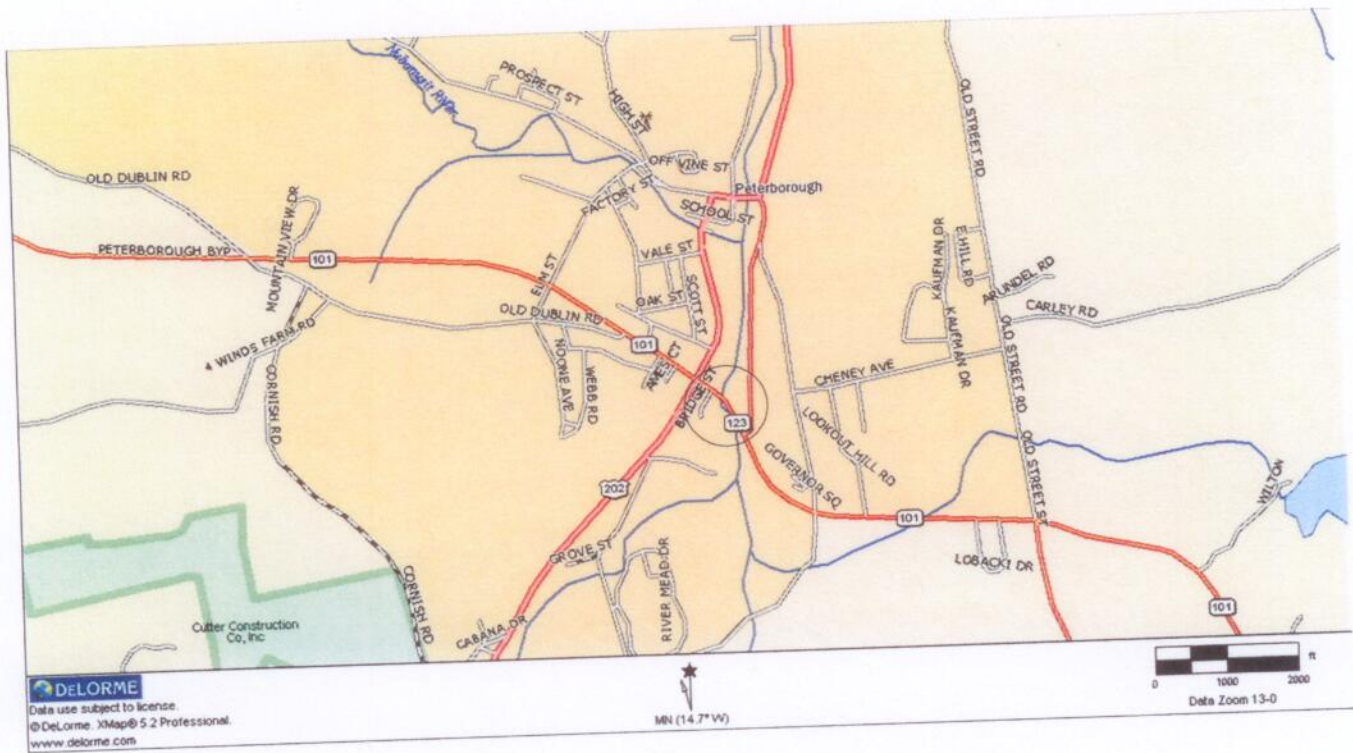


# Wilton Bennington Railroad

## Crossing Location

## Wilton, New Hampshire



# PoleForeman - Pole Loading Analysis Report

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## POLE LOADING DATA

Pole: 50/2 Wood

Pole Loading  
Horizontal: 89% (250B)  
Vertical: 14% (250B)

