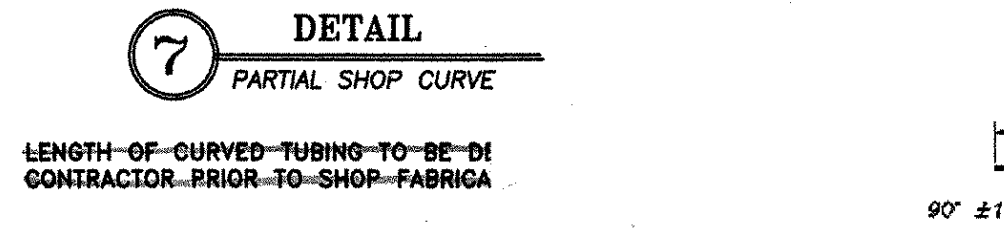


**PARTIAL SHOP CURVE TABLE**

No.	RISE	STRAIGHT LENGTH	CURVED LENGTH
1	2 3/8"	1'-3 13/16"	2'-1 11/16"
2	3 1/8"	1'-3 13/16"	2'-1 11/16"



**BILL OF MATERIAL**

Mk.	Qty.	Description
50		W6 x 25 POST W/BASE PLATE (3'-9 3/8" OAH)
14		TS 8 x 4 x 5/16" (23'-9" OAL)
42		TS 4 x 4 x 1/4" (23'-9" OAL)
1		TS 8 x 4 x 5/16" (22'-5 1/4" OAL)
2		TS 4 x 4 x 1/4" (22'-5 1/4" OAL)
TU1	1	TS 8 x 4 x 5/16" (22'-5 1/4" OAL) W/PARTIAL SHOP CURVE
TU1	2	TS 4 x 4 x 1/4" (22'-5 1/4" OAL) W/PARTIAL SHOP CURVE
1		TS 4 x 4 x 1/4" (21'-6 11/16" OAL) W/1'-0" RAD.
1		TS 4 x 4 x 1/4" (21'-6 11/16" OAL) W/1'-0" RAD. & PARTIAL CURVE
1		TS 8 x 4 x 5/16" (17'-3 13/16" OAL)
3		TS 4 x 4 x 1/4" (17'-3 13/16" OAL)
50		ANCHOR PLATE (3/8" x 8" x 1'-1")
16		TS 7 x 3 x 3/8" (20" LG.) SPLICE TUBE W/(2) TACKWELDED 5/8" HEX NUTS
48		TS 3 x 3 x 5/16" (20" LG.) SPLICE TUBE W/(2) TACKWELDED 5/8" HEX NUTS
200		1" x 12" LG. ANCHOR BOLTS W/HEAVY HEX NUT & WASHER
200		1" JAMB NUT
200		1" HEX NUT
400		3/4" x 6" LG. M164 ROUND HEAD BOLT W/LOCKNUT & WASHER
256		5/8" x 1 3/4" LG. HEX BOLT W/WASHER
2		1/4" x 3 5/8" x 3 5/8" COVER PLATE
50		1/8" THICK NEOPRENE PAD

- NETC 4 RAIL NOTES**
- All work and materials shall conform to the provisions of Section 525 - Railings of the Vermont Standard Specifications for Construction.
  - Tubing & posts shall meet the requirements of Section 732 - Railing materials of the Standard Specifications for Construction.
  - All exposed cut or sheared edges shall be ground to a 1/16" radius & be free of burrs.
  - Rail posts shall be set normal to grade.
  - Sections of rail bar shall be attached to a minimum of two (2) posts and preferably to at least four (4) posts.
  - Rail bar expansion joints shall be provided in any rail bar spanning a superstructure expansion joint. Expansion joint width shall be "X" at 45° F and will be adjusted in the field by the engineer.
  - All parts shall be galvanized after fabrication in accordance with subsection 506.15, as modified by the special provisions.
  - Rail posts anchoring nuts shall be tightened to a snug-tight fit and given an additional 1/8 turn.
  - Rail bars shall be attached using 3/4" full diameter body head bolts AASHTO M164 (Type-I) inserted through the face of the bar. Holes in post shall be 1/16" larger than the bolt size.
  - Holes in rails for attachment to posts will be field-drilled. Holes shall be coated with an approved zinc-rich paint prior to erection.
  - Radiused rails (if required) will be shop-curved. No field-bending of rail tubes.
  - The drop-weight tear test in section 732 shall not apply to the structure tubing on this standard.
  - Delimitation devices shall be set approximately every 30 feet or to closest post.

