

Grafton County, NH



Request for Proposals Middle-Mile Fiber Optic Network

July 28, 2021

NOTICE OF REQUEST FOR PROPOSALS

Grafton County is soliciting proposals for:

Middle-Mile Fiber Optic Network

Proposal Invitation No.: GC21-22A

Proposal for: Middle-Mile Fiber Optic Network

Proposal Due Date & Time: August 5, 2021 – 12:00 p.m. / E.S.T.

Address: Grafton County Administration
3855 Dartmouth College Highway
North Haverhill, NH 03774
Attn: Nik Coates
Broadband Committee Chair

Section 1. General Information

Electronic proposals will be accepted by the Grafton County Broadband Committee Chair until 12:00 p.m. local time – Thursday, August 5, 2021. Proposals received after this specified time and date will not be considered.

Grafton County is seeking a partner that can design, construct, maintain and manage an affordable, reliable and scalable fiber optic middle mile network facilities (“Fiber Build”) to support next generation high speed broadband internet to businesses, residences and other entities. The partner would assist the County with acquiring funds to support the Fiber Build from NTIA and other governmental and private sources.

The Fiber Build will be designed to facilitate the expansion of economic development, distance education, telemedicine, smart government applications, digital divide solutions and other advanced internet and IP based products and solutions. As part of this project, the County is also integrating the Fiber Build with the County’s existing fiber-based network in order to interconnect County buildings and services, the UNH IBEAM network, with the middle-mile network. It is the intent that the Fiber Build will support a follow-on scope of work under a future solicitation to build last mile connections in each municipality. The middle-mile Fiber Build will go to each municipal town hall/office in the County and be the basis for connecting to County services, and fiber to other municipal facilities, and fiber to the premises for business and residential customers.

The proposals submitted and the contract, if awarded, shall be in complete accordance with, without limitation, this request for proposals, attached specifications, all codes, requirements, and regulations referenced therein, unless changes are mutually agreed upon by Grafton County and the selected vendor during contract negotiations.

Questions regarding this Request For Proposals should be in writing via email and should reference the above RFP number, GC21-22A, in the Subject line. Submit all questions to Grafton County Broadband Committee Chair Nik Coates via email at townadmin@townofbristolnh.org.

County Overview

Grafton County is one of ten counties in New Hampshire and is located on the northwest portion of the State. The county has a total area of 1,750 square miles, of which 1,709 square miles are land and 41 square miles are water. It is the second-largest county in New Hampshire by area. The County is heavily rural and has 39 municipalities (one city, 38 towns). About half of its area is in the White Mountain National Forest. Many lakes and mountains are here, as are Dartmouth College, Plymouth State University and home to Dartmouth Hitchcock Medical Center and the Hubbard Brook Experimental Forest. Many of the 4,000-foot mountains of New Hampshire are within the county.

As of the 2010 United States census, there were 89,118 people, 35,986 households, and 22,074 families in the county. The population density was 52.2 inhabitants per square mile. There were 51,120 housing units at an average density of 29.9 per square mile. The populations of many of the towns with lakes and mountains increase significantly during the summer months.

There are 48 known wireless towers throughout the county and 11,313 business locations. Some of the major employers are Dartmouth Hitchcock Medical Center, Dartmouth College, Hypertherm, FujiFilm, Waterville Valley Resort, Freudenberg, NE Wire Technologies, Littleton Regional Hospital, Littleton Coin, and many school districts. Interstates 93 and 89 run through the county, connecting the county to the Boston and Montreal metro areas

The median household income was \$53,075 and the median family income was \$66,253. The per capita income for the county was \$28,170. About 5.1% of families and 9.8% of the population were below the poverty line, including 9.8% of those under age 18 and 10.6% of those age 65 or over.

Project Background

Like many rural areas in the nation, portions of Grafton County have low population density, making it less desirable for telecommunications providers to invest in deploying and operating a reliable and affordable broadband network. Faced with challenges in economic development in a more information-based age, along with complaints from county residents and businesses regarding the need for broadband in support of tele-medicine, tele-education, tele-business and tech innovation, the Grafton County Board of Commissioners approved the formation of the Grafton County Broadband Committee, made up of representatives from a variety of member towns entities in the county, to research and recommend a solution to this need.

