



Geneva Community Unit School District #304
Operations and Maintenance
7 Year Capital Improvement Plan

Board of Education

January 23, 2017





Geneva Community Unit School District #304 Operations and Maintenance 7 Year Capital Improvement Plan

Table of Contents

Introduction

Geneva High School

Geneva Middle School North

Geneva Middle School South

Harrison Street Elementary School

Western Avenue Elementary School

Mill Creek Elementary School

Heartland Elementary School

Williamsburg Elementary School

Fabyan Elementary School

Coultrap Educational Services Center Administration Building

Keslinger Transportation Building

Summary of Costs



Geneva Community Unit School District #304 Operations and Maintenance 7 Year Capital Improvement Plan

Introduction

This report analyzes the existing facilities and their related conditions. It takes a look at the next seven years in which the highest priority needs will be addressed first. These priorities will be based on financial considerations such as cost and efficiencies, condition of existing facilities, code compliance, and the comfort and safety of our buildings. While it is difficult to imagine every possible scenario that our buildings face, I have compiled a comprehensive outlook of the present facilities based on current conditions. This report covers all buildings and grounds the District owns and estimates the funding required to maintain our properties at an optimal teaching and learning environment. Projected costs by building are included in the Appendix. The Seven Year Capital Improvement Plan is intended to provide the information needed to assist the District Board of Education and Administration with the decisions they will face with regard to future financial support of our buildings.

Respectfully Submitted,

Scott K. Ney
Director of Facility Operations
Geneva Community School District #304

Geneva High School



Geneva High School Building Summary

Originally built in 1958, the high school has undergone four major additions (1964, 1967, 1973, and 2001). The building is 390,331 square feet built on 10 acres and has a capacity of 1,800 students. The Master Facilities Plan from 2005 called for the high school to be expanded and renovated. Due to economic conditions, the \$85+ million project was put on hold. The athletic area to the northwest encompasses 37 acres and houses the athletic and P.E. fields for the high school.

A 72'x 83' six classroom modular unit was installed on the south side of Geneva High School. Current enrollment at the high school exceeds the building's capacity and program options continue to increase, resulting in a need for additional space. Some of the increased program options are due to state mandates and others are due to the District's commitment to providing innovative courses. The steam line and condensate line that supply heat to Geneva High School were replaced this summer. After the insulated jacket prematurely failed on the steam line causing a hazardous condition in the lower level mechanical room, the only cost effective option was to replace them. The Taco secondary pumps were 15 years old and reaching the end of their expected service life before they were replaced with the new B&G pumps. Several of the parts were no longer available for these pumps and the remaining option was to replace the entire pump. We replaced three of the pumps this year and plan on replacing the remaining pumps in 2017 so all of the equipment is reliable, efficient and parts are readily available in the event of a failure. The carpeting was replaced in the Main Office; it was sixteen years old and was showing extreme wear and fraying. An Epoxy Floor coating was applied to three classrooms CC150, CC151 & CC153.

Several additional capital improvements are needed in the next seven years. The seven **air handlers** that serve the library, Mack Olson Gym, cafeteria, kitchen, auditorium and weight room are all over 42 years old and are in need of updating. Since they all are housed inside the building, the shells of the units are in good condition. We recommend replacing the bearings, shafts and motors to improve reliability and efficiency. Any new equipment will be installed with new **DDC controls** to continue the conversion of the high school from pneumatic controls. The **secondary heating pumps** are nearing the end of their life cycle and need to be replaced. They are in need of upgrading with **variable frequency drives (VFD)** for optimal efficiency. **Flooring** has been an ongoing concern for several years. The existing carpet is at least 17 years old, and in some areas even older. The Fritz quartz tile that was installed in 2000 has not performed well. It is cracking throughout the building and has faded considerably. We are replacing small sections of flooring in phases due to budgeting restrictions. The **stage craft and cafeteria bathrooms** are over 42 years old and showing significant wear. We need to update the bathrooms which would include new flooring, update plumbing, fixtures, sinks and toilets. The **stage and house lighting in the auditorium** is starting to fail and the parts for the lighting panel are becoming obsolete and no longer available. We will need to update the entire lighting system. The **roof on the southwest side** of the building was installed in the 90's and the typical life cycle of a roof is 25 years. The roof will need to be replaced in the next two to three years. The **parking lots** were resurfaced the summer of 2013. Crack filling and seal coating will be needed in the next four to seven years. The **existing galvanized piping** is deteriorating throughout the building and has started leaking in several areas. We will need to replace the old piping with copper piping and provide new ball valves for adequate shut-off. The two **500 gallon PVI hot water heaters** will need to be replaced within the next seven years. The four Kewanee

steam **boilers, installed in 2000, 1967, 2 in 1957**, that supply heat to the high school are inefficient and becoming increasingly costly to maintain. Kewanee stopped manufacturing all boilers and parts in 2001. Over the next several years, there will come a point when we will be unable to locate parts and therefore, we will not be able to repair these boilers. We need to replace the Kewanee boilers with a more efficient boiler system and relocate this system at the high school. The **heating ventilation and air conditioning (HVAC)** equipment at 301 McKinley maintenance garage is nearing the end of its estimated service life according to ASHRAE. The **tennis courts** are starting to show excessive and deep cracking on the courts. Over the last several years, we have had the courts patched and made suitable for play. We are getting to the point at which patching will no longer be an option and the courts are becoming unsafe. We will need to resurface the tennis courts this year. These costs are shared with the Park District through an Intergovernmental Agreement. **Track resurfacing** will be needed in the next two to five years. The track is starting to show excessive wear and cracking. The estimated life cycle of a track is eight to ten years. An additional **storage shed** will be needed in the athletic area of Burgess Field for gym and athletic storage. The **synthetic turf** has a typical life cycle of eight to twelve years based on usage. We are budgeting over the next several years to have the money available when the renewal maintenance is due.

Geneva High School



HVAC Controls

Pneumatic to Digital conversion will be computer based, allowing for tighter control of temperature, setback features, and an alarming feature.



Secondary Pumps (3)

Replace pumps that are nearing the end of their life cycle.

Variable Frequency Drives will greatly increase energy efficiency and lengthen the life of the pumps.



Carpet

The carpet is starting to fray and cause trip hazards.

Carpet will need to be replaced.

Geneva High School



Flooring

Existing quartz tile is cracking and has faded.

Replace tile in phases.



Tennis Court Resurface

Cracks and patches throughout courts.



Boiler Replacement

Breakdowns and repairs are becoming more frequent and costly.

Replace steam boilers with hot water boilers for energy efficiency.

