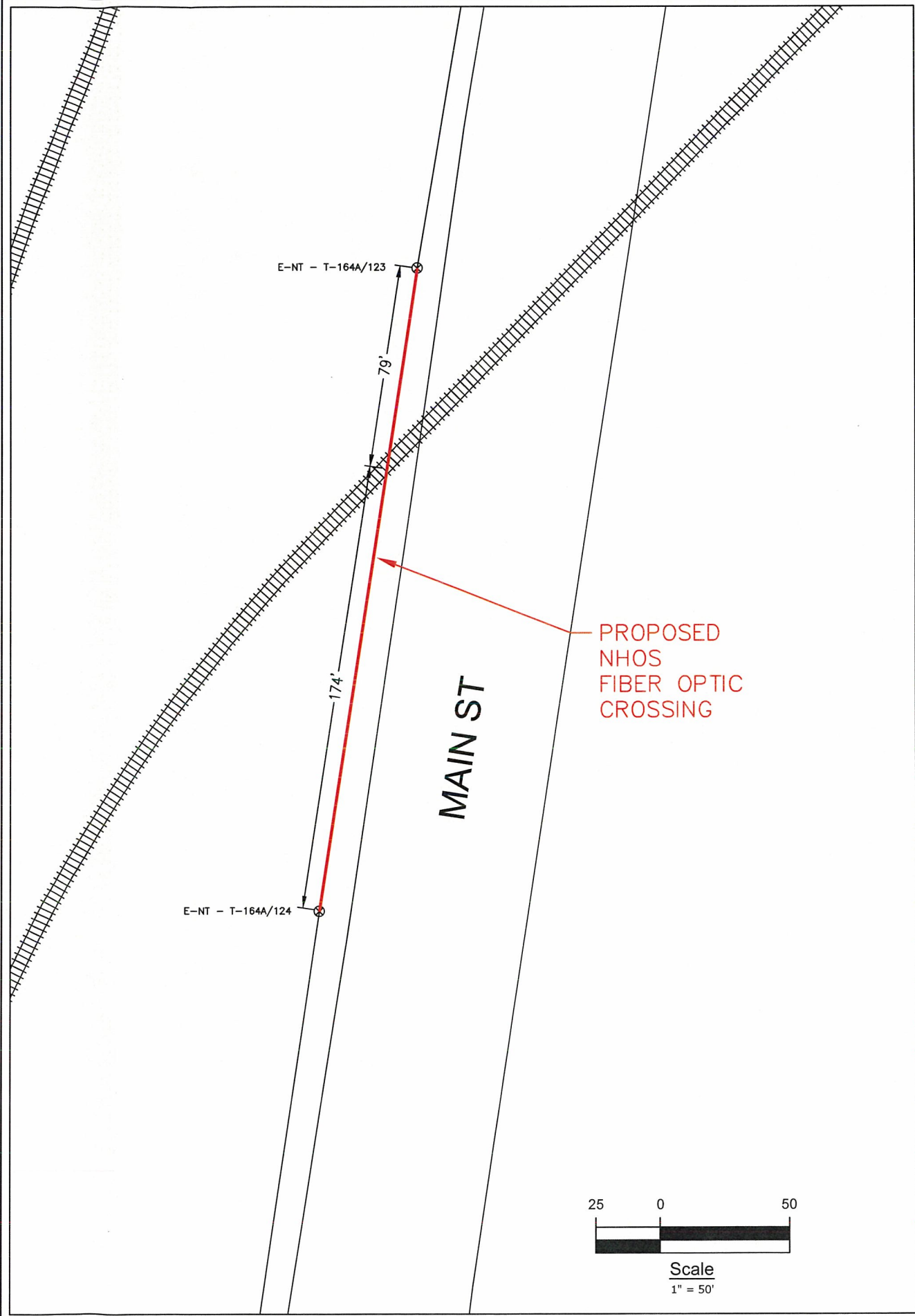
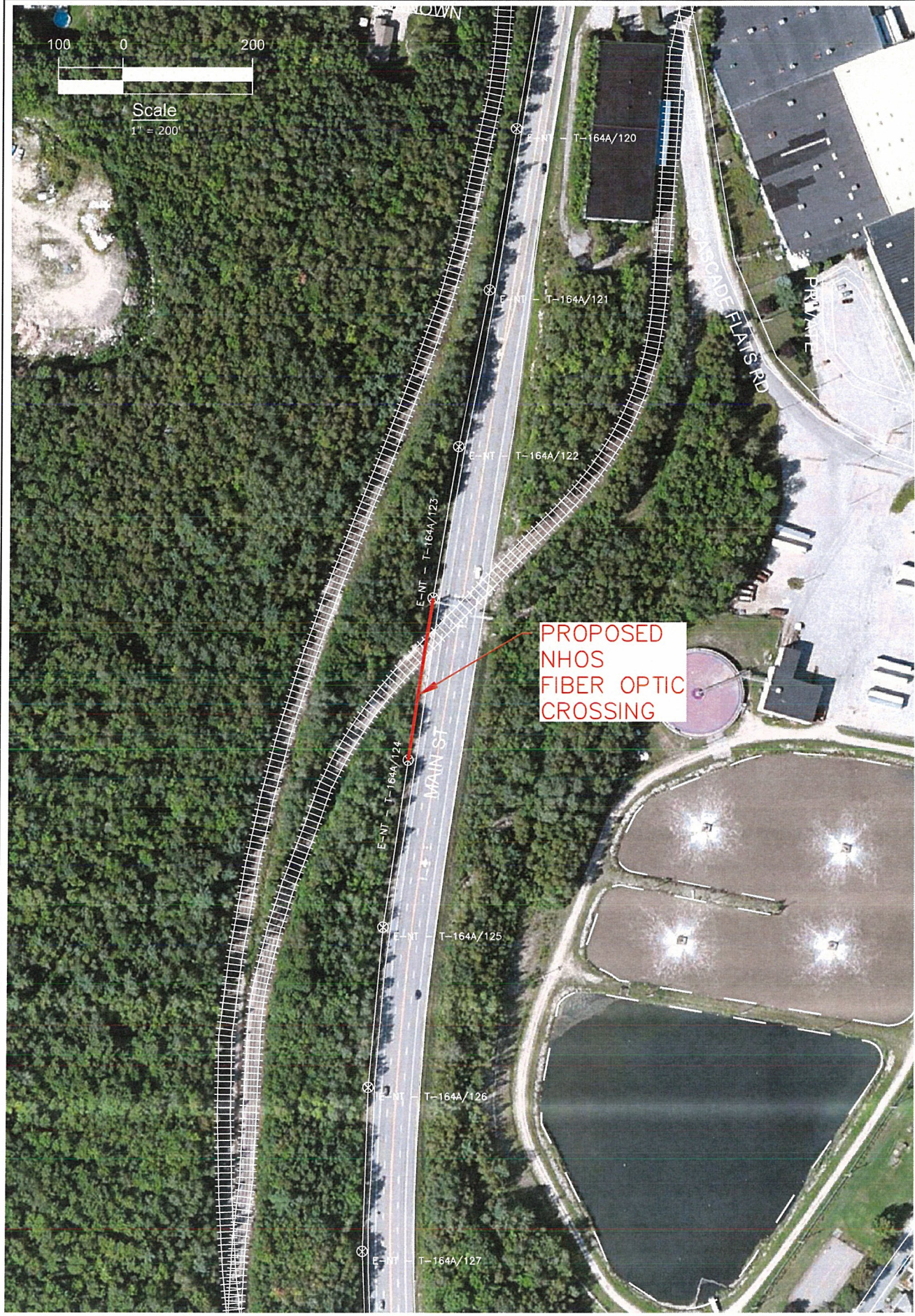
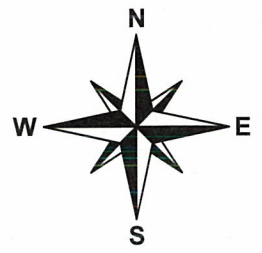




