



ALEDO ISD BOARD MEETING TEMPLATE

MEETING DATE: January 22, 2018

AGENDA ITEM: Consider Approval of District Fiber Project

PRESENTER: Earl Husfeld and Brooks Moore

ALIGNS TO BOARD GOAL(S): Financial/Facilities – The District shall exhibit excellence in financial and facility planning, management, and stewardship.

BACKGROUND INFORMATION:

- As you are aware, the Walsh Elementary School Project was included within the new construction component of the District's successful 2015 Bond Election.
- As we have discussed during the September and November board meetings, district staff has been pursuing a permanent, fiber optic connection from the District's network operations center (NOC) to Walsh Elementary.

ADMINISTRATIVE CONSIDERATIONS:

- This fiber project was "let out" for proposals on November 8, 2017. The District received two (2) viable responses by the submittal deadline on January 3, 2018.
- For your review and consideration, the following pages provide an overview of this potential project and an analysis of the benefits of fiber optic connections.
- The Administration recommends approval of the Region 11 Education Service Center FIBER11 solution for this project. This solution allows the District to provide fiber optic connections to all remaining campuses in the District for approximately the same, or less, cost than the proposals submitted for only Walsh Elementary.
- Following is a copy of the FIBER11 Internal Connectivity Service Agreement between Education Service Center Region 11 and Aledo ISD for your review.

FISCAL NOTE:

The FIBER11 cost of \$50,000 to connect Walsh Elementary to the NOC will be paid from 2015 Bond Program funds allotted for Walsh Elementary School.

The FIBER11 cost of \$170,000 to connect the five (5) campuses not currently connected to the NOC via fiber optic pathway is recommended to be paid with remaining technology funds from the 2015 Bond Program.

ADMINISTRATIVE RECOMMENDATION:

The Administration recommends the Board of Trustees approve the FIBER11 Internal Connectivity Service Agreement between Education Service Center Region 11 and the Aledo ISD as presented and authorize the Superintendent to execute said agreement.

Overview

As you are aware, the District has been pursuing a permanent, fiber optic connection from our network operations center (NOC) to Walsh Elementary. Based on the timing of the Walsh Development and the opening of Walsh Elementary, there was only one temporary connection that could be used for connecting Walsh Elementary to the District's wide-area network. We have been using this temporary connection, and working within its limitations, since the opening of Walsh Elementary.

The District issued a Request for Proposal (RFP) in November 2017 for fiber connectivity to Walsh Elementary. Two (2) viable bids were received as of the RFP due date. The proposed costs were \$250,000 from one (1) vendor and \$173,791 from the other vendor, along with approximate monthly maintenance costs of \$350 from each vendor. These solution costs assume we would receive E-Rate funding for the project. E-Rate is a federal program that offsets the cost of telecommunications equipment based on the District's free and reduced lunch percentage. The District's current E-Rate discount is 50%.

During this same time period, district staff became aware of another option through the Region 11 Education Service Center. Region 11 is in the middle of a \$25 million project to connect many of its affiliated districts with fiber optic network connections, collectively known as "Fiber11." A part of this contract allows for member districts to leverage special, one-time pricing for connecting their individual campuses. By leveraging this Region 11 contract, Aledo ISD uses the consortium's E-Rate discount of 90% versus the District's normal E-Rate discount of 50%. There are a limited number of these campus connections secured by Region 11's contract, and they are available on a first-come, first-served basis. It is anticipated these connections will be utilized very quickly as other school districts become aware of this option.

The pricing for this Region 11 based option is \$50,000 per site, with a monthly maintenance cost of \$200. **We recommend pursuing this option for Walsh Elementary.**

This Fiber11 project also represents a tremendous opportunity for the District to connect not only Walsh Elementary to the District's NOC, but also the other campuses within Aledo ISD that have slower connections.

Campuses in close proximity to the NOC, including Aledo High, Daniel Ninth Grade Campus, Aledo Learning Center, and Coder Elementary have 10 GB, fiber-based connections. This is possible because the District buried its own fiber optic cables on the site during different phases of construction.

