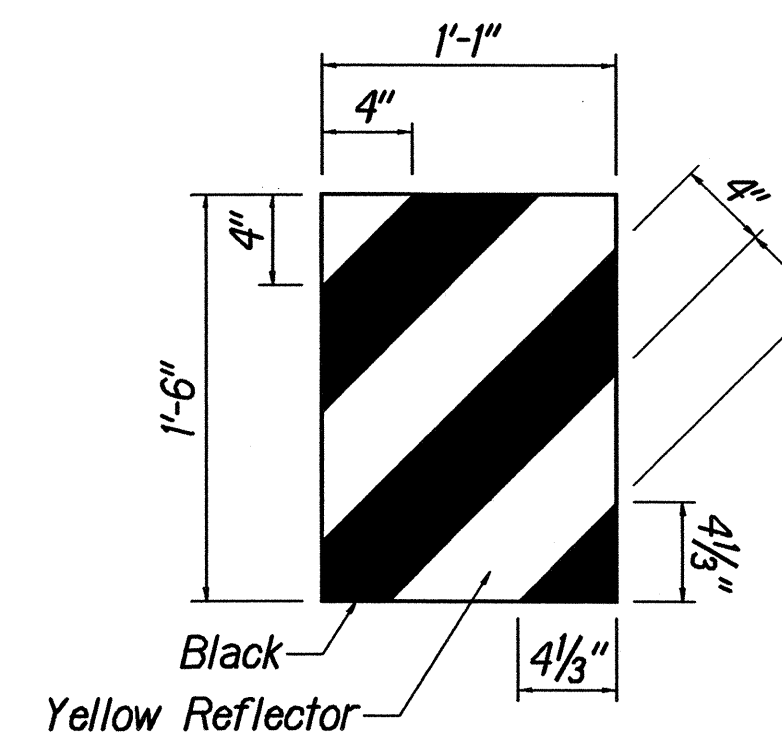
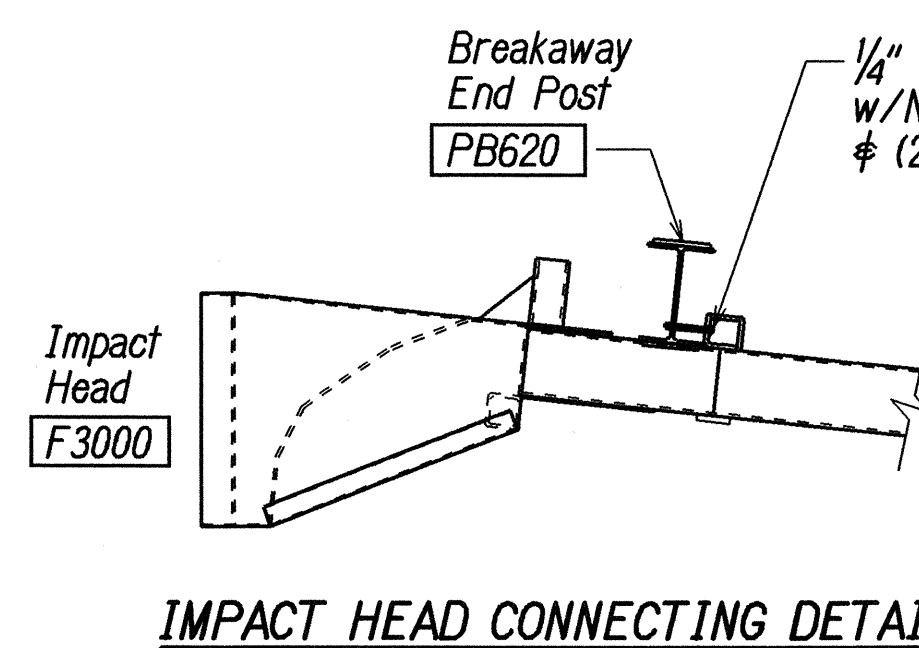
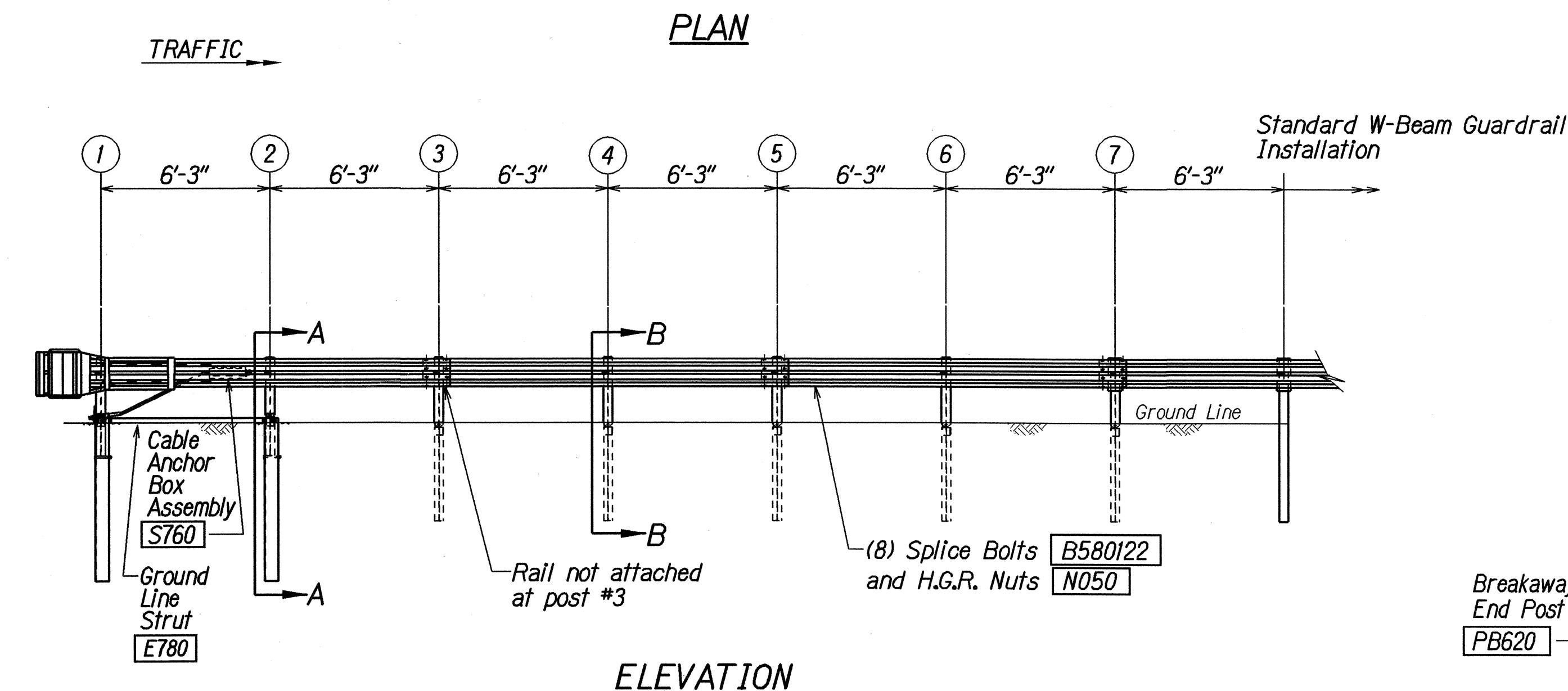
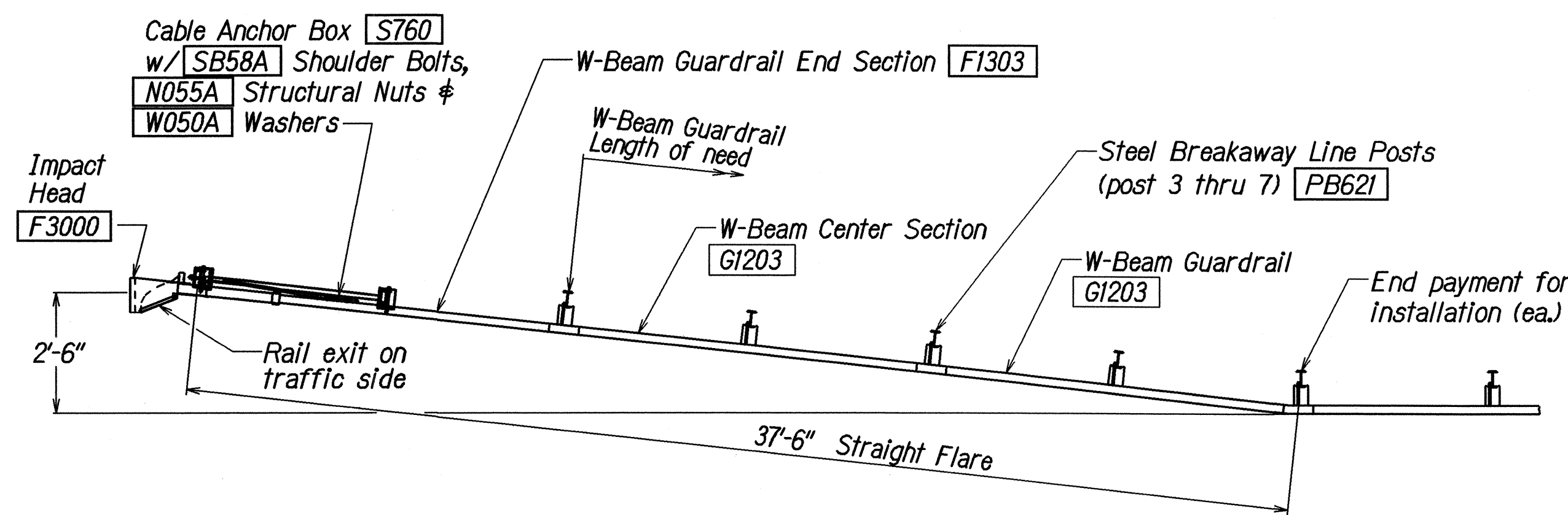
GUARDRAIL DETAILS

AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-O-01-05M

Scale: NTS Date: June, 2005

SHEET No. 8 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	42	106



GENERAL NOTES

- Breakaway steel posts are required with the FLEAT Terminal.
- All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- The soil tubes shall not protrude more than 4" above ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
- The soil tubes may be driven with an approved driving head. Soil tubes shall not be driven with the post in the tube. If the tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
- When rock is encountered during excavation, a 12" Dia. post hole, 20" deep may be used if approved by the engineer. Granular material will be placed in the bottom of the hole approx. 2 1/2" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
- The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
- (R) or (L) indicates right or left Impact Head Reflector Marker (IHRM). Providing and installing of IHRM shall be considered incidental to end treatment.
- The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.

ITEM NO.	QTY.	BILL OF MATERIALS
F3000	1	IMPACT HEAD
F1303	1	W-BEAM GUARDRAIL END SECTION, 12 GA.
G1203	2	W-BEAM GUARDRAIL, 12 GA.
S730	2	*FOUNDATION SOIL TUBE, 6" x 8" x 72"
E750	1	BEARING PLATE
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
E780	1	GROUND STRUT
PB620	2	STEEL BREAKAWAY END POST
PB621	5	STEEL BREAKAWAY LINE POST
	5	RECYCLED PLASTIC BLOCKOUT OR OFFSET BLOCK
	1	IMPACT HEAD REFLECTOR MARKER - IHRM(R) OR (L)
HARDWARE		
B580122	25	5/8" Dia. x 1 1/4" SPLICE BOLT, POST #2
B580754	2	5/8" Dia. x 7 1/2" HEX BOLT
B341004	2	3/4" Dia. x 10" HEX BOLT
B581002	5	5/8" Dia. x 10" H.G.R. BOLT (POST 3 THRU 7)
N050	32	5/8" Dia. H.G.R. NUT (SPURGE 24 SOIL TUBES 2, POST 2 THRU 7, 6)
N030	2	3/4" Dia. HEX NUT
W050	6	H.G.R. WASHER
W030	4	3/4" ID WASHER
N100	2	1" ANCHOR CABLE HEX NUT
W100	2	1" ANCHOR CABLE WASHER
B140404	2	1/4" x 4" HEX BOLT
N014	2	1/4" HEX NUT
W014	4	1/4" WASHER
SB58A	8	CABLE ANCHOR BOX SHOULDER BOLT
N055A	8	1/2" A325 STRUCTURAL NUT
W050A	16	1 1/16" OD x 3/16" ID A325 STR. WASHER

Foundation Tube Options For Posts 1 & 2
 *6'-0" Split Foundation Tubes S730
 *6'-0" Solid Foundation Tubes E731
 *5'-0" Foundation Tubes S735 W/Soil Plates SP600
 *4'-6" Foundation Tubes E735 W/Soil Plates SP600

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
FLEAT-350
FLARED ENERGY ABSORBING TERMINAL
 AIEA ACCESS ROAD RESURFACING
 MOANALUA ROAD
 TO KAMEHAMEHA HIGHWAY
 PROJECT NO. HWY-0-01-05M
 Not to Scale Date: June, 2005
 SHEET No. 10 OF 12 SHEETS