Locate new boilers from boiler house to high school.

Geneva High School



Cafeteria and Stage Craft Bathrooms

Bathrooms are 42 years old.

Showing significant wear.

Need to update.



Hot Water Heaters

The two 500 gallon PVI water heaters are nearing the end of their life cycle.

Replacement will be needed within the next seven years.

Geneva Middle School North



Geneva Middle School North Building Summary

Originally opened in 2006, Geneva Middle School North was patterned after Geneva Middle School South and built to alleviate the overcrowding occurring at South due to the growth the District was experiencing. The school is a 2-story building with a small basement area for mechanical equipment. It is constructed of noncombustible building materials including masonry bearing walls, steel framing and pre-cast concrete. The total building consists of 198,000 square feet and is built on the 65 acre site shared with Middle School South. It has a student capacity of 1,100.

Dahlquist & Lutzow Architects (DLA Ltd) performed the 10-Year Health Life Safety Survey in April 2015 for GMSN. They provided the district with six “A” items that needed immediate attention and 12 “B” items that need to be addressed over the next two to four years. The “A” and “B” repairs that were documented on the survey have been sent to ISBE and we are required to repair all code violations in the proper time frame. All “A” items were repaired during the summer of 2016. Crack filling and seal coating for the GMSN parking lot was completed in the spring of 2016.

The existing **Direct Digital Controls** system (Lon) is outdated and costly to repair. It is scheduled to be converted to the ASHRAE standard BACnet control. The **air conditioning system for the IT server room** is oversized for the heat load and continually cycles on and off, causing a condensation issue for that room and premature equipment failure. It is recommended that a smaller tonnage system be installed in conjunction with the current system and if the server size increases as well as the heat load, the existing system will be there to handle the load. Additionally, the **LMC air handling unit** is undersized for cooling when the outside air temperature is above 80 degrees. The airflow needs to be increased and can be done without replacing the entire air handling unit by resheaving the pulleys on the shaft, adding four to six more VAV boxes with reheat coils and controls. The typical life cycle of a commercial hot water heater is 12 to 15 years. The two **300 gallon PVI hot water heaters** are original to the building and will need to be replaced within the next seven years. Finally, the **parking lot** will need to be seal coated within the next seven years.

Geneva Middle School North



Lon Controller

Lon controls throughout the building.

Outdated and costly to repair.

Replace Lon to BACnet.



IT Server A/C

Oversized for heat load of space.

Cycles on and off continually causing condensation issues and premature equipment failure.

Replace with properly sized unit.



LMC

AHU is undersized for space.

Only two VAV boxes serving the space.

Recommend increasing the capacity of the AHU and adding four to six VAV boxes with controls to increase comfort and control humidity.



Hot Water Heaters

The two 300 gallon PVI water heaters are nearing the end of their life cycle.

Replacement will be needed within the next seven years.

Geneva Middle School South



Geneva Middle School South Building Summary

Constructed in 1993 and opened in 1994, Geneva Middle School South has undergone three additions. Cafeteria expansion, additional classroom space, a third gymnasium and the Friendship Station Preschool were added. The building is a two story building with a small basement area for mechanical equipment. It is constructed of noncombustible building materials including masonry bearing walls, steel framing and precast concrete. The total building now consists of 246,253 square feet and is built on the 65 acre site shared with Middle School North. It has a student capacity of 1,281 including Friendship Station.

The referendum construction project of 2007-09 brought needed attention to several areas including ADA and building code requirements, roof replacement, security, and HVAC repairs. All carpet was replaced during the project. Technology improvements such as cabling, wireless access points and projectors were added. A key fob system and AI phone video entry system were added. The library furniture and shelving were replaced. The interior spaces were renumbered and new signage for each space was added.

Dahlquist & Lutzow Architects (DLA Ltd) performed the 10-Year Health Life Safety Survey in April 2015 for GMSS. They provided the district with six “A” items that need immediate attention and 12 “B” items that need to be addressed over the next two to four years. The “A” and “B” repairs that were documented on the survey have been sent to ISBE and we are required to repair all code violations in the proper time frame. All “A” items were repaired in the summer of 2016. The **fire lane** was seal coated this year to extend its life. A **new set of doors** were installed this past summer in the hallway that leads from the main doors into the library. This will provide a mechanism to better secure the educational side of the building which will prevent and mitigate mischievous and criminal acts.

The **contest gym flooring** is showing excessive wear and needs to be resurfaced and sealed. The **stage lighting** in the cafeteria is original to the building, starting to fail and will need to be updated within the next three years. The **fire lane** is starting to break down and will need to be resurfaced this year. The **ceiling tile and grid** throughout the building is starting to show signs of wear and discoloration. Replacing the ceiling tile and grid should be completed in sections; we are recommending the first phase to be the main office area, athletic and technology wings. The existing **temperature control** system (Lon) is outdated and costly to repair. It is scheduled to be converted to the ASHRAE standard BACnet control. A new **hot water make-up air unit** needs to replace the gas-fired one for efficiency and freeze protection. Two **air handlers** equipped with **direct expansion (DX) cooling** are in need of cooling upgrades. It is proposed to add a **chiller** for efficiency and reliability, replacing old, inefficient and noisy roof-top DX units. The **Bryan boilers and primary Taco pumps** are original to the building and are nearing the end of their estimated service life according to ASHRAE. They are in need of replacement within the next five to seven years. The **hot water storage tank** is original to the building and will need to be replaced in the next seven years. The **parking lot** was resurfaced the summer of 2013 and will need to be crack-filled and seal coated within the next five to seven years.

Geneva Middle School South



Fire Lane

Pavement starting to show excessive cracking and breakdown.

Will need to be resurfaced.



Lon Controller

Lon controls throughout the building.

Outdated and costly to repair.

Replace Lon to BACnet.



Boiler Replacement

23-year old boilers are inefficient and nearing the end of their estimated service life as per ASHRAE.

Replace with new high efficiency boilers.

Harrison Street Elementary School



Harrison Street Elementary School

Building Summary

Originally opened in 1928, Harrison Street Elementary School has had seven additions. The original building was constructed of noncombustible construction except for the roof which is wood framing. The original structure is two stories plus a basement, and the additions are all one story. All the additions were constructed of fire resistant construction, with masonry bearing walls. The building is equipped with a standby 80 kW natural gas emergency generator supplying power to emergency lighting/exit signs, fire alarm system, fob system, boilers, heating pumps, sump pumps and the new digital temperature control system.

