

## Capital Improvement Projects (CIP) 2016-2021

### Project Description

1. DIST Classroom Computerization/Upgrade.  
The technology department will continue its efforts to be in compliance with the obsolescence plan established in the District Technology Plan. We will work to replace outdated hardware, enhance servers and network infrastructure to improve overall efficiency and ensure all users continue to be able to access and utilize necessary network resources. To accomplish this, we will divide our requested \$200,000 to purchase computers and infrastructure equipment. In addition, we will use the money to enhance servers to increase network efficiency and ensure a disaster recovery plan is in place, moving toward a joint effort with the Town of Coventry. Lastly, the remaining funds will be used to purchase interactive whiteboards for end-of-life replacements
2. DIST Furniture/Equipment Replacement.  
Purchase of furniture/equipment to replace old, broken or damaged furniture/equipment.
3. CHS Cafeteria Reconfiguration.  
This project would open up the café to allow the school to service the students better and increase traffic flow allowing the students more choices and time.
4. CGS/GHR Refinish CGS & GHR café floors.  
Rather than replacement, these floors can be sanded and refinished to get at least 10-15 years more out of them. A typical MFMA maintenance schedule calls for an annual finish recoat and a complete resurfacing every 8-10 years, depending on facility use. The floors have heavy traffic daily because they are used as a cafe.
5. Dist Kitchen Appliances.  
CHS blodget oven convection current one is from 1993, buffet current one was donated in 2012 from Old Saybrook during a remodel, steamer current one is from 1994. GHR warmer current one is from 1992. CGS warmer current one is from 1997 keeps shorting out and burning wires.
6. Dist Kitchen Refrigeration.  
CHS replace walk-in freezer current one is from 1988 roof was repaired in 2015 because it was leaking into the insulation and freezer. GHR condensing unit on Fridge current one is from 1999. CNH condensing unit on freezer current one is from 1990.
7. DIST Crack Seal all School parking lots.  
Pricing for the crack sealing is \$1 per square yard. The total for the district is 28,600 square yards. CGS is 8,200 sqyd. GHR is 6,400 sqyd. CHS and CNH is 14,000 sqyd. Total cost is. This does not include the new parking area at CHS.
8. WH New Vehicle.  
Maintenance personnel share the two vans we currently have. Request addition of a pick-up truck to improve productivity and allow for moving of Genie lift. This would also allow us to pick up loads of sand, mulch, gravel, etc. without having them delivered.

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9. DIST Carpet Replacement  
Replacement of carpet based on the highest priority of failing carpet first. According to the Carpet and Rug Institute Carpet that is properly selected, installed and maintained lasts up to 10 years or longer. Most carpets in the district are older than 16 years. This work is proposed over two years and will include the Media center, Auditorium, office space, etc.
10. CHS Vinyl Composition Tile (VCT) Floor replacement/asbestos abatement.  
The cafeteria VCT and that of 13 classrooms was installed over asbestos-containing tile and/or mastic in year 2000. Cafeteria VCT is rapidly failing due to adhesion and blistering issues relating to the underlying Vinyl Asbestos Tile (VAT). Some blistering has appeared on classroom VCT. Replacement of all of these areas at the same time makes sense because of the need for an Asbestos Abatement Project to replace the VCT. This project is eligible for school construction grant.
11. CHS/CNH Install AC units in the LGI and Lecture Hall  
Currently the LGI and Lecture hall are being used not only for a classroom but is used for staff meetings, training as well as outside group use.
12. DIST Exhaust fan replacement  
Currently there are over 60 exhaust fans district wide. Over half of those are over 30 years old and the housing on them are falling apart. The exhaust fans service different areas of the building ranging from the wood shop, kitchens, bathrooms, classrooms, labs, gyms, and hallways. Without proper exhaust we cannot remove the dirty air and replace it with clean air.
13. DIST Replace Fire and Burglar Alarms  
This project would replace all of the monitoring systems as well as some of the safety devices. Currently the newest system is over 18 years old with the oldest being over 30 years. During the yearly testing with the new company FASD replaced some of the components in the old systems free of charge so they could better monitor them. With the new system we would be able to address all the safety devices so emergency crews would know right where the problem was. Currently the system just tells you a zone or area of the school.
14. GHR Parking Lot Replacement  
The current parking lots are over 17 years old and beyond repair due to large cracks and sections where the asphalt is breaking apart. This project would remove the old asphalt, curbing, and storm drains and will include the upper and lower lots as well as the front turn around. The pricing may be lower if we can do the project with one of the Towns road projects.
15. Dist. Phase 2 Natural gas conversion  
This phase would convert or replace equipment at Admin, CHS, and CNH. The equipment would include Admin building HVAC, water heaters at CNH and CHS, roof top units at CNH, and kitchen equipment at CHS and CNH. Some of the equipment that is at or near end of life will be replaced with energy efficient equipment.
16. CGS Parking Lot Replacement  
The current parking lots are over 17 years old and beyond repair due to large cracks and sections where the asphalt is breaking apart. This project would remove the old asphalt, curbing, and storm drains and will include the upper and lower lots. The pricing may be lower if we can do the project with one of the Towns road projects.

