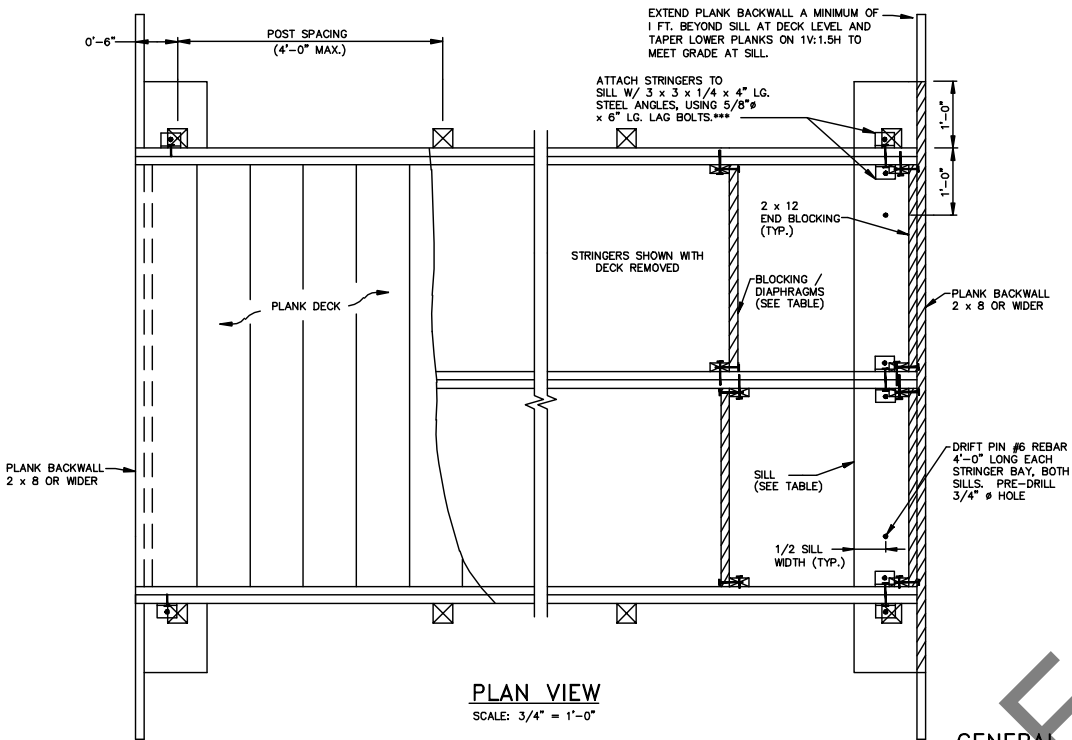


ELEVATION OF STRUCTURE

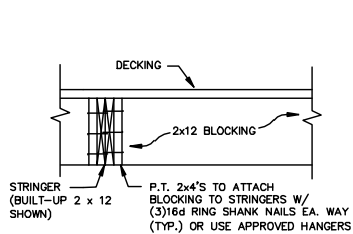
SCALE: 3/4" = 1'-0"



PLAN VIEW

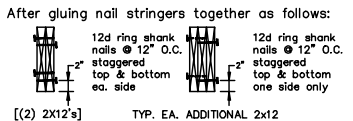
SCALE: 3/4" = 1'-0"

\*\*\* FOR STEEL STRINGERS DRILL BOTTOM FLANGE FOR 5/8" LAG BOLTS TO SILLS IN LIEU OF USING 3X3X1/4 ANGLES. SLOT HOLES IN FLANGES TO ALLOW FOR TEMPERATURE MOVEMENT.



