

DISTRICT OVERVIEW

WHAT IS THE COLUMBIA 9-1-1 COMMUNICATIONS DISTRICT?

C911CD is the sole public safety 9-1-1 answering point and dispatch center for all public safety agencies based in Columbia County, Oregon. The District also serves small adjacent portions of Clatsop and Multnomah Counties. The District is an Oregon special district formed under Oregon Revised Statutes Chapters 198 and 403. The District is governed by a Board of Directors elected from five geographic zones within Columbia County each serving staggered four-year terms. The Directors serve at large and select their President, Vice President, Secretary and Treasurer. The Board governs with the participation of a statutory Advisory Committee consisting of appointed executives from each law enforcement, emergency medical, emergency planning and fire service based in the county. The Board appoints five citizen members each serving three-year terms to the Budget Committee.



The Columbia 9-1-1 Communications District provides 9-1-1 call-taking, dispatching and nonemergency communications services for seven law enforcement agencies and six fire districts – including emergency medical dispatch for four fire district owned ambulance services and one private ambulance. In addition, the District provides a variety of communications support activities for several other public and private entities in the county. The District owns and maintains the dispatch center facilities and the county-wide public safety communications system, including the narrowband VHF 8 channel simulcast voice radio system, the microwave backbone and associated remote facilities.

THE FIRST TWENTY YEARS OF THE DISTRICT:

In 1989, Columbia 9-1-1 Communications District was the second emergency communications district formed in the State of Oregon, originally named Columbia County Emergency Communications District. This formation allowed for the consolidation of all emergency communications under one Special District, that had previously been done by individual agencies or Central Dispatch that had operated out of St. Helens Police Department. The District's first operating levy was passed in 1990, providing one year of operating funds. The District operated for the next ten years utilizing carryover funds from the previous organizations, the 9-1-1 excise tax, and a permanent property tax which was passed by the voters at \$0.010 per \$1000 assessed value in 1992, plus small user fees for specific services. In 1992, radio antenna sites began to be established across the county to enhance emergency communications for first responders.

NEED FOR NEW FACILITY AND ESSENTIAL UPGRADE TO EQUIPMENT:

The District, faced with inadequate operational space, rising activity levels and ineffective equipment, sought a five-year local option levy to fund a new facility and an upgrade to equipment, which the voters supported in November 1998. The District designed a functional prefabricated modular facility which it began using in November 1999. The new facility not only offered adequate workspace but allowed for expansion if the District had a future need for additional space.

In 2000, the District implemented CAD, which interfaces with the 9-1-1 phone system, provides responder recommendation and offers mapping for locations where emergency services are requested. Although completely new technology, the staff learned quickly and realized a new level of proficiency in dispatching first responders.

CONGRESSIONAL EARMARK SECURED FOR NEW COUNTYWIDE PUBLIC SAFETY RADIO SYSTEM AND MICROWAVE BACKBONE:

The public safety agencies the District serves and other partners, including the Chambers of Commerce and CEPA, teamed up with Congressman David Wu, Senator Gordon Smith and Senator Ron Wyden to seek federal funding for replacement of the public safety radio system.

The District was awarded \$1.4 million dollars in grant funds to replace our county-wide public safety radio system in 2001 and the long process of radio upgrade began, finally becoming operational in 2004.



MOBILE DATA BACKBONE MADE POSSIBLE WITH HOMELAND SECURITY GRANT:



The District applied for and received a grant of \$94,154 in fiscal year 2003-2004 to assist in the installation of a mobile data backbone, a \$200,000 project that went online in February 2005. The mobile data system provides a means of exchanging secure (nonaudible) information between dispatcher and field units and maximizes radio channel efficiency by reducing audible transmission congestion as activity levels grow.

Individual departments are responsible for purchase and maintenance of mobile units on the system, while the District maintains the backbone and data hardware and software. St. Helens Police Department, on behalf of all county agencies, plus several individual departments, applied for and received grants for equipment needed in patrol and fire apparatus to use the system. In 2006, the District added the capability for police vehicles to get driver's license photos over this system. Mapping was implemented in 2007 and automatic vehicle location (AVL) in 2008.

The District completed an intergovernmental agreement to share mobile data backbone use with public safety providers based in Cowlitz County, Washington for the purpose of promoting interoperability, maximizing use and sharing in maintenance and future upgrade costs. This agreement ended in 2013 as most agencies in Cowlitz County moved away from a private network and began using tablet style devices on cellular networks.