The Broadband Committee has decided to move forward with an RFP for one or more vendors to design, construct, manage and maintain a middle mile fiber project connecting County facilities and extending out to every municipal town hall/town office in the county along with business and education centers across the County. The solution should be fiber based, but with the understanding that the Fiber Build will be available for use to support backhaul for wireless towers and service providers that may extend broadband service for miles in all directions along

the fiber route in areas that are otherwise not feasible to serve with fiber alone.

The intent of Grafton County is for the selected vendor to design, construct, maintain and manage a diverse, redundant, open access, middle mile, backbone fiber facility and to integrate the Fiber Build into the County's existing fiber-based network in order to interconnect County buildings and services and the UNH IBEAM network. The selected vendor will assist the County with acquiring funds to support the Fiber Build including development of a grant application for funding from NTIA and to otherwise help identify and apply for other governmental and private funds.

The Fiber Build shall be designed and built so that it capable of being interconnected with two planned future phases of broadband infrastructure development in Grafton County that are outside the scope of this project:

- (1) Fiber to the premise for all residents and businesses in more populated areas, with a minimum starting speed of 100 Mbps symmetrical and capable of up to 10Gbps.
- (2) Fiber to the tower to provide backhaul for wireless internet service to residents, businesses and other areas where fiber to the premise is not feasible or is cost-prohibitive.

The Fiber Build requested in this RFP should be designed and built with the capability and capacity to be extended in these two ways.

Using industry standards, the network shall allow for simplified physical and logical transition or demarcation points to serve as hand off to the County to connect to its network and future state items 1 and 2 as outlined above. Use of and transition between aerial and underground access must be clearly identified in the proposal. Aerial splice points must have joint use agreements in place and allow for partnering with others including the County as needed. Cost for transition from aerial to vault splicing must be clearly identified noting responsible party; specifically at hand off to the County for its network, FTTP, and close proximity to possible wireless sites and/or towers.

Clarification and/or Exceptions of Documentation

Vendors requiring clarification or having a dispute with these documents must advise Broadband Committee Chair Nik Coates at townadmin@townofbristolnh.org of the nature of the clarification or basis of the dispute, in writing, no later than August 2, 2021, 12:00pm. If no written contact has been made by this specified date, the Vendor waives the right to any future consideration and accepts the documents as published and/or revised by the County. Submitting a signed bid shall be construed as a total compliance statement for all paragraphs included in this RFP.

Section 2. Schedule of Activities

RFP Schedule

- RFP Issued: July 28, 2021
- Prospective respondent's written question deadline: August 2, 2021

- Responses to questions and addendums issued: August 3, 2021
- Due date for proposals: August 5, 2021
- Notification date for selection: August 6, 2021

NOTE: Award date is approximate and subject to change at the discretion of Grafton County.

Section 3. Proposal Format RFP Submittal

All proposals are due and must be emailed to on or before, August 5, 2021, at 12:00 p.m. Proposals submitted late will not be considered or accepted.

Each respondent must submit a digital copy of the proposal in PDF format by email to Broadband Committee Chair Nik Coates at townadmin@townofbristolnh.org. Due to the high volume of emails received, respondents are advised to send an email before the proposal to advise that the proposal will be coming in a subsequent email.

Proposals submitted must be clearly marked GC21-22A – Grafton County Middle-Mile Network Proposal and list the company's name and address.

Proposal Cover Sheet:

Middle-Mile Network

For

Grafton County, New Hampshire

Due 12:00 p.m. EST, August 5, 2021 RFP No. GC21-22A

This RFP shall be valid for ninety (90) days from date of opening

Company Name

Company Address

City

State

Zip

Telephone ()

Fax ()

E-Mail Address

The following Proposal is in strict accordance with the Grafton County RFP, dated _____ and all attachments as referenced therein.

“I hereby certify that I understand and am aware that Grafton County, at its sole discretion, reserves the right to waive technicalities or irregularities, to reject any or all proposals, and/or to accept that proposal which is in the best interest of the County.

The award of this proposal, if made, may be based on considerations other than total cost and may be awarded based on various considerations, including without limitation: Vendor’s experience and/or qualifications, past experience, cost, standardization, technical evaluation and oral and/or written presentations as required. The County reserves the right to accept all or part, or to decline the whole, and to award this RFP to one or more Vendors. There is no obligation to buy. The RFP, if awarded, will be in the judgment of the County the most responsive to the County’s needs and goals. Grafton County encourages the use of local, minority and/or women-owned businesses as subcontractors or in joint venture arrangements.”

