



Environmental Assessment (EA)

Prepared for

**United States Department of Commerce
National Telecommunications and Information Administration
(NTIA)**

**Broadband Technology Opportunities program Grantee,
#6689 Connecting the Dots: Rockbridge Broadband Initiative**

On behalf of

Rockbridge County, Virginia



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Acronym List-

Acronym	Description
APE	Area of Potential Effect
ARRA	American Recovery & Reinvestment Act
BMPs	Best Management Practices
BTOP	Broadband Technology Opportunities Program
CAA	Clean Air Act
CAI	Community Anchor Institution
CCC	Civilian Conservation Corps
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CO	Carbon Dioxide
CSPDC	Central Shenandoah Planning District Commission
CZMA	Coastal Zone Management Area
CWA	Clean Water Act
D9	Design Nine, Inc.
DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
dB	decibels
DGIF	Virginia Department of Game and Inland Fisheries
DHR	Virginia Department of Historic Resources
DMME	Virginia Department of Mines, Minerals, and Energy
DSL	Digital Subscriber Line
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLPMA	Federal Land Policy and Management Act
FWIS	Fish and Wildlife Information System
GHG	Greenhouse Gases
GIS	Geographic Information System(s)
HEPGIS	FHWA's Planning, Environment, and Realty Executive Geographic Information System
HD	High-Definition
HDD	Horizontal Directional Drilling
HVAC	Heating, Ventilation, and Air Conditioning
IPaC	Information, Planning, and Conservation System
ISP	Internet Service Provider
JPA	Joint Permit Application
kW	Kilowatts
LEED	Leadership in Energy and Environmental Design
LMI	Low to Moderate Income
MPC	Multi-Purpose Closure
MSA	Maury Service Authority
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NTIA	National Telecommunications and Information Administration
NWI	National Wetland Inventory
ONT	Optical Network Termination
OSHA	Occupational Safety and Health Administration
PON	Passive Optical Network
PSD	prevention of significant deterioration "area"
RANA	Rockbridge Area Network Authority
RAS	Rivanna Archaeological Services, LLC
RCRA	Resource Conservation and Recovery Act
RFP	Request for Proposal
ROW	Right-of-way
RFP	Request for Proposals
SCU	Stream Conservation Unit
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SSA	Sole Source Aquifer
SUP	Special Use Permit
TCNS	Tower Construction Notification System
THPO	Tribal Historic Preservation Office
USACE	United States Army Corp of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VAC	Virginia Administrative Code
VaFWIS	Virginia Fish and Wildlife Information Service
VDACS	Virginia Department of Agriculture and Consumer Services
VDOT	Virginia Department of Transportation
VMRC	Virginia Marine Resources Commission
VPDES	Virginia Pollutant Discharge Elimination System
VRO	Valley Regional Office of DEQ
W&L	Washington and Lee University

Executive Summary-

The County of Rockbridge, Virginia has been awarded grant funding from the National Telecommunications and Information Administration (NTIA) through the Broadband Technology Opportunities Program (BTOP) to place high-speed broadband fiber and additional DSL equipment throughout the Rockbridge area and construct a shared regional data center. The Proposed Action will build a middle mile fiber network to link all anchor institutions in the area (schools, emergency services, community colleges, medical facilities, libraries, and governments) through a shared data center enabling immediate broadband linkages among the anchors and permitting open access last mile connections to all businesses and residences in the area by private sector partners. The deployment of this fiber will pass within 500 feet of some 3,240 residences and 233 businesses. After the connections have been established for the anchor institutions, these businesses and residences will be the first candidates to subscribe to services available over the network. In addition to the fiber network, DSL cabinets will be strategically placed throughout the County to help improve access in areas of the county not served initially by the fiber. Based on the assumptions for take rates, the conservative expectation for the network is at least 30% of the businesses (70) and 35% of the residences (1,026) will receive services within the first two years of operation.

The linear backbone portion of this Proposed Action stretches approximately 138 miles throughout the following jurisdictions; the County of Rockbridge, the Cities of Lexington and Buena Vista, and the Towns of Glasgow and Goshen. To minimize disturbance to the right of way, cable and conduit will be buried using direct bury as the preferred method of construction. Horizontal directional drilling (HDD), trenching, and micro-trenching techniques will be employed when direct bury is not a feasible construction method. Depending on the amount of right-of-way available, the fiber backbone of the network shall either be installed beneath the road itself, between the road and any parallel ditch-line, or in a median if available.

As is common to see with telecom utilities, cable and/or conduit that must cross a small water resource will be attached to poles on either side of the body of water and cross aerially, or be attached to the bridge using construction methods already approved by VDOT. Aerial stream crossing methods will be employed where there are already poles along the route, and using the poles is clearly the best method. Aerial stream crossings typically span 100 or 150 feet. In addition to stream crossings, the characteristics of the right-of-way and the avoidance of important cultural resources have brought the total aerial installation to approximately 30 miles, or 23% of the network.

This Environmental Assessment (EA) describes and analyzes various resource areas and all potential impacts that could result from the proposed project. While the document focuses primarily on the Proposed Action, a total of three (3) alternatives were considered during the preparation of this assessment. It has been concluded that the Proposed Action will not result in significant impacts to the human or natural environment. Per the results of this Environmental Assessment, a Finding of No Significant Impact (FONSI) is recommended for the proposed activities. The table on the following page summarizes each of the cultural and environmental resources found in the project area and lists the determinations made that resulted in this recommendation.

Resource Impact Table-

RESOURCE	ALTERNATIVES		
	Proposed Action	Aerial Alternative	No Action
Noise	Temporary effects during construction, minimal effects during operations and maintenance	Temporary effects during construction, minimal effects during operations and maintenance	None
Air	Sporadic, albeit minor impacts related to temporary construction and operations	Sporadic, albeit minor impacts related to temporary construction and operations	None
Geology/Soils	Minor, temporary impacts from cut/fill activities in previously disturbed areas; karst survey revealed no impact to resources	Increased impacts due to placement of utility poles in undisturbed areas outside the right-of-way, decreased cut/fill	None
Water	Adherence to state and local regulations will minimize impacts; all crossings are aerial on existing poles or bridges	Adherence to state and local regulations will minimize impacts; all crossings are aerial on existing poles or bridges	None
Biological	Karst survey, construction in the ROW, and aerial installation at river crossings led to determination of “not likely to adversely affect”	Karst survey, construction in the right-of-way, and aerial installation at river crossings led to determination of not likely to adversely affect	None
Historical/Cultural	None, per archaeological study	Potential direct effects due to construction outside ROW; increased indirect effects due to pole installations	None
Aesthetic/Visual	Negligible impact due to additional cable on utility poles; new poles proposed at only 1 road crossing	Almost 3x more poles installed would significantly increase impact	None
Land Use	Data Center site changed from wooded lot	Data Center site changed from wooded lot	None
Infrastructure	Benefits from pole replacement	Increased maintenance required	None
Socioeconomic	Substantial positive effects to local institutions and jobs	Same positive effects as Proposed Action	Significant negative effect due to loss of broadband opportunity
Human Health/Safety	Potential positive effects from telemedicine	Potential positive effects from telemedicine	None
Climate/GHG	Negligible increases related to temporary construction and operations	Negligible increases related to temporary construction and operations	None

*The Wireless Alternative was eliminated as it does not meet project goals