CONTINUED VOTER SUPPORT:

The District, although being extremely conservative spending tax dollars, continued to need the local option levy for operations and growth. The District has listened to the needs of the citizens and first responders as our message was shared throughout the County, and the District was pleased to see the renewal of our operating levies meet with a 70.3 percent voter approval in 2004, a 70.0 percent voter approval in 2008, an 85 percent voter approval in 2013 and a 73.9 percent voter approval in 2019.

FACILITY SECURITY ENHANCEMENTS:

The District was awarded grant funds in 2005 from the federal Homeland Security Critical Infrastructure Protection Program to upgrade facility security. As the sole answering and dispatch point for all emergency services in Columbia County, the Columbia 9-1-1 facility is designated as an essential facility. In 2013 Oregon State Police (OSP) operating as the inspecting agency for the Federal Bureau of Investigation (FBI), began to enforce new CJIS Security Policy. This new enforcement has placed new security access requirement on the District including upgrading door lock access, training and who is allowed access into the District facilities.

RADIO SYTEM ENHANCEMENT: CLATSKANIE MOUNTAIN

The District was awarded \$510,826 in grant funding through the Public Safety Interoperable Communications (PSIC) Grant program in May 2008 for the development of this site in partnership with the SRP formerly Oregon Wireless Interoperability Network (OWIN). The site, which was fully operational on August 18, 2010, replaced the Benson Point site, providing much better county saturation and coverage. The site consists of a used radio building the District purchased in 2007, a new tower and a generator. It has full microwave, voice and data radio capabilities, has been equipped with a video security system and has become a vital part of the District's radio system.



FACILITY EXPANSIONS:



In 2004, the Major Incident Control Center (MICC) module was added to the District facility, this was the second phase of the 9-1-1 facility upgrade authorized by voters in 1998. The center is a multi-purpose meeting space equipped with up to 20 telephone extensions, 5 outside phone lines, data ports, audio-visual equipment and other tools to allow it to function in a variety of capacities to support operations and public information during major incidents when multiple agencies must coordinate effective response.

During 2010-2011, in order to better meet the needs of the users, the District funded an Information Services Technician position and brought the mapping function, that had previously been contracted, in-house. Faced with limited office and work space, the District completed the third phase to the facility, which consisted of three additional modules. The addition accommodates workspace for geographic information and facilities systems personnel, meeting space for staff, as well



as storage and provides space, at current construction costs, for future needs. The modular unit was funded through diligent multi-year savings that allowed us to make improvements without obtaining debt.

RADIO SYTEM ENHANCEMENT: GREEN MOUNTAIN



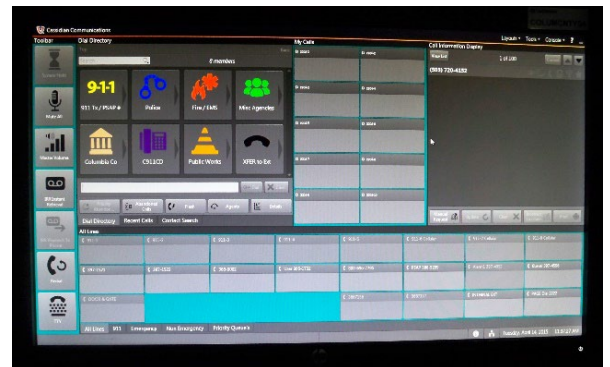
In early 2013, the State of Oregon finished construction of a brand-new site at Green Mountain in Kalama, Washington. This site, and the resulting relationship with the State, is another strong indicator of the value of partnerships.

Columbia 9-1-1 was allowed access to the site for location of critical communications equipment for voice and data. Location of equipment at Green Mountain is part of a reciprocal agreement that allows the State of Oregon to place equipment at our radio site at Clatskanie Mountain. The move to Green Mountain provides much better radio and data coverage for the St. Helens area up to Rainier with improvement on Highway 30. It also made vast improvements to the areas around Deer Island, Goble and Fernhill. This move also allowed the District to move away from an expensive lease agreement with Clark County 9-1-1 at the Goose Hill site in Woodland.

TELEPHONE SYTEM REPLACEMENT:

The District tracks our mission critical and support equipment for effectiveness, efficiency and life span capabilities. During the 2014-2015 fiscal year, the District budgeted for the replacement of two major systems. In each case, the District has carefully evaluated the useful life of each system and has maximized the investment to its greatest potential. All available uses of each system were recognized prior to replacement.

