

All Points Broadband Tour and Presentation - December 9, 2024

Tour Overview

All Points Broadband (APB) conducted a tour of multiple installation sites to interested parties as part of the NSVRC broadband project in Augusta County in the Dominion Energy service territory. The sites included a last-mile installation that will serve homes, an active cabinet being installed for fiber service distribution, and a staging warehouse for project supplies. The tour was followed by a presentation at the NSVRC office in Front Royal, where APB described the new project schedule and grant status in coordination with DHCD. A handout from the meeting follows this tour report.

1. Last Mile Installation

- The tour group observed active fiber installation along a private road.
- Fiber was strung aurally from a local connection canister to a fiber cabinet on the main road.
- Fiber will connect from the canister to individual homes.
- Adjacent to the drive, two new poles were installed by Dominion Energy to support the new cable.

The tour began with a visit to a site where the last mile of fiber installation was actively in progress. The location was a small private road serving several homes. At this site, fiber was being strung as an aerial installation, which runs from a local connection canister to the active fiber cabinet located along the main road about five miles away.

The fiber extends from the private drive to the main road, where it connects to an active fiber cabinet. Fiber hookups will run from a connection point on a pole directly to individual homes. The first customer activation is anticipated to occur within about a month.



Jimmy Carr of APB and Dominion Energy representatives describe the process of last-mile cable installation and pole replacement. The private road has several homes that will be served by this fiber cable feed.



Two new poles were installed by Dominion for this area, replacing aging poles that were substandard and not suitable for carrying fiber optic cable.



One of the new poles installed by Dominion, which will carry the cable back to the active cabinet for service to these homes.



A cable installation truck operated by Eliot, a fiber installation vendor used by both Dominion and APB.

2. Active Cabinet

- Serves 1,600 customers with 80 miles of fiber for the entire Fiber Service Area (FSA).
- Utilizes 40km optics for efficient signal transmission.
- First customer activation expected within a month.
- Located on private land with leases negotiated with owners.
- Equipped with 24-hour battery backup and small generator support.

Located approximately five miles away from the first stop, the second stop was at an active fiber cabinet providing network distribution within the service area. Active fiber cabinets have electrical service for the equipment and typically one cabinet serves the entire FSA. This particular cabinet is designed to serve 1,600 customers by distributing 80 miles of fiber to the end locations. The equipment within the cabinet utilizes advanced 40km optics, allowing for long-distance transmission without degradation in signal quality.

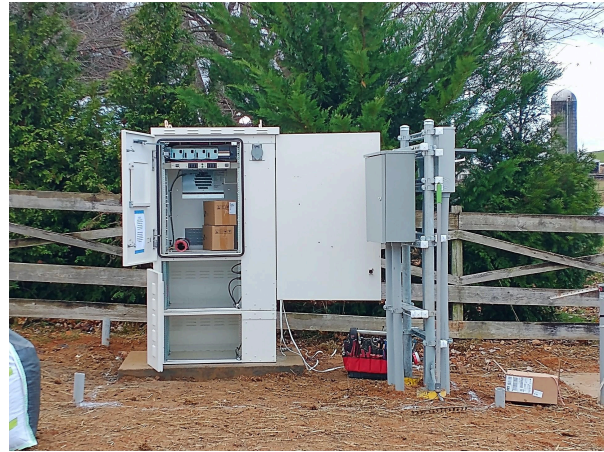
The cost of setting up a fully loaded cabinet, including equipment, ranges from \$300,000 to \$400,000, whereas purchasing an empty cabinet costs approximately \$50,000 to \$60,000. All cabinets are strategically placed on private land to avoid the complications of rights-of-way, with leases being negotiated with property owners. Lease terms can have specific provisions for the property. This particular cabinet is located in the corner of a cow and sheep field next to the main road. To address the land usage, the owner plans to install a fence to keep livestock out and add a gate to the road for access by APB personnel.

Regarding power and maintenance, the cabinet is equipped with a 24-hour battery backup and can be powered by a small generator that is capable of providing 35 amps continuously. Maintenance responsibilities are handled internally by APB employees, who are always on call to address power outages. Outages are handled in coordination with the APB operations center and the power company operations center. Depending on the size of the outage, whether it's due to a storm or a one-off event, an action plan is devised to suit the situation.

