











Epoxy Coated Reinforcing Steel - Two Open Rails														
Bridge Length			20'-0"			30'-0"			40'-0"			50'-0"		
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
4c1	Rail, Ties		24	6'-3"	100	46	6'-3"	192	64	6'-3"	267	92	6'-3"	384
5c2	Posts, Vertical		88	4'-10"	444	112	5'-1"	594	136	5'-3"	745	160	5'-7"	932
5c3	End Post, Tie		4	6'-2"	26	4	6'-2"	26	4	6'-2"	26	4	6'-2"	26
5c4	End Post, Tie		20	6'-6"	136	20	6'-6"	136	20	6'-6"	136	20	6'-6"	136
5c5	Vertical, End Section		48	5'-1"	254	48	5'-1"	254	48	5'-1"	254	48	5'-1"	254
6h1	Rail, Horizontal		8	22'-4"	268	8	32'-4"	389	16	23'-1"	555	16	28'-1"	675
6h2	Rail, Horizontal, Ends		24	12'-8"	457	24	13'-9"	496	24	14'-3"	514	24	14'-7"	526
6h3	Rail, Horizontal, Ends		16	13'-1"	314	16	18'-1"	435	16	23'-1"	555	16	28'-1"	675
4j1	Interior Post, Tie		12	5'-1"	41	24	5'-1"	81	36	5'-1"	122	48	5'-1"	163
4j2	End Post, Tie		36	6'-3"	150	36	6'-3"	150	36	6'-3"	150	36	6'-3"	150
(Include with Superstructure Reinforcing)			Total (Lbs.)			2190			2752			3323		

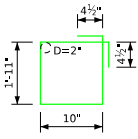
Reinforcing quantities shown are based on 15° skew bid lengths.

Concrete Placement Quantities				
Bridge Length	20'-0"	30'-0"	40'-0"	50'-0"
**Standard Section (Cu, Yds.)	5.2	7.4	9.5	11.6

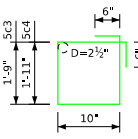
**Concrete quantities shown are based on 15° skew bid lengths. These values shall be used for all skews.

Concrete Open Rail Quantities					
Bridge Length	Unit	20'-0"	30'-0"	40'-0"	50'-0"
Concrete Open Railing, TL-4	0° Skew	L.F.	46	66	86
Concrete Open Railing, TL-4	15° Skew	L.F.	45.4	65.4	85.4

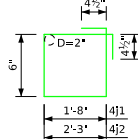
Open Barrier Rail - Bent Bar Details



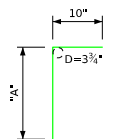
4c1



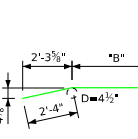
5c3 & 5c4



4j1 & 4j2



5c2



6h3

Span	Dimension "A"	Dimension "B"
20'-0"	4'-0"	10'-9"
30'-0"	4'-3"	15'-9"
40'-0"	4'-5"	20'-9"
50'-0"	4'-9"	25'-9"

Note: All Dimensions are Out To Out. D = Pin Diameter.

Open Rail Notes:

Open rail system meets Test Level 4 (TL-4) according to the Manual for Assessing Safety Hardware (MASH) and includes provision for a 3" future wearing surface height.

All reinforcing shall be Grade 60, Epoxy Coated.

Stainless steel reinforcing may be substituted for 5c2 and 5c5 bars at the Designer's discretion. Lap and development lengths shown are based on epoxy coated reinforcing and need not be modified.

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

The concrete open rail is to be bld on a lineal foot basis measured from end to end of rail. The number of lineal feet of open rail installed will be paid for at the contract price per lineal foot. Price bid for "Concrete Open Railing, TL-4" shall be full compensation for furnishing all material, excluding reinforcing steel, and all of the equipment and labor required to construct the rail in accordance with these plans and current specifications.

All open rail concrete is to be Class C.

Top of the open rail is to be parallel to theoretical G grade.