

**Caroline County
Board of Supervisors Agenda
Executive Summary**

Meeting Date: May 5, 2020

Title: New Business – Discussion of Enhanced Internet Access at Dawn Library

(Check Mark)

<input type="checkbox"/> Consent	<input type="checkbox"/> Closed Meeting
<input checked="" type="checkbox"/> Action	<input type="checkbox"/> Public Hearing
<input type="checkbox"/> No Action (Information Only)	<input type="checkbox"/> Ordinance
<input type="checkbox"/> Resolution	<input type="checkbox"/> PowerPoint Presentation

Summary: At the request of Supervisor Underwood, discussion of enhanced internet access at the Dawn branch of the library has been scheduled for the May 5 Board of Supervisors meeting. Mr. Underwood would like to improve internet service at the Dawn library and provide expanded Wi-Fi access for citizens in the parking lot (particularly since students are currently out of school and require access to the internet to complete their schoolwork). The current library internet connection is insufficient to support normal library functions and does not have the capacity to share with the public at this time. A new solution to bring more internet bandwidth is required.

Staff has had limited time to analyze available options and develop cost estimates. However, it appears the following alternatives are the only available options to provide the increased bandwidth and speeds needed to satisfy increased demand.

Option #1

County staff has been studying this option for over a year, using drone technology to determine the feasibility of a line of sight connection to the County's air fiber backbone. Due to a number of issues encountered, staff has not completed the design for this approach and firm pricing is unknown.

This option would require the construction of a 140' tower at either Frog Level Volunteer Fire Department (assuming the department will permit it) or the Dawn library to tie into the County backbone through a line of sight radio shot back to the County water tower in Carmel Church. Internet traffic from the public at the library would connect to the

County's Comcast connection to the internet at the water tower. The tower at FLVFD would require a fiber run up Route 301 to the library.

Staff is working on cost projections for this option and should be able to provide a "ballpark" estimate at the May 5 Board meeting. It is safe to assume the expense will be significant due to the required tower height and associated costs. Moreover, it will likely take six to twelve months to complete given staff's experience with roughly similar projects in the past.

Option #2

The second option is to seek permission to access fiber from the Rappahannock Electric Cooperative (REC) communications tower located east of Route 301 within line of site of the Dawn library. REC has advised staff that it plans to run fiber to this communications tower as part of a project to connect its infrastructure facilities. REC appears to be receptive to allowing the County to purchase dark fiber pairs to provide service to the Dawn library from this tower.

The cost is unknown at this time, but would appear to be less than building a tower. This approach will also take several months to pursue and evaluate, but appears to offer the best long-term option if successful.

Option #3

Staff is also exploring the possibility of leasing tower space on the existing REC tower referenced in Option #2. If this space can be obtained, two radios could be installed to reach an antenna on the Carmel Church water tower. The signal could then be sent from the REC tower to a small pole near the library.

This would likely be the least expensive and easiest to install of the options and could serve as a temporary measure until fiber to the tower is installed. This possibility has not been discussed directly with REC to date but staff has contacted a representative and is awaiting a response.

Budget Impact: Additional preliminary information on cost should be available for Option #1 at the May 5 Board meeting.

Requested Action from Board of Supervisors: None of the options identified will likely provide enhanced internet access to the Dawn library in the immediate future. Staff would like permission to pursue the REC options in more detail since they would appear to offer the best long-term and cost-effective solutions.