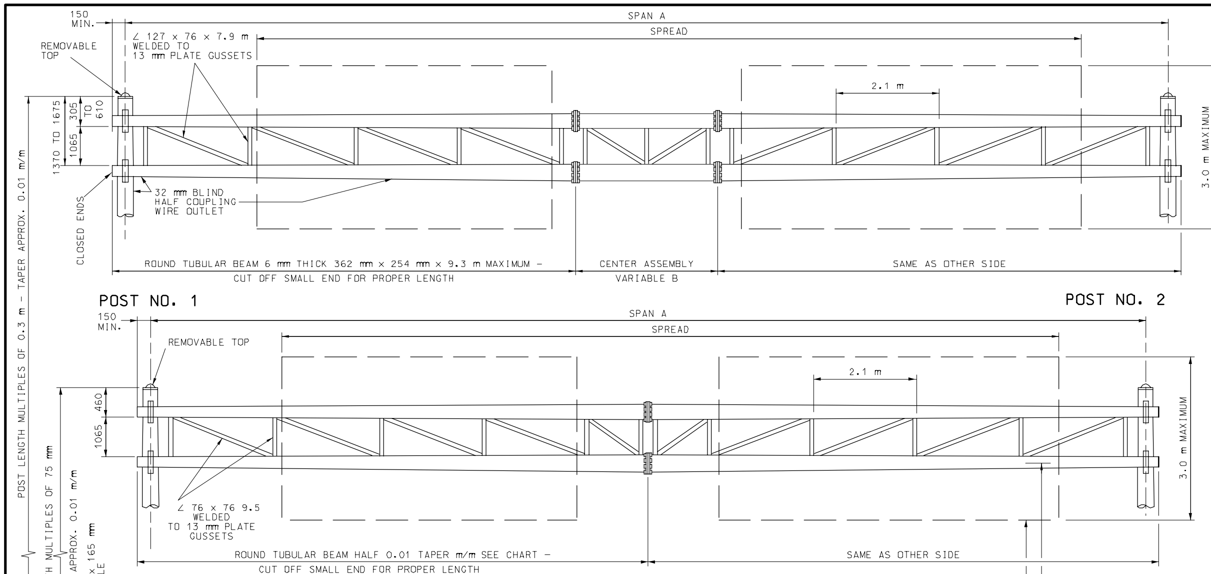
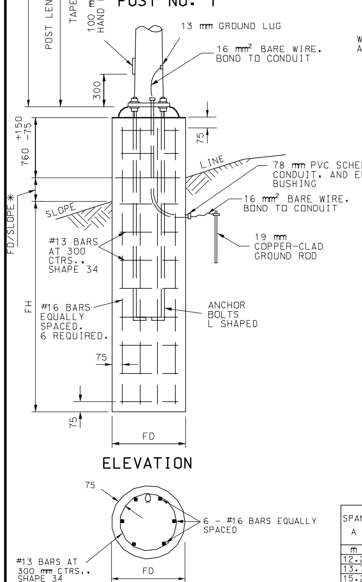


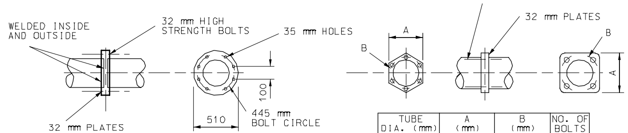


ELEVATION

PLAN

FOOTINGS

✱ EXAMPLE: IF SLOPE IS 1:6, THE DENOMINATOR IS 6

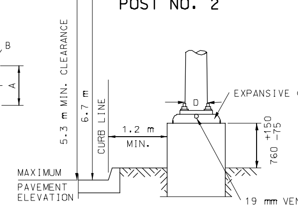


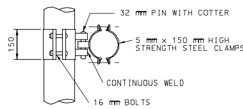
SPANS 23.2 m & OVER

TUBE DIA. (mm)	A (mm)	B (mm)	NO. OF BOLTS
240	290	320	4
265	370	350	4
355	440	430	6

