

# HARFORD COUNTY PUBLIC SCHOOLS

## COMPREHENSIVE MAINTENANCE PLAN

2022



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**BOARD OF EDUCATION OF HARFORD COUNTY**  
**INFORMATIONAL REPORT**  
**PRESENTATION OF**  
**THE 2022 EDUCATIONAL FACILITIES MASTER PLAN**  
**AND COMPREHENSIVE MAINTENANCE PLAN**  
**May 16, 2022**

Background Information:

The Rules, Regulations and Procedures for the Administration of the Public-School Construction Program (PSCP) require that each Local Education Agency (LEA), submit annually, an amended copy of the Educational Facilities Master Plan (EFMP) by July 1, 2022. Additionally, the PSCP require each LEA to prepare and submit an updated Comprehensive Maintenance Plan by October 1, 2022.

Discussion:

The EFMP is a planning tool that addresses the LEA's projected facility needs. Coordinating with HCPS stakeholders and the Harford County Government, the plan is reviewed and updated annually. The 2022 EFMP includes all the essential elements required by the State and has been reviewed by the appropriate school system personnel. The Capital Improvement Projects proposed in this plan will be the basis for the FY24 Capital Improvement Program. The EFMP Table of Contents and the Timeline of Capital Improvement Projects are attached.

The Timeline of Capital Projects includes project funding needs through FY 2030. The Balancing Enrollment Plan, approved by the Board of Education (BOE) on February 14, 2022, included two updates to the major project timeline. The first changed the John Archer School Replacement Project to a New Combination John Archer School and Elementary School. The second added Bel Air Middle School to the timeline to address both the systemic and capacity concerns at the school.

The State is completing a facility assessment of all public schools in Maryland. The results of that assessment will provide updated facility condition data. Once the assessments are complete, HCPS will evaluate the results with current identified facility needs, capacity demands, Blueprint requirements and funding outlook to update the capital improvement priorities in the out years.

The Comprehensive Maintenance Plan is a tool to develop and improve the facilities maintenance program. Utilizing the guidelines prescribed by the Interagency Committee, the Department of Facilities reviews and updates the plan annually. The 2022 Comprehensive Maintenance Plan Table of Contents is attached.

The information, analysis, and conclusions within these two documents serve as a guide in the development of the priorities for the Capital Improvement Program.

Superintendent's Recommendation:

The Superintendent of Schools recommends that the Board of Education accept the presentation of the 2022 Educational Facilities Master Plan and the 2022 Comprehensive Maintenance Plan.

# **HARFORD COUNTY PUBLIC SCHOOLS**

## **COMPREHENSIVE MAINTENANCE PLAN**

**May 16, 2022**

### **PURPOSE OF THE PLAN**

This comprehensive maintenance plan is established to develop, maintain, and/or improve the maintenance program of the public school system to support the delivery of educational programs and services and to provide a safe and healthy environment as effectively and efficiently as possible.

### **OBJECTIVES OF MAINTENANCE**

The primary objective of the maintenance program is the maintenance of buildings, grounds, and fixed equipment through repairs or replacement during the 40-year life expectancy of the building. Specifically, this can be further broken down as follows:

- 1.) To provide buildings which function at top efficiency.
- 2.) To maintain the plant buildings and grounds and fixed equipment in such a manner as to eliminate or reduce to acceptable levels - fires, accidents, and safety hazards.
- 3.) To provide continuous use of facilities without disruptions to the educational program.
- 4.) To protect public property by planned, scheduled, and repair/ preventive maintenance.
- 5.) To conserve energy by ensuring that the maximum results are obtained with minimum expenditure of energy.
- 6.) To provide maintenance program which will produce the maximum amount of maintenance for the minimum dollars expended.

### **MAINTENANCE CATEGORIES**

#### **Scheduled Maintenance**

- 1.) Preventive Maintenance - It is the goal of a preventive maintenance program that equipment will be inspected and serviced as required to prevent costlier failures. Attached with this Comprehensive Maintenance Plan is a detailed summary of the Preventive Maintenance Program. Along with this narrative is a TASK LISTING for one of the identified areas for Preventive Maintenance (Make-up Air Unit). Additionally, a list of thirty-three (33) identified areas of mechanical equipment is attached that is the major thrust of the program as well as the filter, drive belt and filter frame specifications.
- 2.) Scheduled Repairs - Scheduled maintenance has the goal of keeping the facilities in proper operating condition through regular service of equipment and facilities. It is, therefore, imperative that a schedule be established to insure proper budgeting.

The schedule itself is not an exact timetable because the exact month or even year of a failure or breakdown cannot be determined in advance. Rather, it is a prediction indicating that over a period of time a piece of equipment must be replaced or serviced if it is expected to function properly. The frequencies used are those recommended by the Interagency Committee or are based on local experiences and conditions.

Repairs or replacements are not made strictly by the schedules but are made based on the necessity of corrective action. The schedule or replacement must be flexible but will be accurate from a long-range budget-planning standpoint.

- 3.) Modernization and Alterations – Fire alarm replacement at Havre de Grace Elementary, partial paving and resurfacing at North Bend Elementary, roof replacement at Bel Air Middle, gym floor replacement at North Bend Elementary, and an installation of a gym divider curtain at Church Creek Elementary School.
- 4.) Preventive maintenance and repair on the boilers, sprinkler systems, stage rigging, and fire alarm systems throughout Harford County Public Schools. Preventive maintenance was performed at all three (3) natatorium locations.

#### Unscheduled Maintenance

- 1.) **Unscheduled Repairs** - Requests for repairs are received through our computerized work order system. They are then reviewed, prioritized, and assigned to appropriate personnel for completion. Acknowledgment copies are signed by school personnel when work is complete. A total of 16,250 work orders were submitted between 7/1/2021 – 4/7/2022. During that time period 14,534 work orders were completed. This computerized system allows for an accurate inventory control and an accurate tracking of labor, materials/parts and all associated departmental costs. At this time, all buildings are set up to submit work requests electronically.
- 2.) **Vandalism and Security Related Repairs** - Facilities is prepared to respond to any acts of vandalism or problems relating to proper building security twenty-four (24) hours a day seven (7) days a week.

While specifics relating to this area cannot be identified in advance, historical information and community trends are used to forecast needs.

#### Deferred Maintenance

- 1.) As a part of the prioritizing process, it becomes necessary, due to budget constraints, to defer some projects. This activity occurs in a minimal amount. Some other projects are deferred because of personnel shortages and are addressed later.

#### Capital Improvement Program

The Comprehensive Maintenance Plan (CMP) incorporates and mirrors many components of the CIP. Specific categories of the CMP are boiler replacement, floor covering replacement, fire alarm replacement, resurfacing, roof, HVAC, and vehicle replacement. Priorities are established with both programs in tandem.

