

NHOS
New Hampshire Optical Systems

New Hampshire Optical Systems, Inc.
99 Pine Hill Rd.
Nashua, NH 03063
(603-821-6467)

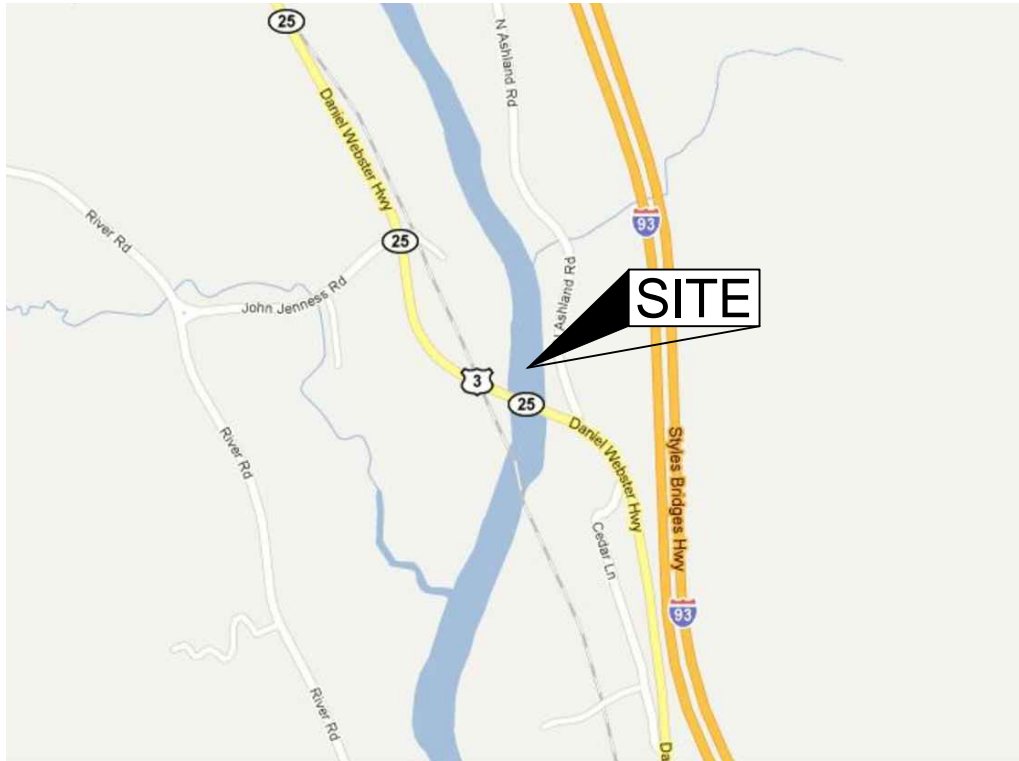
Project #TID-27
Drawing #AC-ASH-RIV-1

Date: 02/27/12
Revision # 2

Proposed Crossing
Pemigewasset River
Ashland, NH

Location:
N. Ashland Rd., Bridgewater NH
Nearest cross street-Siding Rd.

Sheet 1 of 2



LOCUS MAP
(Not to Scale)



Spanmaster® Release 3.1 Sag / Tension Computations
09/01/11 Waveguide

Waveguide
River and Rail Crossings

Selected Cables	X-SECT AREA (sq.in)	EFF MODULUS (psi)	NOMINAL DIAM (in)	EFF.EXP. COEFF. (1/F)	CABLE WEIGHT (lb/ft)	E*A LOAD BEARING CAPACITY (lbs)	MAX. RATED LOAD (lbs)
1/4"6.6mEHS	0.0352	2.60E+07	0.250	5.60E-06	0.1210	914940	6650
ORF-O-288-LN	0.5782	2.70E+05	0.858	1.13E-05	0.1960	155982	651
Bundle			1.108		0.3170		