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17. CHS/GHR Roof replacement  
This project would replace the current flat roof over the high school and complex. The roof was installed in 1999 during the renovation and has been leaking the last couple years. At GHR it would replace the roof over the 5<sup>TH</sup> grade wing that was installed in 1999. This project is reimbursable from the state.
18. GHR Fiber Connection between LMC & GHR  
This project would run fiber from RT 31 down Cross Street to GHR also tying in Patriots Park and the senior center. This would allow the school to end the lease it has now for internet access.
19. CHS Lecture Hall seat/tablet replacement.  
The Lecture Hall seating/writing tablet system is fragile, requiring ongoing repairs as tablets break off almost as quickly as we can repair them. If we are to preserve the purpose of this venue, we will need to replace this equipment to a more durable system. Parts have not been available for the existing system for some time, with specialized fabrication as our only repair alternative.
20. CHS Band Room Compressor replacement  
The compressor in this system was installed in 1999 and has a life expectancy of 15 years. The system was also damaged in the winter of 2015 when the snow load broke the piping. The piping was repaired but the compressors were not replaced. We had the same problem with the Media center compressors and were replaced this summer.
21. DIST Van Replacement  
The van that we would replace in the 2010 maintenance van that will be 11 years old at this time.
22. GHR Sand and refinish gym floor.  
A typical MFMA maintenance schedule calls for an annual finish recoat and a complete resurfacing every 8-10 years, depending on facility use. The floor was last resurfaced in August of 2012 by O'Sullivan at a cost of \$13,682
23. DIST PSS Van Replacement  
This would replace the 2010 handicap van used to transport students. The van would be 10 years old at the time. Over the last year the van has been in the shop for repair four times for different issues.
24. DIST AC Replacement  
This project would replace multiple ductless split units district wide that were installed 2000 and have a life expectancy of 15 years. With the newer systems it would save the district money in maintenance and electrical cost.
25. DIST Custodial Equipment Replacement  
Replace battery powered floor equipment at GHR currently beyond life expectancy.  
Replace battery powered floor equipment at CGS currently beyond life expectancy.  
This equipment is strategic in maintaining common area floors with minimal labor
26. DIST Network Refresh  
This is to ensure the network connectivity in all locations throughout the district. The original IT infrastructure blueprint for each of the buildings did not anticipate the present and anticipated connectivity needs in order to have a proper infrastructure presence to support the current IT trends. Some areas of the facility do not have any network connectivity or may only have analog lines present. This funding request would support cabling, network switches, or wireless points as needed, as well as, refresh cabling within the district for needs-based projects. Funding is being requested for network

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- 27. DIST Replace burners on existing furnaces.  
This project would replace burners on different boilers DIST wide that may not be done under the building committee because of the age of the units.
- 28. CHS Resurface the track.  
According to the American Sports Builders Association a track should be resurfaced every 8 to 10 years depending on use and maintenance.
- 29. CHS Resurface tennis courts.  
According to the American Sports Builders Association a tennis court should be resurfaced every 8 to 10 years depending on use and maintenance.
- 30. DIST Window Replacement. Replace windows at all four schools with energy efficient windows. This is an estimated cost do to the complexity of the project it would have to be engineered.
- 31. DIST Rooftop A/C Units  
This project would replace rooftop units DIST wide that may not be done under the building committee because of the age of the units.

