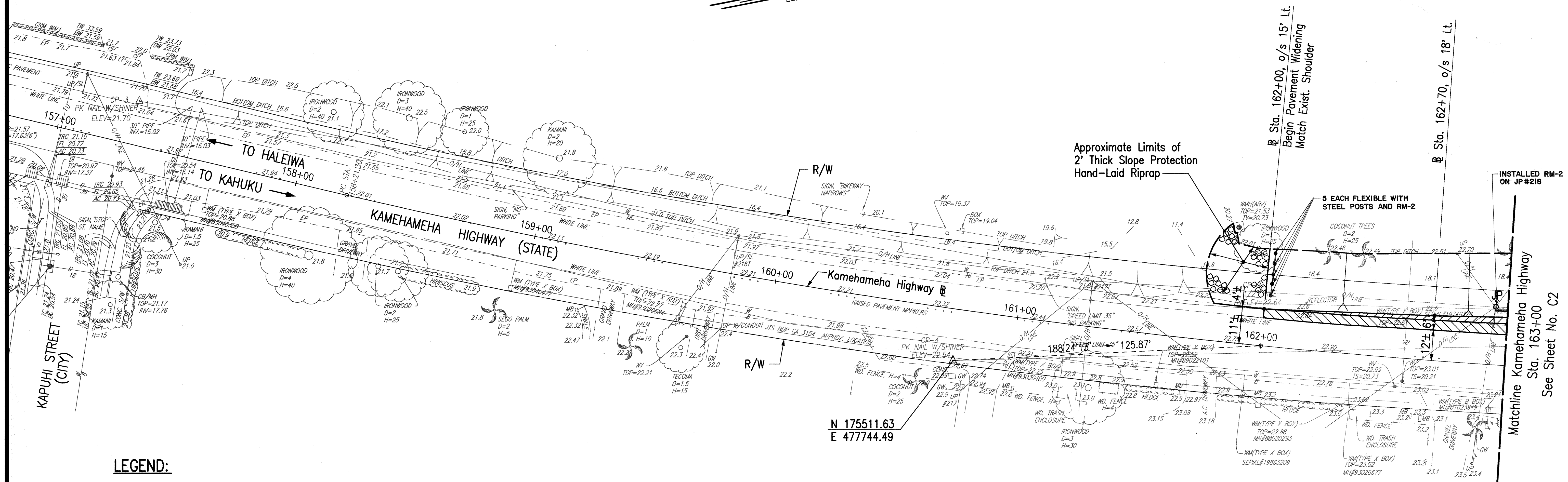
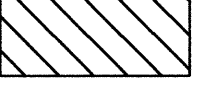
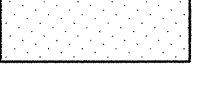
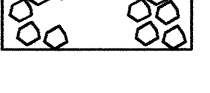


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	8	46

TRUE NORTH
SCALE: 1 IN = 20 FT



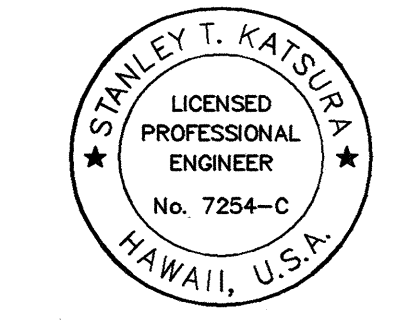
LEGEND:

-  **AC Pavement:**
2 1/2" AC Pavement, Mix IV
1 1/2" Plant Mix Glassphalt Concrete Base Course
-  **Reconstruct Exist. AC Pavement:**
Remove Exist. AC Pavement and AC Base
Replace with 2 1/2" AC Pavement Mix IV and
1 1/2" Plant Mix Glassphalt Concrete Base Course
-  **AC Pavement (Parking):**
2" AC Pavement Mix IV
6" Aggregate Base Course
-  Remove Exist. Pavement
-  Hand-Laid Riprap
-  Fill Slope
-  JP
Utility Joint Pole

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NO. 1	_____	_____
NO. 2	_____	_____
NO. 3	_____	_____
NO. 4	_____	_____
NO. 5	_____	_____
NO. 6	_____	_____
NO. 7	_____	_____
NO. 8	_____	_____
NO. 9	_____	_____
NO. 10	_____	_____

CAD by E DELA CRUZ, 55-52

Last Saved: J:\PUPUKEA\ROAD\Rc-ppk1.dwg, 11/30/99 at 12:33



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY CONSTRUCTION

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUPUKEA ROAD
PROJECT NO. 83B-01-98

SCALE: 1" = 20' DATE: FEBRUARY 2000

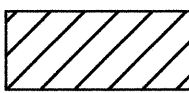
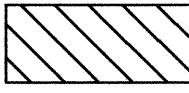
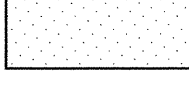
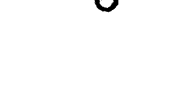
SHEET NO. C1 OF 10 SHEETS

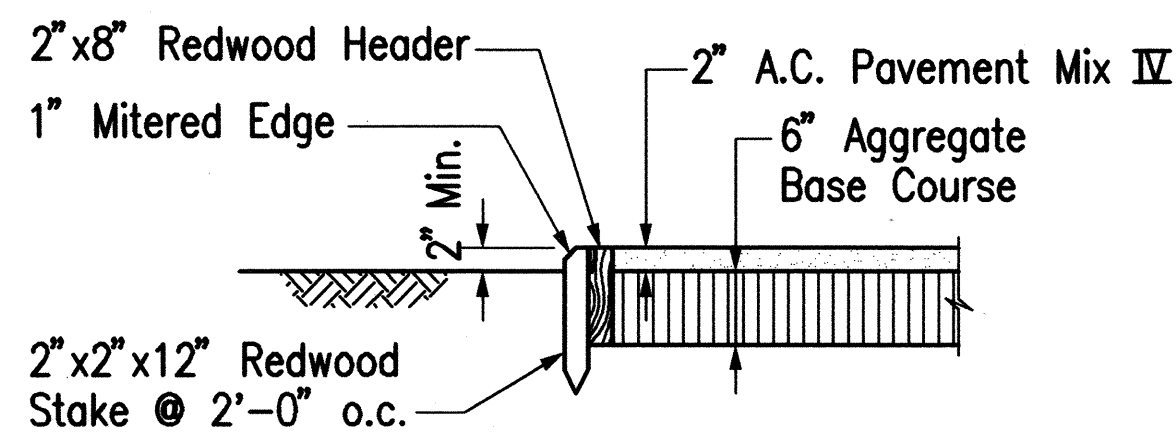
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	9	46

TRUE NORTH
SCALE: 1 IN = 20 FT

Matchline Kamehameha Highway
Sta. 163+00
See Sheet No. C1

LEGEND:

-  **AC Pavement:**
2 1/2" AC Pavement, Mix IV
1 1/2" Plant Mix Glassphalt Concrete Base Course
-  **Reconstruct Exist. AC Pavement:**
Remove Exist. AC Pavement and AC Base
Replace with 2 1/2" AC Pavement Mix IV and
1 1/2" Plant Mix Glassphalt Concrete Base Course
-  **AC Pavement (Parking):**
2" AC Pavement Mix IV
6" Aggregate Base Course
-  **Remove Exist. Pavement**
-  **Hand-Laid Riprap**
-  **Fill Slope**
-  **Utility Joint Pole**



SECTION - AC PAVEMENT

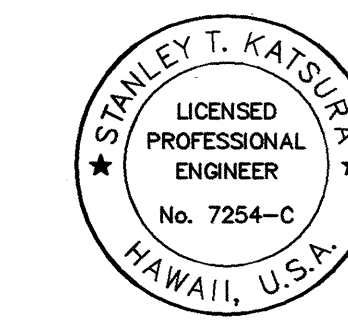
Scale: 3/4" = 1'-0"

A
C2/C2

PUPUKEA BEACH PARK
TMK: 5-9-04:19

SUNSET BEACH FIRE STATION
TMK: 5-9-04:29

FOODLAND
TMK: 5-9-11:16



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY CONSTRUCTION

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUPUKEA ROAD
PROJECT NO. 83B-01-98

SCALE: 1" = 20' DATE: FEBRUARY 2000

SHEET NO. C2 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	10	46

TRUE NORTH
SCALE: 1 IN = 20 FT

Type "C" Flare End Terminal For Detail, see Sheet No. C10. This work will be measured and paid for under Contract item 606.3111.

PUPUKEA BEACH PARK
TMK: 5-9-04:19

FLAT-350 End Treatment For Detail, see Sheet No. C6

Metal Guardrail (Type) for Detail, see Sheet No. C7

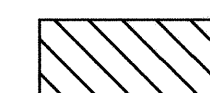
Sta. 172+13, 15.5' Lt.
End Pavement Widening Match Exist. Shoulder

N 176668.85
E 477972.04

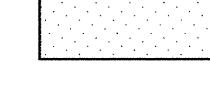
Matchline Kamehameha Highway
Sta. 168+50
See Sheet No. C2

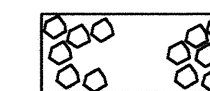
LEGEND:

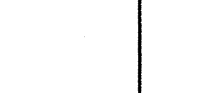
 AC Pavement:
2 1/2" AC Pavement, Mix IV
11 1/2" Plant Mix Glassphalt Concrete Base Course

 Reconstruct Exist. AC Pavement:
Remove Exist. AC Pavement and AC Base
Replace with 2 1/2" AC Pavement Mix IV and
11 1/2" Plant Mix Glassphalt Concrete Base Course

 AC Pavement (Parking):
2" AC Pavement Mix IV
6" Aggregate Base Course

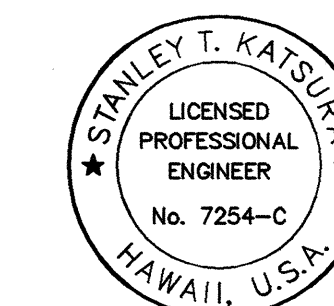
 Remove Exist. Pavement

 Hand-Laid Riprap

 Fill Slope

 Utility Joint Pole

BASELINE DATA
Δ = 16° 27' 00"
R = 2864.90'
T = 414.12'
Q = 819.72'
C = 822.50'



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Stanley T. Katsura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY CONSTRUCTION

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUPUKEA ROAD
PROJECT NO. 83B-01-98

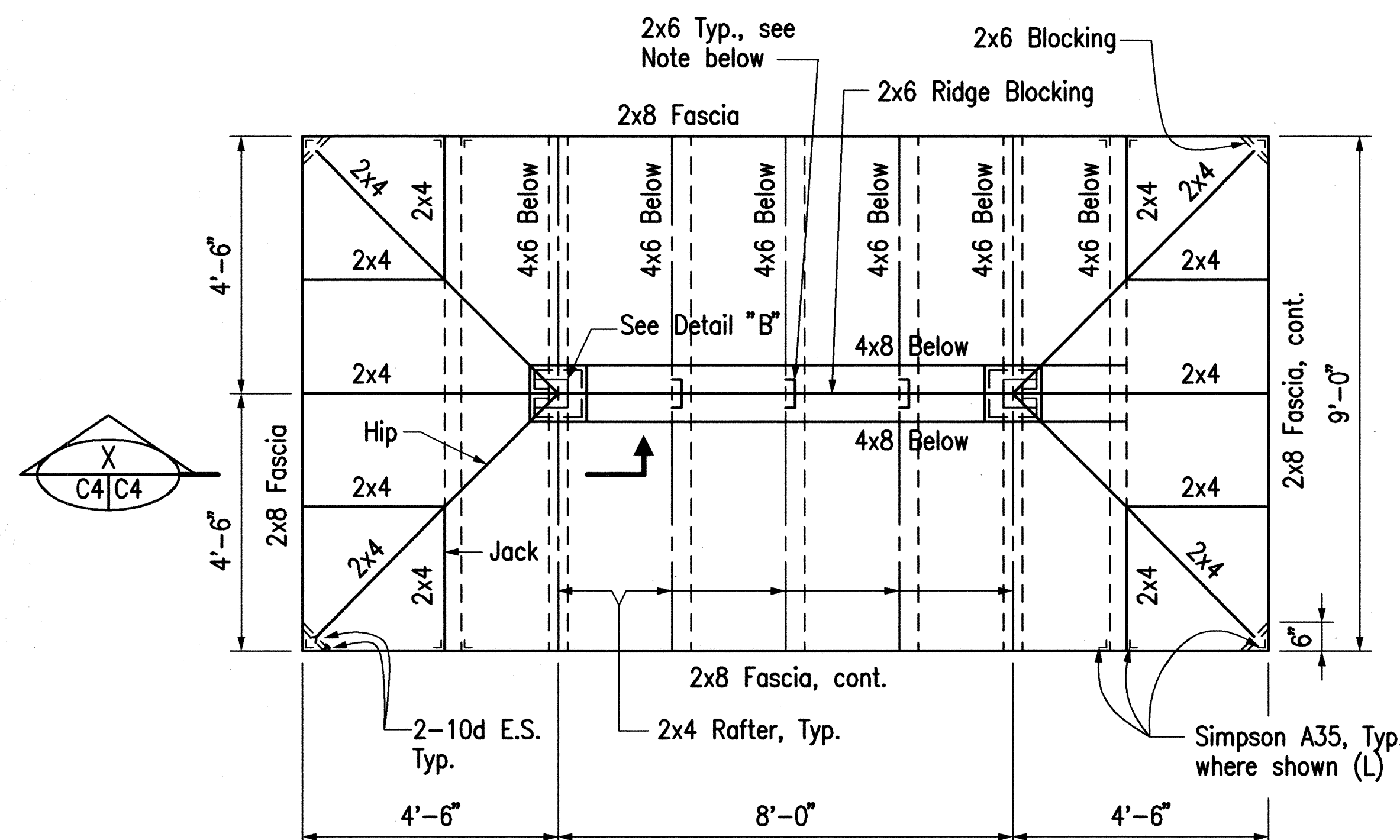
SCALE: 1" = 20' DATE: FEBRUARY 2000
SHEET NO. C3 OF 10 SHEETS

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTIFIED BY	
CHECKED BY	
No.	

