



February 20, 2009

To: Harry Roesch, ARC Project Coordinator
Appalachian Regional Commission
1666 Connecticut Avenue NW Suite 700
Washington, DC 20009-1068

From: Robert R. Byrd
P.O. Box 1709
Enka, NC 28728

Subject: ARC Progress Report for Contract # NC15697-07
Project title: Graham County Broadband Fiber Optic Extension

Dear Harry:

Attached herewith is a copy of the Southwestern Commission's 5th 120-day progress report for the Graham County Broadband Fiber Optic Extension contract. This report covers the contract period from October 25, 2008 through February 20, 2009. Under separate cover I am mailing you two hard copies of this report.

As you know the major focus of the ARC funds in this project is to support the provision of broadband technology infrastructure to the Graham County governmental offices. Primary progress has been made during this reporting period. The fiber deployment to the primary sites has been completed. The extension you granted is allowing the necessary time to complete the remaining components of the project.

The Cherokee Preservation Foundation and the NC Rural Center are providing matching funding for the ARC award.

Roger Wiggins, the chief financial officer for the Southwestern Commission, will prepare a financial request which will be submitted separately.

The progress noted during this reporting period would not have been possible without the guidance and assistance provided by the Graham County officials, the BalsamWest FiberNet Corporation and WNC EdNET Technical Advisor and Planner, Leonard Winchester. The Southwestern Commission and the WRESA are grateful for this leadership and support.

Copies of this report are being provided to Olivia Collier, NC ARC Liaison, the Cherokee Preservation Foundation, and the NC Rural Center.

If you need additional information, please let me know.

Many thanks.

Cc: Bill Gibson
Roger Metcalf
Roger Wiggins
Olivia Collier
Susan Jenkins
Jan Webster
Leonard Winchester
Charles George

**Broadband Fiber Optic Extension for
Graham County Government, Public Services and
Private Businesses
Contract # NC-15697-07**

**Progress Report
October 25, 2008 – February 20, 2009**

**Submitted to:
Harry Roesch, ARC Project Coordinator
Appalachian Regional Commission
1666 Connecticut Avenue NW
Suite 700
Washington, DC 20009-1068**

**Olivia Collier, NC ARC Liaison Officer
4313 Mail Service Center
Raleigh, NC 27699-4313**

Submitted by:

**Bill Gibson, Executive Director
Southwestern Commission
125 Bonnie Lane
Sylva, NC 28779**

**Dr. Jan Webster, Director
Western Region Education
Service Alliance (WRESA)
P.O. Box 1709
Enka, NC 28728**

ARC Progress Report Outline

- I. Background Information**
- II. Progress in Achieving Goals and Objectives**
- III. Major Focus for the Next Reporting Period**
- IV. Financial Report**

I. Background Information

The purpose of this project is to help provide broadband infrastructure and electronics to 10 Graham County governmental sites. The broadband infrastructure deployment includes placing underground fiber duct with handholes from Topton to the Robbinsville area. The work includes trenching, ditching, digging, boring soil, sawing rock, providing ducts, installing ducts, providing and installing handholes, providing fiber, inserting fiber into duct via blowing, pushing and pulling, interval fusion splicing and making connections. The equipment electronics includes the termination of the fiber at the user sites.

This project is matched with Cherokee Preservation Foundation and NC Rural Center funds and is a component of a regional WNC EdNET project which is designed to provide broadband connectivity to the education sites in the counties of Jackson, Macon, Clay, Cherokee, Swain and Graham. The WNC EdNET project includes public, Tribal, and Charter schools.

II. Progress in achieving project goals and objectives

The Project Goal is to “Develop and improve Appalachia’s Infrastructure to make the region economically competitive” (ARC Goal 3).

Strategies are: ARC Strategic objective 3.3 “Increase the accessibility and use of telecommunications technology” and NC Strategy 3.3.3 “Make strategic investments to enhance the availability and use of telecommunications technology.”

Performance measures include:

Outputs: Sufficient fiber optic cable and terminal equipment will be provided to connect Graham County public services and local business to the global economy

Outcomes: Broadband fiber-optic connectivity to all Graham County and Robbinsville government facilities and public services; and, “bridge” access for local business, commerce and industry

Leverage: Immediate leverage includes the \$700,000 grant (awarded 03/07) from the Cherokee Preservation Foundation. Future projected private investment is unknown. The converse is that without broadband access many new business prospects will ignore Graham County.

The project goal, strategies, outputs, outcomes and leverage are operationalized via major project activities which include:

- Sustaining a regional collaborative consisting of CEO’s and Technology Coordinators from each of the implementation partners. Periodic meetings will be called by the Project Director when collaborative decisions are needed. The

partners' representatives are the key players to insure quality implementation and sustainability of the project. Southwestern Commission and Western Region Education Service Alliance (WRESA) serve as management partners.

- Once funding is received, contracts will be finalized and the deployment of the infrastructure will begin and should be completed within a few months.
- The building of the underground transport infrastructure to Graham County participating sites is ready to begin when funding is secured. The planning, engineering, and elements of the deployment contractual agreement have been established.

Specific progress made during this reporting relative to each major activity is as follows:

Sustaining the regional WNC EdNET collaborative

Progress – The regional WNC EdNET collaborative structure is fully functioning. The Executive Committee, the Technology Coordinators and the Technology Application Committee (TAC) continue to conduct planning and implementation activities. The Southwestern Commission and WRESA continually interact with these groups.

Major events during this reporting period include:

- A multiparty onsite visit to Graham County to review progress of this project
- Completion of the 2nd Formative Review of the WNC EdNET project

Contracts will be finalized and infrastructure deployment will begin

Progress – The project planners successfully finalized a deployment contract with a vendor who was approved through a formal bidding process. A contract for fiber termination in the county offices has been agreed to.