## **BLEACHER INSPECTIONS AND REPAIRS**

School	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Bel Air High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
C. Milton Wright High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Edgewood High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Fallston High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Harford Technical High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Joppatowne High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
North Harford High	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Patterson Mill High/Middle	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Aberdeen Middle	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Bel Air Middle	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Edgewood Middle	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Fallston Middle	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Havre de Grace High/Middle	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Magnolia Middle	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
North Harford Middle	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Southampton Middle	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Abingdon Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Church Creek Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Deerfield Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Emmorton Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Forest Hill Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Forest Lakes Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Fountain Green Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Joppatowne Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
North Bend Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Prospect Mill Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Red Pump Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Ring Factory Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Center for Educational Opportunity	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Youth's Benefit Elementary	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor

# **BOILER INSPECTIONS**

School	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High	X	X		X		X	
Bel Air High			X		X		X
C. Milton Wright High	X	X		X		X	
Edgewood High	X	X		X		X	
Fallston High	X	X			X		X
Harford Technical High	X	X			X		X
Joppatowne High New One Will Be Coming)			X			X	
Patterson Mill High/Middle			X			X	
Aberdeen Middle	X	X		X		X	
Bel Air Middle			X		X		X
Edgewood Middle			X		X		X
Fallston Middle			X		X		X
Havre de Grace Middle/High			X		X		X
Magnolia Middle			X		X		X
North Harford Middle	X	X		X		X	
Southampton Middle			X		X		X
Abingdon Elementary	X	X		X		X	
Bakerfield Elementary			X		X		X
Church Creek Elementary	X	X		X		X	
Churchville Elementary	X	X		X		X	
Deerfield Elementary	X	X		X		X	
Emmorton Elementary (3)	X	X		X		X	
Forest Hill Elementary	X	X		X		X	
Forest Lakes Elementary	X	X		X		X	
Fountain Green Elementary			X		X		X
Hall's Cross Roads Elementary	X	X		X		X	
Havre de Grace Elementary			X		X		X

## **BOILER INSPECTIONS**

School	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Hickory Elementary			X		X		X
Homestead/Wakefield – Primary	X	X		X		X	
Homestead/Wakefield – Intermediate	X	X		X		X	
Jarrettsville Elementary			X		X		X
Joppatowne Elementary			X		X		X
Magnolia Elementary			X		X		X
Meadowvale Elementary	X	X		X		X	
North Bend Elementary			X		X		X
North Harford Elementary			X		X		X
Red Pump Elementary	X	X		X		X	
Ring Factory Elementary			X		X		X
Roye-Williams Elementary			X		X		X
Swan Creek	X	X		X		X	
Wm. Paca/Old Post Road – Primary	X	X		X		X	
Wm. Paca/Old Post Road – Inter.	X	X		X		X	
William S. James Elementary	X	X		X		X	
Youth’s Benefit Elementary			X		X		X
John Archer			X		X		X



## **BOILER REPLACEMENTS**

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High (2)	2004							
Bel Air High (6)	2009							
C. Milton Wright High (2)	1978					X		
Edgewood High (6)	2010							
Fallston High (5)	2015							
Harford Technical High (3)	00,01				X			
Joppatowne High (2)	2022	X	X					
Patterson Mill Middle/High (2)	2006							
Aberdeen Middle (2)	2003							
Bel Air Middle (5)	22,00		X (3of 5)					
Edgewood Middle (6)	2005				X			
Fallston Middle (2)	1992							
Havre de Grace Middle/High (4)	2021							
Magnolia Middle (4)	2015							
North Harford Middle (4)	2008							
Southampton Middle (4)	2010							
Abingdon Elementary (3)	1992			X				
Bakerfield Elementary (2)	1999							
Church Creek Elementary (5)	93,16				X			
Churchville Elementary (4)	1998							
Deerfield Elementary (2)	2010							
Emmorton Elementary (3)	1993							
Forest Lakes Elementary (2)	1997							
Fountain Green Elementary (2)	1993							
Hall's Cross Roads Elem. (2)	1993							
Havre de Grace Elementary (2)	1989							
Hickory Elementary (2)	1996					X Burner		
Homestead/Wakefield-Prim (2)	1988				X			
Homestead Wakefield-Inter (2)	1984				X			
Jarrettsville Elementary (3)	2012							

## **BOILER REPLACEMENTS**

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Joppatowne Elementary (2)	2009							
Magnolia Elementary (2)	1974							
Meadowvale Elementary (2)	1991							
North Bend Elementary (2)	2021							
North Harford Elementary (2)	2013							
Red Pump Elementary (3)	2011							
Ring Factory Elementary (2)	1990							
Swan Creek (2)	1965			X				
Wm. Paca/Old Post Road– Pri (2)	1974							
Wm. Paca/Old Post Road–Inter. (2)	2012							X
William S. James Elementary (4)	2014							
Youth’s Benefit (4)	2017							
John Archer (2)	2009				X			
A. A. Roberty (1)	2006			X				
Harford Glen (4)	2018/2020							

## **FIRE ALARM REPLACEMENTS**

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High	2004	X		X				
Bel Air High	2009							
C. Milton Wright High	1996				X			X
Edgewood High	2010							
Fallston High	2009							
Harford Tech. High	2000	X					X	
Joppatowne High	2020	X		X				
North Harford High	2005	X		X				
Patterson Mill High/Middle	2007							
Aberdeen Middle	2000							
Bel Air Middle	1994	X		X				
Edgewood Middle	2005	X		X				
Fallston Middle	1993					X		
Havre de Grace Middle/High	2021							
Magnolia Middle	2014							
North Harford Middle	2003							
Southampton Middle	2003							
Abingdon Elementary	2018							
Bakerfield Elementary	2000	X		X				
Bel Air Elementary	2018							
Church Creek Elem.	1994			X				
Churchville Elem.	2000							
Darlington Elementary	2016							
Deerfield Elementary	2010							
Dublin Elementary	2012							
Edgewood Elementary	2001							
Emmorton Elementary	2010							
Fountain Green Elem.	1993			X				

## **FIRE ALARM REPLACEMENTS**

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Forest Lakes Elementary	1997	X		X				
George D. Lisby @ Hillsdale	2021							
Hall's Cross Roads Elem.	1997	X		X				
Havre de Grace Elem.	2022		X					
Hickory Elementary	1997							
Homestead/Wakefield – Inter.	2009					X		
Homestead/Wakefield - Primary	1958					X		
Jarrettsville Elementary	2010							
Joppatowne Elementary	2009							
Magnolia Elementary	2009							
Meadowvale Elem.	2001							
Norrisville Elementary	2011							
North Bend Elementary	2020							
North Harford Elem.	2002							
Prospect Mill Elem.	2012							
Red Pump Elem.	2011	X		X				
Ring Factory Elem.	2007							
Riverside Elementary	2018							
Roye-Williams Elem.	2021							
Swan Creek	1965				X			
Wm. Paca/Old Post Rd. – Inter.	2013							
Wm. Paca/Old Post Rd.– Primary	2014							
William S. James Elem.	2004							
Youth's Benefit Elementary	2017							
John Archer	2006							
Harford Glen – Bldg. A	1997						X	
Harford Glen – Bldg. B	1997						X	
Harford Glen – Cafeteria	2014						X	

## **FLOOR COVERING REPLACEMENTS**

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High	2003							
Bel Air High	2009							
C. Milton Wright High	2010							
Edgewood High	2010							
Fallston High	2001							
Harford Technical High	2000							
Joppatowne High	2003							
North Harford High	2006							
Patterson Mill Middle/High	2007							
Aberdeen Middle	2003							
Bel Air Middle (Media)	2012							
Edgewood Middle	2003							
Fallston Middle	2022	X	X					
Havre de Grace Middle/High	2021							
Magnolia Middle	2000							
North Harford Middle	1997							
Southampton Middle	2000							
Abingdon Elementary	2021							
Bakerfield Elementary	2000							
Bel Air Elementary	2008							
Church Creek Elementary	1994				X			
Churchville Elementary	1998							X
Churchville Elementary – Gym	2021							
Darlington Elementary	2016							
Deerfield Elementary	2010							
Dublin Elementary	2011							
Edgewood Elementary	2002							
Emmorton Elementary	2021							