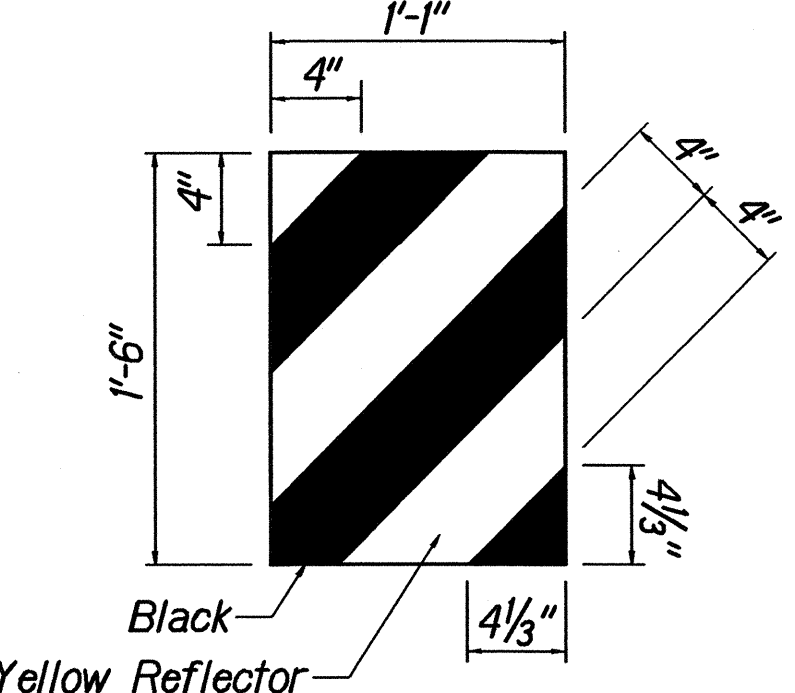
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-05M	2006	43	106

ITEM NO.	QTY.	BILL OF MATERIALS
S3000	1	IMPACT HEAD
SI303/SI305	1	W-BEAM GUARDRAIL END SECTION 12 GA. 12.5' or 25'
GI203/GI205	3/1	W-BEAM GUARDRAIL, 12 GA., 12.5' or 25'
S730	2	*FOUNDATION SOIL TUBE, 6" x 8" x 72"
E750	1	BEARING PLATE
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
E780	1	GROUND STRUT
PB620	2	STEEL BREAKAWAY END POSTS
PB621	6	STEEL BREAKAWAY LINE POSTS
	6	RECYCLED PLASTIC BLOCKOUTS OR OFFSET BLOCK
	1	IMPACT HEAD REFLECTOR MARKER - IHRM(R) OR (L)
HARDWARE		
B580122	17/33	5/8" Dia. x 1 1/4" SPLICE BOLTS, POST #2
B580754	2	5/8" Dia. x 7 1/2" HEX BOLTS
B341004	2	3/4" Dia. x 10" HEX BOLTS
B341002	6	5/8" Dia. x 10" H.G.R. BOLT (POST 2 ONLY)
B581802	6	5/8" Dia. x 18" H.G.R. BOLT (POST 3 THRU 8)
N050	26/42	5/8" Dia. H.G.R. NUT (SPLICE 17/33, SOIL TUBES 2, POST 2 THRU 8)
N030	2	3/4" Dia. HEX NUTS
W050	7	H.G.R. WASHER
W030	4	3/4" ID WASHER
N100	2	1" ANCHOR CABLE HEX NUT
W100	2	1" ANCHOR CABLE WASHER
B140404	2	1/4" x 4" HEX BOLT
N014	2	1/4" HEX NUT
W014	4	1/4" WASHER
SB58A	8	CABLE ANCHOR BOX SHOULDER BOLTS
N055A	8	1/2" A325 STRUCTURAL NUTS
W050A	16	1 1/16" OD x 9/16" ID A325 STR. WASHER

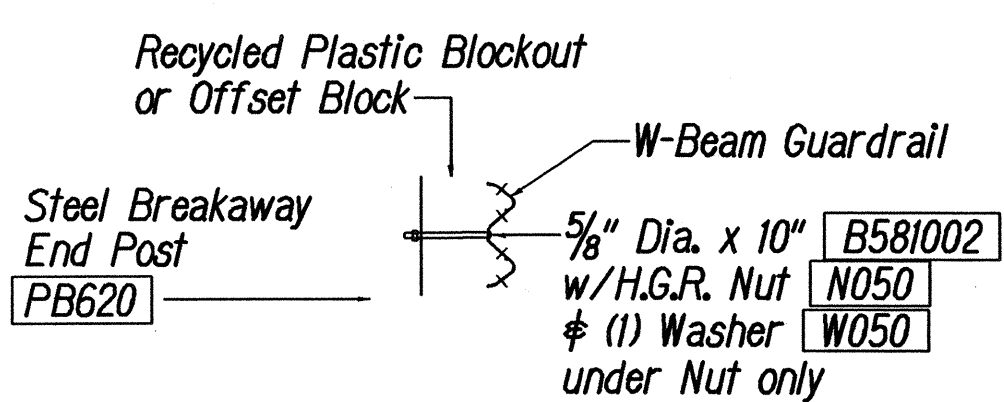
Foundation Tube Options For Posts 1 & 2
 *6'-0" Split Foundation Tubes S730
 *6'-0" Solid Foundation Tubes E731
 *5'-0" Foundation Tubes S735 W/Soil Plates SP600
 *4'-6" Foundation Tubes E735 W/Soil Plates SP600

GENERAL NOTES:

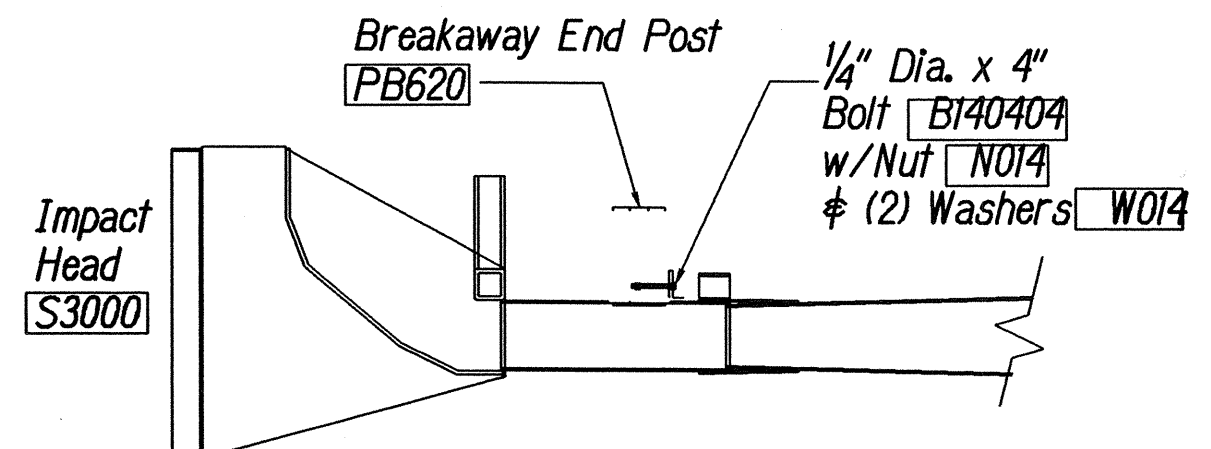
- Breakaway steel posts are required with the Sequential Kinking Terminal.
- All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- When the Sequential Kinking Terminal is selected as the end treatment for W-Beam Guardrail installation, the W-Beam Guardrail will be flared at a rate of 50:1 to prevent the impact head from encroaching on the shoulder. The flare is not required and may be decreased or eliminated for specific installations.
- The soil tube shall not protrude more than 4" above ground (measured) along a 5' cord). Site grading may be necessary to meet this requirement.
- The soil tubes may be driven with an approved driving head. They shall not be driven with the post in the tube. If the soil tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
- When rock is encountered during excavation, a 12" dia. post hole, 20" deep may be used if approved by the Engineer. Granular material will be placed in the bottom of the hole approx. 2 1/2" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
- The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
- A special site evaluation should be considered prior to using the Sequential Kinking Terminal where there is less than 25' between the outlet side of the Sequential Kinking Terminal and any adjacent driving lane.
- (R) or (L) Indicates right or left Impact Head Reflector Marker (IHRM). Providing and installing of IHRM shall be considered incidental to end treatment.
- The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.



