



Town of Mt Washington
118 East St
Mount Washington, Massachusetts 01258
townofmtwashington.com

**Phase 1 Report to Massachusetts Technology Collaborative
Town of Mount Washington Fiber to the Home Last Mile Broadband Solution
October 24, 2016**

The Town of Mount Washington has completed the first stage of its plan to build a fiber optic network that will serve the entire municipality with broadband capabilities that far exceed the 25/3 mbps speed, as defined by the FCC for high speed broadband. In this first phase, the Town has:

- 1). Signed a comprehensive contract with NextGen, a fiber optic network construction and maintenance company with considerable experience in building municipal broadband networks.
- 2). Received the proceeds of an initial financing of \$450,000 to be used for utility pole licensing, make-ready work, hardware, network construction, and all other associated broadband project costs, through the State House Note/Loan Program.
- 3). Received a Grant of \$230,000 from the Massachusetts Broadband Institute of the Massachusetts Technology Collaborative, which will be used to cover all eligible expenses for the development and construction of our fiber optic network. This update will focus on the use of that Grant.

Network Operator/Internet Service Provider Contract

The Town has not yet executed a contract with a Network Operator/ISP although negotiations with Crocker Communications are under way to conclude and sign a contract. It will include the details of network operations including hours of operation, performance parameters, and per subscriber monthly cost. It will also include the cost of the link to the operator over the MBI 123 middle mile. The cost for these elements plus any additional fees charged by the Town will be added to the monthly subscriber invoice that the operator will send. The operator will collect subscriber payments, retain all fees due to the operator, and remit the balance each month to the Town.

The planned Subscriber Rate structure will include Internet plus phone service, with potential for other features such as second phone service and distinctive second line ring to be provided at additional cost to the subscriber. The contract will include details of service level agreements and associated penalties for non-payment and cut-off policies as determined by the Town. Full details will be available in the next update by the Town due in April 2017.

FTTH Major Milestones Achievements

Status of Pole Applications and Agreements

Pole applications for both Verizon and National Grid were completed by the Town in August 2016, and invoices were sent to the Town, and all fees for these have been paid. (see attached invoices).

National Grid: four invoices for application and pole surveys were received on September 15, 2016 and paid on September 27, 2016, totaling \$24,561. 10

Verizon: three invoices for application and pole surveys were received on September 7 and paid on September 13, 2016, totaling \$5082.30

Date	Vendor	Memo	Starting Balance and Source	\$230,000.00	
09/13/2016	Verizon	Pole Application AMA1500120002	Broadband Construction: MBI Grant	-\$2,238.75	
09/13/2016	Verizon	Pole Application AMA150012003	Broadband Construction: MBI Grant	-\$2,210.40	
09/13/2016	Verizon	Pole Application AMA1500120004	Broadband Construction: MBI Grant	-\$633.15	
09/27/2016	NATIONAL GRID - NON-UTILITY BILLING	MTWASH01 Pole Survey East Street	Broadband Construction: MBI Grant	-\$6,763.00	
09/27/2016	NATIONAL GRID - NON-UTILITY BILLING	MTWASH02 Pole Survey East Street	Broadband Construction: MBI Grant	-\$6,708.85	
09/27/2016	NATIONAL GRID - NON-UTILITY BILLING	MTWASH03 Pole Survey West Street	Broadband Construction: MBI Grant	-\$6,167.35	
09/27/2016	NATIONAL GRID - NON-UTILITY BILLING	MTWASH04 Pole Survey Cross Road	Broadband Construction: MBI Grant	-\$4,921.90	
10/10/16	nextGen Telecon Services Group	App completion; fiber, engineering	Broadband Construction: MBI Grant	-\$29,612.96	
			Balance as of 10/19/16	\$170,743.64	As of October 19, 2016

Status of Make-Ready Work

Aerial Surveys

- National Grid Surveys have been done by independent contractor Osmose Utilities Services, 100% completed as of October 21, 2016 (confirmed on site with surveyor on 10/21/16)
- Verizon Surveys have been done by independent contractor UC Synergetic, 100% completed as of October 17th, 2016
- Next step is joint analysis review by pole owners and cost estimate preparation week of October 24, 2016, and then cost estimate will be sent to Town with two weeks for approval.

Underground Conduit Surveys

- These are in progress on Mountain Road and at individual homes, as reported by David Marcoux of NextGen on October 12th.
- The drop fiber and pull-in of underground drops is projected to begin the week of October 24, 2016 on Mountain Road and at individual homes.