## School Building Committee

- 32. DIST School Entry Modifications. Create a secondary check point at main entrance. Entry modifications to include window film on all entry-way glass, making it shatter proof; quality camera for full view of visitor; verbal communication capability; and door lock release, to allow visitor into school. This is in addition to existing buzz-in at exterior door. This project may be eligible for School Construction funds.
- 33. CHS ADA Compliance. The State Department of Education (SDE) recently conducted a Civil Rights Compliance Review of the High School. The review noted several areas of noncompliance with the 2010 ADA Standards. A voluntary Corrective Action Plan (VCAP) has been submitted to the SDE. This request is to hire a design professional familiar with ADA Standards to prepare Bid Specifications and Construction Documents that will bring the facility into compliance. This project would be eligible for School Construction funds.
- 34. CHS (SBS) Install VFD's & occupancy controls & optimize control sequences for AHU's serving 2 gyms. The gyms are served by constant volume AHU's. Variable frequency drives (VFD's) would allow the fan motors to adjust to seasonal and/or temperature requirements. The occupancy sensors would allow the spaces to set back when empty. More sophisticated control strategies such as control ventilation, dual enthalpy economizer cycles, etc. would also be implemented. \$900-1,800 oil savings/yr.; \$4,800-5,800 electric savings/yr.

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35. CHS (SBS) Replace original Classroom unit ventilators. The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
36. CNH (SBS) Replace original Classroom unit ventilators. The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
37. CGS (SBS) Replace original Classroom unit ventilators. The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
38. CGS/GHR/Admin Portable Generator/ATS installation. The town is considering use of a portable generator that could be transported from between buildings to keep pipes from freezing, food from spoiling and other building issues if power were to be lost with sub-freezing temperatures. This project is for installation of the connections and safeguards necessary to accommodate this program.
39. GHR (SBS) Replace original Classroom unit ventilators. The original classroom HVAC equipment is reaching the end of life expectancy and a replacement plan should be adopted.
40. DIST (SBS) Occupancy Sensors & Exhaust Hood Timers. The current corridor wiring does not provide any night lights and therefore the lights are on much of the day and evening. Wiring in two fixtures per corridor as standing lights would allow the balance of the lights to be controlled based on occupancy. Install digital timers for kitchen hood exhaust systems. The kitchen hood exhaust and makeup fan are manually activated and may have excessive run times.
41. CHS/CNH (SBS) VFD's & Occupancy controls for Auditorium, Stage, Band/Choral. These spaces are served by constant volume AHU's. VFD's would allow the fan motors to adjust to seasonal and/or temperature requirements. The occupancy sensors would allow the spaces to set back when empty. More sophisticated control strategies such as demand control ventilation, dual enthalpy economizer cycles, etc. would also be implemented.
42. CHS (SBS) Install individual control valves on perimeter radiation for Administration area. The administration area is served by an AHU that has two reheat coils serving approximately 8 different spaces. There is also perimeter heat that is uncontrolled. Installing control valves for the perimeter heat in each space would prevent the spaces from overheating.