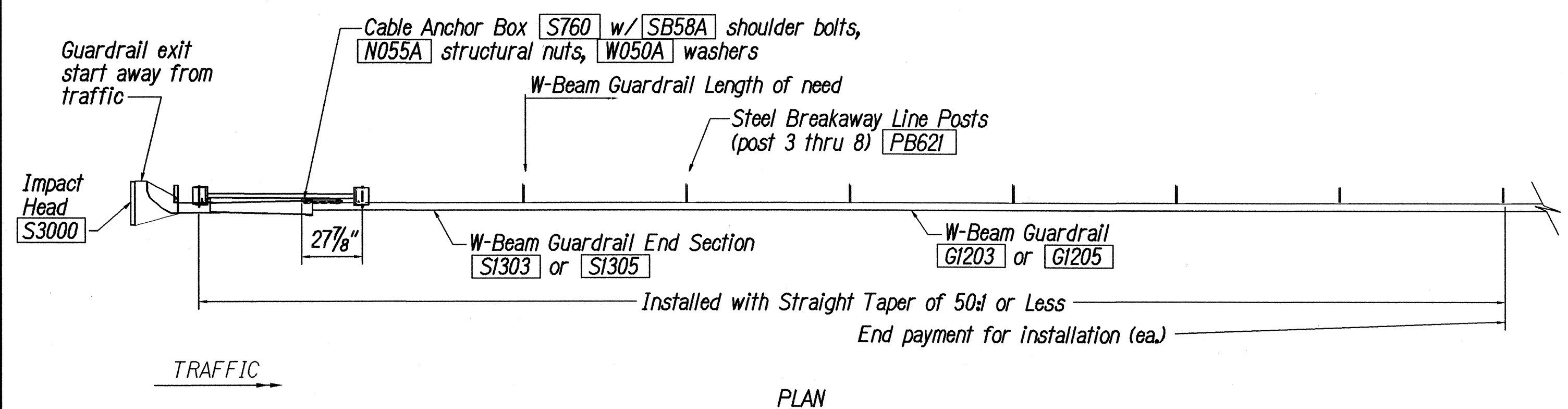
IHRM(R)
IMPACT HEAD REFLECTOR
MARKER INSERT DETAIL



