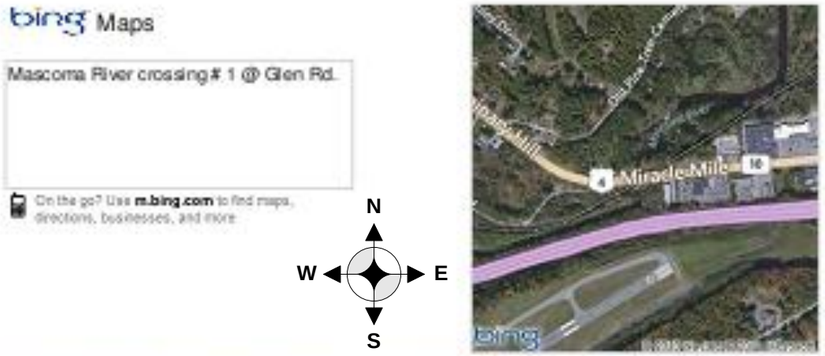
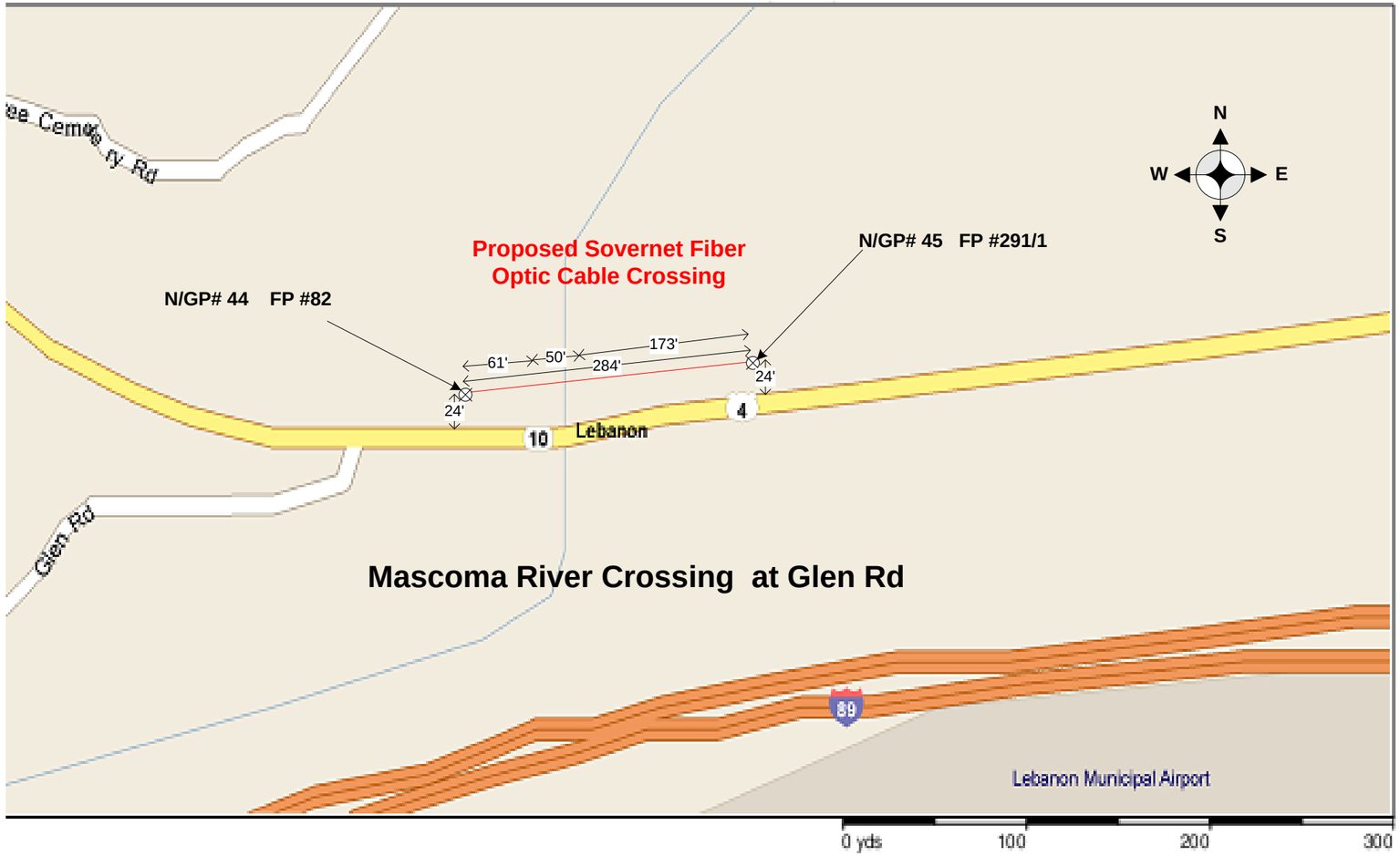
Mascoma River Crossing at Glen Rd