Campuses that are not located near the NOC have 1 GB connections that are leased from AT&T. The District uses these connections simply because, historically, they have represented the best option for those campuses. These campuses are the following:

- Aledo Middle School
- McAnally Intermediate School
- McCall Elementary School
- Stuard Elementary School
- Vandagriff Elementary School

During discussions concerning Walsh Elementary, district staff asked for, and received, pricing from Region 11 to connect the other campuses under this special program. Due to the nature of how the fiber would be installed/run, and how several of these campuses are close to each other, the District secured incredible pricing. Instead of \$250,000 (5 campuses x \$50,000 per campus), Region 11 and their provider priced their option at \$170,000 to connect the remaining five (5) campuses.

Benefits of Fiber

Return on Investment

Given a \$170,000 price for the other five campuses, the Return on Investment (ROI) for this would be just under 21 months. After that period, and for the longer term, the District's monthly bill for connecting these campuses would shrink from approximately \$9,000 per month to \$1,000 per month. This figure is calculated solely on the cost of the solution, and does not include the tremendous flexibility and autonomy it provides Aledo ISD over the longer term. District staff used costs from our recent RFP to establish pricing for 10GB connections for each of the five (5) remaining campuses.

Satisfying Increased Demand for Bandwidth

During 2017, the District added an additional 3,500 devices (Chromebooks, iPads, etc.) and further opened up the use of BYOD (Bring Your Own Device) so students and staff could use their phones and other devices on the network as well. This all results in increased demand for bandwidth.

All Aledo ISD campuses share one internet connection (ISP) which is currently provided by the Region 11 Education Service Center. The current connection speed (1GB) is being saturated. Therefore, the District is upgrading its Internet connection from a 1GB to 10 GB connection next month. The campuses near the NOC will gain full use of this connection. The five (5) remaining campuses will not, as their network connection to the NOC is limited at 1 GB. With fiber, all campuses would have equal access to all Internet bandwidth.

Campus "Bandwidth Parity"

The District's goal is to provide each campus with the same amount of bandwidth. This ensures everyone in the District experiences the same Internet speed and has the same level of access to other network resources.

Bandwidth

Having fiber-based connections to every campus is a strategic goal. A fiber-based connection allows the District to increase our bandwidth as needed, without dealing with contractual issues. For example, typical connections are priced for 3, 5, or 10-year terms. The District pays a fixed amount each month for that duration for a set amount of bandwidth. If there were an increased need of more bandwidth, the District would typically be required to sign another long-term contract at an increased rate.

The connections being discussed at this time provide the District with direct access to the fiber itself, which is sometimes referred to as "dark fiber." This just means we are leasing the fiber itself and using district equipment to set the connection speed. The bandwidth can be increased simply by changing out a module on the District's equipment. This can be done at any time, for any location. The District is not limited by any contractual terms.

Flexibility

As the District grows, we can potentially leverage this fiber to connect other campuses to the District's network. For example, when a campus is built in the southern part of the District, we would only need to get fiber from that campus to Stuard or McAnally. This represents a tremendous savings as opposed to having to come back to the NOC.

Meeting FCC Targets for Bandwidth

This drive for faster network connections between buildings is also consistent with the FCC's recent modernization orders, which can be found at <https://www.fcc.gov/general/summary-e-rate-modernization-order>. The relevant information is listed towards the bottom under the WAN/Last-Mile (Order ¶¶ 39-44) section.

FIBER11 Internal Connectivity Service Agreement

Education Service Center Region 11 and Aledo Independent School District

I.

PURPOSE OF THE FIBER11 NETWORK

Fiber Infrastructure for Broadband Enhancement in Region 11 (FIBER11) is an enhanced K-12 region-wide broadband infrastructure created to promote educational excellence in instruction, services and resources through a collaborative partnership of School Districts, in a way that:

- Creates a region-wide K-12 consortium to gain a competitive price advantage on FIBER11 infrastructure
- Provides an equitable financial model for each school district based on an average consortium E-rate discount
- Grants access to a high-speed region-wide network of school districts with the ability to form partnerships, such as disaster recovery connectivity, equipment colocation, etc.
- Establishes a dedicated fiber network allowing districts the flexibility to easily maintain and/or increase capacity

So that districts will increase collaboration and credibility to provide improved, quality services to their campuses through an economical and efficient infrastructure resulting in the highest achievable bandwidth at the lowest cost for unlimited teaching and learning potential far into the future.