## **FLOOR COVERING REPLACEMENTS**

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Forest Hill Elementary	2000							
Fountain Green Elementary	1993			X				
Forest Lakes Elementary	1997							
George D. Lisby Elem. (VCT)	1968							
Hall's Cross Roads Elementary	2017							
Havre de Grace Elementary	2012							
Hickory Elementary	1997						X	
Homestead/Wakefield – Primary	1996							
Homestead/Wakefield – Inter.	2009							
Jarrettsville Elementary	2007							
Joppatowne Elementary	2009							
Magnolia Elementary	2021							
Meadowvale Elementary	2001							
Meadowvale Elementary – Gym	2020							
Norrisville Elementary	1997							
North Bend Elementary	2014							
North Bend Elementary - Gym	1991							
North Harford Elem. (VCT)	1997							
Prospect Mill Elementary	2006							
Red Pump Elementary	2011							
Ring Factory Elementary -Carpet	2010							
Ring Factory Elementary - Gym	2021							
Riverside Elementary (Media)	2010							
Roye-Williams Elementary	1995							
Swan Creek (Media)	2007							
Wm. Paca/Old Post Road – Prim.	1997							
Wm. Paca/Old Post Road – Inter.	1997							
William S. James Elementary	1997					X		
Youth's Benefit Elementary	2017							
John Archer (VCT)	1998							

## **HVAC SYSTEM REPLACEMENTS**

(Roof Top Units and Chillers)

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High (Chiller)	2005							
Bel Air High (Chiller)	2009							
C. Milton Wright High (Chiller)	2001							
Edgewood High (Chiller)	2010							
Fallston High (Chiller)	2016							
Harford Technical High (RT)	1998						X	
Joppatowne High (Chiller)	2022	X	X					
North Harford High	2007							
Patterson Mill High/Middle	2020							
Aberdeen Middle (Chiller)	2014							
Bel Air Middle	2007							
Edgewood Middle (Chiller) (2)	2018	X (1)			X			
Fallston Middle (Chiller)	2019							
Havre de Grace Middle/High	2021							
Magnolia Middle (Chiller)	2014							
North Harford Middle (Chiller)	2015							
Southampton Middle (Chiller)	2010							
Abingdon Elementary (Chiller)	2001/ 1992	X		X				
Bakerfield Elementary (Chiller)	1998	X		X				
Church Creek Elementary (Chiller)	2013							
Churchville Elementary (Chiller)	2017							
Darlington Elementary	2015							
Dublin Elementary	2015							
Edgewood Elementary (RT)	2001							
Emmorton Elementary (Chiller)	2013							
Forest Hill Elementary (Chiller)	2022	X	X					

# **HVAC SYSTEM REPLACEMENTS**

(Roof Top Units and Chillers)

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Forest Lakes Elementary (Chiller)	2014							
Fountain Green Elem. (Chiller)	2009				X			
George D. Lisby Elem. @ Hillsdale (VRF)	2021							
Hall's Cross Roads Elem. (Chiller)	2010					X		
Harford Glen	2009						X	
Havre de Grace Elem. (Chiller)	2013							
Hickory Elementary (Chiller)	2019					X (Burner)		
Homestead/Wakefield – I	2007				X			
Jarrettsville Elementary (Chiller)	2012							
Magnolia Elementary (Chiller)	2003							
Meadowvale Elementary (Chiller)	2002	X		X				
Norrisville Elementary (VRF)	2014							
North Bend Elementary	2020							
North Harford Elem. (VRF)	2012							
North Harford High	2006						X	
Patterson Mill Middle/High (2 Chillers)	2006							
Prospect Mill Elementary (RT)	2016							
Red Pump Elementary	2011							
Ring Factory Elementary (Chiller)	2015							
Riverside Elementary (VRF)	2018							
Roye-Williams Elementary (VRF)	2018							
Wm. Paca/Old Post Rd – I (Chiller)	2012							
Wm. Paca/Old Post Rd – Primary	1996							
William S. James Elementary (Chiller)	2014							
Youth's Benefit Elementary (Chiller)	2017							
John Archer	2009							
K Buildings (Total of 14)	68,70							



## **PAINTING**

School	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High		X					
Bel Air High				X			
C. Milton Wright High							
Edgewood High							
Fallston High			X				
Harford Technical High						X	
Joppatowne High					X		
North Harford High							X
Aberdeen Middle						X	
Bel Air Middle					X		
Edgewood Middle							
Fallston Middle				X			
Havre de Grace Middle/High							
Magnolia Middle	X		X				
North Harford Middle							
Patterson Mill Middle/High							
Southampton Middle		X					
Abingdon Elementary		X					
Bakerfield Elementary							
Bel Air Elementary				X			
Church Creek Elementary				X			
Churchville Elementary							
Darlington Elementary			X				
Deerfield Elementary							
Dublin Elementary			X				
Edgewood Elementary	X	X					
Emmorton Elementary				X			

## **PAINTING**

School	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Forest Hill Elementary							
Forest Lakes Elementary							X
Fountain Green Elementary						X	
George D. Lisby @ Hillsdale	X						
Hall's Cross Roads Elementary							X
Havre de Grace Elementary						X	
Hickory Elementary					X		
Homestead / Wakefield - Primary	X						
Homestead / Wakefield - Intermediate	X						
Jarrettsville Elementary							
Joppatowne Elementary				X			
Magnolia Elementary					X		
Meadowvale Elementary		X					
Norrisville Elementary							
North Bend Elementary		X					
North Harford Elementary							X
Prospect Mill Elementary							
Red Pump Elementary							
Ring Factory Elementary							
Riverside Elementary					X		
Roye-Williams Elementary	X						
Swan Creek							
Wm. Paca/Old Post Road - Primary							
Wm. Paca/Old Post Road - Intermediate							
Wm. S. James Elementary					X		
Youth's Benefit							X
John Archer						X	

## **PAVING – OVERLAY & MAINTENANCE**

School	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High – South							
Bel Air High							
C. Milton Wright High							
Edgewood High							
Fallston High							
Harford Technical High					X		
Joppatowne High							
North Harford High							
Aberdeen Middle							X
Bel Air Middle							
Edgewood Middle							
Fallston Middle							
Havre de Grace Middle/High							
Magnolia Middle							
North Harford Middle						X	
Patterson Mill Middle/High							
Southampton Middle							
Abingdon Elementary							
Bakerfield Elementary							
Bel Air Elementary							
Church Creek Elementary							
Churchville Elementary							
Darlington Elementary							
Deerfield Elementary							
Dublin Elementary	X						
Edgewood Elementary							
Emmorton Elementary							