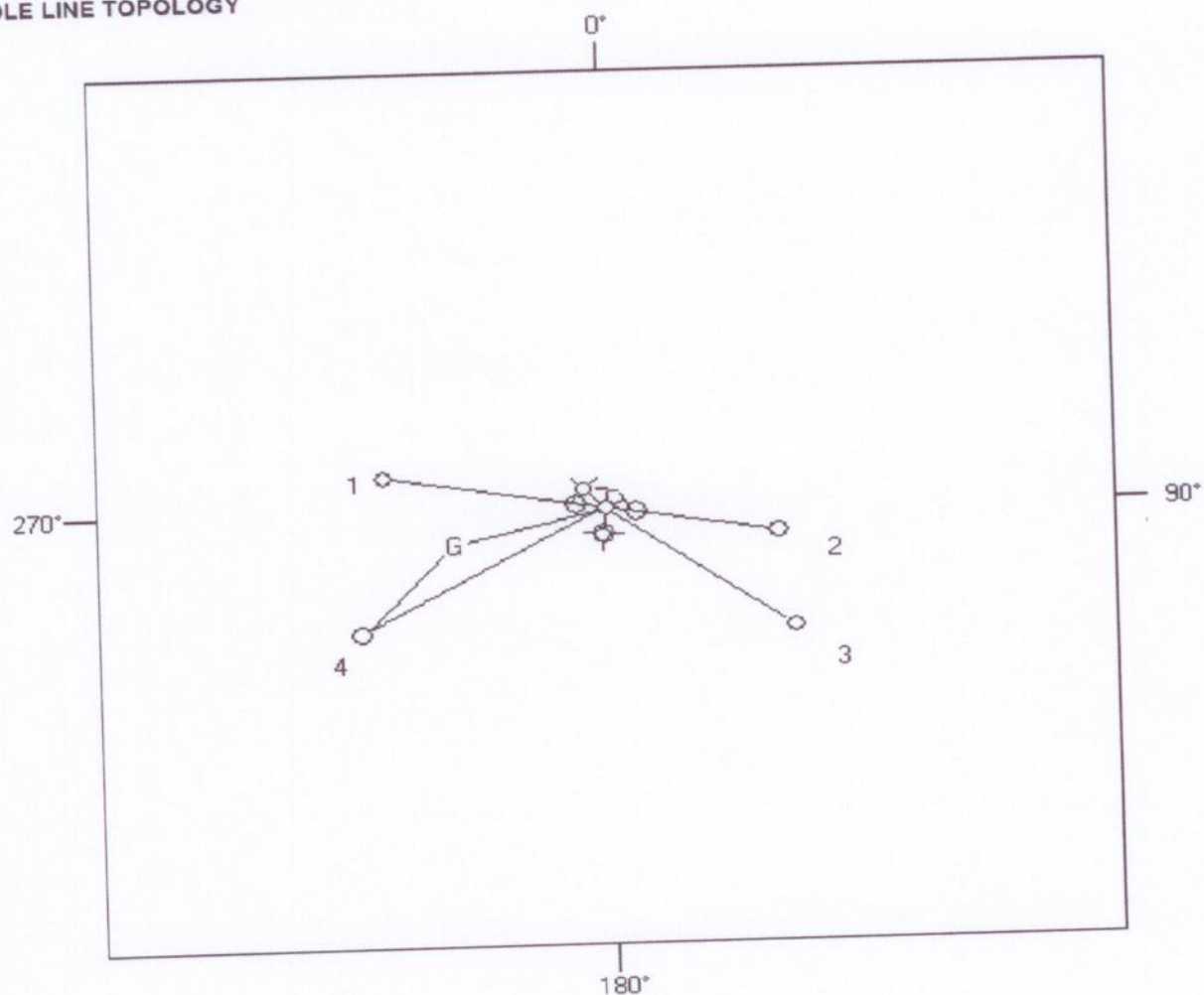
NESC Edition: 2007  
Loading District: Heavy  
Construction: Grade B

Rule 250B Loading: Wind (psf): 4 Ice (in): 0.5

## POLES

Pole #	Length (ft)	Depth (ft)	Elevation (ft)
0	50	7	0
1	40	6	0
2	40	6	0
3	50	7	0
4	50	7	0

## POLE LINE TOPOLOGY



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## GUY STRAND DATA

Anchor	Strand	Attach	Length	Direction	Tension	Strength	Loading
1	1/2" EHS	148"	14'	70°	9,015	24,210	37%
1	1/2" EHS	152"	14'	70°	8,409	24,210	35%
2	1/2" EHS	24"	14'	5°	1,248	24,210	5%
2	1/2" EHS	228"	14'	5°	0	24,210	0%
2	1/2" EHS	240"	14'	5°	1,629	24,210	7%

## ANCHOR DATA

Anchor	Rod	Anchor	Soil	Tension	Rod Strength	Anchor Strength
1	1" Rod	10" Triple Heli	Class - 4	17,422	36,000	31,000
2	1" Rod	10" Triple Heli	Class - 4	2,860	36,000	31,000

## SPAN GUY DATA

Span	Strand	Attach A	Attach B	Length	Direction	Tension	Strength	Loading
4	1/2" EHS	144"	60"	152'	240°	0	24,210	0%
4	1/2" EHS	207"	72"	152'	240°	0	24,210	0%
4	1/2" EHS	234"	159"	152'	240°	0	24,210	0%