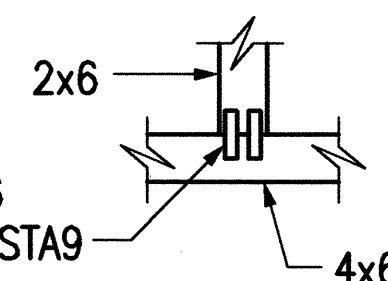
CAD by E DELA CRUZ, 95-52

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	11	46

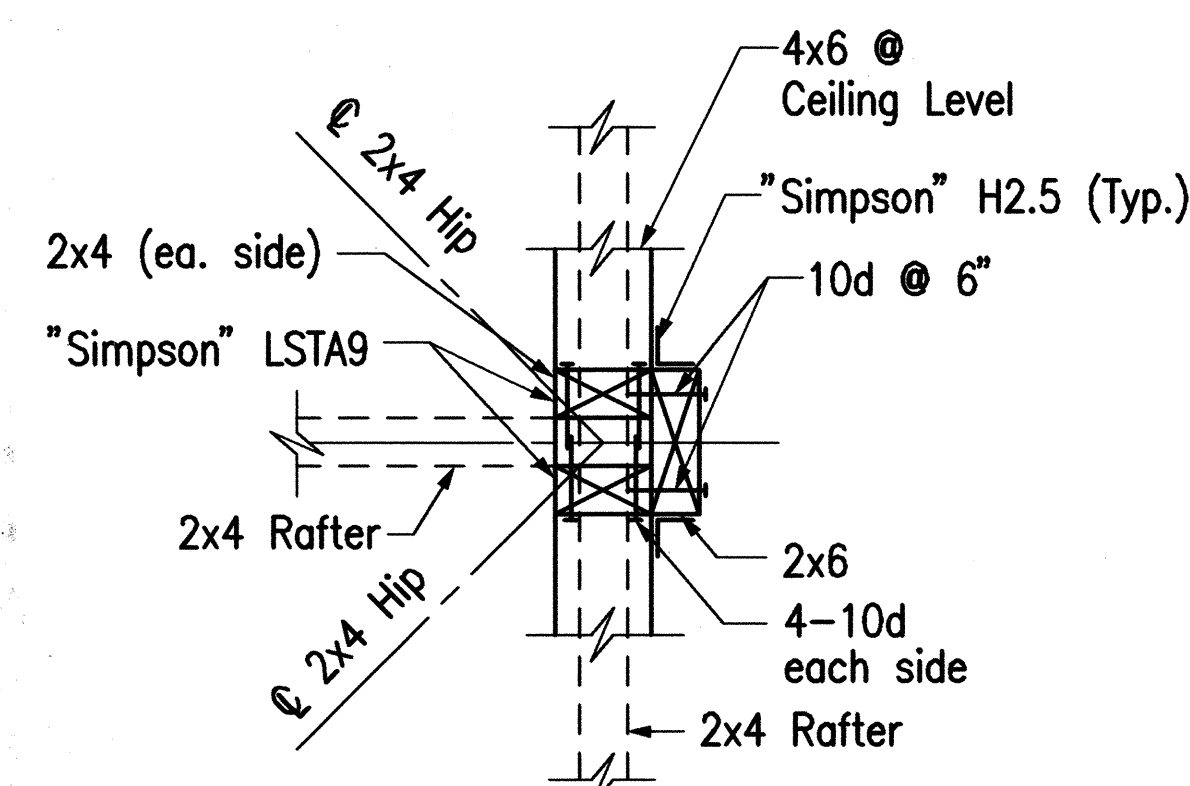


Connect 2x6 to 4x6
with 2-"Simpson" LSTA9



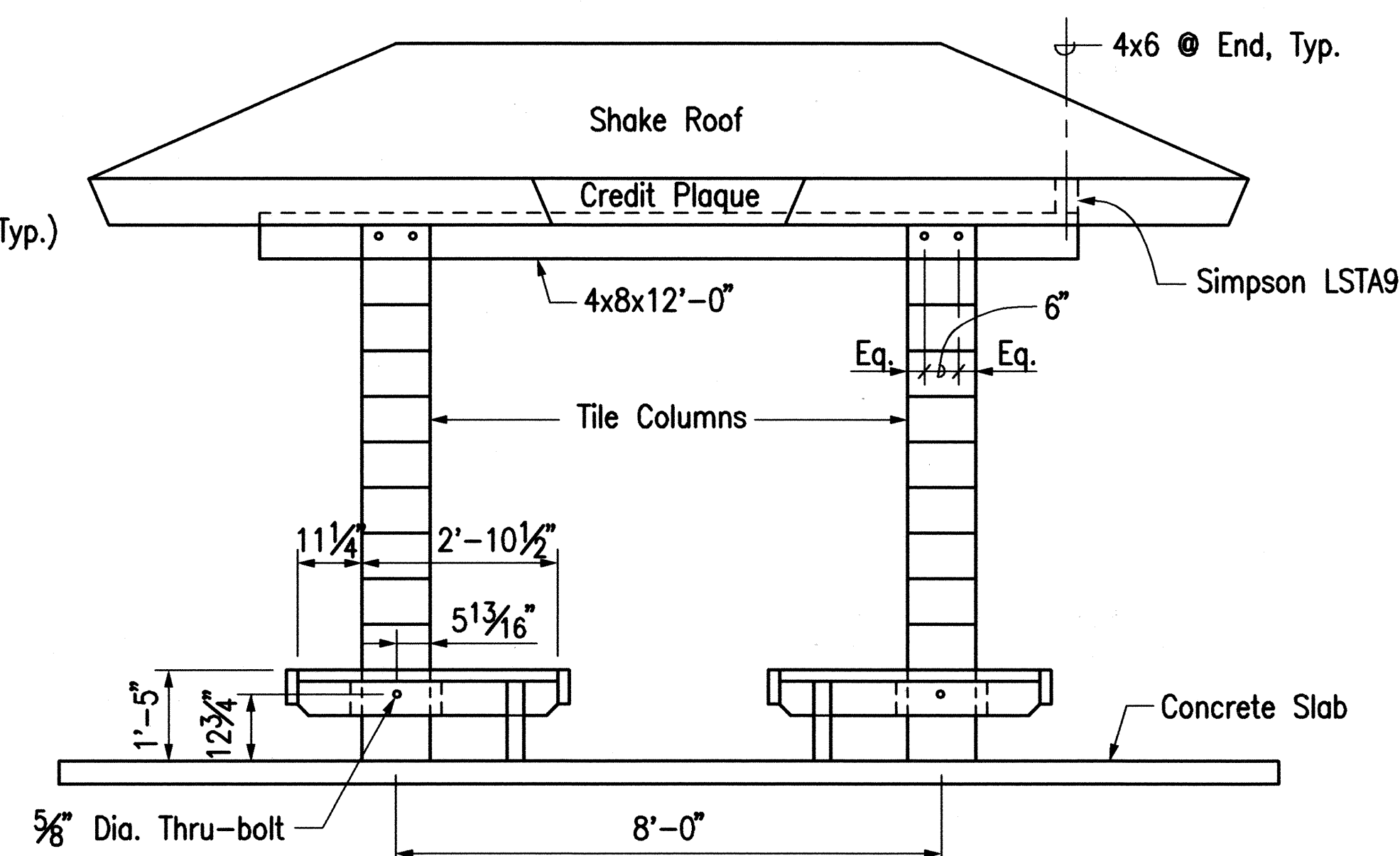
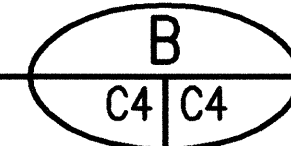
Scale: $\frac{1}{2}'' = 1'-0''$

Scale: $\frac{1}{2}'' = 1'-0''$



Scale: $1\frac{1}{2}" = 1'-0"$

Scale: $1\frac{1}{2}" = 1'-0"$



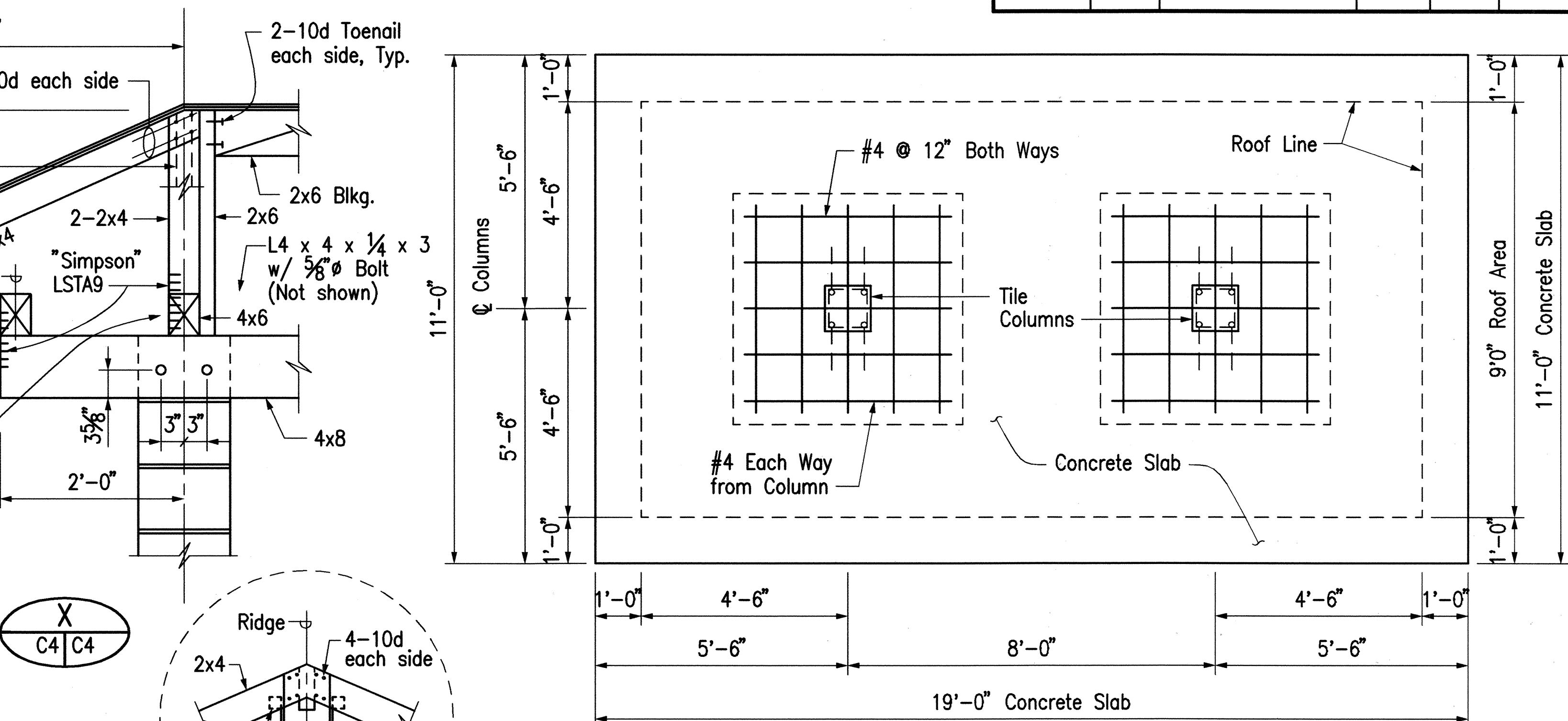
Scale: $\frac{1}{2}'' = 1'-0''$

Scale: $\frac{1}{2}'' = 1'-0''$

Wood Shake application shall conform to the 1991 Uniform Building Code, Table 32-B-2.

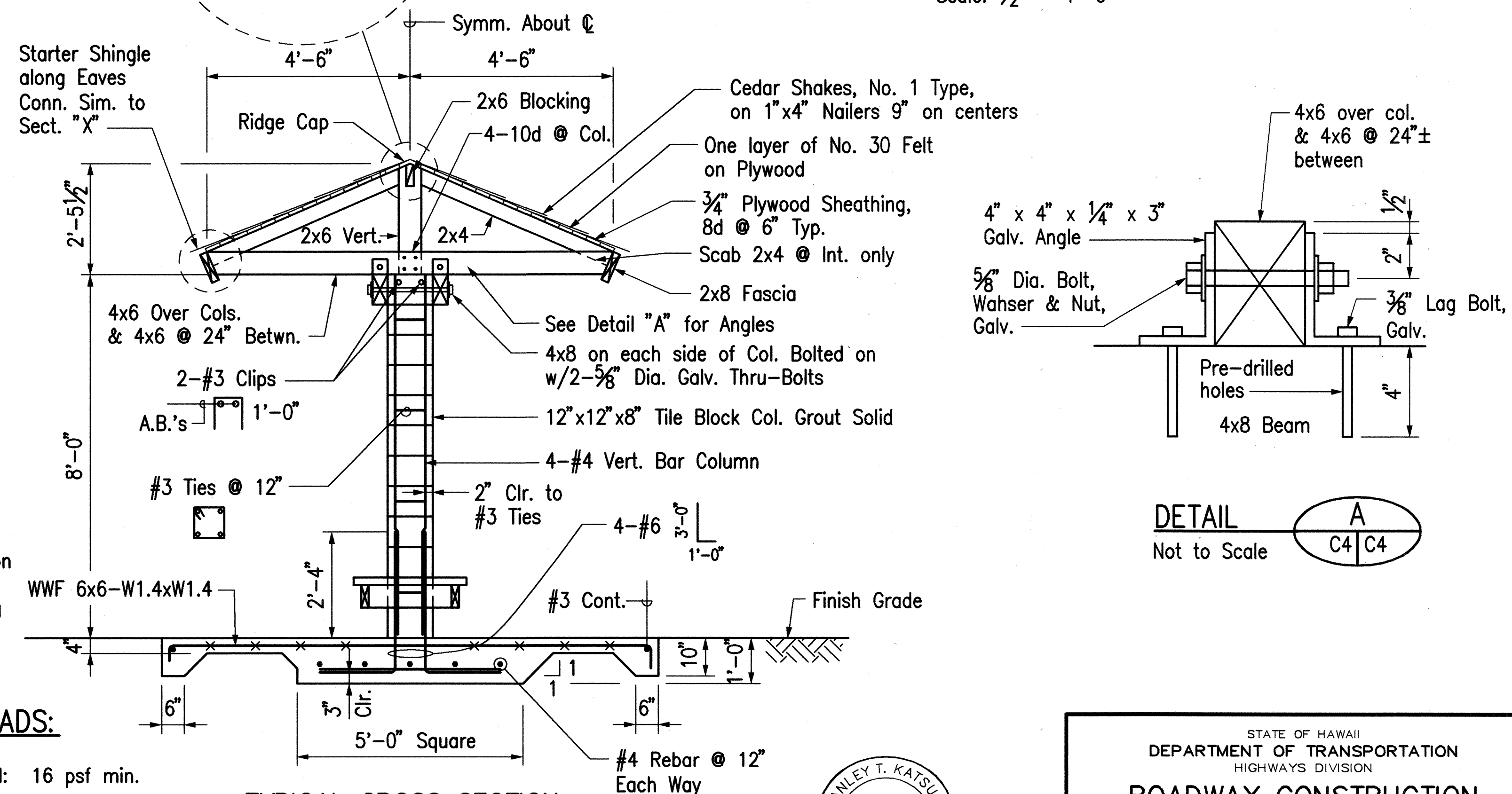
2011 11 12 11:12

1. Roof Live Load: 16 psf min.
2. Wind: Vel. = 80 mph
Exp. = C
3. Earthquake: Zone 2A



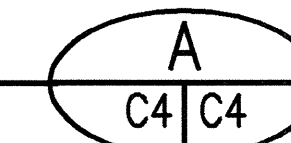
Scale: $\frac{1}{2}'' = 1'-0''$

Scale: $\frac{1}{2}'' = 1'-0''$



Not to Scale

Not to Scale



- _____

1. Concrete 28-Day Compressive Strength = 3,000 psi.
2. Reinforcing Steel $F_y = 60,000$ psi (#4 & Larger)
 $F_y = 40,000$ psi (#3)
3. CMU Type II, ASTM C90.
4. CMU Grout 28-Day Compressive Strength = 2,500 psi.
5. Masonry Mortar, Type M.
6. Anchor Bolt, ASTM A307, Galvanized.
7. Steel Angle, ASTM A36.
8. 2x and 4x Wood Members, No. 2 Grade, D.F./Larch.
9. $\frac{3}{4}$ " Plywood, T&G Douglas Fir, Struct. 1, Exterior Type, Grade C-D.
10. All washers, nails, bolts, steel angles & metal connectors shall be Hot-Dipped Galvanized.
11. Color Scheme:
 - A. Gold: Underside of roof structure, fascia.
 - B. Brown: Crossbeam, tile column, bench.
 - C. Urethane: Bench top.
12. All lumber & plywood to be termite treated (wolmanized).

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

S
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Stanley Katsura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY CONSTRUCTION
TILE—COLUMN BUS SHELTER
MISCELLANEOUS DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUUPEKA ROAD
PROJECT NO. 83B—01—98

SCALE: AS SHOWN DATE: FEBRUARY 2000

SHEET NO. C4 OF 10 SHEETS

Galv. $\frac{5}{8}$ " Diam. Thru Bolt

4'-1 $\frac{3}{4}$ " $\pm$

2" x 4" Nailer

Typ. $\frac{1}{4}$ " Gap

4" x 4" Post

2" x 6" Fascia

2" x 12"

2" x 6" Brace

12" x 12" Column

3'-2" $\pm$

A

A

A diagram of a two-post structure, likely a bench or table. It has two vertical posts supporting a horizontal top. The distance between the inner sides of the posts is labeled as $8'-0'' \pm$. The distance between the outer sides of the posts is labeled as $34'' \pm$. The posts are shown with base plates and are mounted on a horizontal ground line.

12" x 12" Reinf. Conc.
Tile Block Column

1'-0"

2" x 6" Fascia

4" x 4" Post

Technical drawing of a rectangular plate with the following dimensions and features:

- Overall width: 9"
- Overall height: 6"
- Horizontal spacing: 4 1/2" (between vertical centerlines)
- Vertical spacing: 3" (between horizontal centerlines)
- Radius: R = 1/2"
- Slot width: 3/16"
- Slot depth: 1 3/16"
- Slot length: 1 1/2"
- Slot spacing: 1 3/16"
- Slot type: 7/16" x 1 1/2" 4-Slots
- Slot orientation: 2 3/4"

Technical drawing of a platform. The drawing shows a rectangular object with three circular features (holes) along its top edge. The dimensions are indicated as follows:

- Two horizontal segments, each labeled $4''$, spanning the width of the object.
- A vertical segment on the right side labeled $\frac{7}{8}''$, indicating the height of the object.
- A vertical segment on the left side labeled $\frac{1}{2}''$, indicating the height of the object.

