

THRIE-BEAM BULLNOSE TERMINAL MATERIALS LIST

Part Number	Quantity	Description	Hardware Guide ¹	Material Descriptions ^{2,3}
A1	2	LONG FOUNDATION TUBE	PTE07	ASTM A500 GRADE B OR ASTM A501
A2	2	FOUNDATION TUBE	PTE06	ASTM A500 GRADE B OR ASTM A501
A3	2	BCT BEARING PLATE	FPB01	ASTM A36 MIN. STRENGTH 36 KSI. SEE SPEC. SECTION 812.01.01 FOR ALTERNATIVE STEEL GRADES
B1	12	LOWER SHEAR PLATE	PTE08	ASTM A36 MIN. STRENGTH 36 KSI. SEE SPEC. SECTION 812.01.01 FOR ALTERNATIVE STEEL GRADES
B2	12	FOUNDATION TUBE	PTE08	ASTM A500 GRADE B OR ASTM A501
C1	12	UPPER SHEAR PLATE	PWE11	ASTM A36 MIN. STRENGTH 36 KSI. SEE SPEC. SECTION 812.01.01 FOR ALTERNATIVE STEEL GRADES
C2	12	STEEL POST	PWE11	W 6X9 OR W 6X8.5 STEEL POST / ASTM A36 MIN. STRENGTH 36 KSI
D1	20	BLOCKOUT FOR STEEL POST - WOOD	PDB09	SYP GRADE NO. 1 OR BETTER / SEE SPEC. SECTION 814.04.02 FOR TIMBER USE
D2	12	TAPERED BLOCKOUT FOR STEEL POST - WOOD	PDB20	SYP GRADE NO. 1 OR BETTER / SEE SPEC. SECTION 814.04.02 FOR TIMBER USE
D3	2	TAPERED BLOCKOUT FOR BCT POST - WOOD	PDB12	SYP GRADE NO. 1 OR BETTER / SEE SPEC. SECTION 814.04.02 FOR TIMBER USE
E1	1	SLOTTED THRIE BEAM RAIL - SHOP BENT AND PUNCHED	RTM07a	12 GUAGE / CURVE GUADRAIL IN SHOP / MARK THE RADIUS OF CURVATURE ON EACH OF THE CURVED ELEMENTS
E2	2	SLOTTED THRIE BEAM RAIL - SHOP BENT AND PUNCHED	RTM07d	12 GUAGE / CURVE GUARDRAIL IN SHOP / MARK THE RADIUS OF CURVATURE ON EACH OF THE CURVED ELEMENTS / NOTE: IN AN ASSYMETRICAL BULLNOSE, THE OPPOSING TRAFFIC SIDE E2 THRIE BEAM IS STRAIGHT AND NOT CURVED WITH A LENGTH OF 13' 6 1/2".
E3	2	SLOTTED THRIE BEAM RAIL - PUNCHED	RTM07e	12 GUAGE
E4	4	UNBENT STANDARD THRIE BEAM RAIL	RTM02a	12 GUAGE
F1	4	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT - 11 UNC - 10" LONG	FBX16a	ASTM A307
F2	8	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT - WASHER 1 3/4" OUTSIDE DIAMETER, 11/16" INSIDE DIAMETER, 1/8" THICK	FWC16a	ASTM F844
F3	4	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT - 5/8" NUT, 9/16" THICK	FBX16a	ASTM A563, GRADE A OR BETTER
G1a	14	5/8" DIA. POST BOLT - 11 UNC - 18" LONG	FBB04	
G1b	12	5/8" DIA. POST BOLT - 11 UNC - 10" LONG	FBB03	
G2	6	POST BOLT - WASHER 1 3/4" OUTSIDE DIAMETER, 11/16" INSIDE DIAMETER, 1/8" THICK	FWC16a	ASTM F844
G3	26	POST BOLT - 5/8" NUT, 9/16" THICK	FBB03/ FBB04	ASTM A563, GRADE A OR BETTER
H1	4	7/8" DIA. HEX HEAD SOIL TUBE BOLT - 9 UNC - 8" LONG	NA	ASTM A307 / AASHTO M232 CLASS C
H2	8	7/8" DIA. HEX HEAD SOIL TUBE BOLT - WASHER 2 1/4" OUTSIDE DIAMETER, 15/16" INSIDE DIAMETER, 3/16" THICK	NA	ASTM F844 / AASHTO M232 CLASS C
H3	4	7/8" DIA. HEX HEAD SOIL TUBE BOLT - 7/8" NUT, 3/4" THICK	NA	ASTM A563, GRADE A OR BETTER / AASHTO M232 C
J1	38	16D DOUBLE HEAD NAIL	NA	AASHTO M232 CLASS D
L1	4	BCT TIMBER POST	PDF04	SYP GRADE NO. 1 OR BETTER / NO KNOTS +/- 18" FROM GROUND ON TENSION FACE / SEE SPEC. SECTION 814.04.02 FOR TIMBER USE
L2	2	BCT POST SLEEVE	FMM02	