## INSULATORS

Insulator	Attach	Loading	Angle
25KV Post	6"	57%	0°
25KV Post	6"	57%	0°
25KV Post	6"	57%	0°

## ARM / BRACKET DATA

Arm/Bracket	Attach	Vert Loading	Horiz Loading
8" Double Xarm (3-5/8x4-5/8)	6"	51%	23%

## SPANS

Span: 1      Span Length (ft): 152      Direction: 280°

### Circuit: 1

	Ruling Span (ft)	Offset (in)	Attach A (in)	Attach B (in)	Tension
Primary					
1/0 ACSR (6/1)	150	44	-6	6	1602
1/0 ACSR (6/1)	150	0	-6	-11	1602
1/0 ACSR (6/1)	150	-44	-6	6	1602
Neutral					
1/0 ACSR (6/1)	150	1	129	42	1602

### Joint Use

Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
6.5M (1/4) + 0.75" CATV	100	1.04	0.27	228	228	974	
6M (5/16) + 0.75" TELCO	100	1.03	0.50	240	240	2201	
10M (3/8) + 1.50" TELCO	100	1.81	1.40	252	252	3514	

Span: 2      Span Length (ft): 118      Direction: 100°

### Circuit: 1

	Ruling Span (ft)	Offset (in)	Attach A (in)	Attach B (in)	Tension
Primary					
1/0 ACSR (6/1)	100	44	-6	6	1395
1/0 ACSR (6/1)	100	0	-6	-11	1395
1/0 ACSR (6/1)	100	-44	-6	6	1395
Neutral					
1/0 ACSR (6/1)	100	1	129	42	1395

### Joint Use

Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
6.5M (1/4) + 0.75" TELCO	100	0.97	0.39	228	228	1238	
6.5M (1/4) + 0.75" CATV	100	1.04	0.27	240	240	974	
6.5M (1/4) + 0.50" TELCO	100	0.72	0.22	252	252	1174	



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**Span: 3**      **Span Length (ft): 158**      **Direction: 127°**

## Joint Use

Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
6.6M (1/4) + 3.75" TELCO	150	0.97	0.39	216	216	1419	

**Span: 4**      **Span Length (ft): 192**      **Direction: 240°**

## Joint Use

Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
6.6M (1/4) + 3.75" TELCO	150	0.97	0.39	216	216	1419	

## EQUIPMENT

Equipment	Weight (lbs)	Attach (in)	Direction
15 KVA	280.0	96	130°
15 KVA	280.0	96	280°
15 KVA	280.0	96	135°

