Summary

The State of Louisiana Board of Regents (BOR) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to install approximately 910 miles of new fiber, use 15 existing interconnection huts, and construct 21 new prefabricated concrete interconnection huts. The vast majority of the fiber network will be installed underground, through conduit, in existing rights of way (ROWs). Underground fiber will be buried via plowing, trenching, or horizontal directional drilling. A portion of the fiber will be attached to bridges, through existing conduit, at certain water crossings. The new middle mile network will enable last mile and/or middle mile providers to extend broadband service to 83 community anchor institutions (CAIs), approximately 100,000 households, and 15,000 businesses. The proposed action passes through 32 Louisiana parishes, and is referred to as the Louisiana Optical Network Initiative (LONI) Project (Project).

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

BOR 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 910 miles of fiber, in conduit, throughout 32 Louisiana parishes;
- Installing the majority of the new fiber in existing ROWs underground via plowing, trenching, or horizontal directional drilling;
- Attaching limited spans of fiber to bridges within existing conduit at certain water crossings;
 and
- Constructing 21 interconnection huts in previously disturbed areas along the Project route and using 15 existing interconnection huts to enable last mile and/or middle mile providers to extend broadband service to 83 CAIs, approximately 100,000 households, and 15,000 businesses.

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/) and the following contact:

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Purpose and Need

BOR has identified a need to expand the existing LONI network to increase internet access and upgrade existing broadband service to high speed capability for unserved and underserved communities throughout the state. The purpose of the Project is to bring affordable broadband service to unserved and underserved communities across 32 parishes in Louisiana, including the Louisiana Delta Initiative Region in predominantly rural northeast Louisiana and four parishes containing three of Louisiana's federally recognized Indian tribes. The areas served by the

May 2011

Project include approximately 100,000 households, 15,000 businesses, and 83 CAIs, such as K-12 school districts, parish libraries, and FCC Rural Health Care Pilot entities. Without the new fiber, affordable broadband options at the needed bandwidth would not be available to many of the CAIs, residents, and businesses.

Project Description

This project will deploy a middle mile fiber infrastructure backbone, including interconnection huts, along the fiber route. The fiber network will be designed to maximize access and connection to new fiber infrastructure by private service providers. BOR will install approximately 910 miles of new fiber through two 1.25 inch high density polyethylene (HDPE) conduits, use 15 existing interconnection huts, construct 21 new prefabricated concrete interconnection huts, and provide network service to last mile and/or middle mile providers to extend broadband service to 83 CAIs throughout Louisiana. The network will include the installation of fiber underground within existing ROWs. Underground fiber will be buried via plowing, trenching, or horizontal directional drilling. Fiber optic cable will be installed across streams and rivers either by horizontal directional drilling or hanging the cable through existing conduit on bridges. In addition, the Project will construct 21 new prefabricated concrete interconnection huts in previously disturbed areas along the Project route.

The majority of the fiber route will be installed underground, in existing ROWs, by plowing or trenching, with plowing being the preferred method. When plowing or trenching, a 3 to 4 inch wide by 3 to 4 feet deep trench is opened by the plow. For the plow method, a bulldozer will be used to pull a plow, which will simultaneously cut through the soil while installing the conduit to four feet below soil subsurface. If the trench method is used, a small channel will be created and immediately backfilled with excavated soil; native vegetation will be allowed to regenerate. BOR will install hand holes approximately every 5,000 feet along the route with intermediate handholes being buried and splice point handholes being mounted flush with the ground surface. Horizontal directional drilling will be used to cross sensitive ecological resources, such as wetlands, streams, or rivers, and construction-limited areas, such as driveways and railroads. 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. For crossing major rivers, the fiber optic cable will be routed through existing conduit currently attached to bridges. No new attachments will be made to bridge structures and no new aerial suspensions will be constructed. No end user connection will be provided by the Project; therefore, no building attachments will be completed.

BOR will also construct 21 out of the 36 prefabricated concrete interconnection huts within existing ROWs along the Project route. All 21 hut sites will include a new 10-foot by 10-foot pre-constructed building, surrounded by security fencing to occupy a total area of approximately 20 feet by 20 feet. At the new interconnection hut sites, minimal clearing is anticipated because

the majority of the existing ROW is maintained and cleared. Similarly, minimal excavation and foundation construction is expected because pre-fabricated concrete slabs are the preferred foundations for these buildings. The interconnection huts will be equipped with emergency power supply generators. These small generator units will be either diesel or natural gas fueled. They will only operate during short (i.e., 30 minutes or less) exercise periods, or during rare power outages.

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.

Underground Fiber in Conduit (Preferred Alternative). As noted in the Project Description, this effort will include installation of approximately 910 miles of new fiber in conduit. The network will enable last mile and/or middle mile providers to extend broadband service to 83 CAIs and approximately 100,000 households, and 15,000 businesses. The new fiber optic cable will be buried via plowing, trenching, and horizontal directional drilling, and pulled through existing conduit along bridges, where necessary.