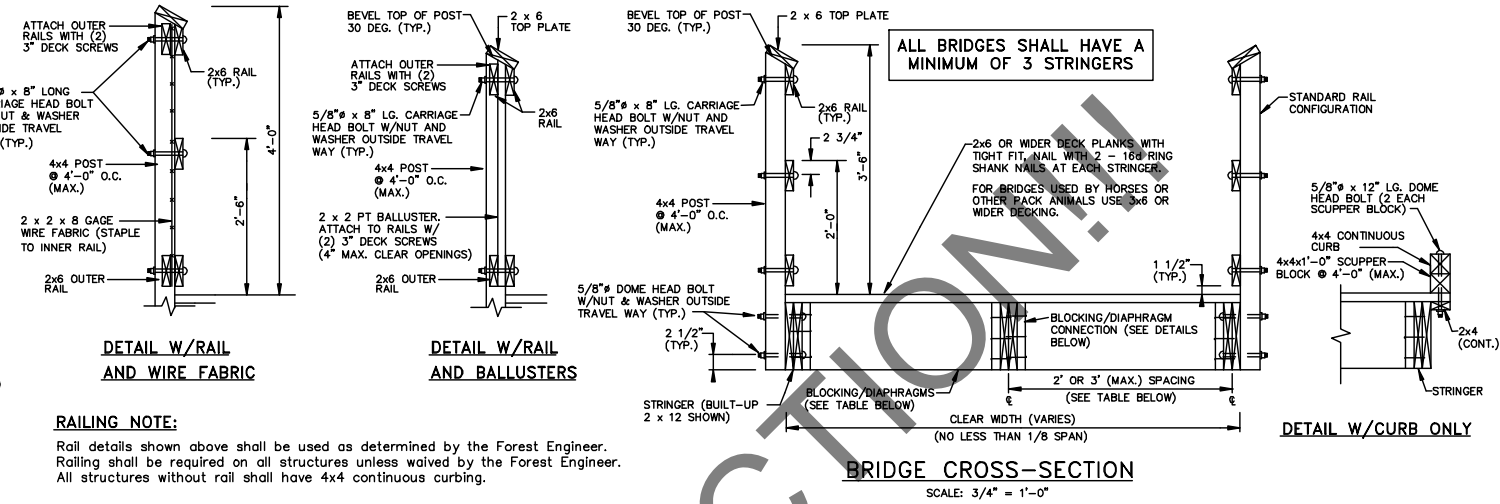
RAIL SPLICE DETAIL

FOR BRIDGE SPANS GREATER THAN 16 FEET ONLY



2 X 12/PSL STRINGER / BLOCKING DETAILS

STEEL STRINGER/NAILER & DIAPHRAGM DETAIL



BRIDGE CROSS-SECTION

SCALE: 3/4" = 1'-0"

STRINGER OPTION TABLE																			
SPAN (FT.)	DIM. LUMBER ** 2 FT. SPACING	WEIGHT (LBS.)	DIM. LUMBER ** 3 FT. SPACING	WEIGHT (LBS.)	BK. PTS.	BK. REQ'D	SILL REQ'D	PSL (PARALLAM) 2 FT. SPACING	WEIGHT (LBS.)	PSL (PARALLAM) 3 FT. SPACING	WEIGHT (LBS.)	BK. PTS.	BK. REQ'D	SILL REQ'D	STEEL BEAMS 2 FT. SPACING	WGT. (LBS.)	STEEL BEAMS 3 FT. SPACING	WGT. (LBS.)	DIA. PTS.
8 or less	(1) 2 x 12 int. (1) 2 x 12 ext.	38 38	(2) 2 x 12 int. (1) 2 x 12 ext.	75 38	1/2	2 x 12	8 x 8												
10	(1) 2 x 12 int. (1) 2 x 12 ext.	47 47	(2) 2 x 12 int. (1) 2 x 12 ext.	94 47	1/2	2 x 12	8 x 8												
12	(2) 2 x 12 int. (1) 2 x 12 ext.	113 56	(2) 2 x 12 int. (2) 2 x 12 ext.	169 113	1/2	2 x 12	8 x 8												
14	(2) 2 x 12 int. (2) 2 x 12 ext.	131 131	(3) 2 x 12 int. (2) 2 x 12 ext.	197 131	1/2	2 x 12	8 x 8												
16	(3) 2 x 12 int. (2) 2 x 12 ext.	225 150	(3) 2 x 12 int. (2) 2 x 12 ext.	225 150	1/2	2 x 12	8 x 8												
18	(3) 2 x 12 int. (2) 2 x 12 ext.	253 169	(4) 2 x 12 int. (3) 2 x 12 ext.	338 253	1/3	2 x 12	8 x 8	3-1/2 x 12 int. 3-1/2 x 12 ext.	272 272	3-1/2 x 14 int. 3-1/2 x 14 ext.	320 320	1/3	2 x 12	8 x 8	W 10 x 12	218	W 12 x 14	252	1/2
20	(4) 2 x 12 int. (2) 2 x 12 ext.	375 188	(5) 2 x 12 int. (3) 2 x 12 ext.	469 281	1/3	2 x 12	8 x 8	3-1/2 x 14 int. 3-1/2 x 14 ext.	356 356	3-1/2 x 14 int. 3-1/2 x 14 ext.	356 356	1/3	2 x 12	8 x 8	W 10 x 12	240	W 12 x 14	280	1/2
22								3-1/2 x 14 int. 3-1/2 x 14 ext.	392 392	3-1/2 x 16 int. 3-1/2 x 16 ext.	447 447	1/3	2 x 12	8 x 8	W 12 x 14	308	W 12 x 22	308	1/2
24								3-1/2 x 16 int. 3-1/2 x 16 ext.	487 487	3-1/2 x 18 int. 3-1/2 x 18 ext.	547 547	1/3	2 x 12	10 x 10	W 12 x 14	336	W 12 x 22	528	1/2
26								3-1/2 x 16 int. 3-1/2 x 16 ext.	528 528	5-1/4 x 16 int. 3-1/2 x 16 ext.	793 528	1/4	2 x 12	10 x 10	W 12 x 22	572	W 14 x 26	676	1/3
28								5-1/4 x 16 int. 3-1/2 x 16 ext.	854 568	5-1/4 x 18 int. 3-1/2 x 18 ext.	960 638	1/4	2 x 12	10 x 10	W 12 x 22	618	W 14 x 26	728	1/3
30								5-1/4 x 16 int. 3-1/2 x 16 ext.	915 609	7 x 18 int. 3-1/2 x 18 ext.	1332 684	1/4	2 x 12	10 x 10	W 12 x 22	660	W 14 x 26	780	1/3
32								5-1/4 x 18 int. 3-1/2 x 18 ext.	1098 730			1/4	2 x 12	10 x 10	W 14 x 26	832	W 16 x 31	992	1/3
34								7 x 18 int. 3-1/2 x 18 ext.	1510 775			1/4	2 x 12	10 x 10	W 14 x 26	884	W 16 x 31	1054	1/3
36															W 16 x 31	1118	W 18 x 35	1260	1/3
38															W 16 x 31	1178	W 18 x 35	1330	1/3
40															W 16 x 31	1240	W 18 x 35	1400	1/4
42															W 18 x 35	1470	W 21 x 44	1848	1/4
44															W 18 x 35	1540	W 21 x 44	1936	1/4
46															W 21 x 44	2024	W 24 x 55	2530	1/4
48															W 21 x 44	2112	W 24 x 55	2640	1/4
50															W 21 x 44	2200	W 24 x 55	2750	1/4