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M1	8	W6X8.5 OR W6X9 STEEL POST	NA	W 6X9 OR W 6X8.5 STEEL POST / ASTM A36 MIN. STRENGTH 36 KSI
N1	2	ANCHOR BRACKET ASSEMBLY	FPA01	ASTM A36 MIN. STRENGTH 36 KSI. SEE SPEC. SECTION 812.01.01 FOR ALTERNATIVE STEEL GRADES
N2	2	ANCHOR BRACKET END PLATE	FPA01	ASTM A36 MIN. STRENGTH 36 KSI. SEE SPEC. SECTION 812.01.01 FOR ALTERNATIVE STEEL GRADES
P1	16	5/8" DIA. HEX HEAD ANCHOR BRACKET BOLT - 11 UNC - 1 1/2" LONG	FBX16a	ASTM A307
P2	32	5/8" DIA. HEX HEAD ANCHOR BRACKET BOLT - WASHER, 1 3/4" OUTSIDE DIAMETER, 11/16" INSIDE DIAMETER, 1/8" THICK	FWC16a	ASTM F844
P3	16	5/8" DIA. HEX HEAD ANCHOR BRACKET BOLT - 5/8" NUT, 9/16" THICK	FBX16a	ASTM A563, GRADE A OR BETTER
Q1	3	5/8" DIA. NOSE CABLE 6X19 XIPS IWRC	RCM02	AASHTO M30 CLASS A COATING / NOMINAL BREAKING STRENGTH OF 41.2 KIPS
Q2	6	NOSE CABLE - SWAGE BUTTON	RCM02	COLD TUFF BUTTON, S-409 SIZE NO. 12 SB STOCK NUMBER 1040395 FOR 5/8" DIAMETER (6X19) WIRE ROPE (OR ANY SIMILARLY SIZED SWAGE-GRIP BUTTON FERRULES) / AASHTO M30 CLASS A COATING
R1	6	NOSE CABLE ANCHOR BRACKET	FPA04	ASTM A36 MIN. STRENGTH 36 KSI. SEE SPEC. SECTION 812.01.01 FOR ALTERNATIVE STEEL GRADES
S1	120	5/8" DIA. SPLICE BOLT - 11 UNC - 1 1/4" LONG	FBB01	
S2	120	5/8" DIA. SPLICE BOLT - 5/8" NUT, 9/16" THICK	FBB01	ASTM A563, GRADE A OR BETTER
T1	9	1/4" DIA. NOSE CABLE U BOLT - 20 UNC	NA	ASTM A307 / AASHTO M232 CLASS C
T2	9	1/4" DIA. NOSE CABLE U-BOLT - PLATE WASHER, 1/8" THICK	NA	ASTM A1011 TYPE SS GRADE 36 / AASHTO M232 CLASS C
T3	18	1/4" DIA. NOSE CABLE U-BOLT -1/4" NUT, 1/4" THICK	NA	ASTM A563, GRADE A OR BETTER / AASHTO M232 CLASS C
U1	48	SLIP POST ASSEMBLY - BREAKAWAY 7/16" DIA. HEX HEAD BOLT - 14 UNC - 2 1/2" LONG	FBX12b	ASTM A449 OR SAE J429 GRADE 5
U2	192	SLIP POST ASSEMBLY - BREAKAWAY 7/16" DIA. HEX HEAD BOLT - WASHER, 1 1/4" OUTSIDE DIAMETER, 1/2" INSIDE DIAMETER, 3/32" THICK	FWC12a	ASTM F844
U3	48	SLIP POST ASSEMBLY - BREAKAWAY 7/16" DIA. HEX HEAD BOLT - 7/16" NUT, 1/2" THICK	FBX12b	ASTM A563DH OR SAE J995 GRADE 5
V1	2	3/4" DIA. BCT CABLE	FCA01	
V2	4	ANCHOR CABLE-SWAGE FITTING, 1 1/4" DIAMTER	FCA01	FITTING ASTM A576 GRADE 1035 / STUD ASTM F568 CLASS C
V3	4	1" DIA. ANCHOR CABLE-WASHER	FWC24a	ASTM F844
V4	4	1" DIA. ANCHOR CABLE-NUT	FNX24a	ASTM A563, GRADE A OR BETTER
W1	3	REFLECTOR	NA	SEE SPEC. SECTION 838 AND KYTC LIST OF APPROVED MATERIALS

¹ The Hardware Guide number is referenced in the *Task Force 13 Guide to Standardized Roadside Hardware* , available at <https://tf13.org/guides/>. When AASHTO and ASTM material specifications are available for a component, they are listed in the guide.

² If the *Task Force 13 Guide to Standardized Roadside Hardware* does not reference the AASHTO and ASTM specifications, they are provided in the Material Descriptions column. Additional material specifications can be found in Kentucky Standard Specifications, Section 814 - Guardrail Systems.

³ If there are discrepancies in material or dimensions between the *Task Force 13 Guide to Standardized Roadside Hardware* and this Standard Drawing set, the details in the Standard Drawing set shall take precedence.

