

**National Telecommunications and Information Administration  
Broadband Technology Opportunities Program  
Finding of No Significant Impact  
Hardy Telecommunications, Inc., Hardy AnchorRing**

**Summary**

Hardy Telecommunications, Inc. (Hardy) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to install approximately 120 miles of new fiber optic cable. The new fiber will pass 860 households, 255 businesses and directly connect to 98 community anchor institutions (CAIs). While the new network will be a hybrid of aerial and buried fiber, approximately 89% of the fiber will be installed aerially on existing poles and 11% of the fiber will be buried via plowing, directional boring, and within existing conduit. In addition, one support building will be established along the Project route. The proposed action passes through one county in West Virginia, and is referred to as the Hardy AnchorRing Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to Hardy 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.

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

The Project includes:

- Installing a hybrid broadband network of aerial and buried fiber throughout Hardy County, West Virginia, directly connecting 98 CAIs;
- Installing the approximately 120 mile network in existing rights-of-way (ROWs) or previously disturbed areas;
- Installing approximately 107 miles (89%) of fiber aerially by attaching to existing poles, replacing poles when necessary;

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- Installing buried fiber for approximately 13 miles (11%) of the route miles by pulling it through existing conduit, plowing, or directional boring; and
  - Installing one new support building along the Project route.

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 the Project is to provide upgraded, reliable, diverse, and affordable broadband service to unserved and underserved communities in Hardy County, West Virginia. The Project will deploy fiber in areas where, to date, it has not been economically feasible to install telecommunications infrastructure. The new middle and last mile infrastructure will pass through one county, providing opportunities associated with broadband technology to 860 households, 255 businesses, and 98 CAIs.

### **Project Description**

The Project involves installing approximately 120 miles of new fiber, installing one support building, and connecting 98 CAIs throughout Hardy County, West Virginia. The network will include both buried and aerial fiber. Approximately 89% of the fiber will be installed on existing poles and 11% will be placed in existing conduit or buried via plowing or directional boring. Construction will take place within ROWs or previously disturbed areas.

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Approximately 107 miles of aerial fiber optic cable will be installed along the Project route. A significant portion of the new aerial line will be constructed using a method called e-lashing. This method uses the existing messenger strand or cable and lashes the new cable to the existing line. Where a messenger strand is not available, a new line will be attached to the pole using a reel to pulley system. If necessary, deteriorated wooden poles located along the roadside would be replaced in kind.

Approximately 13 miles of buried fiber optic cable will be installed along the Project route. Buried cable will be installed by pulling cable through existing conduit, plowing, or directional boring. In areas with existing conduit, new fiber optic cable will be installed from existing hand-holes using the blown rope method. This method uses an air compressor and a small sponge that is attached to a strand of rope. Once the hand-holes are opened at each end, the sponge is blown through the conduit carrying the rope down the length of the segment. The sponge is disconnected and the rope is then attached to the fiber being drawn off the reel. The fiber is then drawn back through the conduit by extracting the rope from the other end of the conduit. When plowing, a 3-inch wide trench is opened by the vibratory plow. The fiber is spooled off an attached reel, travels down through an adapter connected to the plow blade, and is placed in the slit trench between 24 inches to 36 inches deep. The back side of the plow is equipped with rollers that push the dirt back into the slit trench and compact the disturbed area. A directional drill will be used to install buried cable to cross under jurisdictional areas or cross under existing infrastructure. Directional drilling involves setting up a small mobile drill unit on one side of a specific feature, such as a river or a roadway, and drilling under the feature to the opposite side. This method involves drilling a horizontal cable pathway from one access point along the route to another, installing conduit to house the cable, and then pulling the cable back through the conduit. To avoid impacts on waterways, these crossings will be accomplished using aerial attachment to existing poles or upland-to-upland directional drilling techniques.

In addition, one support building will be established along the Project route. The building will be erected in a cleared field next to an existing electrical substation. The building will be approximately 12 feet wide by 15 feet long and 12 feet tall. First, a concrete slab will be poured at the building site. The prefabricated roof and walls are then brought to the site and attached to the slab. A fence will be installed around the perimeter for security purposes. No paved access roads or parking areas will be built.

The cable installation method at CAIs will be based on the configuration and availability of existing utility infrastructure at the facilities. The preferred method is to pull fiber through existing conduit. If existing conduit is not available, aerial or underground installation will be used. When installed aerially, fiber will be brought from the closest utility pole to the CAI. When fiber is installed underground, Hardy will use directional boring or plowing methods to bring fiber to the CAI. Hardy will adhere to agreed upon BMPs when connecting broadband equipment to historic structures.