The District's 9-1-1 phone system was last replaced in 2006. Most hardware components were no longer in production and the software could not be updated. The system was truly long past its recommended life cycle. The State Office of Emergency Management (OEM) provides this equipment by way of the 9-1-1 excise tax. The District entered into an agreement with OEM to install a new 9-1-1 telephone system in November of 2014. This new system offers many of the same basic features as the previous system along with some improvements and upgrades. Our new system is considered to be "NG Ready" which will require some software upgrades to adapt to the next generation of 9-1-1 contact options. This replacement also allowed the District to make changes to the 9-1-1 telephone circuits in response to the growing number of wireless calls coming into 9-1-1. The District receives about 70 percent of all 9-1-1 calls from wireless devices. By making changes to the telephone circuits, we reduce the likelihood of a busy signal when multiple 9-1-1 calls are received at the same time.



Due to a change in the way that the OEM interprets equipment purchases, the District was required to purchase its first administrative phone system. These systems had previously been purchased by OEM as part of, or connected to, the 9-1-1 phone system. The administrative phone system includes all office and conference areas and allows for increased productivity due to its interaction with the District's computer network and email systems. The new system also integrates to the 9-1-1 phone system for the ability to talk to the operations floor and for call transferring.

RECORDING SYSTEM REPLACEMENT:

The District operates and maintains a system of recording radio channels, emergency telephone circuits and some administrative telephone circuits. Oregon archive and retention rules require that the District maintain these recordings for a minimum of 7 months. The last upgrade of this system was in 2009 and like many systems; operates every day, 24 hours per day. The District completed a competitive purchasing process in 2014 and selected the system offered by our current vendor, Voiceprint International. The new system was installed in February of 2015. This system is used almost every day by administrative staff to produce records for the District Attorney in case preparation, for officers to use to complete reports, records requests by the public and for use as a performance tool.

RADIO SYSTEM EVALUATION:

A final report was presented to the District in May of 2015 providing an overview of the Districts' county-wide radio communications system. Mark Pallans of Pallans & Associates responded to a District issued RFP for a comprehensive audit of our radio communications system. The proposal was accepted, and work was completed over a four-month time frame. The information from the report guides the District as work starts on system improvements and adjustments. The report provides a basic analysis of the communications system and recommends any improvements. The report is not intended to be a technical guide as those details will be vetted out in-depth on a case-by-case basis. The critical issue facing our system is the ability for field users to have consistent and clear communication when using a portable radio in the field. The report confirmed our understanding and belief of this limitation. Since late summer of 2015 the District team has been working on site analysis, frequency search, equipment research and planning efforts on three sites under consideration to improve performance in the south county region.

RADIO SYSTEM ENHANCEMENT: HAVEN ACRES

The evaluation by Pallans & Associates identified some areas of the county where portable radio operation could be improved. The Haven Acres project was in process prior to the start of the evaluation however, it was noted and included in the report. The site at Haven Acres is a receive site that enhances the reception of portable radio users. These radios are lower powered than a radio mounted in a vehicle. They have shorter antennas and are impacted by multiple factors. The addition of a low elevation receive site is intended to capture that portable radio signal and then broadcast it back through the system to dispatch and other users. Noticeable improvement has been obtained in the area around Haven Acres.

VIDEO SECURITY UPGRADE:

In 2016, the District completed a comprehensive replacement of most security camera equipment at the District office. Older aging analog cameras were replaced with newer IP based cameras. This enhancement provided additional coverage in areas that were not previously monitored. Servers were added for storage of the data along with network adjustments to allow for viewing of cameras internally on multiple networks. The District maintains strict adherence to our safety concerns.

COLUMBIA ALERT NETWORK (CAN):

In 2000, the Columbia Emergency Planning Association (CEPA), made up of local industries, public safety agencies and other local government and community members, partnered with the District to contract with a high-speed emergency landline based outcall system to use in notification of the public in case of need to evacuate or shelter in place due to chemical accident or other emergency situation.

In 2016, Columbia 9-1-1 has assumed management of this service. The District continued with cost sharing agreements with various businesses and agencies as well as Columbia County. C911CD initiates the notifications and pays for the enhanced 9-1-1 data base, which includes nonpublished landline telephone numbers used for call notifications.

The State of Oregon recognized the need for a statewide CAN system while the State was experiencing devastation by the wildfires during the summer of 2020. Many of the affected PSAPs operate on different CAN systems, which made notifying citizens convoluted and difficult. After a multi-month study and negotiations, the State purchased an Enterprise system with the Everbridge corporation. This is the system the District currently uses but has additional features and functions that were not available to us. The agreement reached with the State will allow the District to retain control of the operation of the CAN system while being able to share the State's large database. In turn, the State will be allowed access to our database and will assume all the ongoing system maintenance fees and expenses, saving the District approximately \$15,000 annually.

