STATE BOARD FOR COMMUNITY COLLEGES AND OCCUPATIONAL EDUCATION

April 13, 2022

TOPIC: Colorado Northwestern Community College –
IT Infrastructure Upgrade Project

PRESENTED BY: Dr. Lisa Jones, President

RELATIONSHIP TO THE STRATEGIC PLAN:
- Transform the student experience.
- Create education without barriers through transformational partnerships.
- Redefine our value proposition through accessibility, affordability, quality, accountability, resource development and operational excellence.

EXPLANATION:

Colorado Northwestern Community College's Information Technology (IT) Infrastructure Upgrade Project is intended to replace all outdated network equipment that is either beyond recommended end-of-life (EOL) and/or end-of-support (EOS). Additionally, CNCC's existing fiber network is aged and can no longer handle the bandwidth needed by students, staff, and faculty to consistently perform everyday instructional and business tasks. CNCC's main Rangely campus buildings were built in the 1960s and early 1970s. As Ethernet and Optical Fiber were installed over the years Switch closets were not always placed in the best locations for optimum network performance. Because of this and aging infrastructure (CAT3 and CAT5 cable installed in the mid-1990s), several CNCC Rangely buildings are limited to less than100mb data transfer speeds to the data center.

More recently with the COVID-19 pandemic and the resulting dramatic increase in hybrid course delivery, there have been times when the College has been incapable of meeting student, staff, and faculty accessibility and performance demands. The current network and physical infrastructure were not designed to deliver to students, staff, and faculty in a remote, hybrid classroom delivery methodology. In addition, current network servers and storage cannot handle the heavy demands and loads that exist as a result of the pandemic.

In October 2019, CNCC hired an outside IT audit company to review and assess the College's current network infrastructure and to provide estimates for its replacement. In March 2020, the CCCS Chief Technology Officer, Keith Dahl, also audited CNCC's aging IT infrastructure. In the process, he identified used servers and switches that CCCS gave to CNCC in 1999 when the college first joined the Colorado Community College System.

Colorado Northwestern Community College is requesting authorization to spend $1,921,053 to be funded from $1,746,412 IT Capital approved in the 2021/22 Colorado State Budget and $174,641 to be funded from CNCC's Institutional Reserves. Upgrading/replacing CNCC's IT infrastructure will provide the following:

- **Optical Fiber Ring**: Install a new optical fiber ring at CNCC's Rangely Campus to the centralized data center with 10gb+ capabilities. This will include new servers and switches to take advantage of this increased capability. Increased system speed from each classroom will allow CNCC to increase both the number and quality of hybrid courses available to our students and with our partner high school districts. CNCC's Craig campus is already 10gb+ fiber capable.
- **Refresh Servers and Switches:** Replacement of aged equipment will reduce downtime for students, faculty, and staff with a reduction in the frequency of failing equipment. Refreshed equipment will also allow CCCS to provide further aid to CNCC by remotely accessing equipment that they already know and use.
- **Remote/Hybrid Learning:** This solution will expand, enhance, and secure our current student open-wireless services, eliminate existing dead spots on both campuses internally and externally, and provide a much needed secure and robust Wi-Fi connection that meets demand, applies security best practices that include intrusion detection (IDS) and intrusion prevention systems (IPS), with access control for authentication restricted to authorized student/users only.
- **GEER RISE Grant:** This project underpins CNCC's GEER RISE grant that invested $313,015 in 28 promethean boards which were installed in partner high schools throughout CNCC's service area. CNCC's concurrent students benefit from hybrid instruction from our two campuses which increase access to CNCC credit-bearing courses while curing HLC accreditation concerns regarding HS instructor qualifications.
- **Retrofit Data Center**: The new data center will accept the new fiber network, while also securing it against outside threats. Existing switches will be replaced so that our network can support CNCC's campus security systems and networking needs.
- **IP Phones**: Current IP Phones will be replaced. New IP phones will meet state security needs regarding IP phone and emergency services. CCCS is upgrading all community colleges to SIP trunking, and CNCC's old IP phones are not fully SIP compatible.

RECOMMENDATION:

Staff recommends the Board approve spending authority for the Colorado Northwestern Community College IT infrastructure project as outlined above, with a do not exceed total spending authority of $1,921,053 comprised of $1,746,412 provided by IT Capital approved in the FY21/22 Colorado State Budget and $174,641 from the college's institutional reserves. Staff also recommends the Board delegate signature authority to the System Vice Chancellor of Finance and Administration for related documentation, on the condition that all the Board and State processes are followed.