Pre-work at the site included trenching and laying conduit from a nearby pole to the cabinet, followed by backfilling and pouring a pad for the equipment. The pad was completed this past Friday, and the cabinet was set up the morning of the tour. An installation of a Dominion Energy meter is expected soon, after which batteries and all necessary equipment will be loaded into the cabinet.



The active cabinet is located along a main road, but is on property outside of the VDOT right of way (ROW) for the road. APB contracts with property owners for lease agreements to host the cabinets on their private land.



This active cabinet will serve approx. 1600 homes over 80 miles of fiber cable. The cabinet is designed to provide excess capacity for future upgrades and additional subscribers. The fiber equipment and batteries will be installed on the left and the Dominion Energy meter and electric supply from the nearby pole is on the right.



The electric service from Dominion will be installed in the gray box in the foreground. In the left background can be seen the backup batteries for continuous service. A small concrete pad for the emergency power generator can be seen on the ground to the right.



These gray cross-connect canisters will be installed on poles throughout the system to connect the distribution cables.

3. Warehouse, Distribution & Future Operations Center

- Functions as a regional distribution hub.
- Holds millions of dollars worth of inventory, paid for out of pocket by APB.
- Reimbursable only when equipment is installed & activated.
- Materials that are reimbursable under BEAD must comply with the Buy American / Build American (BABA) Act.
- Plans to transition into an operations center as the project matures.

The final stop of the tour was at the All Points Broadband (APB) warehouse, which serves as a hub for regional distribution and will become a future operations center. This facility serves as a staging area where materials and equipment are stored and managed.

The warehouse holds significant inventory worth millions of dollars. It will typically stock a three-month rolling supply of materials and serve as a pickup location for vendors. APB provides all job materials to vendors and must pay for them out of pocket. Notably, reimbursements for the materials under the grant programs are not eligible until a full Fiber Service Area has been activated.

As part of the BEAD program, a requirement is compliance with the Buy American / Build American (BABA) Act. The BEAD program requires certain equipment be produced in the U.S., while waiving the domestic manufacturing requirement for other equipment. More info is available here:
<https://www.ntia.gov/programs-and-initiatives/build-america-buy-america>



Jimmy Carr of APB describes the contents of the warehouse and staging process to support the fiber installation.



Supplies are ordered well in advance to be staged in preparation for vendors to pick up materials for the job sites. All materials are provided to vendors by APB.



The facility will hold several months' worth of supplies as the project gains momentum.



Materials that qualify for reimbursement under the BEAD program must comply with the Buy American / Build American (BABA) Act.



Tom Innes from APB shows the individual fiber strands contained in a distribution cable. These cables will connect the cabinets together, with smaller and lighter cables running to homes.

DHCD Meeting with All Points Broadband Presentation on Project Status

In a meeting with the Department of Housing and Community Development (DHCD), All Points Broadband (APB) presented an update on their current broadband project status, how their approach to the grant programs is being modified to incorporate more locations and subsidize underground cable installation, and handed out a revised project timeline to each County's representatives.

DHCD approved these modifications prior to the Thanksgiving break, and this meeting was scheduled at the first opportunity after the holiday.

- **Augusta County Progress:** APB reported on the installation of their first active cabinet, with Dominion Energy having completed 50 miles of middle-mile fiber and installation with 42 miles currently under construction. The first customers are expected to be activated in a matter of weeks pending the cabinet completion and inspection.
- **Fauquier County Developments:** In Fauquier County, 35 miles of middle mile fiber have been completed by Dominion, with over 65 miles underway. Construction is progressing at a rate of 0.6 to 1 mile per week with the current crews on this portion of the project.

The overall project is supported by 38 Dominion Energy crews system-wide, with most crews anticipated to move to Fauquier in 2025 to speed up progress.

- **Funding and Strategic Adjustments:** Virginia has received an additional \$1.4 billion through the Broadband Equity, Access, and Deployment (BEAD) program. The state has provided an option to shift locations from the Virginia Telecommunication Initiative (VATI) to the BEAD program, improving project scope and efficiency.