Status of Point of Presence "PoP" room at Mount Washington Town Hall (see attached proposals)

- Construction work by David O. Whitbeck Builders to begin October 31st and completed by November 15, 2016. Confirmed with David Whitbeck on 10/19/16. David will be responsible for coordinating his work with Torrico Electric to complete entire project on schedule.
- Electrical panel and wiring, including connection to Town Hall emergency generator, to be completed by Torrico Electric by November 15, 2016. Confirmed with Thomas Torrico on 10/5/2016. Torrico will also provide 9000 BTU heat pump

Material Ordered to Date:

- 72 Strand Corning Fiber has been ordered and received, and paid \$12,925.00 (see NextGen invoice attached)
- Drop Fiber has been ordered and received by NextGen, but not yet billed
- 24 and 48 Strand Fiber have been ordered and shipped to NextGen, but not yet received and billed as of October 19, 2016
- SCA Aerial Terminals – 72 have been ordered but not yet shipped or billed as of October 19
- Materials for PoP Room: Electrical panel, heat pump, and insulation has been ordered as of October 19, 2016; sheet rock, steel door, lumber, roof shingles, to be ordered week of October 24, 2016

CHANGES

As of October 21, 2016, there are no significant changes to work schedule and budget as outlined in original MBI Task Order 16-1 on page 9

Total number of premises that have agreed to subscribe for service is 90, as of September 21, 2016

ATTACHMENTS

**David O. Whitbeck Builders
7 Whitbeck Road
Mt. Washington, MA 01258**

TO: Town of Mt. Washington Selectboard

DATE: October 7, 2016

SCOPE OF WORK: Estimate for POP Room construction per plan received by the town of Mt. Washington Selectboard, drawn by Jim Lovejoy

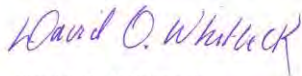
The estimate includes all material and labor

Spray foam insulation by The Foam Guys Co.

Estimate includes stripping roof over bathroom area and shingling new addition and bathroom roof as one.

Estimate Cost: \$9,872.00

Respectively Submitted,



David O. Whitbeck

Estimate from Torrico Electric, received 9/27/2016 by e-mail:

Electrical Wiring \$ 3,320.00

Includes what is in Dave Marcoux e-mail with the addition of a 100 amp circuit panel in that room, which all the circuits needed for power, lighting, heating and cooling would come from. This panel would be hooked to the generator also.

Heating and cooling \$ 3,200.00

Includes a Fujitsu 9000 btu heat pump wired and installed.

Please let me know if you have questions.

Tom Torrico

TORRICO ELECTRIC, LLC

INVOICES FROM NATIONAL GRID - NEXTGEN - VERIZON



INVOICE
National Grid
Non-Utility Billing
300 Erie Blvd. West
Syracuse NY 13202
(315) 428-3110

Invoice Number: 500020511
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 01/30/2017
Work Order: 10022676928

TOWN OF MOUNT WASHINGTON
118 East Street
Mount Washington MA 01258-9710

Line	Description	Quantity UOM	Unit Amt	Net Amount
Please make this payment promptly to ensure your job progresses in a timely manner. POLE SURVEY - MTWASH01 EAST ST MT WASHINGTON, MA WR#22676928. THIS DOCUMENT SERVES AS THE INVOICE. If you have any questions about this invoice, please contact KAREN MORAAL at (781) 907-3426				
10	APPL & SURVEY	1.000 EA	265.00	\$265.00
20	APPL & SURVEY	120.000 EA	54.15	\$6,498.00
Sub Total :				6,763.00
Total Taxes :				0.00
TOTAL AMOUNT DUE:				\$6,763.00

For payments up to \$5000, you can pay these charges with a Credit Card- Debit Card-ACH for a fee through Western Union Speedpay web site <https://paynow7.speedpay.com/nationalgrid/index.asp>

PLEASE DETACH AND RETURN THIS STUB WITH PAYMENT

Writing your invoice number on your check will help ensure your payment is properly applied.

Make checks payable to National Grid. PO Box does not accept overnight delivery.