It was completely renovated in 2009 to upgrade the HVAC, plumbing, lighting, ceilings, ceramic tile/carpet, restrooms, technology, roof, windows, concrete repairs, an addition to the sprinkler system, and aesthetics. ADA requirements were addressed to including a new elevator and a chair lift for the stage. All blackboards were replaced with whiteboards. The classrooms and library were outfitted with new furniture and bookcases. The entire building was repainted and several doors were replaced. A key fob system was added as well as an AI phone video entry system. The two playgrounds were combined and equipment replaced. The kindergarten playground area was landscaped to be used as a teaching and play area. The building sits on 10 acres, has 90,684 square feet of space and a capacity of 550 students.

The building is in excellent shape and only in need of a few upgrades. Many of the fifteen **cabinet unit heaters** are older and will need to be replaced as fans fail. Several **air handling units** should either be rebuilt or replaced including the library unit, the art room and the teacher's workroom/conference room area. The **radiant heat** in the glass hallway (kindergarten wing) should be replaced to provide proper heating to that space. The **B&G secondary pumps** were installed in 1999 and are nearing the end of their estimated service life according to ASHRAE. They are in need of replacement for optimal efficiency. The **parking lot** will need to be crack-filled and seal coated within the next three to five years.

Harrison Street Elementary School



Cabinet Unit Heaters

15 units are over 36 years old.

Replace with energy efficient units.



Air Handling Unit

Needs rebuilding or possible replacement.

New motor, shaft, bearings and controls needed.



Secondary Pumps

18 years old and nearing end of their estimated service life as per ASHRAE.

Need to be replaced with energy efficient design.

Western Avenue Elementary School



Western Avenue Elementary School

Building Summary

Built in 1964, Western Elementary School is a 62,832 square foot, one-story building built on 14.18 acres. It has undergone two additions and has a student capacity of 561. The original building was constructed of cavity wall construction consisting of block and brick, with 1" cavity insulation. The additions were constructed of similar cavity walls. The windows are uniform throughout the building consisting of fixed panels with 1" insulated glass, fixed panels glazed with an aluminum insulating panel and a small operating hopper sash. There is a small mechanical mezzanine located on the roof. The exterior brick is in good condition. The building was originally constructed with asbestos containing material and much of it was abated or encapsulated. The building is equipped with a 60 kW natural gas emergency generator supplying power to the emergency lighting and exit signs, the key fob system and the new digital temperature control system.

The building was completely renovated in 2009 to upgrade the HVAC, plumbing, lighting, ceiling, flooring, restrooms, technology, sprinkler/fire alarm system, roof, concrete repairs, and ADA requirements including a new chair lift for the stage. All blackboards were replaced with whiteboards. The library received partial replacement of bookcases. The entire building was repainted and many doors were replaced. A key fob system was installed as well as an AI phone video entry system. The playground was replaced.

The chiller and pumps that were 27 years old and exceeded their estimated service life as per ASHRAE have been replaced. The chiller had excessive refrigerant leaks for the last several years and we had come to the point where the EPA requires us to replace this piece of equipment under the Clean Air Act. This project had to be completed to ensure compliance. This project included a 122 ton York chiller and three B&G chilled/hot water pumps for added efficiency.

The building is in excellent shape and is only in need of a few mechanical and interior improvements. Several **interior doors** are damaged and starting to show excessive wear. Nine **cabinet unit heaters** are over twenty years old and in need of replacing. The **gym AHU** is aging and needs to be rebuilt with a new motor, bearings and shaft and the cost will be shared by the Geneva Park District. The two **Bryan boilers** are 27 years old and nearing the end of their estimated service life and will need to be replaced. The **gym roof** was installed in the early 2000s and the typical life cycle of a roof is 25 years. The roof will need to be replaced this year. On January 10, 2017 the roof membrane had separated due to wind and delaminated from the ISO insulation beneath it. We are working with Gallagher Bassett to get final costs on replacement for deductible & depreciation. All costs will be shared with the Geneva Park District. The **parking lot** will need to be crack-filled and seal coated within the next two years.

Western Avenue Elementary School



Cabinet Unit Heaters

9 units are over 21 years old.

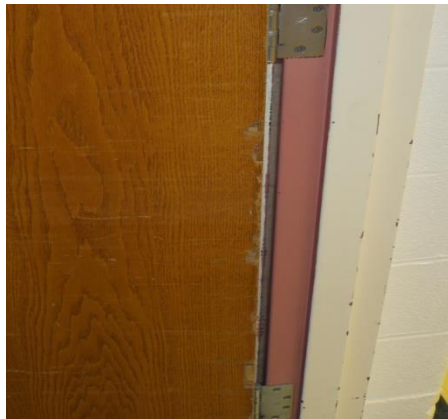
Replace with energy efficient units.



Boiler Replacement

27-year old boilers are inefficient and nearing the end of their estimated service life as per ASHRAE.

Replace with new high efficiency boilers.



Interior Doors

Several doors in the building are damaged and in need of replacement.

Mill Creek Elementary School



Mill Creek Elementary School Building Summary

Originally built in 1995, this 92,015 square foot building is built on 17.6 acres. It has a student capacity of 564. The building is a split-level design. It was constructed of noncombustible materials. The interior structure is columns and beams and exterior masonry bearing wall construction. Roofs are steel joists with steel trusses.

A 28,775 square foot addition was added in 2006, providing a five classroom wing, music/band rooms, a second wood floor gym and much needed storage. The building was partly renovated during the last referendum construction project.

The foundation settling issue and the leaking problem from the 2006 addition have been addressed and fixed. Code related issues like fire rated doors, emergency lighting and drainage issues were also addressed. The building temperature control system was upgraded to digital and several mechanical issues were completed. A key fob system and AI Phone video entry system were installed.

The six Graham Variable Frequency Drives were original to the building and were discontinued after being installed. The VFDs were very unreliable and we were unable to get parts for the repairs. The VFDs operate the supply and return motors in all of the buildings' air handling units. The District installed six ABB VFDs to ensure proper operation and reduced down time during the critical winter months. The secondary **hot water pumps** are scheduled to be replaced in spring of 2017.

Overall, Mill Creek is in excellent condition and only in need of a couple minor upgrades. The **temperature controls** should be converted to the ASHRAE Standard BACnet controls from the outdated and costly Lon Controls. The **mechanical cooling** for the office area is currently served off a large air handling unit that also serves the main classroom wing. Since most of the cooling season occurs when the students are on summer break, cooling the office space is costly and inefficient. We propose adding a separate, small air handling unit to serve the office area and reducing the office area off of the main classroom area. The two **Kewanee boilers and primary boiler pumps** are original to the building and nearing the end of their estimated service life as per ASHRAE. The 85 gallon A.O Smith **hot water heater** was installed in 2002 and is nearing the end of its expected life cycle. The **front parking lot** will need to be crack-filled and seal coated in the next two to three years. The **Simplex 4020 fire panel** will need to be replaced; it is original to the building and starting to have escalating repair costs and consistent breakdowns.

