

**National Telecommunications and Information Administration  
Broadband Technology Opportunities Program  
Finding of No Significant Impact  
Vermont Telephone Company, Inc.  
Vermont Broadband Enhanced Learning Link Project**

**Summary**

Vermont Telephone Company, Inc. (VTel) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to install 132 miles of new fiber optic cable in 28 segments throughout Vermont, and in nearby Plattsburgh, New York and Lebanon, New Hampshire. The new fiber optic cable will be installed aerially on existing utility poles in existing rights-of-way (ROWs). If necessary, wooden utility poles unable to accommodate the new infrastructure will be replaced by the utility owner concurrent with fiber installation; VTel will be responsible for replacing only those utility poles they own. VTel will use existing buildings and structures to store electronics and related equipment. In addition, VTel will install four small repeater buildings on concrete slabs within existing utility line ROWs. The new infrastructure will supplement VTel's existing network by delivering broadband services to 80 community anchor institutions (CAIs). The new CAIs will include high schools, hospitals, colleges, universities, community colleges, telephone companies, and public safety entities. The new network will also provide high-speed connectivity for the existing statewide Vermont Department of Public Safety (VTDPS) microwave network on two of the State's highest peaks. The planned network expansion effort is referred to as the Vermont Broadband Enhanced Learning Link (VT BELL) Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to VTel through BTOP, as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the Project completed within three years. This timeline will comply with the laws and regulations governing the use of this ARRA grant funding.

BTOP supports the deployment of broadband infrastructure in unserved and underserved areas of the United States and its Territories. As a condition of receiving BTOP grant funding, recipients must comply with all relevant Federal legislation, including the National Environmental Policy Act of 1969 (NEPA). Specifically, NEPA limits the types of actions that the grantee can initiate prior to completing required environmental reviews. Some actions may be categorically excluded from further NEPA analyses based on the specific types and scope of work to be conducted. For projects that are not categorically excluded from further environmental review, the grant recipient must prepare an Environmental Assessment (EA) that meets the requirements of NEPA. After a sufficiency review, NTIA may adopt the EA, use it as the basis for finding that the project will not have a significant impact on the environment, and issue a finding of no significant impact (FONSI). Following such a finding, the BTOP grant recipient may then begin construction or other activities identified in the EA as the preferred alternative, in accordance with any special protocols or identified environmental protection measures.

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VTel completed an EA for this Project in May 2011. NTIA reviewed the EA, determined it is sufficient, and adopted it as part of the development of this FONSI.

The Project includes:

- Installing 132 miles of aerial fiber optic cable on existing utility poles in existing ROWs and through existing conduits on bridges;
- Replacing, or coordinating with local utility owners to replace, wooden utility poles that are unable to accommodate the new infrastructure;
- Constructing four 10-foot by 10-foot repeater buildings on concrete slabs within existing utility line ROWs;
- Installing electronics and related equipment in VTel's new data center in Wallingford, Vermont, the four new repeater buildings, and other existing structures along the route; and
- Installing fiber drops to connect 80 new CAIs and the existing VTDPs microwave network to the new VT BELL network.

Based on a review of the analysis in the EA, NTIA has determined that the Project, implemented in accordance with the preferred alternative, and incorporating best management practices (BMPs) and protective measures identified in the EA, will not result in any significant environmental impacts. Therefore, the preparation of an EIS is not required. The basis for this determination is described in this FONSI.

Additional information and copies of the Executive Summary of the EA and FONSI are available to all interested persons and the public through the BTOP website ([www2.ntia.doc.gov/](http://www2.ntia.doc.gov/)) and the following contact:

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**Purpose and Need**

The purpose of this Project is to enhance or create broadband access opportunities for unserved and underserved Vermont residents. The network will support development of broadband-assisted community meetings, which will be particularly valuable in remote, rural parts of the State. The Project will also enhance connectivity for schools, libraries, healthcare providers,

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community colleges, and other institutions of higher education. Improved internet access for these organizations is expected to stimulate economic growth, create jobs, and encourage retention of the State's students of higher learning. Finally, by providing connectivity to the existing VTDPs microwave network at two locations, this Project will enhance public safety reliability of emergency response services.

