



## ADAMS COUNTY COMMUNICATION CENTER, INC.

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Lance Johnson  
Program Officer  
Broadband Technology Opportunities Program (BTOP)  
National Telecommunications & Information Administration  
U.S. Department of Commerce, Room 4626  
1401 Constitution Ave. NW  
Washington, DC 20230

Dear Mr. Johnson,

The purpose of this letter is to formally request a no-cost extension of our existing Public Safety Broadband Network award. ADKOM 911 believes these changes will have an overall positive affect on the project and allow us to bring the project to a successful close. The purpose of the no-cost extension is to complete a large segment of the fiber optic network that was approved in the Route Modification submitted in March, 2012. It will also allow the installation of additional high speed microwave connectivity in the overall broadband network. When these efforts are completed, every Public Safety Community Anchor Institution within the ADKOM 911 service area will be interlinked by a robust, resilient broadband network. Below is a comprehensive description of the changes requested.

### Description of Change

#### Fiber Completion

In the Route Modification submitted in March, 2012, ADKOM identified a segment of fiber that could be installed along East 120<sup>th</sup> Avenue in the City of Thornton. The approved modification included:

- We have existing fiber and conduit installed from our Cherokee Tower at 112<sup>th</sup> Avenue and Cherokee Street to a hand-hole at 120<sup>th</sup> Avenue and Grant Street.
- The City of Thornton has existing fiber conduit available for use from 120<sup>th</sup> Avenue and Grant Street to 120<sup>th</sup> Avenue and Bellaire Street. The conduit space is available for our use based on an Intergovernmental Agreement signed with the City of Thornton.
- New conduit and fiber optic cable would be installed along 120<sup>th</sup> Avenue from Bellaire Way to Riverdale Road. The infrastructure would then parallel Riverdale Road north to 124<sup>th</sup> Avenue. It will then be routed east along 124<sup>th</sup> Avenue to Henderson Road, where the alignment would then go north to the Adams County Fairgrounds.
- Adams County is making preparations to install both fiber cable and conduit from the County Campus building near 124<sup>th</sup> Ave and Sable Boulevard to the Adams County Fairgrounds near 124<sup>th</sup> Avenue and Henderson Road. We have fiber in place at the Adams County Campus today, and have developed a Memorandum of Understanding with Adams County that will allow us use of the fiber from the Campus Building to the County Fairgrounds.

The completion of this segment of fiber will interconnect the Cherokee Tower site and the County Campus site. Both sites are aggregation points in the overall broadband network. In addition, we will be able to interconnect with the City of Thornton, who uses an outdated microwave link to connect to ADCOM 911 today. The City of Thornton would also have direct connectivity to the other CAI locations already active on the broadband network.

In addition, we will install a lateral run from the existing fiber along Grant Street noted above, at approximately 118<sup>th</sup> Avenue, into the City of Northglenn building. The lateral run is estimated to be 500 feet or less. The City of Northglenn is connected to ADCOM via a high speed microwave link today. Once this lateral run is completed, the City of Northglenn will use the fiber network as their primary path. The microwave path will then become a redundant link in case of cuts or disruptions to the fiber network.

#### Microwave Additions

ADCOM 911 will also connect 3 additional locations via high speed microwave, and upgrade an existing microwave to a high speed connection. These sites include:

- North Metro Fire Headquarters – a microwave will be installed from our existing Cherokee Tower to the North Metro Fire Headquarters building located in Broomfield, CO. North Metro Fire is currently connected to ADCOM 911 through a leased T1 line.
- South Adams Fire Headquarters – a microwave will be installed from the existing Commerce City building to the South Adams Fire Headquarters located approximately 1.5 miles away. South Adams Fire does not currently have connectivity to ADCOM 911.
- Bennett Fire Headquarters – a microwave will be installed from the Bennett Radio Tower to the Bennett Fire Headquarters located approximately 1 mile away. Bennett Fire does not currently have connectivity to ADCOM 911.
- North Washington Fire Headquarters – an existing microwave between ADCOM 911 and North Washington Fire will be upgraded to a high speed connection. The upgraded link will provide approximately 10 times the bandwidth available today.

#### Site Improvement

ADCOM 911 will complete the site improvements previously planned, which include:

- Site security at the three tower sites owned by ADCOM 911.
- Backup power to the equipment housed at two of the remote tower sites owned by ADCOM 911.
- Electrical work at the sites to improve reliability and capacity.
- Relocating an existing equipment shelter from the ADCOM 911 grounds to the Brighton Water Tank. The Brighton Water Tank serves as an intermediary aggregation and connection point along the existing broadband network. However, the equipment is housed in the base of the water tower, and there is no effective mechanism to control the temperature inside the existing area. Once the equipment shelter is relocated, the equipment inside the tower will be transferred to the shelter and can be better protected from the environment and site access.

#### Network Devices

ADCOM 911 will complete the purchase and installation of the remaining elements needed for the network, which include:

- Two Core LAN switches. Each of the existing CAI locations connect to applications hosted at the ADCOM 911 facility. These eventually terminate in core switches within the ADCOM 911 LAN. The current switches are outdated and approaching end of life. ADCOM 911 will replace these switches with more current equipment to ensure uninterrupted access to the applications hosted at the facility. These applications include critical 911 Dispatch services, and will allow for future expansion with Next Generation 911 services to both the agencies and the community.
- SFP modules that will allow additional fiber connections to be activated using the existing switches already deployed in the field.
- Environmental Monitors will be purchased and installed for each of the network termination locations.
- Relay panels will be installed to allow remote monitoring of the generators installed at the ADCOM 911 aggregation sites.

Test Equipment

ADCOM 911 will purchase test equipment that will allow us to troubleshoot and maintain the elements of the network equipment deployed. These testers include:

- A fiber optic tester which can identify breaks in the fiber cabling, approximate distance of the break, and overall performance of the strands of fiber.
- A spectrum analyzer which can check for interference patterns in the microwave path. Since all microwaves are licensed, this would allow us to identify the interference and seek mitigation to resolve the problem.

Personnel

ADCOM 911 will continue to fund the Network Administrator position through grant funds. ADCOM 911 will also hire a new staff member to take on the role of Grant Administrator. This person will become responsible for the ongoing reporting and fiduciary responsibilities of the grant.

Summary

All work outlined above can be completed using the remaining funds that were designated for broadband development in our grant award. While there are funds still designated for use in the LTE network, we have no plans to pursue further development of LTE. Therefore, the LTE designated funds will remain suspended for the duration of the grant period.

We do not anticipate the planned work will require significant revisions to the Environmental Assessment. The installation of fiber along 120<sup>th</sup> Avenue was already approved under the EA submitted in March, 2012. The additional work we propose has limited disturbance of ground when we connect the lateral conduit to the City of Northglenn, and when we relocate the equipment shelter to the Brighton Water Tank. The remainder of the work involves the installation of microwave dishes on existing towers or existing structures, none of which are historical in nature.

Once the planned work is completed, every Public Safety Community Anchor Institution within the ADCOM 911 service area will be interconnect to ADCOM 911 and to each other. This will provide each of them with high speed access to the applications hosted at ADCOM 911, and provides them the option to share data and services directly amongst each other.

Sincerely,



Scott Newman  
Deputy Director  
ADCOM911