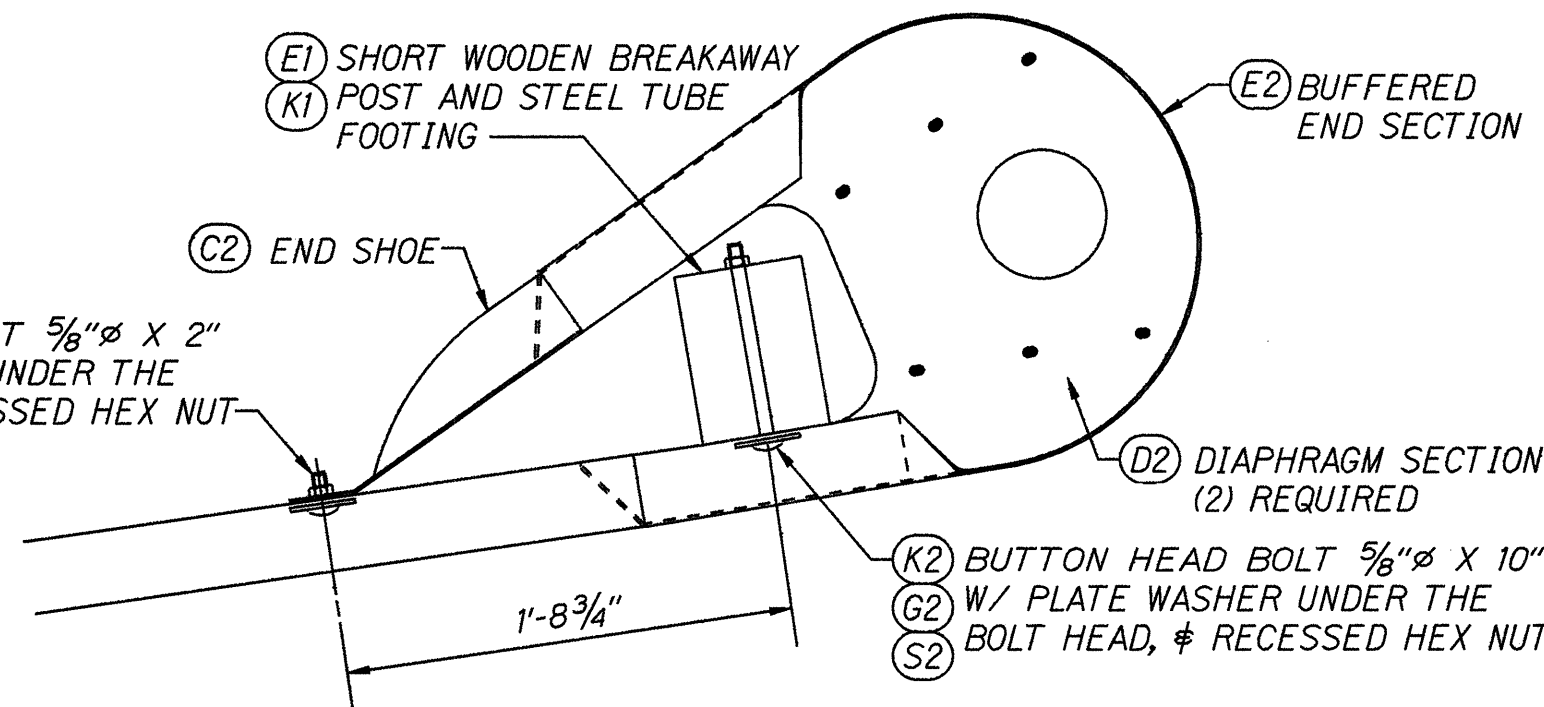


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(39)	1995	6	51

NOTES

1. THE POST OFFSET DIMENSIONS ARE GIVEN TO THE CENTER OF THE TRAFFIC FACE OF THE BLOCKOUTS, EXCEPT AT THE FIRST POST, WHERE THE DIMENSION IS TO THE CENTER OF THE TRAFFIC FACE OF THE POST. OFFSET POINTS ARE TO BE LOCATED BY CHORD MEASUREMENTS AT THE BACK OF THE RAIL EQUAL TO THE NOMINAL POST SPACINGS SHOWN. POSTS ARE TO BE SET APPROXIMATELY RADIAL TO THE RAILING AT EACH POST LOCATION.



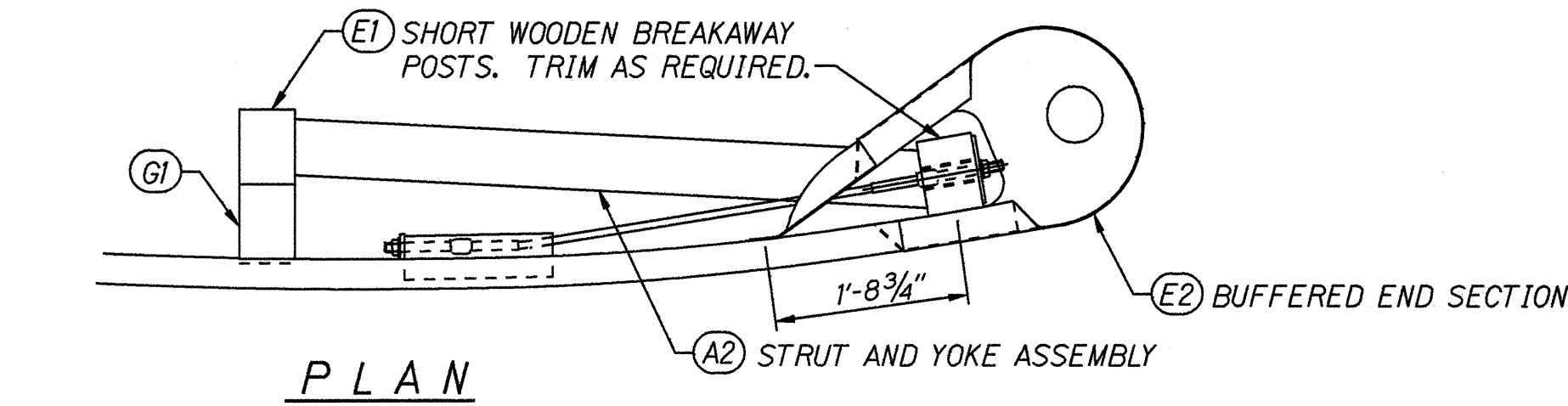
BUFFERED END ASSEMBLY

SUMMARY OF COMPONENTS

FIND NO.	DESCRIPTION
(A1)	GUARDRAIL, 12GA X 12'-6"
(B1)	GUARDRAIL, 12GA X 12'-6"
(C1)	GUARDRAIL, 12GA X 12'-6"
(D1)	BREAKAWAY LINE POST, TIMBER - 6" X 8" X 6'-0"
(E1)	BREAKAWAY POST, TIMBER - 5 1/2" X 7 1/2" X 3'-6 1/2"
(G1)	BLOCK, TIMBER - 5 1/2" X 7 1/2" X 1'-2"
(H1)	POST - W6 X 8.5 X 6'-0"
(J1)	BLOCK - W6 X 8.5 X 1'-2"
(K1)	SOIL TUBE - TS 8 X 6 X .188 X 5'-0"
(L1)	CABLE ANCHOR BRACKET
(M1)	BEARING PLATE
(R1)	PIPE SPACER
(S1)	SOIL PLATE
(T1)	SHELF ANGLE
(A2)	STRUT & YOKE ASSEMBLY
(B2)	CABLE ASSEMBLY
(C2)	END SHOE
(D2)	DIAPHRAGM PLATE
(E2)	BUFFERED END SECTION
(G2)	WASHER, PLATE
(H2)	BOLT, SPLICE 5/8" X 1 1/4"
(J2)	BOLT, POST 5/8" X 2"
(K2)	BOLT, POST 5/8" X 10"
(L2)	BOLT, POST 5/8" X 18"
(M2)	BOLT, HEX 5/8" X 1 1/2"
(N2)	BOLT, HEX 3/4" X 7 1/2"
(R2)	BOLT, HEX 3/4" X 10"
(S2)	NUT, HEX, RECESSED 5/8"
(T2)	NUT, HEX 5/8"
(U2)	NUT, HEX 3/4"
(W2)	NUT, HEX 1"
(X2)	WASHER, FLAT 5/8"
(Y2)	WASHER, FLAT 3/4"
(Z2)	WASHER, FLAT 1"

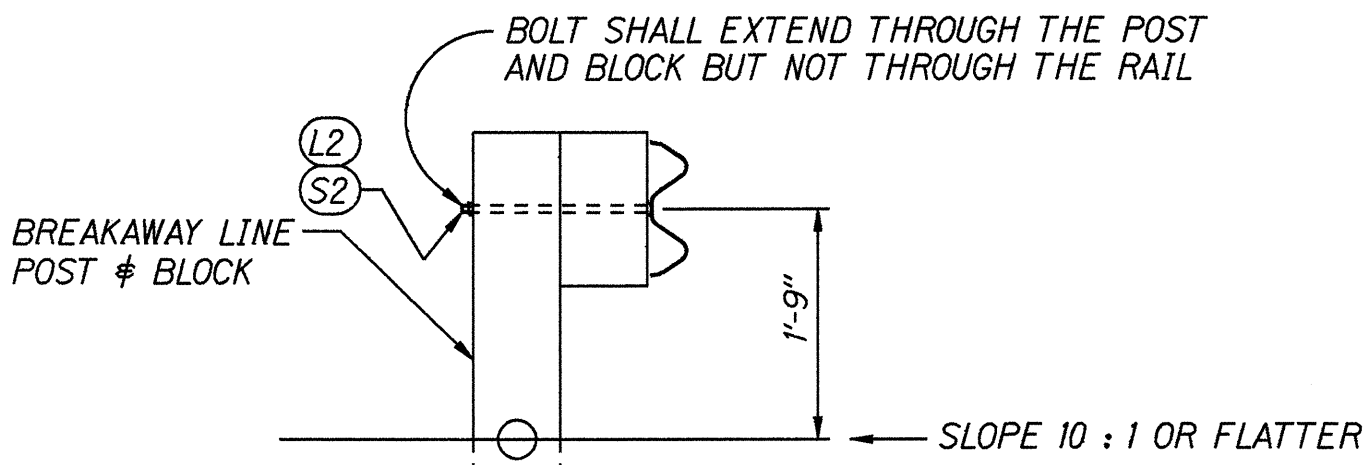
NOTE:

ALL WOOD COMPONENTS SHALL BE TREATED TO CONFORM WITH ANY OF THE ACCEPTED METHODS IN SECTION 714 OF THE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION", 1994.