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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 – Hybrid Fiber Installation (Preferred Alternative).* As noted in the Project Description, this effort will include installation of approximately 120 miles of new fiber, connecting 98 CAIs and establishing one support building. The new fiber optic cable will be installed aerially on existing pole lines, pulled through existing conduit, and buried via plowing or directional boring along the Project route. The cable will be installed in existing ROWs or previously disturbed areas, and the building will be constructed in a cleared field next to an existing electrical substation.

*Alternative 2 – Buried Fiber Installation (Non-Preferred Alternative).* The Non-Preferred Alternative would entail underground installation of the entire fiber optic cable in roadside ROW or across open land to provide broadband service to Hardy County, West Virginia. This alternative would rely entirely on plowing, trenching, and directional boring. An all buried fiber network would increase the extent of land disturbance and the potential for stormwater discharges without decreasing any visual or aesthetic effect associated with the existing utility poles, which will remain in place regardless of the new network construction. An entirely underground system would also entail significant cost and does not take into account the limitations dictated by the mountainous terrain that characterizes the Potomac Highlands region in Hardy County, West Virginia. This alternative would likely require greater permitting and consultation activity, as a result of the increased ground disturbing activity. It would also likely have greater impact on air and noise quality due to the increased construction activity.

*No Action Alternative.* No action was also considered. This alternative represents conditions as they currently exist in Hardy County, West Virginia. Under the no action alternative, new fiber infrastructure would not be constructed. Many rural communities would continue to be unserved or underserved with respect to broadband internet access. Additionally, broadband services would not be provided to CAIs in the Project area. The EA examined this alternative as the baseline for evaluating impacts related to other alternatives being considered.

*Alternatives Considered But Not Carried Forward.* Hardy considered the alternative of installing an all-aerial network. This alternative would require acquisition of new ROW, clearing of new ROW, and installation of an unknown number of new utility poles. The physical setting of the Project and critical design constraints make this alternative difficult to successfully deploy. Therefore, buried cable is required in some areas and full aerial installation was eliminated from further consideration. Hardy also considered an all-wireless telecommunications network. However, wireless technology is not a viable alternative because of limited internet connection speeds and the significant ground disturbance and visual impacts associated with constructing a wireless network.

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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 (including greenhouse gases), Geology and Soils, Water Resources, Biological Resources, Historic and Cultural Resources, Aesthetic and Visual Resources, Land Use, Infrastructure, Socioeconomic Resources, and Human Health and Safety.

***Noise***

This Project will have no impacts on noise during long-term operation. However, short-term increases in ambient noise levels are expected during the construction period. Noise created by machinery used during installation will be temporary and localized in nature. To reduce noise impacts, construction activities will occur during limited work hours. Based on these considerations, no significant impacts on noise are expected to occur as a result of Project implementation.

***Air Quality***

Potential impacts to air quality associated with this Project will be limited to the construction period. Fiber optic cable installation will result in negligible fugitive dust emissions because the primary method of installation is aerial on existing poles. It is possible that a limited number of poles may need to be replaced along the Project route. Where the fiber will be installed underground, plowing and directional boring techniques will result in only minor disturbance of the ground surface. Negligible fugitive dust may result from the installation of one support building. A short-term minor increase in the use of fossil fuel and associated greenhouse gas (GHG) emissions will occur as a result of Project construction, and expected levels are well below the Council on Environmental Quality (CEQ) guidelines. Therefore, construction of the planned network is not expected to have significant adverse impacts on air quality.

***Geology and Soils***

The Project's fiber route will be installed primarily aerially on existing utility poles in ROWs. The cable will be installed in these locations to, among other considerations, minimize impacts to geologic and soil resources. In addition, plowing and directional boring techniques result in very minor, temporary disruption of the soils. The support building will be established on developed land adjacent to an existing electrical substation. Approximately 180 square feet of soil will be disturbed during construction of the support building for the Project. Appropriate BMPs will be implemented to prevent sedimentation or turbidity impacts to the Project area. A silt fence will be the primary BMP during site preparation for the support building, although other erosion control measures may be considered and implemented, as appropriate. Consequently, the Project is not expected to result in significant adverse impacts on geology or soils.

***Water Resources***

Project construction activities could result in short-term minor impacts on water resources within the Project area. Of the 338 wetland crossings along the Project route, 335 will be crossed aerially on existing pole infrastructure. Cable will also be pulled through existing buried conduit

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at two wetland crossings. Project implementation will not result in any filling of wetlands or create impediments to navigation. Although construction of one new support building will result in minimal land disturbance, it will not impact wetlands or floodplains. In addition, one waterbody will be crossed using directional boring, from upland to upland, in the road ROW. There is potential for a temporary increase in stormwater discharge during construction, but appropriate BMPs will minimize erosion, sedimentation, and turbidity in receiving waters. By avoiding construction in waterways, and implementing erosion and sediment control BMPs, Hardy will be able to construct the network with no significant adverse impacts on water resources.