**Project Description**

Under this Project, VTel will install 132 miles of aerial fiber optic cable in 28 short segments throughout Vermont and in nearby Plattsburgh, New York and Lebanon, New Hampshire. The new fiber optic cable will be attached to existing utility poles in existing ROWs, or run through existing conduit on bridges. The ROWs within which fiber will be installed are primarily located along existing town and State roadways, although a small portion (approximately seven miles) follows established utility corridors on private property with easements. Workers will first attach the necessary connection hardware to the utility pole, and then hang the fiber optic cable. Along existing roadway ROWs, this work will be conducted using diesel-powered bucket trucks and gasoline-powered pickup trucks operating from the roadway or road shoulder. On overland routes where the ROW does not follow a road, work will be carried out manually by line crews on all-terrain vehicles and ladders to climb poles.

The poles on which cable will be strung are owned and maintained by VTel and other entities, including Central Vermont Public Service, Fairpoint, Green Mountain Power, and Verizon. VTel will contract with existing utility companies to locate the fiber on their poles. If necessary, wooden utility poles unable to accommodate the new infrastructure will be replaced by the utility owner, concurrent with fiber installation. It is estimated that 5% of poles will require replacement. Replacement poles will be erected in the existing ROW within six feet of the existing pole. An auger drill will be used to create a hole 16 to 24 inches in diameter and 8 feet deep. The replacement pole will be set into the new hole, and material excavated during drilling will be backfilled around the pole. Deficient utility poles will be left in place, removed with a pole jack, or cut at the ground surface. Removed poles will be reused, if possible, or disposed in an approved landfill.

VTel will also install four 10-foot-by-10-foot repeater buildings and associated concrete slabs. Three of these buildings will be located in Chelsea, Brandon, and Richmond, Vermont; the remaining building will be located in Plattsburgh, New York. Each building will be situated within existing utility line ROWs. VTel will also install electronics and related equipment in its new data center in Wallingford, the four new repeater buildings, and other existing structures along the route. Fiber drops will also be completed to reach 80 new CAIs and the existing VTDPs microwave network.

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**Alternatives**

The EA includes an analysis of the alternatives for implementing the Project to meet the purpose and need. NTIA also requires that an EA include a discussion of the no action alternative. The following summarizes the alternatives analyzed in the EA.

*Alternative 1 – Aerial Fiber Installation (Preferred Alternative).* This alternative will involve installing 132 miles of new aerial fiber optic cable on existing utility poles or through existing bridge conduit. Wooden utility poles that are unable to accommodate the new infrastructure will be replaced. In addition, four 10-foot-by-10-foot repeater buildings on concrete slabs will be constructed within existing utility line ROWs. Electronics and related equipment will be installed in the new buildings and other existing structures to facilitate network operation. Finally, fiber drops will be installed to connect 80 new CAIs and the existing VT DPS microwave network to the new VT BELL network.

*Alternative 2 – Buried Fiber Installation.* This alternative would involve installation of 132 miles of new fiber optic cable underground or through conduit affixed to existing bridges. Depending on site conditions, the buried cable would be installed via plowing or boring beneath sensitive resources, such as wetlands and streams. A rock saw with a mechanical trencher would also be used for installation of buried fiber in rocky substrate. No utility poles would be replaced under this alternative, but all other Project components remain as outlined under Alternative 1. After evaluation in the EA, the buried fiber alternative was eliminated because it is expected to result in greater disruption, cost, and environmental impacts than the Preferred Alternative. Furthermore, Project implementation under the Buried Cable Alternative would likely not be attainable within the time constraints imposed by NTIA for BTOP awards.