Name and Title

Authorized Signature

Date Signed

Name of Contact for Questions

Contact Phone Number

Contact Email Address

Section 4. Expected Outcomes and High-Level Deliverables

Grafton County leadership is committed to the successful future of our community. To that end, we believe the following to be true:

- Affordable and reliable high-speed Internet access to all residents and business is essential to enabling a “world class community.”
- Sustainable economic development, growth, opportunity, and innovation are dependent on high- speed access.
- We should leverage existing assets for the greatest benefit to citizens and community business partners.
- County leadership can help engage local business leaders and service providers to plan for our community’s needs.

Specific Business Model and Requirements

Please submit a proposal based on these criteria. Additional proposals may be submitted if a Vendor has other models that meet the expected outcomes and high-level deliverables.

1. The Vendor(s) must be registered and/or authorized to build, construct and manage broadband facilities in accordance with New Hampshire statutes and regulations.
2. Proposal should include past performance, capabilities, and qualifications demonstrated by an explanation of how the responder is suitable for this project. At a minimum responder, should address the following:
 - a. Identify three (3) other public-entity networks your company has built and operated, as well as any network design and build experience; include the level of broadband speed, technology type, availability and adoption among different categories of end users and unique capabilities or attributes. Discuss any broadband infrastructure projects specific to the Grafton County region, and any network deployment experience for infrastructure in excess of 100 miles, if applicable. Discuss your capabilities with regard to engineering and design of broadband networks systems or any alternative technology, if that is what you propose. Include entity name, entity address, contact name, title, phone number and email address.
 - b. Customer satisfaction – Provide past or current customer satisfaction surveys or metrics that demonstrate all facets of the overall customer experience. Letters of recommendation are sufficient.
 - c. Describe agreements with other service providers, government, or non-profit entities you have undertaken, particularly any in which you provide service to unserved or underserved populations. Describe the nature of the projects and your company’s role.
 - d. Discuss your capabilities regarding operation and maintenance of the form of broadband technology you propose. Overall operation, including routine and emergency maintenance, of the network will be crucial to its success. Please demonstrate through experience your ability to operate and maintain all aspects of the network.

- e. Financial Statements: Provide audited financial statements for the most recent two (2) year period. Is your company a subsidiary or affiliate of another company? Provide full disclosure of all direct or indirect ownership. If you are a wholly owned subsidiary of another company or corporation and do not possess audited financial statements, unaudited financial statements for the subsidiary for a two (2) years period must be submitted as supplemental information to the company's financial statements in order to meet this requirement. These documents should be affixed to all proposals, submitted by the company named in the proposal sheet. Financial information can be labeled confidential and proprietary.
- f. Provide any pending legal matters against your company. Describe any pending agreements to merge or sell your company or any portion.
- g. Provide customer service metrics outlining your plan's targets to include performance guarantee(s) with at-risk assumptions. Describe any administrative or technical assistance that you may provide in assisting the County with acquiring fund from NTIA and other state, federal, or private sources.

3. Vendor should describe their approach to the following:

The network will provide Grafton County with a diverse redundant open access broadband backbone that provides service to all anchor locations in Grafton County specified in Attachment B. It will also integrate the locations in Attachment A to the locations in Attachment B.

- a. Unless otherwise specified, all listed locations in Attachment A will have a 12-fiber lateral (using duct/conduit) built into the building, terminated on a fiber termination/patch panel at an internal location not more than 100 cable feet from the point of entry. Costs for internal cable distances of more than 100 cable feet from the point of entry will be paid for by the facility. At least thirty (30) feet of separation from existing telecommunication providers' points of entry and lateral entrance routes is required.
- b. For each connected entity location, there will be a quantity of dedicated fibers in the middle- mile fiber cable equal to the number of fibers in that location's lateral. Note: For scalability, spare private fibers for the county's use should be planned for as additional county-related sites are added in subsequent phases.
- c. Vendor will include the optics (xFP or SFP+, for example) cost to light two (2) fiber pairs at each specified location four (4) at the Grafton County locations of Grafton County plus a spare set per specified location, in their pricing. Assume 10 Gbps bandwidth for pricing purposes. Specify additional one- time/recurring costs, if any, for optics above and beyond the initial optics required above.

4. Provide a map (PDF format) of your proposed network routes, including notations for fiber count, aerial versus underground route segments, identification of Attachment A locations, tower locations, and other locations of significance along the fiber route(s).

