

This is the second in our new **Standard Plans** series that will feature reprints of original Frisco standard plan designs. This installment is a November 1, 1922, Frisco design for Ballast Deck Pile Trestle Bridges.

NOTE: SUPERELEVATION OF TRACK ON CURVES TO BE TAKEN UP IN BALLAST.

**BILL OF MATERIAL FOR ONE PILE BENT**  
(PILES NOT INCLUDED)

BASE OF RAIL TO CENTER OF PILE	SASH AND SWAY BRACES NUMBER REQUIRED	MINOR TOTAL FEET B.M.	WROUGHT IRON		TOTAL WEIGHT WROUGHT IRON, POUNDS	TOTAL WEIGHT CAST IRON, POUNDS
			DRIFT BOLTS 3/4\" x 2 1/2\"	SPICES 3/4\" x 3\"		
6	1	262	6	6	18	18
7	1	342	12	6	24	52
8	2	342	12	6	24	52
9	2	352	12	6	24	52
10	2	352	12	6	24	52
11	2	352	12	6	24	52
12	2	352	12	6	24	52
13	2	352	12	6	24	52
14	2	362	12	6	24	52
15	2	362	12	6	24	52
16	2	362	12	6	24	52
17	2	372	12	6	24	52
18	2	372	12	6	24	52
19	2	382	12	6	24	52
20	2	382	12	6	24	52
21	2	382	12	6	24	52
22	2	392	12	6	24	52
23	2	402	12	6	24	52
24	2	412	12	6	24	52
25	2	422	12	6	24	52
26	2	432	12	6	24	52
27	2	442	12	6	24	52
28	2	452	12	6	24	52
29	2	462	12	6	24	52
30	2	472	12	6	24	52
31	2	482	12	6	24	52
32	2	492	12	6	24	52
33	2	502	12	6	24	52
34	2	512	12	6	24	52
35	2	522	12	6	24	52
36	2	532	12	6	24	52
37	2	542	12	6	24	52
38	2	552	12	6	24	52
39	2	562	12	6	24	52
40	2	572	12	6	24	52

**BILL OF LUMBER FOR DECK**

NUMBER OF SPANS	TOTAL LENGTH	NUMBER OF STRINGERS 8\" x 16\"	NUMBER OF GUARD RAILS 8\" x 12\"	FLOOR PLANK 14\" x 10\" LONG, FEET D.M.	TOTAL FEET D.M.
1	14	10	2	774	794
2	27	20	4	1497	1517
3	40	30	6	2210	2230
4	53	40	8	2923	2943
EACH SPAN ADDITIONAL	13	10	2	718	738

**BILL OF HARDWARE FOR DECK**

NUMBER OF SPANS	WROUGHT IRON		CAST IRON	TOTAL LBS. WROUGHT IRON	TOTAL LBS. CAST IRON
	DRIFT BOLTS 3/4\" x 2 1/2\"	SPICES 3/4\" x 3\"			
1	8	4	8	35	74
2	12	6	12	51	106
3	16	8	16	67	142
4	20	10	20	83	178
EACH SPAN ADDITIONAL	4	2	4	17	36

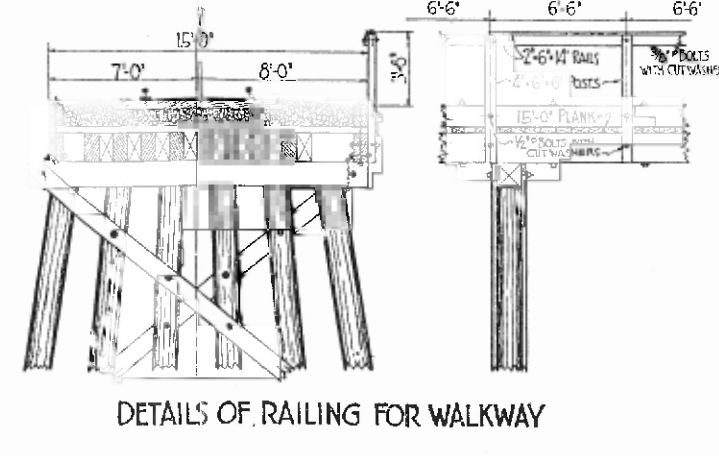
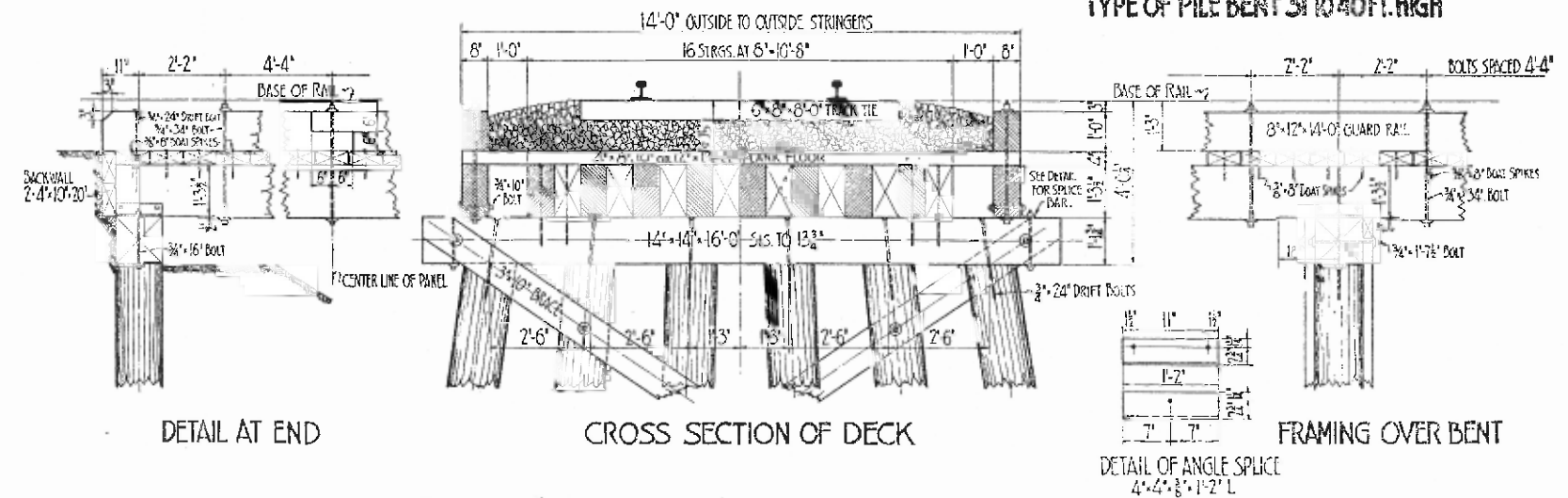
**BILL OF MATERIAL FOR TWO BACKWALLS**