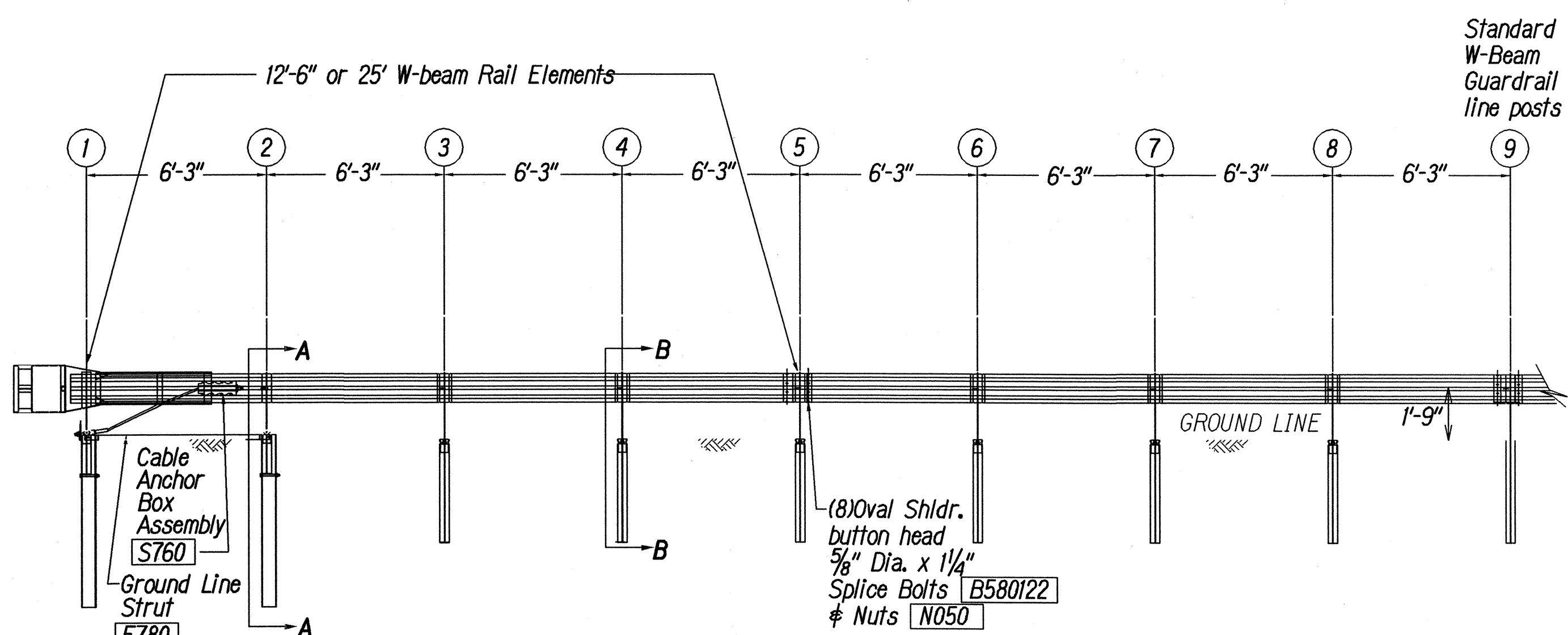
SECTION B-B
typical @ Post 3 thru 8



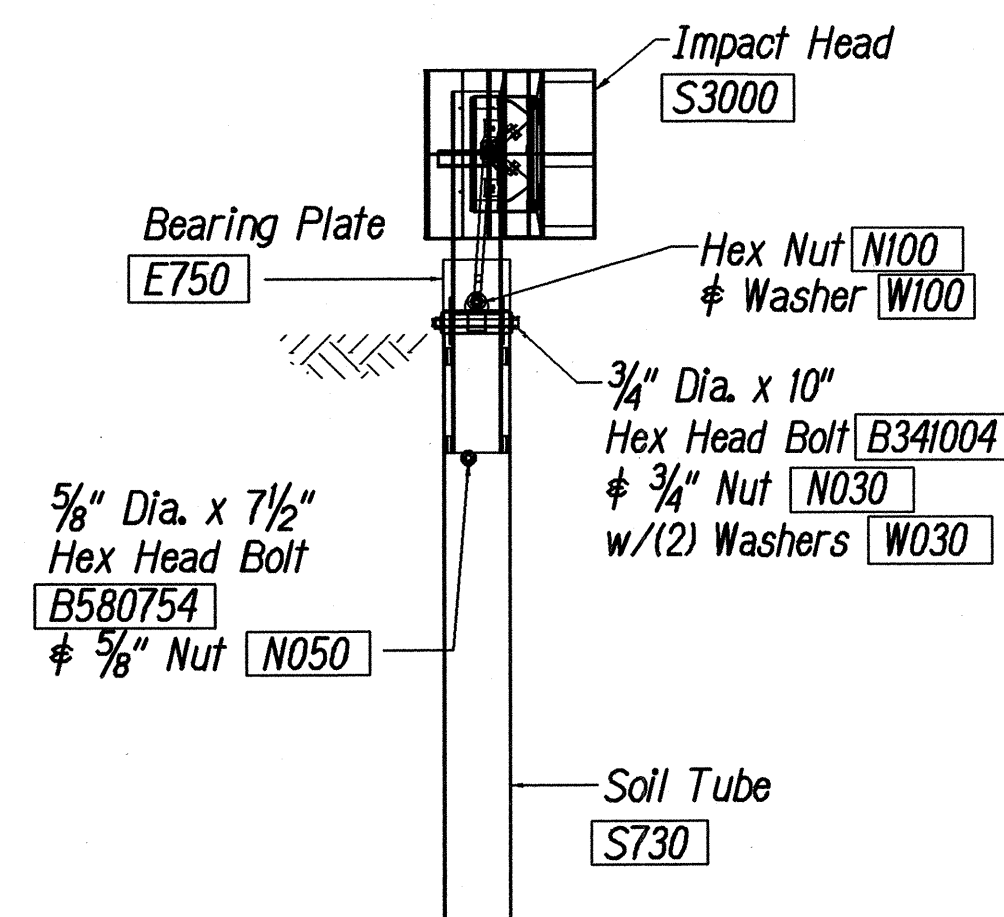
IMPACT HEAD CONNECTION DETAIL



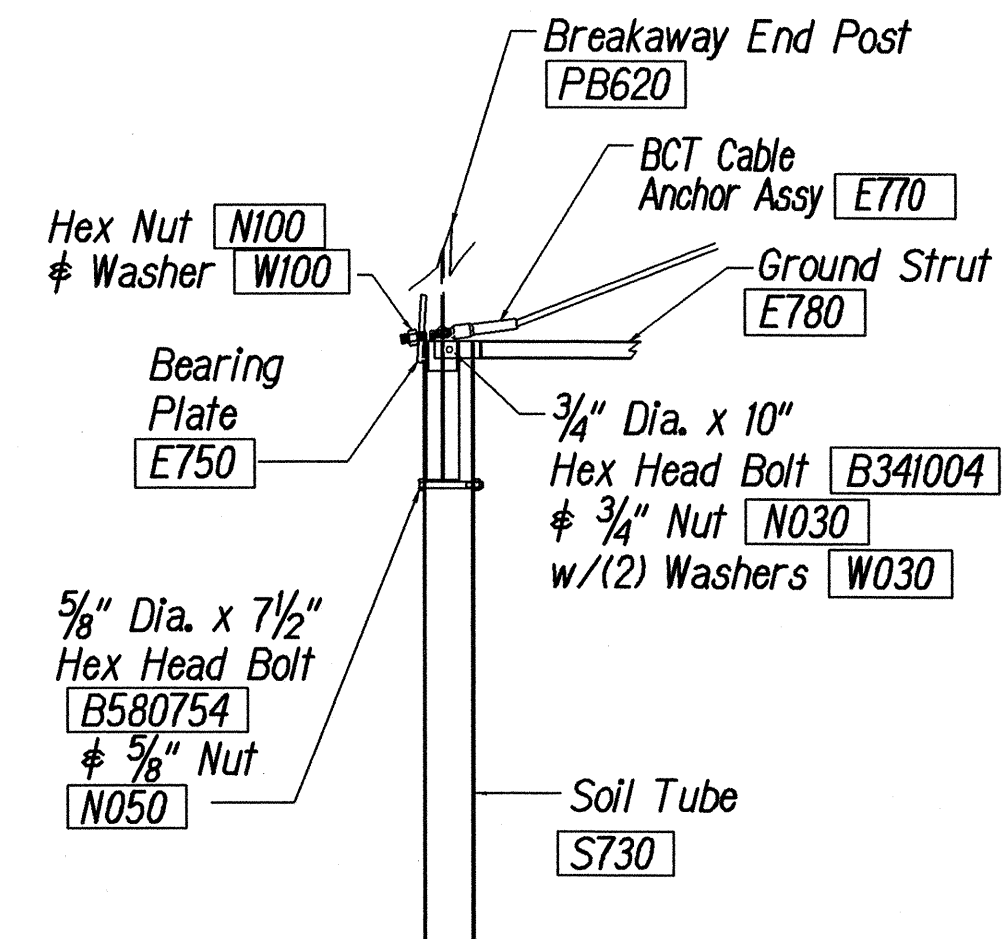
PLAN



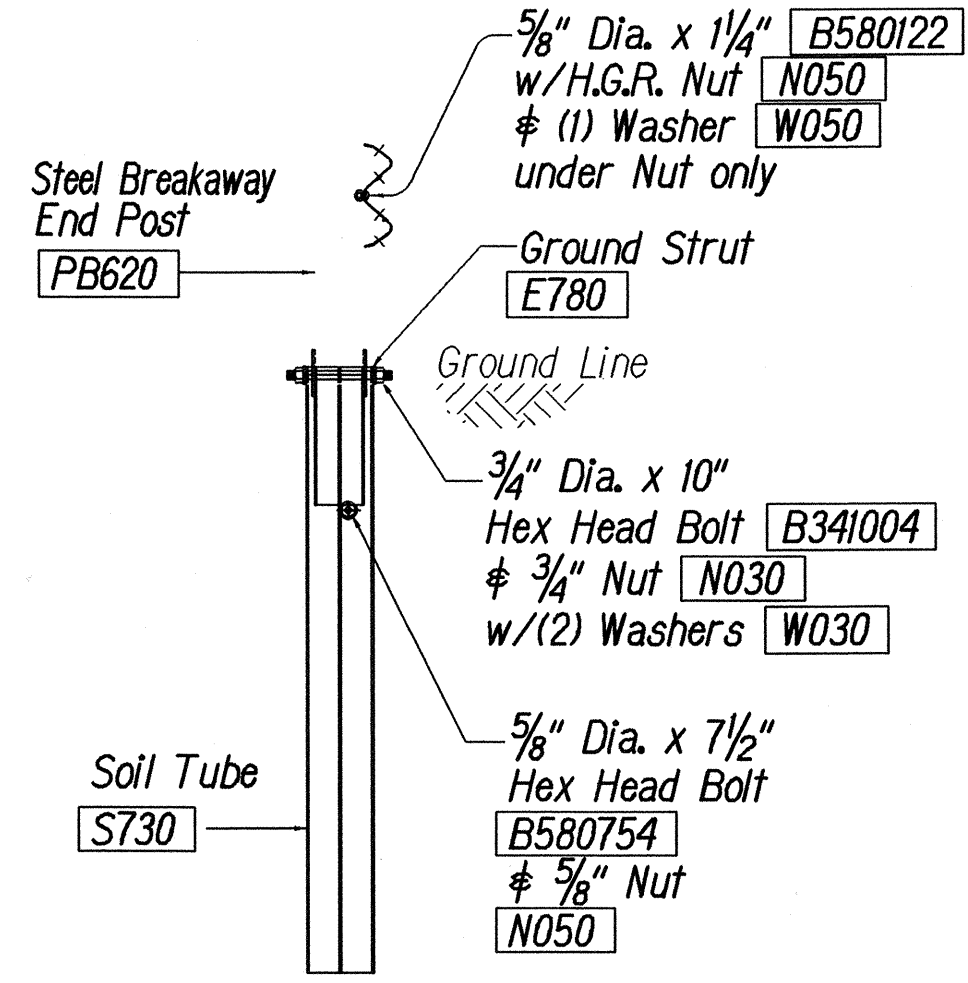
ELEVATION



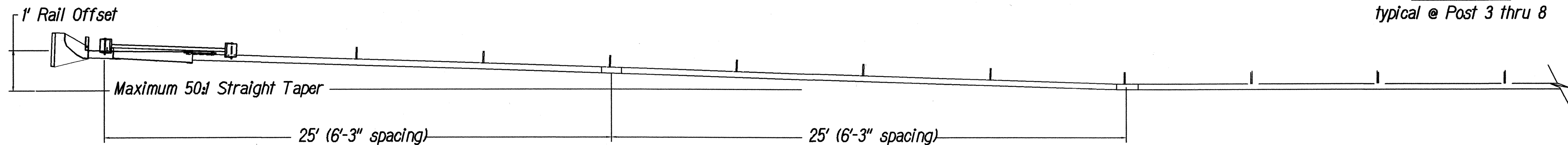
FRONT VIEW OF POST 1



PARTIAL VIEW OF POST 1



SECTION A-A
at Post 2



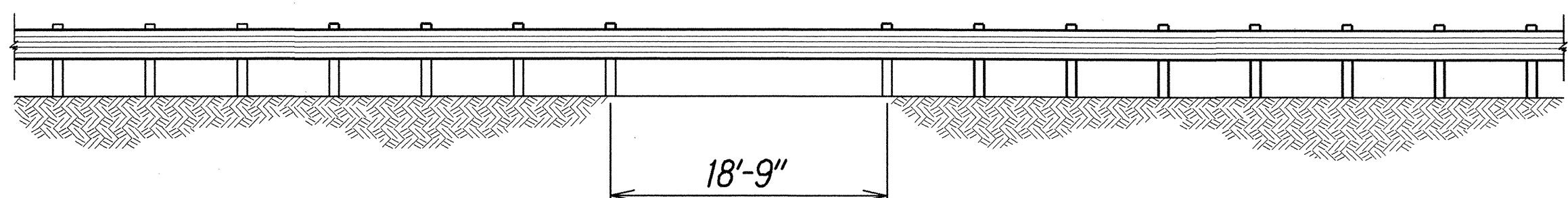
DETAIL A
50:1 flare rate

DATE	_____
