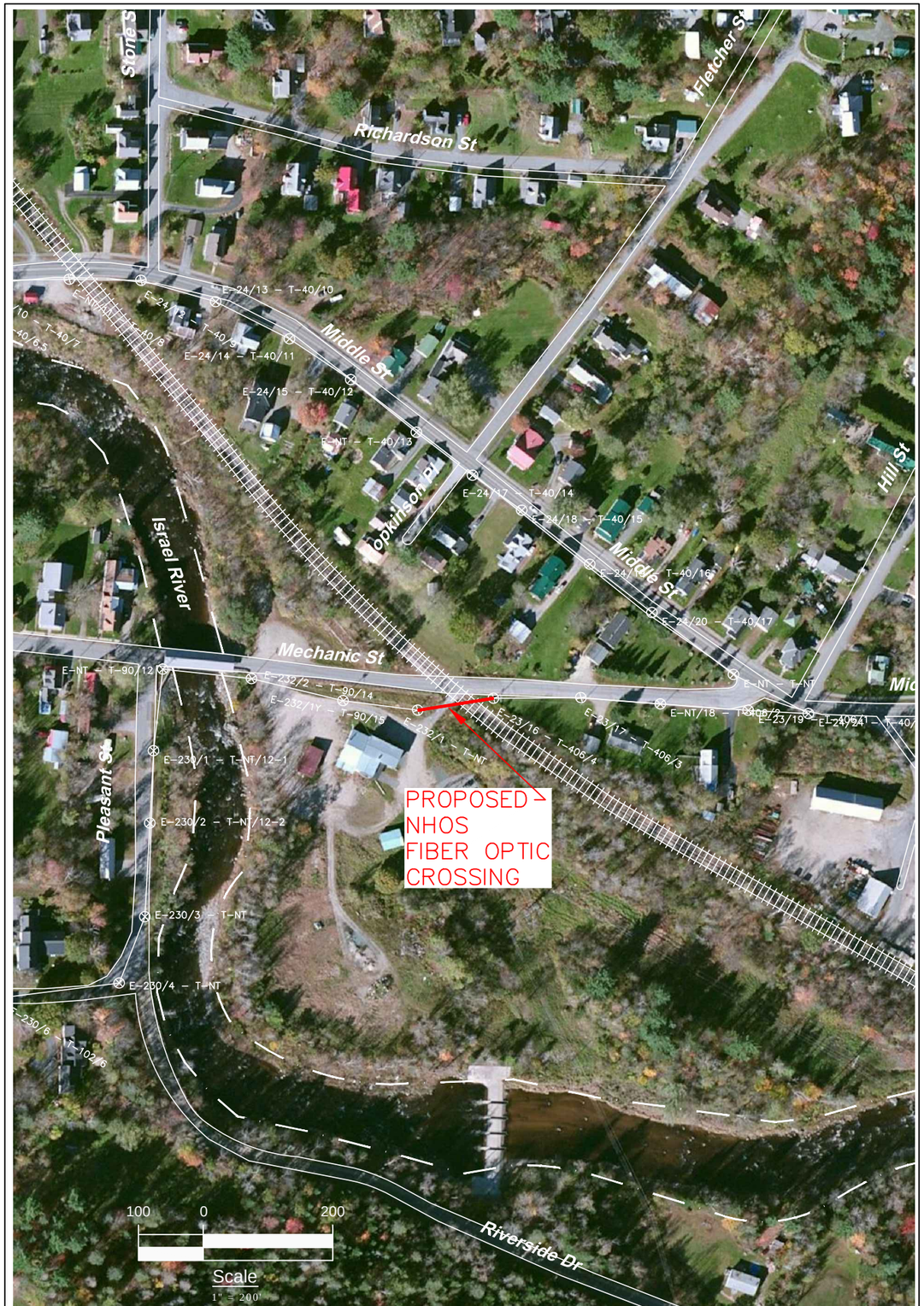

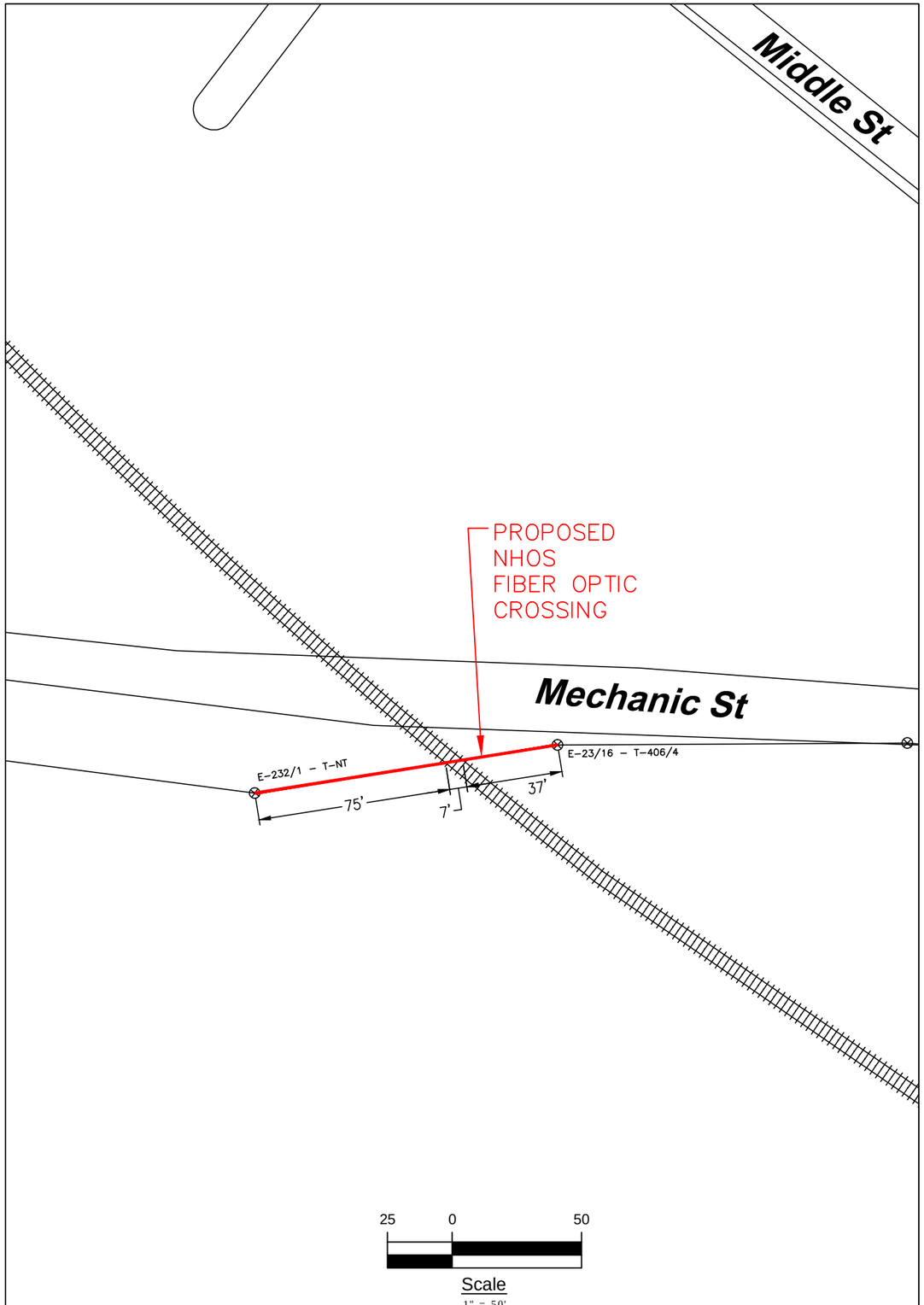

NHOS
New Hampshire Optical Systems
New Hampshire Optical Systems, Inc.
99 Pine Hill Rd.
Nashua, NH 03063
(603-821-6467)

Proposed
Railroad Crossing
Lancaster, NH

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Project # TID-137 - Primary 7
Drawing # AC-LANC-RR-4

Date: 12/5/13
Revision #3

Proposed
Railroad Crossing
Lancaster, NH

Location:
Mechanic St., Lancaster, NH
Nearest cross street- Middle St.

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LOCUS MAP
(Not to Scale)

CommScope®

Spanmaster ® Release 3.1 Sag / Tension Computations

Waveguide 11/04/13 TID 137

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-144-LN	0.4307	3.50E+05	0.741	1.09E-05	0.1520	150720	640
Bundle			0.991		0.2730		