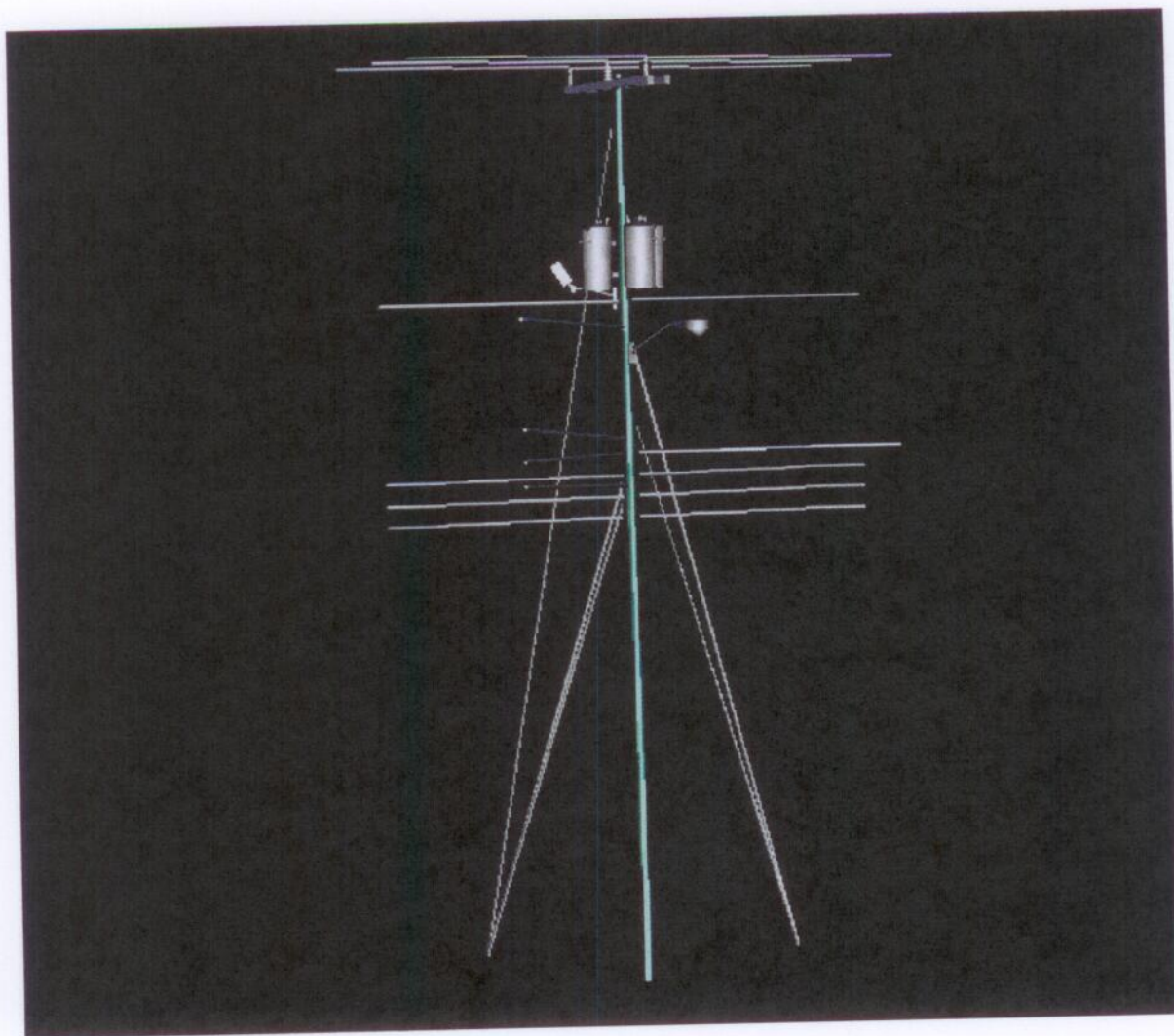
## LIGHTS

Light	Bracket	Weight	EPA	Attach	Direction
150-400W Cobra	4 FT Bracket	64	0.87	155	185°
150-400W Flood	2 FT Bracket	44	1.3	123	315°

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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-288-LN	0.5782	2.70E+05	0.858	1.13E-05	0.1960	155982	
Bundle			1.108		0.3170		