The word **PLATFORM** is written below the drawing.

Technical drawing of a tapered metal plate. The top width is $7\frac{7}{8}"$. The bottom width is $2"$. The total height is $7\frac{1}{2}"$. The plate has four holes, each $\frac{7}{16}"$ Dia. The holes are located at a distance of $2\frac{3}{4}"$ from the centerline. The distance from the top edge to the first hole is $2\frac{1}{4}"$. The distance from the first hole to the second hole is $3\frac{3}{4}"$. The distance from the second hole to the bottom edge is $1\frac{1}{2}"$. The distance from the bottom edge to the third hole is $2\frac{1}{4}"$. The distance from the third hole to the top edge is $2\frac{3}{4}"$. The distance from the top edge to the fourth hole is $2\frac{1}{4}"$. The distance from the fourth hole to the bottom edge is $1\frac{1}{2}"$. The distance from the bottom edge to the top edge is $7\frac{1}{2}"$.

Technical drawing of a bracket. The overall width is 7". The distance from the left edge to the center of the first hole is 3 1/2". The bracket has two rows of holes, with a vertical spacing of 1 1/2" between the rows. The horizontal spacing between the two holes in each row is 1 5/16". A callout indicates that the holes are 7/16" in diameter.

7"

3 1/2"

1 1/2"

1 1/2"

1 5/16"

7/16" Dia.
4-Holes

Relocate Existing Area Light Pole

New Area Light Pole Footing
For Detail, see

1
C5 C5

Diagram illustrating the cross-section of a pole base, showing the internal structure and dimensions:

- Concrete Bushing
- Pole Base
- Grout Fill
- Anchor Bolt
- PVC Sched. 40 Conduit
- One Wrap Wire Mesh Reinf. 6"x6"-W1.4xW1.4
- 3" Cover (Typ.)
- Concrete with 28-Day Compressive Strength of 3000 psi
- Ground Rod 5/8" x 8'-0" Copper Clad Steel
- 18" Dia.
- 5'-0"
- 24" under Pymnt, 18" under Walkway & Lawn
- #6 Bare Grounding Bond to Pole Base

Exist. Mailbox

ex. Bolt lockwasher

3'-6"

2' Max. Depth

Nominal 2" Std. Pole (2 3/8" O.D.)

Anti-twist device welded with pipe supports

Platform

Bracket

Ground Line

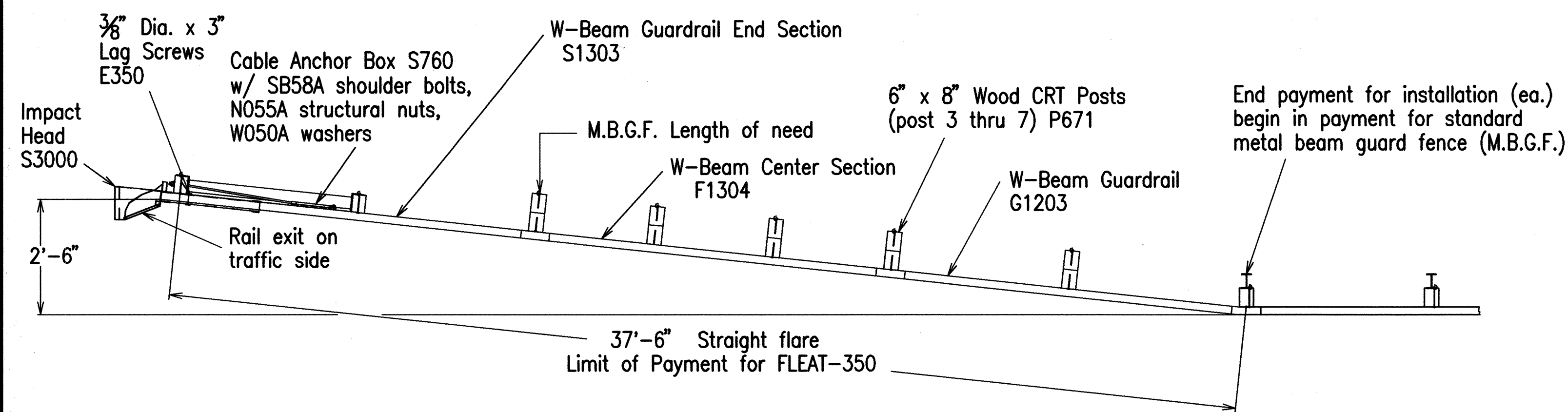
Nominal 2 3/8" Muffler Clamp

#8-32 x 3/4" Slotted Rd. Hd. Bolt
Stove Bolt
2-Washers, 1-Lockwasher
1-Nut

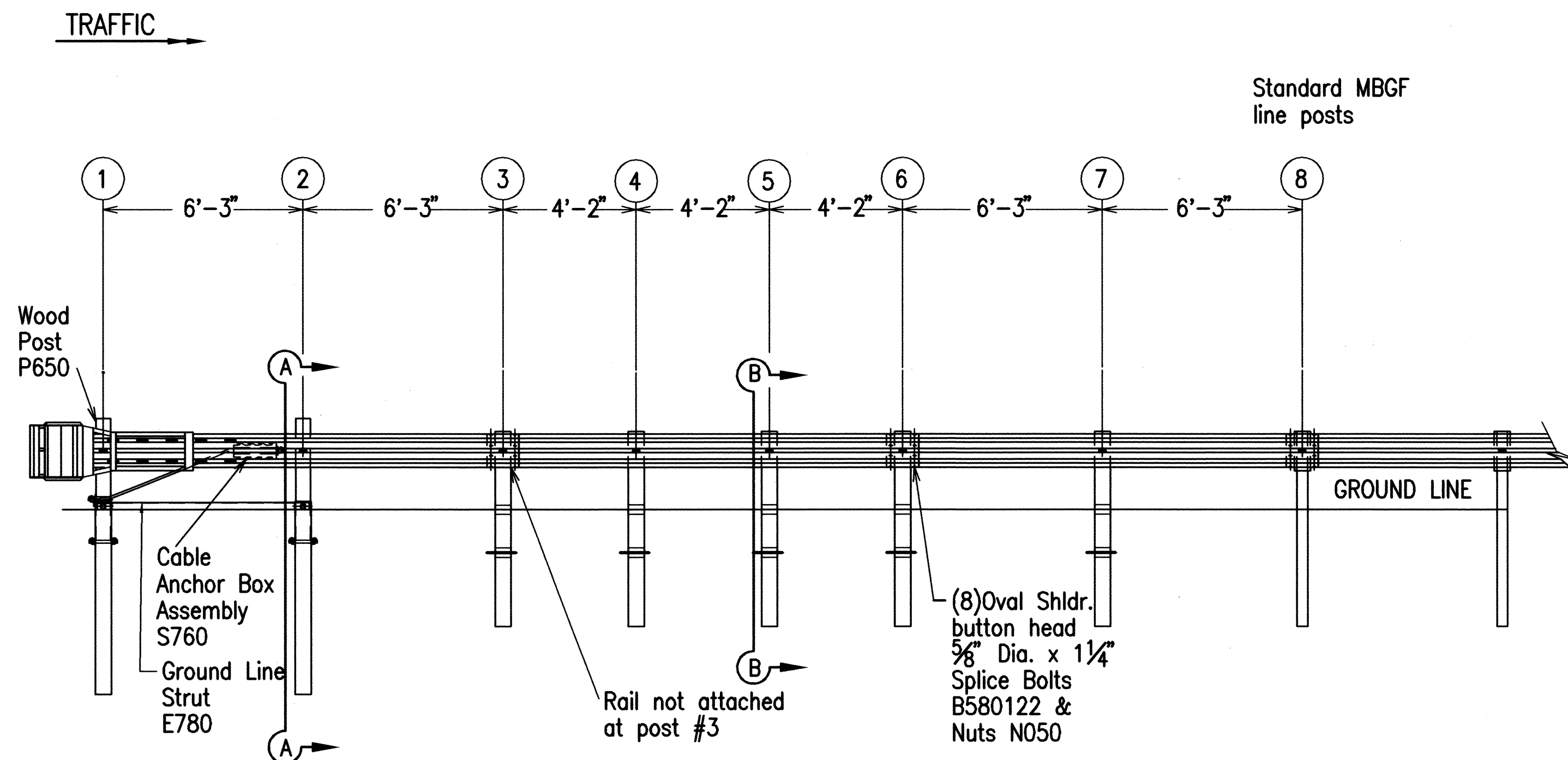
Technical drawing of a rectangular plate with the following dimensions and specifications:

- Overall width: 7"
- Overall height: 4 1/2"
- Distance from top edge to center of top row of holes: 3 1/2"
- Distance from left edge to center of left column of holes: 2 1/4"
- Distance between centers of top row of holes: 1 1/2"
- Distance between centers of bottom row of holes: 1 1/2"
- Distance between centers of left column of holes: 1 5/16"
- Hole diameter: 7/16" Dia.
- Number of holes: 4-Holes