The building of the underground transport of the infrastructure to Graham County

Progress – This is the major activity of this ARC project and significant progress has been made:

1. Graham County Schools – all fiber deployment construction splicing and testing is complete. All schools have been connected to the central hub via Cisco switching/routing equipment.
2. County Government sites – all primary fiber deployment construction to the county office sites has been completed. This includes fiber splicing and testing. Additional short links to other governmental sites is in process.

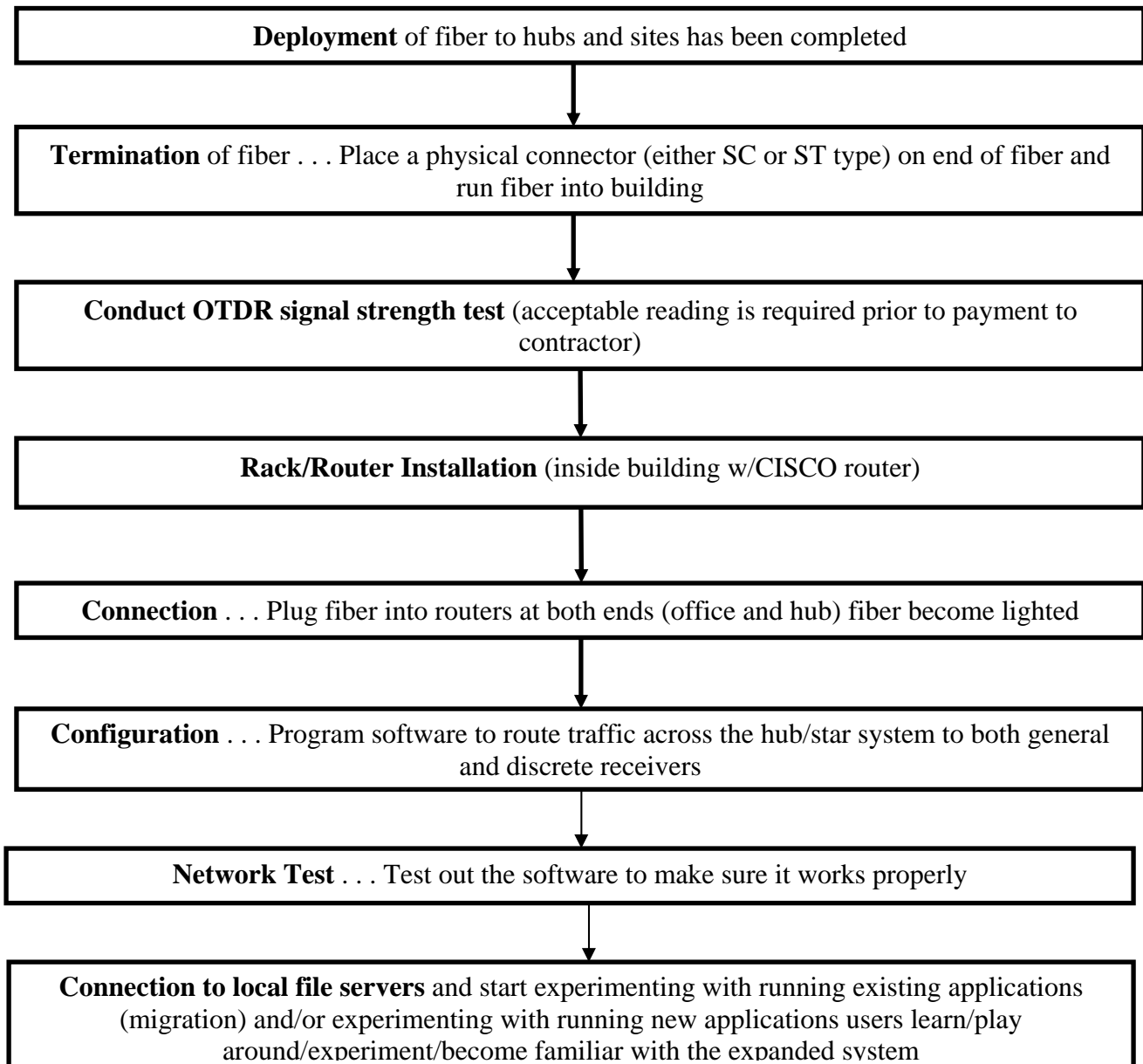
The Cisco switching/routing hub equipment has been purchased, delivered and had to be re-ordered because of specification differences. Additional switching and filtering equipment is being procured.

Termination into the county office buildings is currently under contract (See Appendix B). The terminations have been finalized. Some final adjustments need to be made.

The actual termination involves several steps usually involving several different people who have to coordinate schedules – Figure 1 details – the termination process.

Figure 1

Sequence of Connections to Sites



The equipment re-order process in effect delayed the final hook-up process. Some of the configuration, networking, and connection to local servers steps are yet to be fully completed and are waiting on the contractors to complete the configuration and network testing. This should be done in the next few weeks. Additional work is needed to fully integrate the Library and telephone systems.

In conclusion, substantial progress has been made in accomplishing the infrastructure deployment which is the major focus of this ARC project and the CPFdn and Rural Center Projects.

III. Major focus for the next reporting period.

The major activities for the next reporting period will include the completion of residual fiber links to county government sites. The procurement and installation of switching electronics, back-up power and terminations is basically completed. Final inspection and testing should occur during next reporting period. The procurement and installation of filtering and equipment for the Library and the PRI telephone circuit equipment is in process. The negotiation of the Library circuit connection to the D-net is in process. The remaining items for backup power and routing are being procured.

IV. Financial Request

(The Financial Report is being sent under separate cover from Roger Wiggins)