

**ANNUAL MECHANICAL, ELECTRICAL,
AND PLUMBING ASSESSMENTS**

**for
Henrico County Public Schools
Virginia**



2020 Summary of Projects

Prepared by

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EXECUTIVE SUMMARY

The purpose of this study is to provide cost estimates to replace and assess the condition of identified HVAC equipment at various schools in Henrico County, Virginia. The following is a summary of the projects which have been bid and constructed including the year it was completed and the bid price of each project. The second summary includes projects yet to be bid or constructed with estimated current construction costs for each project. For projects included in previous assessment reports, the costs are based on the estimates developed at the time the report was completed and then escalated to today. An escalation rate of 6% per year was used.

CONSTRUCTED PROJECTS

2017 Report HVAC Assessments		
School	Bid Amount	Year Completed
Colonial Trail ES – Air Cooled Chiller	\$171,449.00	2018
Short Pump MS – Chiller and Heat Exchanger	\$263,800.00	2018
Shady Grove ES – Dehumidification Units	\$349,500.00	2019
Wilder MS – Cooling Tower	\$175,400.00	2019
Hermitage HS – Greenhouse Boiler	\$47,400.00	2019
Longdale ES – Heat Exchanger	HCPS Self Performed	2019
Rolfe MS – Cooling Tower	\$119,975.00	2020
Ratcliffe ES – Chiller and Dehumidification unit	\$428,220.00	2020
Wilder MS – Chiller	\$278,000.00	2020
2018 Report HVAC Assessments		
School	Bid Amount	Year Completed
Donahoe ES – Cooling Tower	HCPS Self Performed	2020
Ashe ES – Dual Temp Pipe Insulation Replacement	Did not move forward due to Covid	2020
Hermitage HS – HVAC Upgrades (Band/ Chorus)	\$109,125.00	2020
Quioccasin MS – HVAC Upgrades (Gym, 2 Aux Gyms & Locker rooms)	\$486,575.00	2020
2016 Report Electrical Assessments		
School	Bid Amount	Year Completed
Hermitage HS Field House	HCPS Self Performed	2018
Henrico HS Concessions Building	HCPS Self Performed	2018
Highland Springs ES Service Replacement	\$73,397.00	2019
Maybeury ES Service Replacement	\$33,770.00	2019
Fair Oaks ES Service Replacement	\$103,766.00	2019
Glen Lea ES Service Replacement	??	2019

Not Included in a Report		
School	Bid Amount	Year Completed
VA Randolph – Cooling Tower	\$169,500.00	2017
Ridge ES – HVAC Renovations	\$57,500.00	2017
Godwin HS – Cooling Tower	\$157,184.00	2017
Dumbarton ES – Cooling Tower	\$135,000.00	2017
Hermitage HS – Specialty Center HVAC	\$100,738.00	2017
Highland Springs HS Day Care – HVAC Replacement	\$99,058.00	2017
Hermitage HS – Cooling Tower	\$193,000.00	2018
Hermitage HS – Lighting & Ceiling Replacements (Not all areas completed)	\$375,000.00	2018
Godwin HS – Lighting & Ceiling Replacements (Not all areas completed)	\$378,000.00	2018
Laburnum ES – Dehumidification Unit	\$202,281.00	2018
Ridge ES – Dehumidification Unit	\$223,300.00	2018
Lakeside ES – Rooftop Unit	\$102,844.00	2018
VA Randolph – Dehumidification Unit	\$289,699.00	2018
Ward ES – Dehumidification Units	\$366,157.00	2019
Baker ES – Dehumidification Unit	\$219,430.00	2019
Ashe ES – Dehumidification Units	\$366,157.00	2019
Freeman HS Specialty Center HVAC Replacement	\$45,847.00	2019
Springfield Park ES – Dry Pipe Sprinkler Replacement (2 systems)	\$256,788.00	2019
VA Randolph Kitchen HVAC Renovations	\$101,700.00	2019
Ashe ES – Dry Pipe Sprinkler Replacement (2 systems)	\$262,931.00	2020

YET TO BE CONSTRUCTED PROJECTS

2017 Report HVAC Assessments		
School	Total Cost	Priority
Shady Grove ES – Split DX outside air unit w/ wheel	\$87,067.00	15
Shady Grove ES – Heat Exchanger	\$48,371.00	6
Pocahontas MS – Air Cooled Chiller	\$333,760.00	5
Pocahontas MS – Closed Circuit Cooling Tower	\$320,631.00	9
Pocahontas MS – Rooftop Outside Air Unit	\$872,060.00	8
Rolfe MS – Water Heaters	\$205,922.00	17
Wilder MS – Boilers	\$272,260.00	20
Wilder MS – Heat Exchanger	\$20,730.00	21
Hermitage HS – Boilers	\$184,500.00	19

