

7

Figure 2. System Layout, Test Nos. NCBR-1 and NCBR-2

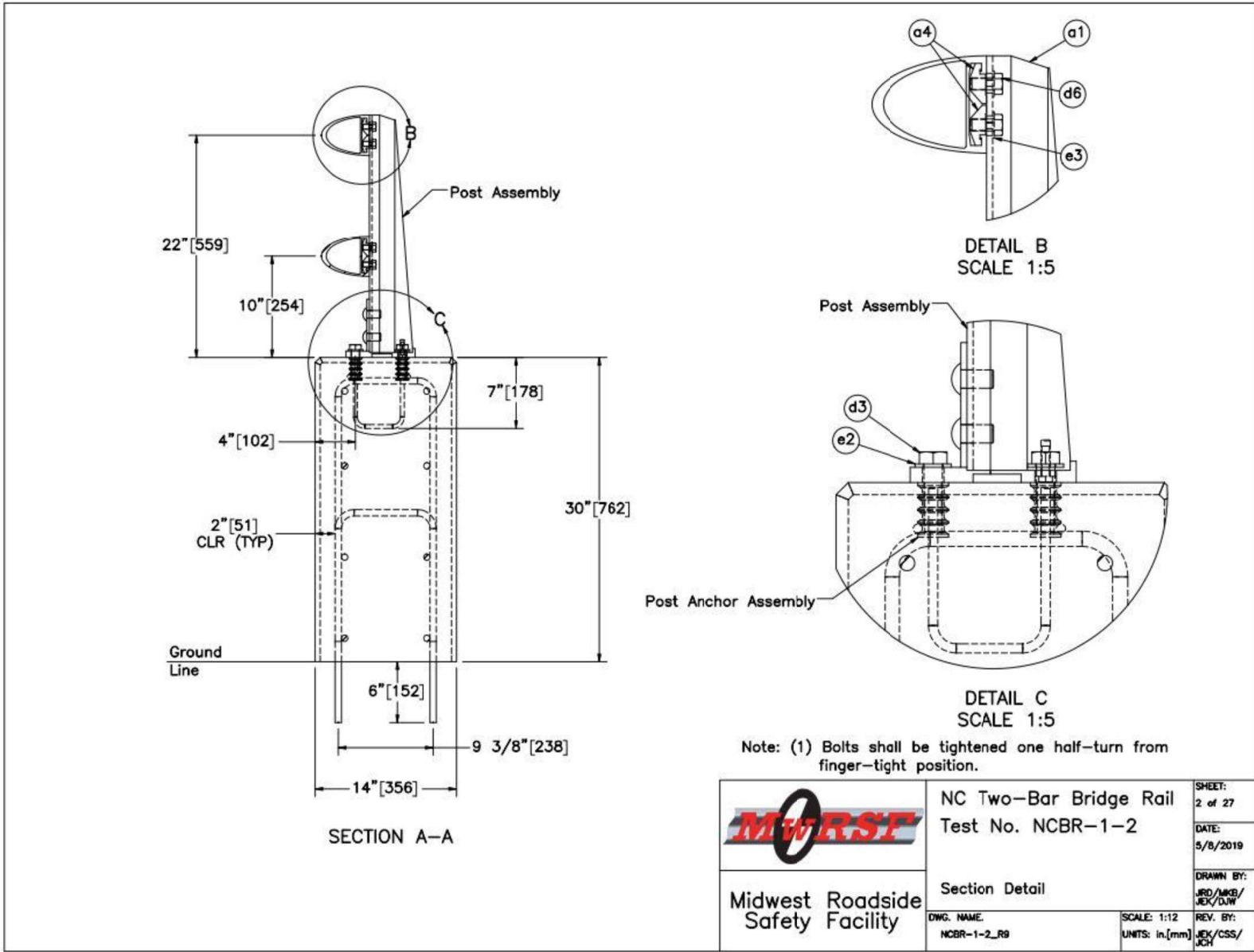


Figure 3. Section Detail, Test Nos. NCBR-1 and NCBR-2

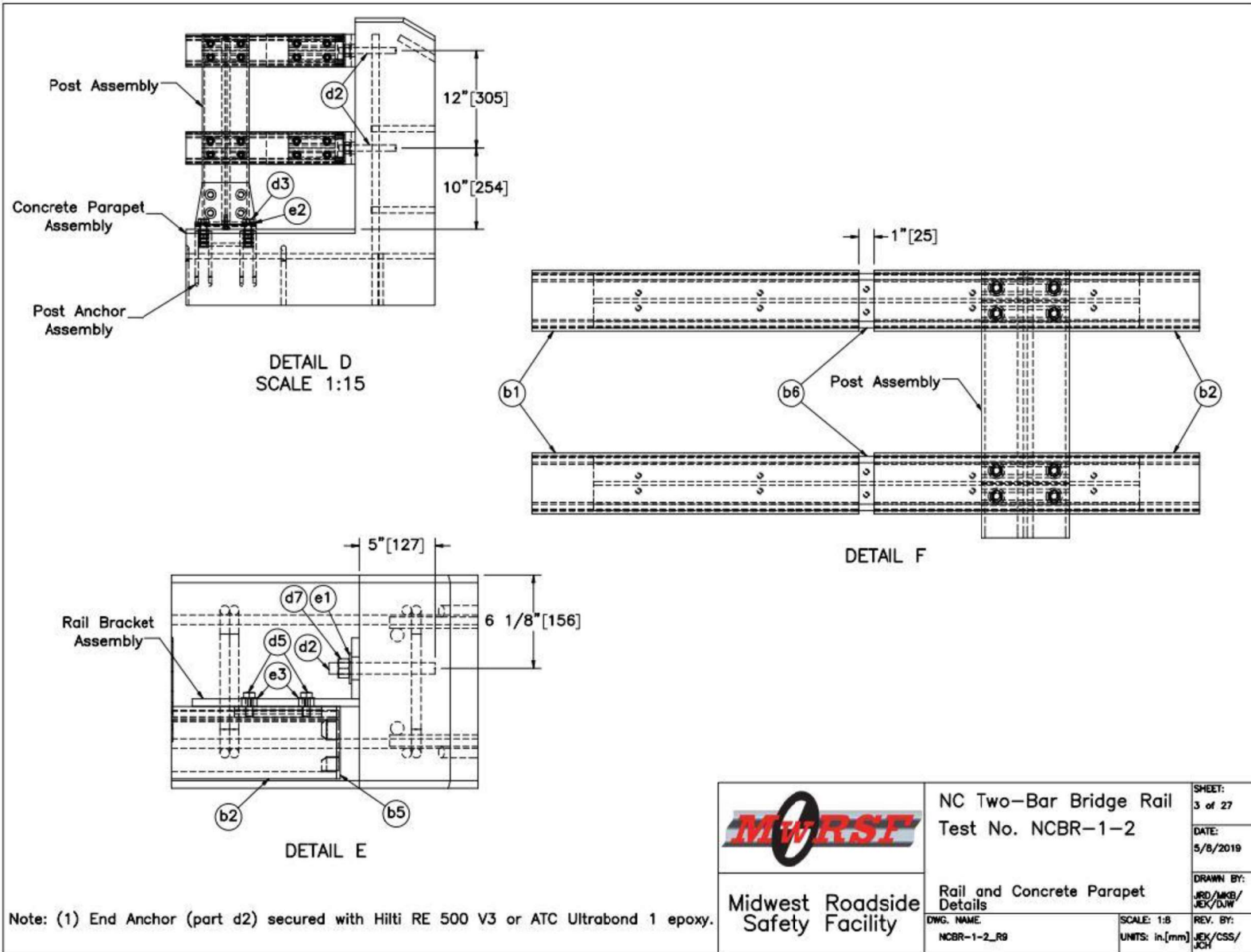
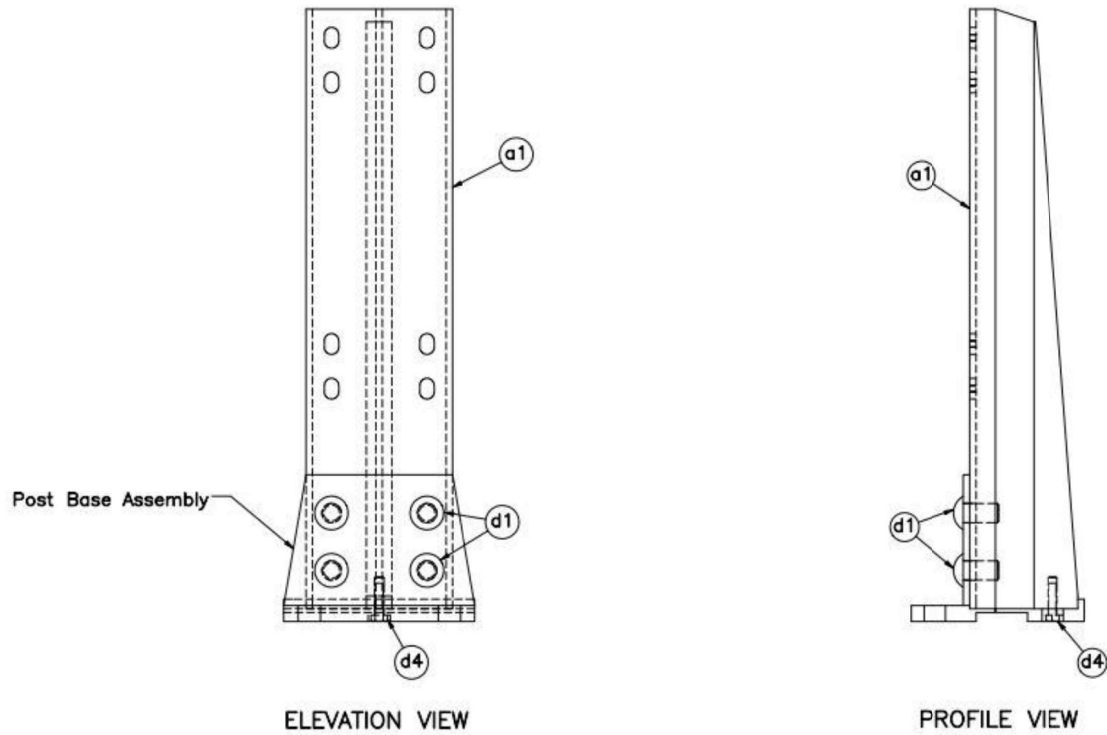