## **PAVING – OVERLAY & MAINTENANCE**

School	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Forest Hill Elementary							
Forest Lakes Elementary							
Fountain Green Elementary							
George D. Lisby Elem. At Hillsdale						X	
Hall's Cross Roads Elementary	X	X					
Havre de Grace Elementary						X	
Hickory Elementary							
Homestead/Wakefield – Primary			X				
Homestead/Wakefield – Intermediate			X				
Jarrettsville Elementary							
Joppatowne Elementary							
Magnolia Elementary							
Meadowvale Elementary			X				
Norrisville Elementary							
North Bend Elementary	X	X					
North Harford Elementary	X	X					
Prospect Mill Elementary							
Red Pump Elementary							
Ring Factory Elementary							
Riverside Elementary							
Roye-Williams Elementary							
Swan Creek							
Wm. Paca/Old Post Road – Primary				X			
Wm. Paca/Old Post Road-Intermediate				X			
William S. James Elementary							
Youth's Benefit Elementary							
John Archer							
Hickory Annex							

## ROOF REPLACEMENTS

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Aberdeen High	2004							
Bel Air High	2009							
C. Milton Wright High	1995, 2003, 2006							
Edgewood High	2010							
Fallston High	2008, 2011							
Harford Technical High	1998, 1999						X	
Joppatowne High	2008, 2018							
North Harford High	1993, 1999, 2007					X		
Aberdeen Middle	2020							
Bel Air Middle	2021							
Edgewood Middle	1997, 2005							
Fallston Middle	1993, 2006							
Havre de Grace Middle/High	2020							
Magnolia Middle	2002							
North Harford Middle	2008							
Patterson Mill Middle/High	2007							
Southampton Middle	2009							
Abingdon Elementary	1992, 2001							
Bakerfield Elementary	2022	X	X					
Bel Air Elementary	2007							
Church Creek Elementary	1994, 2001							
Churchville Elementary	2016							
Darlington Elementary	1993							
Deerfield Elementary	2010							
Dublin Elementary	2006							
Edgewood Elementary	2001							
Emmorton Elementary	1994							
Forest Hill Elementary	2000							

## **ROOF REPLACEMENTS**

School	Date Installed	Planned FY 22	Actual FY 22	Planned FY 23	Planned FY 24	Planned FY 25	Planned FY 26	Planned FY 27
Forest Lakes Elementary	1997							
Fountain Green Elementary	1993							
George D. Lisby @ Hillsdale	2014							
Hall's Cross Roads Elementary	1992							
Havre de Grace Elementary	1987, 1991, 1995			X				
Hickory Elementary	2020							
Homestead /Wakefield - Primary	1990, 1991, 1996							
Homestead /Wakefield – Interm.	1985, 1997							
Jarrettsville Elementary	2003							
Joppatowne Elementary	1994, 1995, 2008							
Magnolia Elementary	2001							
Meadowvale Elementary	2001							
Norrisville Elementary	1996, 1997							
North Bend Elementary	2011							
North Harford Elementary	2018							
Prospect Mill Elementary	1993, 2011				X			
Red Pump Elementary	2010							
Ring Factory Elementary	2010							
Riverside Elementary	1993, 1995							
Roye Williams Elementary	1993, 1995, 2004							
Swan Creek	2022	X	X					
Wm. Paca/Old Post Road-Pri	1991, 1992, 1999							X
Wm. Paca/Old Post Road-Int	1997							X
William S. James Elementary	1995							
Youth's Benefit Elementary	2017							
John Archer	2005							

## **CLEANING OF ON-SITE WASTEWATER SYSTEMS**

<b>School</b>	<b>Planned FY 22</b>	<b>Actual FY 22</b>	<b>Planned FY 23</b>	<b>Planned FY 24</b>	<b>Planned FY 25</b>	<b>Planned FY 26</b>	<b>Planned FY 27</b>
Aberdeen High – Grease Trap	X	X	X	X	X	X	X
Bel Air High – (2) Grease Traps	X	X	X	X	X	X	X
Edgewood High – (2) Grease Traps	X	X	X	X	X	X	X
Fallston High – WWTP & Grease Trap	X	X	X	X	X	X	X
Harford Technical High - WWTP & Grease Traps	X	X	X	X	X	X	X
North Harford High - WWTP & Grease Trap	X	X	X	X	X	X	X
Fallston Middle – Grease Trap	X	X	X	X	X	X	X
North Harford Middle – Grease Trap	X	X	X	X	X	X	X
Patterson Mill Middle/High - Grease Trap	X	X	X	X	X	X	X
Churchville Elementary – Septic Tank	X	X	X	X	X	X	X
Darlington Elementary - Septic Tank	X	X	X	X	X	X	X
Deerfield Elementary – Grease Trap	X	X	X	X	X	X	X
Dublin Elementary – Septic Tank	X	X	X	X	X	X	X
Edgewood Elementary – Grease Trap	X	X	X	X	X	X	X
Forest Hill Elementary–Septic Tank & Grease Trap	X	X	X	X	X	X	X
Jarrettsville Elementary – Septic Tank	X	X	X	X	X	X	X
Norrisville Elementary–Septic Tank &Grease Trap	X	X	X	X	X	X	X
North Bend Elementary – Septic Tank	X	X	X	X	X	X	X
North Harford Elementary – Septic Tank	X	X	X	X	X	X	X
Prospect Mill Elementary – Grease Trap	X	X	X	X	X	X	X
Red Pump Elementary – Grease Trap	X	X	X	X	X	X	X
Youth’s Benefit – WWTP & Grease Trap	X	X	X	X	X	X	X
Harford Glen – Grease Trap	X	X	X	X	X	X	X
Harford Glen House – Septic Tank	X	X	X	X	X	X	X
John Archer – Grease Trap	X	X	X	X	X	X	X