Hermitage HS – Water Heaters	\$205,922.00	16
Longdale ES – Chiller	\$242,546.00	18
Brookland MS – Boilers	\$369,002.00	10
2018 Report HVAC Assessments		
School	Total Cost	Priority
Hermitage HS – Water Heater	\$211,760.00	5
Hermitage HS – HVAC Upgrades (Gym)	\$552,368.00	2
Newbridge Learning Center – HVAC Full Replacement	\$3,348,317.00	2
Nuckols Farm ES – Dry System Sprinkler Replacement	\$482,082.00	3
Nuckols Farm ES – Heat Exchanger	\$50,951.00	3
Nuckols Farm ES – 2 Outside Air Units	\$689,828.00	3
Quioccasin MS – Classroom & Admin Outside Air Units	\$840,845.00	4
Quioccasin MS – Cooling Tower	\$195,292.00	1
Highland Springs HS – HVAC Upgrades (Gym)	\$990,901.00	5
Highland Springs HS – HVAC Upgrades (Field House)	\$312,414.00	3
Springfield Park ES - 2 Outside Air Units	\$689,828.00	3
Springfield Park ES – Heat Exchanger	\$50,951.00	3
Gayton ES – Chilled Water Piping Full Replacement	\$1,150,714.00	2
Gayton ES – 2 Boilers	\$211,964.00	6
Gayton ES – Chiller (Small Chiller)	\$158,394.00	7
Glen Lea ES - 2 Outside Air Units	\$461,134.00	2
Pocahontas MS – Heat Exchanger	\$54,787.00	3
Ward ES – Dry System Sprinkler Replacement	\$482,082.00	5
Ward ES – Heat Exchanger	\$50,951.00	3
Echo Lake ES – 2 Outside Air Units	\$679,584.00	5
Glen Allen ES – Chiller	\$226,050.00	4
Glen Allen ES – Water Heater	\$177,933.00	3
Godwin HS – HVAC Upgrades (Field House)	\$312,414.00	4
Godwin HS – HVAC Upgrades (Technical Area)	\$197,397.00	5
Johnson ES – 4 Boilers	\$182,812.00	6
Lakeside ES – Heat Exchanger	\$50,951.00	3
Rolfe MS – Auditorium House Lighting	\$154,217.00	3
Rolfe MS – Auditorium Specialty Lighting	\$239,499.00	3
Short Pump ES – Chiller (Small Chiller)	\$158,394.00	6
Varina HS – Chiller (Specialty Center)	\$159,958.00	7
2019 Report HVAC Assessments		
School	Total Cost	Priority
Shady Grove ES – Replace Dual Temp Pipe Insulation	\$387,046.00	2
Ward ES – Replace Dual Temp Pipe Insulation	\$368,273.00	1

Springfield Park ES – Replace Dual Temp Pipe Insulation	\$368,273.00	2
Nuckols Farm ES – Replace Dual Temp Pipe Insulation	\$368,273.00	2
Rivers Edge ES – Replace Cooling Tower & Pumps	\$402,926.00	3
Deep Run HS – Replace Rooftop Outside Air Units	\$1,740,724.00	4
Short Pump MS – Replace Air Handling Units	\$1,400,212.00	1
Short Pump ES – Replace Air Handling Units	\$835,035.00	2
Pocahontas MS – Replace Boilers and Water Heaters	\$472,844.00	3
Echo Lake ES – Replace Cooling Tower	\$315,212.00	3
Glen Allen ES – Replace Classroom Outside Air Units & Original Library and multipurpose units (AHU-2 & 3)	\$657,873.00	5
Dumbarton ES – Classroom fresh air/ dehumidification	\$840K to 3.2M	3
Three Chopt ES - Classroom fresh air/ dehumidification	\$540K to 1.78M	2
Moody MS – Replace Cooling Tower	\$457,214.00	3
Sandston ES – Replace Cooling Tower	\$195,068.00	3
Sandston ES – MAU – 1	\$563,023.00	2
Donohoe ES – Replace Classroom Outside Air Units	\$477,890.00	5
Newbridge Learning Center – Replace Sprinkler System	\$101,372.00	1
Highland Springs HS – Replace Rooftop Units	\$4,454,172.00	3
Lakeside ES – Replace Admin HVAC	\$191,608.00	1
Mehfoud ES – Auditorium HVAC	\$226,338.00	1
Wilder MS – ERUs 1 & 2	\$769,276.00	4
Laburnum ES – Zone D HVAC (split systems)	\$350,394.00	5
Godwin HS – Gym HVAC	\$1,188,214.00	3
2016 Report Electrical Assessments		
School	Total Cost	Priority
Highland Springs HS (On hold)	\$61,010.00	1
Carver ES	\$142,859.00	8
Hermitage HS	\$522,080.00	11
Quioccasin MS	\$225,772.00	9
Three Chopt ES	\$49,470.00	12
2017 Report Energy Benchmarking		
School	Total Cost	Priority
Fair Oaks ES – Add VFDs	\$62,191.00	-
Fair Oaks ES – Replace MAU-2, 3, and 4	\$691,014.00	-
Fair Oaks ES – Provide Hot Gas Reheat Coils	\$55,281.00	-
Fairfield MS – Provide Bi-Polar Ionization	\$241,855.00	-
Fairfield MS – New Hot Water Coils	\$345,507.00	-
Laburnum ES – Add VFDs	\$62,191.00	-
Laburnum ES – Rooftop Units	\$449,159.00	-
Laburnum ES – Encapsulate and Condition Crawlspace	\$69,101.00	-

Laburnum ES – Replace MAU-2	\$449,159.00	-
Sandston ES – Add VFDs	\$62,191.00	-
Sandston ES – Seal and Insulate Joist Cavity Crawlspace	\$138,203.00	-
2017 Report VA Randolph B Building Moisture Investigation		
Project	Total Cost	Priority
Dual Sump Pump System and Alarm in Crawlspace	\$34,551.00	-
Insulate and Seal Crawlspace	\$96,742.00	-
Not Included in a Report		
School	Total Cost	Priority
Longdale ES – Dry Pipe Sprinkler Replacement	\$265,000.00	-