NHOS
 New Hampshire Optical Systems
 New Hampshire Optical Systems, Inc.
 99 Pine Hill Rd.
 Nashua, NH 03063
 (603-821-6467)

**Proposed
 Railroad Crossing
 Gorham, NH**

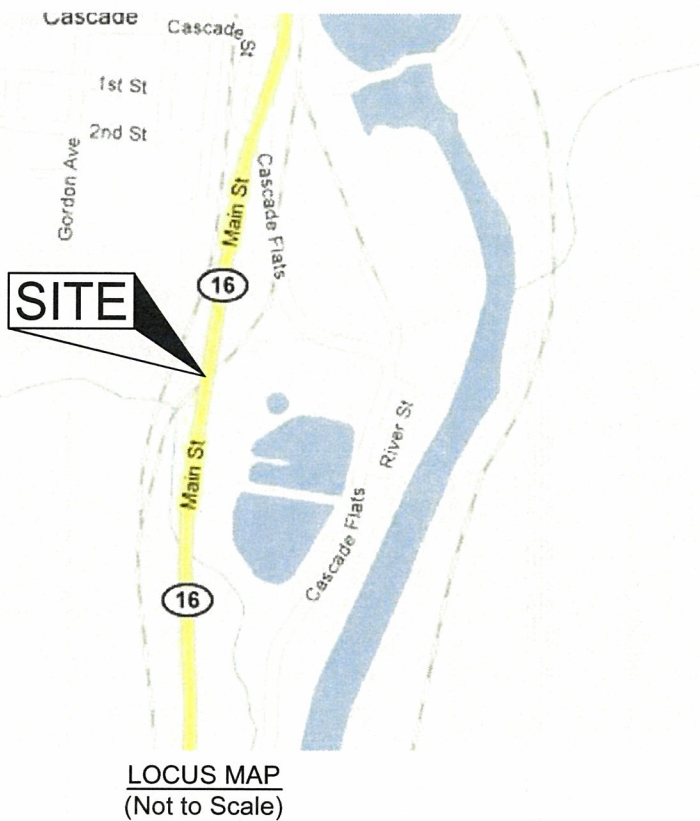


Project # TID-146 - Primary 7
 Drawing # AC-GOR-RR3

Date: 11/5/13
 Revision # 2

**Proposed
 Railroad Crossing
 Gorham, NH**

Location:
 Main St., Gorham, NH
 Nearest cross street- Cascade Flats Rd.



CommScope®

Spanmaster® Release 3.1 Sag / Tension Computations
11/04/13 TID 146

Waveguide

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"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			