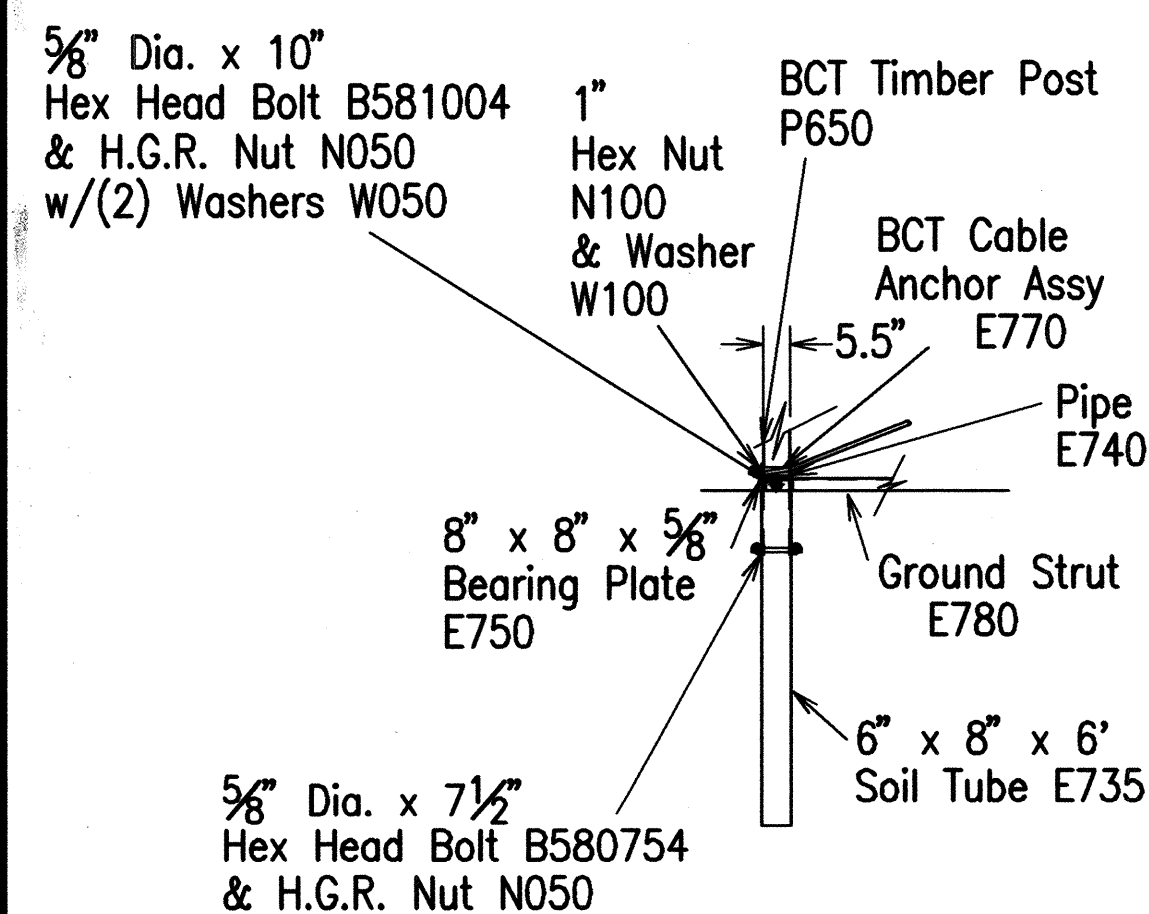
12



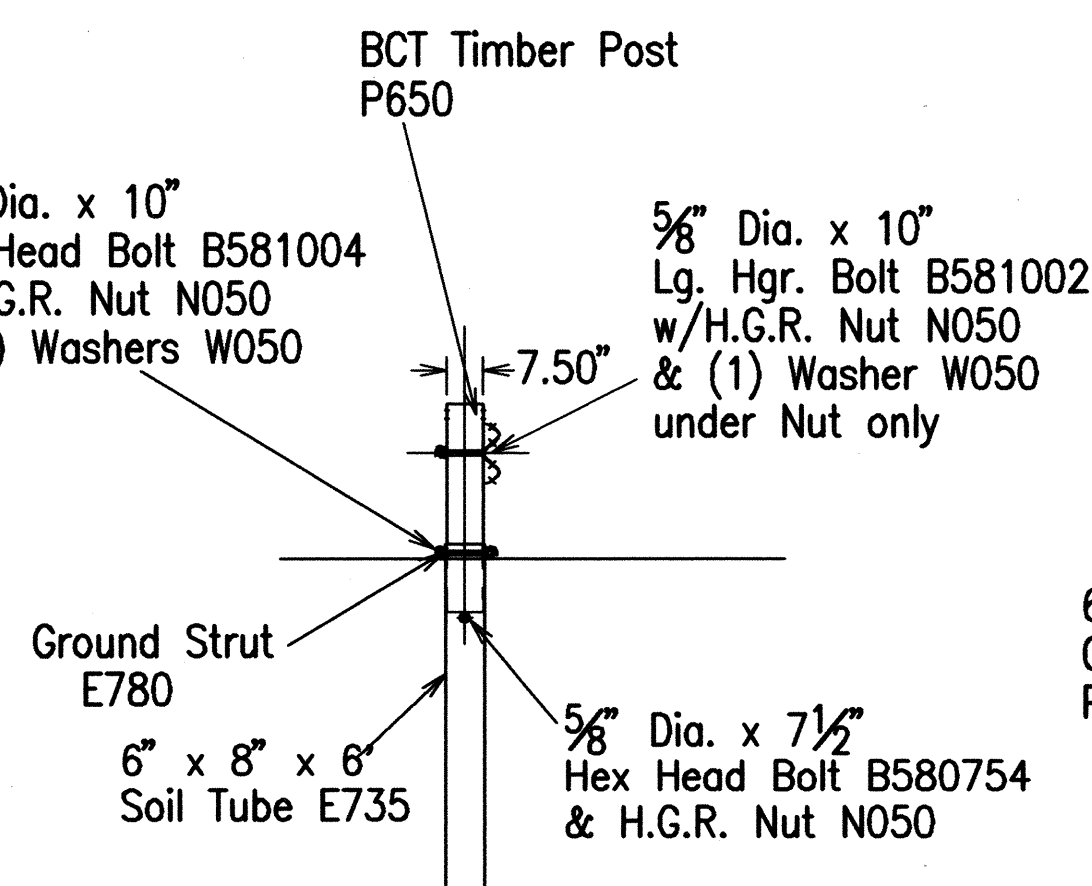
PLAN



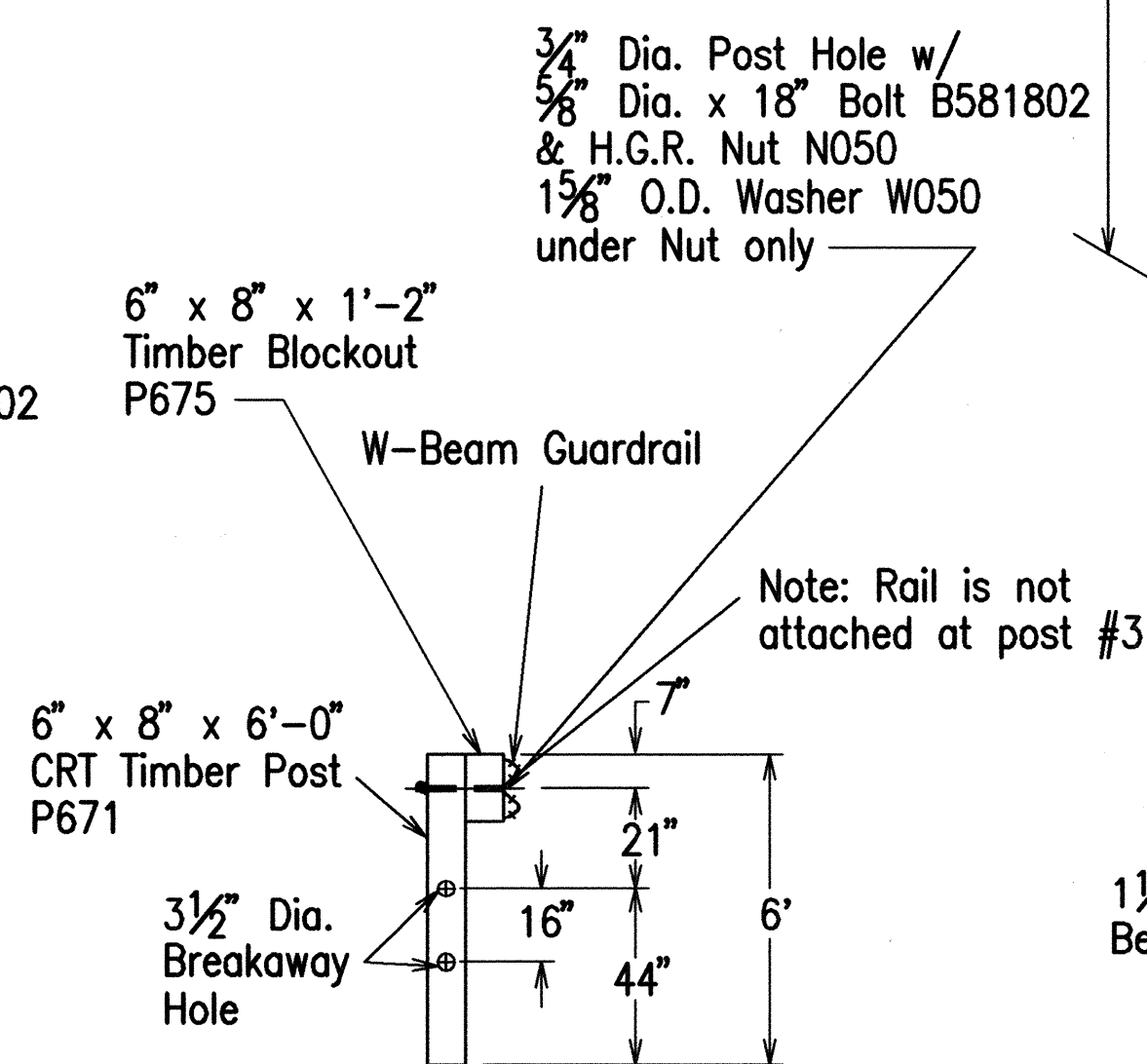
ELEVATION



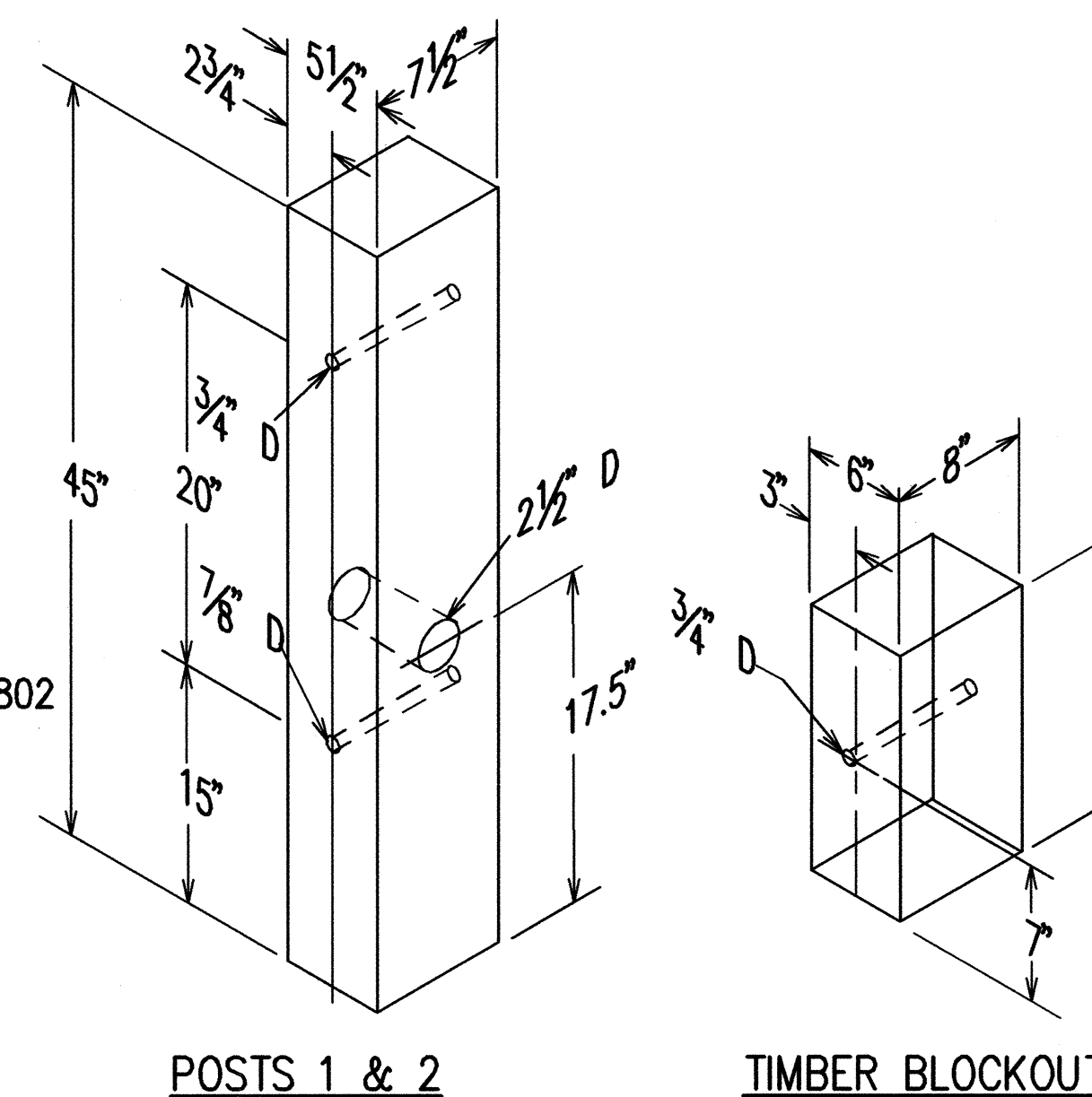
PARTIAL VIEW OF POST 1



SECTION A-A
at Post #2

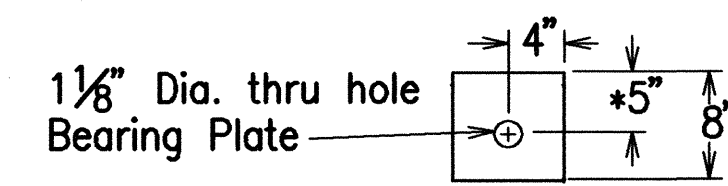


SECTION B-B
typical @ Post 3 - 7



POSTS 1 & 2

TIMBER BLOCKOUT



BEARING PLATE E750

GENERAL NOTES

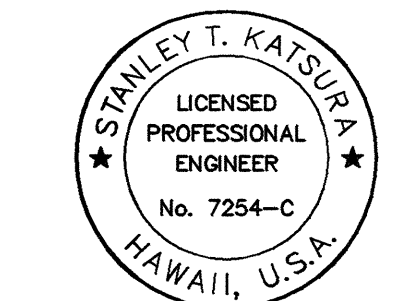
- Wood posts are required with the FLEAT-350.
- All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- The soil tube shall not protrude more than 4" above ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
- The soil tubes may be driven with an approved driving head. They shall not be driven with the wood 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 accepted 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.
- The wood blockouts shall be "toe nailed" to the rectangular wood posts to prevent them from turning when the wood shrinks.
- For curb installations, the soil tubes and posts shall be installed at the proper ground elevation behind the curb. The posts will require field drilling new holes to accommodate the rail to the post connecting bolt to maintain the proper height of the rail above the gutter pan. The excess post length above the rail will be removed if ordered by the Engineer.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	13	46

ITEM NO.	QTY	BILL OF MATERIALS
S3000	1	IMPACT HEAD
F1303	1	W-BEAM GUARDRAIL END SECTION, 12 GA.
F1304	1	W-BEAM GUARDRAIL CENTER SEC., 12 GA.
G1203	1	W-BEAM GUARDRAIL, 12 GA.
S730	2	*FOUNDATION SOIL TUBE, 6" x 8" x 6'
E740	1	PIPE SLEEVE
E750	1	BEARING PLATE, 8" x 8" x 5/8"
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
E780	1	GROUND STRUT
P650	2	5.5" x 7.5" x 45" WOOD POSTS
P671	5	6" x 8" x 6' WOOD CRT POST
P675	5	6" x 8" x 14" TIMBER BLOCKOUT
HARDWARE		
B580122	24	5/8" Dia. x 1 1/4" SPLICE BOLT
B580754	2	5/8" Dia. x 7 1/2" HEX BOLT
B581004	2	5/8" Dia. x 10" HEX BOLT
B581002	1	5/8" Dia. x 10" H.G.R. BOLT (POST 2 ONLY)
B581802	5	5/8" Dia. x 18" H.G.R. BOLT (POST 3-7)
N050	34	5/8" Dia. H.G.R. NUT (SPLICE 24, SOIL TUBES 2, STRUT 2, POST 2, 1; POST 3 THRU 7, 5.)
W050	10	5/8" Dia. H.G.R. WASHER
N100	2	1" ANCHOR CABLE HEX NUT
W100	2	1" ANCHOR CABLE WASHER
E350	2	3/8" x 3" LAG SCREW
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



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Stanley T. Katsura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY CONSTRUCTION
FLEAT-350 DETAILS
MISCELLANEOUS DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUPUKEA ROAD
PROJECT NO. 83B-01-98

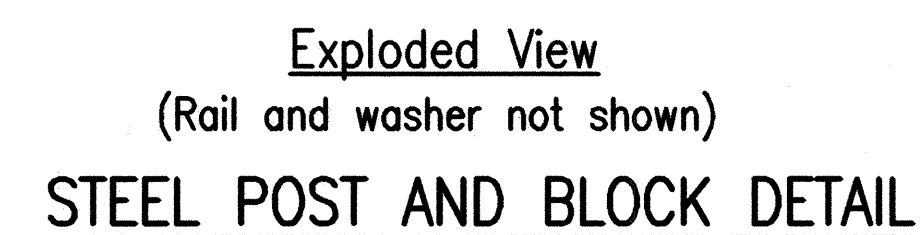
SCALE: NONE DATE: FEBRUARY 2000
SHEET NO. C6 OF 10 SHEETS

The image contains three technical drawings of plastic blockouts used for construction purposes.

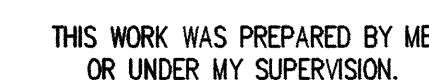
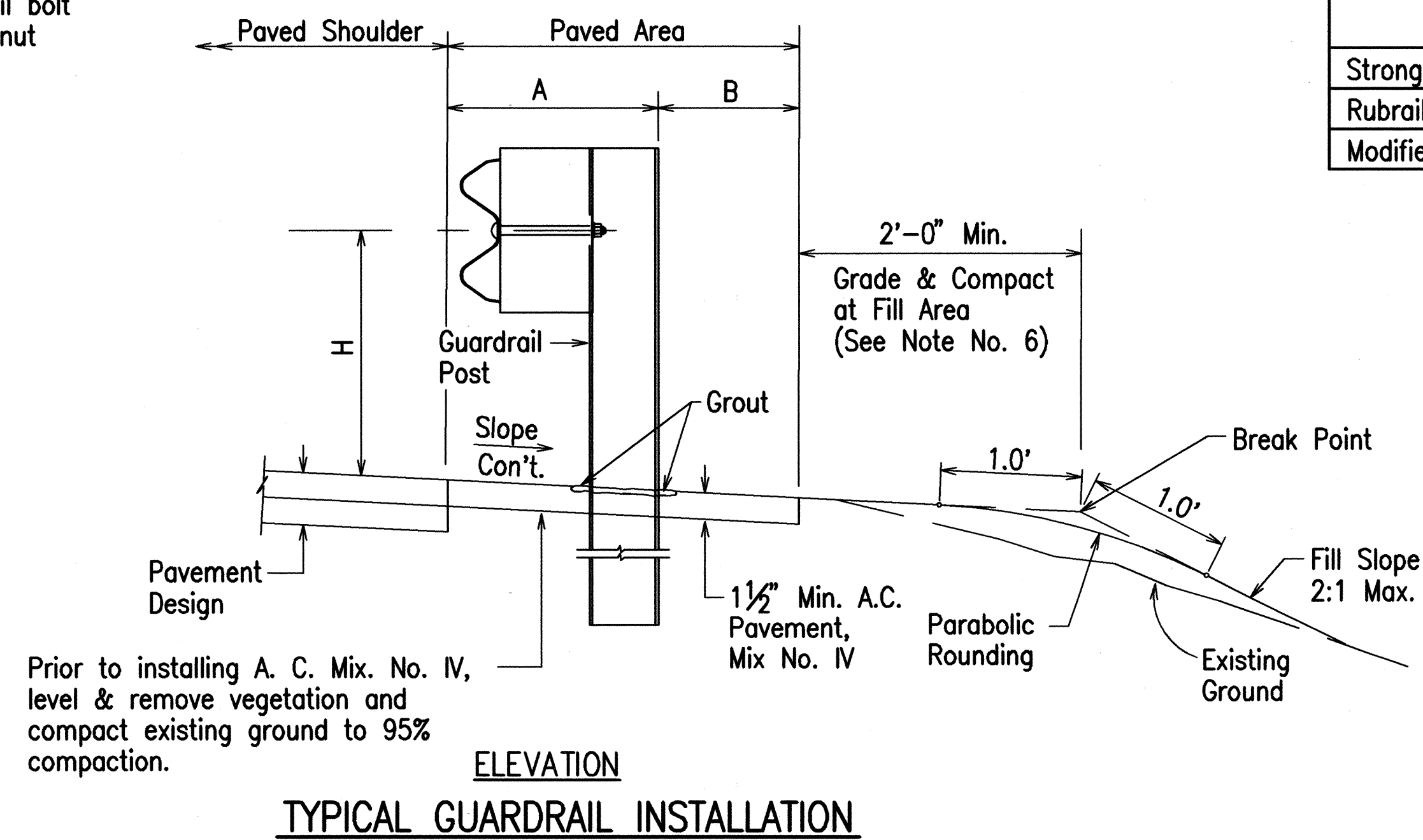
- TOP:** A top-down view of a rectangular blockout. It features a central circular hole with a diameter of $1\frac{1}{16}$ " and a slot with a width of $1\frac{1}{16}$ ". The overall dimensions are $7\frac{7}{8}$ " in height and $5\frac{7}{8}$ " in width. The drawing includes various fillet and chamfer radii and chamfers, such as $1\frac{1}{16}$ ", $4\frac{1}{2}$ ", $5\frac{1}{16}$ ", $1\frac{1}{4}$ ", $5\frac{3}{8}$ ", $1\frac{1}{4}$ ", $1\frac{7}{8}$ ", $1\frac{3}{8}$ ", $3\frac{7}{8}$ ", and $2"$.
- SIDE:** A side view of the blockout, showing a height of $7"$ and a width of $14"$. It includes a central slot with a width of $2\frac{1}{2}$ " (typical) and a depth of $2\frac{1}{4}$ " (typical). The overall width is $21\frac{1}{16}"$ and the overall height is $7\frac{7}{8}"$.
- OFFSET BLOCK (TYPE II):** A perspective view of a rectangular blockout. It has a height of $14"$, a width of $7\frac{7}{8}"$, and a depth of $6"$. It features a central slot with a width of $10"$ and a depth of $7"$. The drawing includes a $\frac{3}{4}"$ hole and a $\frac{1}{4}"$ hole. The overall dimensions are $14"$ in height, $7\frac{7}{8}"$ in width, and $6"$ in depth. The drawing includes various fillet and chamfer radii and chamfers, such as $10"$, $7"$, $\frac{3}{4}"$ hole, $\frac{1}{4}"$ hole, $4\frac{1}{4}"$, $4\frac{3}{16}"$, and $6"$.

RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)

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 fasteners, posts and rail elements have been converted from metric units into their present form.
4. The Recycled Plastic Block or Offset Block shall be submitted by the Contractor for acceptance by the State.
5. After the guardrail posts are installed in the paved area, the Contractor shall grout around the guardrail post and seal all cracks in the paved area that was caused during the guardrail post installation. If required by the Engineer, the Contractor shall tamp the paved area around the guardrail post prior to grouting. This work will not be paid for separately, but shall be considered incidental to the various guardrail items.
6. When standards for the fill slope area cannot be met, a site specific, Engineer accepted design may be used.



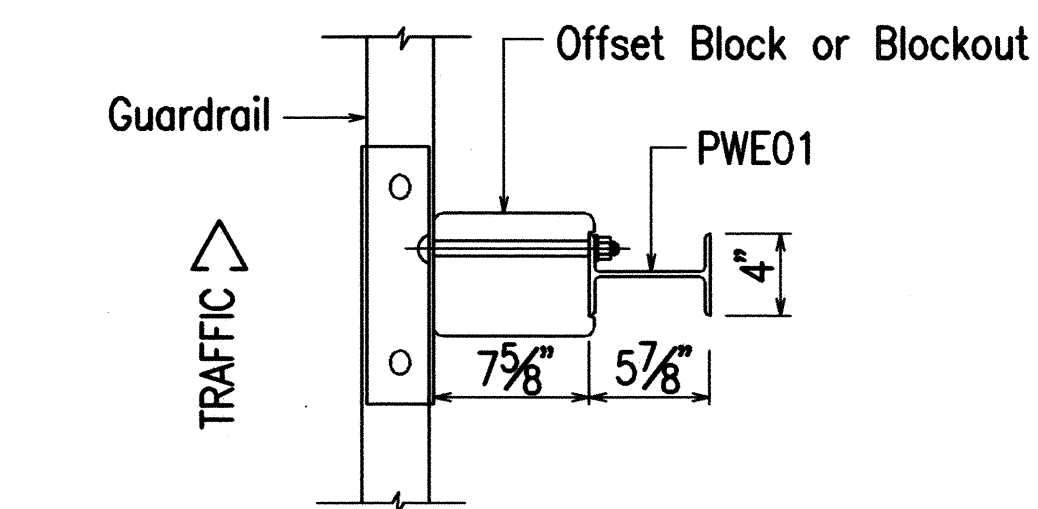
GUARDRAIL TYPE	DIMENSION		
	H	A	B
Strong Post w/W Beam	1'-9 5/8"	1'-6"	1'-0"
Rubrail	2'-0"	1'-6"	2'-0"
Modified Thrie Beam	2'-0"	2'-0"	1'-0"



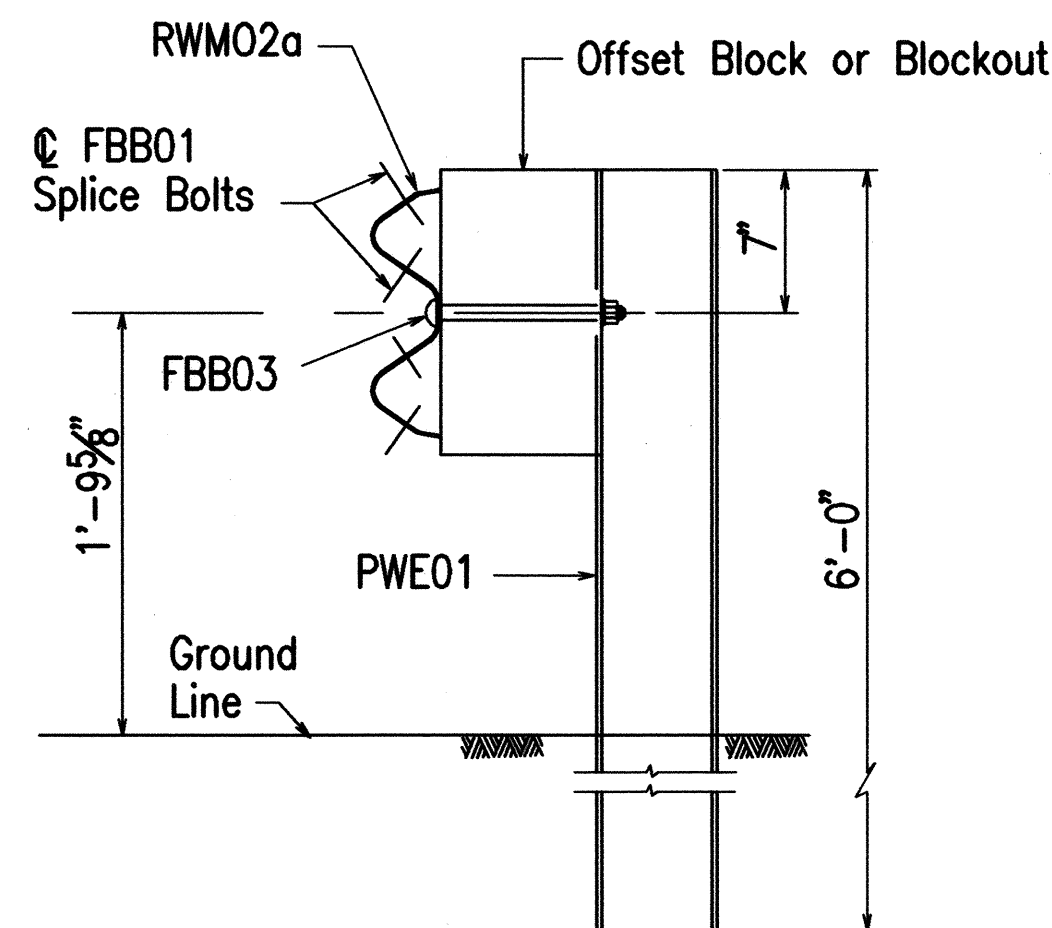
Stanley Katrusa

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	15	46

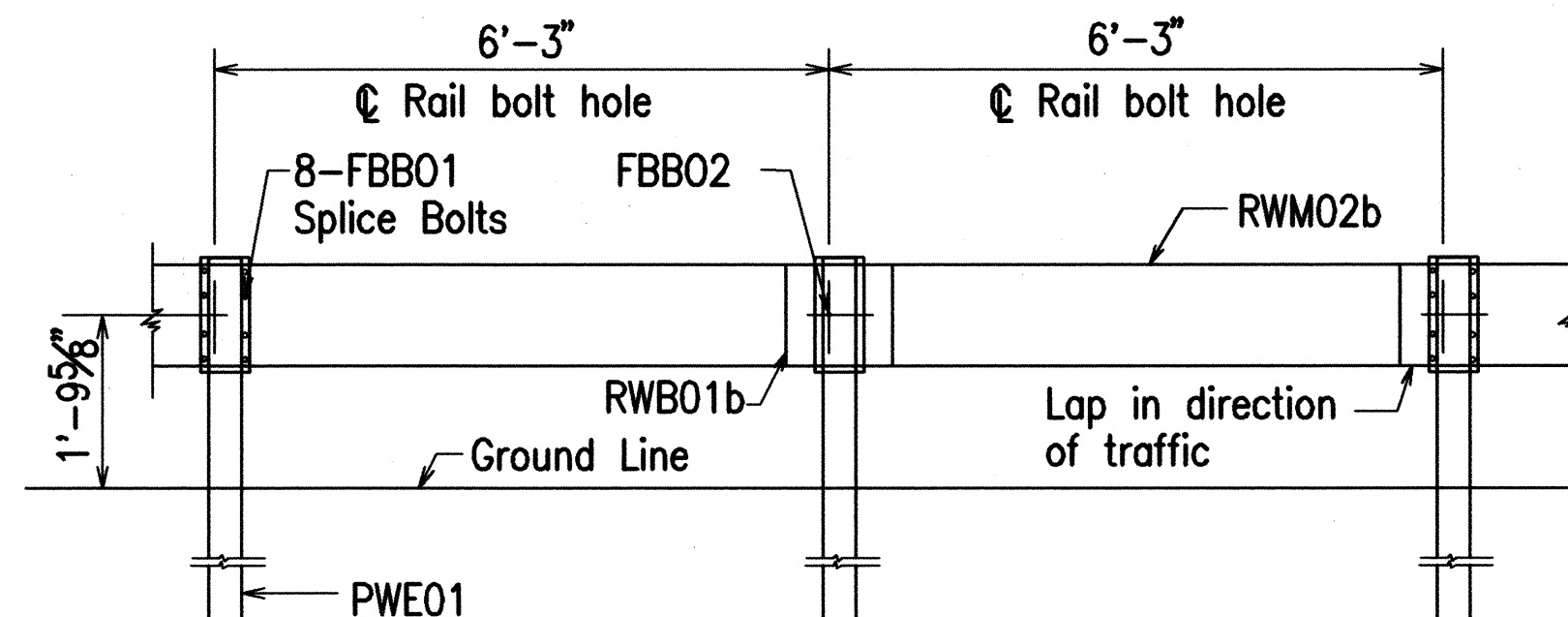


PLAN



ELEVATION

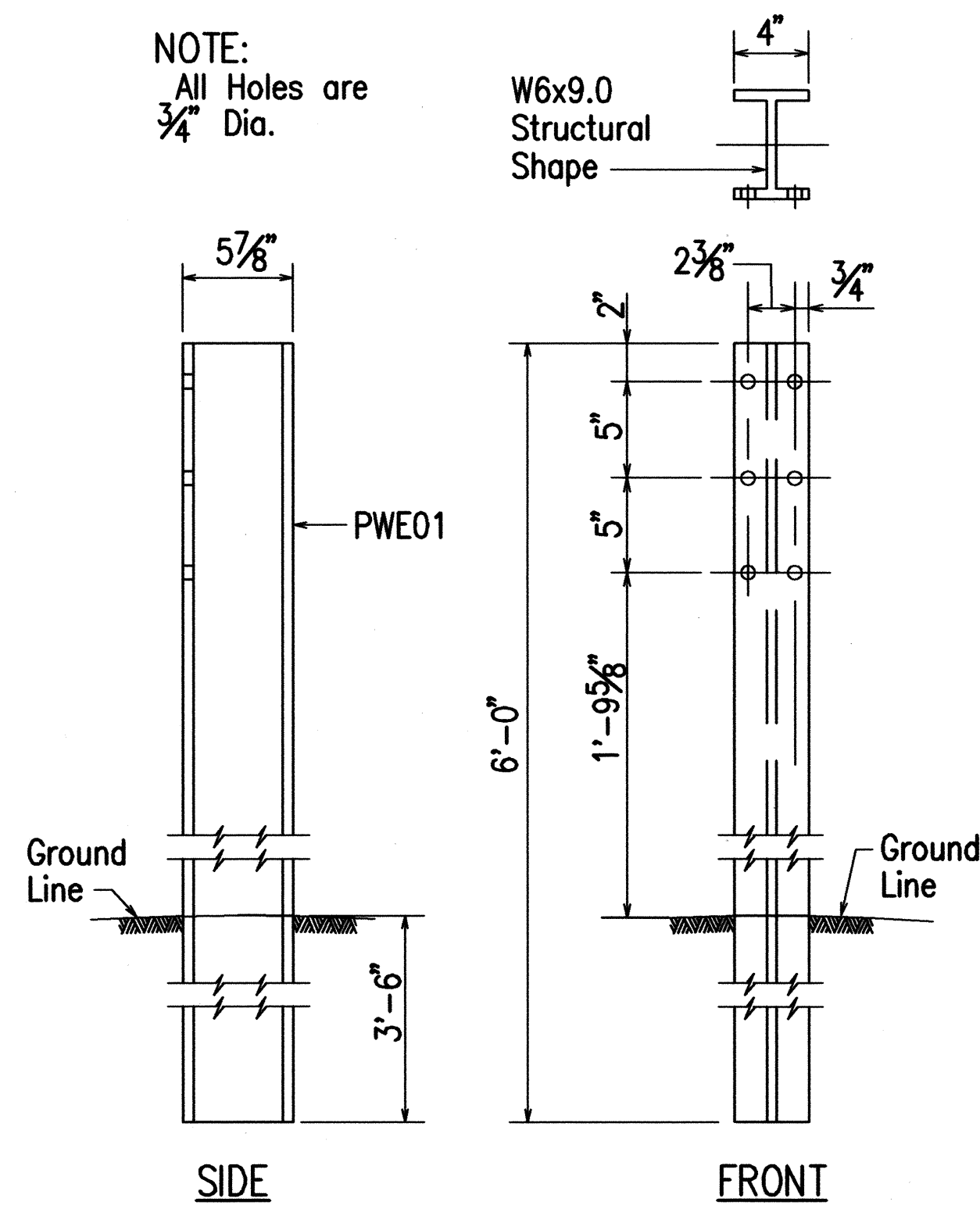
**STRONG POST W-BEAM GUARDRAIL
(SGR04a)**