5. Please describe the recognized telecommunication industry fiber optic network material and construction specifications you will adhere to for this project. Please review Attachment B and indicate how you will comply or propose to amend each requested specification.

7. Please confirm the network will support both active and passive signal distribution.
8. Please describe in detail how Vendor will document the fiber optic network, including, but not limited to: as-builts, fiber strand assignments, maintenance records, splicing assignments, link loss budgets and other operating characteristics. How will this information be shared with the County at completion of the project and an ongoing basis?
9. Please describe in detail how Vendor will monitor the network for physical and transmission service issues, impairments, and outages. How will this information be shared with the County?
10. Please describe in detail Vendor's Service Level Agreement policies and thresholds for:
 - a. Dark Fiber:
 - i. Availability
 - ii. Mean Time To Respond
 - iii. Mean Time To Repair
11. Please describe in detail Vendor's Service Level Agreement credit policies and structure for violations of the above thresholds.
12. Please describe in detail Vendor's trouble ticketing system, including customer portals and how information will be shared with the County.
13. Please describe in detail Vendor's network management capabilities and its escalation policies and procedures.
14. Please provide a detailed overview, at minimum that includes a deployment plan, communications plan, and timelines to accomplish the goal of building a Middle-Mile Fiber Optic Network/Wide Area Network, along with local lateral drops to listed locations, as specified in this RFP.
15. Please provide a description of the roles and responsibilities envisioned for Vendor, Vendor team members, Grafton County and its affiliates, and subcontractors and/or third parties (if applicable) for each of the following:
 - a. Network(s) design
 - b. Network(s) construction
 - c. Network(s) operations and management
16. Please provide information regarding your strategy/suggestions for interconnecting this network to other middle-mile networks such as UNH's IBEAM, public safety services, Department of Transportation, etc.
17. Attachment C includes the fiber construction specifications required by the County for this project.

Section 5. Proposal Evaluation and Selection Process

It is the intent of Grafton County to award the contract for this project to the entity most responsive to all aspects of this RFP. A committee will evaluate all proposals based on the criteria and weighting described below:

25% - Project Plan – Including a work breakdown structure, duration estimates per activity and statement of work with all planned deliverables.

25% - Ability to Complete the Project – schedule, specifications, scope, quality, customer satisfaction.

20% - Cost

15% - Past Performance/Project Success – previous success with similar projects, including specific references and point of contact information.

10% - Innovation – Ability to provide viable options and scalability which consider our local and regional opportunities and challenges.

5% - Corporate stability and ability to provide proposed services.

Section 6. General Terms

Proprietary Information

Any restriction on the use of data contained within any proposals must be clearly stated in the proposal itself. Proprietary information submitted in response to this RFP will be handled in

accordance with applicable purchasing procedures. Each and every page of the proprietary material must be labeled or identified with the word "proprietary".

Response Material Ownership

All material submitted regarding this RFP shall become property of Grafton County and will not be returned to the respondent. Responses received will be retained by Grafton County and may be reviewed by any person after final selection has been made, subject to paragraph above. Grafton County has the right to use any or all system ideas presented in reply to this RFP, subject to limitations in paragraph above. Disqualification or non-selection of a respondent or proposal does not eliminate this right.

Incurring Costs

Grafton County is not liable for any cost by the respondents prior to issuance of a contract.

Sufficient Appropriation

A contract awarded as a result of this RFP is contingent upon the availability of funds. A contract may be terminated or reduced in scope if sufficient funds do not exist without penalty to Grafton County. Sending written notice to the Vendor shall effect such termination or reduction in scope.

The Grafton County Administrator's Manager's decision to terminate or reduce the scope due to insufficient appropriations shall be accepted as final by the Vendor.

Compliance with Laws and Regulations

The successful Vendor shall comply with all Federal, State, and Local laws and regulations and Grafton County rules and policies pertaining to work under its charge, and shall, at its expense, procure any permits that may be required.

Israel Boycott Certification

If the Vendor engages in for-profit activity and has 10 or more employees, and if this Agreement has a value of \$100,000 or more, Vendor certifies it is not currently engaged in, and agrees for the duration of this Agreement not engage in, a boycott of goods or services from Israel. This certification does not apply to boycott prohibited by 50 U.S.C. § 4842 or a regulation issued pursuant to 50 U.S.C. § 4842.