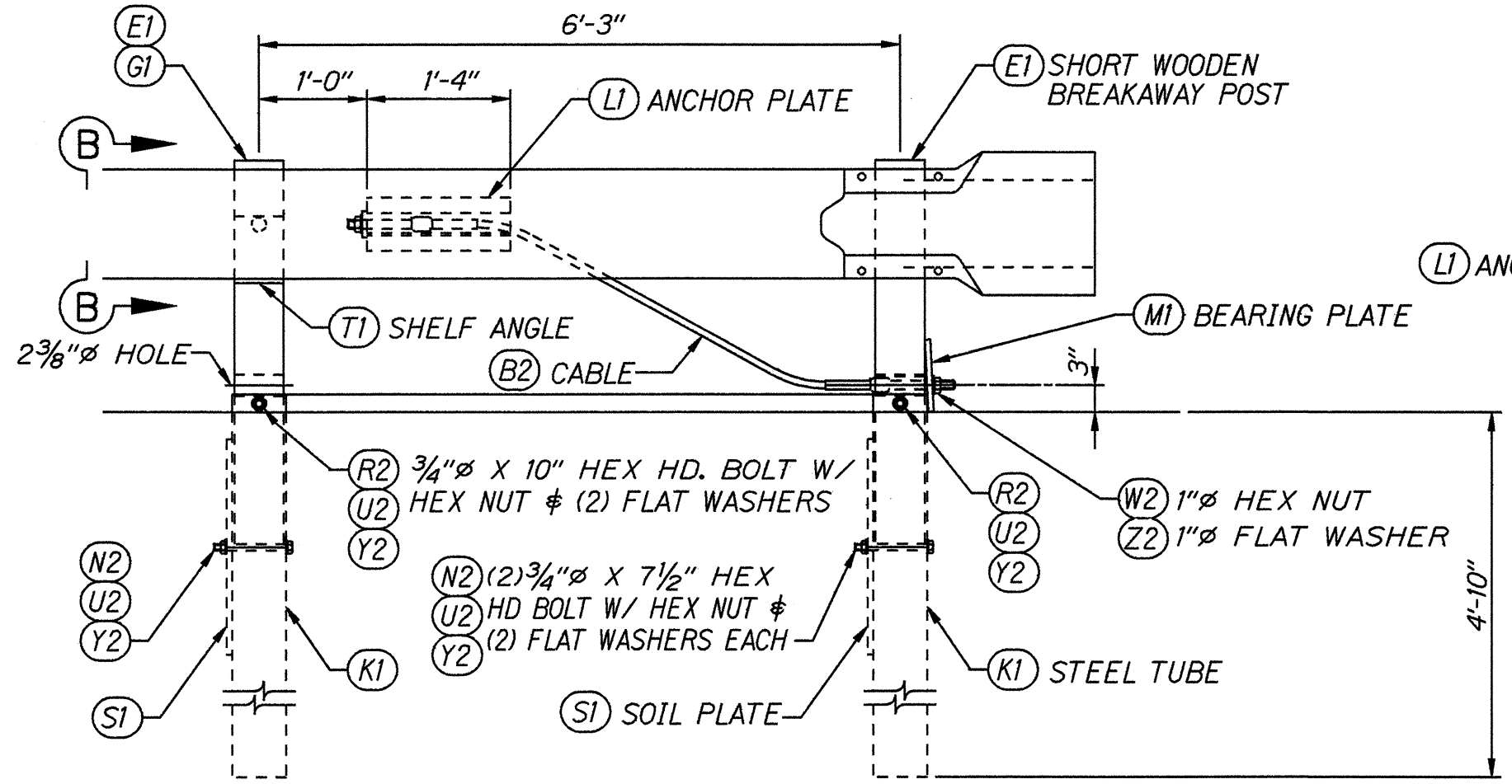


PLAN

SECTION B - B



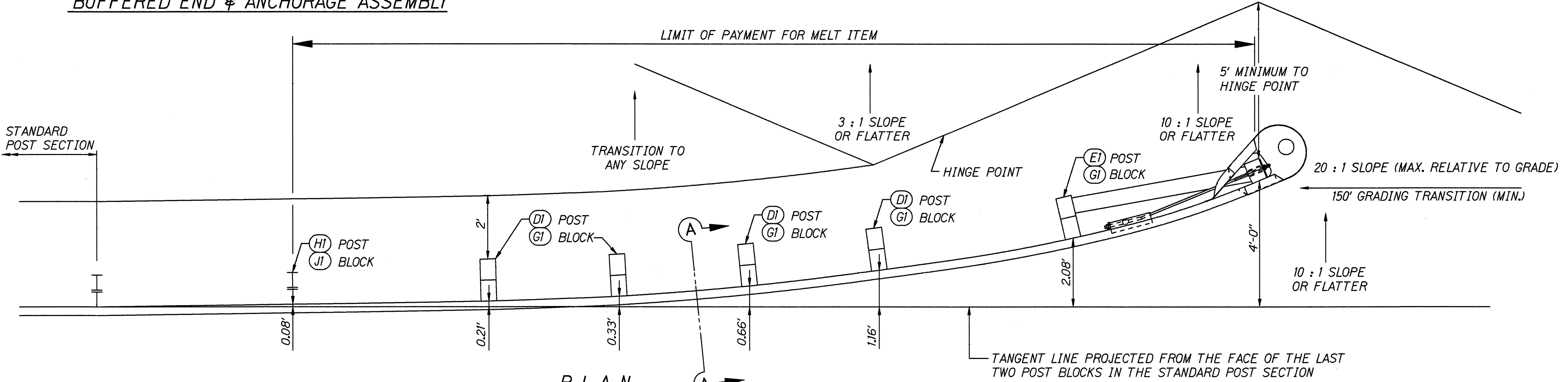
SECTION A - A



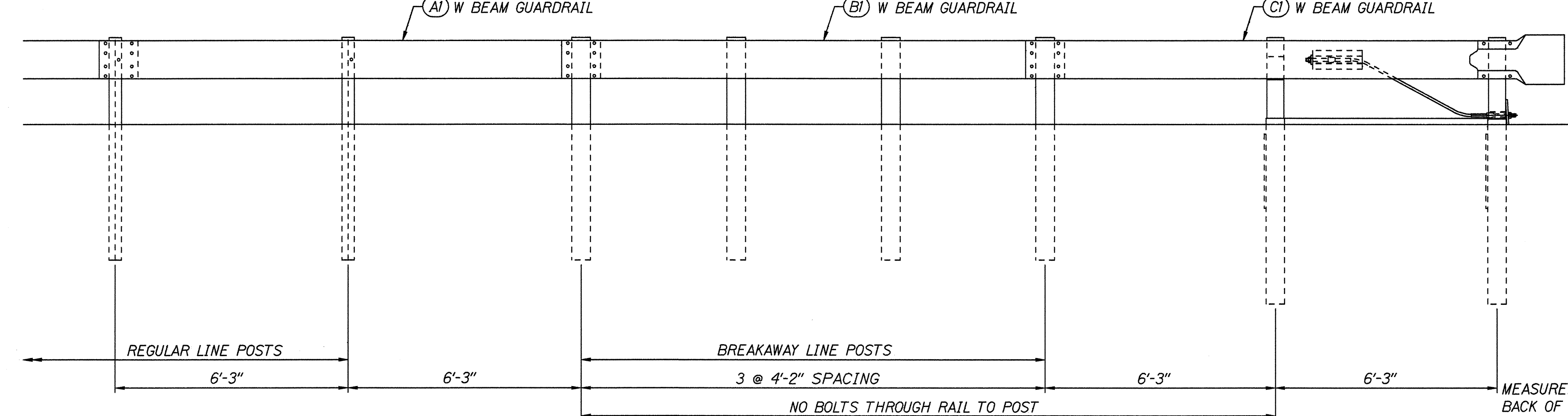
ELEVATION

BUFFERED END & ANCHORAGE ASSEMBLY

ANCHOR PLATE ASSEMBLY DETAILS



PLAN



ELEVATION

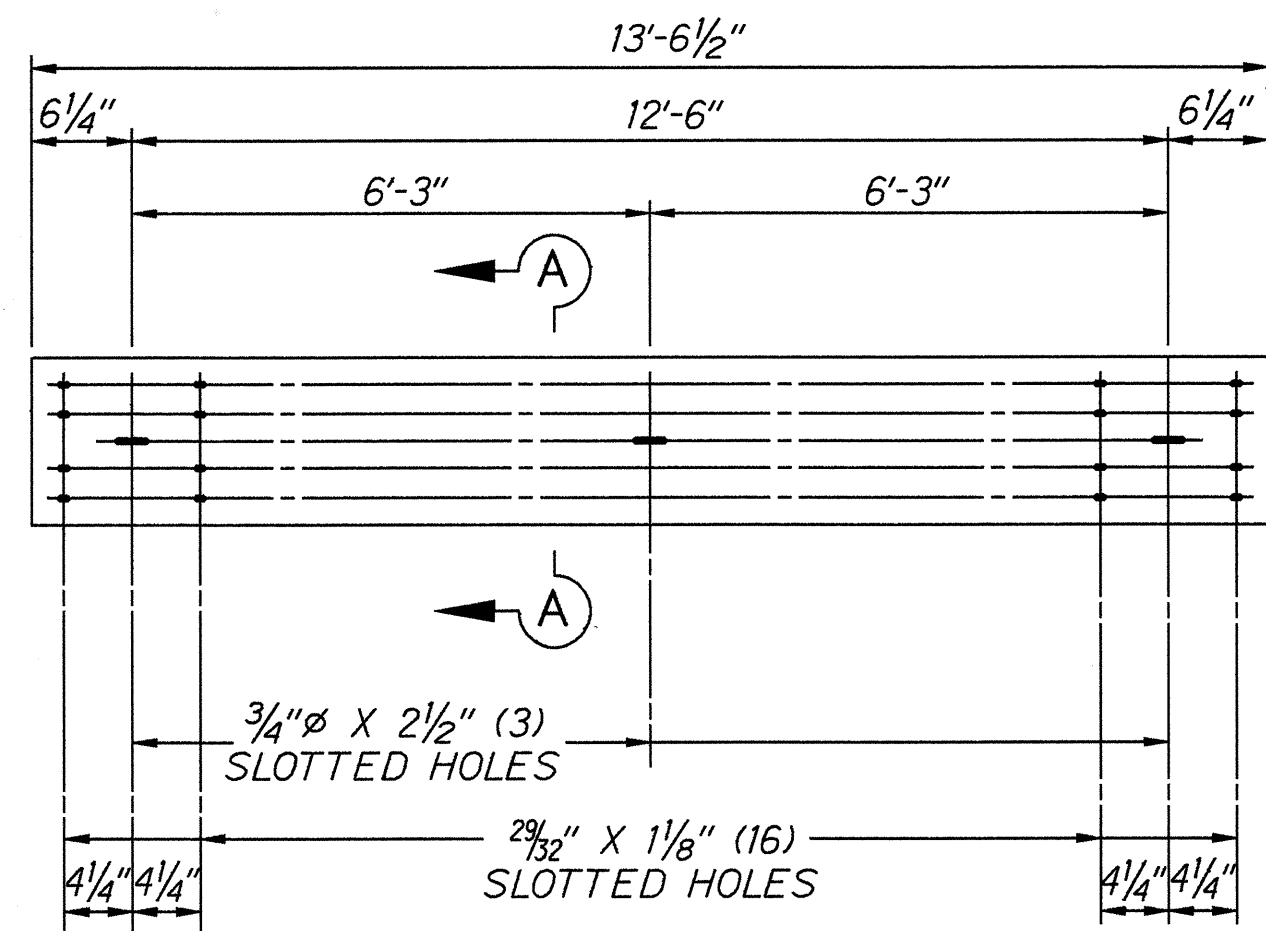
NOTE:

ALL WOOD COMPONENTS SHALL BE TREATED TO CONFORM WITH ANY OF THE ACCEPTED METHODS IN SECTION 714 OF THE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION", 1994.