**MATERIALS**

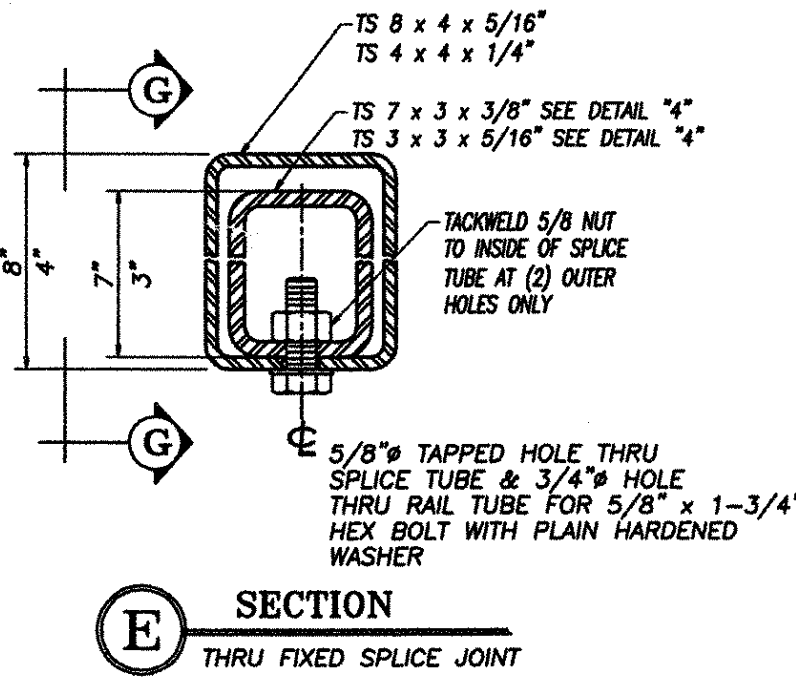
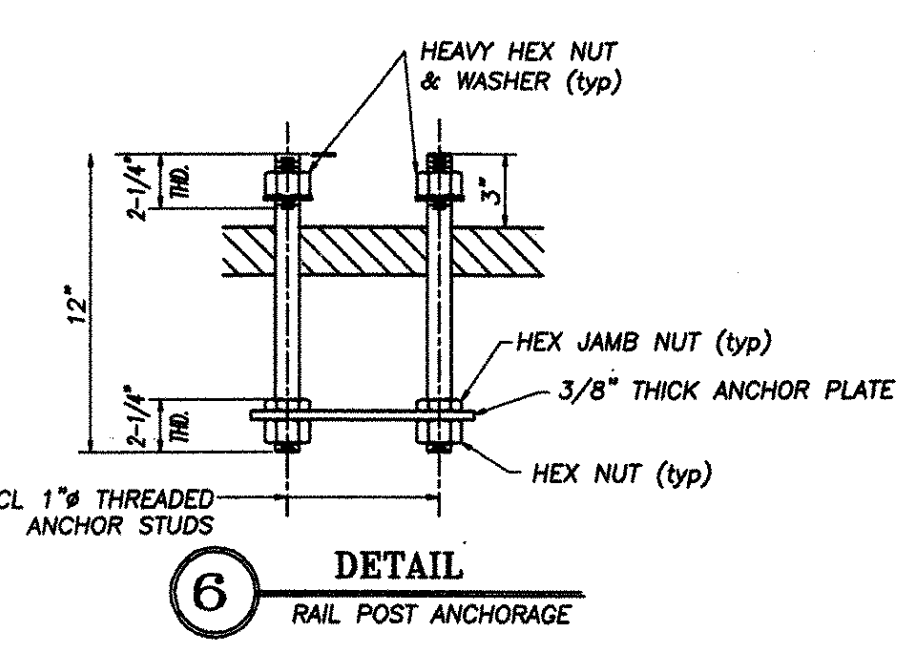
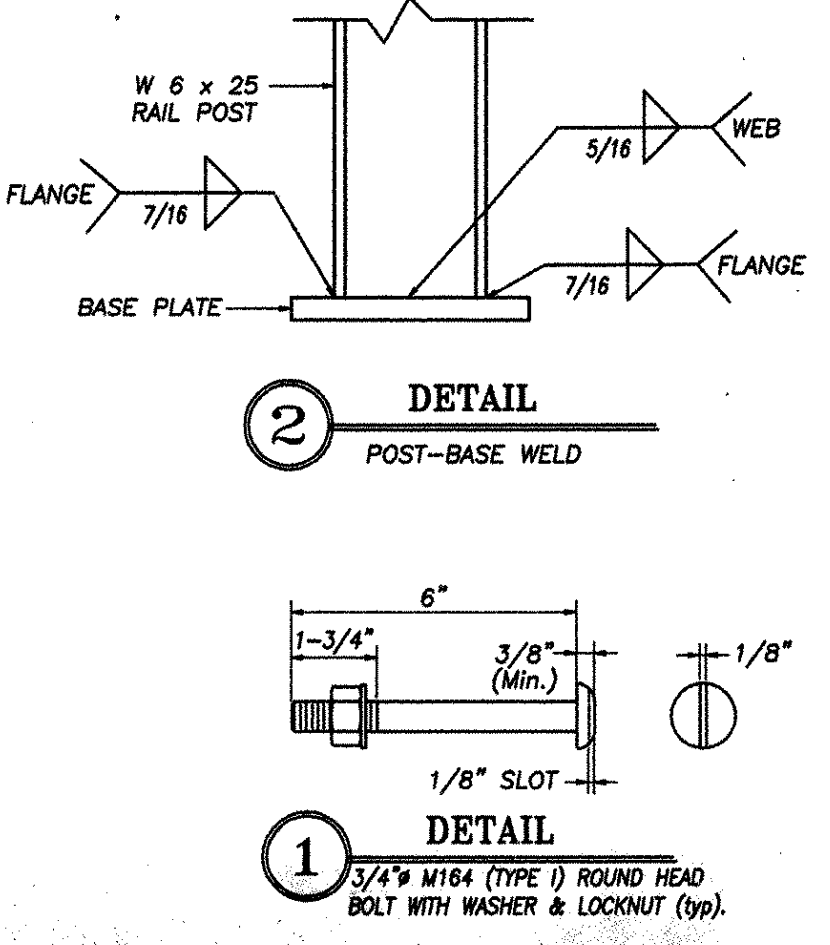
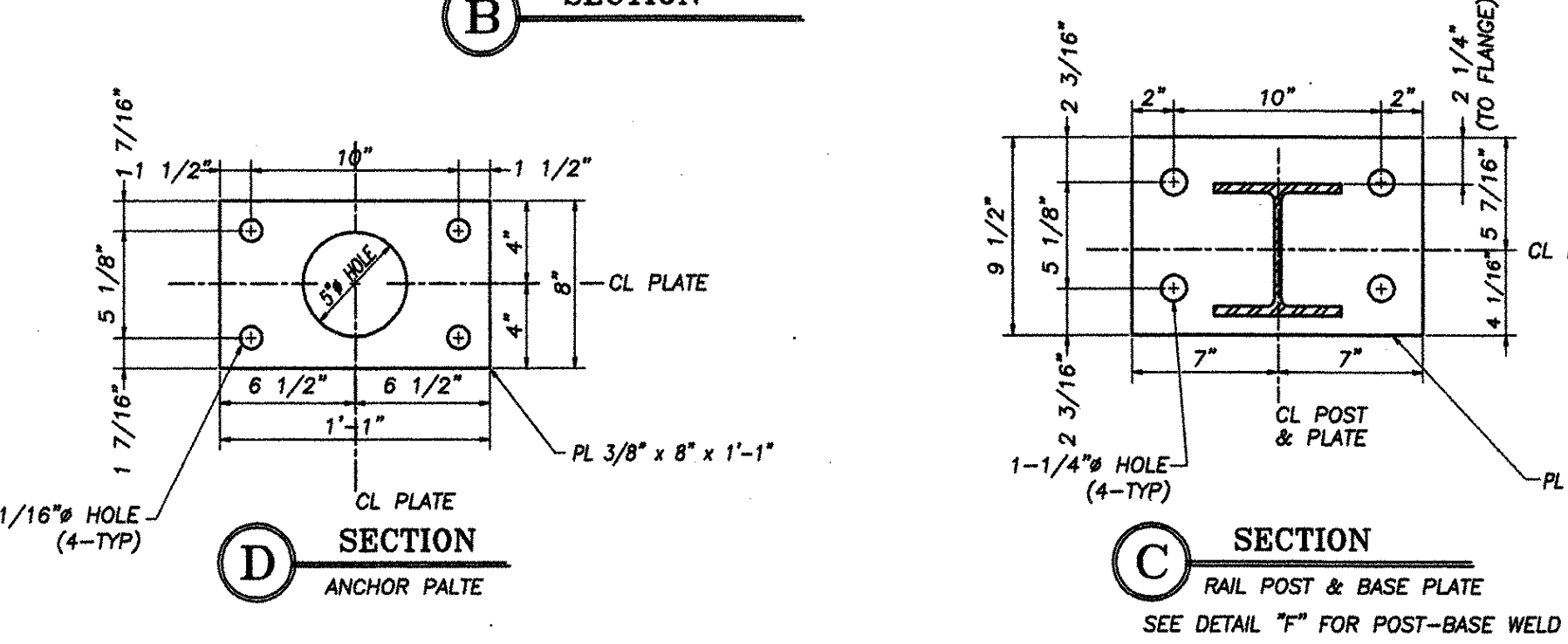
Rail bars.....ASTM A500 GR B or ASTM A501  
 Rail posts.....ASTM A709/A709M, GR 50  
 All other shapes & plates.....ASTM A709/A709M GR 36  
 Anchor studs.....ASTM A449  
 All other bolts [unless noted].....AASHTO M164, TYPE I

