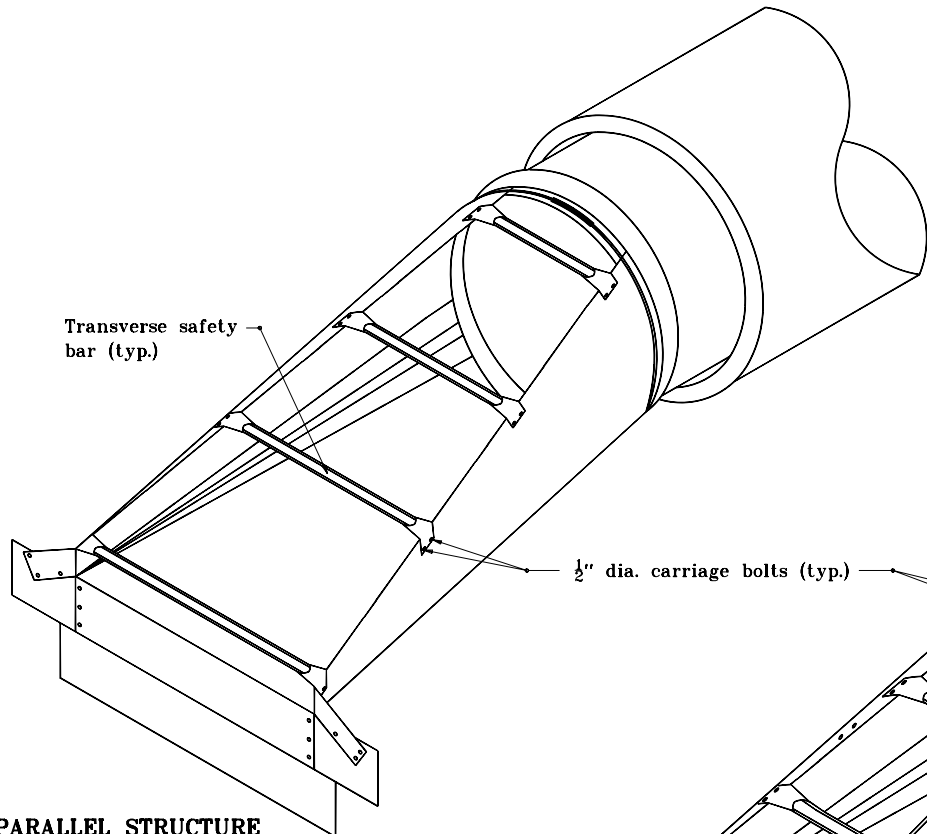
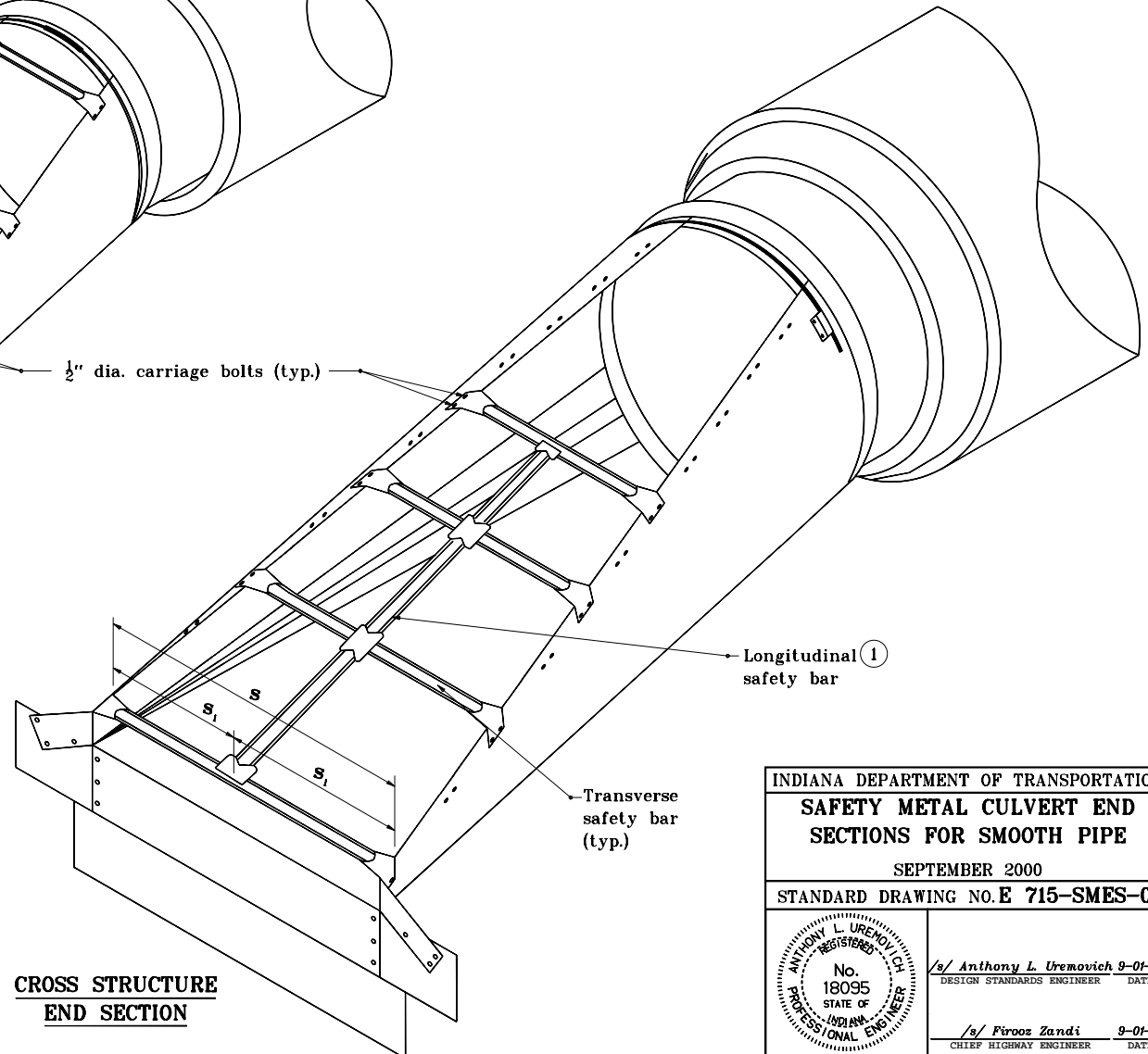


GENERAL NOTES

- ① Longitudinal safety bar shall be welded to transverse bars. For cross structure and section, if $S < 2'-6"$, no longitudinal safety bar is required. If $S > 2'-6"$, longitudinal safety bar(s) shall be provided so $S_1 < 2'-6"$.
2. Bolts shall be oriented with threads to inside of end section.



**PARALLEL STRUCTURE
END SECTION**



**CROSS STRUCTURE
END SECTION**

LEGEND

s - Overall span

① Span between end section edge and longitudinal safety bar or between longitudinal safety bars.

$$s_1 = \frac{s}{n + 1}$$

where n = Number of longitudinal safety bars

INDIANA DEPARTMENT OF TRANSPORTATION	
SAFETY METAL CULVERT END SECTIONS FOR SMOOTH PIPE	
SEPTEMBER 2000	
STANDARD DRAWING NO. E 715-SMES-07	
	/s/ Anthony L. Uremovich 9-01-00 DESIGN STANDARDS ENGINEER DATE
	/s/ Firooz Zandi 9-01-00 CHIEF HIGHWAY ENGINEER DATE
DESIGN STANDARDS ENGINEER	