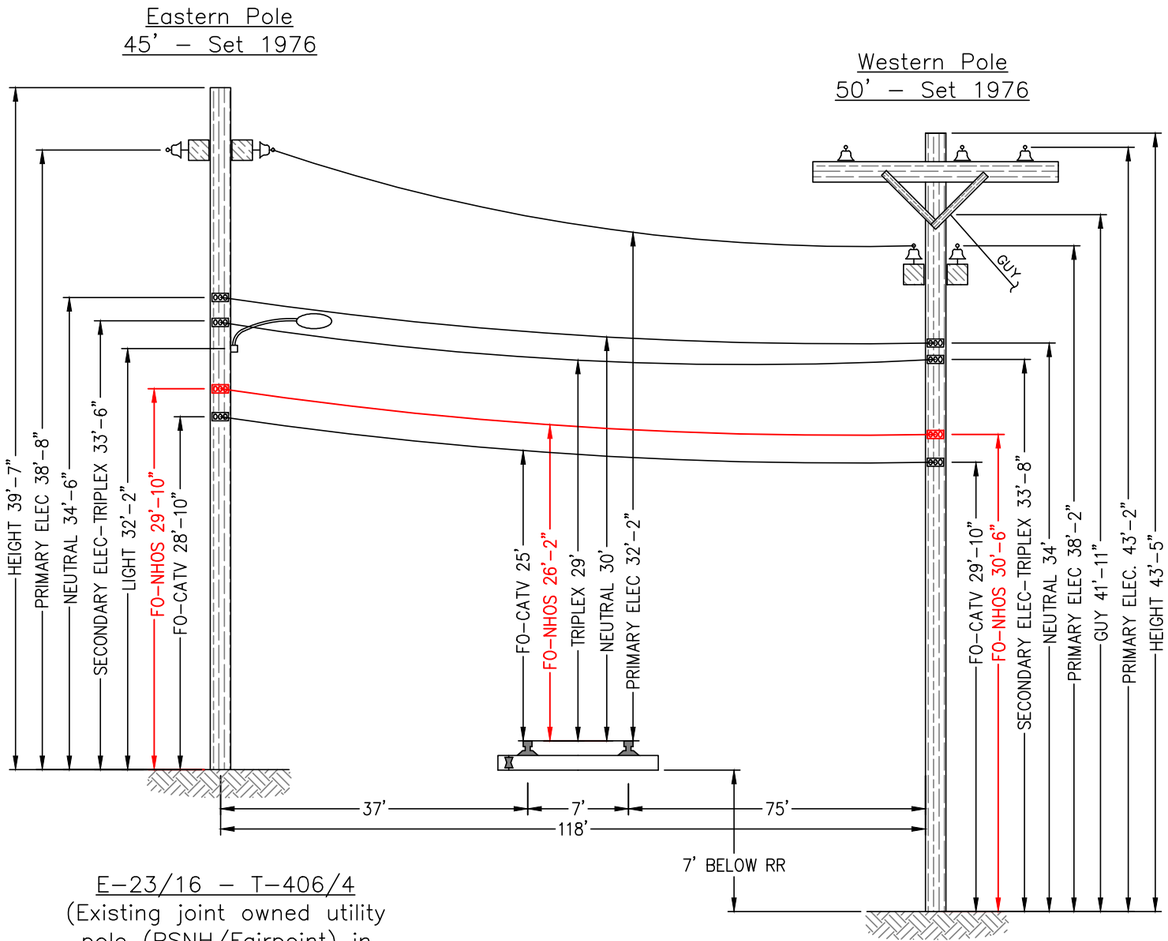
NESC RESULTS

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 50.00 ft	Horz Sag Comp ft	Vert Sag Comp ft	Vector Angle Deg
Rule 251 - Heavy	0.0	0.927	.50	.3	4.0	1.671	2.14	1356	0.06	1.54	1.04	1.87	28.9
232A1	120.0	0.000	.00	.0	0.0	0.273	1.48	321	0.02	1.06	0.00	1.48	0.0

Span Length = 118.00 ft
Span Sag = 1.18 ft (14.2 in)
Span Tension = 403 lb
Max Load = 6,650 lb
Usable load (60%) = 3,990 lb
Catenary Length = 118.031 ft
Stress Free Length @ Installed Temperature = 117.980 ft

Unloaded Strand
Sag = .79 ft (9.5 in) 0.67 %
Tension = 267 lb

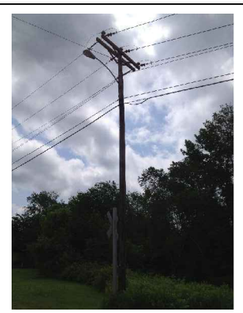
Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance
-40.0	.58	816	-0.02	N/A
-30.0	.61	772	-0.02	N/A
-20.0	.65	729	-0.02	N/A
-10.0	.69	687	-0.02	N/A
.0	.73	647	-0.02	N/A
10.0	.78	608	-0.01	N/A
20.0	.83	571	-0.01	N/A
30.0	.89	536	-0.01	N/A
40.0	.94	504	-0.01	N/A
50.0	1.00	473	-0.01	N/A
60.0	1.07	445	0.00	N/A
70.0	1.13	419	0.00	N/A
80.0	1.20	396	0.00	N/A
90.0	1.27	374	0.00	N/A
100.0	1.34	355	0.01	N/A
110.0	1.41	337	0.01	N/A
120.0	1.48	321	0.02	N/A
130.0	1.55	307	0.02	N/A
140.0	1.62	294	0.02	N/A



E-23/16 – T-406/4
(Existing joint owned utility pole (PSNH/Fairpoint) in existing Right-of-Way)

E-232/1 – T-NT
(Existing sole owned utility pole (PSNH) in existing Right-of-Way)

PROPOSED ATTACHMENT HEIGHTS SHOWN



E-23/16 – T-406/4

Construction Notes:

NHOS proposes to install a ¼ inch metal supporting strand between the existing utility poles shown above that will traverse the Railroad. The strand will be installed at the proposed height (see above). 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).

E-232/1 – T-NT

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Proposed Railroad Crossing Lancaster, NH

Notes:

1. The heights of structures shown hereon are based on field measurements taken with a Nikon 362 total station during a site survey on 6/27/13.
2. Vertical distances are representative of attachment heights after utility make ready moves are completed.

Project # TID-137 - Primary 7
Drawing # AC-LANC-RR-4

Date: 12/5/13
Revision #3

Proposed Railroad Crossing Lancaster, NH

Location:
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