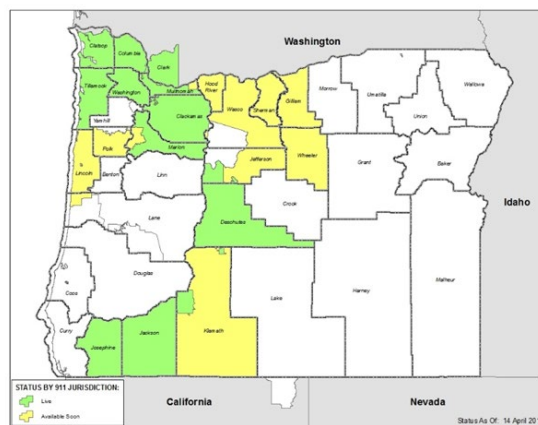
RADIO SYSTEM ENHANCEMENT: FREQUENCY ACQUISITION AND INTERFERENCE MITIGATION

As the next step in the work to improve the Districts Radio and communications system, Pallans and Associates was commissioned to work on two key areas that were outlined in the report from 2015. Our communications system is heavily dependent on the use of frequencies that are managed by the FCC. In our county, we use frequencies that are part of the VHF band. We use this frequency because of the very diverse terrain in our county and the relatively low cost of operation when compared to other technologies.

One of the obstacles that we face is the availability of individual frequencies. Pallans and Associates completed exhaustive searches with Federal, State and Tribal agencies to find frequencies that were compatible for our use. The purpose of this work was to find frequencies that reduce interference from outside sources. This segment of work was completed in March of 2017 with the acquisition of 8 new frequencies, that combined with our existing frequencies will allow us to use the frequencies more efficiently.

TEXT TO 9-1-1:

In response to developing concerns around the region and our nation, C911CD implemented technology that allows for the receipt of text messages for 9-1-1 requests. The implementation of this technology was part of a pilot project that was funded by the 9-1-1 Program from the Office of Emergency Management. The funds were provided from the account that collects the .75 cent tax on all phones in Oregon that are capable of dialing 9-1-1. The project was in direct response to the advancing implementation in Washington State of a Next Generation 9-1-1 network. In Washington State, Clark County in particular, callers will soon be able to send texts, photos and videos to 9-1-1 by means of a new statewide network. Oregon will have the same network but is several years away. With Clark County being part of the Regional Disaster Preparedness Organization and a long-standing partner with the 9-1-1 centers in the greater metro area, it was important to the Oregon agencies to develop technology that would complement what was happening in Clark County. The regional 9-1-1 centers are very concerned about disparate service offerings since many citizens are served by multiple 9-1-1 agencies.



The pilot project includes the 9-1-1 centers in the Oregon counties of Washington, Multnomah, Clackamas, Columbia and Clatsop. The City of Lake Oswego 9-1-1 center is also included. Due to the overwhelming success of the pilot project, many other areas of the state are implementing the same technology. The attached map shows the capability across Oregon as of March 29, 2017. Green counties are live, the yellow counties are in progress of implementation and the white counties do not currently offer Text to 9-1-1 service.

REGIONAL PARTNERSHIP FOR COMPUTER AIDED DISPATCH (CAD):

In 1999, the District purchased the first CAD system. The CAD system is a software solution that is used for the fundamental purposes of entering data from callers who are requesting services and to track the resources that respond to those requests. This system is the primary tool used by our staff to complete many of their job tasks. A CAD system is a very complex system that has many features available to our staff and to field users. In addition to the tracking of calls and resources, the CAD system provides report and data collection, allows for remote connections for other users to access the data and incorporates connections from other systems which allow the dispatcher to have a broad range of features available to them to complete their jobs.

Increasing frustration from rising maintenance costs and change of our current vendor's vision resulted in C911CD's desire to explore options for our CAD system. In April of 2014, WCCCA, CCOM and LOCOM entered into an intergovernmental agreement (IGA) to form the Metropolitan Area Joint CAD System (MAJCS) partnership. It established the common purpose of the partnership, the funding model, the governance structure, and the acquisition and billing processes for replacement of each of their current CAD systems. After a lengthy delay in their project, C911CD was approached with information and an offer to join the regional project. In June of 2016, after careful research and deliberation, C911CD decided to join the partnership and become the fourth 9-1-1 center on the project. This project allows the District to utilize the newest computer technology and the latest industry standards for this type of system at a much-reduced cost and creates a vast network of support that could not be afforded without the regional partnerships.