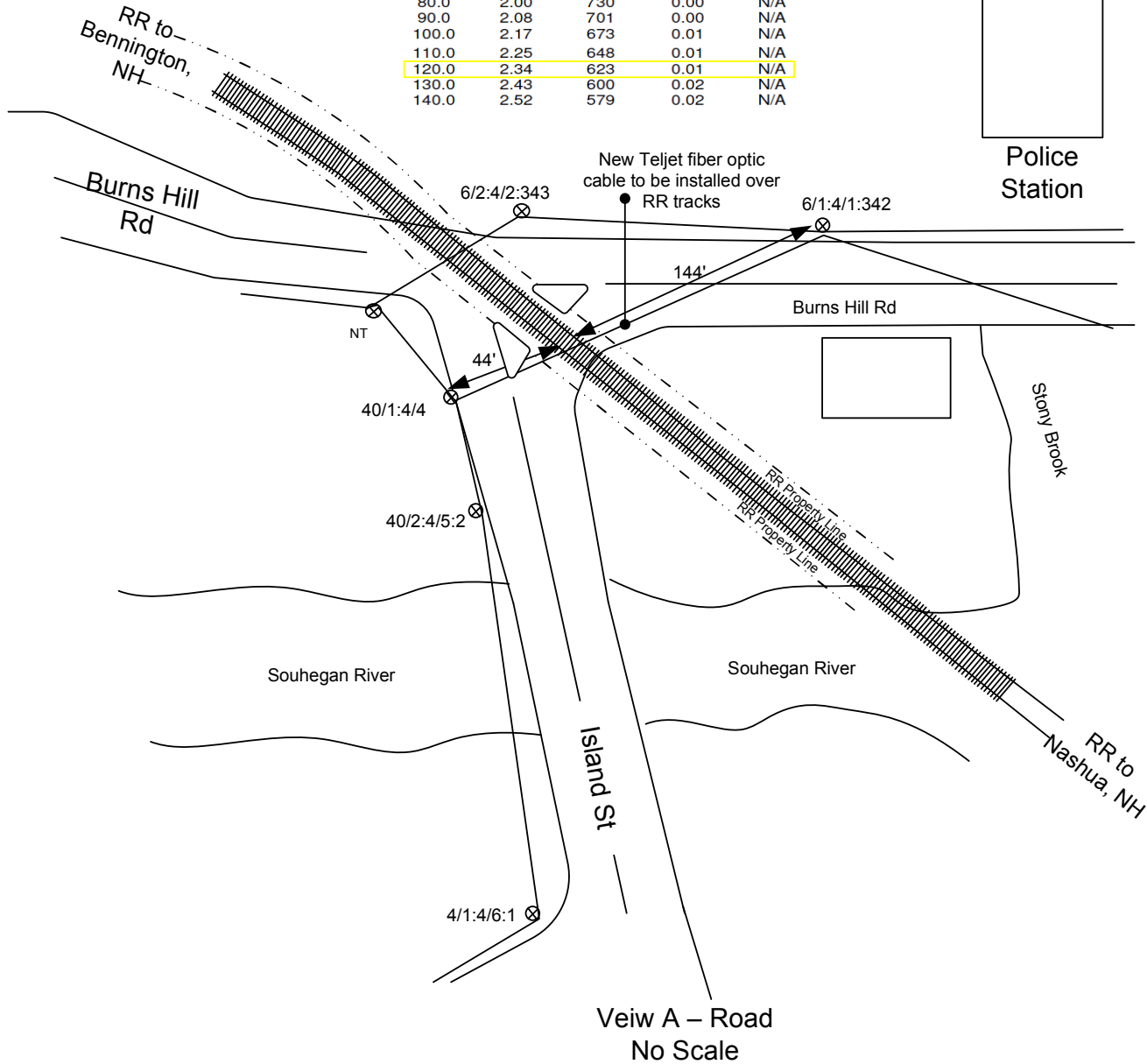
NESC RESULTS

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 96.00 ft	Horz Sag Comp ft	Vert Sag Comp ft	Vector Angle Deg
Rule 251 - Heavy 232A1	0.0	1.000	.50	.3	4.0	1.793	4.12	1999	0.10	4.13	1.94	3.64	28.1
	120.0	0.000	.00	.0	0.0	0.317	2.34	623	0.01	2.34	0.00	2.34	0.0