Cooperative Use Agreement

In addition to the County of Grafton and with approval of the awarded contractor, this Agreement may be extended for use by other municipalities, school districts and government agencies of other Counties and the State. Any such usage by other entities must be in accordance with the ordinance, charter and/or procurement rules and regulations of the respective political entity.

Orders placed by other agencies and payment thereof will be the sole responsibility of that agency. The County shall not be responsible for any disputes arising out of transactions made by other agencies who utilize this Agreement.

Section 7. Insurance Requirements

Statement of Purpose

Grafton County (the "County") from time to time enters into agreements, leases and other contracts with Other Parties (as hereinafter defined).

Such Agreements shall contain at a minimum risk management/insurance terms to protect the County's interests and to minimize its potential liabilities. Accordingly, the following minimum requirements shall apply:

County Defined

The term County (wherever it may appear) is defined to mean Grafton County, New Hampshire, itself, its Board, employees, volunteers, representatives, contracted consultants, and agents.

Other Party Defined

The term Other Party (wherever it may appear) is defined to mean the other person or entity which is the counter-party to the Agreement with the County and any of such Other Party's subsidiaries, affiliates, officers, employees, volunteers, representatives, agents, contractors and subcontractors.

Loss Country/Safety

Precaution shall be exercised at all times by the Other Party for the protection of all persons, including employees, and property. The Other Party shall comply with all laws, rules, regulations or ordinances related to safety and health, and shall make special effort to anticipate and detect hNHardous conditions and shall take such precautionary and prompt action where loss control/safety measures should reasonably be expected.

The County may order work to be stopped at any time, without liability, if conditions exist that present immediate danger to persons or property. The Other Party acknowledges that such stoppage, or failure to stop, will not shift responsibility for any damages from the Other Party to the County.

Insurance – Basic Coverages Required

The Other Party shall procure and maintain the following described insurance, except for coverage specifically waived by the County, on policies and with insurers acceptable to the County, and insurers with AM Best ratings of no less than A.

These insurance requirements shall in no way limit the liability of the Other Party. The County does not represent these minimum insurance requirements to be sufficient or adequate to protect the Other Party's interests or liabilities but are merely minimums.

"Except for workers' compensation and professional liability, the Other Party's insurance policies shall be endorsed to name Grafton County as additional insured. It is agreed that the Other Party's insurance shall be deemed primary and non-contributory with respect to any insurance or self-insurance carried by Grafton County for liability arising out of the operations of this agreement.

Except for worker's compensation, the Other Party waives its right of recovery against the County, to the extent permitted by its insurance policies.

The Other Party's deductibles/self-insured retentions shall be disclosed to the County and may be disapproved by the County. They shall be reduced or eliminated at the option of the County. The Other Party is responsible for the amount of any deductible or self-insured retention.

Insurance required of the Other Party or any other insurance of the Other Party shall be considered primary, and insurance of the County shall be considered excess, as may be applicable to claims which arise out of the Hold Harmless, Payment on Behalf of Grafton County, Insurance, Certificates of Insurance and any Additional Insurance provisions of this agreement, contract, or lease.

Commercial General Liability: This insurance shall be an "occurrence" type policy written in comprehensive form and shall protect the Other Party and the additional insured against all claims arising from bodily injury, sickness, disease, or death of any person other than the Other Party's employees or damage to property of the County or others arising out of any act or omission of the Other Party or its agents, employees, or Subcontractors and to be inclusive of property damage resulting from explosion, collapse or underground exposures. This policy shall

also include protection against claims insured by usual personal injury liability coverage, and to insure the contractual liability assumed by the Other Party under the article entitled INDEMNIFICATION, and “Products and Completed Operations” coverage.

The Other Party is required to continue to purchase products and completed operations coverage for a minimum of three years beyond the County’s acceptance of renovation or construction properties.

The liability limits shall not be less than:

Bodily Injury and Property Damage	\$1,000,000 Single limit each occurrence
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Business Automobile Liability: Business Auto Liability coverage is to include bodily injury and property damage arising out of ownership, maintenance or use of any auto, including owned, non-owned and hired automobiles and employee non-ownership use.

The liability limits shall not be less than:

Bodily Injury and Property Damage	\$1,000,000 Single limit each occurrence
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Workers’ Compensation: Vendor shall maintain appropriate Workers’ Compensation coverage during the term of the contract.

All subcontractors shall be required to maintain Workers’ Compensation.