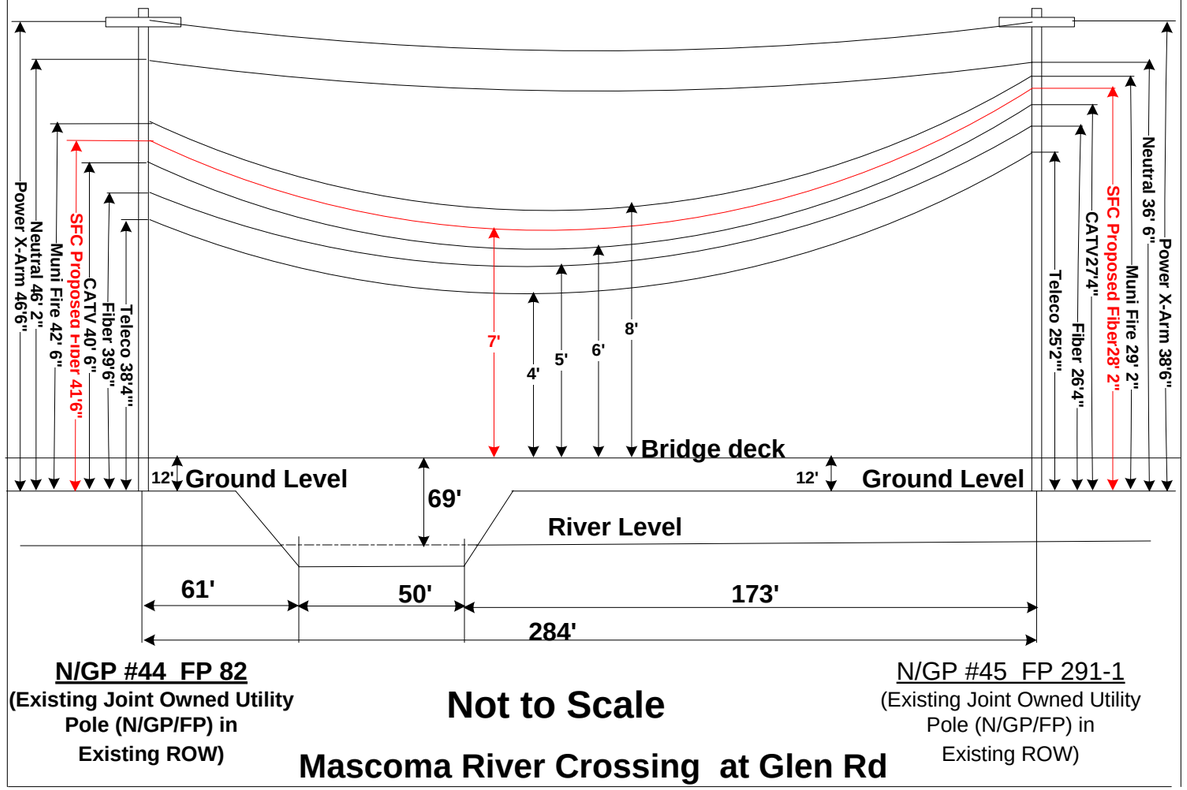
CHR Solutions

SOVERNET COMMUNICATIONS
5 Canal Street
Bellow Falls, VT 05101
802-460-9100

WO:	SOVERNET COMMUNICATIONS		
ROUTE:	Zone 12		
ROW:	Public	DATE	
STAKED BY:	DLY	DATE	03-25-13
REV BY:		DATE	
PROJECT:			
ROUTE:	Mascoma River crossing Glen St. #1		
SHEET:	1	OF	2

Mascoma River Crossing at Glen Rd

Sovernet NH Fiber Crossing Map



N/GP #44 FP 82
(Existing Joint Owned Utility Pole (N/GP/FP) in Existing ROW)

Not to Scale

N/GP #45 FP 291-1
(Existing Joint Owned Utility Pole (N/GP/FP) in Existing ROW)

Mascoma River Crossing at Glen Rd

CommScope®

Spanmaster ® Release 3.1 Sag / Tension Computations

Sovernet Fiber Corporation 06/05/12 Mascoma at Glen Rd.
Mascoma River Crossing North side of Route 4 at Glen Rd. in Lebanon

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)
5/16"11.2mEHS	0.0595	2.60E+07	0.313	5.60E-06	0.2050	1545960	11200
ORF-2"D-2x288	4.4300	1.20E+05	2.375	6.70E-06	1.0250	531600	2580
Bundle			2.688		1.2300		

NESC RESULTS

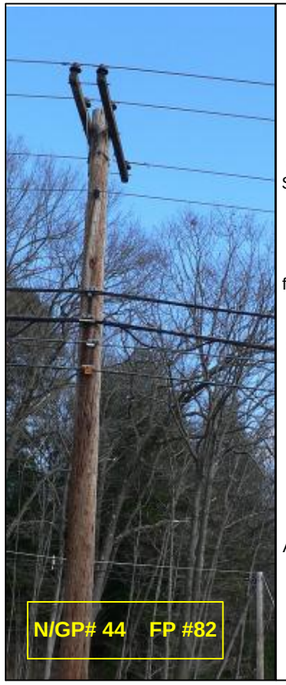
Loading Condition	Temp. (F)	Ice Load lb/ft	Ice Thick in	Wind Constant lb/ft	Horz Wind Load lb/sq ft	Result Load + Const lb/ft	Sag ft	Tension lb	% Len Chg From Input Conditions	Sag @ Point 50.00 ft	Horz Sag Comp ft	Vert Sag Comp ft	Vector Angle Deg
Rule 251 - Heavy	0.0	1.982	.50	.3	4.0	3.739	17.01	2253	0.06	2.07	6.08	15.88	20.9
232A1	120.0	0.000	.00	.0	0.0	1.230	16.75	753	0.03	2.04	0.00	16.75	0.0

Span Length = 284.00 ft
Span Sag = 16.50 ft (198.0 in)
Span Tension = 752 lb
Max Load = 11,200 lb
Usable load (60%) = 6,720 lb
Catenary Length = 286.556 ft
Stress Free Length @
Installed Temperature = 286.417 ft