II.

BENEFITS

FIBER11 is a large-scale broadband dark fiber network among the districts within Region 11.

The benefits provided by FIBER11 are:

- 100 Gigabit backbone network between FIBER11 hub sites
- 10 Gigabit network among the connected edge sites
- Allows bandwidth flexibility such that a district can exceed their subscribed services within a reasonable limit without penalty
- Opportunity to participate in shared network services (e.g., internet access, disaster recovery, shared application environment, etc.)
- Provides opportunity for special construction for internal district connectivity

III. TERMS OF AGREEMENT

A. Term

This agreement is effective September 1 of each year and shall be renewed annually unless either party gives no less than ninety (90) days prior written notice of termination. Changes to the level of service provided to School District under this agreement may be made throughout the year at the School District’s request. Any change in level of service that creates a negative financial impact on the Internal Connectivity Service Agreement may result in the School District being assessed additional charges.

B. Termination

This Agreement is in effect for the entire fiscal year (September 1 through August 31) and may be terminated for the following year by giving no less than ninety (90) days prior to September 1st of any year.

In the event of a default of this Agreement, a School District may terminate this Agreement at any time after providing ESC Region 11 with written notice of the default and a thirty day opportunity to cure the default.

C. Pricing and Payment

FIBER11 pricing is based on the current contract for fiber services within the following guidelines:

- Prices are already E-rate discounted as shown in the table below.
- There is no additional “installation” cost.
- Payments are due within 30 days of receipt of invoice.
- Payments can be made on an annual or quarterly basis.
- The current pricing is good for up to 84 connections on a first-come, first-serve basis for consortium members.
- The current contract will support the 121 connections on a first-come, first-serve basis for consortium members.

Type of Charge	Cost(s)	Frequency
Construction Fee (within the first 84 connections)	\$50,000 per Circuit	One-Time
Construction Fee (after 84 and within 121 connections)	\$100,000 per Circuit	One-Time
Postal Construction Fee	\$10,000 per Mile (1 Mile Min.)	One-Time
Monthly Maintenance (billed upon installation)	\$200 per Circuit	Monthly

IV. DUTIES AND RESPONSIBILITIES

A. ESC Region 11 Duties and Responsibilities

- Provide adequate staff necessary for efficient operation of the FIBER11 network.
- Implement and provide 24x7x365 support and management of the network to include:
 - Operate and maintain the FIBER11 routers and dark fiber network.
 - Provide alerts concerning network maintenance and/or unplanned outages.
 - Notification will be given according to current Service Level Agreement terms.
 - Affected School District will be notified via email of any emergency network impairments as soon as the problem is determined.
- Troubleshoot to the point of demarcation:
 - Proactively monitor and report the use of services to ensure usage is within the terms of the agreement.
 - ESC Region 11 will provide hard-copy reports summarizing School District usage upon request.
 - Provide technical assistance to School District for FIBER11 connectivity.
- Utilize the competitive bidding process to procure the most economical resources for the network.

B. School District Duties and Responsibilities

- Provide a 24 x 7 technical contact that can respond immediately to problems affecting the FIBER11 Network.
- Serve as the point of contact for campuses connected to the FIBER11 network.
- Make payments within 30 days of receipt of correct invoice.

**V.
SUBSCRIPTION DETAILS AND SIGNATURES**

Subscribed Services and Agreement Duration

Agreement Start Date	_____
Agreement End Date	_____
Number of 50K Circuits	_____
Number of 100k Circuits	_____
Number of Postal Rate Circuits	_____
Total Construction Fee	_____
Monthly Maintenance Fee	_____

By signing below, I acknowledge that I have read the annual commitment and accept this Agreement.

School District Superintendent
Superintendent Name

Date

ESC Region 11 Executive Director
Dr. Clyde Steelman

Date

ESC Region 11 Deputy Executive Director
Mr. Rory Peacock

Date