National Grid
PO Box 4710
Syracuse, NY 13221-4710

AMOUNT DUE: \$6,763.00

Invoice Number: 500020511
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 01/30/2017
Company Code: 5310



INVOICE
National Grid
Non-Utility Billing
300 Erie Blvd. West
Syracuse NY 13202
(315) 428-3110

Invoice Number: 500020508
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 01/30/2017
Work Order: 10022676999

TOWN OF MOUNT WASHINGTON
118 East Street
Mount Washington MA 01258-9710

Line	Description	Quantity UOM	Unit Amt	Net Amount
Please make this payment promptly to ensure your job progresses in a timely manner. POLE SURVEY - MTWASH03 WEST ST MT WASHINGTON, MA WR#22676999. THIS DOCUMENT SERVES AS THE INVOICE. If you have any questions about this invoice, please contact KAREN MORAAL at (781) 907-3426				
10	APPL & SURVEY	1.000 EA	265.00	\$265.00
20	APPL & SURVEY	109.000 EA	54.15	\$5,902.35
Sub Total :				6,167.35
Total Taxes :				0.00
TOTAL AMOUNT DUE:				\$6,167.35

For payments up to \$5000, you can pay these charges with a Credit Card- Debit Card-ACH for a fee through Western Union Speedpay web site <https://paynow7.speedpay.com/nationalgrid/index.asp>

PLEASE DETACH AND RETURN THIS STUB WITH PAYMENT

Writing your invoice number on your check will help ensure your payment is properly applied.

Make checks payable to National Grid. PO Box does not accept overnight delivery.

National Grid
PO Box 4710
Syracuse, NY 13221-4710

AMOUNT DUE: \$6,167.35

Invoice Number: 500020508
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 01/30/2017
Company Code: 5310



INVOICE
National Grid
Non-Utility Billing
300 Erie Blvd. West
Syracuse NY 13202
(315) 428-3110

Invoice Number: 500020514
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 01/30/2017
Work Order: 10022677045

TOWN OF MOUNT WASHINGTON
118 East Street
Mount Washington MA 01258-9710

Line	Description	Quantity UOM	Unit Amt	Net Amount
Please make this payment promptly to ensure your job progresses in a timely manner. POLE SURVEY - MTWASH04 CROSS RD MT WASHINGTON, MA WR#22677045. THIS DOCUMENT SERVES AS THE INVOICE. If you have any questions about this invoice, please contact KAREN MORAAL at (781) 907-3426				
10	APPL & SURVEY	1.000 EA	265.00	\$265.00
20	APPL & SURVEY	86.000 EA	54.15	\$4,656.90
Sub Total :				4,921.90
Total Taxes :				0.00
TOTAL AMOUNT DUE:				\$4,921.90

For payments up to \$5000, you can pay these charges with a Credit Card- Debit Card-ACH for a fee through Western Union Speedpay web site <https://paynow7.speedpay.com/nationalgrid/index.asp>

PLEASE DETACH AND RETURN THIS STUB WITH PAYMENT

Writing your invoice number on your check will help ensure your payment is properly applied.

Make checks payable to National Grid. PO Box does not accept overnight delivery.

National Grid
PO Box 4710
Syracuse, NY 13221-4710

AMOUNT DUE: \$4,921.90

Invoice Number: 500020514
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 01/30/2017
Company Code: 5310



INVOICE
National Grid
Non-Utility Billing
300 Erie Blvd. West
Syracuse NY 13202
(315) 428-3110

Invoice Number: 500020501
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 12/14/2016
Work Order: 10022676973

TOWN OF MOUNT WASHINGTON
118 East Street
Mount Washington MA 01258-9710

Line	Description	Quantity UOM	Unit Amt	Net Amount
Please make this payment promptly to ensure your job progresses in a timely manner. POLE SURVEY - MTWASH02 EAST ST MT WASHINGTON, MA WR#22676973. THIS DOCUMENT SERVES AS THE INVOICE. If you have any questions about this invoice, please contact KAREN MORAAL at (781) 907-3426				
10	APPL & SURVEY	1.000 EA	265.00	\$265.00
20	APPL & SURVEY	119.000 EA	54.15	\$6,443.85
Sub Total :				6,708.85
Total Taxes :				0.00
TOTAL AMOUNT DUE:				\$6,708.85

For payments up to \$5000, you can pay these charges with a Credit Card- Debit Card-ACH for a fee through Western Union Speedpay web site <https://paynow7.speedpay.com/nationalgrid/index.asp>

PLEASE DETACH AND RETURN THIS STUB WITH PAYMENT

Writing your invoice number on your check will help ensure your payment is properly applied.

Make checks payable to National Grid. PO Box does not accept overnight delivery.