C911CD staff members were active for nearly two years in preparation to switch to the new system with the three other 9-1-1 centers. "Go Live" on the new CAD system for our District took place at 0641 on March 6, 2018. Other than a few early glitches within the system, staff is growing more comfortable with the functioning of the software. Fine-tuning of user agencies response plans and location and premise data is modified continually by staff.

BUSINESS FACILITY IMPROVEMENTS

Improvements to the District's aging business facility were identified during the strategic planning process of 2014. In 2016, the kitchen and breakroom that the Communications staff primarily use was reconfigured and remodeled. The project included new flooring, new cabinets with countertops and new appliances. A hallway was added in the original training room which created a space for a quiet room that can be utilized by staff who have handled traumatic calls or events. There was also an addition of a shower stall to one of the existing bathrooms which will enable District staff to remain on premise during a catastrophic event. In 2020, the strategic plan of 2014 was finished with the replacement of flooring for most of the business facility.

RADIO SYSTEM ENHANCEMENT: PISGAH HOME

With the ongoing research to improve our radio system, we identified that certain physical location changes may be needed. As part of our effort to improve coverage in the Scappoose area, we identified the site at Pisgah Home Road to be a critical need. This is a site that C911CD previously used prior to the new radio system in 2004. Extensive testing of portable reception in the Scappoose area proved that this site should be used once again. This property is owned by Weyerhaeuser and C911CD successfully negotiated a long-term lease for the property.

The existing site equipment was purchased from Day Wireless and required considerable renovation to bring the site up to industry standards. C911CD selected M&A Contracting to compete Phase 1 of the project which included the demolition of the towers,



removal of one of the shelters, tearing down the existing fence, taking all the debris away and installing a new fence for security. After Phase 1 was completed, the District published a RFP for Phase 1A which included trenching power conduit to the site and installing electrical vaults. The next phase will be the build out of the site to include renovating the remaining building, installing a tower and equipment and purchasing a generator. Further development of this site will depend on the future upgrade of the District's radio system.



RADIO SYSTEM ENHANCEMENT: COUNTY COURTHOUSE/DIXIE MOUNTAIN RECEIVER SITES

In researching solutions to improve our system in parts of St. Helens and Scappoose it was identified that radio quality could be improved by adding receiver sites at the Columbia County courthouse and Dixie Mountain. The first receiver site was installed at the courthouse in February 2018 and improvements have been noticed in areas that were problematic in the past.

The Dixie Mountain site will be a shared site with the FAA. We have temporarily postponed further development of this site until a decision is made on the upgrade of the current radio system. Equipment will eventually be moved from the Scappoose Police station to the Dixie Mountain. The lease agreement with the property owners needs to be finalized. Preliminary cost calculations have been prepared.



RADIO SYSTEM ENHANCEMENTS: REQUEST OF INFORMATION (RFI)

The District's radio system and microwave backbone was built in 2004 and needs major component replacements. In 2017, a RFI was released for the purpose of gathering the necessary information and cost estimates that will aid staff and the Board of Directors in making a decision on the best and most efficient way to upgrade the radio system. The District received proposals from three vendors offering multiple solutions to upgrade the District's radio system. A presentation was held where District staff, law, fire and EMS agencies participated along with members of the public. All three respondents presented their RFI submissions and explained their reasons for the solutions they proposed. The

solutions they presented included a complete re-refresh of the current VHF technology, building out a new system and infrastructure that would operate in the 700MHz frequency range or an 800MHz frequency range. There also was a solution presented that recommended partnering with a neighboring agency that operate an 800MHz system and contract with them to build out their system into Columbia County.

The Executive Director conducted one on one interviews with current radio system users as well as with new potential users to document the features, functionality and operational expectations for coverage of both portable and mobile radios. The results of these interviews were presented to the Board and a decision to abandon our current VHF system and move to a 700/800MHz system was made.

The District entered a contract for Phase 1 of the radio system replacement project with an engineering firm to evaluate our current system, review the responses we received from the RFI, establish an unbiased cost estimate and consult the Board on the best solution. In February 2022, as an addition to the contract, the engineering firm presented their findings to the Board and users, where questions were asked, and answers were provided. Phase II would include the actual writing of the communications plan and assisting with contract negotiations with the selected vendor. Phase III would have an engineering firm act on our behalf for procurement and project management.