***Biological Resources***

The preferred alternative may result in minor impacts on biological resources. Noise and human activity associated with fiber installation are expected to disturb some wildlife species, but these effects will be minor and temporary. Some disturbance to the ground surface and vegetation will also occur during construction activities. This disturbance will be limited to ROWs and previously disturbed areas.

Hardy consulted with the West Virginia Division of Natural Resources (WVDNR) and the U.S. Fish and Wildlife Service (USFWS) regarding biological resources and threatened, endangered, and sensitive species. In a letter dated October 15, 2010, the WVDNR indicated it did not have any records of any rare, threatened, or endangered species or sensitive habitats within the Project area. The WVDNR further stated that surveys for freshwater mussels must be conducted in Lost River prior to any in-stream work, unless directional drilling is implemented. Hardy will not conduct any in-stream work in Lost River or any other waterbody; therefore, freshwater mussel surveys will not be necessary.

In a letter dated November 9, 2010, the USFWS determined that the Project would have no effect on biological resources. On January 21, 2011, Hardy provided additional information to the USFWS identifying 14 miles of the Project route that were previously excluded. In an email dated February 1, 2011, the USFWS stated that their determination had not changed based on the addition of previously excluded areas, thus their determination still stands. Based on this analysis, Hardy will be able to construct the fiber network with no significant adverse impacts on biological resources, including threatened, endangered, or sensitive species.

***Historic and Cultural Resources***

In December 2009, Hardy submitted an initial cultural resource evaluation to the West Virginia Division of Culture and History, State Historic Preservation Officer (SHPO). In a letter dated December 30, 2009, the SHPO responded indicating that there were historic and cultural resources in the Project area and additional information was needed on the Project's area of potential effect (APE), prior to providing additional comments. In a letter dated April 5, 2010, NTIA initiated formal consultation with the SHPO and provided them a detailed summary of the Project.

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Hardy acquired the services of Horizon Research Consultants, Inc. (Horizon) to assist them in identifying cultural and historical resources in the Project area. Horizon conducted an onsite survey, reviewed SHPO files, and submitted a report to the SHPO in October 2010 identifying resources within the APE. Horizon updated and amended the report in January 2011, to include 14 miles that were previously excluded from the report.

In a letter dated January 27, 2011, NTIA submitted the cultural resources report to the SHPO and requested their concurrence that the Project would have no adverse effect on historic properties. Based on further dialogue with the SHPO, NTIA sent a revised letter on February 25, 2011, outlining protective measures to be incorporated during Project construction. These measures would protect historic properties and require that a Phase I survey be conducted where 9.3 miles of fiber will be buried along the Project route via plowing or direction boring (excluding the use of existing conduit). In a letter dated February 28, 2011, the SHPO sent a letter to NTIA requesting additional changes to the outlined protective measures. Based on these changes, the SHPO stated that the Project would have no adverse effect on any known cultural resources.

In an email dated March 16, 2011, NTIA notified the SHPO that additional BMPs would be required of Hardy to connect to CAIs that are historic structures. Following additional correspondence, both NTIA and SHPO recommended that Hardy implement additional BMPs for CAI connections, and Hardy agreed to attach equipment in the least obtrusive manner to avoid potential impacts to CAIs that are historic structures. Specifically, Hardy and its project management/engineering firm, Byers Engineering Company, agreed to implement the Best Management Practices for connecting Broadband equipment to Historic structures. These BMPs are identified in the EA attachment titled, "Attaching Broadband Equipment to Historic Buildings." Byers will communicate the BMP to all Hardy and Byers personnel involved in installation or maintenance of Broadband equipment connected to Historic structures. Byers will incorporate adherence to the BPMs as a condition of installation company contracts. Byers will conduct a pre-installation meeting with all installation contractors to review the requirements. Byers will enforce adherence to the BPMs through its inspectors; all inspectors will be trained with respect to the BPMs and the form of inspection report will contain a checklist of the BPMs showing the requirements. Inspectors will ensure that installation contractors meet contract requirements during installation and will note adherence with requirements on Byers installation inspection reports. After installation, inspectors will take digital photos of the installation site and customer premises equipment attached to each premise. A summary report with photos by the inspectors will be provided to NTIA and WVSHPO quarterly as evidence that all requirements have been met. The SHPO responded on April 4, 2011, concurring that the Project would have no adverse effect based on the implementation of the BMPs.