Unloaded Strand
Sag = 16.12 ft (193.5 in) 5.68 %
Tension = 128 lb

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance 6 ft
-40.0	15.94	790	-0.06	6.56
-30.0	15.99	788	-0.05	6.51
-20.0	16.04	786	-0.05	6.46
-10.0	16.09	783	-0.04	6.41
.0	16.14	781	-0.04	6.36
10.0	16.19	778	-0.03	6.31
20.0	16.25	776	-0.03	6.25
30.0	16.30	774	-0.02	6.20
40.0	16.35	771	-0.02	6.15
50.0	16.40	769	-0.01	6.10
60.0	16.45	767	-0.01	6.05
70.0	16.50	764	0.00	6.00
80.0	16.55	762	0.01	5.95
90.0	16.60	760	0.01	5.90
100.0	16.65	758	0.02	5.85
110.0	16.70	756	0.02	5.80
120.0	16.75	753	0.03	5.75
130.0	16.80	751	0.03	5.70
140.0	16.85	749	0.04	5.65

Mascoma River Crossing at Glen Rd



Construction Notes:

Sovernet Fiber Co proposes to Install a 10 M Steel Stranded Cable between the existing poles Shown above that will traverse the River. The new strand will be Installed at the height shown. . There will be a 2" duct Double lashed to the strand In which the fiber will be placed. The supporting Strand will be dead-ended on each Pole so that SFC's cable sag matches the adjacent cables. There will be an Information tag installed at each Pole on the fiber at the time the fiber Is installed. The cable will be Placed using the correct safety Personnel when installing the Fiber. The proposed fiber will Be installed with proper Clearance to the other cables Already in place.(See info Above).