*No Action Alternative.* No action was also considered. This alternative represents conditions as they currently exist in the Project area. Under the no action alternative, there will be no change to the existing fiber optic cable network. As a result, the Project will not meet its intended purposes, including provision of enhanced broadband access to unserved and underserved communities and CAIs in Vermont and nearby Plattsburgh, New York and Lebanon, New Hampshire. The EA examined this alternative as the baseline for evaluating impacts relative to other alternatives being considered.

*Alternatives Considered But Not Carried Forward.* VTel evaluated the use of wireless technologies as an alternative to a fiber-based network expansion. This option would involve erecting a network of radio towers and microwave radios that would require substantial ground disturbance, cause aesthetic impacts, and could not be constructed within the stipulated 3-year period. Moreover, wireless technology would provide less bandwidth than the fiber optic cable alternatives and would not effectively serve the identified CAIs. Accordingly, this alternative was eliminated from further consideration in the EA.

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**Findings and Conclusions**

The EA analyzed existing conditions and environmental consequences of the preferred alternative and the no action alternative in 11 major resource areas, including Noise, Air Quality, Geology and Soils, Water Resources, Biological Resources, Historic and Cultural Resources, Aesthetic and Visual Resources, Land Use and Recreation, Infrastructure, Socioeconomic Resources, and Human Health and Safety. Cumulative impacts were also evaluated.

***Noise***

During Project construction or maintenance activity, noise levels may increase slightly along the installation route. This noise will be generated by the machinery and equipment required to attach cable to existing poles or to drill holes for pole replacement. These short-term and temporary increases in noise levels will be similar to that currently experienced during regular maintenance of the existing utility lines. A slight increase in ambient noise is also expected to result when wind travels over the newly installed overhead cable. This noise will be intermittent and negligible. Based on these assessments, no significant noise impacts are expected to occur as a result of this Project.

***Air Quality***

Operation of construction vehicles to install aerial fiber will result in air pollutant and greenhouse gas (GHG) emissions, as well as fugitive dust. Accordingly, implementation of this Project will have a minor and temporary effect on air quality. To minimize these construction-related impacts, VTel will implement appropriate BMPs, including re-establishing ground cover on disturbed soils through seeding; maintaining trucks and equipment engines in good running condition; cleaning equipment, as needed, to reduce tracking soil onto adjacent roads; and limiting maximum speeds to 15 miles per hour on unpaved roads. Construction of the network as planned will result in the release of approximately 1,000 metric tons of carbon dioxide equivalent GHG emissions. This estimate is well below the Council on Environmental Quality's presumptive effects threshold of 25,000 metric tons of carbon dioxide equivalent emissions from an action. Operation of the fiber optic cable for data transmission will not create any new air quality concerns. Based on these assessments, no significant impacts to air quality are expected.

***Geology and Soils***

This Project involves hanging fiber optic cable on existing utility poles. In a few locations, existing poles that are unable to accommodate new infrastructure will be replaced. Such activity is typical of existing utility line operations and maintenance, and any replacements will be carried out by the utility company that owns the pole (which may include VTel). Accordingly, the Project may result in minor impacts to soil immediately surrounding replaced poles. However, these impacts will occur within existing, disturbed roadside ROWs where regular mowing and clearing is conducted. The Project is expected to cause minimal or no impact on prime farmland soils or soils of statewide agricultural significance that may overlap with the

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designated ROW. Based on these assessments, the Project is not expected to result in significant adverse impacts on this geology or soil in the area.