SPANS UP TO 23.2 m

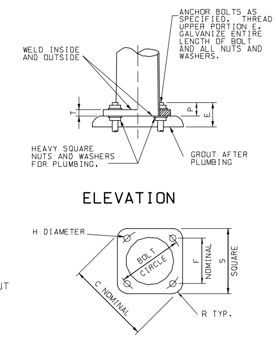
CENTER JOINT DETAIL



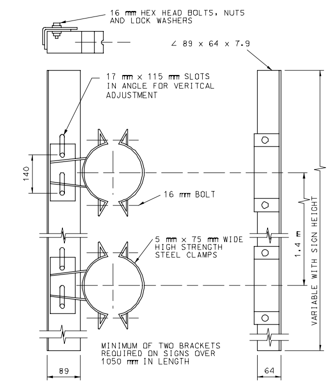


BEAM CLAMP DETAIL

TWO END POST				
TYPE	GA	mm	D mm	ALLOWABLE MOMENT-kN m
S-2315	3	6.5786	380	162.5
S-2316.5	3	6.5786	420	199.0
S-2318	3	6.5786	460	240.0
S-27716	7+7	4.5720 + 4.5270	405	290.0
S-2018	0	8.6360	460	301.0
S-27718	7+7	4.5720 + 4.5720	460	345.5
S-23316.5	3+3	6.5786 + 6.5786	420	395.5
S-23317	3+3	6.5786 + 6.5786	430	444.5
S-20018	0+0	8.6360 + 8.6360	460	614.0

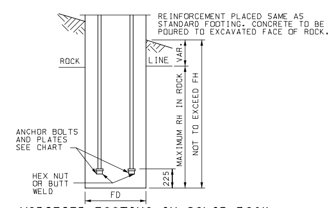


POST BASE DETAIL



SIGN HEIGHT mm	MAX. m OF SIGN WIDTH PER BRACKET
≤1200	4.8
1500	4.8
1800	4.5
2100	3.3
2400	1.8
2700	1.2
3000	0.9

GALVANIZED SIGN BRACKET ASSEMBLY



MODIFIED FOOTING IN SOLID ROCK

BASE DATA										FOOTINGS								ESTIMATED QUANTITIES OF STANDARD FOOTINGS					
										IN EARTH				IN SOLID ROCK				CLASS B CONC	REINFORCING STEEL				TOTAL
												ANCHOR BOLTS			ANCHOR BOLTS				#16 BARS		#13 BARS ✱		
TYPE NO.	BOLT CIRCLE mm	C mm	F mm	H mm	P mm	R mm	S mm	T mm	E mm	DIA. FD mm	FH mm	DIA. mm	LENGTH mm	RH MAX mm	DIA. mm	LENGTH mm	PLATES mm	m³/m	NO.	LENGTH	NO.	LENGTH	kg
S-2315	559	727	394	60	121	118	584	51	216	760	2440	51	2440	915	51	AS REQUIRED SEE ROCK FOOTING	89 x 89 x 19	0.50	6	3580	13	2180	61
S-2316.5	597	775	422	60	121	127	622	51	216	915	3050	51	2440	915	51		89 x 89 x 19	0.64	6	4265	15	2670	80
S-2318	648	838	457	60	121	140	673	51	216	915	3050	51	2440	915	51		89 x 89 x 19	0.64	6	4265	15	2670	80
S-27716	597	775	422	67	140	127	622	64	241	915	3050	57	2440	915	57		114 x 114 x 19	0.64	6	4265	15	2670	80
S-2018	648	838	457	67	140	140	673	64	241	1065	3355	57	2440	1220	57		114 x 114 x 19	0.95	6	4645	17	3140	96
S-27718	648	838	457	73	152	140	673	64	267	1065	3355	64	3050	1220	64		127 x 127 x 25	0.95	6	4645	17	3140	96
S-23316.5	597	775	422	86	178	127	622	76	305	1065	3660	76	3660	1220	76		127 x 127 x 25	0.95	6	4950	18	3140	102
S-23317	648	838	457	86	178	140	673	76	305	1065	3660	76	3660	1220	76		127 x 127 x 25	0.95	6	4950	18	3140	102
S-20018	648	838	457	86	178	140	673	76	305	1220	3660	76	3660	1525	76		127 x 127 x 25	1.13	6	5030	18	3625	112

✱ ESTIMATED QUANTITY FOR REINFORCING STEEL IS BASED ON A 1:2 (V:H) SLOPE.

SPAN A	SPREAD IN m												
m	9.1	10.7	12.2	13.7	15.2	16.2	18.3	19.8	21.3	22.9	24.4	25.9	27.4
12.2	27.9												
13.7	24.5	26.8											
15.2	26.2	28.6	31.2										
16.8	22.1	24.3	26.4	28.8									
18.3	24.7	26.8	29.2	31.6	33.8								
19.8	21.7	23.8	26.0	28.2	30.5	32.7							
21.3	24.3	26.4	28.2	30.1	32.1	34.2	36.6						
22.9	21.2	23.0	24.9	26.8	28.6	30.7	32.7	34.7					
23.2	27.4	28.6	30.3	32.5	34.4	36.9	39.5	41.8	43.9	46.6			
24.1	28.8	30.3	32.2	34.0	35.7	38.1	40.1	42.7	45.5	48.3			
25.3	25.7	26.8	27.9	29.9	31.6	33.4	35.8	38.3	40.3	43.2	46.3		
26.2	27.6	28.7	29.9	31.3	33.1	35.1	37.3	38.5	41.5	43.9	46.5	48.5	
27.4	25.0	26.0	27.3	28.8	30.4	32.1	33.7	35.8	37.4	39.6	41.4	43.3	45.1