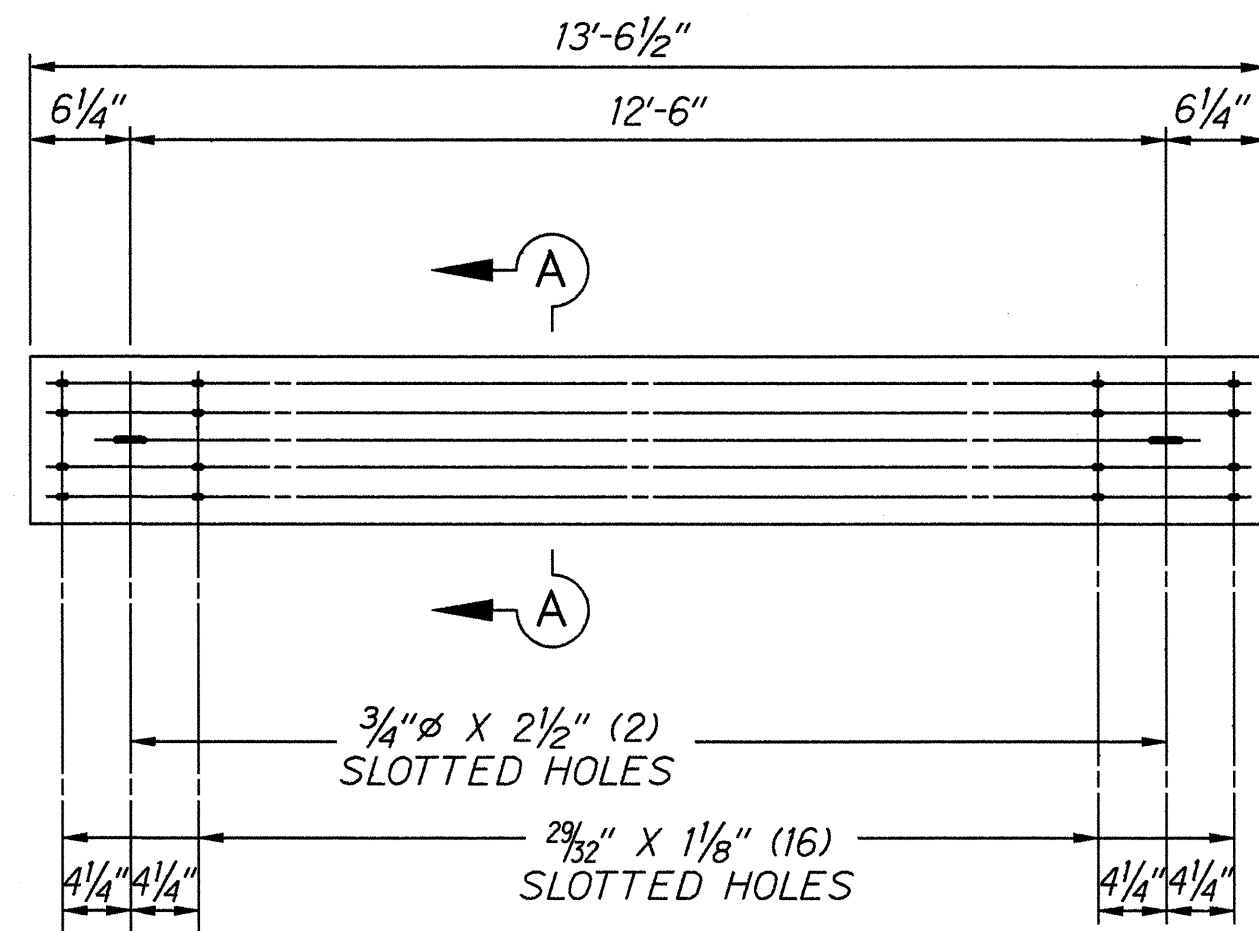
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MODIFIED ECCENTRIC LOADER
TERMINAL (MELT)
POST LAYOUT & ERECTION DETAILS
HANA HIGHWAY RESURFACING
Valley Isle Memorial Cemetery to Huelo
Fed. Aid Project No. STP-0900(39)
Not to Scale Date: Feb., 1995
SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(39)	1995	7	51

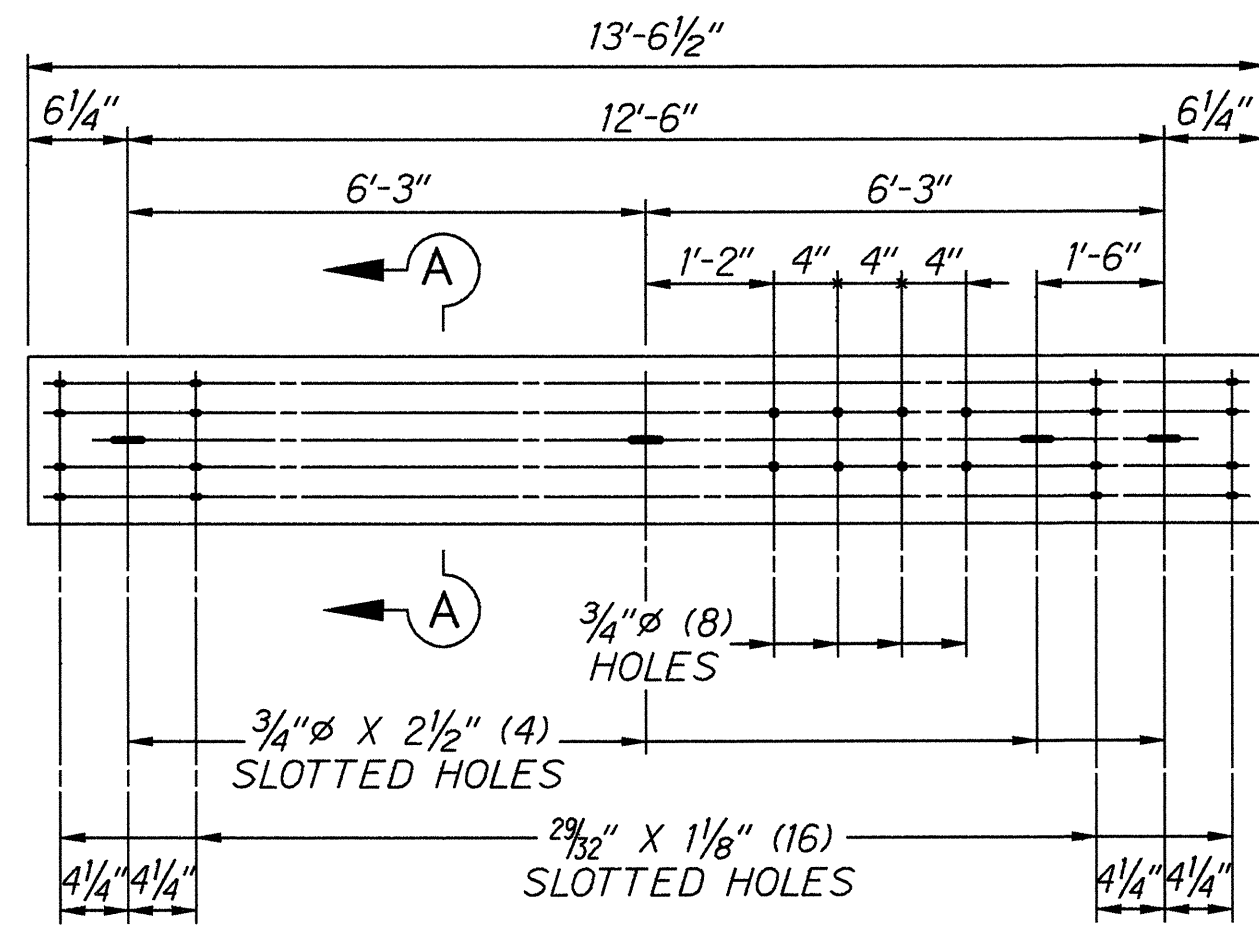
MATERIAL SCHEDULE					
FIND PIECE No.	MARK	MATERIAL	LENGTH FEET	INCHES	WEIGHT
A1		GUARDRAIL, W-BEAM			95.0
		12 GA. W-BEAM GUARDRAIL	12	6	89.0
B1		GUARDRAIL, W-BEAM			95.0
		12 GA. W-BEAM GUARDRAIL	12	6	89.0
C1		GUARDRAIL, W-BEAM			95.0
		12 GA. W-BEAM GUARDRAIL	12	6	89.0
D1		BREAKAWAY LINE POST			88.0
		TIMBER POST 6 X 8	6	0	352.0
E1		BREAKAWAY POST, SHORT			44.6
		TIMBER POST 5 1/2 X 7 1/2	3	6 1/2	89.2
G1		BLOCK			16.8
		TIMBER BLOCK 5 1/2 X 7 1/2	1	2	84.0
H1		POST			54.9
		W6 X 8.5	6	0	52.0
J1		BLOCK			11.0
		W6 X 8.5	1	2	10.1
K1		SOIL TUBE			88.9
		TS 8 X 6 X .1875	5	0	170.8
L1		CABLE ANCHOR BRACKET			19.3
a		PL 1/4 X 12 3/8	1	4	17.6
b		PL 1/2 X 2 3/4	0	3	1.17
M1		BEARING PLATE			11.9
		PL 3/8 X 8	0	8	11.3
c		PL 3/16 X 1	0	8	0.4
R1		POST SLEEVE			1.76
		PIPE 2" STD	0	5 1/2	1.67
S1		SOIL PLATE			84.8
		PL 1/4 X 24	2	0	40.8
T1		SHELF ANGLE			3.7
		PL 1/4 X 6	0	8 1/2	3.61