Excess Liability: This insurance shall protect the Other Party and the additional insured against all claims in excess of the limits provided under the employer’s liability, commercial automobile liability, and commercial general liability policies. The policy shall be an “occurrence” type policy, and shall follow the form of the General and Automobile Liability.

The liability limits shall not be less than \$1,000,000.

Evidence/Certificates of Insurance

Required insurance shall be documented in Certificates of Insurance that will provide that the County shall be notified at least 30 days in advance of cancellation, nonrenewable, or adverse change.

New Certificates of Insurance are to be provided to the County at least 15 days prior to coverage renewals.

If requested by the County, the Other Party shall furnish complete copies of the Other Party’s insurance policies, forms, and endorsements.

For Commercial General Liability coverage, the Other Party shall, at the option of the County,

provide an indication of the amounts of claims payments or reserves chargeable to the aggregate amount of liability coverage.

Receipt of certificates or other documentation of insurance or policies or copies of policies by the County, or by any of its representatives, which indicate less coverage than required does not constitute a waiver of the Other Party's obligation to fulfill the insurance requirements herein.

Attachments:

- A. Grafton County Current Network Locations
- B. Municipal Town Hall/Town Office Locations
- C. Fiber Construction Specifications

Attachment A: Grafton County Current Network Locations

Department	Dept Head	Address	Main Phone Number
<u>Commissioner's Office</u>	Andrew Dorsett	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-6941
<u>Information Technology</u>	SNS		(603) 444-8440
<u>Human Resources</u>	Karen Clough	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-2034
<u>Register of Deeds</u>	Kelley Monahan	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-6921
<u>UNH Cooperative Extension</u>	Donna Lee	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-6944
Conservation District	Pam Gilbert	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-6973
<u>Maintenance</u>	Jim Oakes	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-2700
<u>Department of Corrections</u>	Tom Elliott	3787 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-2019
<u>County Attorney</u>	Martha Ann Hornick	3785 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-6968
<u>Sheriff's Department</u>	Jeff Stiegler	3785 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-2111
			Emergency Only (603) 787-6911
<u>Nursing Home</u>	Craig Labore	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-6971
<u>Farm</u>	Grant Nelson	3855 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-2755
<u>Alternative Sentencing</u>	Renee DePalo	3801 Dartmouth College Hwy, N. Haverhill, NH 03774	(603) 787-2042
State Offices Located in the Court House			
Superior Court	3785 Dartmouth College Hwy, N. Haverhill, NH 03774		1-855-212-1234
Circuit Court	3785 Dartmouth College Hwy, N. Haverhill, NH 03774		1-855-212-1234
Probation & Parole	3785 Dartmouth College Hwy, N. Haverhill, NH 03774		(603) 787-6900

**Attachment B: Redundant Fiber Backbone Desired
Town Hall/Town Office Locations**

Location	Address	City	State	Zip	Lateral/Backbone Fibers
Alexandria Town Hall	47 Washburn Road	Alexandria	NH	03222	TBD
Ashland Town Hall	20 Highland Street	Ashland	NH	03217	TBD
Bath Town Hall	4 W Bath Road	Bath	NH	03740	TBD
Benton Town Hall	221 Coventry Road	Benton	NH	03785	TBD
Bethlehem Town Hall	2155 Main Street	Bethlehem	NH	03574	TBD
Bridgewater Town Hall	297 Mayhew Turnpike	Bridgewater	NH	03222	TBD
Bristol Town Office	5 School Street	Bristol	NH	03222	TBD
Campton Town Office	12 Gearty Way	Campton	NH	03223	TBD
Canaan Town Hall	1169 US Route 4	Canaan	NH	03741	TBD
Dorchester Town Hall	1021 NH Route 118	Dorchester	NH	03266	TBD
Easton Town Hall	1060 Easton Valley Road	Easton	NH	03580	TBD
Ellsworth Town Hall	3 Ellsworth Pond Road	Ellsworth	NH	03223	TBD
Enfield Town Hall	23 Main Street	Enfield	NH	03748	TBD
Franconia Town Hall	421 Main Street	Franconia	NH	03580	TBD
Grafton Town Office	E Grafton Road	Grafton	NH	03240	TBD
Groton Town Hall	754 North Groton Road	Groton	NH	03241	TBD
Hanover Town Hall	41 Main Street	Hanover	NH	03755	TBD
Haverhill Town Hall	2975 Dartmouth College Highway	Haverhill	NH	03774	TBD
Hebron Town Hall	7 School Street	Hebron	NH	03241	TBD