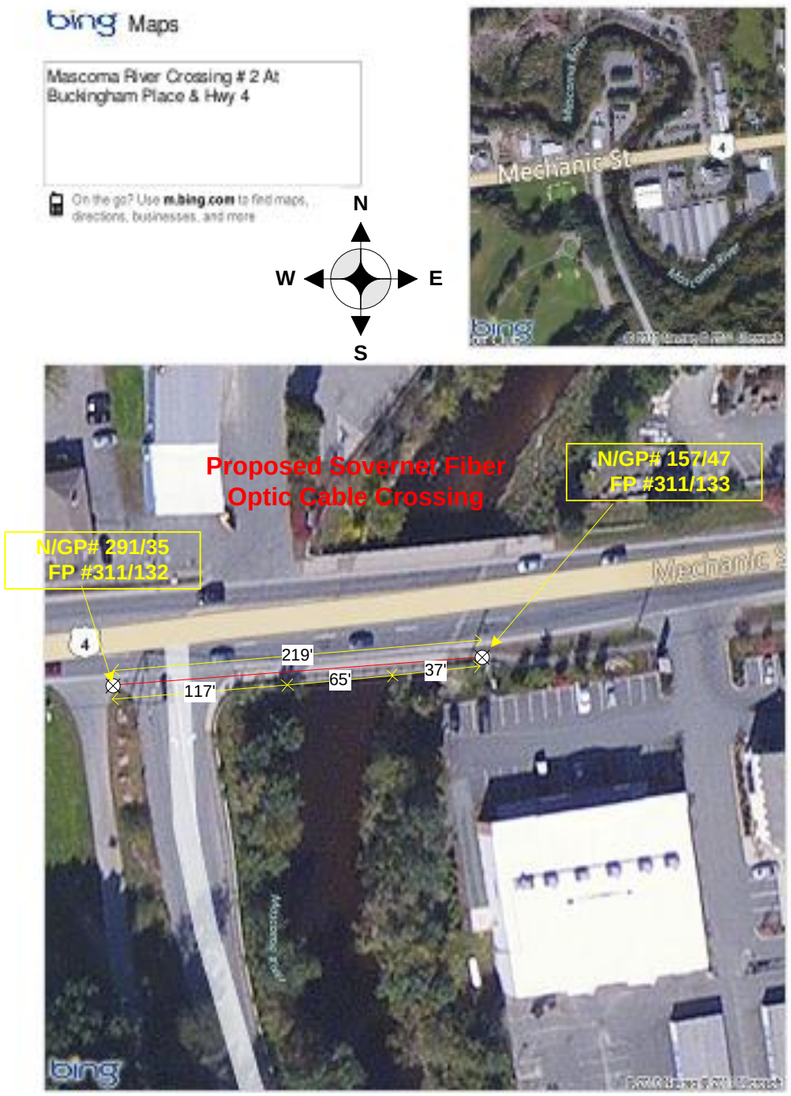
N
W E
S

CHR Solutions

SOVERNET COMMUNICATIONS

5 Canal Street
Bellow Falls, VT 05101
802-460-9100

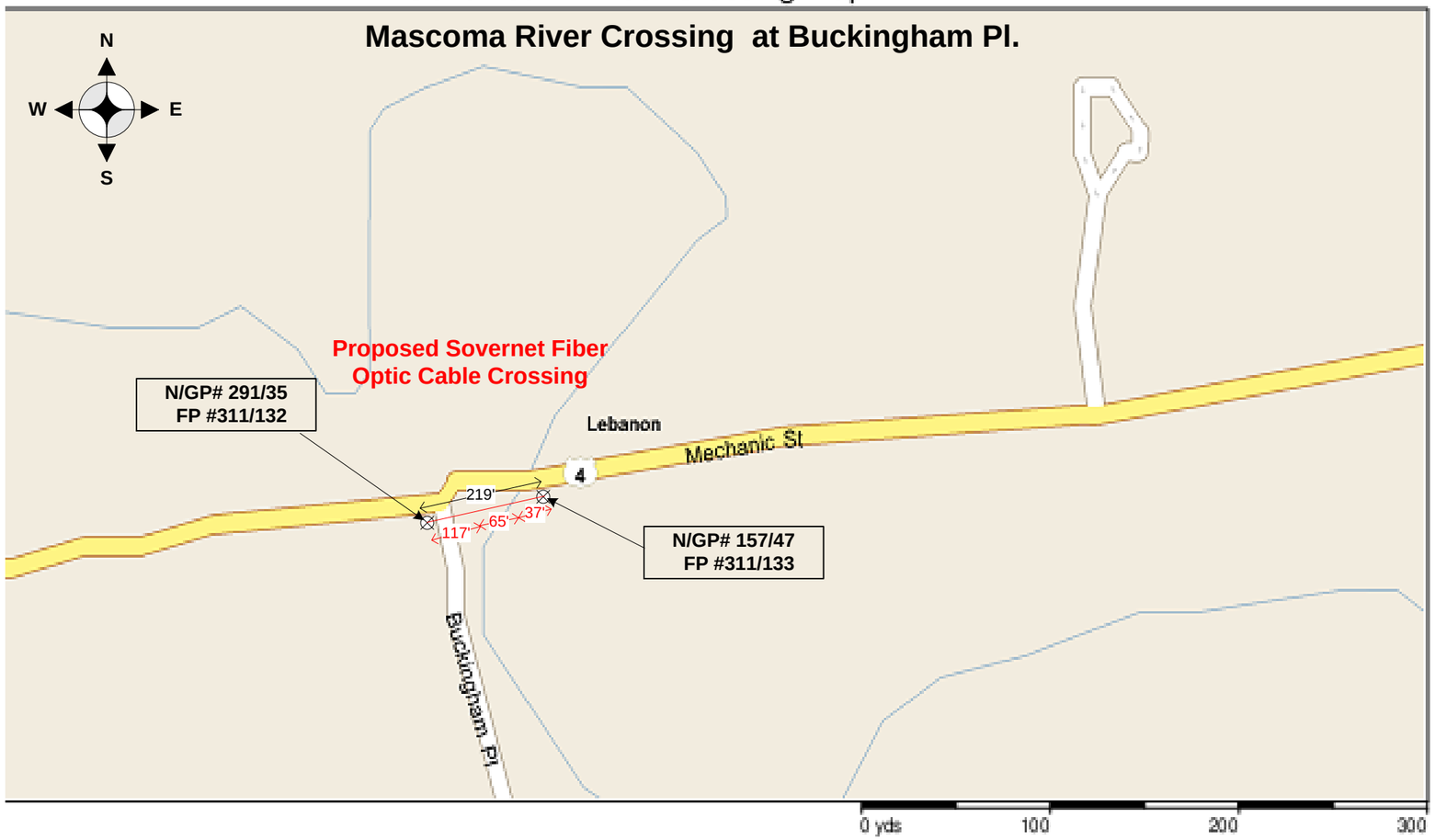
WO:	SOVERNET COMMUNICATIONS		
ROUTE:	Zone 12		
ROW:	Public	DATE	
STAKED BY:	DLY	DATE	03-25-13
REV BY:		DATE	
PROJECT:			
ROUTE:	Mascoma River crossing Glen St. #1		
SHEET:	2	OF	2



Mascoma River Crossing at Buckingham Pl.

Sovernet NH Fiber Crossing Map

Mascoma River Crossing at Buckingham Pl.