SURVEY PLANNED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
APPROVED BY	_____

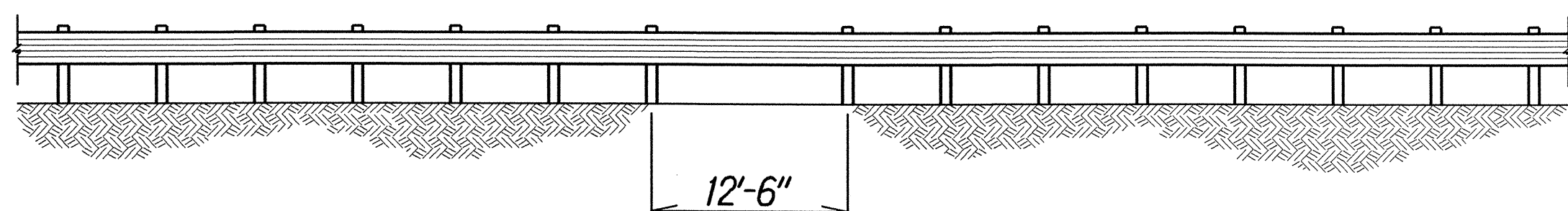
13-28/01 101rubby/guardrail/sk350.dgn (Stand Plan TE-61 rhl/03/89 & TE-62 r09/01/87)

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
SKT-350
SEQUENTIAL KINKING TERMINAL
 AIEA ACCESS ROAD RESURFACING
 MOANALUA ROAD
 TO KAMEHAMEHA HIGHWAY
 PROJECT NO. HWY-0-01-05M
 Not to Scale Date: June, 2005
 SHEET No. 11 OF 12 SHEETS