Figure 4. Rail and Concrete Parapet Details, Test Nos. NCBR-1 and NCBR-2



Item No.	QTY.	Description	Material Specification	Treatment Specification
-	16	Post Assembly	-	-
-	1	Post Base Assembly	-	-
a1	1	5 3/4"x 4 1/4" [146x108], 23 1/2" [597] Long Post	ASTM B221 Alloy 6061-T6	-
d1	4	3/4" [19] Dia., 1 3/8" Long Rivet	ASTM B316 Alloy 6061-T6	-
d4	1	3/8"-16 UNC [M10x1.5], 1 1/2" [38] Long Cap Screw	ASTM F593 Alloy 305 Stainless Steel	-


 <b>Midwest Roadside Safety Facility</b>	<b>NC Two-Bar Bridge Rail</b> Test No. NCBR-1-2	SHEET: 4 of 27
	Post Assembly	DATE: 5/8/2019
DWG. NAME: NCBR-1-2_R9	SCALE: 1:6 UNITS: in./mm	DRAWN BY: JRD/MKB/ JEK/DJW
		REV. BY: JEK/CSS/ JCH

Figure 5. Post Assembly, Test Nos. NCBR-1 and NCBR-2

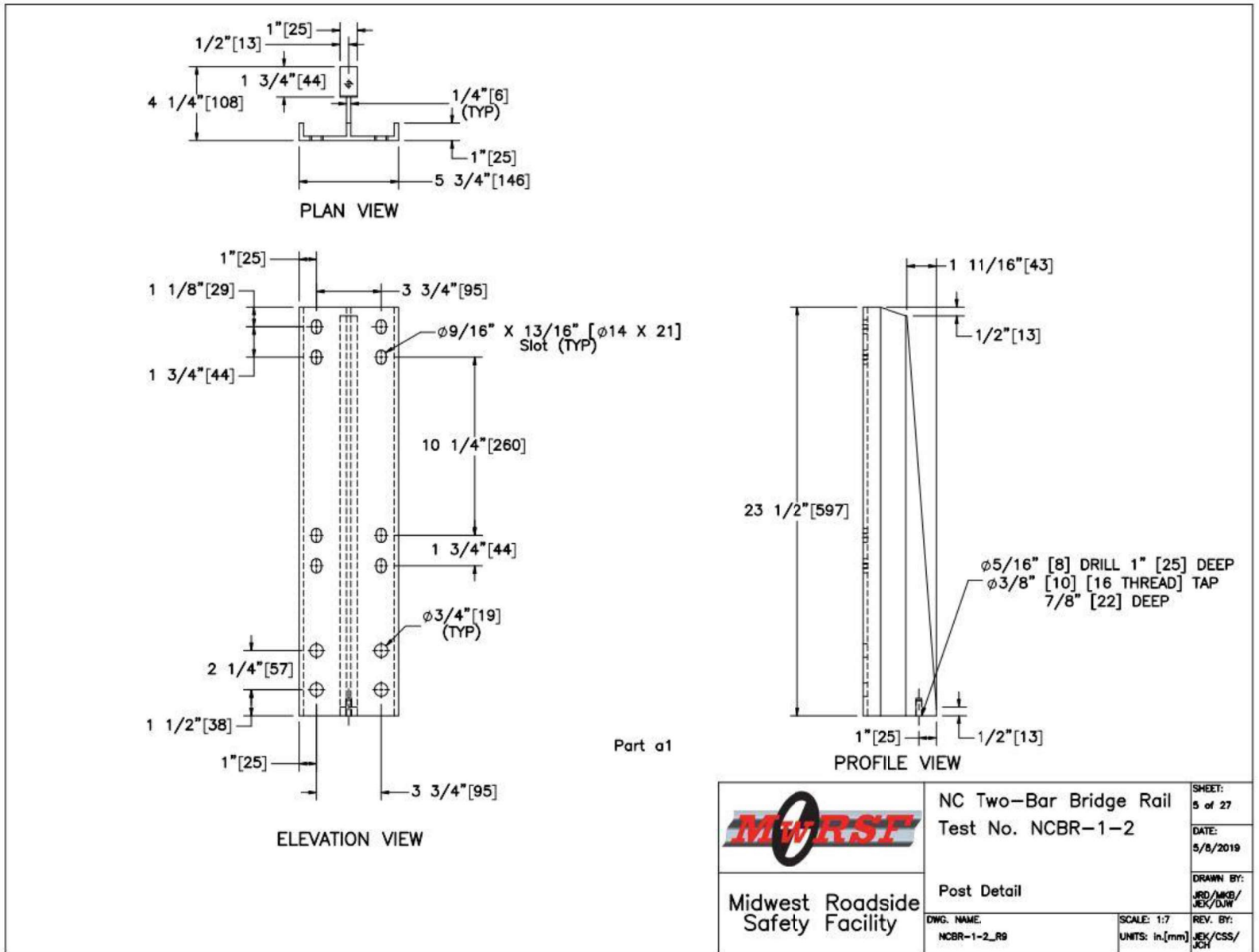


Figure 6. Post Detail, Test Nos. NCBR-1 and NCBR-2

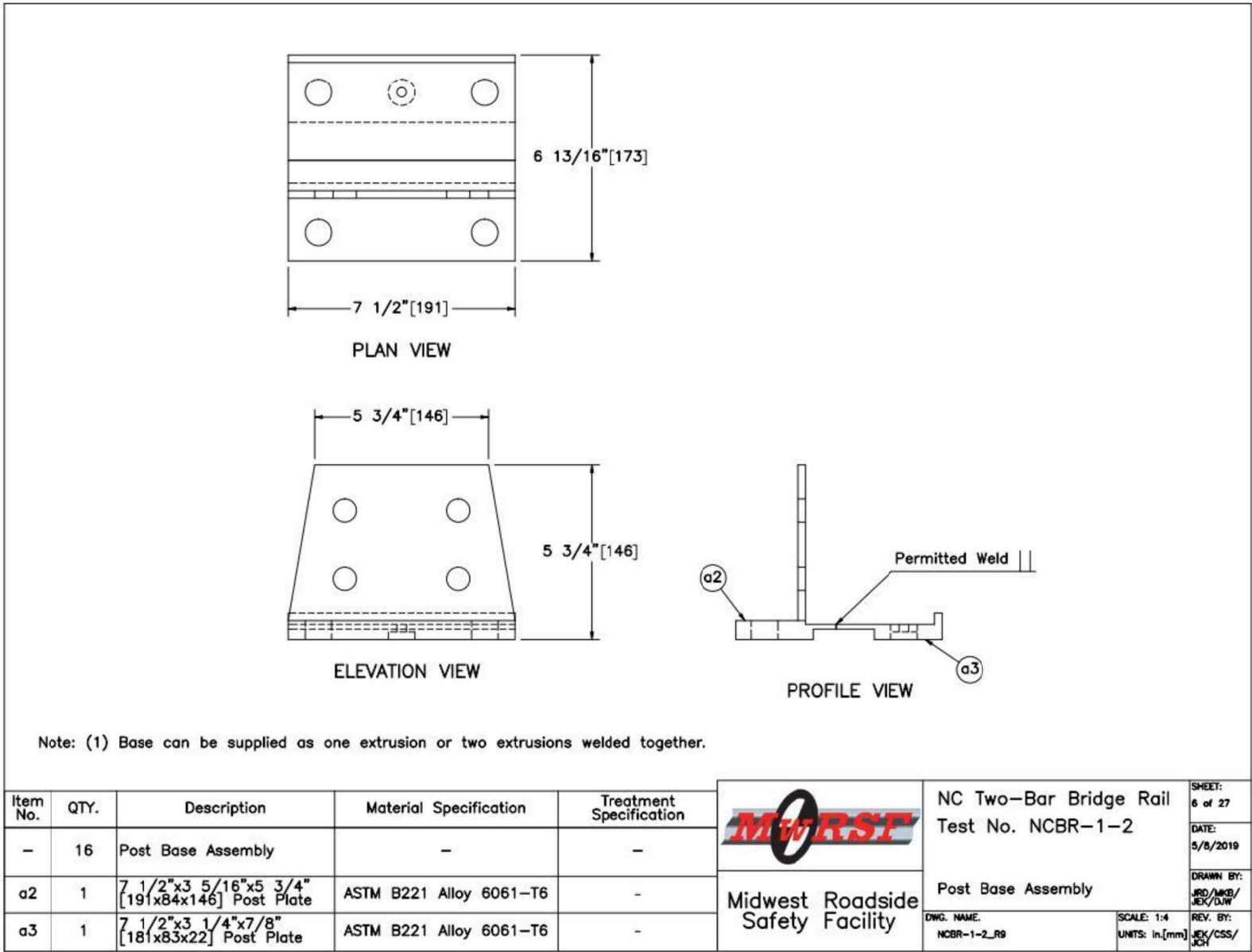


Figure 7. Post Base Assembly, Test Nos. NCBR-1 and NCBR-2

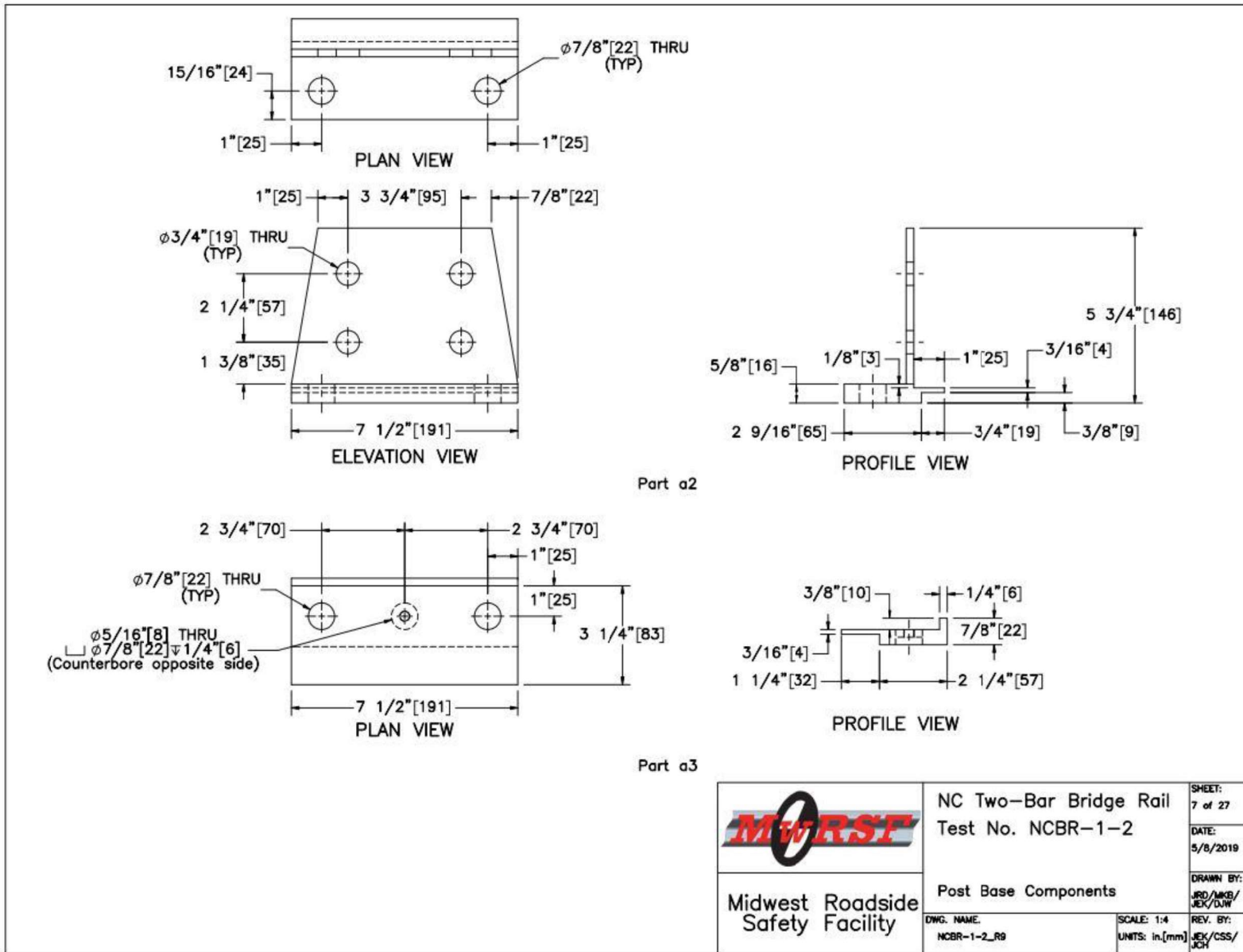


Figure 8. Post Base Components, Test Nos. NCBR-1 and NCBR-2

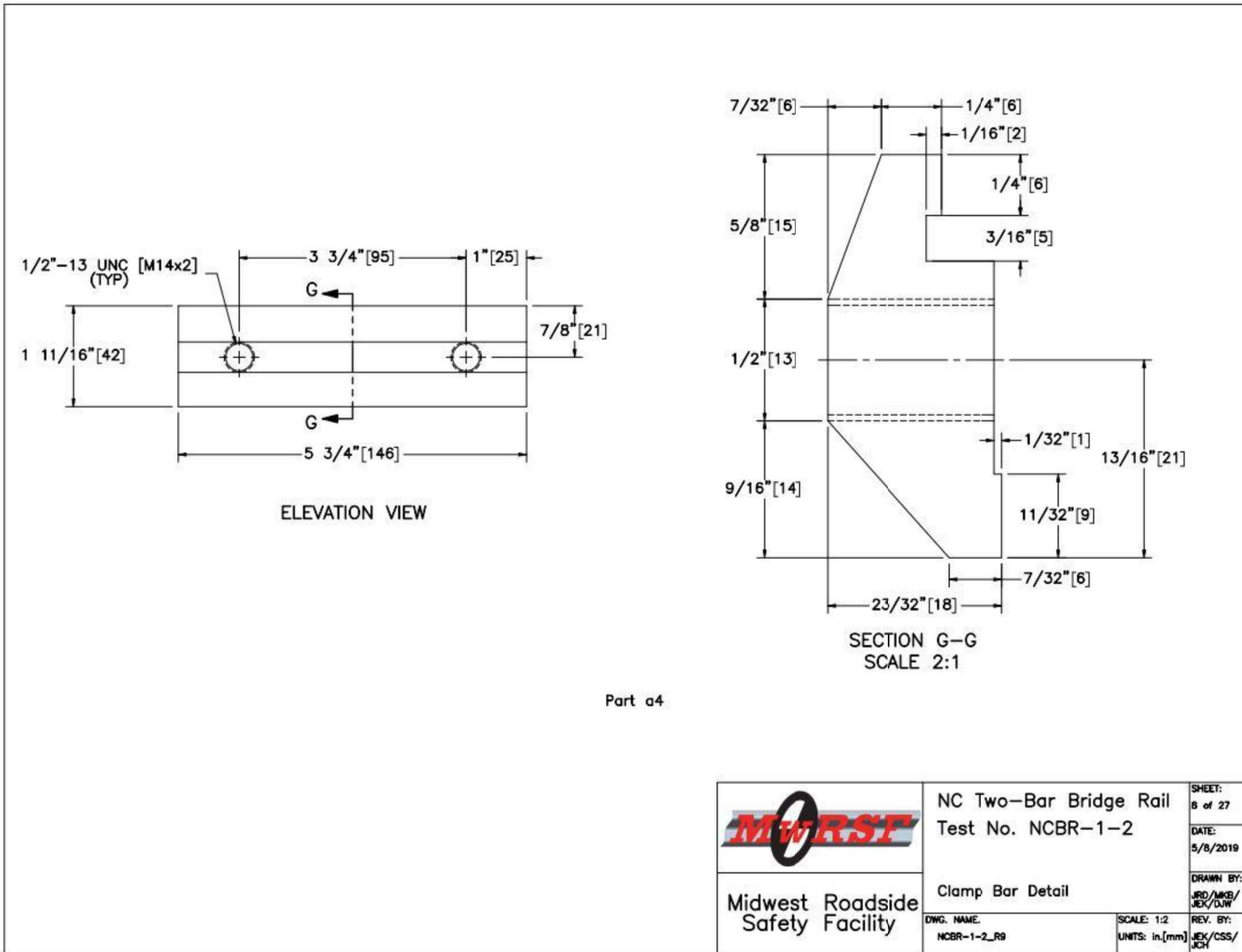


Figure 9. Clamp Bar Detail, Test Nos. NCBR-1 and NCBR-2



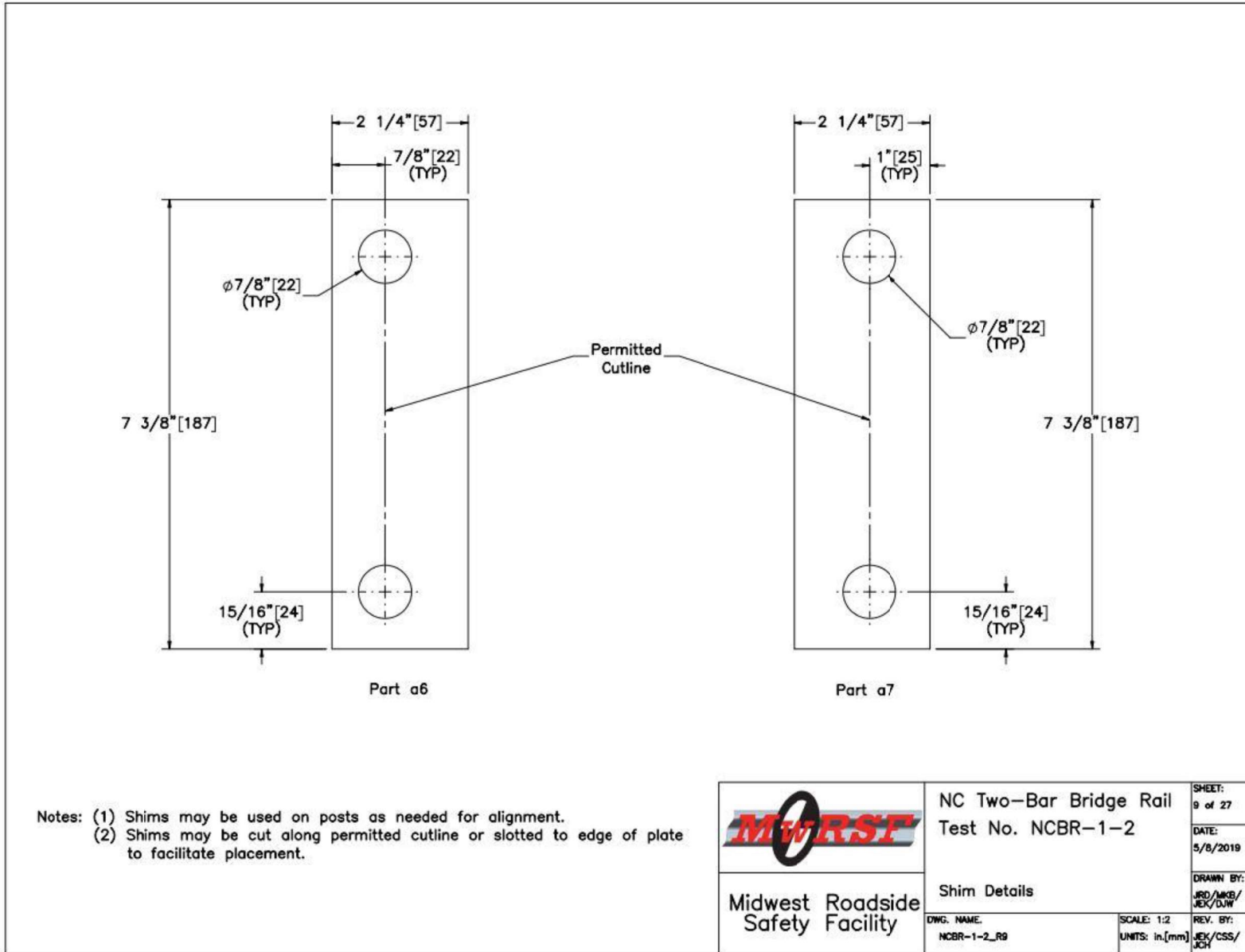


Figure 10. Shim Details, Test Nos. NCBR-1 and NCBR-2

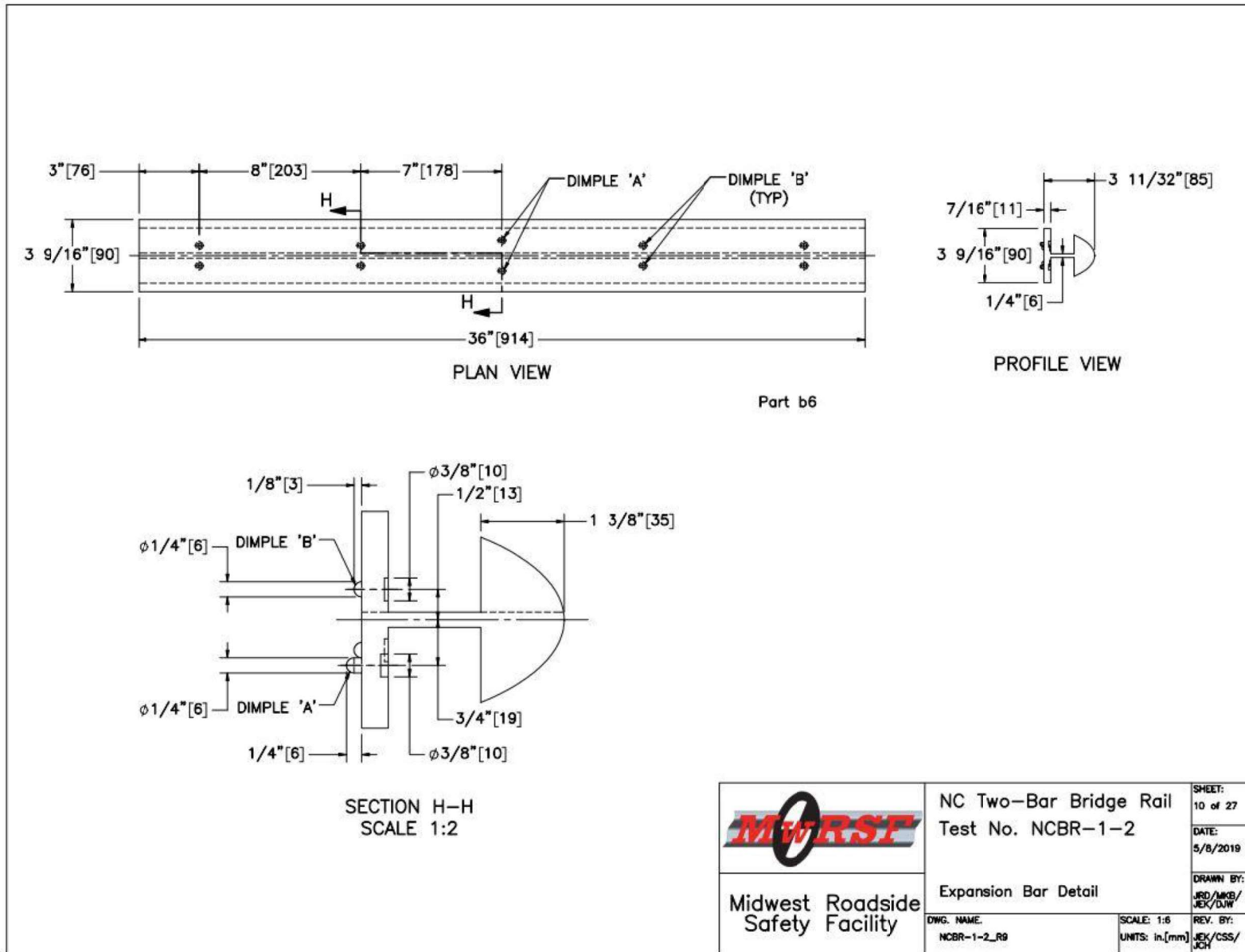


Figure 11. Expansion Bar Detail, Test Nos. NCBR-1 and NCBR-2