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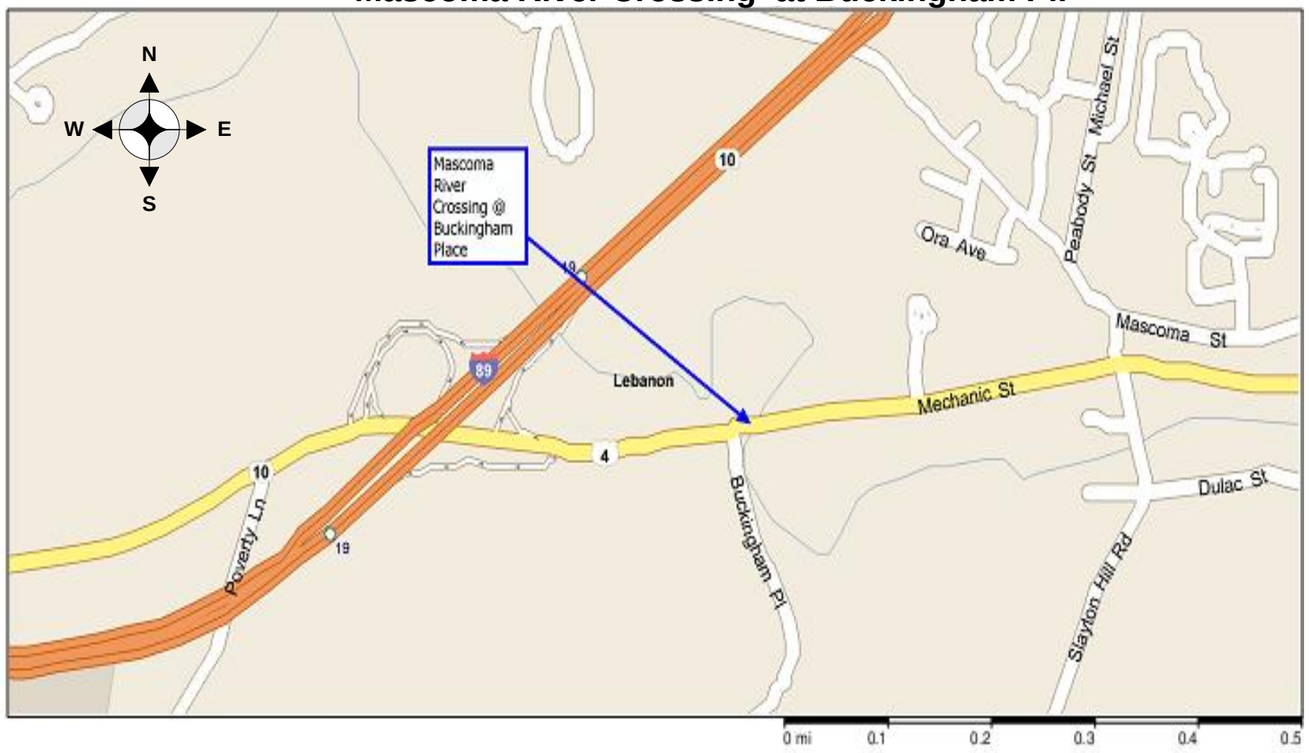
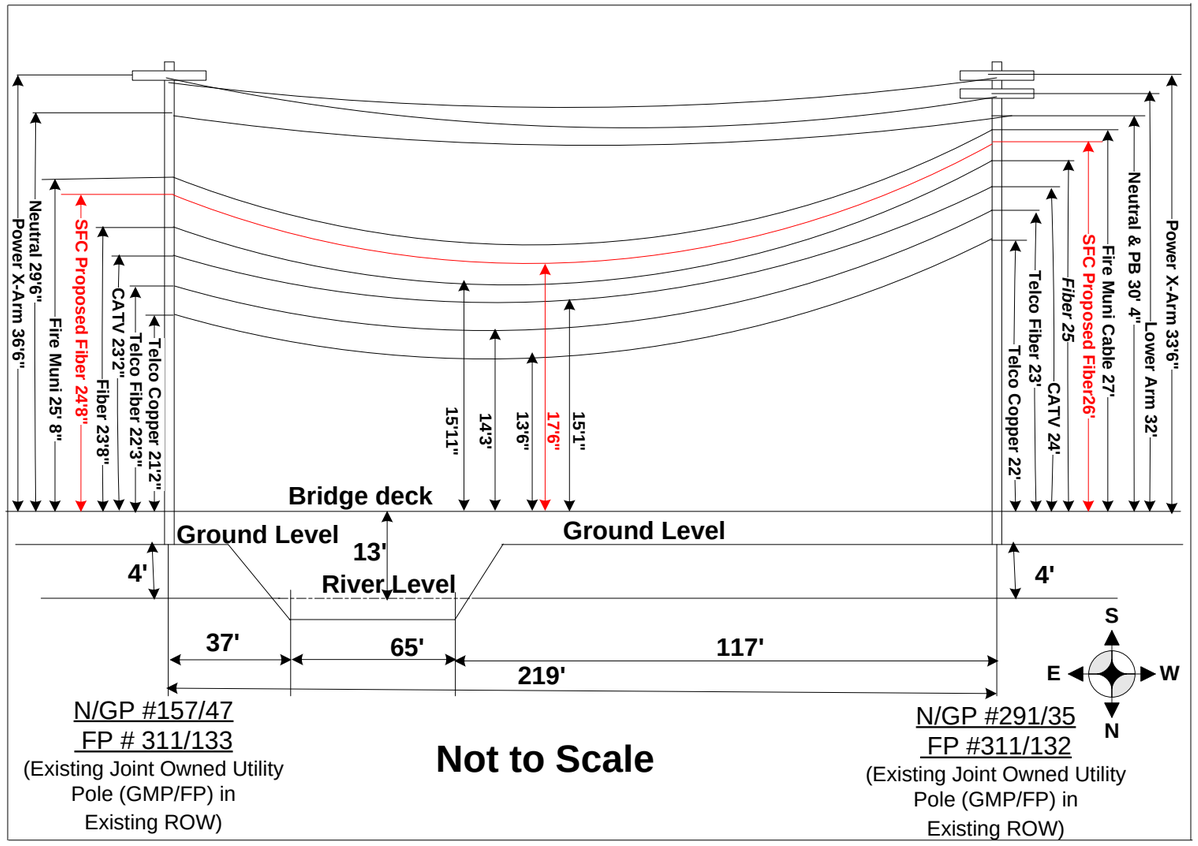
5 Canal Street
Bellow Falls, VT 05101
802-460-9100

WO:	SOVERNET COMMUNICATIONS		
ROUTE:	Zone 12		
ROW:	Public	DATE	
STAKED BY:	DLY	DATE	03-25-13
REV BY:		DATE	
PROJECT:			
ROUTE:	Mascoma River crossing Buck.Pl. #2		
SHEET:	1	OF	2

Mascoma River Crossing at Buckingham Pl.





CommScope®

Spanmaster ® Release 3.1 Sag / Tension Computations

Sovernet Fiber Corporation 06/05/12 Mascoma at Buckingha
Mascoma River Crossing South side of Route 4 at Buckingham Pl.

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)
5/16"11.2mEHS	0.0595	2.60E+07	0.313	5.60E-06	0.2050	1545960	11200
ORF-2"D-2x288	4.4300	1.20E+05	2.375	6.70E-06	1.0250	531600	2580
Bundle			2.688		1.2300		

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	1.982	.50	.3	4.0	3.739	11.64	1950	0.04	2.40	4.16	10.87	20.9
232A1	120.0	0.000	.00	.0	0.0	1.230	11.52	649	0.03	2.37	0.00	11.52	0.0

Span Length = 219.00 ft
Span Sag = 11.30 ft (135.6 in)
Span Tension = 653 lb
Max Load = 11,200 lb
Usable load (60%) = 6,720 lb
Catenary Length = 220.555 ft
Stress Free Length @
Installed Temperature = 220.462 ft