Through the Tower Construction Notification System, NTIA provided Project details to four tribes interested in the Project's geographical location (Hardy, West Virginia). Hardy received responses from all four tribes that were notified of the Project. Of the four tribes, two requested additional information regarding the Project and the two other tribes stated they had no interest in continued consultation. Hardy provided the two interested tribes with the requested information and those tribes responded that they had no further interest in the Project. All four

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tribes requested that if any human skeletal remains or any protected Native objects are uncovered during construction, construction should stop immediately, and state and tribal representatives should be contacted.

All construction will be restricted to previously disturbed areas. If any cultural material is discovered during construction, the SHPO will be notified immediately and all activities halted until a qualified archaeologist assesses the cultural remains. If any human skeletal remains or protected Native objects are uncovered during construction, construction will stop immediately, and all consulting parties will be contacted. Based on these consultations, guidance from the commenting agencies, and additional mitigation measures to be implemented by Hardy, the Project is not expected to have significant adverse impacts on historic and cultural resources.

***Aesthetic and Visual Resources***

The Project involves installing fiber optic cable by attaching it to existing utility poles and burying the cable underground in ROWs and previously disturbed areas. Fiber installation will have a short-term, minor, and temporary impact on aesthetic and visual resources due to the presence of construction equipment and limited soil disturbance. A small support building will be established next to an existing electrical substation. The majority of this fiber will be installed aerially on existing utility poles where other wires, and cables already exist. The Project crosses through a portion of Lost River State Park and the George Washington National Forest. These crossings will also be primarily aerial on existing poles, where existing utility lines are attached. Hardy will also install fiber at CAIs that are historic structures. These connections will be made in the least obtrusive manner possible to protect these historic structures. Accordingly, the Project is not expected to have a significant adverse impact on aesthetic and visual resources in the Project area.

***Land Use***

The Project's fiber route will be installed in ROWs or previously disturbed land. The small support building will be established next to an existing electrical substation, and consistent with the current land use. The Project will not impact any prime or unique farmland. Therefore, the Project will have no significant adverse impact on land use.

***Infrastructure***

The Project will make use of existing infrastructure for construction, utilizing existing poles within existing ROWs. The new support building will be served by existing power, and no changes to the existing roads will be necessary. The Project will improve communications infrastructure and is expected to improve telemedicine and distance learning services in the project area. It will also improve the transfer of information between CAIs, businesses, and individuals residing within the communities along the Project route. Overall, the Project will have a positive impact on infrastructure in Hardy County, West Virginia and will result in no significant impacts.



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***Socioeconomic Resources***

The Project will provide improved communications infrastructure to residents who do not have access to broadband services in Hardy County, West Virginia. The network will also benefit these communities by directly connecting broadband to 98 CAIs. An increase in both short-term and long-term employment opportunities are also anticipated as a result of Hardy's Project. The Project will have positive impacts on socioeconomic resources and will result in no significant impacts.

***Human Health and Safety***

No hazardous waste sites have been identified in the Project area. BMPs for workplace safety will be implemented to protect workers and the public. Safety manuals and procedures will be used to instruct workers on how to deal with potential risks during construction activities. Traffic-controlling signage and flagmen may be required in some areas along the Project route. In addition, trained workers will oversee the implementation of safety requirements. With implementation of the protection measures, the Project will not generate any significant adverse worker or traffic-related health or safety issues. Further, the Project will provide rural health care facilities and public safety entities broadband service. The broadband will provide enhanced emergency and medical services and improve human health and safety throughout the Project area. The Project will have long-term positive impacts on the health and safety in Hardy County, West Virginia, and will result in no significant impacts.

***Cumulative Impacts***

As described above, the Project will not have significant adverse impacts on any of the environmental resource areas evaluated in the EA. As such, no cumulative impacts on the environment are anticipated. Two county projects are planned for 2011, including construction of a new water plant and expansion of an existing water line. The expansion of the existing water line is not adjacent to the AnchorRing Project, but portions of the water plant project are nearby to the Lost River. That segment of the AnchorRing Project will involve aerial attachment and will not impact the river or the planned water plant project. The West Virginia Department of Transportation also has two road projects scheduled in 2011 – one is not within the Project area. The second planned project is within the AnchorRing Project area and involves bridgework near the Hardy Telecommunications office in Lost City. However, this project is small and is anticipated to be complete by the time Hardy implements the AnchorRing Project. Therefore, no cumulative impacts are anticipated from the Project.

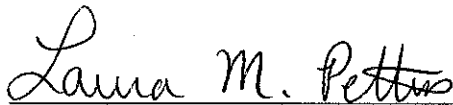
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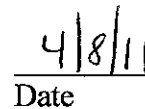
**Decision**

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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Laura Pettus  
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Date