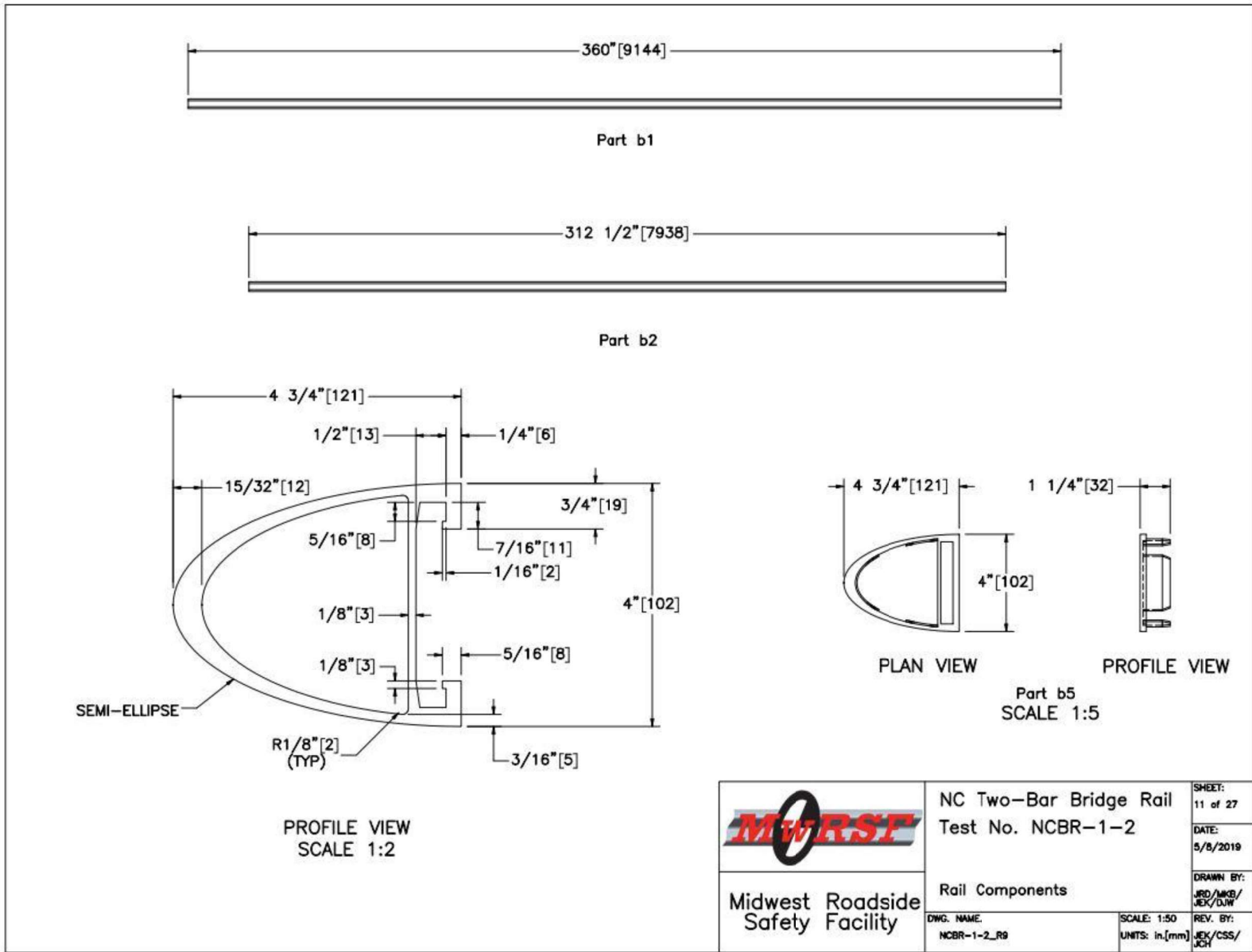
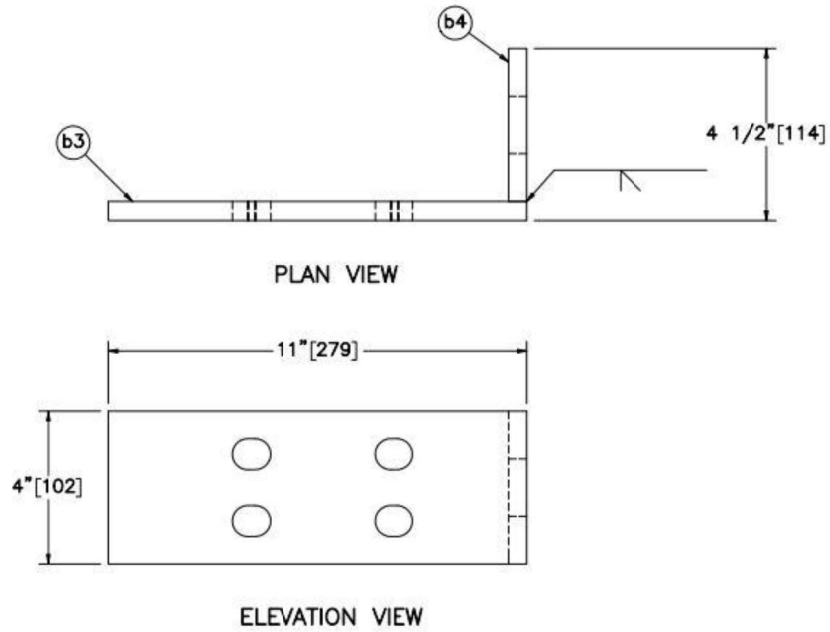


Figure 12. Rail Components, Test Nos. NCBR-1 and NCBR-2




Item No.	QTY.	Description	Material Specification	Treatment Specification	Midwest Roadside Safety Facility		NC Two-Bar Bridge Rail Test No. NCBR-1-2		
-	4	Rail Bracket Assembly	-	ASTM A123	 Midwest Roadside Safety Facility		SHEET: 12 of 27		
b3	1	11"x4"x1/2" [279x102x13] Plate	ASTM A36	See Assembly			Rail Bracket Assembly		DATE: 5/8/2019
b4	1	4"x4"x1/2" [102x102x13] Plate	ASTM A36	See Assembly			DWG. NAME: NCBR-1-2_R9	SCALE: 1:4 UNITS: in./mm	DRAWN BY: JRD/MKB/JEK/DJW REV. BY: JEK/CSS/JCH