Holderness Town Hall	1089 US-3	Holderness	NH	03245	TBD
Landaff Town Hall	12 Center Hill Road	Landaff	NH	03585	TBD
Lebanon City Hall	51 North Park Street	Lebanon	NH	03766	TBD
Lincoln Town Hall	148 Main Street	Lincoln	NH	03251	TBD
Lisbon Town Hall	46 School Street	Lisbon	NH	03585	TBD
Littleton Town Office	125 Main Street, Ste 200	Littleton	NH	03561	TBD
Lyman Town Office	65 Parker Hill Road	Lyman	NH	03585	TBD
Lyme Town Hall	1 High Street	Lyme	NH	03768	TBD
Monroe Town Hall	152 Woodsville Road	Monroe	NH	03771	TBD
Orange Municipal Building	8 Town House Road	Orange	NH	03741	TBD
Orford Town Hall	2529 NH Route 25A	Orford	NH	03777	TBD
Piermont Town Hall	130 NH Route 10	Piermont	NH	03779	TBD
Plymouth Town Hall	6 Post Office Square	Plymouth	NH	03264	TBD
Rumney Town Hall	12 Buffalo Road	Rumney	NH	03266	TBD
Sugar Hill Town Hall	1411 NH Route 117	Sugar Hill	NH	03586	TBD
Thornton Town Hall	16 Merrill Access Road	Thornton	NH	03285	TBD
Warren Town Hall	8 Water Street	Warrant	NH	03279	TBD
Waterville Valley Town Office	14 TAC Lane	Waterville Valley	NH	03215	TBD
Wentworth Town Hall	7 Atwell Hill Road	Wentworth	NH	03282	TBD
Woodstock Town Hall	165 Lost River Road	North Woodstock	NH	03262	TBD

Attachment C: Fiber Construction Specifications

The following are general terms that apply to the construction of fiber for the project. Vendor should indicate how they intend to comply with or amend these specifications.

Meet-me Hole and Mid-Span Interconnection Splicing

It is possible that Grafton County may want to interconnect with the existing or newly planned carrier facilities at meet-me manholes or mid-span splice locations. Vendors should detail policies and guidelines that document meet-me manhole and mid-span interconnection procedures along with detailed costs for these activities.

Dark Fiber Performance

Grafton County prefers newly built fiber that contains a homogenous fiber type throughout the entire build.

Dark Fiber Maintenance

- Operations and Maintenance Practices: Grafton County will require on-going maintenance and operation of Indefeasible rights of use (IRU) or owned fiber during the term of the contract. When pricing maintenance and operations as part of the monthly recurring costs, the Vendor should include an overview of fiber maintenance practices including:
 - Routine maintenance and inspection
 - Scheduled maintenance windows and scheduling practices for planned outages
 - Fiber monitoring including information on what fiber management software is used, what fiber monitoring system is used, and who performs the monitoring
 - Handling of unscheduled outages and customer problem reports
 - What service level agreement is included, and what alternative service levels may be available at additional cost
 - What agreements are in place with applicable utilities and utility contractors for emergency restoration
 - Repair of fiber breaks
 - Replacement of damaged fiber
 - Replacement of fiber which no longer meets specifications
 - Policies for customer notification regarding maintenance
 - Process for changing procedures, including customer notification practices
 - Property restoration

New Build Fiber Statement of Work

The Work is defined as:

Project Management

- Selected vendor and its subcontractors will provide all project management to accomplish the installation of all project work.
- Provide engineer(s), certified on selected fiber system specifications and procedures to manage all phases of project as outlined in this proposal. This includes ordering and

managing the bill of materials as outlined below, directing and managing cable placement and restoration, directing and managing splicing crews and providing detailed documentation at the end of the project.

- Selected vendor and its subcontractors will develop a project management plan, which will include a milestone chart. The milestone chart will outline any critical path events and then track these with the appropriate agency/organization/entity.

Material Management

- Selected vendor and its subcontractors will provide all material management to ensure that the project remains on track according to the project milestones.
- Selected vendor and its subcontractors will develop in conjunction with selected contractor plants and other suppliers a material management plan.

Property Restoration

- All cable routes, which are plowed, will be restored to as near to original condition as possible.