MAXIMUM SIGN AREA IN SQ. METERS

SPAN A	STRUCTURE: TUBULAR BEAMS				CENTER SECTION B		
m	GA	THICKNESS mm	LARGE DIA. mm	MIN. L m	THICKNESS mm	O.D. mm	LENGTH m
12.2	3	6.5786	241	6.2			
13.7	3	6.5786	241	7.0			
15.2	3	6.5786	267	7.8			
16.8	3	6.5786	267	8.5			
18.3	7	4.5720	356	9.3			
19.8	7	4.5720	356	10.0			
21.3	3	4.5720	356	10.8			
22.9	3	6.5786	356	11.6			
23.2	3	6.5786	362	9.3	7.925	362	4.9
24.1	3	6.5786	362	8.7	7.925	362	7.0
25.3	3	6.5786	362	9.3	7.925	362	7.0
26.2	3	6.5786	362	8.7	7.925	362	9.1
27.4	3	6.5786	362	9.3	7.925	362	9.1

SPAN A	POSTS FOR MAXIMUM AREA — LENGTH OF POSTS IN m									
m	5.5	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2
12.2	S-2315	S-2315	S-2315	S-2316.5	S-2316.5	S-2316.5	S-2318	S-2318	S-2318	S-2318
13.7	S-2315	S-2315	S-2315	S-2316.5	S-2316.5	S-2316.5	S-2318	S-2318	S-2318	S-2318
15.2	S-2315	S-2316.5	S-2316.5	S-2316.5	S-2318	S-2318	S-2318	S-27716	S-27716	S-27716
16.8	S-2315	S-2316.5	S-2316.5	S-2316.5	S-2318	S-2318	S-2318	S-2318	S-27716	S-27716
18.3	S-2318	S-27716	S-27716	S-27716	S-2018	S-27718	S-27718	S-27718	S-23316.5	S-23316.5
19.8	S-2318	S-27716	S-27716	S-27716	S-27716	S-27718	S-27718	S-27718	S-23316.5	S-23316.5
21.3	S-27716	S-27716	S-27716	S-27718	S-27718	S-27718	S-23316.5	S-23316.5	S-23316.5	S-23317
22.9	S-27716	S-27716	S-27716	S-2018	S-27718	S-27718	S-23316.5	S-23316.5	S-23316.5	S-23316.5
23.2	S-27716	S-27718	S-27718	S-27718	S-23316.5	S-23316.5	S-23317	S-23317	S-23317	S-20018
24.1	S-2018	S-27718	S-27718	S-23316.5	S-23316.5	S-23317	S-23317	S-23317	S-20018	S-20018
25.3	S-27716	S-2018	S-27718	S-27718	S-23316.5	S-23316.5	S-23316.5	S-23317	S-23317	S-20018
26.2	S-2018	S-27718	S-27718	S-23316.5	S-23316.5	S-23317	S-23317	S-23317	S-20018	S-20018
27.4	S-27716	S-27718	S-27718	S-23316.5	S-23316.5	S-23316.5	S-23317	S-23317	S-20018	S-20018

GENERAL NOTES:

ALL DIMENSIONS SHOWN ARE IN mm UNLESS OTHERWISE NOTED.

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS-1975.

USE LONGEST POST AND SPAN A (NEXT GREATER IF NOT CHARTED) TO DETERMINE END POSTS AND STRUCTURE DESIGNS. MAXIMUM SIGN AREA FOR GIVEN SPREAD (INTERPOLATE FOR UNCHARTED SPREADS) NOT TO BE EXCEEDED. SUPPORTS DESIGNED BY END POST TYPE AND SPAN A, (I.E. S-2315-40 ETC).

ALL SIGNS CENTERED VERTICALLY.

SEE STD. PLAN 903.09 FOR LIGHTING DETAILS IF LIGHTING THE SIGN IS NECESSARY.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

HIGHWAY SIGNING

TUBULAR SUPPORT STEEL-TYPE S

TWO TUBE

DATE:________ EFFECTIVE: 01-01-2003 M903.06G