Mill Creek Elementary School



Lon Controller

Lon controls throughout the building.

Outdated and costly to repair.

Replace Lon to BACnet.



Boiler Replacement

Boilers are 21 years old and original to the building.

Nearing the end of their estimated service life as per ASHRAE.



Primary Boiler Pumps

Original to the building.

Need replacing with energy efficient design.



Fire Alarm System

Simplex fire alarm system needs to be updated.

Escalating repair costs and consistent breakdowns.

Heartland Elementary School



Heartland Elementary School

Building Summary

Built in 2002, this 77,447 square foot building sits on 11 acres. It has a student capacity of 550. The building footprint is similar to Mill Creek Elementary School. The building is a split-level design, constructed of noncombustible materials. The interior structure is columns and beams and the exterior is masonry bearing wall construction. The roofs are steel joists and trusses. The building is equipped with a standby 100 kW natural gas generator supplying power to emergency lighting and exit signs, fire alarm system, fob system, intercom system, heating pumps, sump pumps, and the digital temperature control system.

The building is in excellent shape and there are only a couple of deficiencies that need to be addressed. The two **chilled water pumps** need **variable frequency drives (VFD)**. This will greatly increase energy efficiency and lengthen the life of the pumps. The **carpet** will need to be replaced in the near future due to age, wear and extensive staining. The **air handling unit (AHU)** that controls the server room is nearing the end of its life cycle and will need to be replaced in the next two to four years. The **parking lot** will need to be crack-filled and seal coated in the next two to four years.

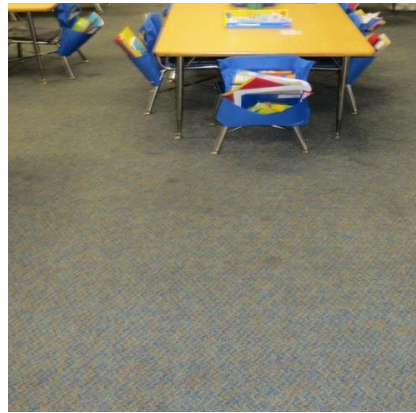
Heartland Elementary School



Air Handling Unit

Air handling unit is nearing the end of its life cycle.

Will need to be replaced in the next two to four years.



Carpet Replacement

Carpet is starting to show wear and staining that we are unable to remove.

Life cycle of carpet is 12-20 years.

Carpet will need to be replaced.



Chilled Water Pumps (2) – Add VFD

Variable Frequency Drives will greatly increase energy efficiency and lengthen the life of the pumps.

Williamsburg Elementary School



Williamsburg Elementary School Building Summary

Built in 2008, this 104,000 square foot building is built on 14 acres. It has a student capacity of 550. This state of the art building is built with noncombustible building materials. The HVAC and lighting systems are energy efficient.

The building is in excellent shape and only the **parking lot** needs to be crack-filled and seal coated in the next two to four years.

Fabyan Elementary School



Fabyan Elementary School Building Summary

Built in 2009, this 104,000 square foot building sits on 11 acres. It has a student capacity of 550. This state of the art building is built with noncombustible building materials. The HVAC and lighting systems are energy efficient.

The **Terrazzo floor tile** replacement has been completed. The tile was cracking because it did not properly bond to the floor. The district received money from a performance bond of \$138,000 to repair all flooring issues. The floor tile has been replaced in phases over the course of three years. The floor tile has been replaced with carpet on the first and second floors. The final phase of tile replacement on the ground floor was completed the summer of 2016.

The building is in excellent shape except for the **parking lot** which will need to be crack-filled and seal coated in the next two to four years to extend the life of the pavement.

Fabyan Elementary School



Parking Lot

Several areas are starting to show cracking.

Coultrap Educational Services Center



Coultrap Educational Services Center Building Summary

Built in 1916, this 28,400 square foot building has had 3 additions and sits on 1.7 acres. Fourth Street School began as an elementary building, housed the original Friendship Station Preschool, and now serves as the District's Administration Center. During the last referendum several upgrades to the building were made including IT server upgrades, several office modifications and the Intervention Coordinators office was added. With the demolition of Coultrap Elementary School in 2013, Fourth Street Administration building was renamed to Coultrap Educational Services Center. The offices were reorganized and updated in 2014-15 for better work flow.

The building is generally in good shape except for some aesthetic and minor maintenance upgrades.

The installation of a standby 100 kW natural gas **emergency back-up generator** supplying power to operate the district's server, phone lines, fire alarm system, heating systems, emergency lighting, and access controls was completed in the summer of 2016.

Resurfacing the **parking lot** will need to take place within the next three years. The **pneumatic controls** are starting to fail and the controllers have been discontinued and no longer available. I am recommending the conversion of the pneumatic controls to a DDC system. The heating system works well, but the **fan** is at least 38 years old and needs to be replaced, along with the **variable frequency drive (VFD)**, which has not worked for years. The building is cooled with **fan coil and condensing units** which were installed in 1996. These units are reaching the end of their life cycle and need to be replaced. The Quincy **air compressor** that operates the pneumatic HVAC control system is 21 years old and is near the end of its life and will need to be replaced in the next seven years. The 75 gallon A.O Smith **hot water heater** was installed in 1996 and is at the end of its expected life cycle and will need to be replaced. The **existing galvanized piping** is deteriorating and has an excessive amount of rust. We will need to replace the old piping with copper piping and provide new ball valves for adequate shut-off. The **Notifier 5000 fire alarm systems** will need to be updated to meet current NFPA code requirements.

Coultrap Educational Services Center



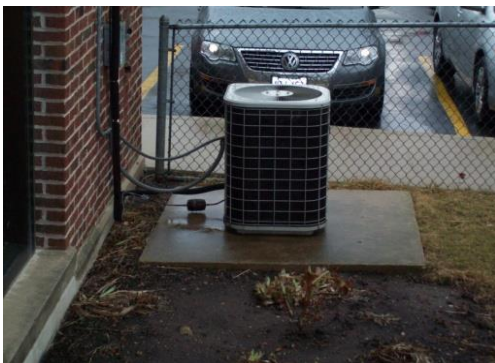
HVAC Controls

Upgrading the discontinued pneumatic controls with Direct Digital Controls.