Install overhead and underground fiber optic cable

- Bore approximately (Approximate Number) feet of fiber optic cable through inner duct/conduit/handhole system
- Plow approximately (Approximate Number) feet of fiber optic cable in accordance with selected Vendor installation specifications.
- Install approximately (Approximate Number) feet of aerial fiber optic cable in accordance with selected Vendor installation specifications.
- Install hand-holes and place marker/locator posts.
- Vendor will provide specific details of cable placement using aerial photography and CAD drawings.

Install and Splice Hardware

- Prep closures, cables, fibers and splice fibers at all field locations
- Fiber to fiber fusion splicing of optical fibers at each point
- Individual splice loss will be ≤ 0.5 dB for single-mode unless, after 3 attempts, these values cannot be achieved, then the fibers will be re-spliced until a splice loss within
- 0.05 dB of the lowest previous attempts is achieved. Splice loss acceptance testing will be based on the fusion splicer's splice loss estimator.

Final Testing

- In addition to splice loss testing, selected Vendor will perform end-to-end insertion loss testing of single-mode fibers at 1310 nm and 1550 nm from one direction for each terminated fiber span in accordance with TIA/EIA-526-7 (OFSTP 7). For spans greater than 300 feet, each tested span must test to a value less than or equal to the value determined by calculating a link loss budget.
- Inspect each terminated single-mode fiber span for continuity and anomalies with an Optical Time Domain Reflectometer (OTDR) at 1550 nm from one direction in accordance with OTDR operating manual.

Documentation

- Provide final documentation consisting of:
 - Route “As-Built” Maps/Diagrams
 - End-to-End Insertion Loss Data
 - OTDR Traces
 - Individual Splice Loss Data

General Scope of Work (Description for all routes)

- Placing of associated hand-holes, marker posts, locator posts, inner duct, and miscellaneous materials.
- Splicing of fiber optic cables as specified.
- Procuring and Provisioning of hand holes and miscellaneous materials required to accomplish the above.

Bid Specifications

- All splicing shall be by the fusion method.
- All splicing enclosures and Hand-Holes shall be of a type to be determined by the owner.
- All Hand-Holes shall be DOT approved, 45,000 lb. load rated CDR or comparable enclosures.
- All trench or plowed conduits shall be placed at a depth of 36” along roadways and 24” on private property.
- All road and driveway bores shall be at a depth of 36” and will have at least two (2) 1.25” SDR11 HDPE conduits.
- All buried splice locations will be marked with a locator post and a copper ground wire shall be attached to the splice closure/cable sheath.
- Buried marker posts shall be placed at least every 1500’ or per State/local requirements.
- Warning tape shall be placed 12” above the buried cable.
- All highway shoulders, schoolyards, and ditch lines will be compacted and restored to satisfactory condition.
- All NH Department of Transportation (NHDOT) encroachment permits, railroad encroachment permits, and United States (US) agency permits shall be submitted by selected vendor in accordance with the permitting agency requirements.
- The vendor shall be responsible for the payment of any permitting fees and shall be the owner of said facilities.
- Vendor shall furnish an as-built drawing to the owner of connected facilities.
- Vendor shall perform an end-to-end continuity and loss test on each spliced fiber segment and provide the owner with the decibel db loss of each fiber segment.
- Vendor shall be responsible for submitting the appropriate Diggers Hotline locate requests.
- The County shall grant Vendor right of way permission for county-owned properties and roadways.
- All cables to buildings shall be fusion spliced within a minimum of 100’ of entering a building at a location to be determined by the owner with an existing single mode fiber and terminated at customers’ rack.
- A min. of 100’ coil of cable shall be left in each Hand Hole/Building for splicing use.

Right-of-Way Acquisition & Permitting

- Vendor is responsible to ensure that all cable routes have approved access and rights-of-way for all proposed cables installations.
- Vendor is responsible for pulling all required construction permits. Selected Vendor and its subcontractors will provide selected vendor with any information necessary to pull these permits in a timely fashion.
- Vendor will be responsible for make ready applications and make ready process.

Route Maps

- Selected vendor is responsible for providing maps, drawings or aerial photographs of the route.

Final Inspection

- The County will provide at their discretion a person(s) to witness any final testing or construction verification. The person designated by the County will be required to initial/provide acceptance of any results. This person(s) will represent the County during any and all acceptance testing. This does not relieve the selected Vendor from providing agreed upon documentation or absolve the selected Vendor of any warranty support.