

ATTACHMENT XI-G:	External Fiber
Recommended Action:	Move to approve the request for External Fiber upgrades from The Morse Group for \$17,434.54
Recommended Action:	Approve as presented.

We are requesting approval for external fiber through The Morse Group. The purpose is to upgrade all campus uplinks (inter-building) to 10 GB fiber.

This will increase data transmission capacity between buildings. Replacing aging fiber. Help to future-proof the district.

Current uplinks are 1 GB fiber and was designed before 1:1. (Working fine so far, however.) This would upgrade all internal links to 10 GB and fiber, which will standardize the experience for the end user and help to future proof the district. More and more teaching tools are moving online.

We are exploring state grants to cover the remaining cost.

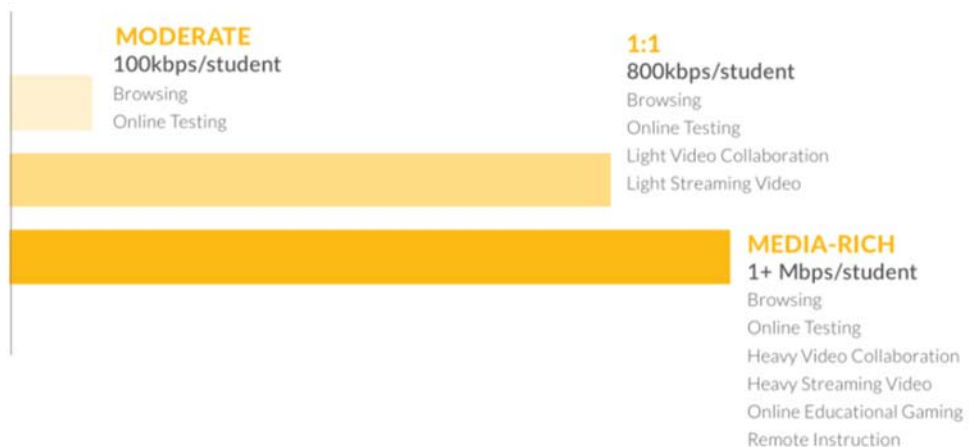
Price: \$58,115.13

Our price with e-rate: \$17,434.54

FCC Guidelines Student Bandwidth Goals

<https://www.educationsuperhighway.org/upgrade/types-of-fiber-services/k-12-bandwidth-goals/>

Based on the FCC goals and common practice in the field, we see the following bandwidth profiles based on technology use.



FCC Bandwidth Goals

BROADBAND ACCESS FOR TEACHING, LEARNING AND SCHOOL OPERATIONS	2014-2015 SCHOOL YEAR TARGET	2020-2021 SCHOOL YEAR TARGET
An external Internet connection to the Internet Service Provider (ISP)	At least 100 kbps per student	At least 1 Mbps per student
Internal Wide Area Network (WAN) connections from the district to each school and among schools within the district	At least 1 Mbps student	At least 10 Mbps per student

Media Rich 1:1 goal 2020-2021. Most educational software is becoming more and more media rich.

$$\begin{array}{|c|} \hline 1600 \\ \hline \text{Megabyte per second} \\ \hline \end{array} = \begin{array}{|c|} \hline 1.6 \\ \hline \text{Gigabyte per second} \\ \hline \end{array}$$

Formula divide the data transfer rate value by 1000

Based on 1600 students

March 11, 2021

Jerry Rudolph
Instructional Technologies Coordinator
North Boone School District
Poplar Grove, IL 61065

RE: North Boone School District Campus WAN Fiber

Jerry,

We propose to furnish the necessary labor, material, supervision, and equipment to complete the above referenced project per the line-item breakdowns attached.

Our quote is inclusive of the following.

- Morse electric will be bidding only option #1 for the customer owned fiber
- Installation of indoor/outdoor plenum rated single mode fiber optic cable
 - Breakdown of strand counts provided on the following pages per building being fed
- Each cable run will be a continuous home run from the district's head end located in the North Boone Middle School
- Installation is based on utilizing all current raceways between buildings and removal of the current cable to free up space in the pathway for the new fiber
- Removal of current handholes
- Installation of new handholes (17"x30"x15") at each of the locations shown on the drawings
- A #12 copper tracer wire will be provided in the conduit pathway, pulled in with the new fiber cable
- Installation of 1 RU fiber drawer at each end of the cable in the IDF racks
 - Blank panels will be provides to fill open spaces in the drawer
- Termination of all strands of cable
- All ends to be terminated with LC type ends
- Bi-directional testing of each strand per BICSI/TIA/EIA/ANSI standards
- **Morse Electric SPIN# 143049821**
 - USAC Certification form available upon request
- References listed on last page



THE MORSE GROUP

- **Clarifications:**
- Price is good for 30 days
- Quotation is for 1st shift labor
- Network Switches by others
- Pricing does not include any cost with service providers
- Price does not include any new exterior conduit installation
- Pricing does not include any patching or painting
- Pricing excludes sales tax
- Due to the extreme fluctuation with commodity pricing, commodity pricing can only be held for 15 days

Thank you for the opportunity to be of service to you.

Sincerely,



Tony DeRemer
THE MORSE GROUP
Project Manager, RCDD
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Bid Item	System	Total Material\$	Total Labor \$	Total\$
NORTH BOONE DISTRICT OFFICE	6 STRAND SM FIBER	3,747.71	9,410.70	13,158.41
NORTH BOONE DISTRICT OFFICE	12 STRAND SM FIBER	4,688.95	9,481.83	14,170.78
NORTH BOONE HIGHSCHOOL	6 STRAND SM FIBER	7,549.57	18,297.69	25,847.26
NORTH BOONE HIGHSCHOOL	12 STRAND SM FIBER	9,808.40	18,491.49	28,299.89
NORTH BOON UPPER ELEMENTARY	6 STRAND SM FIBER	2,278.07	5,501.01	7,779.08
NORTH BOON UPPER ELEMENTARY	12 STRAND SM FIBER	2,960.66	5,550.75	8,511.41
NORTH BOON MAINTENANCE BARN	6 STRAND SM FIBER	2,002.54	4,552.46	6,555.00
NORTH BOON MAINTENANCE BARN	12 STRAND SM FIBER	2,543.13	4,589.92	7,133.05

References

Name and Location:

Epic Systems Corporation – Verona, WI

References:

Owner: Epic Systems, 1979 Milky Way, Verona, WI 53593, Jeremy Charles, (608-777-4944) jcharles@epic.com

Description:

Since 2011, Morse Electric has been the onsite electrical contractor for new construction and remodel work at Epic Systems' campus in Verona, WI. As the onsite contractor we handle all Teledata and fiber optic cable work on the campus from outside plant backbone work, interbuilding backbone and riser work, as well as all cable installations, terminations and testing in their data centers.

Name and Location:

Janesville School District-Janesville, WI

References:

Owner: Janesville School District, 527 S. Franklin Street, Janesville, WI 53548, Dr. Robert Smiley (608-743-5000) Rsmiley@janesville.k12.us

Description:

Installation of new fiber optic backbone cabling to interconnect the MDC to IDF rooms in 11 of the elementary school as well as two of the high schools. We performed all cable installation, cable terminations and testing of all strands of fiber