Nuts for AASHTO m164 bolts shall comply with AASHTO M291. Nuts for anchor studs shall comply with ASTM A563.

Washers shall comply with AASHTO M293 (ASTM F436) specification.

1/8" pad shall comply with standard specification subsection 731.01 or 731.02 of Vermont Standard Specifications.

Set screws for delimitation devices shall conform to ASTM specification FB80, condition CW, alloy type 304.



**SPLICE & EXPANSION JOINT TABLE**

"T"	"A"	"B"	"C"	"L"	"X"
SPLICE	4"	2"	---	20"	3/4"
"T" = TOTAL REQUIRED MOVEMENT	≤ 4"	4"	2"	2-1/2"	20"

**REVISIONS**

No.	Remarks	Date
0	Initial submittal	10/16/01
	Second submittal	3/18/02
	Third submittal	4/11/02

RECEIVED  
 CKD BY [Signature] OKD BY [Signature]  
 APR 23 2002  
 RESUBMIT APPROVED [Signature]  
 BY [Signature] DATE 4/30/02

**HIGHWAY SAFETY CORP.**  
 GLASTONBURY, CT

ITEM 525.34 - BRIDGE RAIL - 4 RAIL  
 PROJECT No. AC BRZ 1444(22)  
 TOWN OF ROYALTON  
 TH1 OVER THE WHITE RIVER  
 (BRIDGE No. 3) WINDSOR COUNTY

GENERAL CONTRACTOR: F. R. LAFAYETTE, INC.  
 SUB CONTRACTOR: F. R. LAFAYETTE, INC.

CHECKED: J. Ruiz  
 DATE: 10/15/01  
 SCALE: N.T.S.  
 SHEET NO. 2 of 2