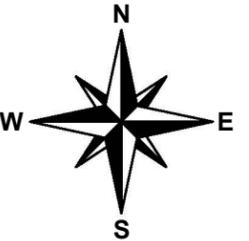


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 99 Pine Hill Rd.
 Nashua, NH 03063
 (603-821-6467)

**Proposed Sugar
 River Crossing
 Newport, NH**

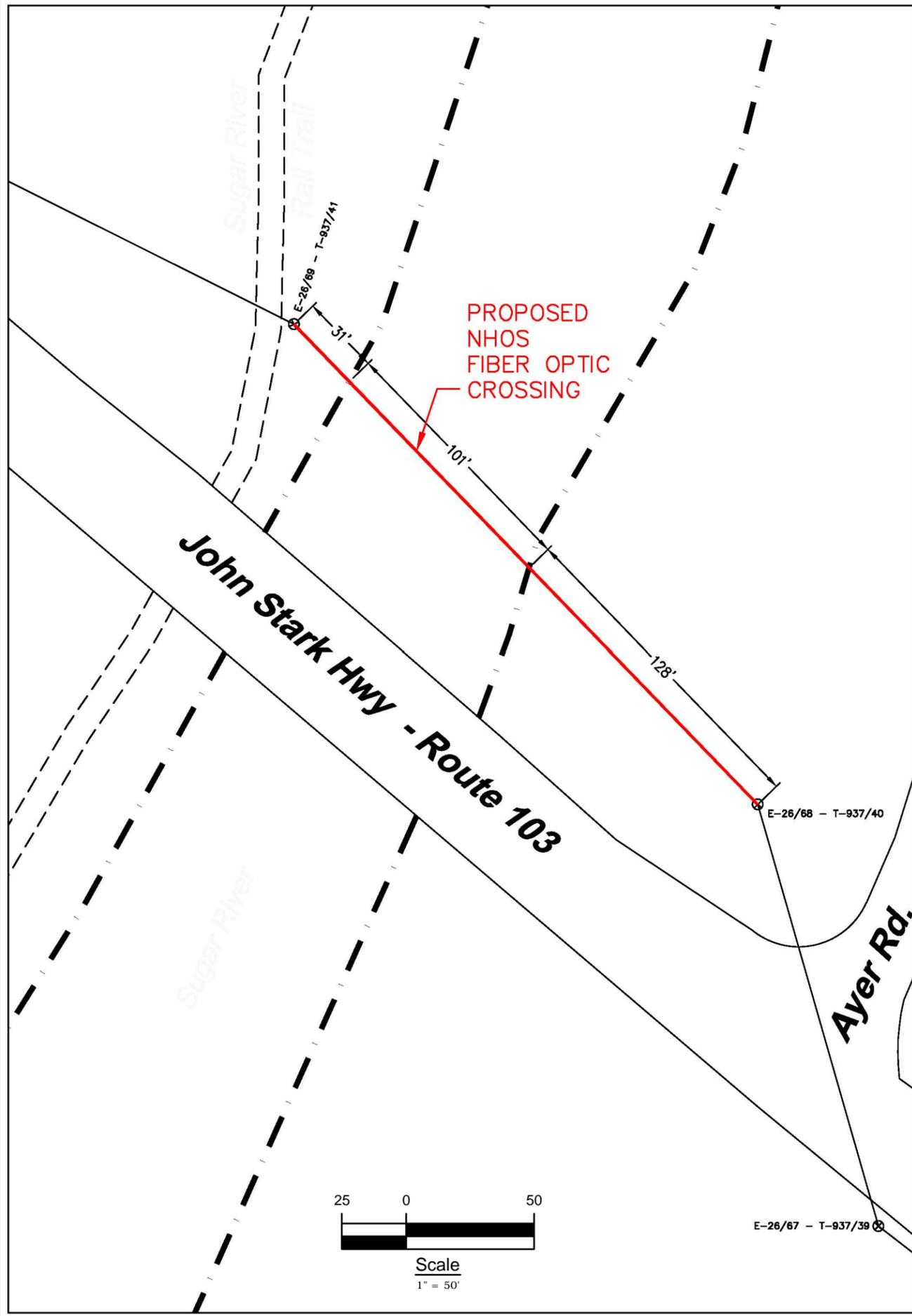
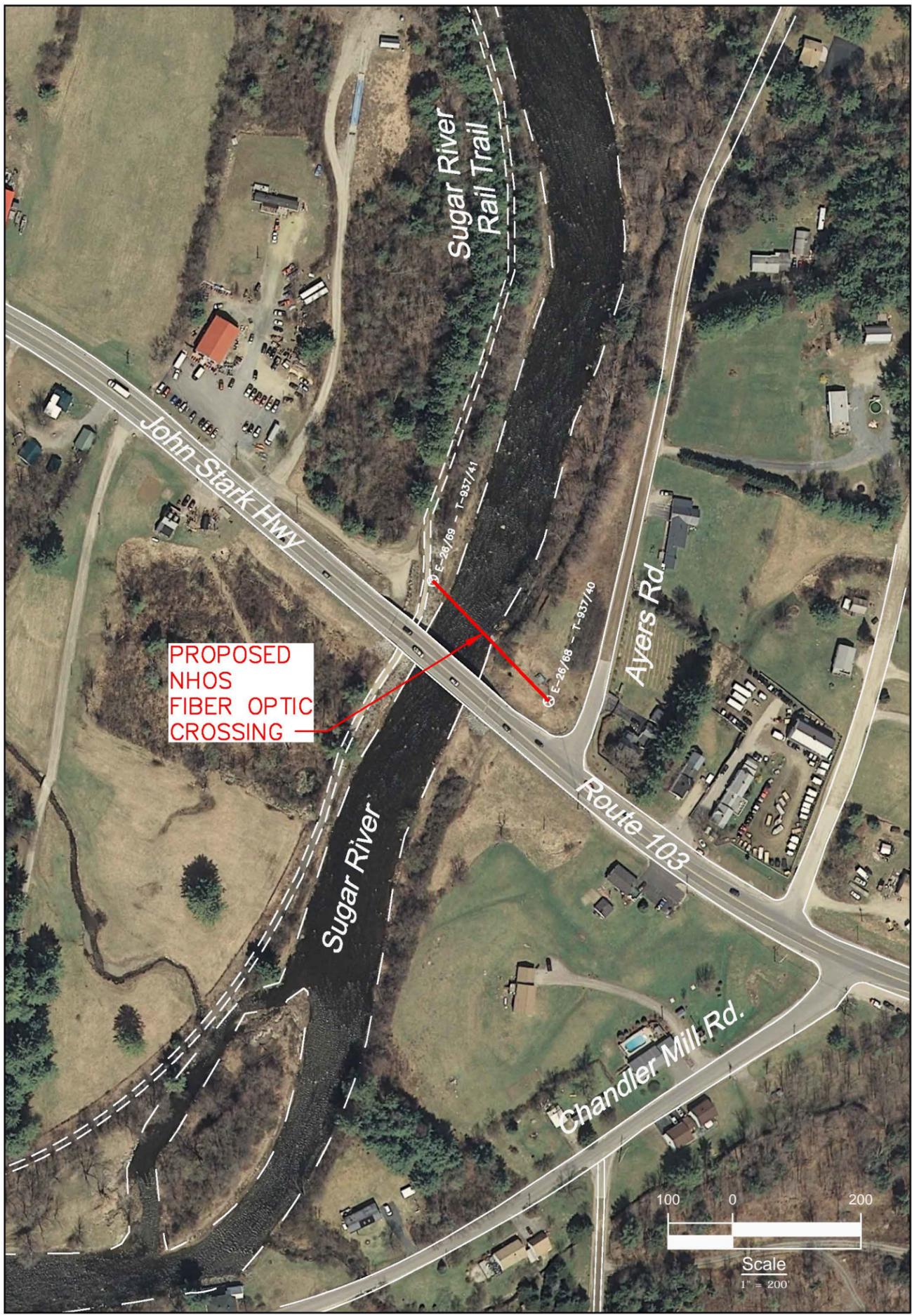