ONE - GUARDRAIL - A1

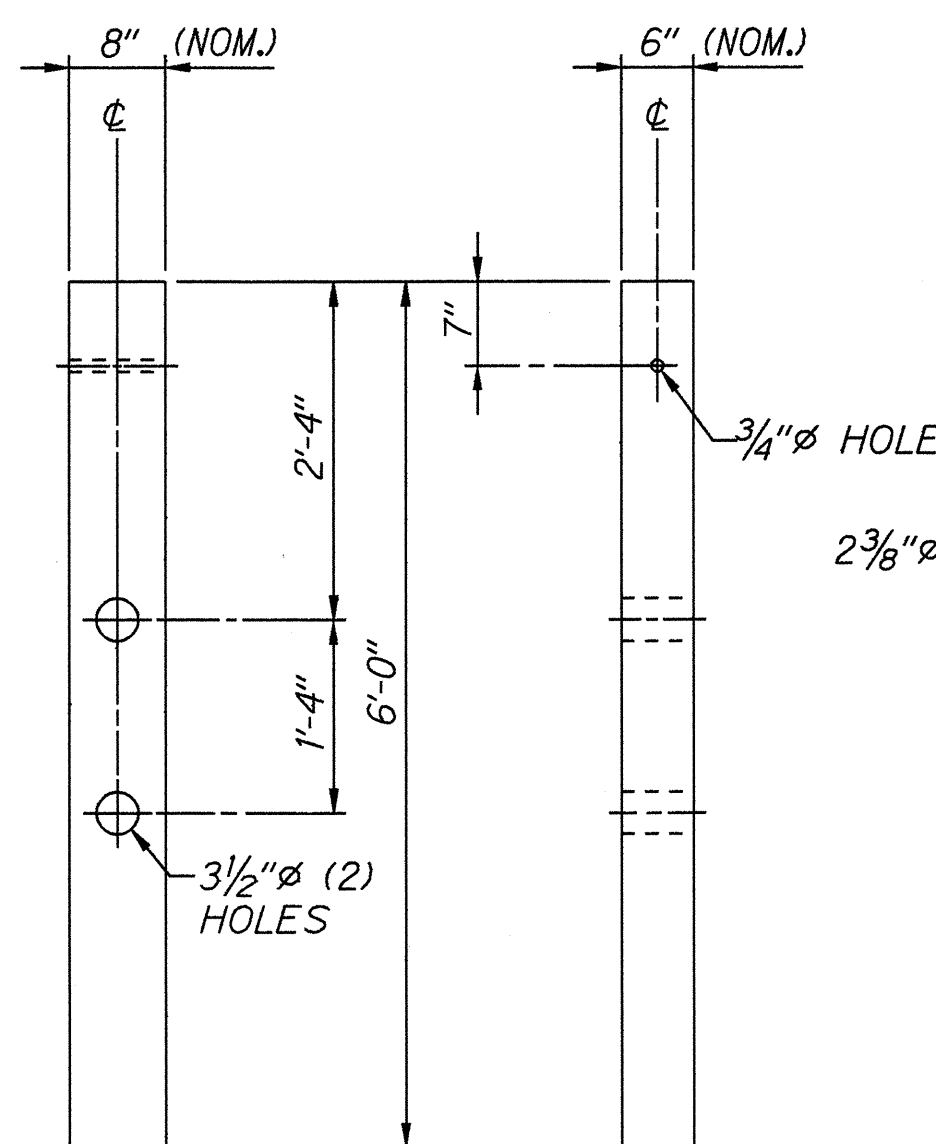


ONE - GUARDRAIL - B1

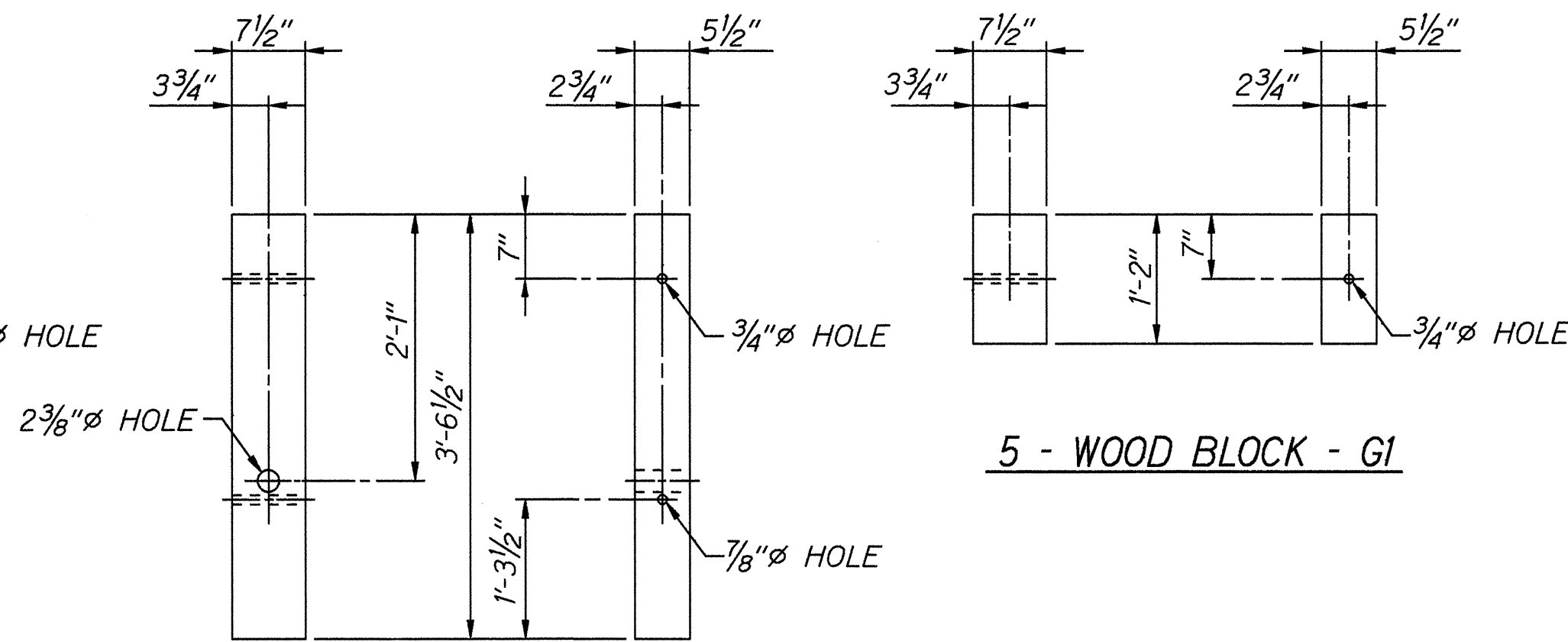


ONE - GUARDRAIL - C1

SECTION A - A

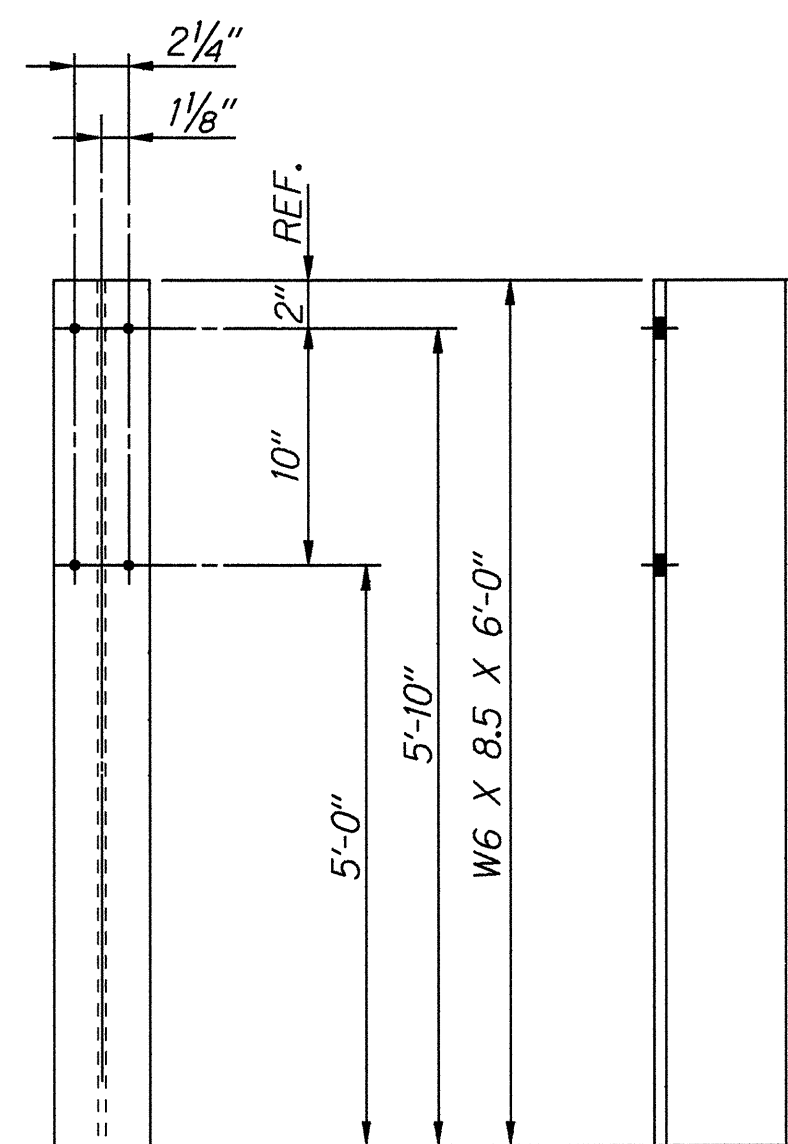


4 - WOOD POST - D1

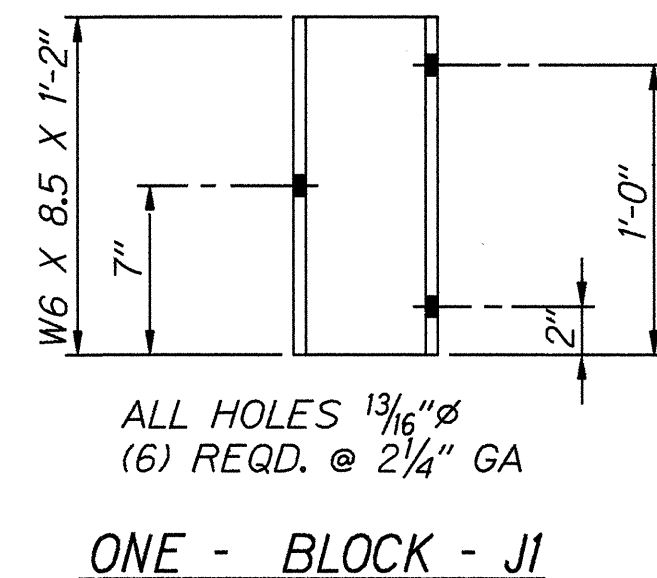


5 - WOOD BLOCK - G1

2 - WOOD POST - E1