No Action Alternative. No action was also considered. This alternative represents conditions as they currently exist in these 32 Louisiana parishes. Twelve of these parishes constitute the Louisiana Delta Initiative Region in predominantly rural, economically depressed northeast Louisiana, and four of which contain three of Louisiana's federally recognized Indian tribes. Under the no action alternative, new fiber would not be constructed. These 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 relative to other alternatives being considered.

Alternatives Considered But Not Carried Forward. BOR considered the alternative of installing an all-buried network. This alternative involves burying the bare cable underground without the protection of a conduit enclosure. This method saves time and expense over burying in conduit; however, the cable is not protected and is more susceptible to being damaged. Therefore, this alternative was eliminated from further consideration. BOR also considered the alternative of installing an all-aerial network. This alternative was eliminated because of the potential service disruption that may occur from knockdowns or severe weather, and the potential increase of environmental impacts compared to the Preferred Alternative to install additional poles along the Project route. BOR also considered an all-wireless telecommunications network. However, wireless technology is not a viable alternative because of the inability to provide the capacity or speed to fully meet the purpose and need. In addition, an all wireless network would potentially involve more ground disturbance and associated environmental impacts.

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, 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. Based on these considerations, no significant impacts on noise are expected to occur as a result of Project implementation.

Air Quality

Potential impacts on air quality will be both short-term, related to construction, and long-term, related to operation of this Project. Fiber installed underground via plowing, trenching, and directional boring will result in minor disturbance of the ground surface. Although fugitive dust emissions will be generated during construction of the 21 prefabricated huts and installation of buried fiber, the emissions are not expected to be significant enough to require fugitive dust minimization measures. There will also be long-term impacts on air quality from the generators, which are used as the backup power source for the 36 prefabricated huts. 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, but the emissions will be below established thresholds. 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 underground in existing transportation ROWs. Installation methods will produce a narrow, shallow slit or trench that creates minimal ground disturbance. Each new hut site will disturb approximately 4,000 square feet of soil. Appropriate BMPs will be implemented to prevent sedimentation and erosion impacts in the Project area. Utilities and construction in the highway ROW in Louisiana must abide by erosion control standards based on Louisiana Department of Transportation and Development Standard Specifications for Roads and Bridges. Consequently, the Project is not expected to result in significant adverse impacts on geology or soils.

Water Resources

Project construction activities are not expected to impact to water resources. Horizontal directional drilling will be used to cross under water resources, such as wetlands, streams, and rivers. All horizontal directional drilling routes, as well as entry and exit points, will be within existing highway ROWs along the Project route. BMPs will also be used to minimize the potential for soil erosion and sedimentation at any crossings. The Project will also include installing cable through existing conduit along 12 bridges, with the longest bridge, Twin Bridge, spanning 5.75 miles on Interstate 10. BOR has alerted the U.S. Army Corps of Engineers (USACE), New Orleans and Vicksburg Districts, of all planned water crossings and is consulting with these offices to obtain applicable Section 404 and Section 10 permits for all river and stream crossings.

In a letter dated January 21, 2011, the USACE New Orleans District confirmed that the Project will cross Section 10 navigable waters, and therefore requires further coordination and a Department of the Army permit. The USACE also advised that all potentially affected Levee Districts in Louisiana be contacted and that the appropriate permits be obtained from these offices. The USACE requested that a copy of the proposed Project description and plans be sent to the Operations Division, Operations Manager for Completed Works of the USACE, and to the Office of Coastal Protection and Restoration in Baton Rouge for their review and comments. The LA Department of Natural Resource, Office of Coastal Management was contacted and a Joint Permit Application for work within the Louisiana Coastal Zone will be required for the 72.7 miles of fiber optic cable that will be placed within the Louisiana Coastal Zone. Additionally, the U.S. Coast Guard was contacted regarding permits for navigable waterway crossings on existing bridge structures. It may be necessary for BOR to obtain a modified permit for the existing conduits that will be used to cross these waters.

BOR will avoid disturbance of floodplain areas by either installing the fiber underground along roadways that are elevated above any surrounding floodplains or through horizontal directional drilling. Pits associated with horizontal directional drilling will be located outside of the floodplain limits. The placement of interconnection huts within aquifer recharge areas will have no effect on recharge because of the minimal size of the hut footprint.

In addition, fiber optic cables will be placed primarily along roads within existing utility ROWs. The plowing technique that will be used along the majority of the project route will be shallow and not adversely affect groundwater flows. Therefore, no significant direct or indirect impacts to groundwater resources are anticipated. By avoiding construction in waterways, and implementing erosion and sediment control BMPs, BOR 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. Some disturbance to the ground surface will occur during construction activities, which will be limited to existing ROWs and previously disturbed areas. Minimal tree and brush clearing will occur during installation of fiber optic cable and construction of the new 21 interconnection hut sites. Approximately 4,000 square feet will be disturbed at each new site.