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43. CHS/CNH Lightning Protection. The high school, middle school, emergency generator and associated buildings have sustained damage from lightning and/or electrical surge events on a continuing basis. We have lost circuit boards in electronic devices in the school, and controls and circuit boards on the generator that serves the high school community shelter. These interruptions in service have been both costly and disruptive. The project includes a complete system of lightning protection in accordance with Underwriters Laboratories Inc., Lightning Protection Institute and the National Electrical Code. Air terminals, ground electrodes, conductors, connectors and fasteners used to ground to water system, power ground, plumbing/heating systems, AC units, antennas and all equipment per code standards, will be installed for the purpose of preventing or lessening the damage due to lightning strikes.
44. CHS/CNH Surge Protection. This project is related to the Lightning Protection project listed above. Although power surges can also occur from causes other than lightning, they can expose the schools to the same types of damage to physical plant and electronic devices.
45. GHR (SBS) Optimize combustion air fan control. The current sequence calls for the combustion air fan to run anytime the outside air temperature is below 50 degree regardless of whether a boiler is firing or not. (SBS) Upgrade Abandoned FTR control to DDC. The local controls for the FTR have been abandoned in place and are controlled manually. This is causing the spaces served to be over/under heated and is time consuming for the building operators to respond to complaints.
- (SBS) Install Occupancy Control and optimize control sequences on Café supply & exhaust fans. The Café is served by a constant volume AHU, lights are controlled by conventional wall switches and the space is at occupied set point whether the space is actually being utilized or not. The installation of occupancy sensors would allow the lights and HVAC system to be controlled.
46. CNH (SBS) Install VFD's and Occupancy controls & optimize control sequences for AHU's serving gym, CAD lab, wood shop, computer lab, LGI and café. These spaces are served by constant volume AHU's. Variable frequency drives would allow the fan motors to adjust to seasonal and/or temperature requirements. The occupancy sensors would allow the spaces to set back when empty. More sophisticated control strategies such as demand control ventilation, dual enthalpy economizer cycles, etc. would also be implemented.
47. CHS/CNH (SBS) Install occupancy control for Classroom unit ventilators. The classrooms currently have an occupancy sensor for lighting only. Changing the sensors to a type that can integrate with the lighting and HVAC will allow the spaces to setback at any time.
48. CNH (SBS) Install 2 way DDC control valves on classroom unit ventilators and misc. AHU's/Terminal units and install VFD's on Hot Water (HW) pumps. The existing Unit Ventilators have 3-way control valves which allow constant flow to the pumping system. Replacing these valves with 2-way control valves and installing VFD's on the HW pumps will realize energy savings due to reduced pump speeds.
49. GHR (SBS) Upgrade existing controls in classrooms. The 3<sup>rd</sup> and 4<sup>th</sup> grade classrooms are locally controlled with limited scheduling capability. Converting to DDC will allow for improved control strategies including unoccupied modes based on motion sensors. The 5<sup>th</sup> grade classrooms will be in unoccupied mode based on motion sensors and will allow for the Outside Air (OT) damper on the unit ventilators to open/close when asked.

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50. CHS (SBS) Add dedicated heat/make-up air unit for the kitchen. The make-up air and heat source for the kitchen hood exhaust is from the cafeteria. This is only possible if the doors between the server and the cafeteria are open and the kitchen exhaust fan is operating. If these two conditions are not met, then the kitchen has no heat source. It has been reported that water pipes in the kitchen have previously frozen.
51. GHR (SBS) Install hydronic perimeter heating system for the Media Center. The original perimeter heating system for the media center was replaced with electric resistance heating elements. Converting to hydronic and connecting to the boiler plant would allow the space to be heated by a cheaper fuel.
52. DIST (SBS) Boiler Replacement. Multi-year boiler replacement determined by year manufactured and boiler condition. All new boilers will include hot water bypass (internal or external). All with have high efficiency burners. Ten Boilers in total.
53. DIST Underground Fuel Storage Tank (UST) Replacement. UST were installed at each school site in 1988, the tanks must be replaced no later than 30 years after installation. This proposal is to hire a design professional to prepare Bid Specifications and Construction Documents. Actual removal replacement to occur is summer of 2016 or 2017.

### Larger Projects Long Term

- GHR Roof was replaced in August of 2011 and is scheduled for replacement in 2031.
- CNH Roof was replaced in August of 2011 and is scheduled for replacement in 2031.
- CGS Roof was replaced in August of 2011 and is scheduled for replacement in 2031.