Figure 13. Rail Bracket Assembly, Test Nos. NCBR-1 and NCBR-2

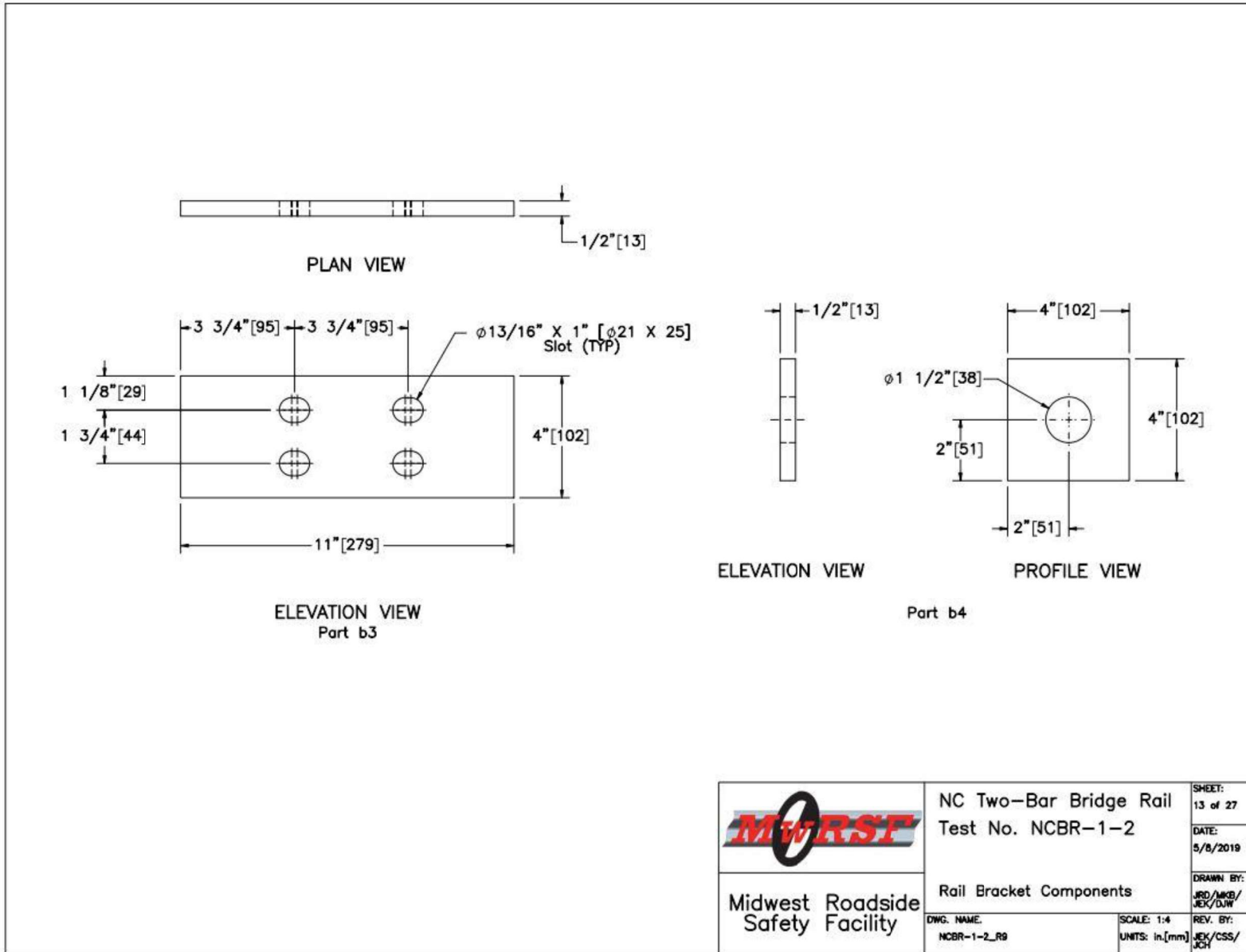



Figure 14. Rail Bracket Components, Test Nos. NCBR-1 and NCBR-2

 <b>Midwest Roadside Safety Facility</b>	NC Two-Bar Bridge Rail Test No. NCBR-1-2	SHEET: 13 of 27
	Rail Bracket Components	DATE: 5/8/2019
DWG. NAME: NCBR-1-2_R9	SCALE: 1:4 UNITS: in,[mm]	DRAWN BY: JRD/MKB/ JEK/DJW
		REV. BY: JEK/CSS/ JCH