NESC RESULTS

Loading Condition	Temp. (F)	Ice Load lb/ft	Ice Thick in	Wind Constant lb/ft	Horz Wind Load lb/sq ft	Result Load + Const lb/ft	Sag ft	Tension lb	% Len Chg From Input Conditions	Sag @ Point 204.5	Horz Sag Comp ft	Vert Sag Comp ft	Vector Angle Deg
Rule 251 - Heavy	0.0	1.000	.50	.3	4.0	1.793	10.85	3442	0.16	10.89	5.11	9.57	28.1
232A1	120.0	0.000	.00	.0	0.0	0.317	4.63	1429	0.01	4.64	0.00	4.63	0.0

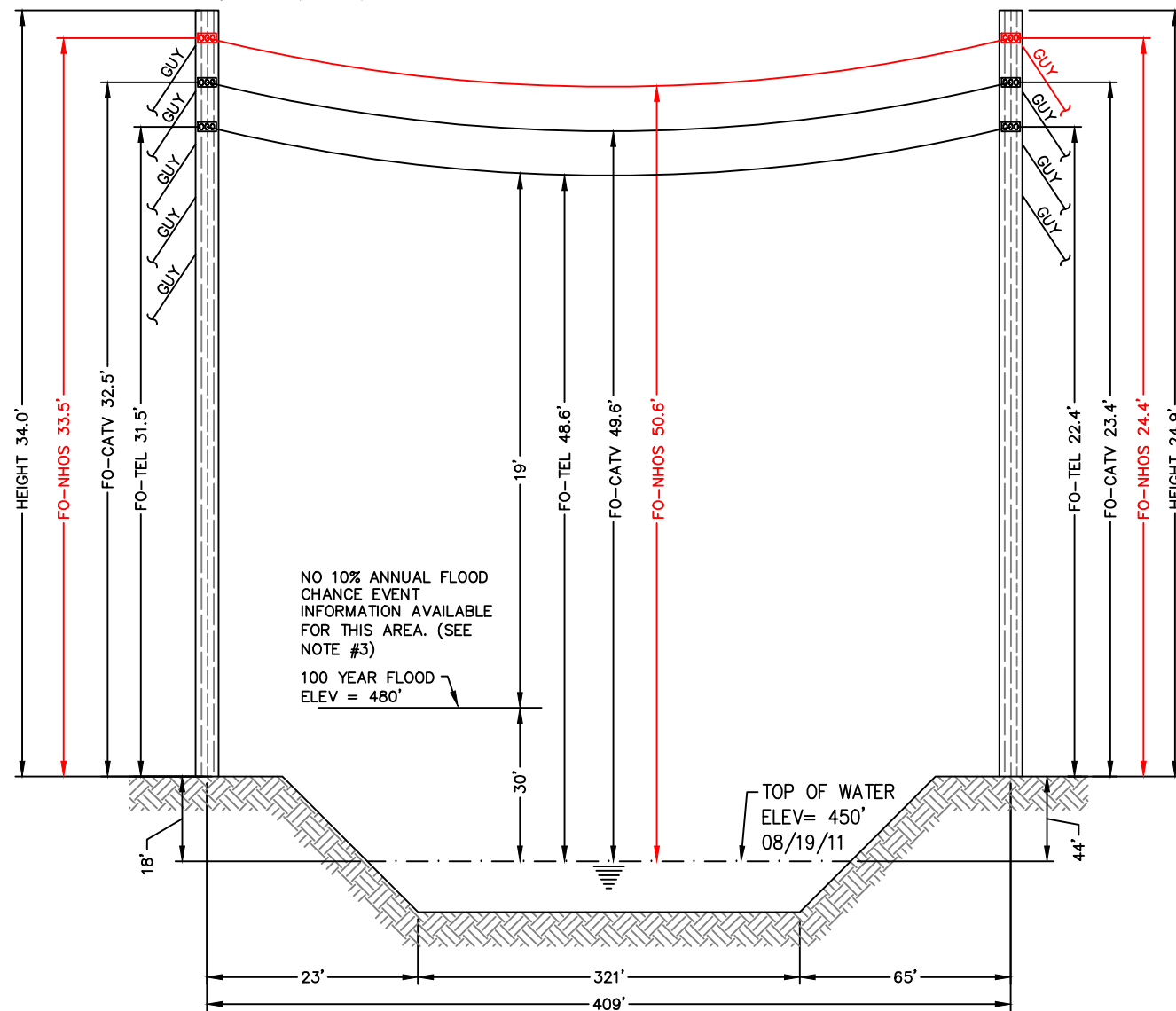
Span Length = 409.00 ft
Span Sag = 4.09 ft (49.1 in)
Span Tension = 1,621 lb
Max Load = 6,650 lb
Usable load (60%) = 3,990 lb
Catenary Length = 409.109 ft
Stress Free Length @
Installed Temperature = 408.386 ft