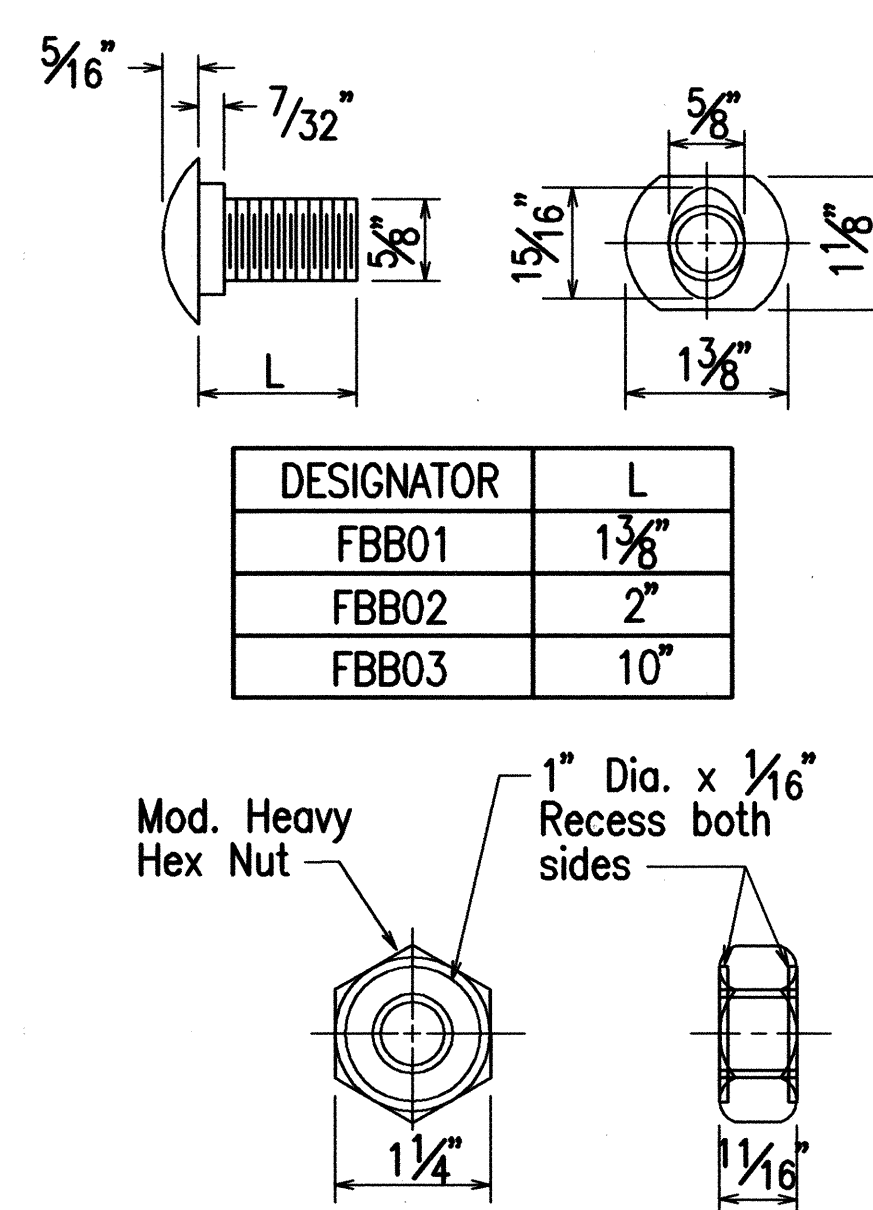
ELEVATION

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

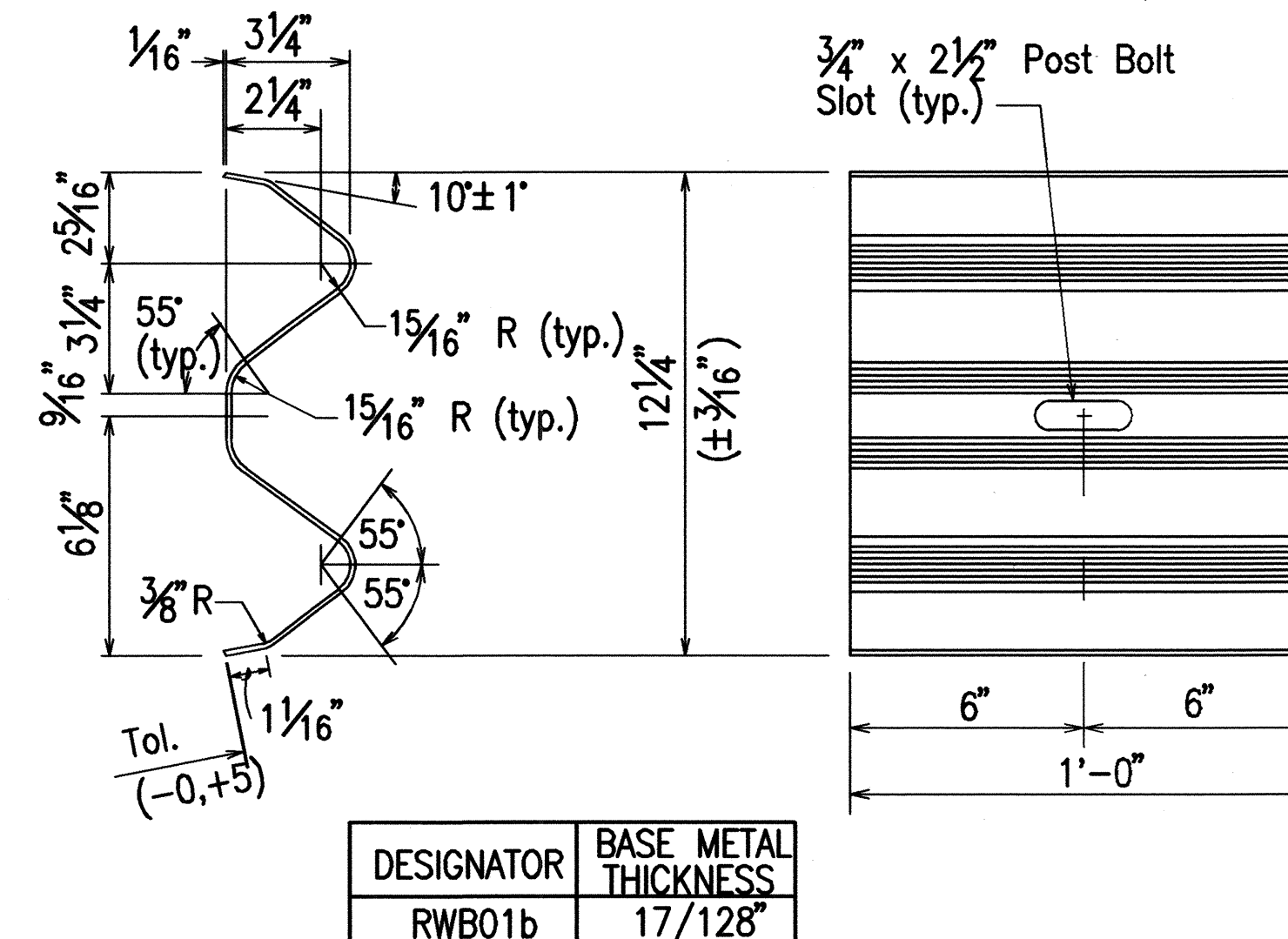
NOTE:
All Holes are
3/4" Dia.



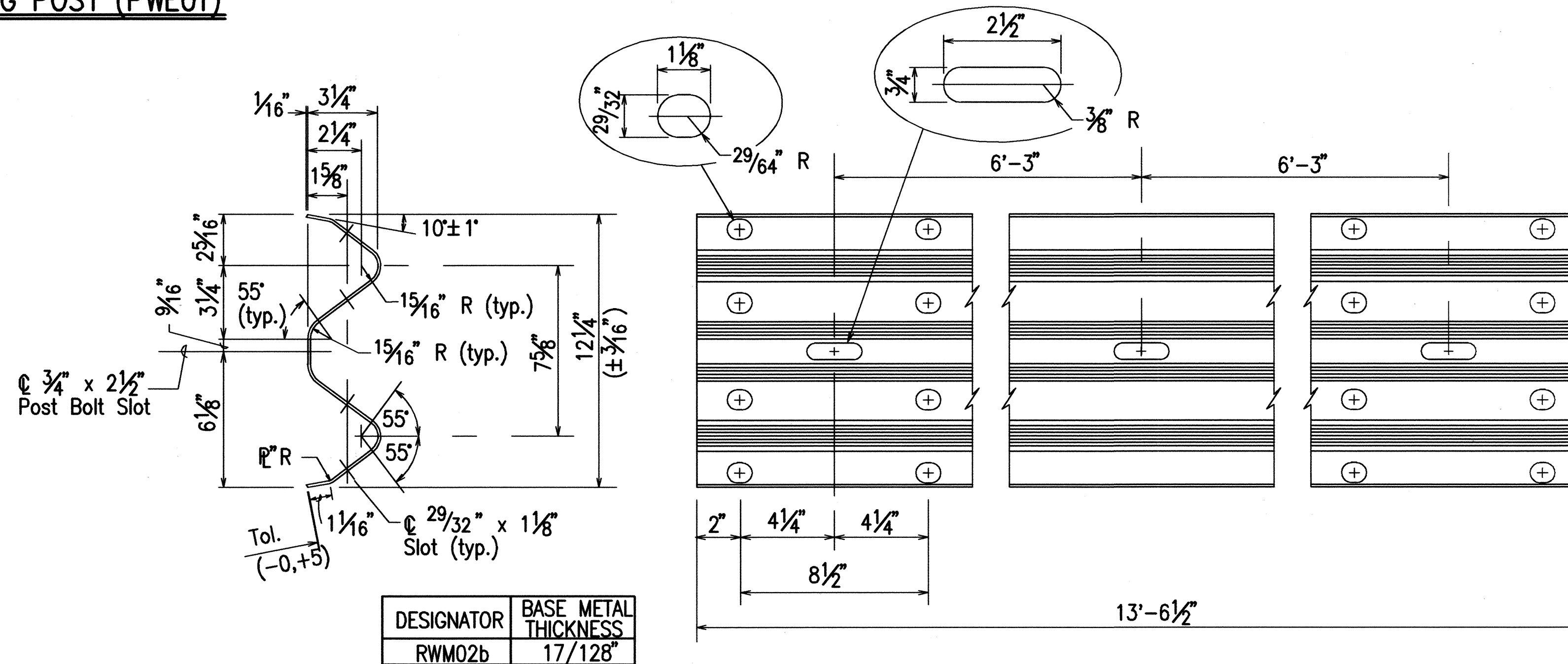
W-BEAM STRONG POST (PWE01)



**GUARDRAIL BOLTS AND
RECESSED NUT**



W-BEAM BACK-UP-PLATE (RWB01b)



2 SPACE W-BEAM GUARDRAIL (RWM02b)



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OR UNDER MY SUPERVISION.

Stanley T. Katsura

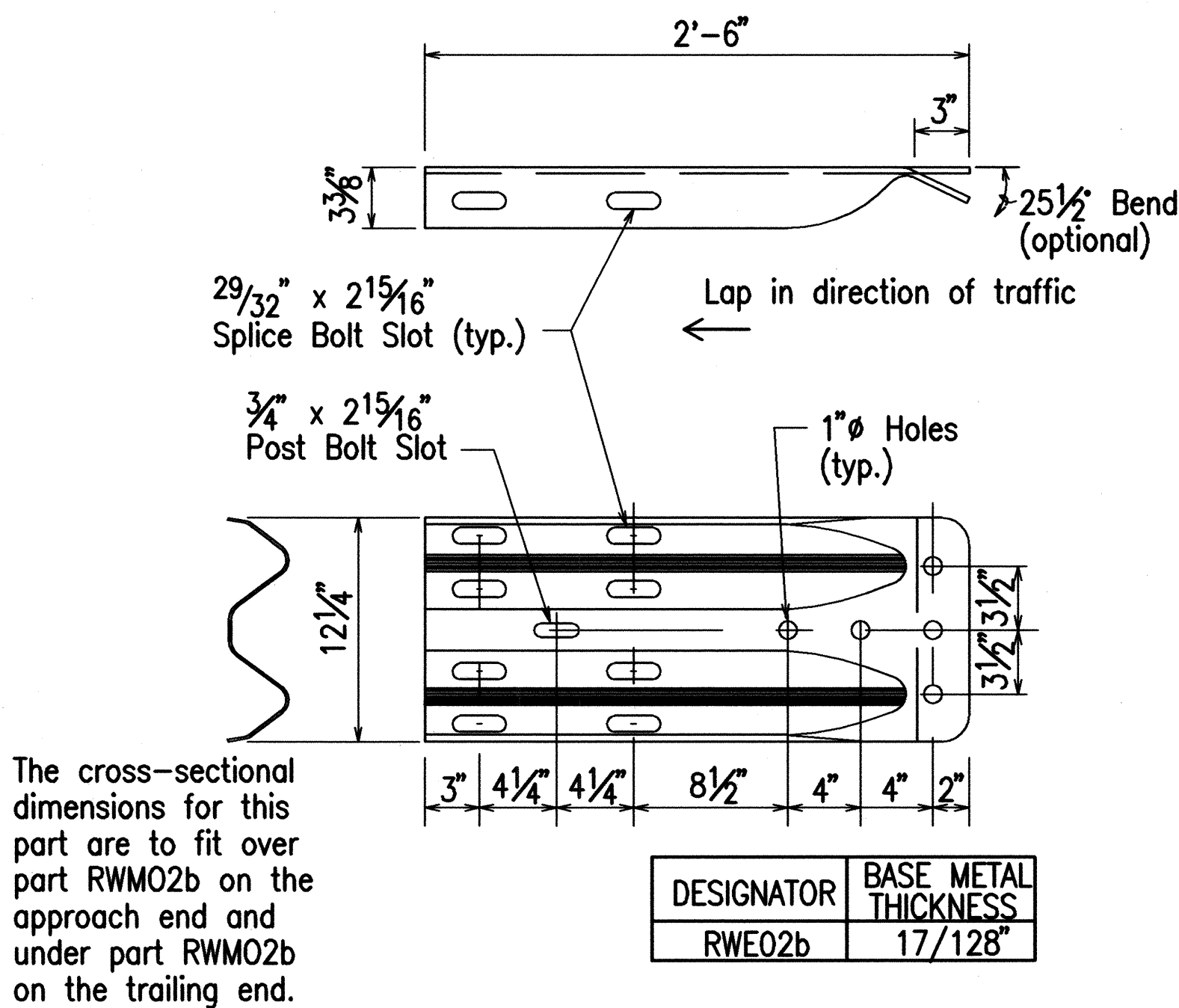
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADWAY CONSTRUCTION
STRONG POST
W-BEAM GUARDRAIL
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUPUKEA ROAD
PROJECT NO. 83B-01-98
SCALE: NONE
DATE: FEBRUARY 2000
SHEET NO. C8 OF 10 SHEETS

15

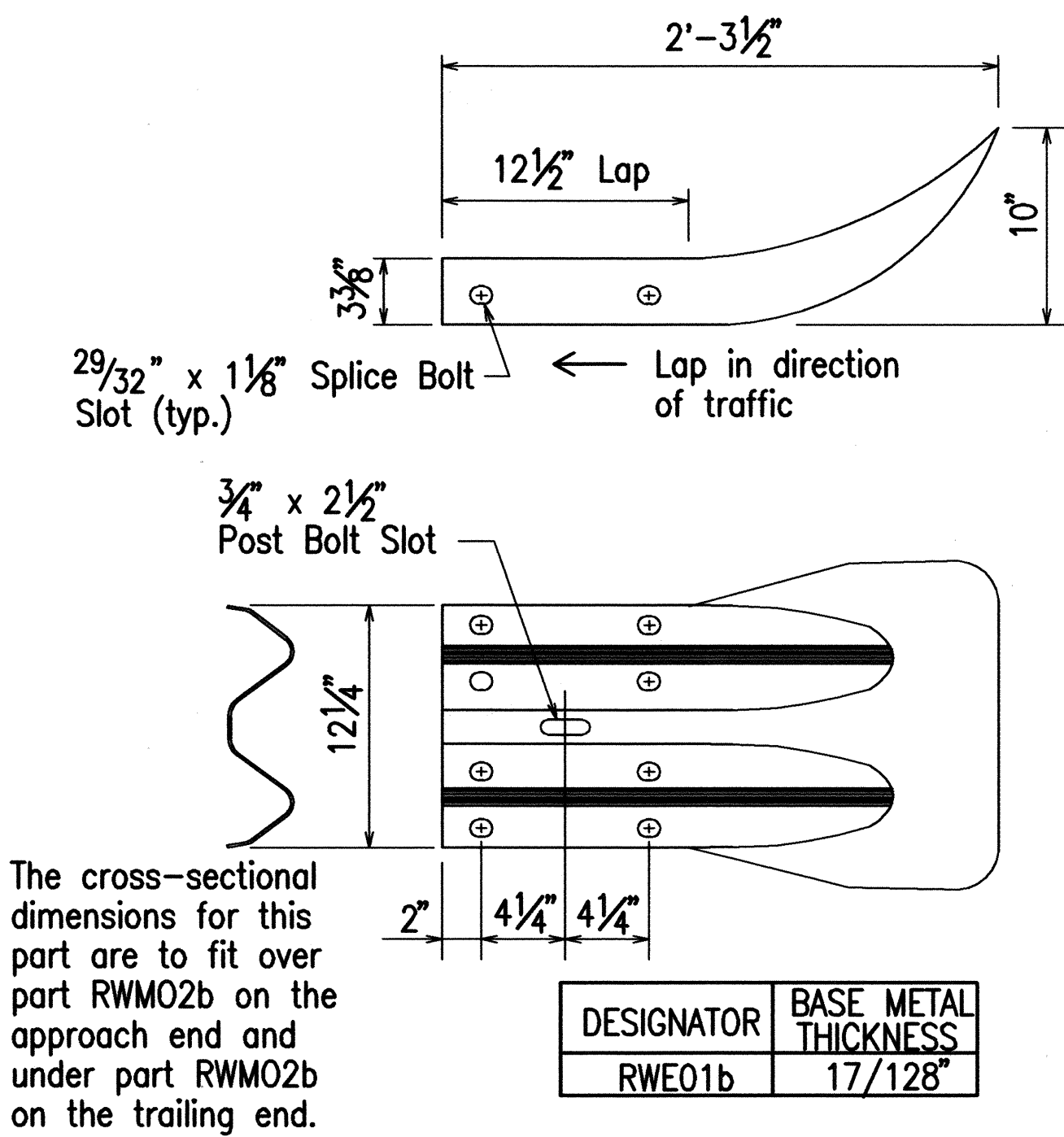
ORIGINAL PLAN	DATE
NO. 1	1/13/99
DESIGNED BY	
CHECKED BY	
DATE	