Fire Alarm System

Notifier 5000 fire alarm panel will need to be updated to meet current NFPA code requirements.



Fan Coil and Condensing Units

The entire building is cooled with fan coil units.

Several are beginning to fail and most will need to be replaced in the next two to seven years.

Coultrap Educational Services Center



Air Compressor

21 years old and needs to be replaced.



VFD and Fan for the Furnace

VFD doesn't work and the fan for the furnace is at least 38 years old.



Parking lot

Several areas with extreme cracking.

Resurfacing will be needed.

Keslinger Transportation Building



Keslinger Transportation Building Building Summary

The Keslinger Transportation Facility was opened in 2004. The 44,350 square foot building is constructed on 7.9 acres. This facility houses 47 of the district's buses, three bus service bays and the grounds shop for the western part of the district. The bus bays are not heated but are equipped with plug-ins for the heater core for cold weather starting. The service bays are heated. In addition, there are office and dispatch facilities as well as a large conference area for training and meetings. The building is equipped with a small kitchen area and restroom facilities for the staff and drivers.

The **parking lot** was crack-filled and seal coated in the summer of 2015 to extend the life of the parking lot. The **carpet** in the building that was showing extensive wear has been replaced. The installation of a standby 100 kW natural gas **emergency back-up generator** supplying power to operate the fire alarm system, heating systems, lift station ejector pumps, sump pumps, emergency lighting, fuel pumps and access controls was completed in the summer of 2016.

The **heating ventilation and air conditioning (HVAC)** equipment is original to the building and nearing the end of its estimated service life according to ASHRAE. This includes the three Lennox split systems that serves the offices and conference area, along with three Bananza make-up air units that serve the three service bays. The 60 gallon A.O Smith **hot water heater** is nearing the end of its expected life cycle and will need to be replaced. The **lighting** will need upgrades to replace the inefficient metal halide fixtures in the service and ground shop bays, with new high output fluorescent T-8 fixtures. Resurfacing the **parking lot** will be needed within the next two to three years.

Keslinger Transportation Building



Parking Lot

Pavement starting to crack and breakdown.

Resurfacing will be needed in the next two to three years.



Lighting Upgrades

Replace inefficient metal halide fixtures with high output T-8 fixtures in service bays and ground shop for energy savings.



HVAC Split System

The 3 Lennox split systems are nearing their ASHRAE recommended service life.

Replacement will be needed within the next seven years.

Keslinger Transportation Building



Hot Water Heater

The 60 gallon A.O Smith water heater is nearing the end of its life cycle.

Replacement will be needed within the next two to five years.



Air Handling Unit

The three Bananza make-up air units are nearing their ASHRAE recommended service life.

Replacement will be needed within the next seven years.

Completed Capital Improvement Plan Projects 2016-17

Projects Approved			
Project	Budget	Cost	Variance
GHS - Steam Pipe Replacement	\$193,150.00	\$192,505.00	\$645.00
GHS - Mobile Classroom (1 unit & installation)	\$650,000.00	\$745,002.00	(\$95,002.00)
GHS - VFDs & Secondary Pumps (3)	\$50,250.00	\$26,250.00	\$24,000.00
GHS - Flooring Replacement (Offices, Classrooms)	\$95,000.00	\$43,421.00	\$51,579.00
GMSN - 10 Year HLS "A" Repairs	\$17,595.00	\$25,110.00	(\$7,515.00)
GMSS - 10 Year HLS "A" Repairs	\$46,160.00	\$63,815.00	(\$17,655.00)
GMSS - Fire Lane (Crack-fill/Seal, Coat)	\$5,000.00	\$700.00	\$4,300.00
GMSS - Security - Replace Access Doors	\$30,000.00	\$25,762.00	\$4,238.00
WAS - Chilled/Hot Water Pumps (3) WAS - 200-Ton Chiller	\$285,000.00	\$365,176.00	(\$80,176.00)
WAS - VFD for the Chilled/Hot Water Pumps	\$25,000.00	held off due to cost of chiller	\$25,000.00
MCS - VFD (6)	\$34,000.00	\$20,410.00	\$13,590.00
FES - Floor Tile	\$165,500.00 (Cost offset of \$115,500 left from performance bond)	\$157,964.00	\$7,536.00
CESC - Emergency Back-up Generator CESC - Landscaping & Fence as per the City of Geneva	\$125,000.00	\$151,700.00	(\$26,700.00)
Bus Garage - Emergency Back-up Generator	\$125,000.00	\$89,999.00	\$35,001.00
Bus Garage - Flooring Replacement	\$10,000.00	\$13,848.00	(\$3,848.00)
Sub-Total	\$1,856,655.00	\$1,921,662.00	(\$65,007.00)
Project in Progress			
MCS - Hot Water Pumps (2)	\$15,000.00	SCHEDULED FOR SPRING	

Capital Improvement Plan Projects

2017-18

20E 300 2540 5110

GHS – Academic Areas

VFDs & Secondary Pumps (3)	\$ 50,250.00
Flooring Replacement (“A” Hallway, Library Classrooms & Guidance Offices)	\$ 100,000.00
Boiler Replacement (Replace with high efficiency boiler system)	\$ 100,000.00

GHS – Athletic Areas

Burgess Field Turf (Turf renewal maintenance)	\$ 50,000.00
Tennis Court Resurface (Resurface entire court)	\$ 70,000.00
Geneva Park District share costs	

SUBTOTAL \$370,250.00

20E 500 2540 5110

GMSS LMC Fire Shutters (10-Year HLS “B” Item) Using HLS funds	\$ 125,000.00
Fire Lane (Resurface)	\$ 35,000.00

WAS Gym Roof (Replace; wind damage on 1/10/17 for deductible & depreciation); Geneva Park District share costs	\$ 50,000.00
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SUBTOTAL \$ 210,000.00

300 \$ 370,250.00

500 \$ 210,000.00

TOTAL \$ 580,250.00

Budgeting for Boiler Replacement	\$100,000.00
Budgeting for Burgess Field Turf	\$ 50,000.00
	\$150,000.00