## UNDERGROUND STORAGE TANKS

SCHOOL	PRODUCT	GALLONS	TANK No.		INSTALL	LAST	PASS/ FAIL	TEST	TYPE OF TANK	TEST PIPES	MAN	CERTON FILE
					DATE	TEST		COMPANY		PLACED	WAY	
<b>2022</b>												
ABERDEEN HIGH-CEO	#2 OIL	15000	1		1987	2008	P	Eldreth	STIP-3	YES	NO	YES
ABERDEEN MIDDLE	#2 OIL	10000	1		1999	2009	P	Eldreth	ST-FRP	YES	YES	YES
ABINGDON ELEM	#2 OIL	15000	1		1992	2009	P	Eldreth	ST-FRP	YES	YES	YES
ABINGDON ELEM Gen	DIESEL	2000	1		1992	2009	P	Eldreth	ST-FRP	YES	YES	YES
CHURCHVILLE ELEM	#2 OIL	10000	1		1995	2009	p	Eldreth	ST-FRP	YES	YES	YES
DARLINGTON ELEM	#2 OIL	10000	1		1992	2008	P	Eldreth	ST-FRP	YES	YES	YES
FALLSTON MIDDLE	#2 OIL	20000	1		1993	2013	P	Rellek	ST-FRP	YES	YES	YES
HALL'S CROSS ROADS	#2 OIL	10000	1		1987	2015	P	Eldreth	Steel	YES	YES	YES
HOMESTEAD ELEM	#2 OIL	10000	1		1966	2013	P	Eldreth	Steel	YES	YES	YES
MAGNOLIA ELEM.	#2 OIL	10000	1		1990	2009	P	Eldreth	ST-FRP	YES	YES	YES
WAKEFIELD ELEM	#2 OIL	10000	1		1958	2013	P	Eldreth	Steel	NO	YES	YES
NORTH BEND ELEM.	#2 OIL	15000	1		1995	2016	P	Eldreth	ST-FRP	YES	YES	YES
OLD POST ROAD	#2 OIL	10000	1		1990	2009	P	Eldreth	Steel	NO	YES	YES
<b>2023</b>												
HOMESTEAD ELEM	#2 OIL	10000	1		1966	2016	P	Eldreth	Steel	YES	YES	YES
WAKEFIELD ELEM.	#2 OIL	10000	1		1958	2016	P	Eldreth	Steel	NO	YES	YES
<b>2024</b>												
BAKERFIELD ELEM.	#2 OIL	10000	1		1993	2014	P	Eldreth	ST-FRP	YES	YES	YES
CHURCHVILLE ELEM.	#2 OIL	10000	1		1995	2014	P	Eldreth	ST-FRP	YES	YES	YES
HICKORY ANNEX-BUS	DIESEL	10000	2		1993	2014	P	Eldreth	ST-FRP	YES	YES	YES
HOMESTEAD ELEM.	#2 OIL	10000	1		1966	2016	P	Eldreth	Steel	YES	YES	YES
WAKEFIELD ELEM.	#2 OIL	10000	1		1958	2016	P	Eldreth	Steel	NO	YES	YES
OLD POST ROAD ELEM.	#2 OIL	10000	1		1990	2014	P	Eldreth	ST-FRP	YES	YES	YES
<b>2025</b>												
ABERDEEN HIGH-CEO	#2 OIL	15000	1		1987	2008	P	Eldreth	STIP-3	YES	NO	YES
HALL'S CROSS ROADS	#2 OIL	10000	1		1987	2015	P	Eldreth	Steel	YES	YES	YES
HOMESTEAD ELEM	#2 OIL	10000	1		1966	2016	P	Eldreth	Steel	YES	YES	YES
WAKEFIELD ELEM.	#2 OIL	10000	1		1958	2016	P	Eldreth	Steel	NO	YES	YES
<b>2026</b>												
HOMESTEAD ELEM.	#2 OIL	10000	1		1966	2016	P	Eldreth	Steel	YES	YES	YES
WAKEFIELD ELEM.	#2 OIL	10000	1		1958	2016	P	Eldreth	Steel	NO	YES	YES



## UNDERGROUND STORAGE TANKS

SCHOOL	PRODUCT	GALLONS	TANK No.		INSTALL	LAST	PASS/ FAIL		TEST	TYPE OF TANK	TEST PIPES	MAN	CERTON FILE
2027													
ABERDEEN HIGH-CEO	#2 OIL	15000	1		1987	2008	P		Eldreth	STIP-3	YES	NO	YES
ABERDEEN MIDDLE	#2 OIL	10000	1		1999	2009	P		Eldreth	ST-FRP	YES	YES	YES
ABINGDON ELEM	#2 OIL	15000	1		1992	2009	P		Eldreth	ST-FRP	YES	YES	YES
ABINGDON ELEM Gen	DIESEL	2000	1		DATE	TEST	P		COMPANY	ST-FRP	PLACED	WAY	YES
DARLINGTON ELEM	#2 OIL	10000	1		1992	2008	P		Eldreth	ST-FRP	YES	YES	YES
FALLSTON MIDDLE	#2 OIL	20000	1		1993	2013	P		Rellek	ST-FRP	YES	YES	YES
HALL'S CROSS ROADS	#2 OIL	10000	1		1987	2015	P		Eldreth	Steel	YES	YES	YES
HOMESTEAD ELEM	#2 OIL	10000	1		1966	2013	P		Eldreth	Steel	YES	YES	YES
MAGNOLIA ELEM.	#2 OIL	10000	1		1990	2009	P		Eldreth	ST-FRP	YES	YES	YES
WAKEFIELD ELEM	#2 OIL	10000	1		1958	2013	P		Eldreth	Steel	NO	YES	YES
NORTH BEND ELEM.	#2 OIL	15000	1		1995	2016	P		Eldreth	ST-FRP	YES	YES	YES
OLD POST ROAD	#2 OIL	10000	1		1990	2009	P		Eldreth	Steel	NO	YES	YES

## **COMPLIANCE OVERVIEW**

Environmental compliance requirements impact every area of facilities. Regulations dictate close attention to issues such as asbestos containing materials, integrated pest management, underground storage tank systems, wastewater, lead containing materials, hazardous substances, storm water management, carbon monoxide, drinking water quality, indoor air, and radon. Compliance encompasses the conditions, safety and operation of all the buildings and occupants throughout the school system and the Department of Facilities personnel. When age and condition of buildings and equipment warrant additional monitoring, environmental personnel ensure acceptable performance is maintained by visual and quantitative analysis. Monitoring of water treatment is performed in accordance with the Lead and Copper Rule and Safe Drinking Water Act. Additionally, water system corrosion control is administered as prescribed by Maryland Department of Environment (MDE). Concerns about indoor air quality are addressed by bi-annual site assessments. Any additional mechanical work required is coordinated through the Department of Facilities. Monitoring for radon has been done in buildings throughout Harford County Public Schools. Follow-up actions including remediation and monitoring has been performed at sites where radon levels indicated. Additional monitoring will also be performed periodically to ensure continued acceptable radon levels in Harford County Public Schools buildings. Harford County Public Schools Facilities responds effectively to the constantly increasing number and complexity of Environmental Regulations.

## **INVESTIGATION OF AN INDOOR AIR QUALITY PROBLEM**

Date Notified: \_\_\_\_\_ Who Reported: \_\_\_\_\_

Position: \_\_\_\_\_

Building: \_\_\_\_\_

Building Location: \_\_\_\_\_

Designated Investigator: \_\_\_\_\_

Position: \_\_\_\_\_

On-Site Evaluation: Date: \_\_\_\_\_ Time: \_\_\_\_\_

People Present: \_\_\_\_\_

I. Description of problem/symptoms:

II. Physical assessment:

III. Recommendation:

Signatures: Investigator: \_\_\_\_\_ Date: \_\_\_\_\_

Principal: \_\_\_\_\_ Date: \_\_\_\_\_



## **HARFORD COUNTY PUBLIC SCHOOLS** **PERIODIC SURVEILLANCE**

Periodic surveillance shall be performed formally by Harford County Public School personnel approximately every six-months. Please return form Ryan Barrie, Environmental Specialist, in the Facilities Department.

_____	_____
School Name	Today's Date
_____	_____
Date Noted	Performed by: Name and Position

Changes in Material: \_\_\_\_\_  
\_\_\_\_\_

Conditions:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **HCPS Building Efficiency and Sustainability Survey**

School: \_\_\_\_\_ Date: \_\_\_\_\_  
 Rooms Inspected: \_\_\_\_\_ Inspected by: \_\_\_\_\_

**This survey is to be used to evaluate the efficiency of the HCPS site including the building and surrounding grounds. It is meant to be a useful tool in determining areas of progress in addressing efficiency and conservation issues, as well as identifying additional areas of concern. The areas inspected in this checklist are outlined in the administrative procedure's documents for HCPS.**