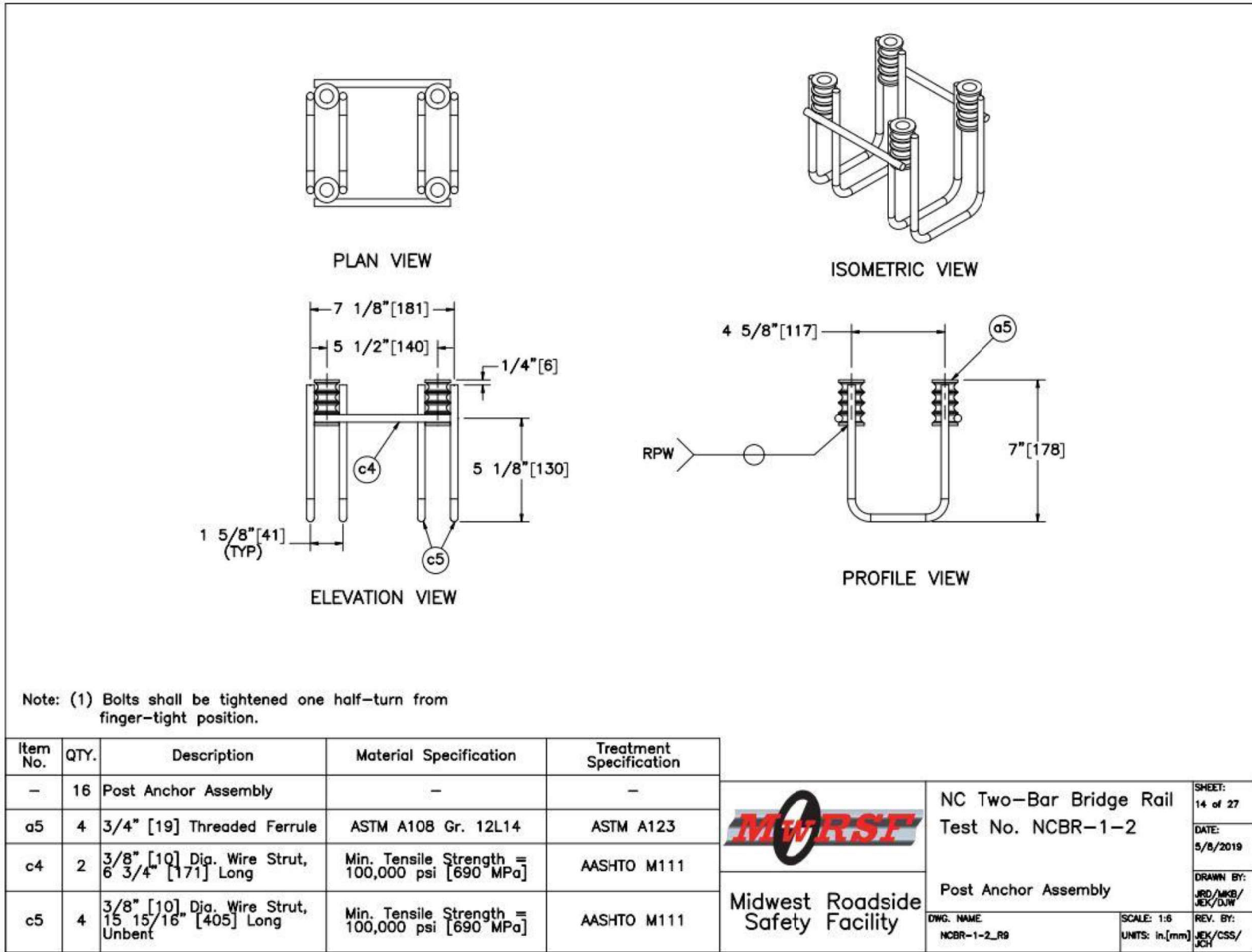


Figure 15. Post Anchor Assembly, Test Nos. NCBR-1 and NCBR-2

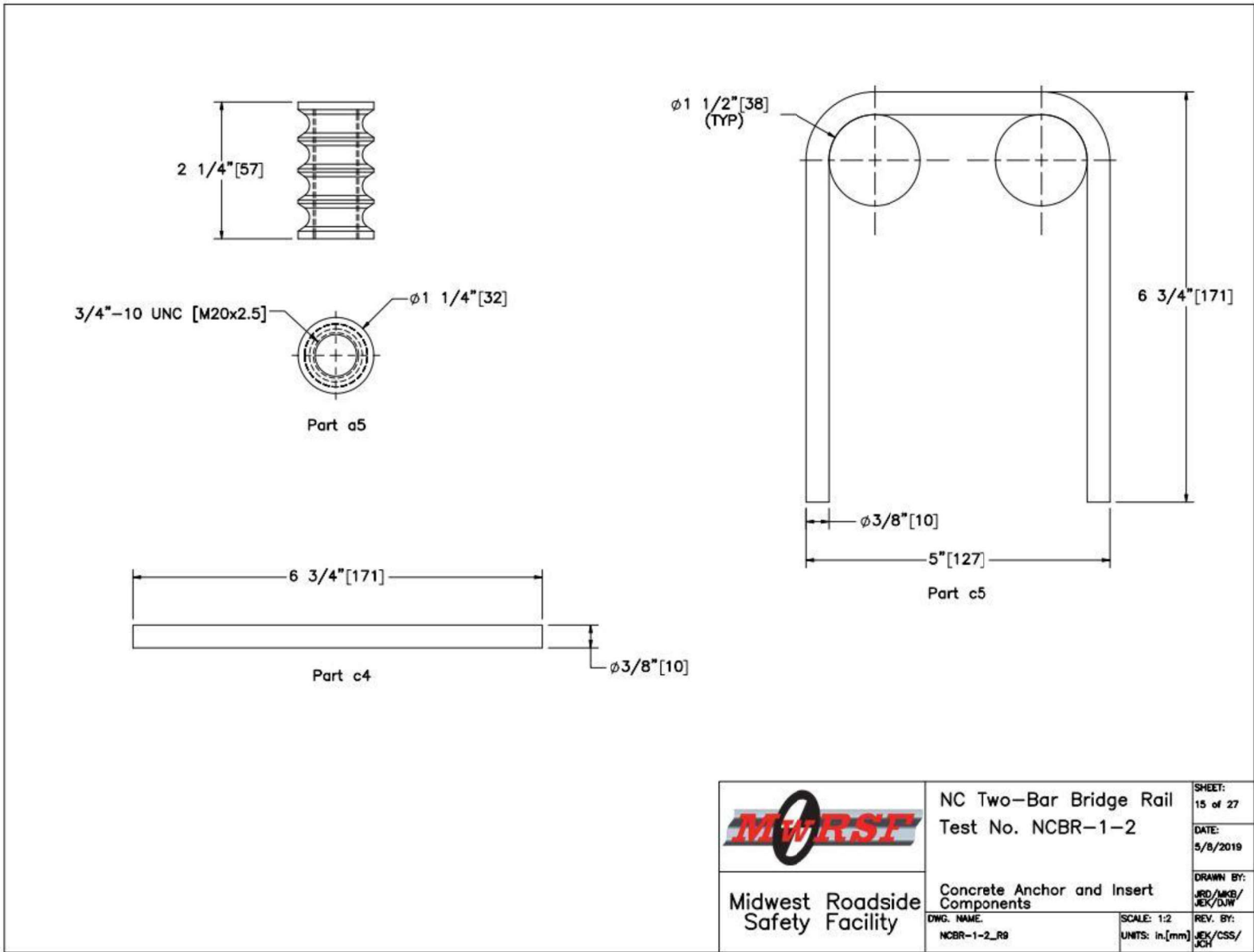


Figure 16. Concrete Anchor and Insert Components, Test Nos. NCBR-1 and NCBR-2

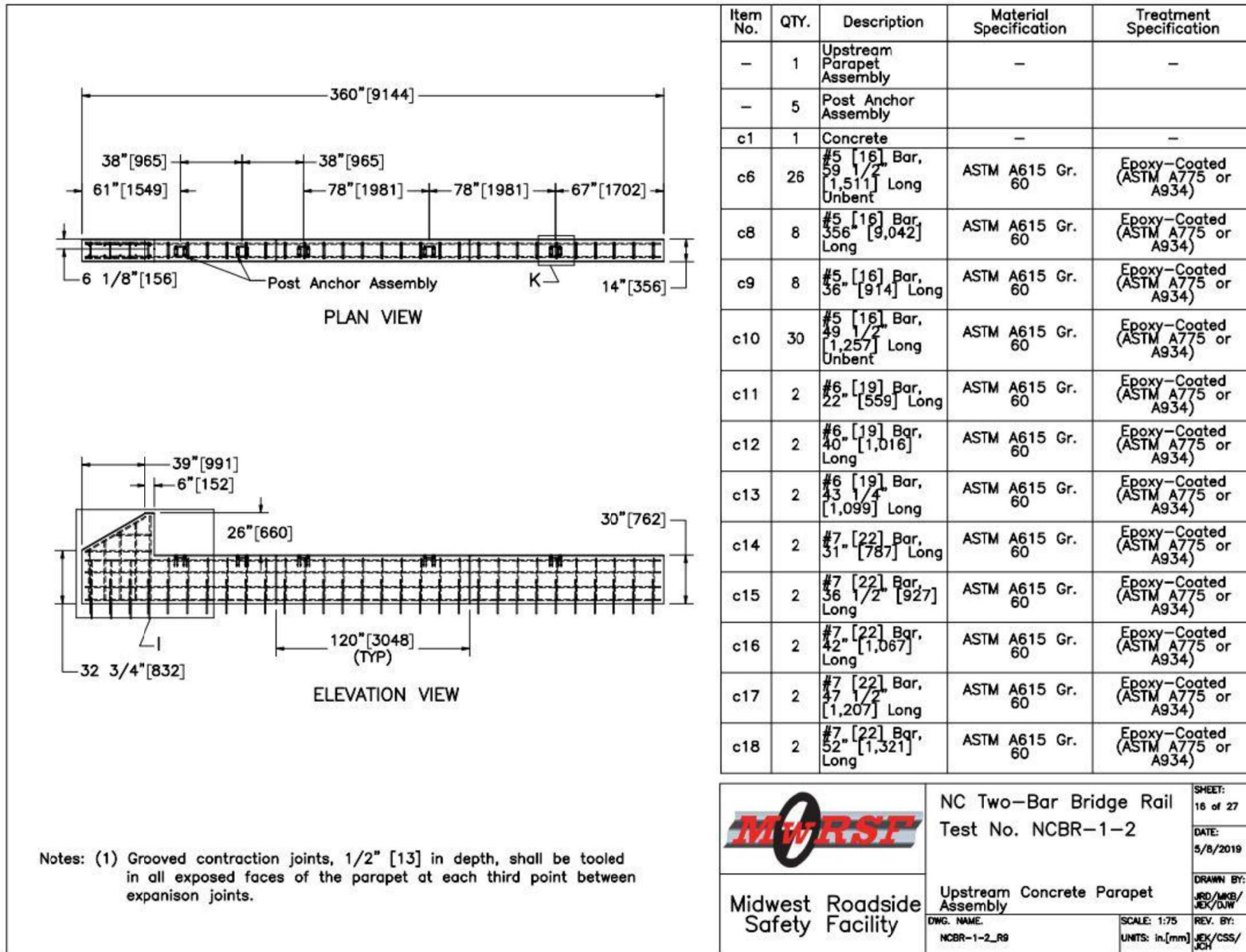


Figure 17. Upstream Concrete Parapet Assembly, Test Nos. NCBR-1 and NCBR-2



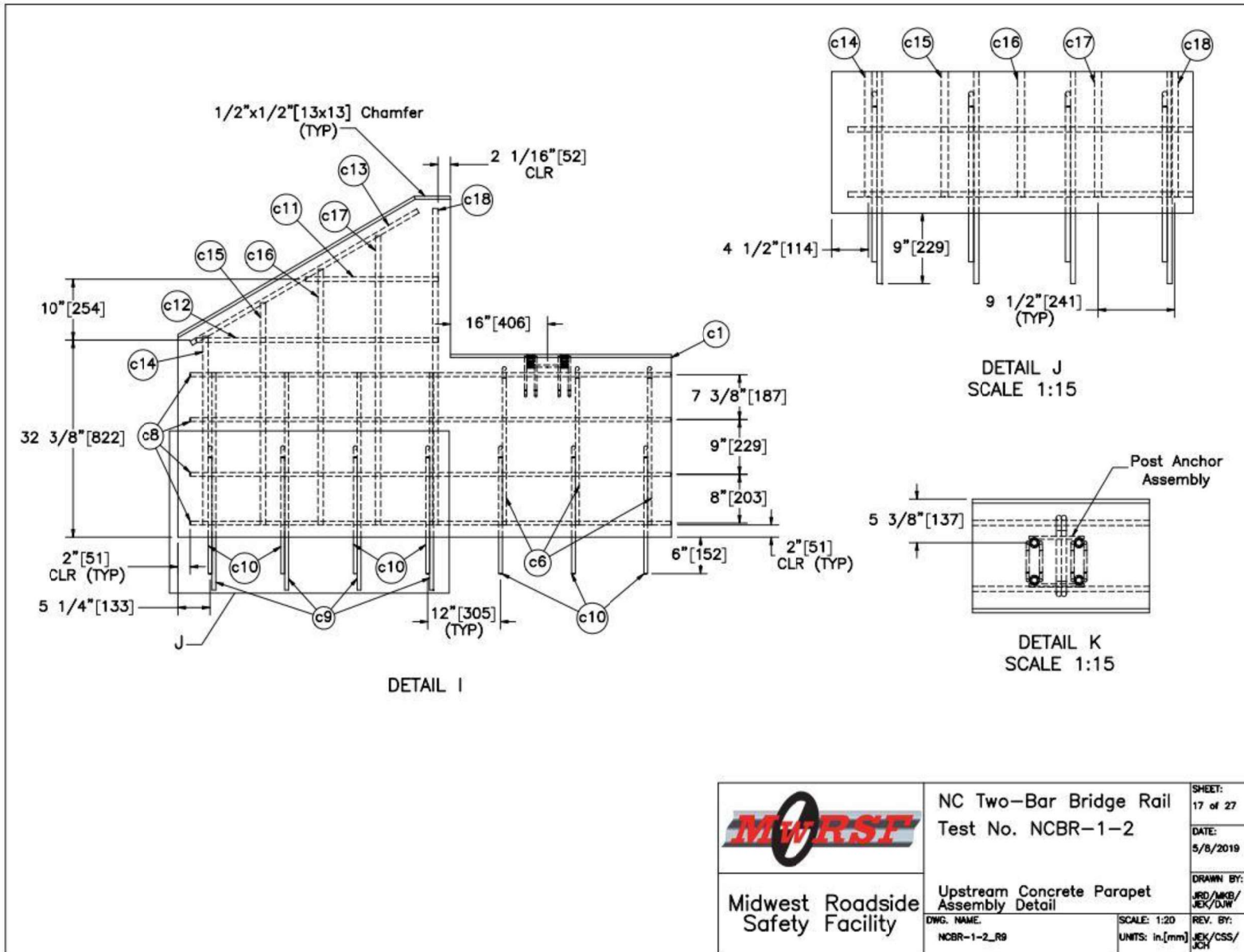


Figure 18. Upstream Concrete Parapet Assembly Detail, Test Nos. NCBR-1 and NCBR-2