BOR consulted with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts of the Project on biological resources. In a response dated January 19, 2011, the USFWS concluded that, based on the information provided by BOR, the Project is not likely to adversely affect these resources and no further consultation is required under Section 7 of the Endangered Species Act (ESA). Based on this analysis, BOR will be able to construct the network with no significant adverse impacts on biological resources.

Historic and Cultural Resources

On April 4, 2010, a consultation initiation letter, including a detailed Project description, was sent by NTIA to the State Historic Preservation Officer (SHPO) in Louisiana. Following the initiation letter, BOR engaged qualified staff at Gulf Engineers & Consultants to analyze the archeological and architectural resources within the Project's area of potential effect (APE). A records check identified 68 recorded archaeological sites and no historic standing structures within the APE. Of the 68 sites, eight are considered eligible for or listed on the National Register of Historic Places (NRHP), two are classified as cemeteries, 24 sites are considered ineligible for listing, and 34 sites require further testing for a determination of eligibility. A letter summarizing the findings of the cultural resources review was submitted to the SHPO on December 20, 2010.

In a letter dated January 20, 2011, the SHPO requested archaeological testing be performed in all areas where the Project route will intersect known archaeological sites. Revised location maps of interconnection huts were submitted to the SHPO for review on February 28, 2011. During a teleconference with BOR, NTIA, and the SHPO on April 7, 2011, it was determined that the proposed Project will have no adverse effect on historic properties as long as BOR implements measures to avoid any potential NRHP eligible or listed resource. On April 25, 2011, the SHPO provided BOR a letter concurring that their project would have "No Adverse Effect" on historic properties and agreeing BOR could begin project implementation activities subject to the following conditions:

- 1. BOR will identify all previously delineated historic properties eligible for listing in the NRHP within the highway ROW for the full project extent (APE), and commit to avoiding them by one of three methods:
 - a. Crossing to opposite side of highway where no cultural resources exist;

- b. Burial by horizontal directional drill with entry and exit points outside the site boundaries and to a depth sufficient to avoid impact to cultural resources; or
- c. Aerial suspension above the cultural resource on existing poles.
- 2. A summary table specifying the proposed means of avoidance of these NRHP eligible or listed resources will be prepared and submitted to the SHPO for approval. A concurrence by SHPO will be issued within 15 days of receipt of the summary. NTIA may authorize construction to proceed in the vicinity of these resources upon receipt of SHPO concurrence.
- 3. Prior to construction, BOR will retain a qualified archaeologist to perform shovel tests and prepare NRHP eligibility and site boundary recommendations for the 24 recorded cultural sites with indeterminate boundaries that intersect the Project. A full written report and a management summary for each site will be prepared and submitted to SHPO:
 - a. For sites recommended to be ineligible for NRHP listing, SHPO will review and respond with concurrence within 3 days of receipt of the summary. NTIA may authorize construction to proceed in the vicinity of these resources upon receipt of SHPO concurrence.
 - b. For sites recommended to be eligible for NRHP listing, the archaeologist shall provide a recommendation of appropriate avoidance measures (i.e. methods a, b, and c listed above) with the eligibility and boundary information. A concurrence by SHPO will be issued within 15 days of receipt of the summary. NTIA may authorize construction to proceed in the vicinity of these resources upon receipt of SHPO concurrence.
- 4. In the event that SHPO does not concur with recommendations put forward by the archaeologist on behalf of BOR, the SHPO and BOR will advise NTIA and consult to resolve the issue. Evidence of resolution will be provided to NTIA in the form of a signed concurrence by SHPO, upon which NTIA may authorize construction to proceed.
- 5. In the event that BOR and the SHPO fail to agree at any point, NTIA, within the limits of its authority, shall consult with such party to resolve the objection. If NTIA determines that the objection cannot be resolved, NTIA will withhold construction authorization and forward all documentation relevant to the dispute, including the resolution proposed by NTIA, to the Advisory Council on Historic Preservation (ACHP) for an opinion.
- 6. BOR shall provide the SHPO and NTIA a map of all fiber routes indicating the locations of previously delineated resources (per #1 and #3 above), and highlighting routes where no resources have been identified. Within 3 days of receipt, the SHPO will review and

respond with concurrence that construction may proceed on highlighted routes, upon which NTIA may authorize construction to proceed.