<b>Site Grounds</b>	<b>Y</b>	<b>N</b>	<b>Comment</b>
Outside security lights are functioning			
Outside security lights are off in day-light hours			
Outside parking and sidewalk lights are functioning			
Outside parking and sidewalk lights are off during day-light hours			
Recycling and waste receptacles are on-site and properly used			
Recycling receptacles are available for community and event use			
Appropriate use of shading and canopy use			
Evidence of Ground Erosion or run-off			
<b>Building Envelope</b>	<b>Y</b>	<b>N</b>	
Exterior doors and windows are functioning properly and draft free			
Weather stripping and caulk are appropriate and functioning			
Structure is sound with no serious penetrations or areas of draft			
Window coverings are used appropriately to maximize daylight use			
Window coverings are closed in evening hours to resist temp change			
Recycling and waste receptacles are on-site and properly used			
<b>Resource usage</b>	<b>Y</b>	<b>N</b>	
Sinks and water fountains appear to be functioning and leak free			
Toilets are functioning and do not appear to be running			
Paper towel and toilet paper dispensers are functioning			
<b>Electrical</b>	<b>Y</b>	<b>N</b>	<b>Comment</b>
Light level is appropriate for needs			
Light level is appropriately efficient i.e. fluorescent			
Lights are off in unoccupied areas of the building			
Fixtures are clean and functioning			
Accent lighting is minimal and appropriately used			
Half-lighting or task-lighting is used where appropriate			



**HARFORD COUNTY PUBLIC SCHOOLS**  
**Preventive Maintenance**  
**July 2022**

**Status/Remarks**

Preventive maintenance is the proactive application of proper inspection and servicing techniques to plant and equipment systems associated with the Harford County Public Schools on a continuous selective cyclical and routine basis.

With the augmentation of a Computerized Maintenance Management System, this approach will afford the advantage of protecting capital investment by permitting the application of adjustments, replacement of wear and tear components and calibration of devices under controlled conditions, and either effecting quick, simple solutions or else generating pertinent work orders to the cognizant maintenance section for repair before the equipment fails or breaks down.

**Representative Accomplishments**

1. Essential Equipment Preventive Maintenance Field Audits of the entire school system, an open-ended and ongoing process, including the formulation & usage of projections for new school facilities, those schools undergoing major renovation/reconstruction & the prompt replacement of projection data with actual data – complete with impact analysis – upon the completion of the new/major renovation/reconstruction activity.
2. The formulation & periodic updating of equipment task listing criterion for over 30 major and sub-equipment categories serving as a basis upon which to plan, organize, analyze & process a high volume of data.
3. The development, utilization, and continuous revision of an analytical technique of a Preventive Maintenance Subtotals Equipment Task Network, to include the establishment of per unit annual coverage capability factors, as the essential vehicle to array and manage the equipment regarding frequency and specifics of PM service intervals within the five major HCPS geographical school zones delineated by PM. This approach facilitates obtaining maximum economy and efficiency.
4. The identification of selective essential rates of coverage of the school system, given the available PM staffing levels, system size & criticality of service to specify realistic initial/modified program implementation levels as well as to provide a sound foundation and benchmarking for future expansion.
5. The application of functional, durable identification labeling to the thousands of items of equipment audited - to include ongoing updating, as required (replacements, modifications, etc.). This includes innovative classroom ceiling grid labeling for those equipment installations aloft above ceiling level.

## CONTINUED

6. Development, utilization, and continuous updating of logistical system encompassing the PM Team HVAC air filter/frame general specifications, comprehensive expendables inventory instruments for drive belts, air filter media and air filter frames and procurement contract rider for the last 3(+) consecutive years with the Baltimore and/or Howard County Public School Systems and pricing request/order procedures. Some samples are included.
7. The implementation of an Electric Service Entrance Equipment Maintenance/PM Program to provide much needed attention to the Main Electrical Services at the schools on a regular basis to include substantial follow-up on deficiencies encountered. Proactive role in the implementation of a MABE funded Thermographic Imaging/Infrared Testing thrust for electrical distribution equipment which further assists the Maintenance/PM action by helping uncover incipient deficiencies before they cause unscheduled electrical outages, equipment damage or possibly fire.

A sample Preventive Maintenance checklist for annual indirect gas fired make-up air unit inspections is attached. The generation/modification of PM checklists is an evolving, ongoing process.



**HARFORD COUNTY PUBLIC SCHOOLS**  
**Preventive Maintenance Program**  
**JULY 2022**  
**Preventive Maintenance Inspection Frequency**

Item	Description	A	Bi-A	Semi-A	Tri-A	<u>Quar</u>	Semi-Q	Mo.	Bi-Mo.	FI*	*** a.
1.	Air Handling Unit (AHU)	X		X**		X				X	
2.	Circulator Pump (CP)	c. X									
3.	Circulator Pump (CP) >=50HP				c. X						X
4.	Exhaust Fan (EF)	X									
5.	Vane Axial Exhaust Fan (VAEF)	a · x	a · x					b. X			
6.	Heat Pump (HP) – General			X						X	
7.	Heat Pump (HP) – Relocatable						X				
8.	Water to Air Geothermal Heat Pump	X		X				X			
9.	Roof Top Unit (RTU)	X				X				X	
10.	Return Air Fan (RAF)	X						X			
11.	Supply Air Fan (SAF)	X		X				X		X	
12.	Air Cleaner/Purifier			X**				X			
13.	Unit Heater Ventilator Electrical (UHV-E)			X		X				X	
14.	Energy Recovery Ventilator	X				X		X			
15.	Energy Recovery Unit (ERU)	X		X		X		X			
16.	Electric Unit Heater (EUH)			X							
	Cabinet Unit Heater Electrical (CUH)	X				X					
18.	A/C Only Unit (Electrical)			X		X				X	
19.	Fan Coil Unit Electrical (FCU)	X				X					
20.	Fan Powered Mixing Box Electrical (FPMB)			X		X					

## **Preventive Maintenance Inspection Frequency**

Item	Description	A	Bi-A	Semi-A	Tri-A	Quar	Semi-Q	Mo.	Bi-Mo.	FL *	*** a.
21.	UHV – Gas			X							
22.	Unit Heater – Gas (GUH)			X							
23.	Indirect Gas Fired Make-up Air Unit	Sample X		X		X					
24.	UHV – Water/Steam			X		X				X	
25.	Cabinet Unit Heater – Water Steam (CUH)	X								X	
26.	Fan Coil Unit – Water/Steam (FCU)	x				X				X	
27.	A/C only Unit (Water/Steam)			X		X					
28.	Horizontal A/C Unit (H A/C)			X					X		
29.	Fan Powered Mixing Box – Water/Steam (FPMB)			X		X				X	
30.	Unit Heater (UH) Water/Steam			X							
31.	Wall Fan (WF)	x									
32.	Water Cooler (WC)			X							
33.	Window A/C (WAC)			X							

Sample Preventive Maintenance Checklist attached.

\* Air filter change and inspection service only – custom, variable frequency.

\*\*Selectively applied, custom service.

\*\*\* Overhaul/General Take-Down Inspection. Frequency TBD, hourly basis.

• At selective essential rates of coverage. PM service frequencies are custom tailored to each facility.

Not all PM service frequencies apply to all schools.

- a. By others – Outside the scope of PM
- b. Or at every 720 hrs. of operation using retrofitted elapsed run time hour meter.
- c. Or, for 1760 rated RPM machine motors, at each 7400 hours of accumulated run time (4250 hrs., machine pumps) – NEMA 280-360 fr; 3500 hours NEMA 360-5800; with prescribed periodic purging and replacement of lubricant – or per manufacturer's instructions – using retro-fitted elapsed run time hours metering.