Unloaded Strand
Sag = 1.78 ft (21.3 in) 0.43 %
Tension = 1,423 lb

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance
-40.0	3.17	2,080	-0.01	N/A
-30.0	3.24	2,035	-0.01	N/A
-20.0	3.32	1,991	-0.01	N/A
-10.0	3.39	1,947	-0.01	N/A
.0	3.47	1,904	-0.01	N/A
10.0	3.55	1,861	-0.01	N/A
20.0	3.63	1,819	-0.01	N/A
30.0	3.72	1,777	0.00	N/A
40.0	3.81	1,736	0.00	N/A
50.0	3.90	1,695	0.00	N/A
60.0	3.99	1,655	0.00	N/A
70.0	4.09	1,616	0.00	N/A
80.0	4.19	1,577	0.00	N/A
90.0	4.30	1,539	0.00	N/A
100.0	4.40	1,502	0.00	N/A
110.0	4.51	1,465	0.01	N/A
120.0	4.63	1,429	0.01	N/A
130.0	4.74	1,394	0.01	N/A
140.0	4.86	1,360	0.01	N/A

Northwest Pole
(Existing 35' pole to be replaced
with 40' pole. Pole class to be
determined by Fairpoint)

Southeast Pole



NO 10% ANNUAL FLOOD
CHANCE EVENT
INFORMATION AVAILABLE
FOR THIS AREA. (SEE
NOTE #3)

100 YEAR FLOOD
ELEV = 480'

TOP OF WATER
ELEV= 450'
08/19/11

T-380/453
(Existing sole utility pole
(Fairpoint) in existing
Right-of-Way)

E-3101/NT - T-380/452
(Existing joint owned utility
pole (Ashland Elec/Fairpoint)
in existing Right-of-Way)



T-380/453

Construction Notes:

NHOS proposes to install a 1/4 inch metal supporting strand between the existing utility poles shown above that will traverse the existing river. The strand will be installed at the proposed height (see above). The supporting strand will be secured to each pole using double dead end attachments to prevent any sag in the wire and maintain proper clearances. NHOS will lash a one inch diameter fiber optic cable (PVC jacket) to the strand using a dual lash method to provide security of the fiber over the right of way. The fiber will be tagged with twenty four hour contact information at each pole clamp. NHOS will employ the proper safety personnel during the crossing installation. The proposed install will meet all proper clearances from other Utilities. (see above). Additional pole guys will be added per NESC Rule 264 and as directed by pole owners.



E-3101/NT - T-380/452

Notes:

- The heights of structures shown hereon are based on field measurements taken with a Nikon 362 total station during a site survey on 08/19/11. The elevations shown hereon are based on NHDOT Geodetic Disk #057-00300 found on the South West bridge abutment. This disk has a published elevation of 508.90' (NGVD29)
- The waterway is classified as suitable for sail boating and per NESC Table 232-1 a vertical clearance of 17.5' must be maintained between the lowest conductor and 100 year floodplain.
- Based on the FEMA Flood Profile for the Pemigewasset River page 123P, there is no 10% Annual chance flood event information available for this location. As stated on the profile, "THE 0.2%, 2% AND 10% ANNUAL CHANCE FLOOD DATA NOT AVAILABLE". Based on the FEMA Flood Profile the stream bed elevation is 447' and the 1% (100 year) Annual chance flood event elevation is 480'.
- The horizontal distance between the nearest bridge and the existing overhead wires ranges from 210' to 269'.
- Vertical distances are representative of attachment heights after utility make ready moves are completed.



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