NUMBER OF PCS	PLANK 4\" x 10\" x 20'	TOTAL FEET D.M.	NUMBER OF BOAT SPIKES 3/4\" x 5\"	POUNDS OF BOAT SPIKES
4	267	16	5 1/2	126

LOADING - COOPER'S E-60  
 BENDING MOMENT DEAD - - - 46,500 FT. LBS.  
 LIVE - - - 285,000 FT. LBS.  
 FIBRE STRESS DEAD LOAD ON 10 STRINGERS  
 LIVE LOAD ON 8 STRINGERS  
 DEAD LOAD - - - 163 LBS PER SQ.  
 LIVE LOAD - - - 1250 - - -  
 TOTAL - - - 1413 LBS PER SQ.  
 LOAD ON BENT DEAD LOAD - - - 26,500 LBS.  
 LIVE LOAD - - - 147,500 - - -  
 TOTAL - - - 174,000 LBS.  
 LOAD PER PILE - - 14.5 TONS

**SPACING OF PILES AT GROUND LINE**

NUMBER OF PILES	DISTANCE 'X'
6	2'-6"
7	2'-6"
8	2'-9"
9	2'-9"
10	2'-10"
11	2'-10"
12	3'-0"
13	3'-0"
14	3'-1"
15	3'-2"
16	3'-3"
17	3'-3"
18	3'-4"
19	3'-5"
20	3'-6"
21	3'-6"
22	3'-7"
23	3'-8"
24	3'-9"
25	3'-9"
26	3'-10"
27	3'-11"
28	4'-0"
29	4'-0"
30	4'-1"
31	4'-2"
32	4'-3"
33	4'-3"
34	4'-4"
35	4'-5"
36	4'-6"
37	4'-6"
38	4'-7"
39	4'-8"
40	4'-9"



**GENERAL NOTES**  
 ALL TIMBER INCLUDING SWAY AND LONGITUDINAL BRACES TO BE TREATED WITH CREOSOTE OIL. CAPS WILL BE PURCHASED SURFACED ON ONE SIDE TO 1 1/2 INCHES AND MUST NOT BE DAPPED IN FIELD FOR PILE HEADS. STRINGERS WILL BE DAPPED AT ENDS TO 1 1/2 INCHES BEFORE TREATMENT. THE TOPS OF PILES WHERE CUT OFF SHALL BE GIVEN TWO COATS OF HOT CREOSOTE OIL IN THE FIELD AND A THIRD COAT OF A MIXTURE OF THREE PARTS HEAVY ROAD OIL AND ONE PART CREOSOTE OIL. THE SURFACE OF TIMBER WHEREVER BROKEN OR CUT SHALL BE GIVEN TWO COATS OF HOT CREOSOTE OIL. OPEN HOLES OF ANY KIND TO BE COATED WITH CREOSOTE OIL AND FILLED WITH CREOSOTED WOOD PLUGS. DO NOT CHAMFER TOPS OF PILES.

THIS PLAN CONFORMS TO THE RECOMMENDATIONS OF THE AMERICAN RAILWAY ENGINEERING ASSOCIATION.

ST. LOUIS-SAN FRANCISCO RAILWAY  
 BALLAST DECK PILE TRESTLE BRIDGE WITH CREOSOTED TIMBER & PILING  
 ADOPTED, NOVEMBER, 1922  
 APPROVED: *John Hamilton* CHIEF ENGINEER  
 APPROVED: *J. M. Hamilton* GENERAL MANAGER  
 APPROVED: *W. H. Hamilton* VICE-PRESIDENT  
 APPROVED: *J. M. Hamilton* PRESIDENT  
 DRAWING NO. 20130-540