Operations and Maintenance
7 Year Capital Improvement Cost Summary

Building / Description	Recommendation	Cost Estimate		Priority	Year	Comments	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Geneva High School-Academic Areas													
VFDs and Secondary Pumps (3)	Install VFDs and replace pumps	\$ 50,250.00		H	1	Nearing end of life cycle. Increased energy efficiency & lengthen the life of the pump. Will replace as they fail.	\$ 50,250.00						
Flooring Replacement	Replace worn flooring in "A" Hallway, Library Classrooms & Guidance Offices.	\$ 505,000.00		H	1-3	Flooring at least 17 years old. Fraying/tripping hazard. Replace in phases: Year 1-\$100K, Year 2-\$155K, Year 3-\$250K	\$ 100,000.00	\$ 155,000.00	\$ 250,000.00				
Boiler Replacement	Replace inefficient steam boiler with high efficiency modular boiler system at HS. Increase energy efficiency and maintenance savings. Kewanee parts are no longer manufactured for current steam boilers.	\$ 700,000.00		Budget	1-10	Steam line failed and temporarily repaired Summer 2014. Estimate given Fall 2015 to demo current boiler system at boiler house and install high efficiency modular boiler system on HS grounds. Budget is 1.5 million (\$100k/year from 2017-18 to 2026-2027)	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00
Renovate Cafeteria Bathrooms	Update	\$ 100,000.00		M	6	42 years old and in need of updating						\$ 100,000.00	
Roof - Southwest side	Replace failing section	\$ 450,000.00		M	2	Nearing end of life cycle of 25 years.		\$ 450,000.00					
Domestic Water Piping	Replace old piping with copper piping and provide new ball valves for adequate shut-off	\$ 50,000.00		M	2	Current piping is deteriorating and starting to leak on a consistent basis		\$ 50,000.00					
Auditorium Stage and House Lighting	Update the entire lighting system	\$ 200,000.00		M	3	Lighting panel becoming obsolete and parts are no longer available			\$ 200,000.00				
Air Handlers (7)	Rebuild with new components	\$ 175,000.00		M	4	42 years old				\$ 175,000.00			
Parking Lot	Periodic maintenance; Seal coating	\$ 75,000.00		M	4	Resurfaced 2013				\$ 75,000.00			
Renovate Stage Craft Area including Bathrooms	Update	\$ 125,000.00		M	5	42 years old and in need of updating					\$ 125,000.00		
DDC Controls	Add as equipment is replaced	\$ 250,000.00		L	5-6	Convert pneumatic to digital controls					\$ 125,000.00	\$ 125,000.00	
PVI Hot Water Heaters (500 Gallon) (2)	Replacing 2 - 500 gallon hot water heaters	\$ 110,000.00		L	6	Typical life cycle of a commercial hot water heater is 12 to 15 years						\$ 110,000.00	
Make-up Air Unit at 301 McKinley	Replacing current make-up air unit	\$ 45,000.00		L	7	Installed 1996 and nearing estimated service life according to ASHRAE							\$ 45,000.00
Geneva High School-Athletic Areas													
Burgess Field Turf	Turf renewal maintenance	\$ 350,000.00		Budget	1-10	Typical life cycle of synthetic turf is 8-10 years, budgeting \$50K over 10 years. (Totaling \$500K).	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
Tennis Court Resurface	Resurface entire court. Geneva Park District share costs.	\$ 70,000.00		H	1	Starting to crack - affects play and safety issues.	\$ 70,000.00						
Track Resurface	Resurface entire track	\$ 75,000.00		M	3	Starting to crack - affects play and safety issues. Typical life expectancy is 8-10 years.			\$ 75,000.00				
Storage Shed	Athletic Area	\$ 55,000.00		L	7	Needed space for athletic/gym supplies							\$ 55,000.00
Total for GHS		\$ 3,385,250.00					\$ 370,250.00	\$ 805,000.00	\$ 675,000.00	\$ 400,000.00	\$ 400,000.00	\$ 485,000.00	\$ 250,000.00

Operations and Maintenance
7 Year Capital Improvement Cost Summary

Building / Description	Recommendation	Cost Estimate		Priority	Year	Comments	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
GMS-N													
IT Server Room A/C	Install new A/C unit	\$20,000.00		H	2	Current unit is oversized for load.		\$20,000.00					
DDC Controls	Continue replacing as old devices fail.	\$250,000.00		M	3	Updated from Lon to BACnet (no transition yet).			\$250,000.00				
PVI Hot Water Heaters (300 Gallon) (2)	Original to the building and needs to be replaced in next four years.	\$80,000.00		L	4	Typical life cycle of a commercial hot water heater is 12 to 15 years.				\$80,000.00			
The guardrail along the open side of the stair has a height of 36" which is lower than the required 42" height.	Extend the existing guardrail to achieve a minimum overall height of 42 inches in Stair A, B, C, D, E, and F.	\$25,000.00		M	4	10 Year HLS "B" Repairs				\$25,000.00			
Door leading to basement does not have a label and therefore does not comply with the 1-hour fire rating requirement for an interior stair	In Stair C and D Replace door with 1-hour fire-rated door.	\$5,000.00		M	4	10 Year HLS "B" Repairs				\$5,000.00			
First floor doors have vision panels that are rated 1/3 or 3/4-hour and therefore do not meet the required 1-hour fire-rating.	In Stair C, D and F Replace doors with 1-hour fire-rated doors.	\$20,000.00		M	4	10 Year HLS "B" Repairs				\$20,000.00			
Doors leading to the north Team Center are labeled with a 1/3-hour fire rating and therefore do not meet the required 3/4-hour fire rating.	In Library Replace doors with 3/4-hour fire-rated doors.	\$5,000.00		M	4	10 Year HLS "B" Repairs				\$5,000.00			
Wall penetration is not sealed and therefore does not comply with the required fire or smoke rating.	In Custodian rm 139B Seal penetrations in the wall separating the Library to comply with 1-hour fire rating. Seal penetrations in all other walls against the passage of smoke.	\$500.00		M	4	10 Year HLS "B" Repairs				\$500.00			
Door leading into Storage 199B are labeled with a 1/3-hour fire rating and therefore do not meet the required 3/4-hour fire rating.	In White gym (Storage 199B) Replace the door with a 3/4-hour fire rated door.	\$5,000.00		M	4	10 Year HLS "B" Repairs				\$5,000.00			
Doors leading into Storage 197A are labeled with a 1/3-hour fire rating and therefore do not meet the required 3/4-hour fire rating.	In Blue gym (Storage 197B) Replace the door with a 3/4-hour fire rated door.	\$5,000.00		M	4	10 Year HLS "B" Repairs				\$5,000.00			
Doors leading into Storage 171 and out the back of the Platform are not labeled and therefore do not meet the required 3/4-hour fire rating.	In Cafeteria 164 Replace the door with a 3/4-hour fire rated door.	\$10,000.00		M	4	10 Year HLS "B" Repairs				\$10,000.00			
Doors are not labeled and therefore do not meet the required 3/4-hour fire rating.	Technical Education 157 and 156 Replace the doors with a 3/4-hour fire rated door.	\$15,000.00		M	4	10 Year HLS "B" Repairs				\$15,000.00			
Doors are not labeled and therefore do not meet the required 3/4-hour fire rating.	In Finishing 156A Replace the door with a 3/4-hour fire rated door.	\$5,000.00		M	4	10 Year HLS "B" Repairs				\$5,000.00			
Abandon fixtures resulting in sections of unused piping ("dead ends").	Remove abandoned plumbing fixtures, shower and remove unused sections of piping back to mains.	\$5,400.00		M	4	10 Year HLS "B" Repairs				\$5,400.00			
Boys and Girls Locker Room Not adequate number and locations of floor drains for each shower head.	Provide additional floor drains to match number of existing shower heads.	\$31,500.00		M	4	10 Year HLS "B" Repairs				\$31,500.00			
LMC Air Handling Unit	Add VAV boxes with associated piping, ductwork as required	\$38,000.00		L	5	Only 2 VAV boxes installed for entire Library area. Add 6-8 boxes.					\$38,000.00		
Parking Lot	Periodic maintenance; Seal coating	\$50,000.00		L	7	Seal coated and Cracked-filled 2015-16.							\$50,000.00
Total for GMS-N		\$570,400.00					\$-	\$20,000.00	\$250,000.00	\$212,400.00	\$38,000.00	\$-	\$50,000.00