- **Project Timeline:** The project timeline has been extended from July 2025 to June 2026, with 19% of locations experiencing no change in schedule. Underground installations are being utilized wherever feasible to avoid delays associated with aerial runs and the slow pace of pole replacement. This will reduce make-ready work volume by 70%.

According to a US Geological Survey map, some areas in Augusta and also northwest Rappahannock may face challenges with underground trenching due to shallow bedrock, which will necessitate aerial solutions. The USGS map indicates a small portion of Rappahannock near Shenandoah Park may be affected by the shallow bedrock.

- **Community Engagement and Customer Communication:** APB plans to provide schedules of construction activities to municipalities a calendar quarter in advance, including detailed area maps. Registered customers will be notified about service availability through multiple mailers and/or door hangers prior to service activation.

After service is activated in a particular area, the flat installation rate of \$199 will apply for up to one year past the service activation date. Those dates will be different for each Fiber Service Area (FSA). Rappahannock has three FSAs.

- **Technical and Regulatory Aspects:** VDOT permits for underground installations that involve state-maintained roadways are taking longer than anticipated, with the updated schedule incorporating those timeframes.

APB is obligated to shift all locations within a Zip Code Tabulation Area (ZCTA) so they can be eligible for BEAD, with initial surveys identifying over 26,000 newly-eligible locations. This is largely due to an updated definition of "served" that increases the minimum throughput to 100/25 Mbps under the grant program, along with other providers dropping their applications and/or challenges to those locations. The initial designs by APB have already incorporated those locations, so design changes are not necessary to implement them as part of the grant program.

Text from handout given to all county representatives at the DHCD update meeting:

**Northern Shenandoah Valley Regional Commission
Regional Broadband Project Update
December 2024**

BEAD / Risk-Mitigation Plan Presented in September 2024 Approved by DHCD

The Department of Housing and Community Development (DHCD) has approved the risk mitigation plan presented in September. This modification leveraged state legislation intended to ensure that locations at risk of not being served through ongoing VATI projects would be included in Virginia's BEAD program. Approved modifications to the project substantially reduce the number of utility poles planned for attachment, reducing make-ready burdens for all stakeholders and addressing a primary issue driving budget and schedule risk.

Locations Planned for Shift to BEAD Program Included in Virginia's BEAD Map

In order to ensure sufficient funding to complete the intended project scope, the locations planned to be transferred to the BEAD program have been included on Virginia's current list of BEAD-eligible locations, which was published in October.

Virginia's BEAD Process Opened on December 1st and is Underway

Virginia's BEAD process opened on December 1st with applications due on March 1st. APB will participate in the BEAD program for all areas containing locations shifted to BEAD from the VATI program. All Points will offer all locations served through BEAD the same terms, conditions, and pricing included in the VATI project.

No Additional County Matching Funds Required

Virginia has been allocated \$1.48 billion in federal funding to extend broadband to all eligible locations. The BEAD / risk-mitigation plan does not require additional funding from participating Counties. All Points will be responsible for all required BEAD matching funds.

Rappahannock County Overview

- APB last mile construction to begin in August 2025 with completion expected in June 2026 (average rate of 17 miles per month).
- Network activation will begin in September 2025 and continue on a rolling basis through June 2026 (by Fiber Service Area / Fiber Distribution Area).

The text below showing the updated timeline was translated from a handout provided at the DHCD update meeting. The original Gantt chart graph was converted to this bullet list for greater legibility:

Project Phases and Timeframes:

- **Design Optimization (Aerial vs Underground):** now - June 2025
- **Pole Fielding:** February 2025 - May 2025
- **Make Ready Engineering Optimization:** April 2025 - September 2025
- **Cabinet Site Acquisition:** April 2025 - October 2025
- **Pole Permits & Make-ready Construction:** March 2025 - November 2025
- **VDOT Permitting:** April 2025 - February 2026
- **Blueprinting & Release to Construction:** June 2025 - June 2026
- **Last-mile Fiber Construction:** July 2025 - June 2026
- **Network & Service Activation:** August 2025 - June 2026
- **Post Construction Closeout:** August 2025 - June 2026