CD by E DELA CRUZ, 55-52

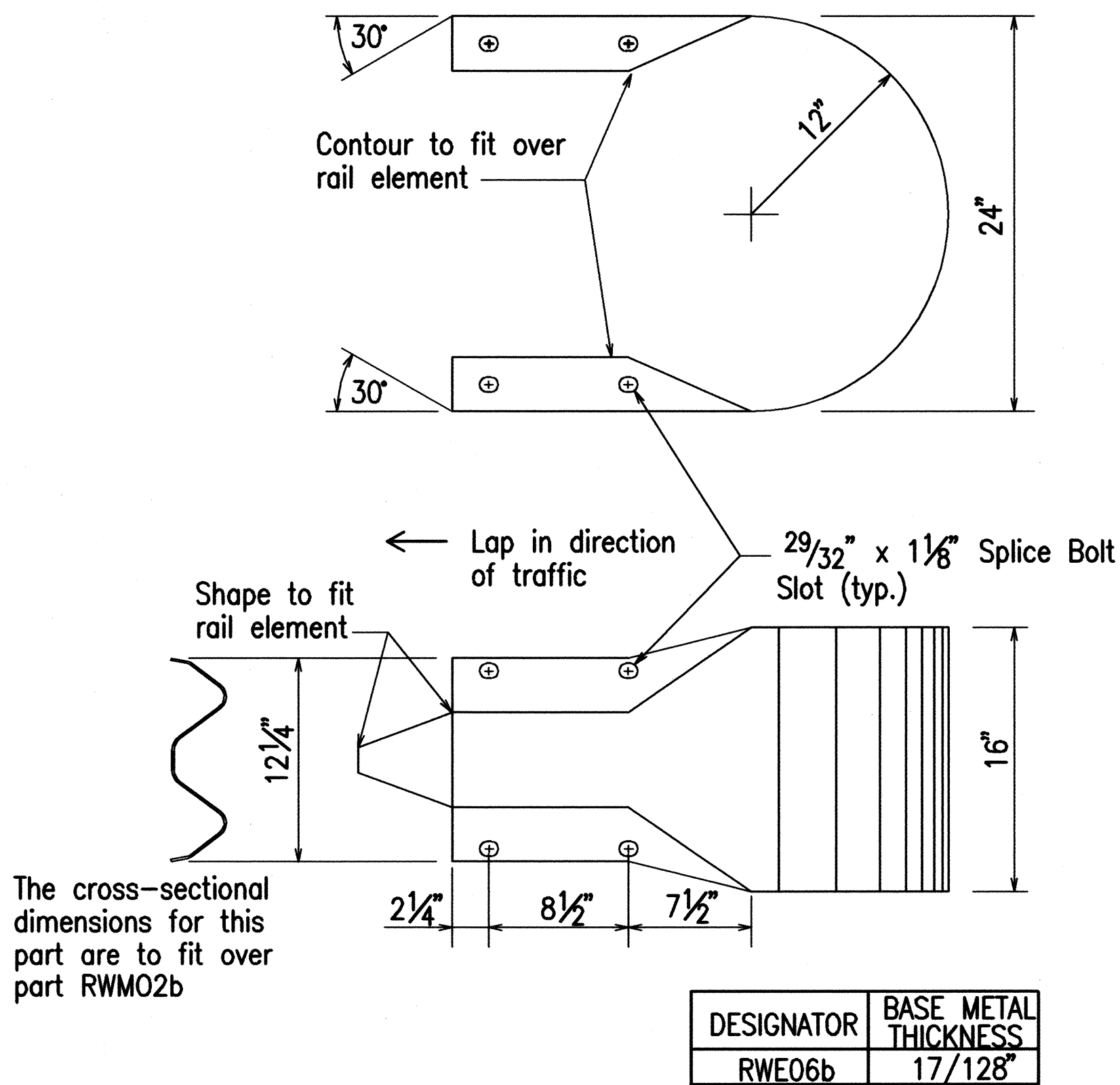
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	16	46



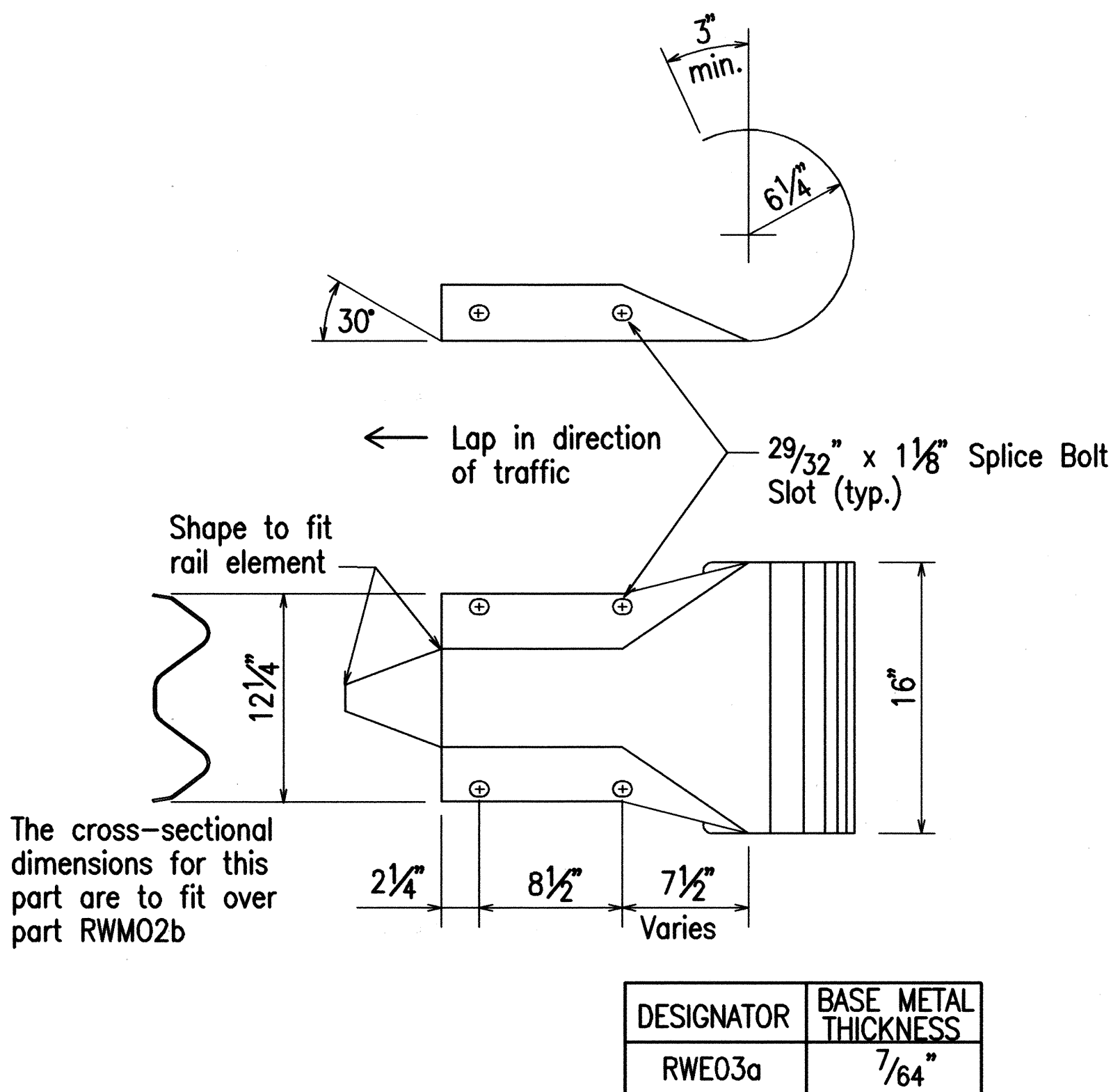
W-BEAM TERMINAL CONNECTOR (RWE02b)



W-BEAM END SECTION (FLARED RWE01b)



W-BEAM END SECTION (BUFFER RWE06b)

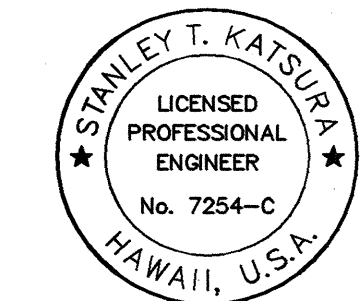


W-BEAM END SECTION (ROUNDED RWE03a)

ORIGINAL PLAN	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
No.	

CAD by E DELA CRUZ, 55-52

Last Saved: J:\PUPUKEA\ROAD\B-3.dwg, 10/13/99 at 17:12



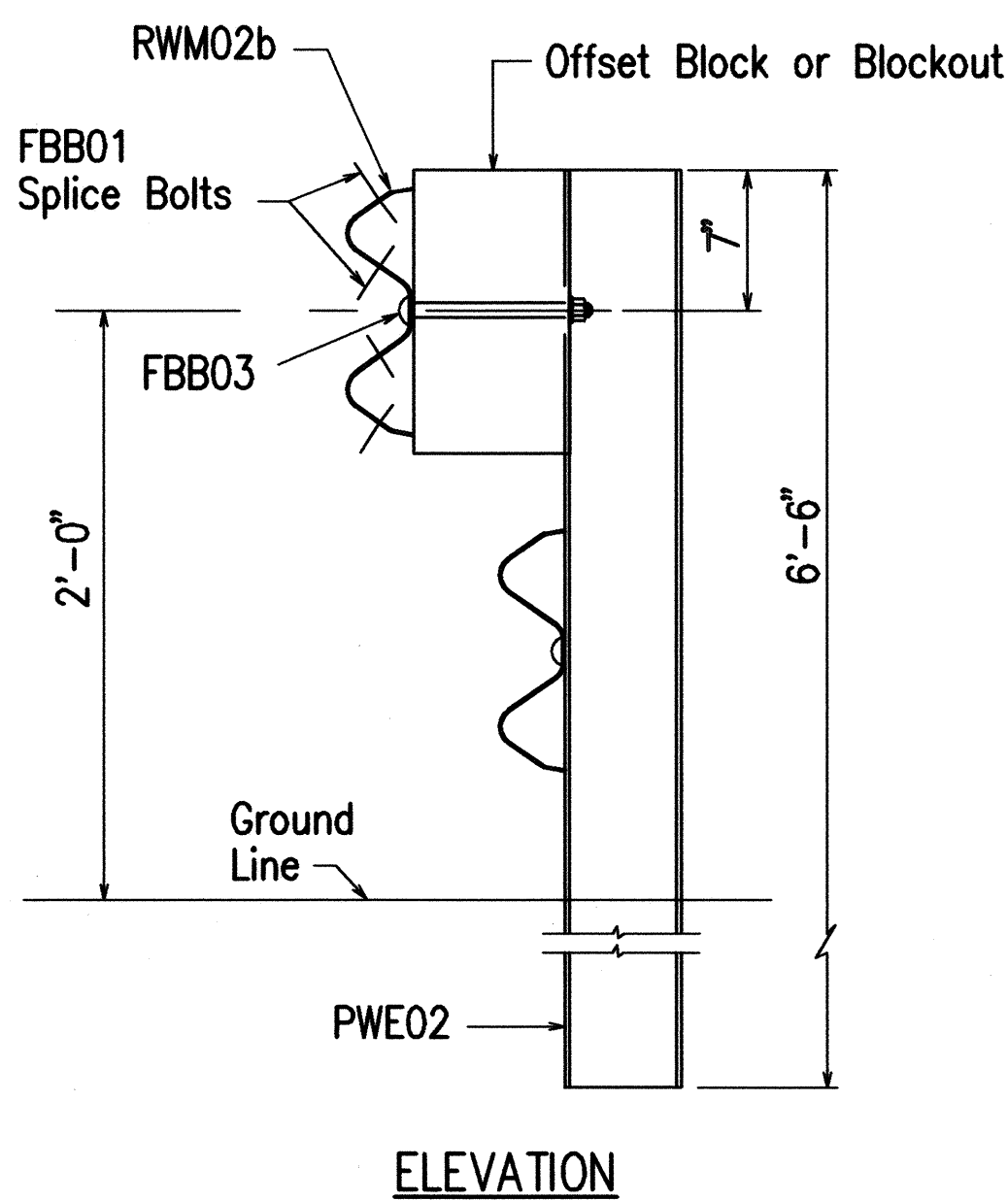
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Stanley T. Katsura

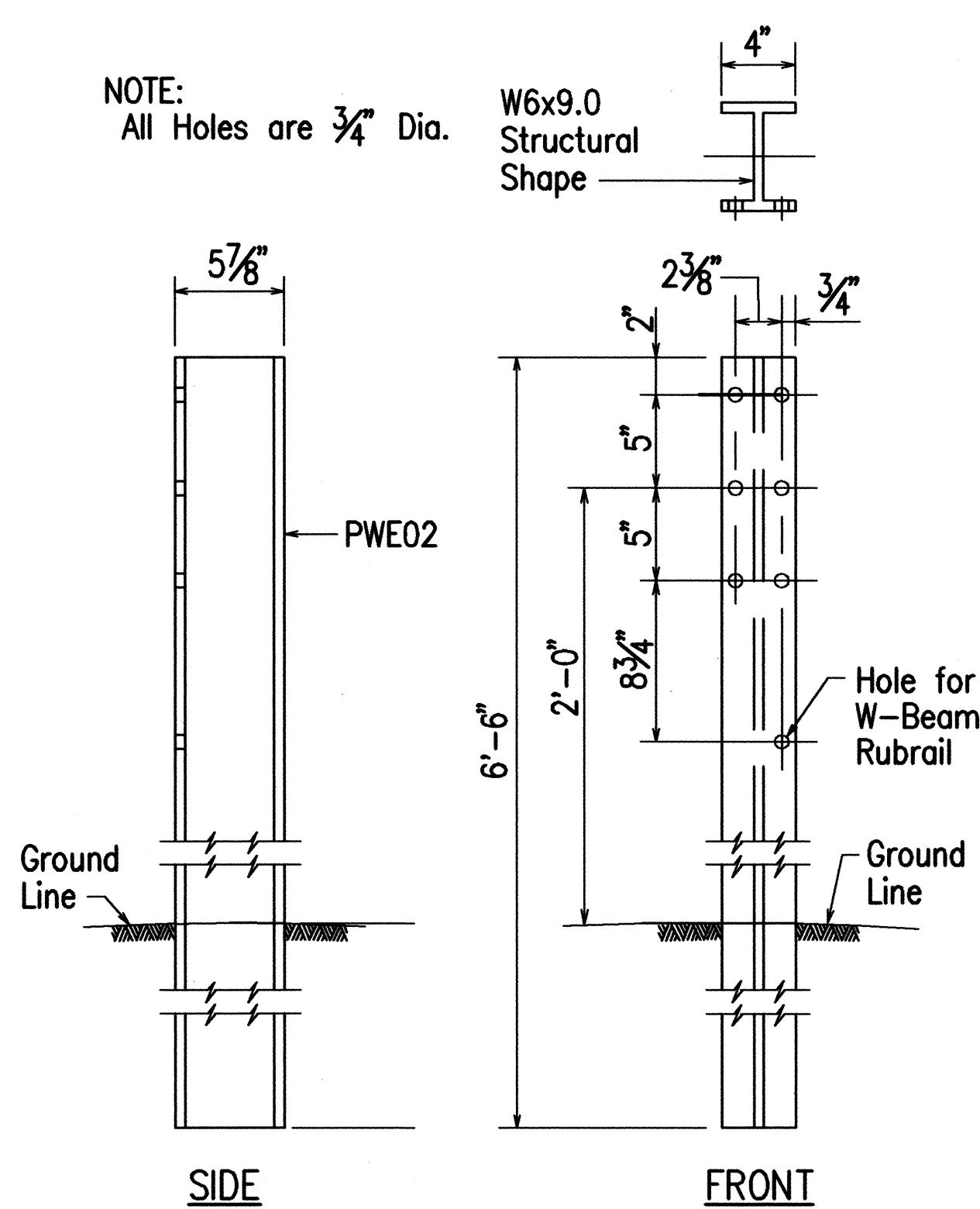
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADWAY CONSTRUCTION
STRONG POST
W-BEAM GUARDRAIL
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUPUKEA ROAD
PROJECT NO. 83B-01-98
SCALE: NONE
DATE: FEBRUARY 2000
SHEET NO. C9 OF 10 SHEETS