**HARFORD COUNTY PUBLIC SCHOOLS**  
**TASK LISTING FOR PREVENTIVE MAINTENANCE**  
**CLASSIFICATIONS FORM**  
**GAS FIRED MAKE-UP AIR UNIT (560IGFMUAU) ANNUAL INSPECTION**  
**(FALL)**

**SAFETY PRECAUTIONS**

- Lock-out the gas and the electrical power to the unit before performing any maintenance or service operations on this equipment.
- Wait for all rotating components to come to a complete stop prior to entering the equipment.
- Clear snow away from roof mounted units. Keep the snow clear of the intake, access doors and any vent piping.
- Do not allow water or solvents to enter the motor or bearings. Motors and bearings should never be sprayed with steam, water or solvents.
- Exercise caution when venting the coils. High pressure and/or high temperature fluids can cause serious injury.

**GENERAL INSPECTION PROCEDURES**

1. ***Fan Wheel:*** Keep the fan wheel clean for proper operation. Accumulated dirt and oil will cause imbalance.
2. ***Cooling Coils***
  - a. Inspect the coil for signs of corrosion and/or leaks. Repair any leaks as required.
  - b. Inspect coil surface for foreign material. If the coil surface needs to be cleaned, then direct the cleaning agent into the leaving airside so that foreign material will be washed out of the coil rather than being pushed farther into it.
  - c. Inspect and clean the drain pan to prevent the growth of algae and other organisms. Add condensate drain capsules as needed.
3. ***Chilled Water Coils***
  - a. Test the circulating fluid for sediment, corrosive products, and biological contaminants and take the necessary corrective measures.
  - b. Maintain adequate fluid velocities and proper filtering of the fluid.
  - c. If automatic air vents are not utilized, periodic venting of the coil is recommended to remove accumulated air.

#### 4. ***Evaporative Coolers***

- a. Shut off the water and drain all the lines when the outside temperature drops below 45°F.
- b. Remove drain plugs for the winter.
- c. Clean all interior parts of any mineral deposits or foreign materials that may have built-up during the cooling season.
- d. Replace any worn or non-functioning parts.

#### 5. ***Gas Line***

- a. Remove the drip leg and clean any liquid or debris that may have accumulated.
- b. After cleaning the drip leg, reattach it.

#### 6. ***Vent Piping:*** Remove any debris from the drip legs in the combustion air and exhaust pipes.

#### 7. ***Burners and Orifices:*** Before each heating season examine the burners and gas orifices to make sure they are clear of any debris such as spider webs, etc. Then clean the burners as follows:

- a. Turn off both electrical and gas supplies to the unit.
- b. Disconnect union between manifold and gas valve.
- c. Remove manifold and burner assembly.
- d. Inspect and clean orifices and burners as necessary. Avoid using any hard or sharp instruments which could cause damage to the orifices or burners.
  1. Remove any soot deposits from the burner with a wire brush.
  2. Clean the ports using an aerosol degreaser or compressed air.
  3. Wipe the inside of the burner clean. Cleaning the burner with a degreaser will retard the future build-up of dirt.
  4. Before reinstalling the burner assembly, look down the heat exchanger tubes to make sure they are clear of any debris.
  5. Reinstall manifold and burner assembly, reconnect wire leads and gas supply piping.
  6. Turn on the electrical power and gas supply.
  7. Follow the start-up procedure to light the burners and verify proper operation.

## 8. *Heat Exchanger*

- a. Check the heat exchanger annually for cracks.
  - b. If a crack is detected, the heat exchanger should be replaced before the unit is put back into operation.
  - c. Airflow across the heat exchanger should be checked to make sure the blower is operating properly.
9. **Flue Collector Box:** The flue passageway and flue collector box should be inspected prior to each heating season and cleared of any debris.
10. **Electrical Wiring:** The electrical wiring should be checked annually for loose connections or deterioration.

### *Tools needed to complete the Preventive Maintenance:*

Hand Tools	Wire Brush	Fiberglass step ladder, as required.
VOM	Respirator	Full face safety goggles
H2O Test Kit	Pipe Cleaner	Portable Air Compressor
Vacuum Cleaner		

**Materials List:** Coil Cleaner, Aerosol Degreaser, Condensate Drain Tabs

### *Special Notes:*

1. Coordination with Energy Manager required in advance if building is otherwise shut-down by EMS – e.g., schools closed.
2. Disconnect and secure to the OFF position, all sources of power to the equipment prior to servicing, per standard Lock-Out Tag-Out Procedures. In the case of the exception in which the equipment must be temporarily energized for troubleshooting, observation, diagnostic measurements or related servicing actions, **exercise extreme caution.**
3. Check all work and restore power upon completion of the Preventive Maintenance work activity.
4. For further technical details, refer to the instruction manual.
5. Safety glasses and gloves required as needed.

## PREVENTIVE MAINTENANCE – AIR FILTER ORDER FORM

[illegible]

**SUBTOTAL: [Grand Total If PGS 2/3**

**Not Used]**

AIR FILTER/FILTER FRAME  
ORDER ☐ PRICE REQUEST ☐

WILL CALL/FAX/E-MAIL ☐ PLEASE CALL/FAX/E-MAIL ORDER ☐  
FOR CONFIRMATION

TRACKING P.O. #: \_\_\_\_\_

Date: \_\_\_\_\_

PM Zone: \_\_\_\_\_

## PREVENTIVE MAINTENANCE – AIR FILTER ORDER FORM

[illegible]

AIR FILTER/FILTER FRAME  
ORDER ☐ PRICE REQUEST ☐

WILL CALL/FAX/E-MAIL ☐ PLEASE CALL/FAX/E-MAIL ☐  
FOR CONFIRMATION

TRACKING P.O. #: \_\_\_\_\_

Date: \_\_\_\_\_

PM Zone: \_\_\_\_\_

## **PREVENTIVE MAINTENANCE – AIR FILTER ORDER FORM**

[illegible]

**SUBTOTAL:**

GRAND TOTAL:

AIR FILTER/FILTER FRAME  
ORDER ☐ PRICE REQUEST ☐

WILL CALL/FAX/E-MAIL ☐ PLEASE CALL/FAX/E-MAIL ☐  
FOR CONFIRMATION

TRACKING P.O. #: \_\_\_\_\_

Date: \_\_\_\_\_

PM Zone: \_\_\_\_\_



## **PREVENTIVE MAINTENANCE – AIR FILTER ORDER FORM**

[illegible]

SUBTOTAL:

GRAND TOTAL:

## AIR FILTER/FRAME

WILL CALL/FAX/E-MAIL ☐ PLEASE CALL/FAX/E-MAIL ORDER ☐

☐

## PRICE REQUEST FOR CONFIRMATION

TRACKING P.O. #:

Date: \_\_\_\_\_

PM Zone:

## PREVENTIVE MAINTENANCE – AIR FILTER ORDER FORM

[illegible]

SUBTOTAL:

GRAND TOTAL:

AIR FILTER/FILTER FRAME  
ORDER ☐ PRICE REQUEST ☐

WILL CALL/FAX/E-MAIL ☐ PLEASE CALL/FAX/E-MAIL ☐  
FOR CONFIRMATION

TRACKING P.O. #: \_\_\_\_\_

Date: \_\_\_\_\_

PM Zone:

# WORK ORDER PROGRAM

HARFORD COUNTY PUBLIC SCHOOLS

My Account(46463388)

SchoolDude  
apps

- Application Links -

Logout



Maintenance  
DIRECT

Home

Calendar

New Work Order

Reports

Services

Account Setup

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Thank you for your partnership. As always - Brightly is beside you!