Unloaded Strand
Sag = 11.02 ft (132.2 in) 5.03 %
Tension = 112 lb

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance 17.2 ft
-40.0	10.81	690	-0.06	17.69
-30.0	10.86	688	-0.05	17.64
-20.0	10.90	685	-0.05	17.60
-10.0	10.95	682	-0.04	17.55
.0	10.99	679	-0.04	17.51
10.0	11.04	677	-0.03	17.46
20.0	11.08	674	-0.03	17.42
30.0	11.12	671	-0.02	17.38
40.0	11.17	669	-0.02	17.33
50.0	11.21	666	-0.01	17.29
60.0	11.26	664	-0.01	17.24
70.0	11.30	661	0.00	17.20
80.0	11.34	659	0.01	17.16
90.0	11.39	656	0.01	17.11
100.0	11.43	654	0.02	17.07
110.0	11.47	652	0.02	17.03
120.0	11.52	649	0.03	16.98
130.0	11.56	647	0.03	16.94
140.0	11.60	645	0.04	16.90

Mascoma River Crossing at Buckingham Pl.

Construction Notes:

Sovernet Fiber Co proposes to Install a 10 M Steel Stranded Cable between the existing poles Shown above that will traverse the River. The new strand will be Installed at the height shown. . There will be a 2" duct Double lashed to the strand In which the fiber will be placed. The supporting Strand will be dead-ended on each Pole so that SFC's cable sag matches the adjacent cables. There will be an Information tag installed at each Pole on the fiber at the time the fiber Is installed. The cable will be Placed using the correct safety Personnel when installing the Fiber. The proposed fiber will Be installed with proper Clearance to the other cables Already in place.(See info Above).

CHR Solutions

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5 Canal Street
Bellow Falls, VT 05101
802-460-9100

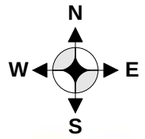
WO:	SOVERNET COMMUNICATIONS		
ROUTE:	Zone 12		
ROW:	Public	DATE	
STAKED BY:	DLY	DATE	03-25-13
REV BY:		DATE	
PROJECT:			
ROUTE:	Mascoma River crossing Buck.Pl. #2		
SHEET:	2	OF	2