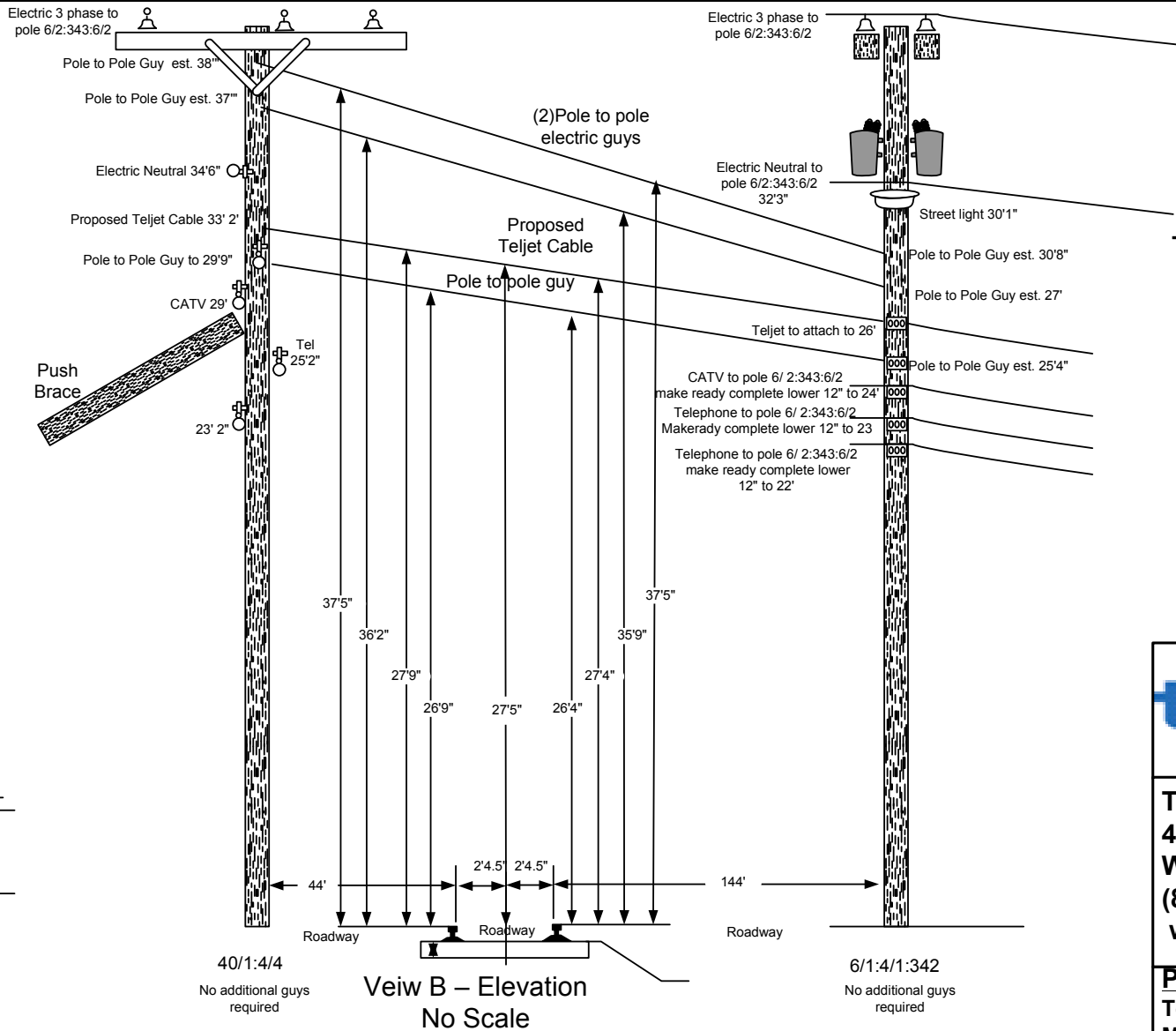
Span Length = 192.00 ft  
Span Sag = 1.92 ft (23.0 in)  
Span Tension = 761 lb  
Max Load = 6,650 lb  
Usable load (60%) = 3,990 lb  
Catenary Length = 192.051 ft  
Stress Free Length @  
Installed Temperature = 191.892 ft

Unloaded Strand  
Sag = .96 ft (11.6 in) 0.50 %  
Tension = 578 lb

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance
-40.0	1.24	1,179	-0.02	N/A
-30.0	1.28	1,136	-0.01	N/A
-20.0	1.33	1,094	-0.01	N/A
-10.0	1.39	1,052	-0.01	N/A
0	1.44	1,011	-0.01	N/A
10.0	1.50	972	-0.01	N/A
20.0	1.56	933	-0.01	N/A
30.0	1.63	896	-0.01	N/A
40.0	1.70	860	-0.01	N/A
50.0	1.77	825	0.00	N/A
60.0	1.84	792	0.00	N/A
70.0	1.92	760	0.00	N/A
80.0	2.00	730	0.00	N/A
90.0	2.08	701	0.00	N/A
100.0	2.17	673	0.01	N/A
110.0	2.25	648	0.01	N/A
120.0	2.34	623	0.01	N/A
130.0	2.43	600	0.02	N/A
140.0	2.52	579	0.02	N/A



View A - Road  
No Scale



View B - Elevation  
No Scale

Picture  
of Pole  
40/1:4/4



Picture of  
Pole  
6/1:4/1:342



Construction Notes :

Frame and install strand and hardware 12 inches above CATV (if no CATV, then install above top telecom). The strand and proper line hardware (i.e. suspension, curved clamp or double dead ends) will be installed following the existing lines in the communication space on the pole. Majority of the time this will be street side. If only power is on the pole. Teljet cable will be attached 40' below neutral. Down guys will be installed if required by pole loading analysis or utility walk out.

Construction Notes :

Dig Safe #

Start Date

DIG SAFE  
MA - ME - NH - RI - VT



Call Before You Dig  
1-888-DIG-SAFE  
1-888-344-7233



Teljet Longhaul LLC  
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Williston, VT 05495  
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www.teljet.com

Project:  
Teljet Longhaul LLC  
Merrimack to Keene  
New Hampshire

Project # WIL-11  
Drawing # AC-RR-1-ED

Date 04/13/2011  
Revision # 1.02

Proposed  
Wilton-Bennington  
Railroad Crossing  
Wilton, NH

Location:  
Burns Hill Rd Wilton, NH  
nearest cross st  
Island St

Teljet contact:  
Mary Lavigne  
802 922-9510