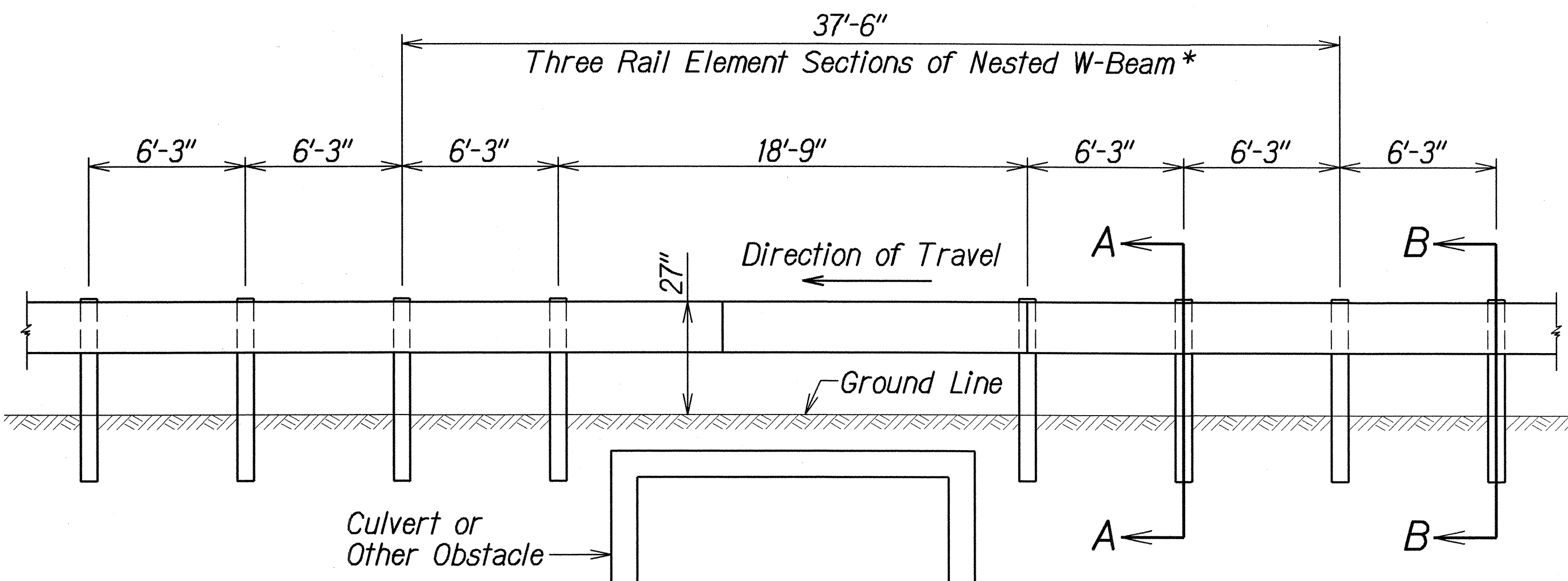
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-01-05M	2006	44	106