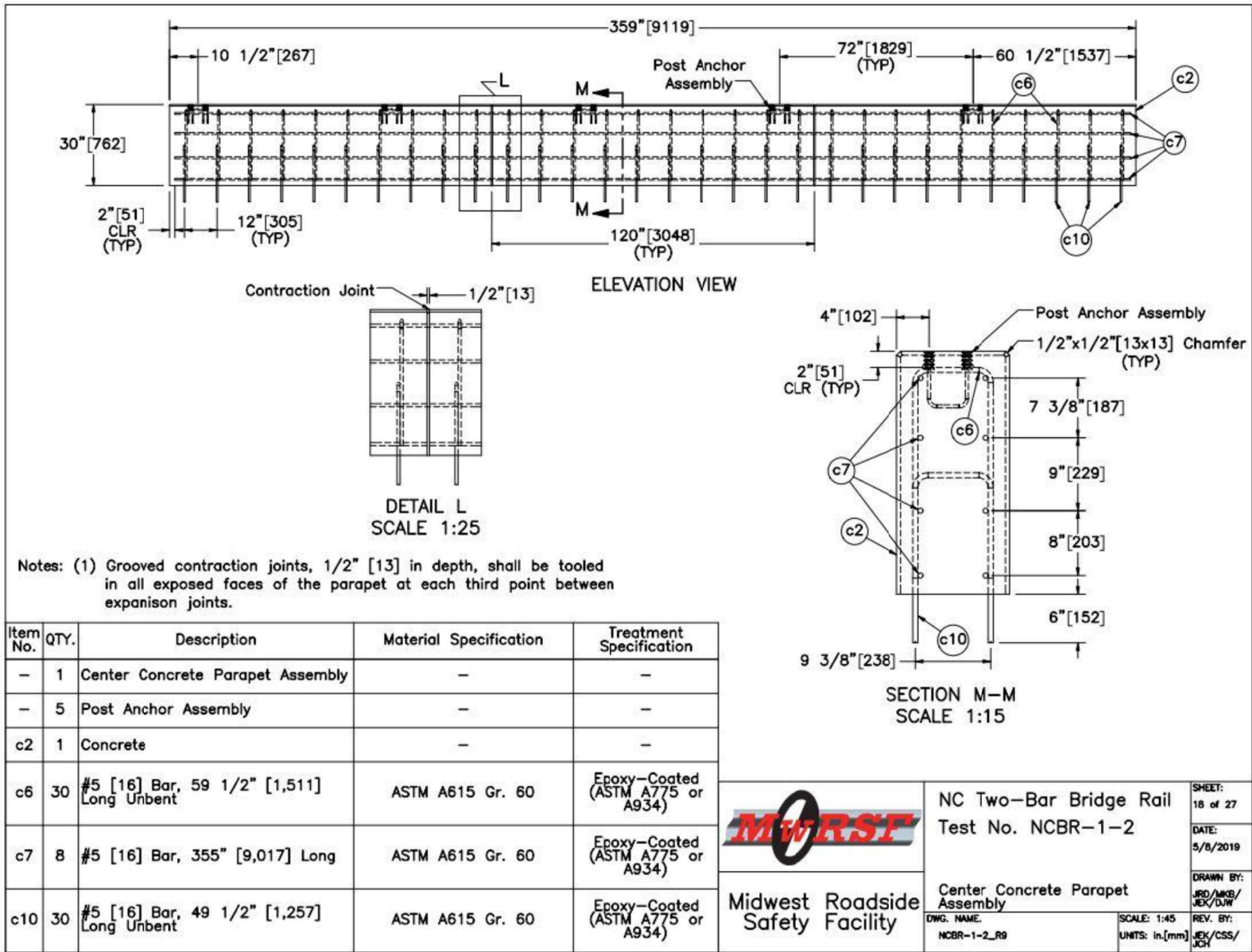


Figure 19. Center Concrete Parapet Assembly, Test Nos. NCBR-1 and NCBR-2

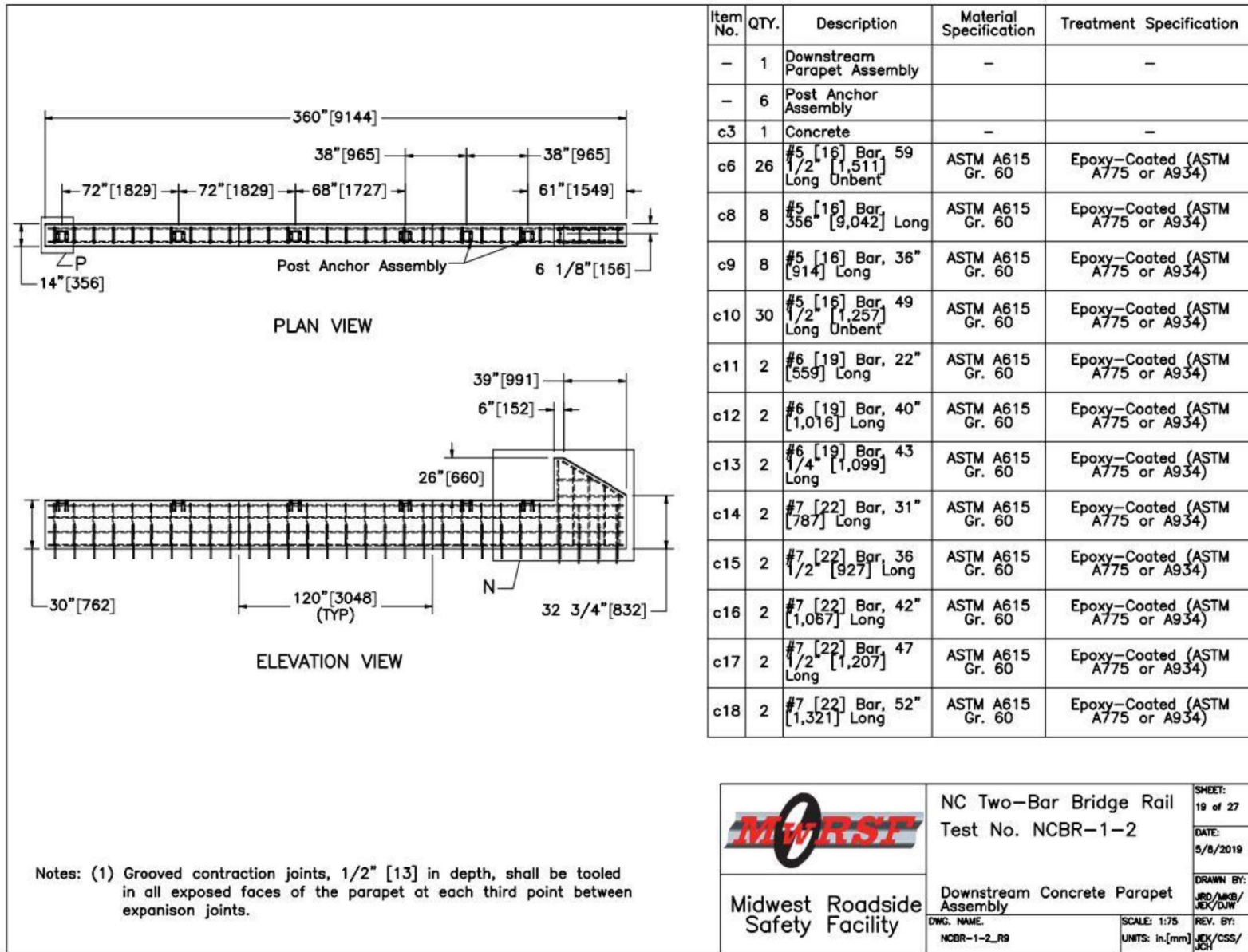


Figure 20. Downstream Concrete Parapet Assembly, Test Nos. NCBR-1 and NCBR-2

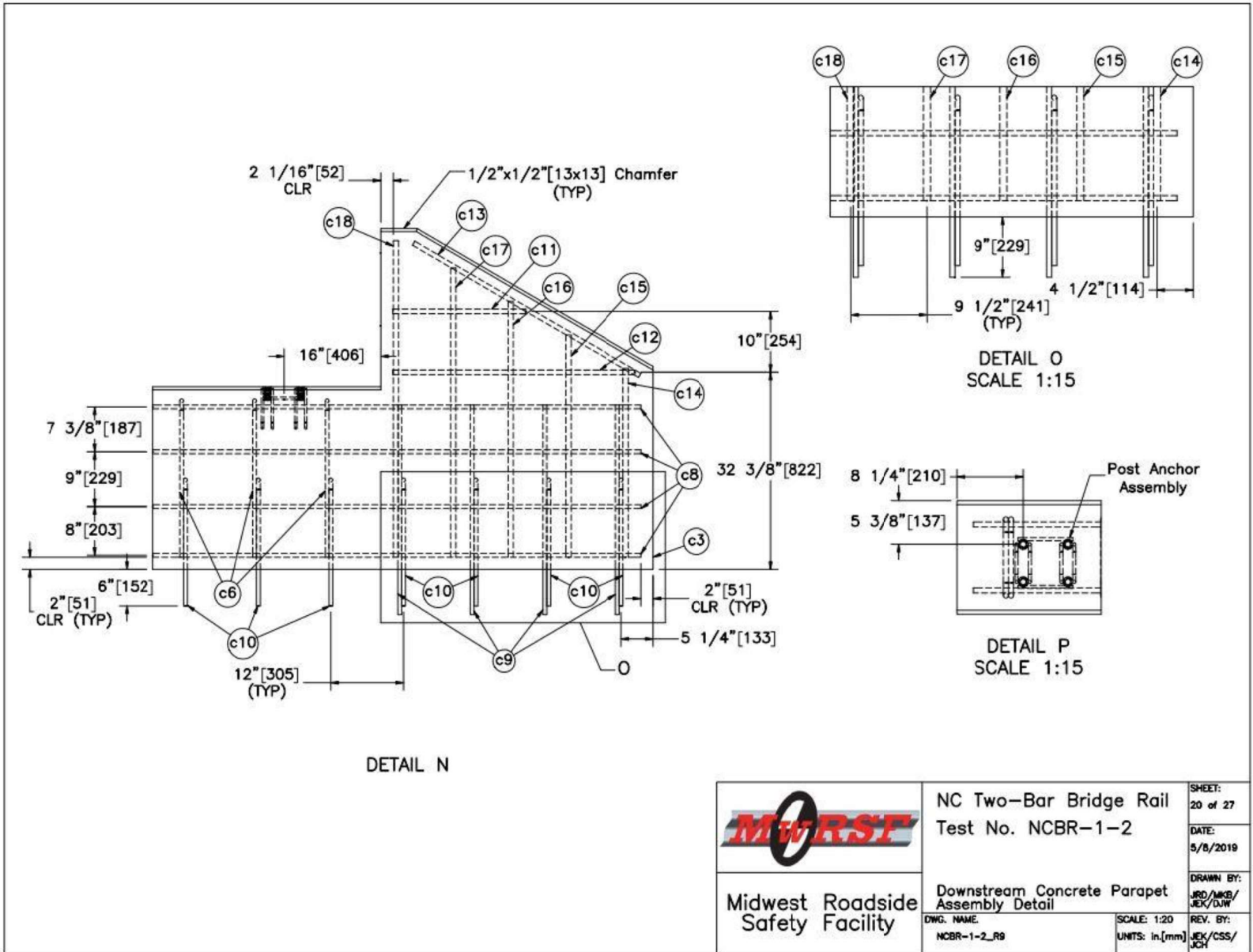


Figure 21. Downstream Concrete Parapet Assembly, Test Nos. NCBR-1 and NCBR-2

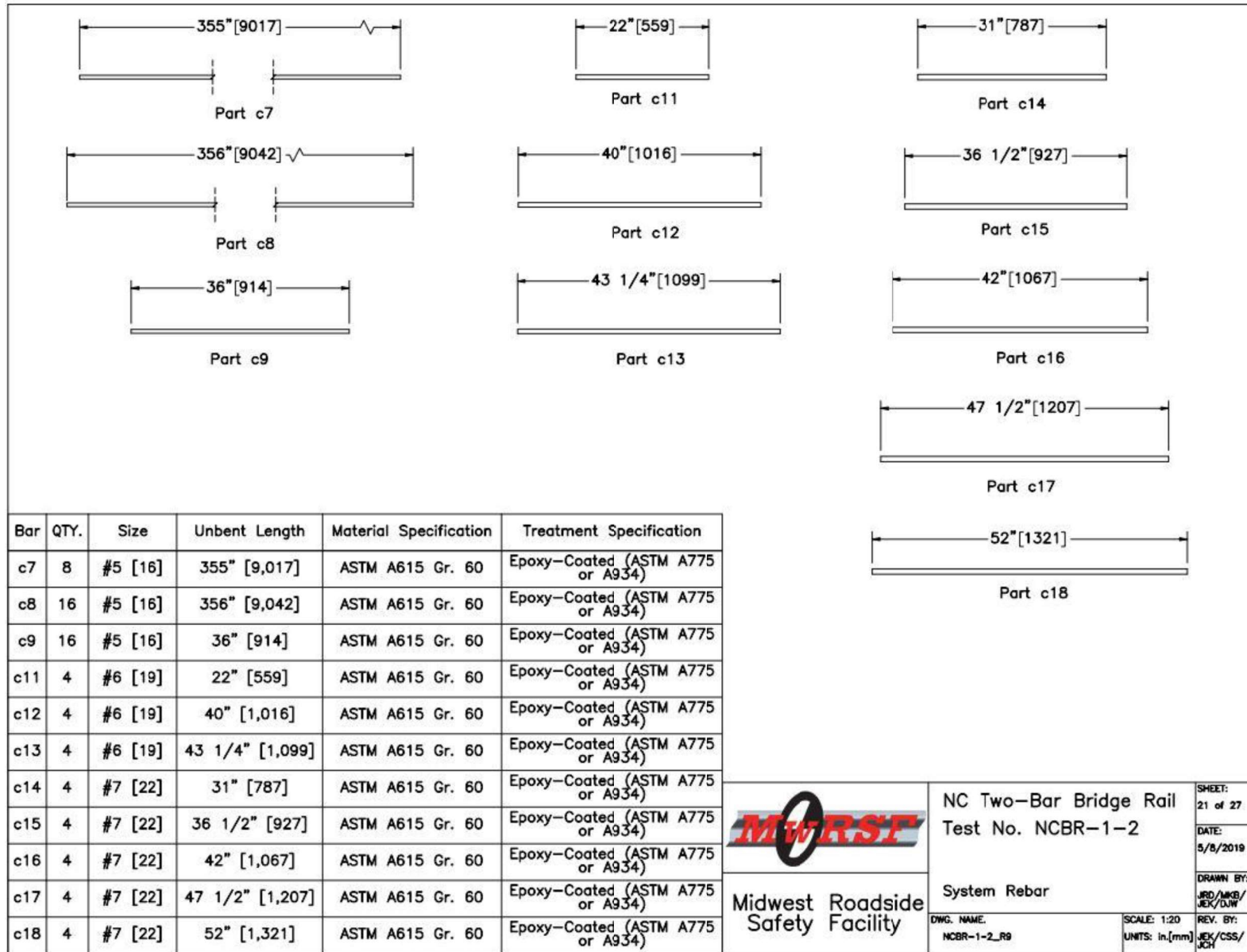
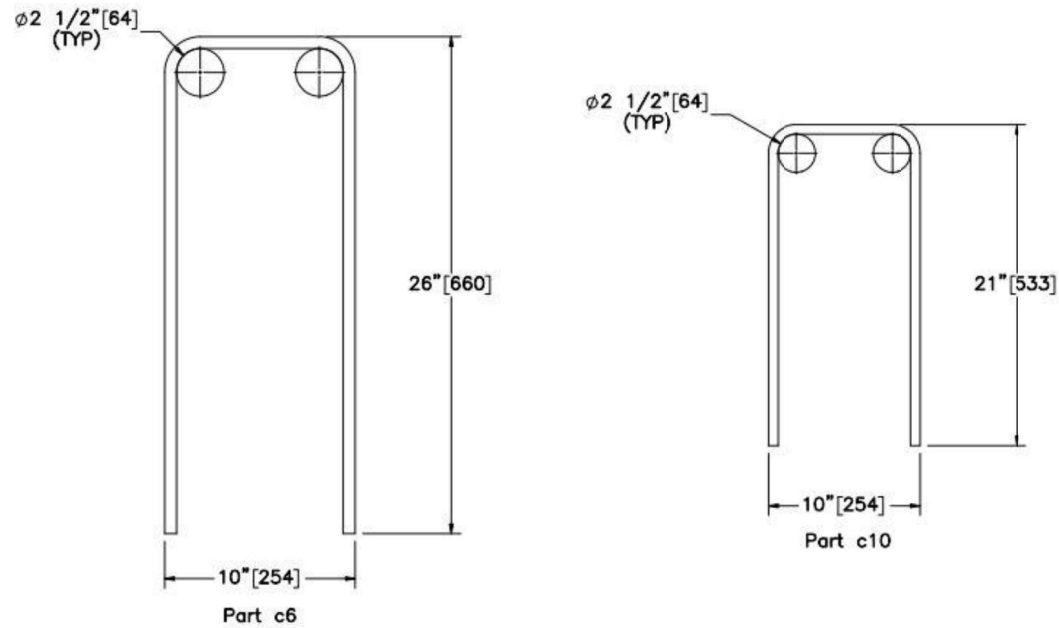


Figure 22. System Rebar, Test Nos. NCBR-1 and NCBR-2



Bar	QTY.	Size	Unbent Length	Material Specification	Treatment Specification