Mascoma River Crossing at High St.& Hwy 4

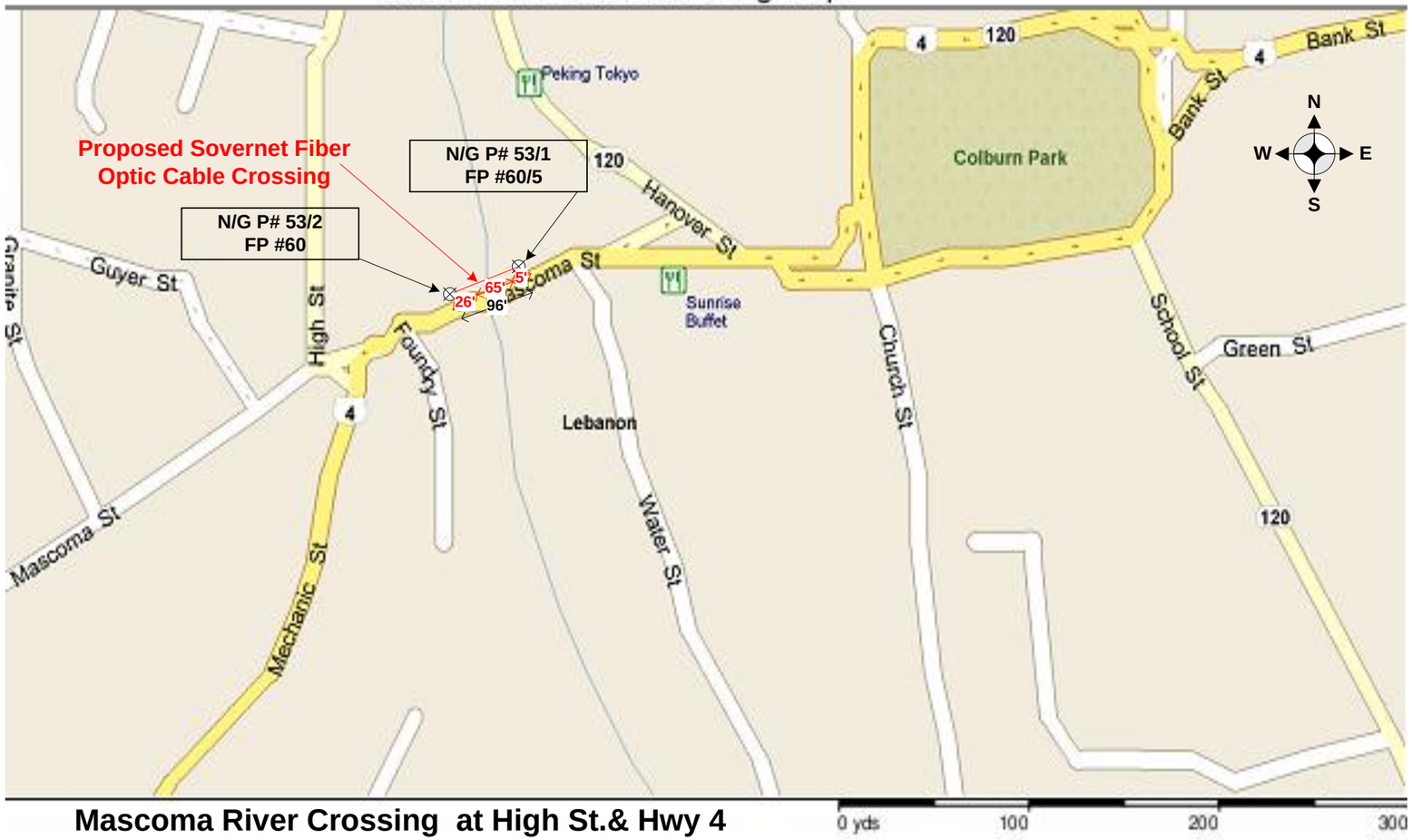
bing Maps

Mascoma River Crossing # 3 at High St & Hwy 4

On the go? Use **m.bing.com** to find maps, directions, businesses, and more



Sovernet NH Fiber Crossing Map



Mascoma River Crossing at High St.& Hwy 4

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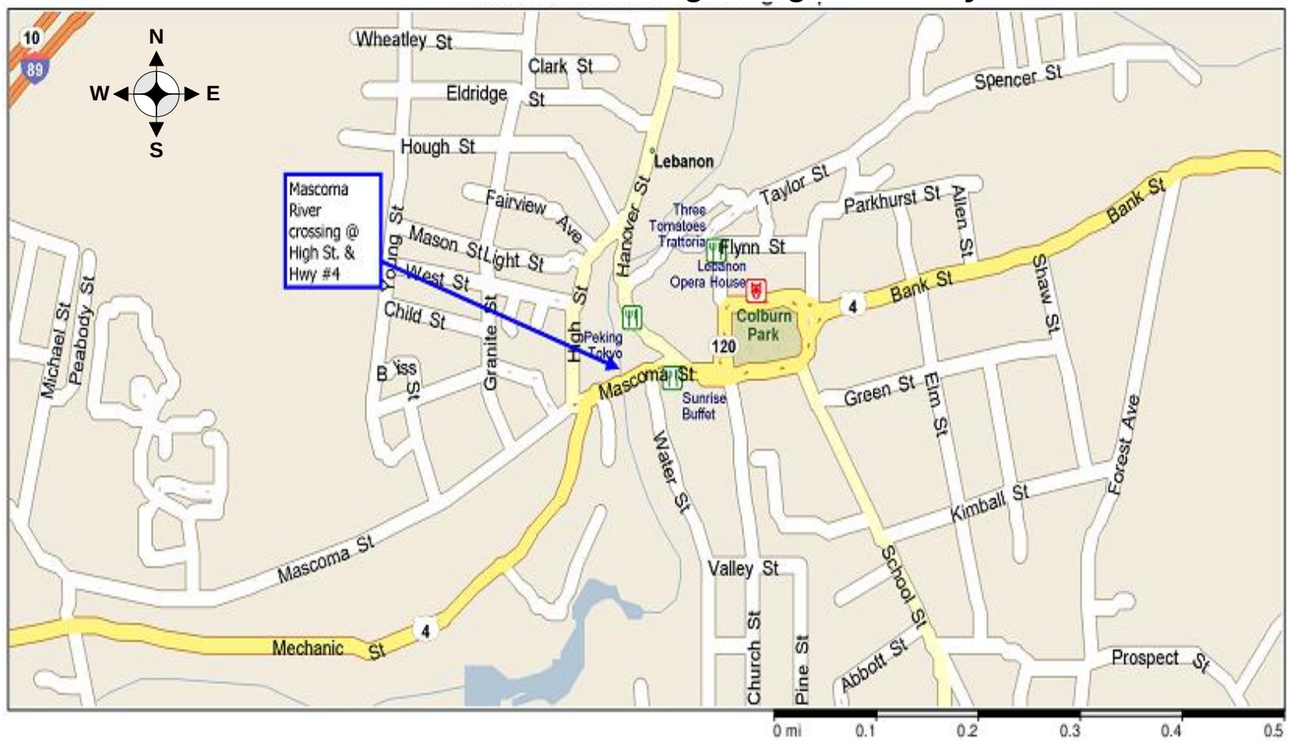
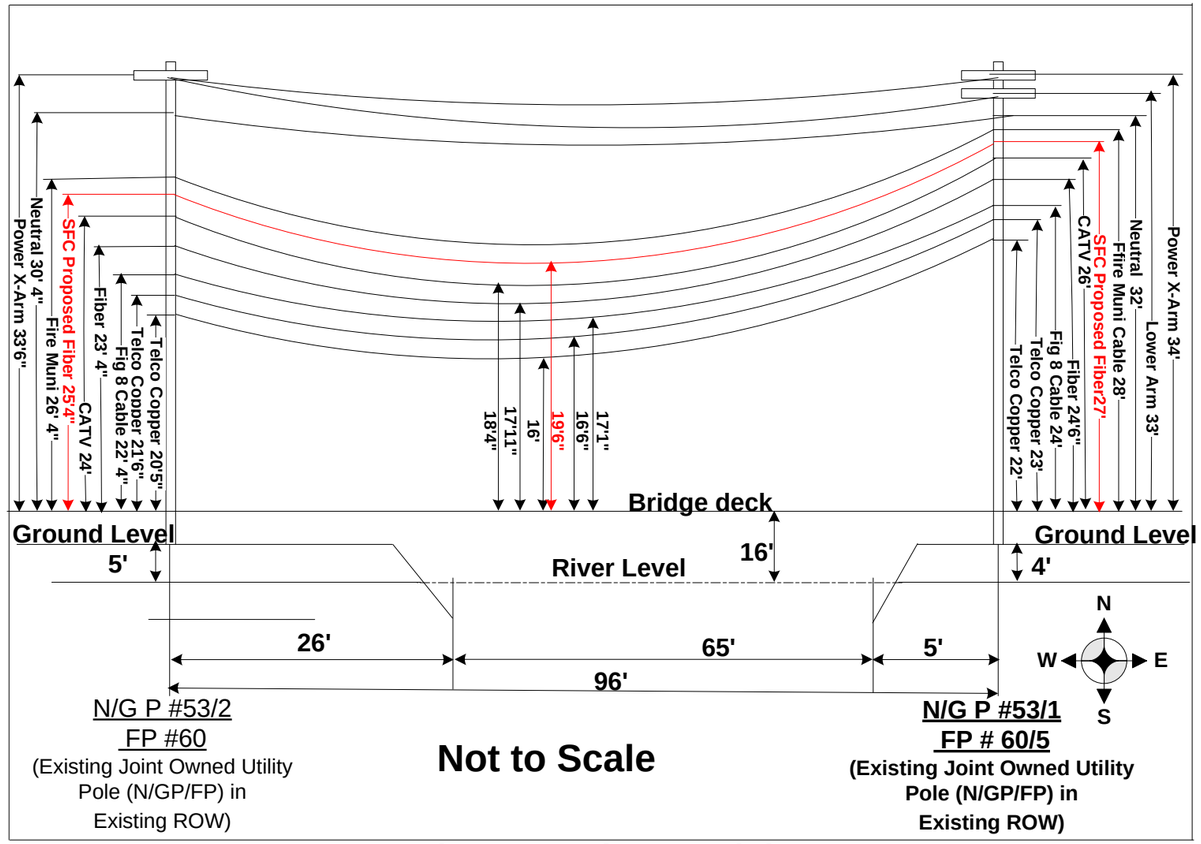
5 Canal Street
Bellow Falls, VT 05101
802-460-9100