Project # TID-179 - Primary 2
 Drawing # AC-NEW-RIV-2

Date: 11/10/11
 Revision #

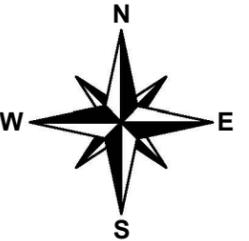
**Proposed Sugar
 River Crossing
 Newport, NH**

Location:
 Elm St., Newport, NH
 Nearest cross street- S. Main St.



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**Proposed Sugar River Crossing
 Newport, NH**



Project # TID-180 - Primary 2
 Drawing # AC-NEW-RIV-3

Date: 11/11/11
 Revision #

**Proposed Sugar River Crossing
 Newport, NH**

Location:
 John Stark Highway, Newport, NH
 Nearest cross street- Ayers 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

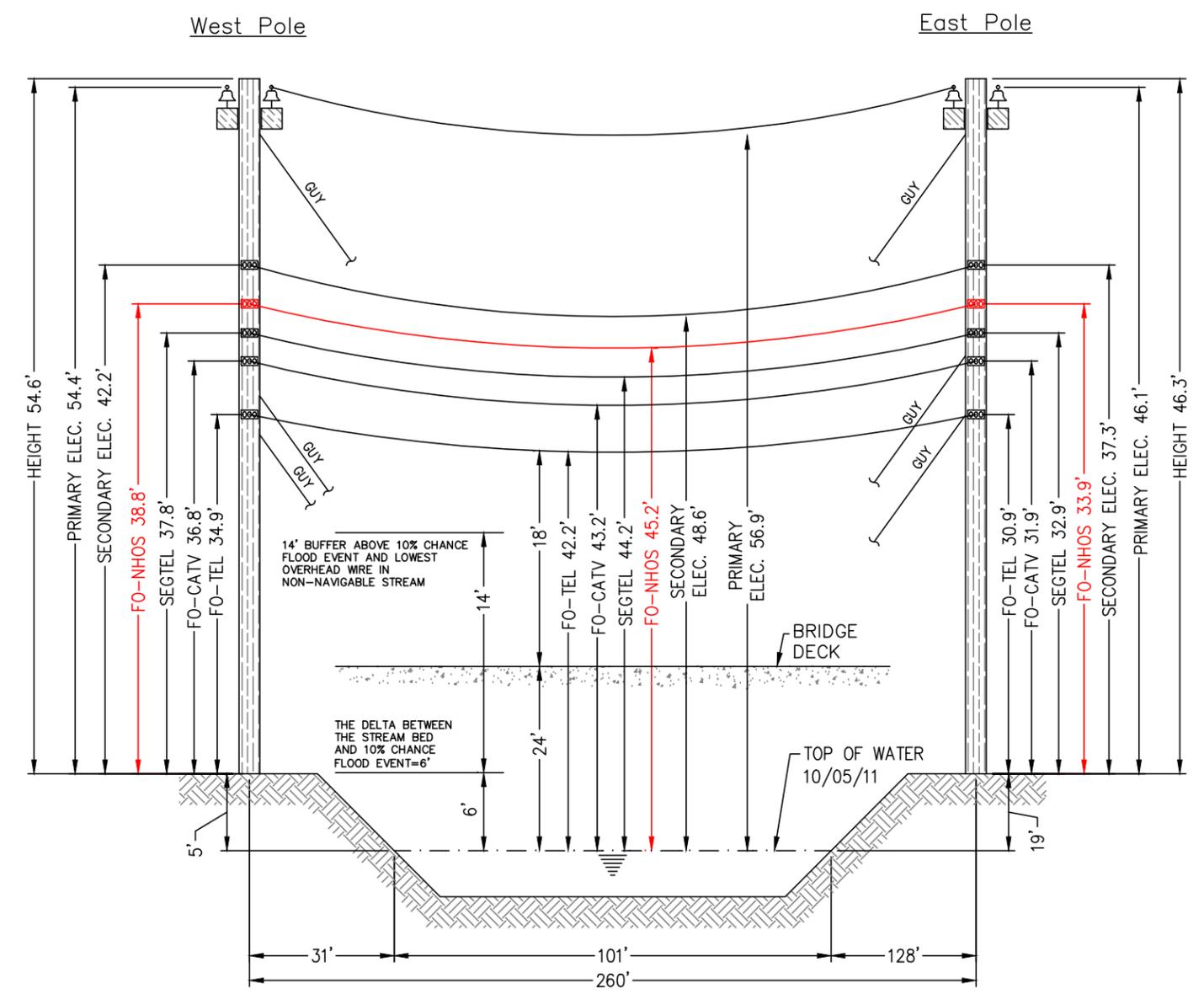
Selected Cables	X-SECT AREA (sq.in)	EFF MODULUS (psi)	NOMINAL DIAM (in)	EFF.EXP. COEFF. (1/F)	CABLE WEIGHT (lb/ft)	E*A LOAD BEARING CAPACITY (lbs)	MAX. RATED LOAD (lbs)
1/4"6.6mEHS	0.0352	2.60E+07	0.250	5.60E-06	0.1210	914940	6650
ORF-O-288-LN Bundle	0.5782	2.70E+05	1.108	1.13E-05	0.1960	155982	651