Operations and Maintenance
7 Year Capital Improvement Cost Summary

Building / Description	Recommendation	Cost Estimate		Priority	Year	Comments	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
GMS-S													
The fire shutters surrounding the Library do not close and therefore do not provide the required 1-hour fire rating. Repairs to improve the operation have been unsuccessful. Using HSL funds	Remove the fire shutters and construct 1-hour fire rated wall partitions to enclose the library.	\$125,000.00		H	1	10 Year HLS "B" Repairs	\$125,000.00						
Fire Lane	Full resurface 2017	\$35,000.00		H	1	Cracks more apparent posing hazards	\$35,000.00						
Hot water make-up air unit	Replace failing unit	\$22,000.00		M	2	Replace gas fired unit for efficiency		\$22,000.00					
Stage Lighting	Update the entire light system	\$25,000.00		M	2	Original to the building, starting to fail		\$25,000.00					
Ceiling Tile and Grid Replacement	School Wide - recommend in phases. First phase main office, athletic and technology wings	\$165,000.00		M	2	Grid is starting to show discoloration		\$165,000.00					
Gym Flooring	Resurface and seal Contest Gym	\$25,000.00		M	3	Floor showing wear			\$25,000.00				
DDC Controls	Continue replacing as old devices fail.	\$150,000.00		M	3	75% complete converting from Lon to BACnet			\$150,000.00				
Chiller - 180 ton	Add to replace noisy, inefficient DX units on roof	\$210,000.00		M	6	DX units are original and beginning to show signs of wear and failure.						\$210,000.00	
Doors do not have a label and therefore do not meet the required 1-hour fire rating. In addition, the hardware is in disrepair making it difficult to egress.	In Stair B, C, F and G - Replace doors with 1-hour fire-rated doors.	\$25,000.00		M	4	10 Year HLS "B" Repairs				\$25,000.00			
Doors do not have a label or have a label that is less than what is required and therefore do not meet the 3/4-hour fire rating.	Replace doors with 3/4-hour fire-rated doors in Storage 109A, Library Workroom 109B, Library 140 (two pairs of doors), ITC 109C, Faculty Resource 109D, LRC Storage 109E, and Electrical Room 109F	\$25,000.00		M	4	10 Year HLS "B" Repairs				\$25,000.00			
In Cafeteria room 185 - Large coiling door into Serving Area does not have a label or fusible link and therefore does not meet the required 3/4-hour fire rating.	Replace coiling door with 3/4-hour rated door.	\$9,000.00		M	4	10 Year HLS "B" Repairs				\$9,000.00			
Door between storage room and Contest Gym has a label that is less than what is required and therefore does not meet the 3/4-hour fire rating.	In Storage room 196A - Replace door with 3/4-hour fire-rated door.	\$2,500.00		M	4	10 Year HLS "B" Repairs				\$2,500.00			
Door into Electrical Room has a label that is less than what is required and therefore does not meet the 3/4-hour fire rating.	In Multi-purpose room 197 Replace door with 3/4-hour fire-rated door.	\$2,500.00		M	4	10 Year HLS "B" Repairs				\$2,500.00			
Doors do not have a label and therefore do not meet the 3/4-hour fire rating.	In Cafeteria 185 Replace door with 3/4-hour fire-rated door.	\$35,000.00		M	4	10 Year HLS "B" Repairs				\$35,000.00			
Doors do not have a label and therefore do not meet the 3/4-hour fire rating.	In Technical Education 173, Finishing Room 173A, Office 173C, and Technical Education 179 Replace door with 3/4-hour fire-rated door.	\$15,000.00		M	4	10 Year HLS "B" Repairs				\$15,000.00			
Public toilet rooms do not have floor drains.	Provide floor drains	\$31,500.00		M	4	10 Year HLS "B" Repairs				\$31,500.00			
Abandon fixtures resulting in sections of unused piping ("dead ends").	Remove abandoned plumbing fixtures throughout the building and remove unused sections of piping back to mains.	\$43,200.00		M	4	10 Year HLS "B" Repairs				\$43,200.00			
Boys and Girls Locker Room Not adequate number and locations of floor drains for each shower head.	Provide additional floor drains to match number of existing shower heads.	\$14,000.00		M	4	10 Year HLS "B" Repairs				\$14,000.00			
The existing fire alarm panel is obsolete and inadequate. System is not expandable to accept additional zones, audio and visual signaling devices.	Replace fire alarm panel.	\$20,000.00		M	4	10 Year HLS "B" Repairs				\$20,000.00			
Hot Water Storage Tank	Replace unit	\$10,000.00		L	6	Typical life cycle of a commercial hot water heater is 12 to 15 years.						\$10,000.00	
Parking Lot	Periodic maintenance; Seal coating	\$50,000.00		L	6	Resurfaced 2013						\$50,000.00	
Boiler Replacement	Replace with new high efficiency boilers & primary pumps	\$780,000.00		L	7	23-year old boilers, inefficient & nearing the end of their estimated service life as per ASHRAE.							\$780,000.00
Total for GMS-S		\$1,819,700.00					\$160,000.00	\$212,000.00	\$175,000.00	\$222,700.00	\$-	\$270,000.00	\$780,000.00