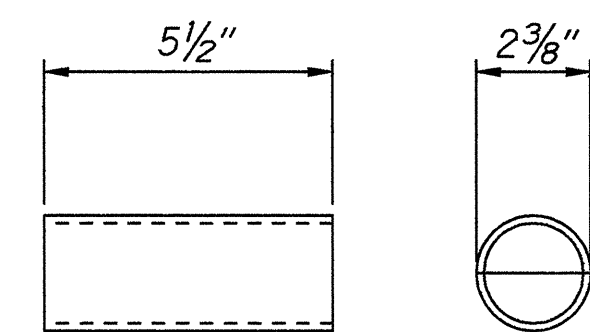


ONE - POST - H1

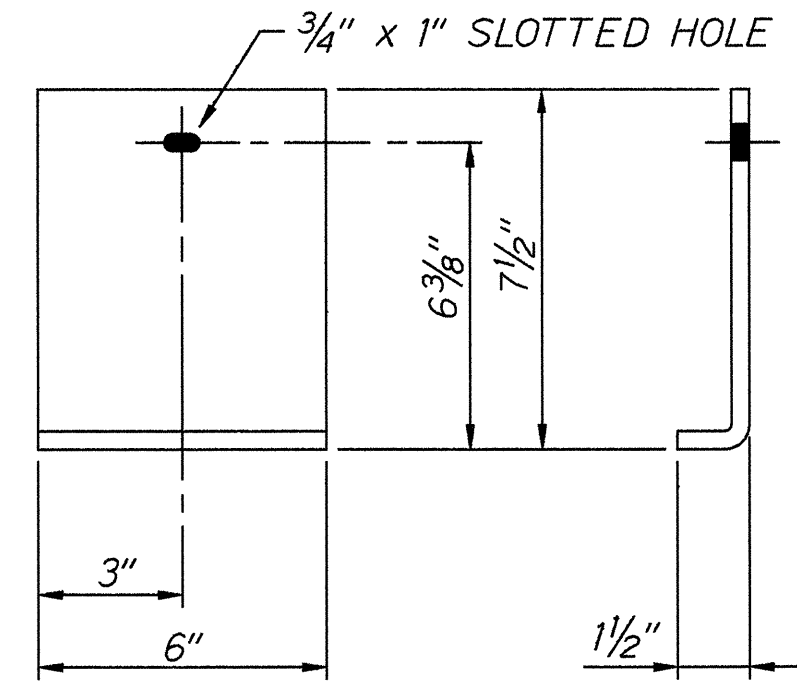


ALL HOLES 1 3/16" (6) REQD. @ 2 1/4" GA

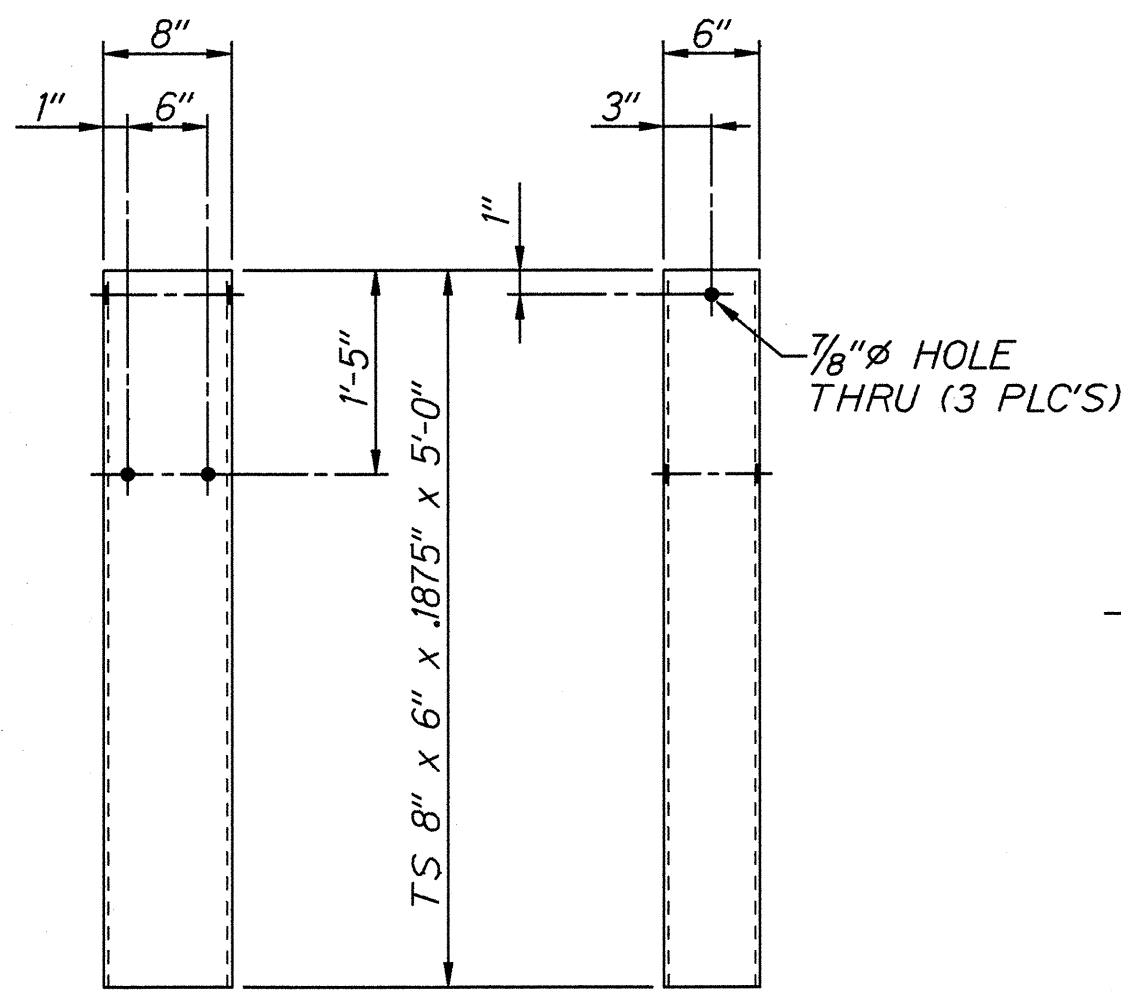
ONE - BLOCK - J1



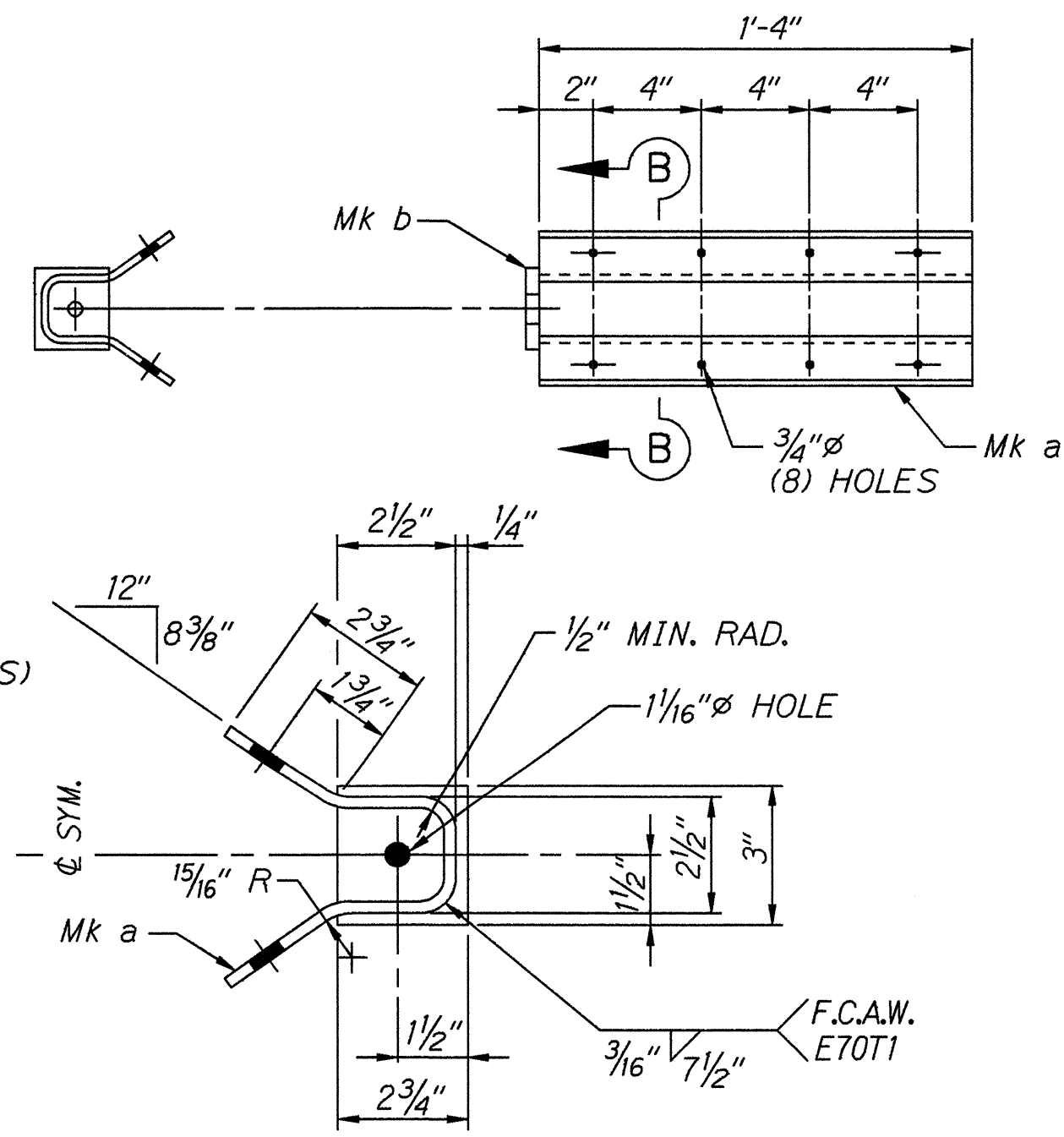
ONE - PIPE SPACER - R1



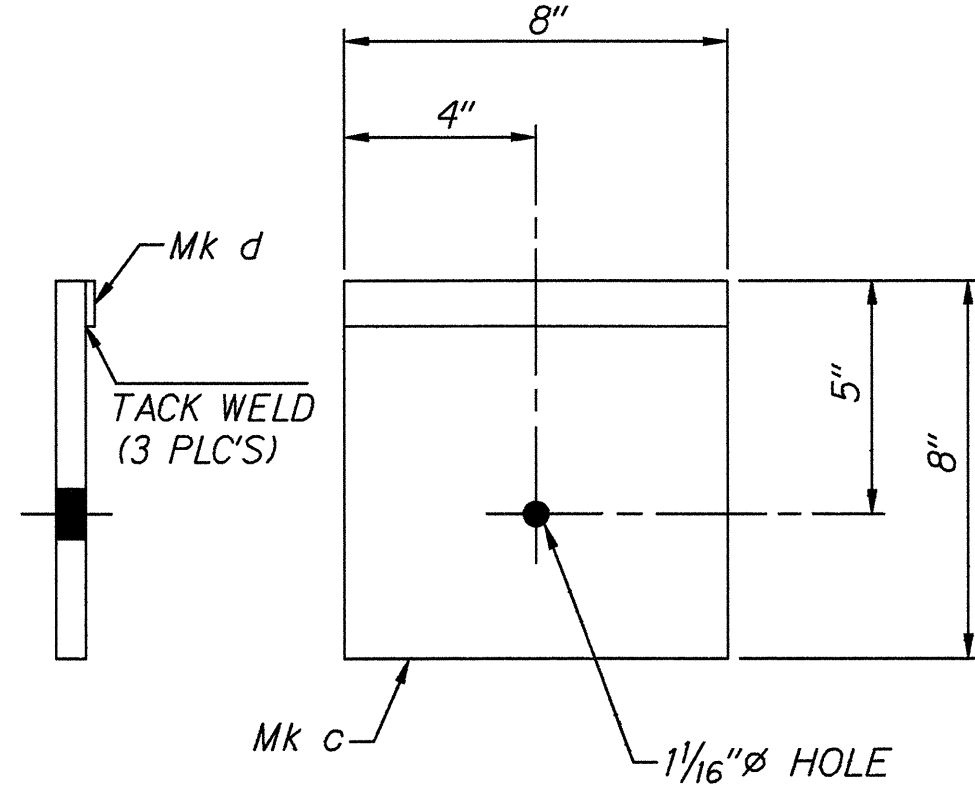
ONE - SHELF ANGLE - T1