WO:	SOVERNET COMMUNICATIONS		
ROUTE:	Zone 12		
ROW:	Public	DATE	
STAKED BY:	DLY	DATE	03-25-13
REV BY:		DATE	
PROJECT:			
ROUTE:	Mascoma River crossing High St.#3		
SHEET:	1	OF	2

Mascoma River Crossing at High St.& Hwy 4





CommScope®

Spanmaster ® Release 3.1 Sag / Tension Computations

Sovernet Fiber Corporation 06/05/12 Mascoma at High St
Mascoma River Crossing North side of Route 4 at High St.

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)
5/16"11.2mEHS	0.0595	2.60E+07	0.313	5.60E-06	0.2050	1545960	11200
ORF-2"D-2x288	4.4300	1.20E+05	2.375	6.70E-06	1.0250	531600	2580
Bundle			2.688		1.2300		

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	1.982	.50	.3	4.0	3.739	8.16	548	-0.02	8.53	2.92	7.63	20.9
232A1	120.0	0.000	.00	.0	0.0	1.230	8.26	178	0.03	8.62	0.00	8.26	0.0

Span Length = 96.00 ft
Span Sag = 8.20 ft (98.4 in)
Span Tension = 173 lb
Max Load = 11,200 lb
Usable load (60%) = 6,720 lb
Catenary Length = 97.868 ft
Stress Free Length @
Installed Temperature = 97.857 ft

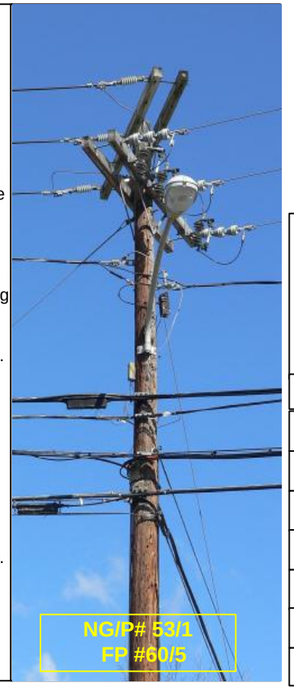
Unloaded Strand
Sag = 8.18 ft (98.2 in) 8.52%
Tension = 29 lb

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance 19 ft
-40.0	8.07	182	-0.06	19.13
-30.0	8.08	182	-0.06	19.12
-20.0	8.09	182	-0.05	19.11
-10.0	8.10	182	-0.04	19.10
.0	8.12	181	-0.04	19.08
10.0	8.13	181	-0.03	19.07
20.0	8.14	181	-0.03	19.06
30.0	8.15	181	-0.02	19.05
40.0	8.16	180	-0.02	19.04
50.0	8.18	180	-0.01	19.02
60.0	8.19	180	-0.01	19.01
70.0	8.20	180	0.00	19.00
80.0	8.21	179	0.01	18.99
90.0	8.22	179	0.01	18.98
100.0	8.24	179	0.02	18.96
110.0	8.25	179	0.02	18.95
120.0	8.26	178	0.03	18.94
130.0	8.27	178	0.03	18.93
140.0	8.28	178	0.04	18.92

Mascoma River Crossing at High St.& Hwy 4

Construction Notes:

Sovernet Fiber Co proposes to Install a 10 M Steel Stranded Cable between the existing poles Shown above that will traverse the River. The new strand will be Installed at the height shown. . There will be a 2" duct Double lashed to the strand In which the fiber will be placed. The supporting Strand will be dead-ended on each Pole so that SFC's cable sag matches the adjacent cables. There will be an Information tag installed at each Pole on the fiber at the time the fiber Is installed. The cable will be Placed using the correct safety Personnel when installing the Fiber. The proposed fiber will Be installed with proper Clearance to the other cables Already in place.(See info Above).



CHR Solutions

SOVERNET COMMUNICATIONS
5 Canal Street
Bellow Falls, VT 05101
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WO:	SOVERNET COMMUNICATIONS		
ROUTE:	Zone 12		
ROW:	Public	DATE	
STAKED BY:	DLY	DATE	03-25-13
REV BY:		DATE	
PROJECT:			
ROUTE:	Mascoma River crossing High St.#3		
SHEET:	2	OF	2