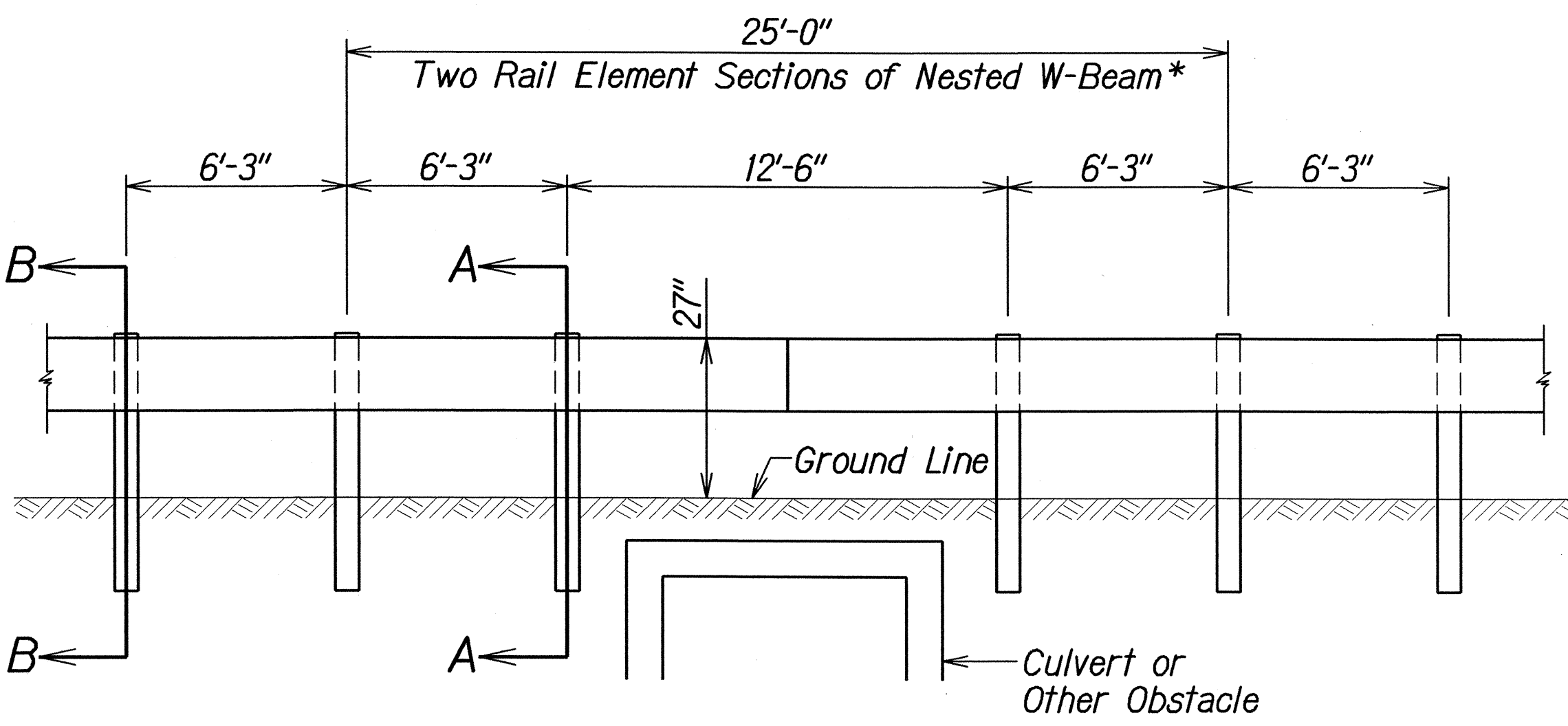
LONG SPAN OVER CULVERT



LONG SPAN OVER CULVERT



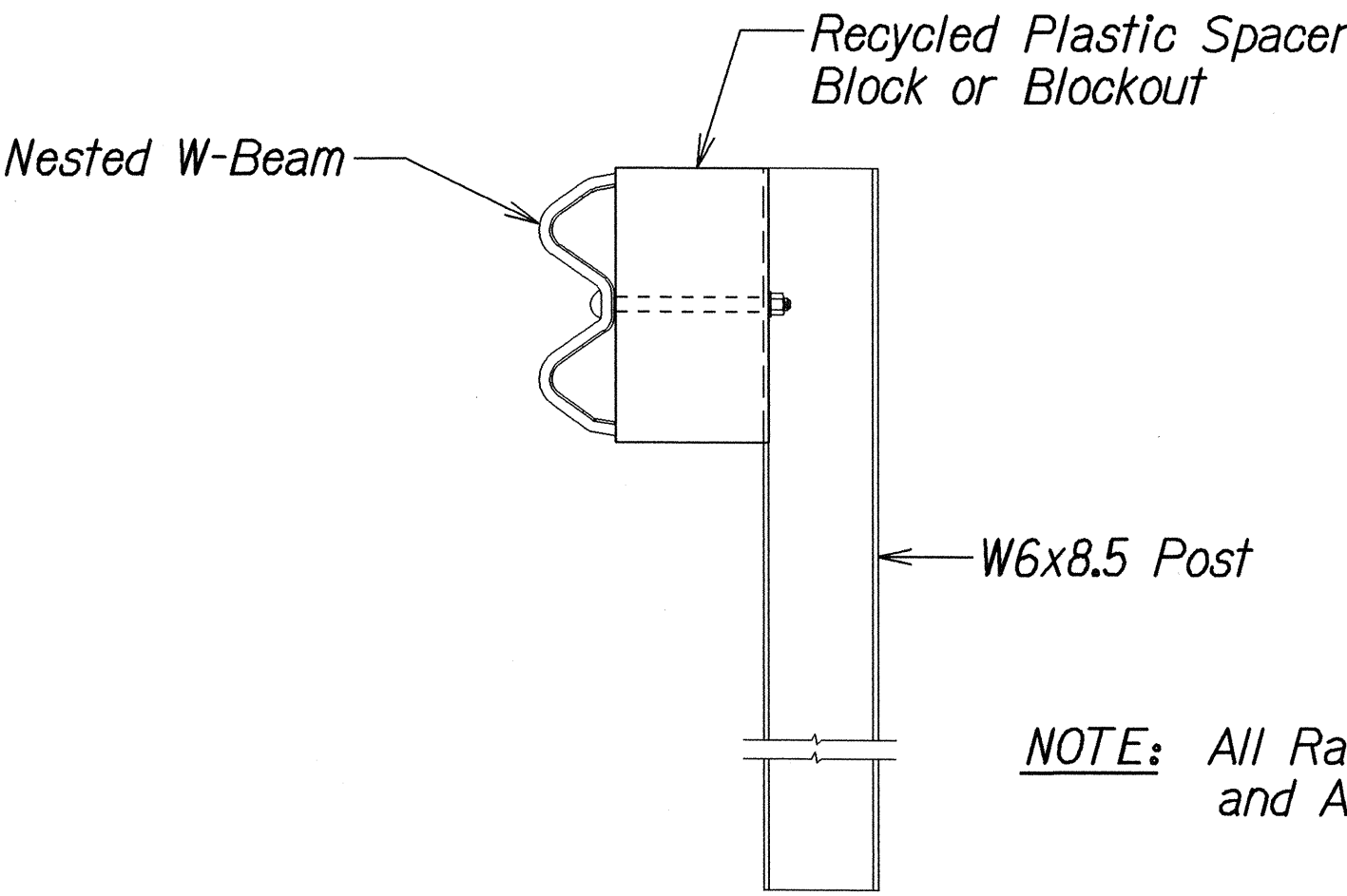
NESTED LONG SPAN STRONG POST
W-BEAM GUARDRAIL OVER 18'-9" CULVERT
(MAXIMUM DYNAMIC DEFLECTION OF 3.2 FT.)



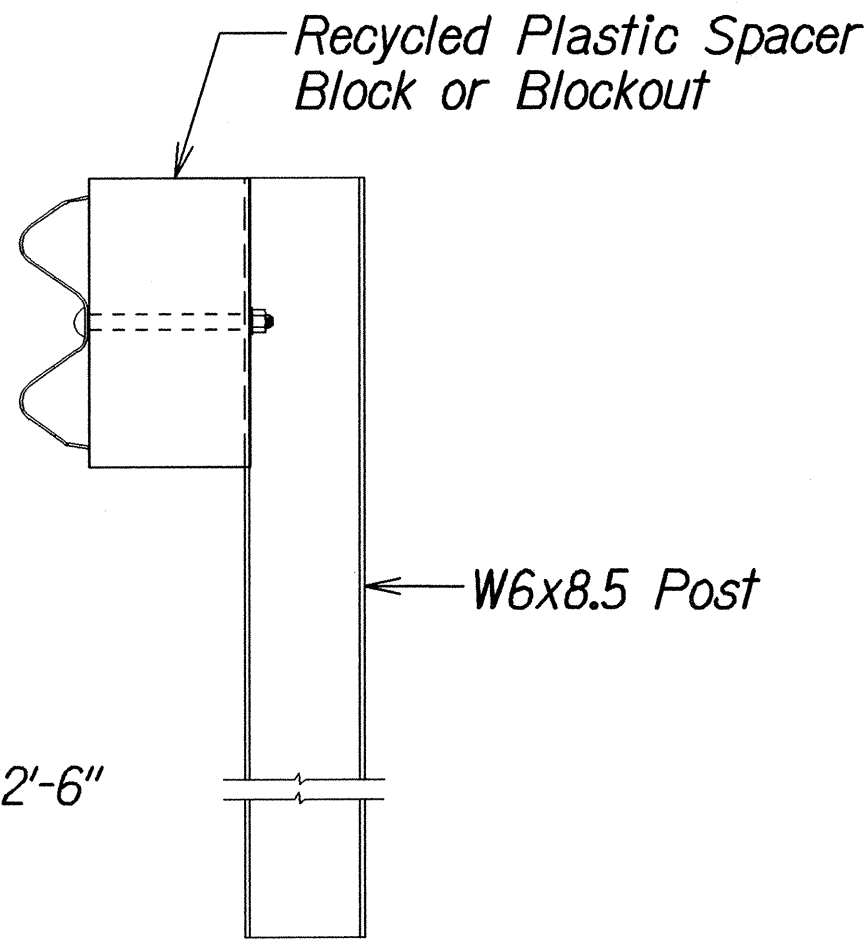
(SPlice IN CENTER OF 12'-6" SPACING)
NESTED LONG SPAN STRONG POST
W-BEAM GUARDRAIL OVER 12'-6" CULVERT
(MAXIMUM DYNAMIC DEFLECTION OF 3.1 FT.)

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

4/22/04
tdl:ubt/guardrail/nstowbeamsp.dgn



SECTION A-A



SECTION B-B

NOTE: All Rail Elements Sections are 12'-6" and All Posts are 6' Long

*Note: All nested W-Beam splices points shall be staggered.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS
AIEA ACCESS ROAD RESURFACING
MOANALUA ROAD
TO KAMEHAMEHA HIGHWAY
Project No. HWY-O-01-05M

Scale: NTS
SHEET No. 12 OF 12 SHEETS

Date: January, 2005