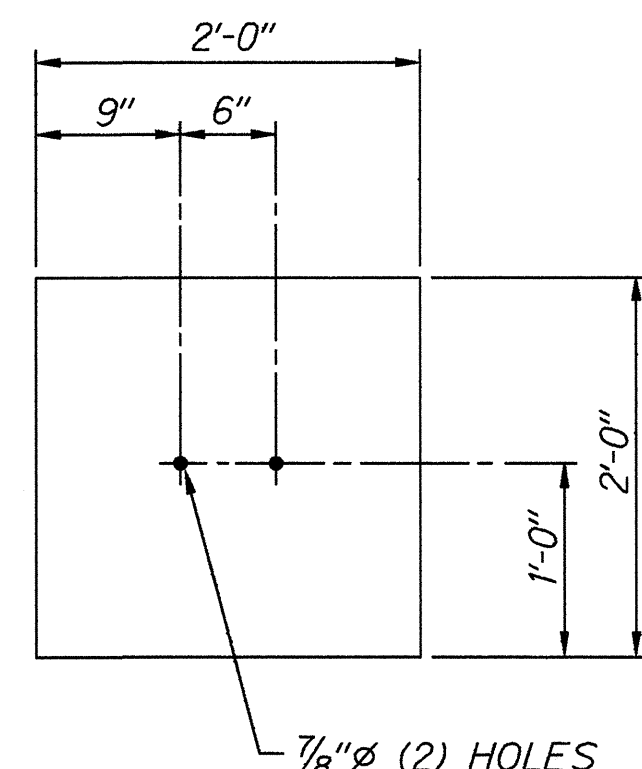
2 - SOIL TUBE - K1



SECTION B - B
ONE - CABLE ANCHOR BRACKET - L1



ONE - BEARING PLATE - M1

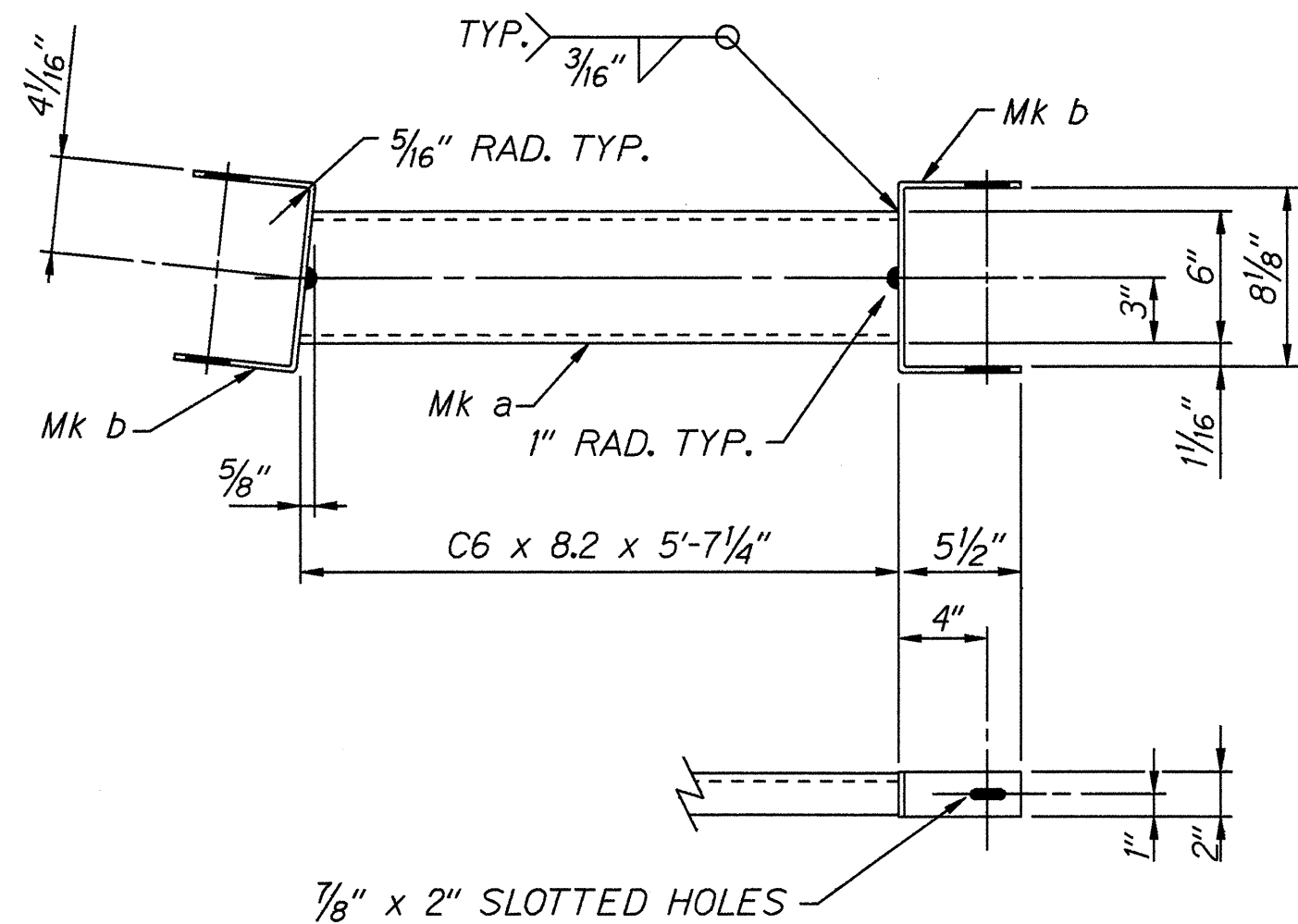


2 - SOIL PLATE - S1

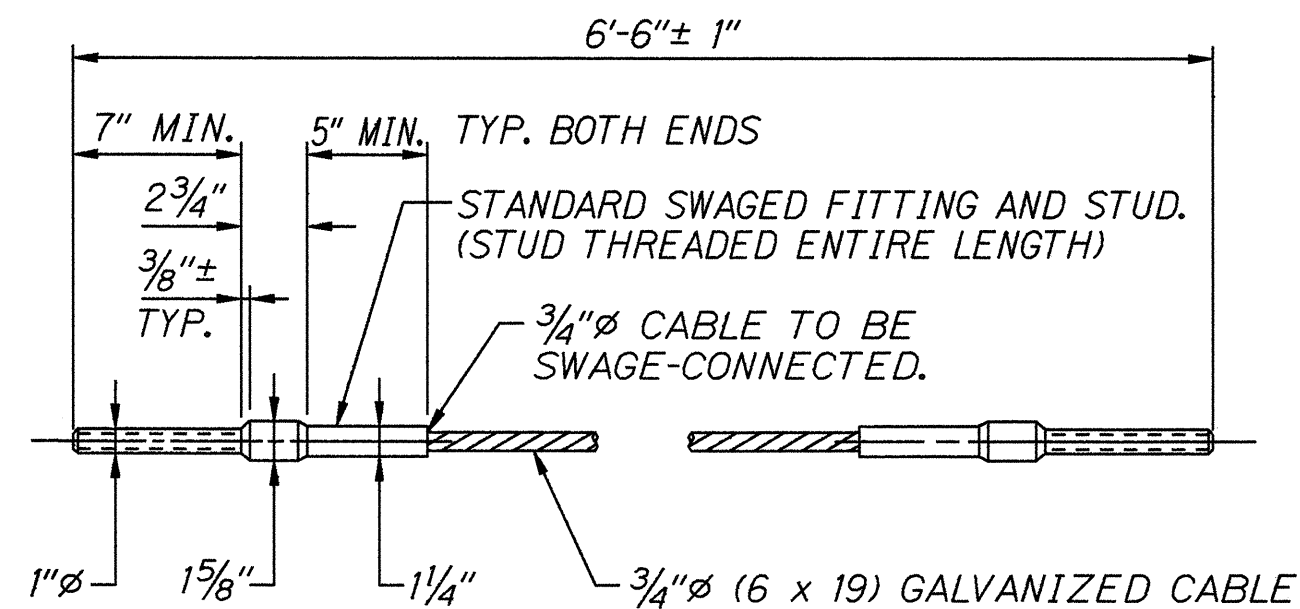
ORIGINAL PLAN	SURVEY DICTATED BY	DATE	X
NOTED	DRAWN BY		
DESIGNED BY			
QUANTITIES BY			
CHECKED BY			