MOBILE DATA COMPUTER ENHANCEMENT: NETMOTION

In past years, the District utilized a UHF radio modem (VRM's) to transport electronic data from our CAD system to the mobile data computers (MDC) operating in patrol cars, fire apparatus and ambulances. This old technology was out of date with no manufacture support or replacement options.

In 2020-2021, the District upgraded this communication system to a state of the art and industry standard product called NetMotion. This new system utilizes commercial cellular services to transport the electronic data from CAD to field computers while maintaining all Criminal Justice Information System (CJIS) requirements for security, including data encryption. The server for the product will reside at the District's facility, which the District will maintain. Each of the user agencies will be financially responsible for the annual software licenses needed to operate their agency owned computers in their vehicles.

RADIO SYSTEM ENHANCEMENTS: MICROWAVE REPLACEMENT

The District's microwave system is also obsolete and in need of being upgraded. The District has postponed replacing large portions of the microwave system until a final determination has been made on the new radio system type and needed site locations. However, there are some sites that we know are going to be used and will be kept regardless of what new radio system is purchased. The Board of Directors approved the building of a new diversified microwave pathway from the Green Mountain site location to the Clatskanie Mountain site. This new build resulted in a decrease in instances of radio signal disruptions or degradation of the signal strength and clarity caused by environmental conditions. Cutover took place on February 1st with no issues and the decommissioning of the old equipment was completed.

The microwave backbone between the Clatskanie Mountain site and Columbia Heights began failing in November 2021. The Columbia Heights site is an important site that will also be used in the development of the new radio system. Board members approved the emergency microwave upgrade and all the equipment has been ordered, installed and tested. We are still waiting for the new antennas and wave guides to be shipped.

MEISSNER SITE REBUILD

At the start of the COVID pandemic, the District had started the process of contracting with an engineering firm to conduct design and planning for the total rebuild of the Meissner site. After COVID restrictions

began to be lifted, work resumed. In April of 2022, the District released an RFP for the civil construction of this site. Construction began to take place during the late fall of 2022 with a target date of completion for late spring 2023.

NEW PARTNERSHIP: WESTPORT FIRE AND RESCUE

In February of 2020, the Westport Fire District of Clatsop County approached the District regarding the possibility of our District providing call taking and dispatch services for their district. After presenting the request to the Board of Directors, staff was authorized to conduct a feasibility study.

It was found that the District has a long history of requesting service from Westport Fire as a mutual aid provider for Clatskanie Fire and the Wauna Mill facility. Westport Fire would enjoy better radio reception and performance using the District's radio system over the one they use in Clatsop County. Westport Fire's apparatus and response plans are already built into our CAD system and their district is integrated into our radio system; using all our frequencies for operations.



Westport Fire's 2019 annual call volume would add only a 0.0961649% increase to our call volume and there would be no impact to staff or training required. The Board approved an agreement with Westport Fire as a contracted user agency who will pay the District for services on an annual basis using the preexisting formula used by other fire agencies who operate outside the boundaries of Columbia County.

BUSINESS FACILITY UPGRADE: ELECTRICAL/LIGHTING/NETWORK/SECURITY

The District's facility was constructed in 1999, since that time we have expanded to the point that an upgrade of electrical, lighting and data services equipment was needed. A project was approved in June 2020 that included converting the entire facility's interior and exterior lighting to LED, which are energy efficient and will reduce our electricity costs. The new dimmer switches allow employees to adjust lighting in their workspace, providing a comfortable working environment. They also have automatic shut offs after 30 minutes if no motion is detected; further reducing our electrical consumption.

When the building was originally wired for data services, each office had one network port and the MICC was never connected to the network. Currently, we have staff members who operate three computers as well as having a network printer. This upgrade included rewiring the facility with new CAT6 cabling, which allows for much faster access to the network drives and the internet; improving our employees work performance. Each office's network connections were increased from one port to six and the MICC has been connected to the network to allow for expanded use.

The increased number of network ports in the building also meant that the server room and its networking needed to be upgraded. A new rack was installed in the server room, which now holds all new layer three switches. The switches and firewalls are networked together using fiber optic cables with multiple paths to reduce the impact of hardware failures and has greatly increased the bandwidth across the switches. This upgrade reduces the risk of a physical attack on our network and provides a much higher level of security.

There have been changes to the public safety facility security standards and requirements over the past several years. This past year, the District undertook a total system upgrade of its security systems and access control that now meets all national standards including dual factor authorization to gain access to the building and to certain work areas.