***Water Resources***

The Project involves minimal ground disturbance and is not expected to result in significant adverse impacts on water resources. Stream and river crossings will be completed by hanging cable on existing utility poles or passing fiber through existing conduit on bridges. To minimize the impact of ground disturbance on surface water, VTel will implement erosion control methods such as hay bales, silt fences, mulching, and seeding to reestablish ground cover on disturbed soils. Additionally, a U.S. Army Corps of Engineers (USACE) Section 10 permit will be required for aerial cable crossings of navigable waterways to ensure that adequate clearance is maintained above the waterway. Four segments of the Project route require such authorization (Segments 11, 12, 39, and 41). Although Segments 17 and 25 also cross Section 10 navigable waterways, fiber at these crossings will be placed in existing conduit attached to a bridge. Adding fiber to these conduits does not require USACE authorization. This Project is not expected to impact existing wetlands, and VTel will conduct wetland delineations for all planned repeater building locations. If necessary, VTel will relocate those sites outside of wetland habitat. Finally, the Project will be installed within existing ROW that, in some areas, parallels or crosses floodplains. If pole replacements are necessary in any 100-year floodplain areas, work will be conducted from existing roadways located outside of the floodplain. The small area of pole replacement will not result in any measureable change in floodplain elevation. Based on these considerations, and through compliance with applicable permit requirements, the Project is not expected to have significant impacts on water resources in Vermont.

***Biological Resources***

In various correspondences, the U.S. Fish and Wildlife Service (USFWS) identified the Indiana bat (*Myotis sodalis*) as the only Federally listed endangered or threatened species in the tri-state Project area. Specifically, this species is known to occur in Rutland, Windsor, Addison, and Chittenden Counties of Vermont, and Clinton County, New York. In a letter dated October 10, 2010, the USFWS New England Field Office indicated that installation of the new fiber optic cable is not likely to adversely affect the Indiana bat or its habitat in Vermont or New Hampshire. In that same letter, the USFWS concluded that utility pole replacement and construction of equipment huts is not likely to adversely affect the Indiana bat, provided that no trees larger than five inches in diameter (at breast height) are cut between April 15 and October 15. In correspondence dated April 20, 2011, the USFWS New York Field Office also expressed no objection to VTel's April 1, 2011 determination that planned Project activity in New York will have no effect on the Indiana bat or its habitat.

Using a list of rare species and habitats provided by the Vermont Nongame and Natural Resources Program (NNRP), VTel determined that only two species of concern are known to occur within ROWs in the Project area: Climbing fern (*Lygodium palmatum*) and Harsh sunflower (*Helianthus strumosus*). The Climbing fern is considered extirpated from the Project

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area, but the Harsh sunflower has been observed in railroad ROW and disturbed roadside habitat near Segment 18. The ROW in this area includes power poles located between roads and sidewalks where vegetation is regularly maintained. Because ground disturbance will only occur when utility poles require replacement or where crews must travel off-road to manually hang fiber, impacts to these species are unlikely. Although 15 State animal species of concern also occur within the Project area, all but one are aquatic species, and the Project is not expected to impact surface-water resources. The exception, the rock shrew (*Sorex dispar*), is a State-candidate species known historically to be present at Killington Peak. However, this species has not been recorded in that area since 1934. Because the new infrastructure will follow an existing road and be constructed in a currently developed area, VTel also determined that the Project would not affect sensitive biological resources in New York. Finally, on April 8, 2011, the New Hampshire Natural Heritage indicated that the Project is not expected to impact rare species in the New Hampshire.

Based on these assessments, no significant adverse impacts on biological resources are anticipated to result from Project implementation.

***Historic and Cultural Resources***

The National Register of Historic Places lists 744 architectural sites in Vermont, and numerous archaeological sites are present within the planned Project area. To address potential effects on historic properties, NTIA initiated consultation with the Vermont, New York, and New Hampshire State Historic Preservation Offices (SHPOs) in Fall 2010. On January 25, 2011, the New Hampshire SHPO concluded that no historic properties within the State would be affected by the Project. On May 3, 2011, the New York SHPO indicated that the Project would have no effect on New York resources on or eligible for inclusion on the National Register of Historic Places.