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MODIFIED ECCENTRIC LOADER
TERMINAL (MELT)
COMPONENT DETAILS
HANA HIGHWAY RESURFACING
Valley Isle Memorial Cemetery to Huelo
Fed. Aid Project No. STP-0900(39)
Not to Scale Date: Feb, 1995
SHEET No. 2 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(39)	1995	8	51



ONE - STRUT AND YOKE ASSEMBLY - A2



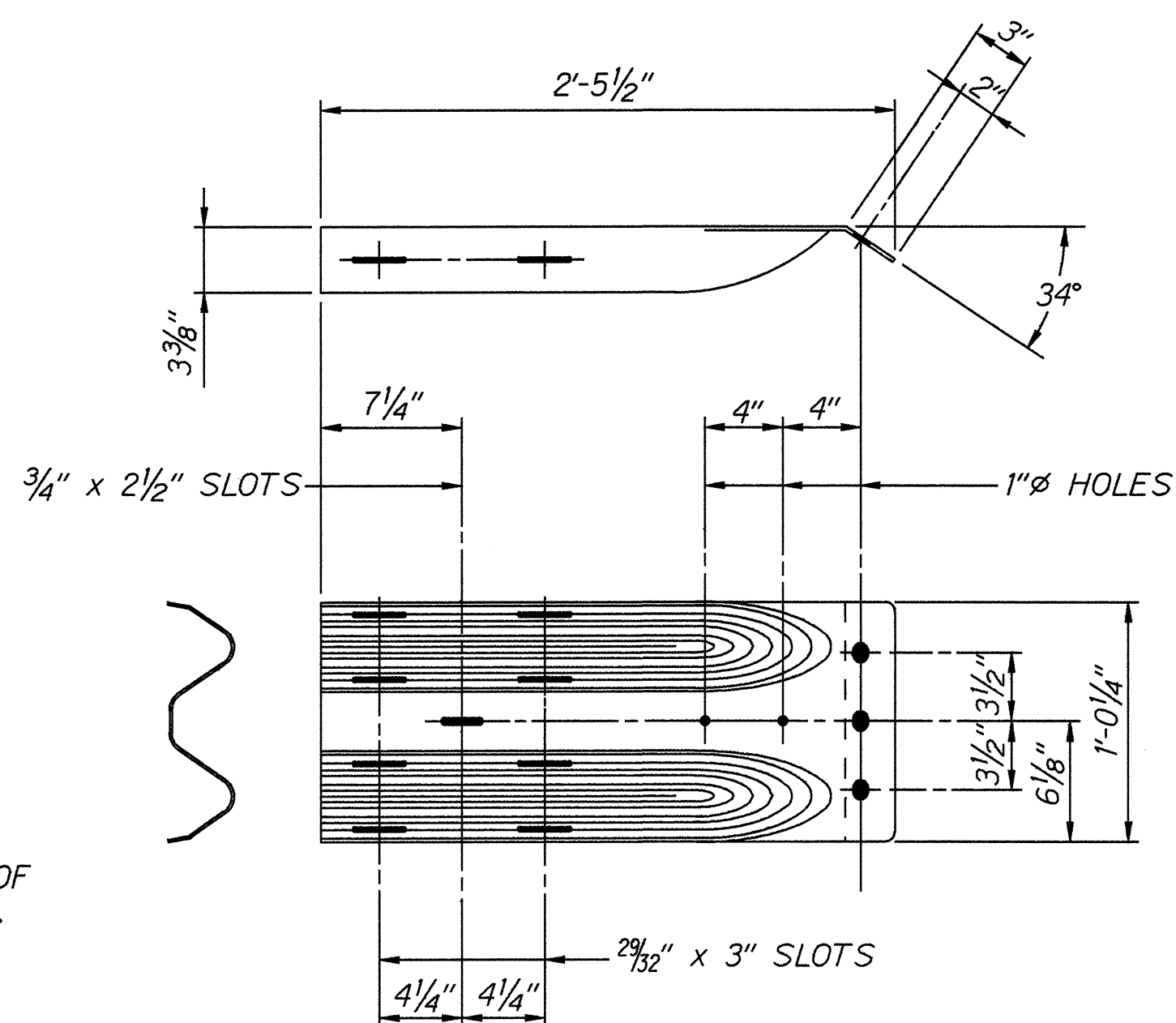
NOTES:

THE STUD SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A449 AND SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153. THE THREADS SHALL HAVE A CLASS 2A FIT BEFORE GALVANIZING.

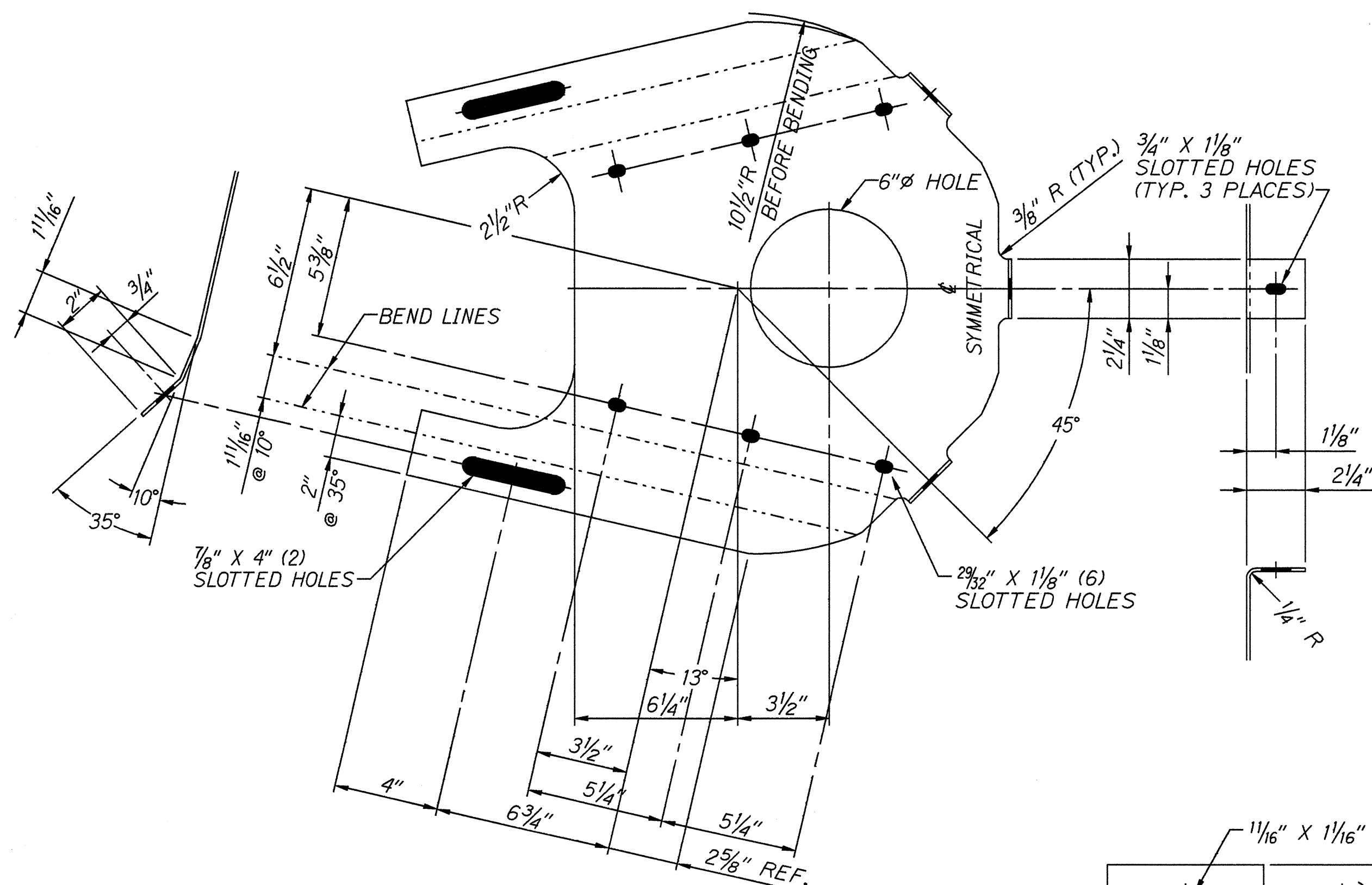
WIRE ROPE SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M-30 AND SHALL BE 3/4-INCH PREFORMED, 6 x 19, WIRE STRAND CORE OR INDEPENDENT WIRE ROPE CORE (IWRC), GALVANIZED, RIGHT REGULAR LAY, MANUFACTURED OF IMPROVED FLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 46,000 POUNDS.

THE SWAGED FITTING, STUD, AND NUT SHALL DEVELOP THE BREAKING STRENGTH OF THE WIRE ROPE.