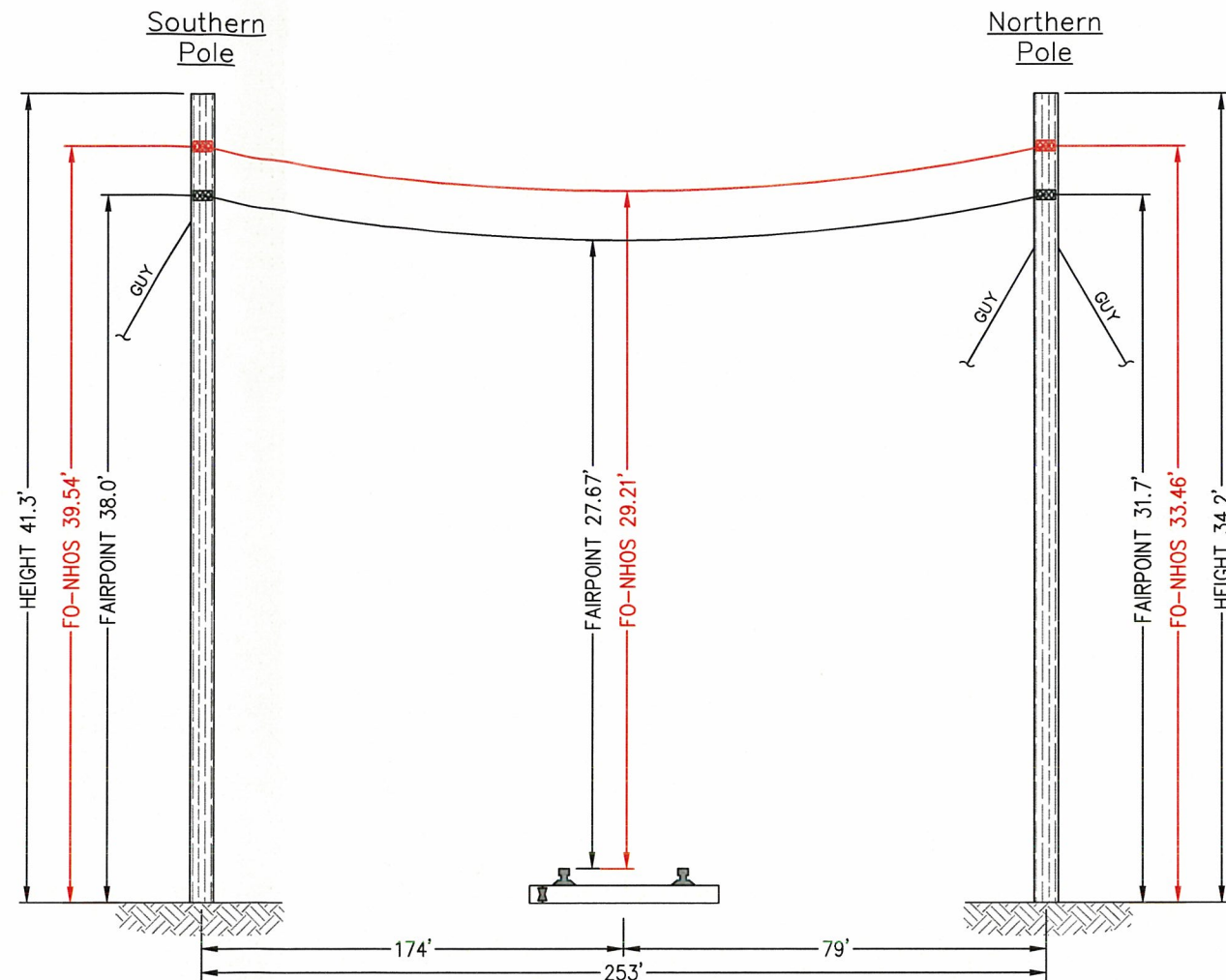
NESC RESULTS

Loading Condition	Temp. (F)	Ice Load lb/ft	Ice Thick in	Wind Const lb/ft	Horz Wind Load lb/sq ft	Result Load + Const lb/ft	Sag ft	Tension lb	% Len Chg From Input Conditions	Sag @ 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	5.78	2309	0.11	0.90	2.80	5.06	28.9
232A1	120.0	0.000	.00	.0	0.0	0.273	2.92	748	0.01	0.46	0.00	2.92	0.0

Span Length = 253.00 ft
Span Sag = 2.53 ft (30.4 in)
Span Tension = 863 lb
Max Load = 6,650 lb
Usable load (60%) = 3,990 lb
Catenary Length = 253.067 ft
Stress Free Length @
Installed Temperature = 252.829 ft

Unloaded Strand
Sag = 1.40 ft (16.8 in) 0.55 %
Tension = 694 lb

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance
-40.0	1.62	1,342	-0.02	N/A
-30.0	1.68	1,298	-0.01	N/A
-20.0	1.74	1,254	-0.01	N/A
-10.0	1.80	1,212	-0.01	N/A
.0	1.86	1,170	-0.01	N/A
10.0	1.93	1,128	-0.01	N/A
20.0	2.00	1,088	-0.01	N/A
30.0	2.08	1,049	-0.01	N/A
40.0	2.16	1,010	-0.01	N/A
50.0	2.24	973	-0.01	N/A
60.0	2.33	937	0.00	N/A
70.0	2.42	902	0.00	N/A
80.0	2.51	869	0.00	N/A
90.0	2.61	837	0.00	N/A
100.0	2.71	806	0.00	N/A
110.0	2.81	776	0.01	N/A
120.0	2.92	748	0.01	N/A
130.0	3.02	722	0.01	N/A
140.0	3.14	696	0.01	N/A



E-NT - T-164A/124
(Existing joint owned utility pole (PSNH/Fairpoint) in existing Right-of-Way)

E-NT - T-164A/123
(Existing joint owned utility pole (PSNH/Fairpoint) in existing Right-of-Way)



E-NT - T-164A/124

Construction Notes:

NHOS proposes to install a 1/4 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-NT - T-164A/123



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Notes:

- The heights of structures shown hereon are based on field measurements taken with a Nikon 362 total station during a site survey on 11/02/11.
- Vertical distances are representative of attachment heights after utility make ready moves are completed.

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Drawing # AC-GOR-RR-3

Date: 11/5/13
Revision # 2

Proposed Railroad Crossing Gorham, NH

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