Operations and Maintenance
7 Year Capital Improvement Cost Summary

Building / Description	Recommendation	Cost Estimate		Priority	Year	Comments	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Harrison													
Cabinet Unit Heaters (15)	Replace with new units	\$30,000.00		M	2	Units over 36 years old. Replace as fans fail		\$30,000.00					
Radiant Heat-K Wing	Replace with new radiant piping	\$30,000.00		M	3	Short run in glass hallway			\$30,000.00				
Parking Lot	Periodic maintenance; Seal coating	\$45,000.00		L	4	Resurfaced 2014				\$45,000.00			
Secondary Boiler Pumps/VFDs	Replacing pumps and upgrading with VFD	\$20,000.00		L	7	Nearing estimated service life according to ASHRAE							\$20,000.00
Air Handlers (3)	Rebuild with new components	\$150,000.00		L	6	Shell is in good condition						\$150,000.00	
Total for Harrison		\$275,000.00					\$-	\$30,000.00	\$30,000.00	\$45,000.00	\$-	\$150,000.00	\$20,000.00
Western													
Gym Roof	Replace - nearing manufacturer's estimated life. Geneva Park District share costs. Insurance - wind damage on 1/10/17 budgeted \$50K for deductible & depreciation values.	\$50,000.00		H	1	On-going roof issues. Will be 20 years old in 2022	\$50,000.00						
Parking Lot	Periodic maintenance; Crack-fill and Seal coating	\$35,000.00		M	2	Resurfaced 2013		\$35,000.00					
Interior Doors	Replaced damaged doors	\$10,000.00		M	3	Showing excessive wear			\$10,000.00				
Cabinet Unit Heaters (9)	Replace with new units	\$27,000.00		M	3	Over 21 years old. Replace as fans fail			\$27,000.00				
Boiler Replacement (2)	Replace with new high efficiency boilers	\$405,000.00		M	5	27-year old boilers, inefficient & nearing the end of their estimated service life as per ASHRAE.					\$405,000.00		
Gym AHU	Rebuild with new components. Geneva Park District share costs.	\$18,000.00		L	5	Coil replaced in 2009, original in 1964					\$18,000.00		
Total for Western		\$545,000.00					\$50,000.00	\$35,000.00	\$37,000.00	\$-	\$423,000.00	\$-	\$-
Mill Creek													
Simplex 4020 fire panel	Replace due to escalating repair costs and breakdowns	\$65,000.00		M	2	Escalating repair costs		\$65,000.00					
Parking Lot - Front Lot	Periodic maintenance; Seal coating	\$30,000.00		M	2	Resurfaced 2013		\$30,000.00					
Office Cooling System	Install new system for office	\$37,000.00		M	4	Update for energy efficiency				\$37,000.00			
Hot Water Heater	Install new commercial unit	\$4,000.00		L	4	AO Smith was installed in 2002				\$4,000.00			
Boiler & Primary Pump Replacement	Replace, install new boiler & primary pumps	\$425,000.00		M	4	21 years old, nearing estimated service life according to ASHRAE				\$425,000.00			
DDC Controls	Continue replacing as old devices fail	\$200,000.00		L	5	Converting from Lon to Bacnet					\$200,000.00		
Total for Mill Creek		\$761,000.00					\$-	\$95,000.00	\$-	\$466,000.00	\$200,000.00	\$-	\$-
Heartland													
Parking Lot	Periodic maintenance; Seal coating	\$45,000.00		M	2	Resurfaced 2013		\$45,000.00					
VFD for chilled water pumps (2)	Install new VFDs	\$9,000.00		M	3	Increase efficiency and motor life			\$9,000.00				
Air Handling Unit for Server Room	Replace AHU	\$13,000.00		M	3	Nearing end of life cycle			\$13,000.00				
Carpet Replacement	Replace worn carpet throughout school	\$300,000.00		M	5,6	Age of carpet is 15 years 2016-17 school year. Life cycle 12-20 years. Extensive staining and wear.					\$150,000.00	\$150,000.00	
Total for Heartland		\$367,000.00					\$-	\$45,000.00	\$22,000.00	\$-	\$150,000.00	\$150,000.00	\$-
Williamsburg													
Parking Lot	Periodic maintenance; Seal coating	\$45,000.00		M	2	Seal coated 2013		\$45,000.00					
Total for Williamsburg		\$45,000.00					\$-	\$45,000.00	\$-	\$-	\$-	\$-	\$-
Fabyan													
Parking Lot	Periodic maintenance; Seal coating	\$45,000.00		M	2	Seal coating and crack-filled 2012		\$45,000.00					
Total for Fabyan		\$45,000.00					\$-	\$45,000.00	\$-	\$-	\$-	\$-	\$-
Coultrap Education Services Center (4th St)													
Fan for Furnace	Rebuild fan	\$15,000.00		M	2	Fan is at least 38 years old		\$15,000.00					
Parking Lot	Periodic maintenance, crack filling, and seal coating	\$125,000.00		M	2	Seal coated and crack-filled summer 2014		\$125,000.00					
HVAC Controls	Upgrading the controls with Direct Digital Controls	\$125,000.00		M	2	Pneumatic controls discontinued		\$125,000.00					
Fan Coil and Condensing Units	Replace failing units - there are 23 units at \$17,500 each.	\$402,500.00		M	2-7	Nearing end of life cycle		\$52,500.00	\$70,000.00	\$70,000.00	\$70,000.00	\$70,000.00	\$70,000.00
Hot Water Heater and pump	Install new commercial units	\$3,500.00		M	3	AO Smith was installed in 1996 and at end of life cycle			\$3,500.00				
Fire alarm system	Update fire system	\$70,000.00		M	3	Does not meet current NFPA code requirement			\$70,000.00				
Domestic Water Piping	Replace old piping with copper piping and provide new ball valves for adequate shut-off	\$42,000.00		M	4	Current piping is deteriorating and has excessive amount of rust				\$42,000.00			
VFD for Furnace	Install new VFD	\$7,000.00		M	4	At least 38 years old. Currently doesn't work and it is overridden				\$7,000.00			
Air Compressor	Need to replace	\$12,000.00		L	6	Current air compressor is 21 yrs old						\$12,000.00	
Total for CESC (4th St)		\$802,000.00					\$-	\$317,500.00	\$143,500.00	\$119,000.00	\$70,000.00	\$82,000.00	\$70,000.00

Operations and Maintenance 7 Year Capital Improvement Cost Summary

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