- 7. Should previously unidentified sites be inadvertently discovered during construction, work shall cease and NTIA and the SHPO shall be notified immediately.
- 8. In the event of any proposed revision to the Project plan, route, design, or specifications, BOR will submit such changes to NTIA for review and approval prior to implementing them.
 - a. NTIA, in consultation with the SHPO and BOR, will determine what, if any, additional survey and analysis is needed to take into account effects to historic properties.
 - i. NTIA will notify the SHPO and BOR in writing of the actions it proposes to take into account effects to historic properties.
 - ii. The parties will review the proposed actions and respond within seven business days.
- 9. BOR shall provide any recognized Indian tribe expressing interest in the project with a reasonable opportunity to identify its concerns about historic properties, and to participate in consultation.

Through the Tower Construction Notification System (TCNS), NTIA provided Project details to 12 tribes interested in the Project's geographical location (Louisiana). BOR received responses from six tribes that were notified about the Project. One of the six tribes responded via TCNS that they have no interest in project, but requested that the SHPO and the Tribe be notified in the event of unanticipated discoveries. Five other tribes requested additional information on the Project. BOR provided additional information to four of these tribes, as requested. After review of the additional detail, one tribe responded that they do not have any objections to the Project. Another tribe requested additional information from BOR to assist with their determination. To date, no response has been received from the other two tribes to which BOR sent additional information. The remaining tribe originally notified of the Project through TCNS has not yet responded.

Aesthetic and Visual Resources

The Project involves installing fiber optic cable by burying the cable underground in existing ROWs, routing cable through existing conduits along bridges, and constructing 21 huts in previously disturbed areas. The fiber optic cable will be located along major roadways, portions of which are designated as Louisiana Scenic Byways, including the Northwest Louisiana Scenic Byway, Wetland Cultural Trail, Louisiana Scenic Bayou Byway, Colonial Trails Scenic Byway, and Bienville Trace Scenic Byway. The project area intersects and follows part of the Great

River Road Byway which is designated as part of America's Byways. 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. The new huts will be covered with natural-appearing materials, such as aggregate siding, to blend in with the natural environment to the extent possible. No authorization or coordination is required for the huts to be built along state scenic byways in Louisiana.

The project will cross through the Evangeline Unit in the Calcasieu Ranger District, and the Catahoula Ranger District of the Kisatchie National Forest, both of which cross Highway 165. The Catahoula Ranger District includes a 36,000 acres of land set aside for Catahoula National Wildlife Management Preserve. No interconnection huts will be built in the Kisatchie National Forest. BOR consulted with the USDA Forest Service, Catahoula Ranger District regarding these proposed Project activities. In an email dated April 1, 2011, the Catahoula Ranger District provided information on the special uses program and the required permitting process. BOR will obtain a special use permit from the Forest Service prior to conducting any work within the forest boundaries. 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 underground in existing ROWs or attached to bridges, through existing conduit, at certain water crossings. There will be no change in the existing land use due to the underground fiber installation. Therefore, the Project will have no significant adverse impact on land use.

Infrastructure

The Project will improve communications infrastructure and is expected to improve the transfer of information between CAIs, businesses, and individuals residing within the communities along the Project route. Existing buried utilities will be identified, located, and avoided. Existing roadways will be crossed underground by horizontal directional drilling. The majority of the work will be conducted within existing ROWs off of existing pavement; therefore minimal effects on traffic are anticipated. BOR will obtain the necessary permits from the Louisiana Department of Transportation and Development to place the fiber optic cable within the roadway/highway ROW and from all railroad companies whose rail lines will be crossed. The new interconnection huts will connect to existing power or natural gas distribution lines, where possible, for fuel supply to the emergency generators. Overall, the Project will have a positive impact on infrastructure within 32 parishes in Louisiana, and is not anticipated to result in significant impacts on infrastructure.

Socioeconomic Resources

The Project will expand the region's existing fiber optic networks across the state of Louisiana. The Project also will create jobs, provide greater broadband access for educational institutions,

May 2011

and advance health care innovation in unserved and underserved areas. Additional benefits include affordable broadband access for local consumers and businesses. The Project will have positive impacts on socioeconomic resources, and is not anticipated to result in significant impacts on socioeconomic resources.

Human Health and Safety

Eight Superfund sites are located within less than five miles along portions of the fiber route. However, fiber will be buried in conduit approximately four feet deep in existing highway ROWs. Therefore, no impacts are anticipated along the fiber route. BMPs for workplace safety will be implemented to protect workers and the public along the Project route. Contractors will be required to develop and implement a project, site-specific health and safety plan. Adherence to required installation and traffic safety procedures will also be included in the contractor's health and safety plan. With implementation of these protection measures, the Project will not generate any significant adverse worker or traffic-related health or safety issues.

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.

Decision

Issued:

Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, identified BMPs, identified protective measures, and planned consultation studies, 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.

Senior Communications Program Specialist Office of Telecommunications and Information Applications

National Telecommunications and Information Administration