NESC RESULTS

Loading Condition	Temp. (F)	Ice Load (lb/ft)	Ice Thick (in)	Wind Constant (lb/ft)	Horz. Wind Load (lb/ft)	Result Load + Const (lb/ft)	Sag (ft)	Tension (lb)	% Len Chg From Input Conditions	Sag @ Point 140 (ft)	Horz. Sag Comp (ft)	Vert. Sag Comp (ft)	Vector Angle (Deg)
Rule 251 - Heavy	0.0	1.000	.50	.3	4.0	1.793	6.09	2480	0.12	7.08	2.87	5.37	28.1
232A1	120.0	0.000	.00	.0	0.0	0.317	3.07	870	0.01	3.57	0.00	3.07	0.0

Span Length = 260.00 ft
Span Sag = 2.60 ft (31.2 in)
Span Tension = 1,030 lb
Max Load = 6,650 lb
Usable load (60%) = 3,990 lb
Catenary Length = 260.069 ft
Stress Free Length @ Installed Temperature = 259.777 ft
Unloaded Strand Sag = 1.22 ft (14.6 in) 0.47 % Tension = 840 lb

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance
-40.0	1.82	1,466	-0.01	N/A
-30.0	1.88	1,423	-0.01	N/A
-20.0	1.94	1,380	-0.01	N/A
-10.0	2.00	1,337	-0.01	N/A
.0	2.06	1,296	-0.01	N/A
10.0	2.13	1,255	-0.01	N/A
20.0	2.20	1,215	-0.01	N/A
30.0	2.27	1,175	-0.01	N/A
40.0	2.35	1,137	0.00	N/A
50.0	2.43	1,100	0.00	N/A
60.0	2.51	1,064	0.00	N/A
70.0	2.60	1,028	0.00	N/A
80.0	2.69	994	0.00	N/A
90.0	2.78	962	0.00	N/A
100.0	2.88	930	0.01	N/A
110.0	2.97	899	0.01	N/A
120.0	3.07	870	0.01	N/A
130.0	3.18	842	0.01	N/A
140.0	3.28	815	0.02	N/A



E-26/69 - T-937/41
(Existing joint owned utility pole (PSNH/Fairpoint) in existing Right-of-Way)

Not to Scale

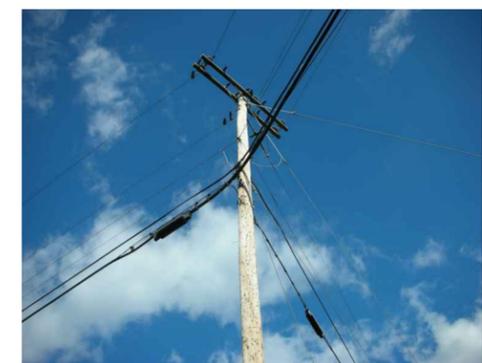
E-26/68 - T-937/40
(Existing joint owned utility pole (PSNH/Fairpoint) in existing Right-of-Way)



E-26/69 - T-937/41

Construction Notes:

NHOS proposes to install a 1/4 inch metal supporting strand between the existing utility poles shown above that will traverse the stream. 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-26/68 - T-937/40



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**Proposed Sugar River Crossing
Newport, NH**

Notes:

- The heights of structures shown hereon are based on field measurements taken with a Nikon 362 total station during a site survey on 10/05/11.
- The horizontal distance between the nearest bridge edge and the existing overhead wires ranges from 54' to 64'.
- The smallest vertical distance from the top of existing bridge deck to the lowest existing overhead wires is 18'.
- The vertical distance between the top of water and bridge deck is approximately 24'.
- The waterway is classified as not suitable for sail boating and per NESC Table 232-1 a vertical clearance of 14' must be maintained between the lowest conductor and 10 year floodplain.
- Based on the FEMA Flood Profile for the Sugar River (Page 62P) the difference in elevation between the stream bed and the 10% Chance Flood Event is 6'. A conservative 10 year flood elevation was calculated by adding the delta between the river bed elevation and the 10 year flood elevation to the surveyed water level and then a 14' buffer (for non-navigable streams) was added to that. Based on the FEMA Flood Profile the stream bed elevation is 668' and the 10 year flood elevation is 674'.
- Vertical distances are representative of attachment heights after utility make ready moves are completed.

Project # TID-180 - Primary 2
Drawing # AC-NEW-RIV-3

Date: 11/11/11
Revision #

**Proposed Sugar River Crossing
Newport, NH**

Location:
John Stark Highway, Newport, NH
Nearest cross street- Ayers Rd.