\* Sills and bridge foundation require design by Forest Engineer \*\* Use full length stringers, no splices allowed.

## GENERAL NOTES AND SPECIFICATIONS

### Loading & Design Criteria

- USE OF THIS PLAN; DETERMINATION OF STRINGER LENGTH, TYPE, AND SPACING; RAILING REQUIREMENTS; AND STRUCTURE HEIGHT ABOVE STREAM BED SHALL BE AS APPROVED BY THE FOREST ENGINEER. ANY MODIFICATIONS TO THIS PLAN MUST BE APPROVED BY THE REGIONAL BRIDGE ENGINEER.
- Ground Snow Load -  $P_g = 70$  PSF (reduced in combination with Pedestrian Load).
- Deck Live Load - Pedestrian (AASHTO) = 85 PSF.
- Posts & Rails - Post & Rails designed for AASHTO Pedestrian Load only.
- Stringer Live Load Deflection Limits - Steel =  $L/500$ , Lumber =  $L/360$ .
- Bridge structure shall meet ADA accessibility requirements for trails. Structure shall have a level cross slope with no more than a 5% grade along its length, minimum 36" clear width, minimum 42" rail height, minimum 3" curb height (if no rail), and minimum 80" overhead clearance. Spacing between decking planks shall not exceed 1/2" after seasoning. The maximum vertical elevation change between deck planks is 1/2". There shall be a smooth transition from the approach onto the bridge.

### Specifications

- AASHTO Standard Specification for Highway Bridges, 1996, 16th Edition.
- IBC 2000 International Building Code, 2000 Edition.
- National Design Specification for Wood Construction, 1997 Edition, by National Forest Products Assoc.
- American Wood Preservers Association Standards, Waterborne Preservative Standard P5 Type A, Standard C2, and Standard C14.

### Lumber

- Lumber for solid sawn stringers, deck, backwall, rail, ballusters, posts, curbs, and mud sill shall be No. 2 or better Southern Yellow Pine pressure treated per AWPA Standards.
- Drawings are prepared using S4S finished dimensions unless noted otherwise. If rough sawn lumber is used adjust dimensions as required.
- All lumber shall be sawn and fabricated prior to pressure treatment with respective preservative.
- PSL (parallel strand lumber) shall be Wolmanized Parallam type, service level 2, and CCA pressure treated to 0.60 pcf or approved equal.

### Steel

- Steel for stringers, and other structural sections, shall conform to ASTM A572 Grade 50. Steel angles shall meet ASTM A36. Shop prime with two coats of zinc oxide primer, after fabrication.
- Once steel is situated in field, apply zinc oxide primer to all areas where primer had been removed due to placement.

### Hardware

- All bolts, washers, nuts and miscellaneous metal hardware shall be ASTM A307 hot dipped galvanized.
- Fasteners shall be hot dipped galvanized ring shank nails or wood screws. Drift pins for sill shall be deformed No. 6 reinforcing bars meeting ASTM A615.

### Glue

- Apply glue between each lamination using a waterproof exterior adhesive compatible with the preservative treatment such as PL-500 by Contech or approved equal. Apply 3/8" continuous bead @ 1 1/2" o.c.

### Construction

- Clear opening of bridge above the stream bed shall be determined by the Forest Engineer and approved by the governing Federal and State agencies as required.
- Mud sills shall bear on native soil or ledge rock free from compressible organic material and capable of supporting the bridge under full load. Provide uniform bearing under entire length of sill. Other foundation conditions require approval by a Forest Engineer.
- Stringers with camber shall be positioned so that camber is up and knots near the edge will be in the top half of the stringers.
- Deck planks shall be laid heart side down.
- Railing shall be required on all structures unless waived by Forest En

### General Notes



Project Name

## STANDARD PEDESTRIAN AND CC SKI TRAIL BRIDGE

CON

Drawing Title

## STRUCTURAL PLAN & DETAILS

Drawn	J. W. Kamb	Project	Standard
Checked	J. S. Granier	Drawing No.	
CAD File No.	FSSTDTRAILBRDG.dwg		
Date	April 17, 2003		
Scale	as noted		

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