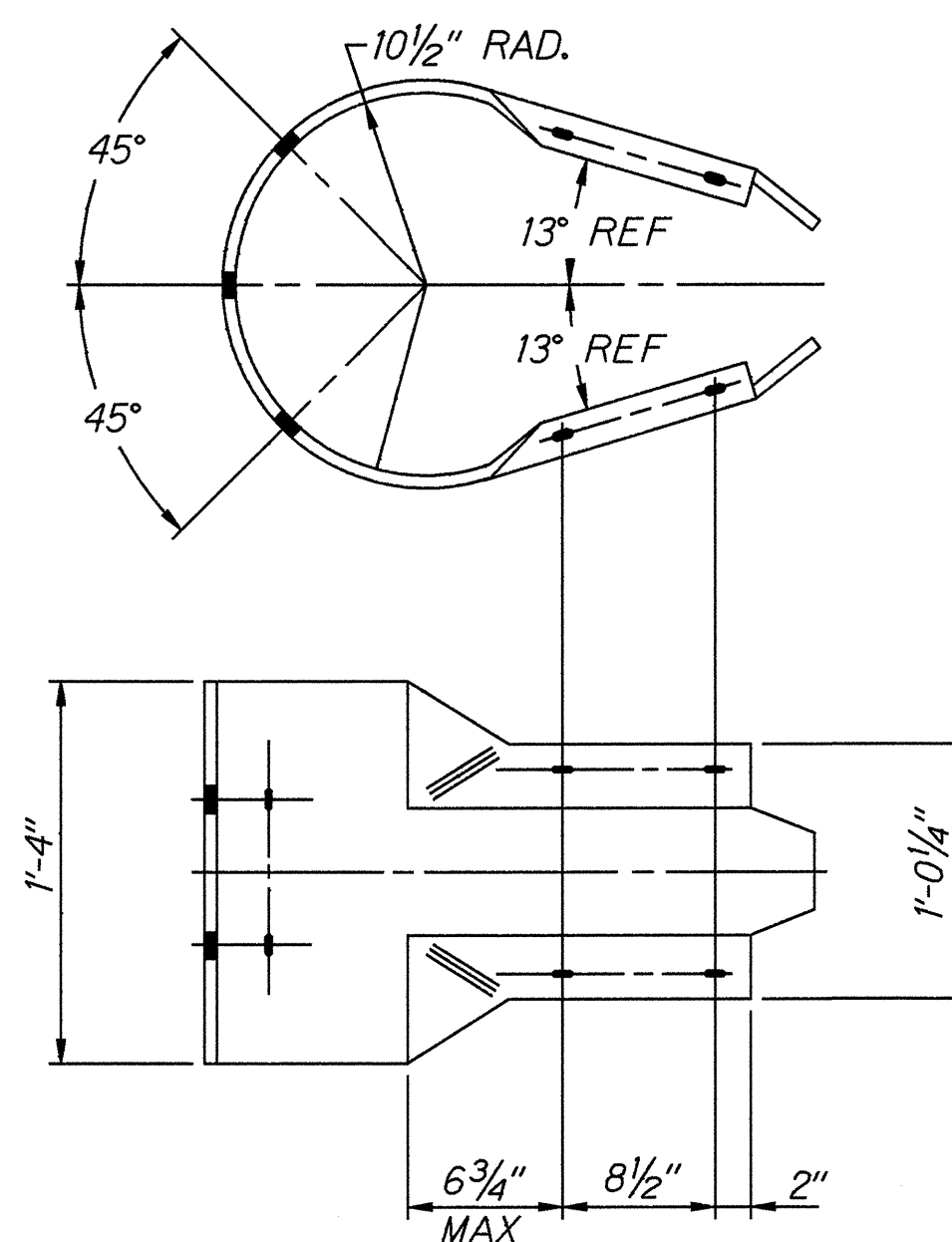
ONE - CABLE ASSEMBLY - B2



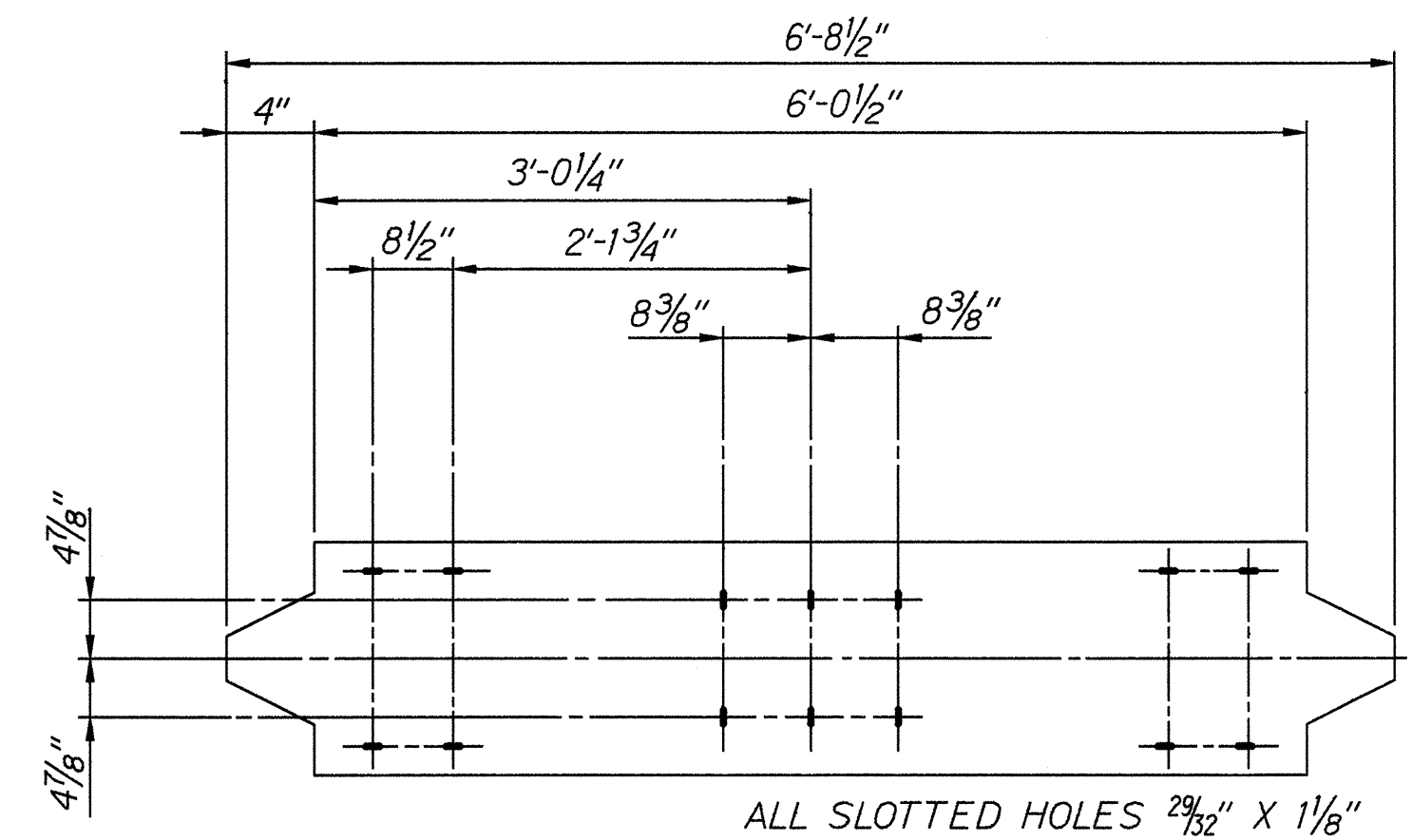
ONE - END SHOE - C2



2 - DIAPHRAGM PLATE - D2



ONE - BUFFERED END SECTION - E2



BUFFERED END SECTION, FLAT PLATE LAYOUT

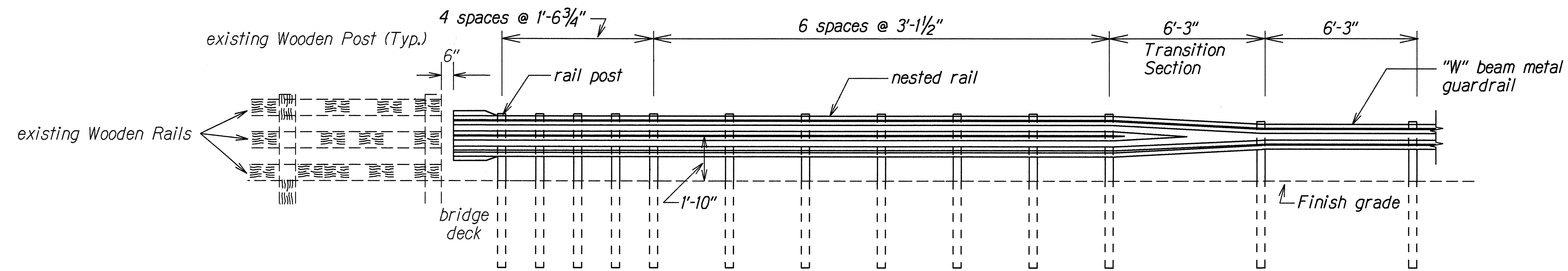
MATERIAL SCHEDULE						
FIND No.	PIECE MARK	MATERIAL	LENGTH FEET	INCHES	WEIGHT	UNIT WEIGHT
A2		STRUT AND YOKE ASSEMBLY			52.0	AI23
	a	C6 X 8.2	5	7 1/4	46.0	A36
	b	BAR 2 X 3/16	1	6 3/4	4.0	A36
B2		CABLE ASSEMBLY			9.6	SEE NOTES
		3/4" Ø CABLE ASSEMBLY	6	6		SEE DETAIL
C2		END SHOE			23.1	AI23
		PL 10 GA. X 19 1/8	2	6	21.9	M180
D2		DIAPHRAGM PLATE			9.7	AI23
		PL 12 GA. X 21	2	15 1/8	32.6	M180
E2		BUFFERED END SECTION			37.5	AI23
		PL 12 GA. X 16	6	8 1/2	39.0	M180
G2		WASHER, PLATE			.22	AI23
		PL 3/16 X 1 3/4	0	3	.56	A36
HARDWARE						
H2		BOLT, SPLICE 5/8" Ø x 1 1/4			6.3	A307 AI53
J2		BOLT, POST 5/8" Ø x 2			.44	A307 AI53
K2		BOLT, POST 5/8" Ø x 10			.88	A307 AI53
L2		BOLT, POST 5/8" Ø x 18			7.75	A307 AI53
M2		BOLT, HEX 5/8" Ø x 1 1/2			2.04	A307 AI53
N2		BOLT, HEX 3/4" Ø x 7 1/2			4.2	A307 AI53
R2		BOLT, HEX 3/4" Ø x 10			2.66	A307 AI53
S2		NUT, HEX, RECESSED 5/8" Ø			7.31	A563 AI53
T2		NUT, HEX 5/8" Ø			1.3	A563 AI53
U2		NUT, HEX 3/4" Ø			.72	A563 AI53
W2		NUT, HEX 1" Ø			.57	A563 AI53
X2		WASHER, FLAT 5/8" Ø			.75	F844 AI23
Y2		WASHER, FLAT 3/4" Ø			.95	F844 AI23
Z2		WASHER, FLAT 1" Ø			.29	F844 AI23

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

2 - WASHERS, PLATE - G2

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MODIFIED ECCENTRIC LOADER
TERMINAL (MELT)
COMPONENT DETAILS
HANA HIGHWAY RESURFACING
Valley Isle Memorial Cemetery to Huelo
Fed. Aid Project No. STP-0900(39)
Not to Scale Date: Feb, 1995
SHEET No. 3 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(39)	1995	9	51



GUARDRAIL POST SPACING DETAIL AT BRIDGE APPROACHES
Scale: $\frac{3}{8}$ " = 1'-0"

ORIGINAL PLAN	SURVEY DRAWN BY J. J. GARCIA	DATE May 1995
NOTED BY J. J. GARCIA	DESIGNED BY C. B. BAKER	
CHECKED BY J. J. GARCIA	APPROVED BY J. J. GARCIA	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS

HANA HIGHWAY RESURFACING
Valley Isle Memorial Cemetery to Huelo
Fed. Aid Project No. STP-0900(39)

Scale: As Shown Date: May, 1995

SHEET No. 4 OF 4 SHEETS