c6	82	#5 [16]	59 1/2" [1,511]	ASTM A615 Gr. 60	Epoxy-Coated (ASTM A775 or A934)
c10	90	#5 [16]	49 1/2" [1,257]	ASTM A615 Gr. 60	Epoxy-Coated (ASTM A775 or A934)

 <b>Midwest Roadside Safety Facility</b>	<b>NC Two-Bar Bridge Rail</b> Test No. NCBR-1-2	SHEET: 22 of 27
	System Rebar	DATE: 5/8/2019
DWG. NAME: NCBR-1-2_R9	SCALE: 1:10 UNITS: in./mm	DRAWN BY: JRD/MKB/ JEK/DJW
		REV. BY: JEK/CSS/ JCH

Figure 23. System Rebar, Test Nos. NCBR-1 and NCBR-2

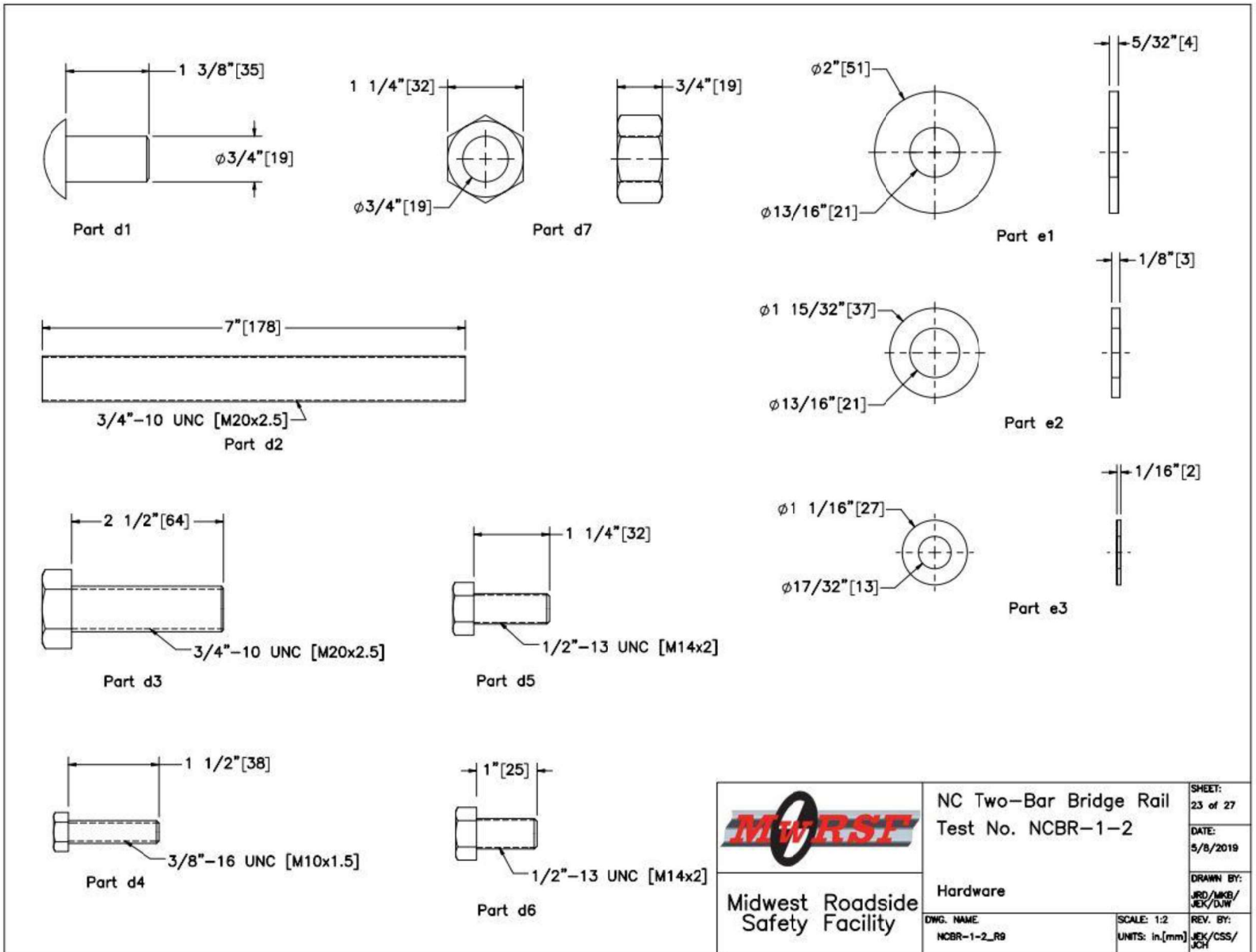


Figure 24. Hardware, Test Nos. NCBR-1 and NCBR-2