In a letter dated May 18, 2011, the Vermont SHPO indicated that the Project would have no effect on any historic properties or archaeologically sensitive areas. However, the letter also stipulated that VTel seek additional SHPO consultation for any project component not covered by the standard exemptions outlined below, or if the location of the planned repeater buildings is altered. The exempt activities include: (1) construction of new aerial fiber optic cable on existing power lines and poles, including replacement poles placed within six feet of existing poles where access to perform the work uses existing roads and corridors; and (2) placement of fiber optic cable or other project components in existing trenches or existing conduit, or within 10 feet of existing buried infrastructure. In addition, the Vermont SHPO requires that any archaeological or other historic preservation studies that are required will be carried out by or under the direct supervision of a professional who, at a minimum, meets the Secretary of the Interior's *Professional Qualification Standards* in the appropriate field. Accordingly, VTel will ensure that an appropriately qualified archaeologist monitors all ground-disturbing activities that occur during Project implementation near known archaeological sites or suspected or known burials. In addition, VTel will ensure that any archaeological studies meet the *Secretary of the*

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*Interior's Standards and Guidelines and the Vermont SHPO Guidelines for Conducting Archeology in Vermont.*

On September 10, 2010, NTIA notified 10 Native American tribes of the Project through the Tower Construction Notification System (TCNS). To date, six tribes have responded to the notification. The Shawnee Tribe indicated no interest in the Project because it does not involve tower construction. Similarly, the Stockbridge-Munsee Band of Mohican Indians is only interested in projects with ground disturbance. Because aerial installation of fiber and on-ground hut construction is not considered a ground-disturbing activity, no further consultation with this tribe is required. The Wyandotte Nation indicated that they are not interested in consulting on this Project unless the scope or route is redesigned and will affect undisturbed ground. The Shinnecock Nation of New York, the St. Regis Mohawk Tribe, and the Keweenaw Bay Indian Community indicated that they have no interest in the Project segments. Several tribes requested notification in the event that cultural resources are inadvertently discovered during Project implementation. Consequently, if construction-related ground-disturbing activities uncover cultural materials (i.e., structural remains, historic artifacts, or prehistoric artifacts), VTel will stop all work in the area and immediately notify interested Tribes, the SHPOs, and NTIA. If ground-disturbing activities uncover human remains, VTel will immediately stop all work in the area, secure the area around the discovery, and notify the relevant law enforcement personnel (e.g., local police or county coroner) and NTIA. To date, no responses have been received from the four remaining tribes notified through TCNS. VTel will continue to monitor TCNS for additional responses, as required.

Based on completed cultural resources reviews and consultations, the Project is not expected to have adverse impacts on historic or cultural resources.

***Aesthetic and Visual Resources***

The Project area is largely rural and includes many views of natural features such as mountains, lakes, streams, and landscapes. The Project area does not include any National Historic Parks, Wilderness areas, Wild and Scenic Rivers, or National Wildlife Refuges. However, approximately seven miles of existing utility ROW crosses conserved lands, including just over three miles on Killington Mountain and Pico Peak in Calvin Coolidge State Forest. Existing utility poles and lines, with connection to an existing tower on the mountaintop, run through a utility ROW in these locations. These same two overland routes (Killington Mountain and Pico Peak) reach the summit of mountains traversed by the Long Trail. Additionally, the Project area in New York includes road ROWs near Cumberland Bay State Park. The Project corridor is separated from this park by a sidewalk and chain link fence. Hanging a fiber optic cable on existing utility poles carrying existing utility lines is not expected to result in impacts to aesthetic and visual resources. Construction activity will result in minor, short-term impacts due to the presence of construction equipment. Placement of the repeater huts within existing ROWs in Chelsea, Brandon, and Richmond, Vermont and Plattsburgh, New York will have a permanent impact on the aesthetics in their immediate area. However, the specific building locations are



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flexible and will be sited to minimize impacts on all resource areas. Based on these assessments, this Project will not significantly affect aesthetic or visual qualities in the region.