National Grid
PO Box 4710
Syracuse, NY 13221-4710

AMOUNT DUE: \$6,708.85

Invoice Number: 500020501
Invoice Date: 09/15/2016
Customer Number: 200076968
Due Date: 12/14/2016
Company Code: 5310

Invoice from NextGen:



Invoice

Date	Invoice #
10/07/2016	316346

Bill To
TOWN OF MOUNT WASHINGTON 118 EAST STREET MOUNT WASHINGTON, MA 01258 Attn: AP

Project Information
7157 TMW-MA-CONSTRUCTION (PW) WE 10/01/2016 Purchase Order: NA

Terms	Start Date	Complete Date	State
NET 30 DAYS	09/23/2016	10/01/2016	MA

Item	Description	Qty	U/M	Cost	Subtotal	Sales Tax	Total
------	-------------	-----	-----	------	----------	-----------	-------

Job Name / Address / Project Manager

MT WASHINGTON FTTH / MT WASHINGTON / GAIL GARRETT

10113	Pole Application Completion Process	1.00	EA	\$11,967.75	\$11,967.75	\$0.00	\$11,967.75
19010	Material- 72 Fiber Corning OSP Cable	27,500.00	FT	\$0.47	\$12,925.00	\$0.00	\$12,925.00
63051	Engineering	0.50	EA	\$9,440.41	\$4,720.21	\$0.00	\$4,720.21
MT WASHINGTON FTTH / MT WASHINGTON / GAIL GARRETT				Total:	\$29,612.96	\$0.00	\$29,612.96

Please Remit Payment to:

NextGen Telecom Services Group
PO Box 864030
Orlando, FL 32886-4030
P- (603) 335-0020 F- (603) 335-0900

Total	\$29,612.96	\$0.00	\$29,612.96
--------------	--------------------	---------------	--------------------

AUTHORIZATION FOR FIELD SURVEY

FORM 2

Licensee	TOWN OF MT. WASHINGTON
License Application Number	AMA1500120002
Municipality	MT WASHINGTON
State	MA

* Based on average of 75 poles surveyed per day, a travel time charge has been added for each additional day required to complete the survey.

Please note, if your payment for the field survey charges is less than the amount required, the correct payment must be received by this office in order to schedule the survey.

The required field survey covering Pole Attachment License Application #AMA1500120002 is authorized. Enclosed is the advance payment in the amount of \$2,238.75

Licensee Representative*	JIM BUHRDORF
Licensee Representative Signature	JIM BUHRDORF
Title	ENGINEERING MANAGER
Email	jbuhrdorf@ex2technology.com
Phone	402-506-9648
Cell	402-669-8099
Date	09/07/2016

FIELD SURVEY CHARGES

FIELD SURVEY	# POLES	RATE	TOTAL
TOTAL POLES	200	-	\$2,238.75
Additional Travel Time*			
TOTAL Charges			\$2,238.75

AUTHORIZATION FOR FIELD SURVEY

FORM 2

Licensee	TOWN OF MT. WASHINGTON
License Application Number	AMA1500120003
Municipality	MT WASHINGTON
State	MA

* Based on average of 75 poles surveyed per day, a travel time charge has been added for each additional day required to complete the survey.

Please note, if your payment for the field survey charges is less than the amount required, the correct payment must be received by this office in order to schedule the survey.

The required field survey covering Pole Attachment License Application #AMA1500120003 is authorized. Enclosed is the advance payment in the amount of \$2,210.40

Licensee Representative*	JIM BUHRDORF
Licensee Representative Signature	JIM BUHRDORF
Title	ENGINEERING MANAGER
Email	jbuhrdorf@ex2technology.com
Phone	402-506-9648
Cell	402-669-8099
Date	09/07/2016

FIELD SURVEY CHARGES

FIELD SURVEY	# POLES	RATE	TOTAL
TOTAL POLES	197	-	\$2,210.40
Additional Travel Time*			
TOTAL Charges			\$2,210.40

AUTHORIZATION FOR FIELD SURVEY

FORM 2

Licensee	TOWN OF MT. WASHINGTON
License Application Number	AMA1500120004
Municipality	MT WASHINGTON
State	MA

* Based on average of 75 poles surveyed per day, a travel time charge has been added for each additional day required to complete the survey.

Please note, if your payment for the field survey charges is less than the amount required, the correct payment must be received by this office in order to schedule the survey.

The required field survey covering Pole Attachment License Application #AMA1500120004 is authorized. Enclosed is the advance payment in the amount of \$633.15

Licensee Representative*	JIM BUHRDORF
Licensee Representative Signature	JIM BUHRDORF
Title	ENGINEERING MANAGER
Email	jbuhrdorf@ex2technology.com
Phone	402-506-9648
Cell	402-669-8099
Date	09/07/2016

FIELD SURVEY CHARGES

FIELD SURVEY	# POLES	RATE	TOTAL
TOTAL POLES	37	-	\$633.15
Additional Travel Time*			
TOTAL Charges			\$633.15