16

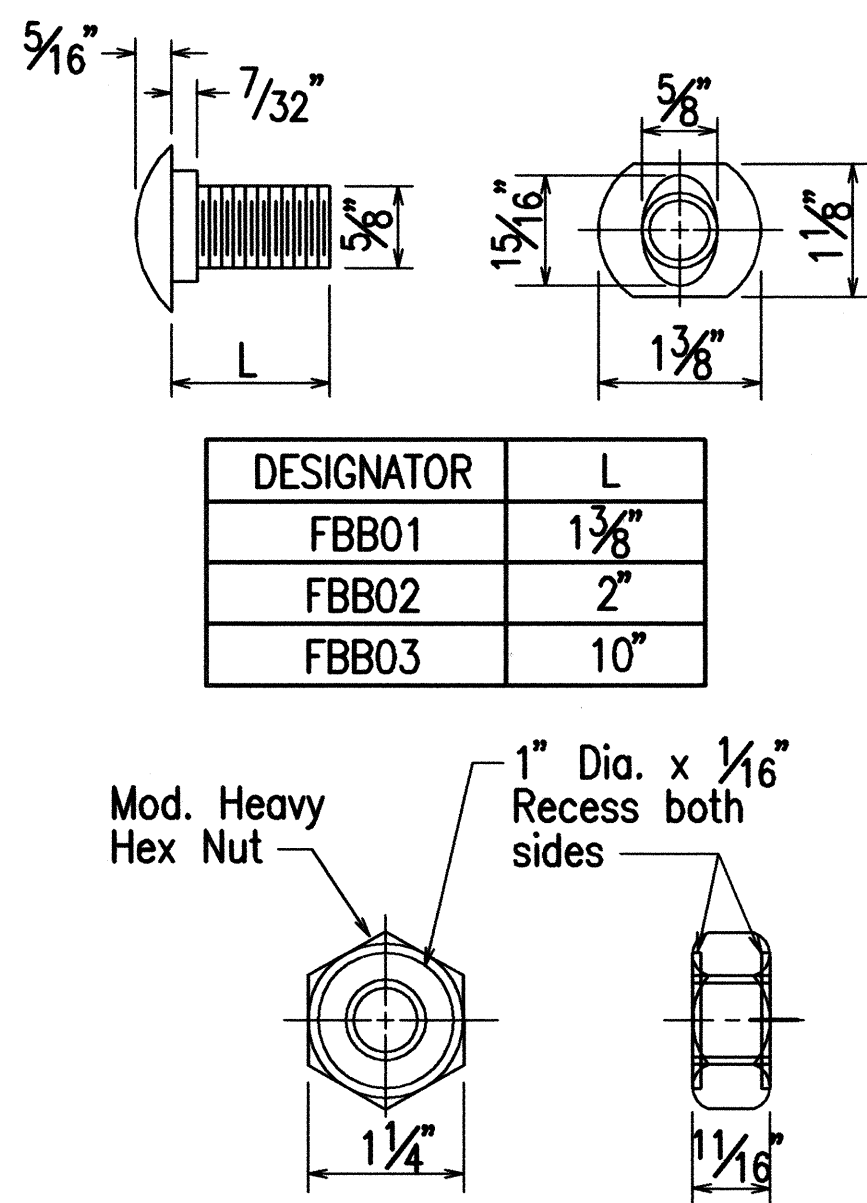
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-98	2000	17	48



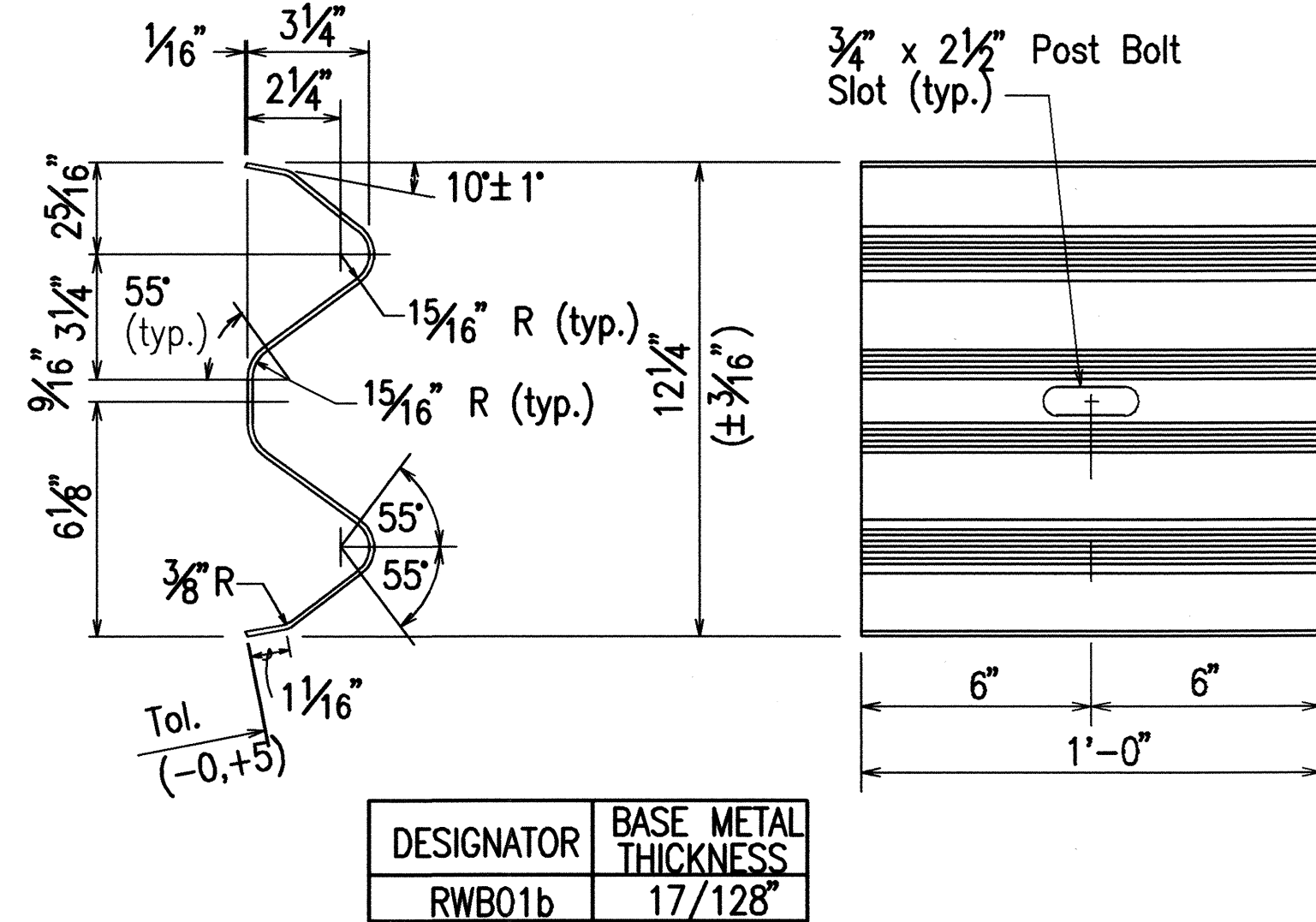
ELEVATION
**STRONG POST RUBRAIL
(W-BEAM) GUARDRAIL**



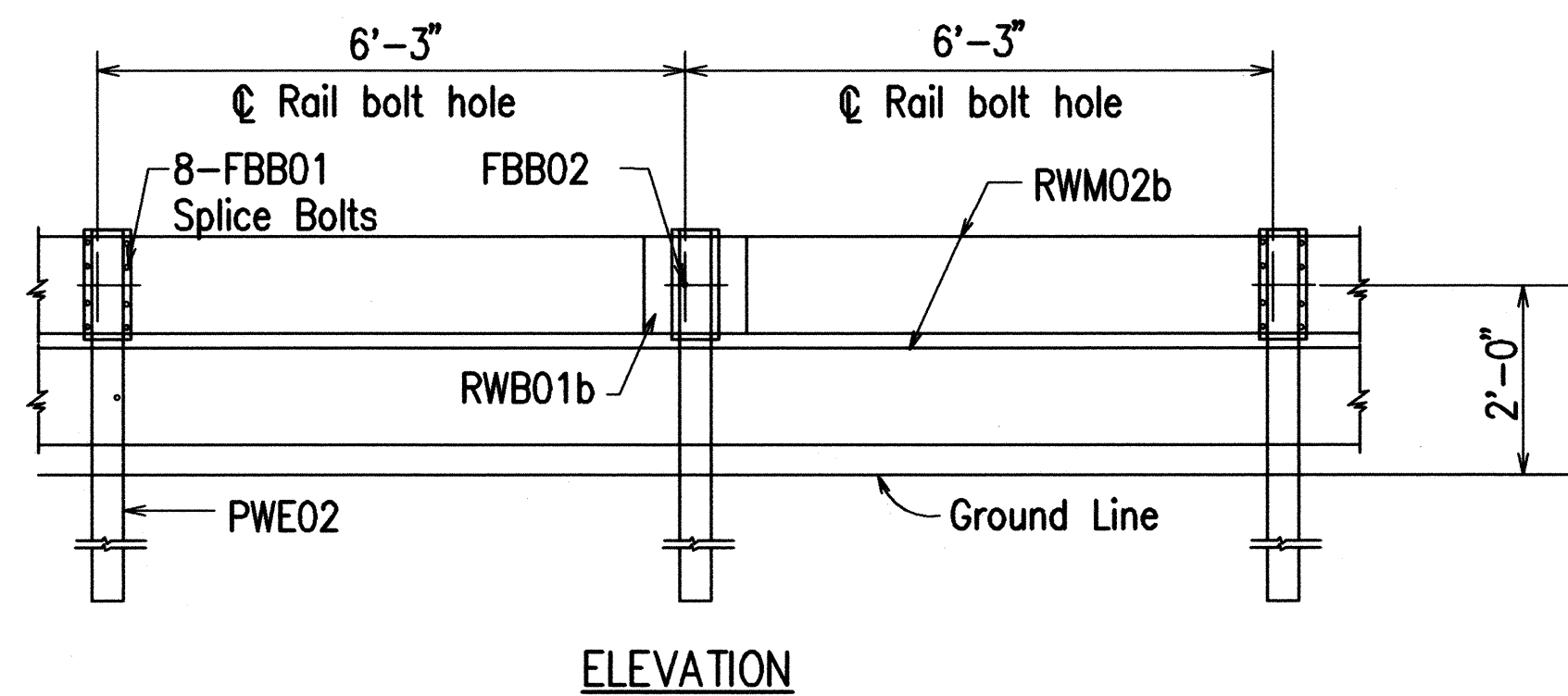
SIDE
FRONT
W-BEAM STRONG POST (PWE02)



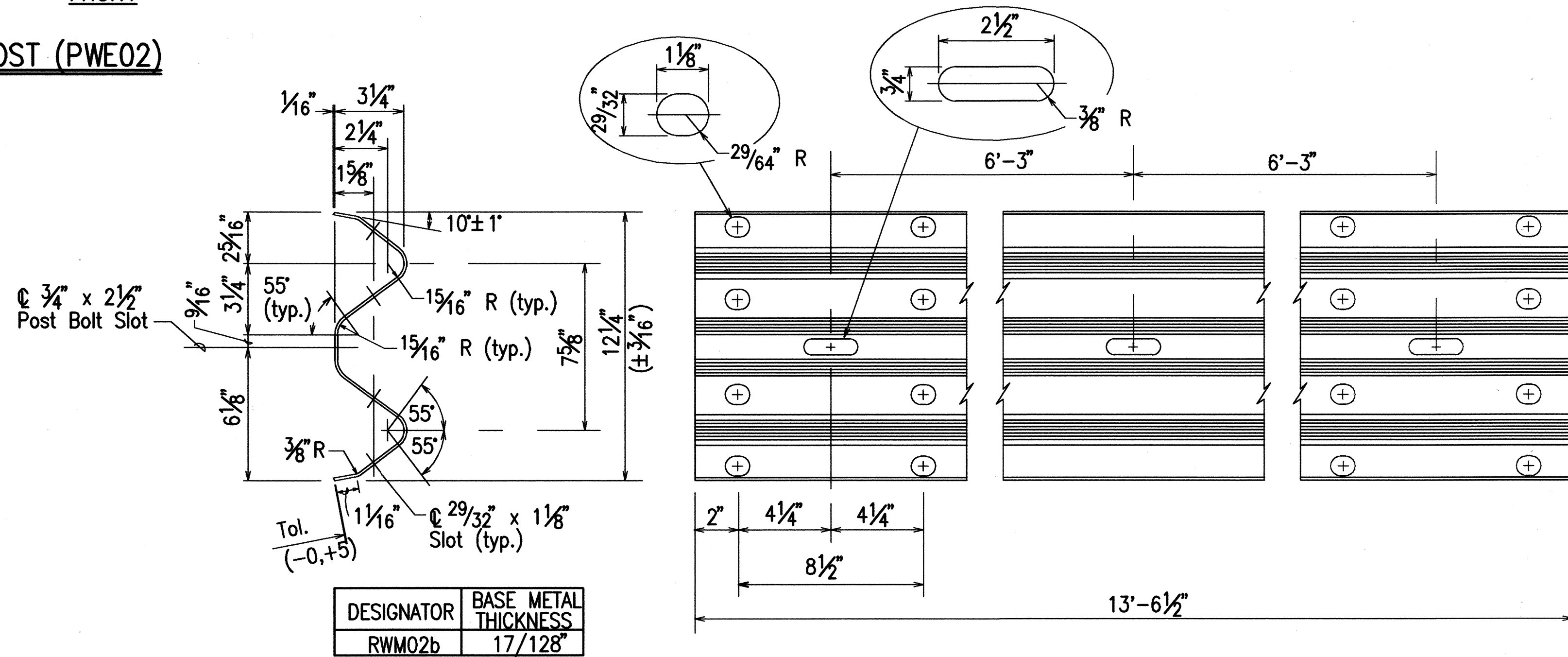
**GUARDRAIL BOLTS AND
RECESSED NUT**



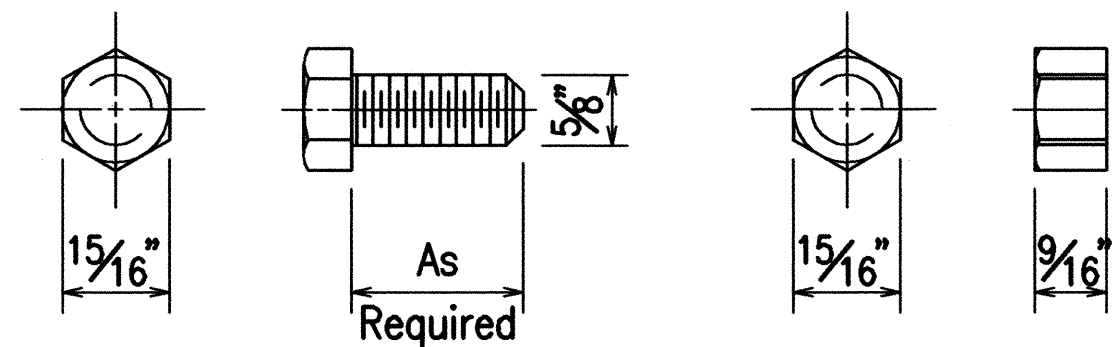
W-BEAM BACK-UP-PLATE (RWB01b)



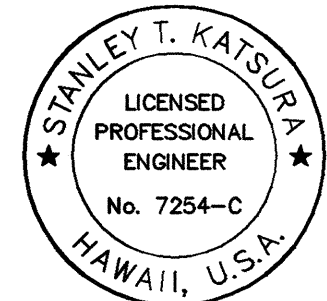
ELEVATION
**STRONG POST RUBRAIL (W-BEAM) GUARDRAIL WITH
RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT**



2 SPACE W-BEAM GUARDRAIL (RWM02b)



HEX BOLT& NUT (FBX16a)



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OR UNDER MY SUPERVISION.

Stanley T. Katsura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STRONG POST RUBRAIL
(W-BEAM) GUARDRAIL**

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT PUPUKEA ROAD
PROJECT NO. 83B-01-98

SCALE: NONE
DATE: FEBRUARY 2000
SHEET NO. C10 OF 19 SHEETS

ORIGINAL SURVEY PLOTTED BY: DATE: _____
DRAWN BY: _____
NOTE BOOK: _____
DESIGNED BY: _____
CHECKED BY: _____
No. _____

CAD by E. DELA CRUZ, 95-52