***Land Use***

The Project area consists of existing ROWs and utility corridors located mainly along roads in rural and forested areas of Vermont and neighboring States. A few sections of the route, including segments in portions of Rutland and Chittenden Counties in Vermont and Clinton County in New York, are adjacent to areas of medium intensity development. Installation of fiber optic cable on existing utility poles will not disturb any of these properties. This type of activity routinely occurs as part of ongoing line maintenance activities. In addition, construction of repeater buildings within existing ROWs to support the network will not alter land uses. The planned improvements are consistent with normal uses of ROWs and easements, and no significant adverse impacts on land use are expected.

***Infrastructure***

The Project is not expected to adversely affect existing infrastructure. Because the Project will be constructed within existing ROWs, the project has ready access to utilities and waste disposal services, emergency services, highways, and roads. The utility corridors have varying services, which may include existing fiber optics, telephone, electricity, water, and sanitary sewer. Where existing utility poles are unable to accommodate the new infrastructure due to integrity or space consideration, replacement poles will be installed. No conflicts with existing infrastructure are anticipated. Conversely, implementation of this Project will increase available broadband infrastructure and provide enhanced connectivity and more reliable opportunities to access the associated services.

***Socioeconomic Resources***

The Project will provide enhanced broadband access to users in Vermont, and small portions of New York and New Hampshire. Approximately 10 percent of the population in the Vermont service area is under the poverty level. More than 14 percent of the population in the New York service area, and more than 10 percent of the population in the New Hampshire service area live beneath the poverty level. Minority populations in these areas range from 2 to 6 percent of the total population. The Project will have a positive impact on these minority and low-income populations by improving education, healthcare, employment, and public safety in the area.

***Human Health and Safety***

All Project construction and network operation activities will be conducted in compliance with applicable Occupational Safety and Health Administration requirements. VTel will also follow State-specific Department of Transportation guidelines to protect health and safety of construction crews and the general public. Lane closures may be implemented to facilitate installation of the cables from construction vehicles along the roadsides. Appropriate signage, flag crews, and other methods will be implemented, as needed, to protect workers, pedestrians, and the traveling public. According to the EPA, there are 72 potential hazardous waste sites in

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Vermont and 2 potential hazardous waste sites near Plattsburgh, New York. There are no hazardous waste sites in Lebanon, New Hampshire. However, the Project is not expected to disturb any of these known sites. Based on these considerations, significant adverse impacts on human health and safety are not expected.

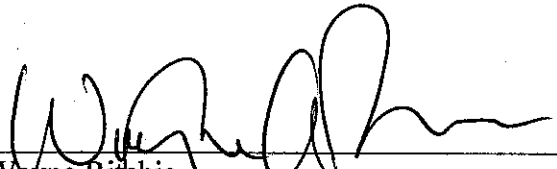
***Cumulative Impacts***

The new fiber optic cable to be installed under this Project will supplement VTel's existing network and complement the project of another BTOP-funded entity, Vermont Telecommunications Authority, to provide a robust, statewide, high-speed network. Roadside work is usual and customary throughout the Project area, and includes regular seasonal mowing and brush removal. Likewise, utility companies perform regular maintenance and repair along their ROWs. Consequently, implementation of this Project will not significantly increase required ROW maintenance activities or disturbance of vegetation. No significant adverse cumulative impacts will result from concurrent implementation of these projects.

**Decision**

Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, identified BMPs, and protective measures, will not require additional mitigation. A separate mitigation plan is not required for the Project. The analyses indicate that the proposed action is not a major Federal action that will significantly affect the quality of the human environment. NTIA has determined that preparation of an EIS is not required.

Issued:

  
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Wayne Ritchie  
Chief Administrative Officer  
Office of Telecommunications and Information Applications  
National Telecommunications and Information Administration

6/07/2011  
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Date