## Quick Launch

New Request  
Print WO Batch  
Account Settings  
More Services  
My SchoolBuilding

### LOGIN HERE

Hello Jan Abbott!  
If you are not Jan Abbott please click [here](#).

## Related Articles

**Case Study #1: "Customer Service on Steroids"** - Charlie McGinnis

### WORK ORDERS BY STATUS

Last 10 Work Requests

Period

#### Request Totals

- ☒ 93 New Request
  - 0 UNASSIGNED
  - 37 In Approval Process
  - 2 PMs
- ☒ 4345 Work In Progress
  - 1296 PMs
- ☒ 323406 Complete
  - 43897 PMs
- ☒ 5045 Closed Work Orders
  - 1606 PMs
- ☒ 2996 Declined
  - 361 PMs
- ☒ 30 Parts on Order
- ☒ 8271 Duplicate Request
  - 267 PMs
- ☒ 6002 Void
  - 1747 PMs
- ☒ 33 On Hold
- ☒ 1 Waiting More Information
- ☒ 19 Open Extended
  - 8 Pending
  - 8 PMs
- ☒ 46 Waiting Funding
- ☒ 2 Deferred
  - 2 PMs
- ☒ 38 Forwarded

Refresh Pie

Counts are based on Status Date for each selected period. This reflects the actual date of the last status change.

Work In Process



- Forwarded
- Deferred
- Waiting Funding
- Pending
- Open Extended
- Waiting More Information
- On Hold

### WORK CENTER

CALENDAR

4/12/2022 WORK  
(Tuesday)

OPEN PM WORK 1308

OTHER OPEN WORK 3307

TOTAL OPEN WORK 4615

### Information Analysis

**Areas**  
**Budget**  
**Buildings**  
**Classifications**  
**Crafts**  
**Employees**  
**Equipment**  
**Equipment Usage**  
**Groups**  
**Locations**  
**Manufacturers**  
**Outstanding Work**  
**Priority**  
**Projects**  
**Purpose**  
**Saved Actions**  
**Status**  
**Suppliers**  
**Types**  
**Transactions**  
**Work Load/Assignment**  
**Work Order**

Custom Category

### Did you know?



To cook an egg, a sidewalk needs to be 158°F.

### ASSIGNED WORK

## WORK ORDER COMPARISONS

<b>Fiscal Year</b>	<b># Created</b>	<b># Completed</b>	<b>% Complete</b>	<b>Average Work Days to Complete</b>	<b>% Routine (No PM) Complete &lt;= 7 Work Days</b>	<b>% PM Complete &lt;= 22 Work Days</b>
2021/2022	16357	12237	75%	16	56%	82%
2020/2021	19238	17818	93%	22	56%	73%
2019/2020	18286	17243	94%	30	50%	59%
2018/2019	21553	20827	97%	27	58%	75%
2017/2018	21763	21074	97%	26	59%	70%
2016/2017	20717	20153	97%	28	59%	76%
2015/2016	20432	19847	97%	30	55%	83%
2014/2015	18540	17904	97%	34	53%	82%
2013/2014	17723	17039	96%	42	49%	82%

## **WORK ORDER REPORT BY LOCATION**

Location	Fiscal Year	# Created	# Completed	% Complete	Avg Work Days to Comp	% Routine (No PM) Comp <= 7 Work Days	% PM Comp <= 22 Work Days
A. A. Roberty Building	2021/2022	158	116	73%	12	63%	63%
Aberdeen High	2021/2022	421	299	71%	17	57%	91%
Aberdeen Middle	2021/2022	294	223	76%	15	40%	93%
Abingdon Elementary	2021/2022	211	159	75%	18	41%	79%
Bakerfield Elementary	2021/2022	249	187	75%	19	39%	90%
Bel Air Elementary	2021/2022	122	96	79%	16	59%	93%
Bel Air High	2021/2022	606	471	78%	10	68%	91%
Bel Air Middle	2021/2022	494	404	82%	16	49%	78%
C Milton Wright High	2021/2022	437	343	78%	11	72%	95%
CEO- Swan Creek	2021/2022	185	110	59%	14	37%	92%
Church Creek Elementary	2021/2022	187	148	79%	15	51%	83%
Churchville Elementary	2021/2022	290	211	73%	17	43%	82%
Darlington Elementary	2021/2022	151	114	75%	15	52%	91%
Deerfield Elementary	2021/2022	383	311	81%	11	64%	87%
Dublin Elementary	2021/2022	234	182	78%	16	56%	83%
Edgewood Bus Lot	2021/2022	1	0	0%	-	-	-
Edgewood Elementary	2021/2022	169	132	78%	12	51%	84%
Edgewood High	2021/2022	571	425	74%	21	46%	85%
Edgewood Middle	2021/2022	379	314	83%	13	58%	82%
Emmorton Elementary	2021/2022	161	117	73%	13	56%	87%
Fallston High	2021/2022	491	370	75%	11	67%	78%
Fallston Middle	2021/2022	392	298	76%	13	58%	84%
Forest Hill Annex	2021/2022	52	36	69%	12	67%	86%
Forest Hill Elementary	2021/2022	220	148	67%	22	45%	86%
Forest Lakes Elementary	2021/2022	225	162	72%	13	58%	89%
Fountain Green Elementary	2021/2022	148	112	76%	12	64%	86%
George Lisby Elem at Hillsdale	2021/2022	224	173	77%	13	48%	94%
Halls Cross Roads Elementary	2021/2022	248	172	69%	17	51%	80%
Harford Glen	2021/2022	92	60	65%	17	51%	65%

## **WORK ORDER REPORT BY LOCATION**

Location	Fiscal Year	# Created	# Completed	% Complete	Avg Work Days to Comp	% Routine (No PM) Comp <= 7 Work Days	% PM Comp <= 22 Work Days
Harford Technical High	2021/2022	476	348	73%	14	54%	86%
Havre de Grace Elementary	2021/2022	257	183	71%	14	48%	91%
Havre De Grace Middle/High	2021/2022	323	241	75%	23	38%	94%
Hickory Annex	2021/2022	473	331	70%	34	81%	32%
Hickory Bus Lot	2021/2022	3	1	33%	1	100%	-
Hickory Elementary	2021/2022	176	135	77%	17	62%	84%
Homestead Wakefield - Homestead	2021/2022	231	186	81%	20	62%	84%
Homestead Wakefield - Wakefield	2021/2022	197	168	85%	23	53%	81%
Jarrettsville Elementary	2021/2022	279	203	73%	14	64%	77%
John Archer	2021/2022	220	168	76%	13	67%	74%
Joppatowne Elementary	2021/2022	188	133	71%	13	58%	86%
Joppatowne High	2021/2022	329	225	68%	12	45%	90%
Magnolia Elementary	2021/2022	261	202	77%	12	62%	88%
Magnolia Middle	2021/2022	543	418	77%	10	69%	84%
Meadowvale Elementary	2021/2022	215	150	70%	15	47%	84%
Norrisville Elementary	2021/2022	211	163	77%	16	53%	82%
North Bend Elementary	2021/2022	204	154	75%	19	54%	76%
North Harford Elementary	2021/2022	180	134	74%	15	62%	78%
North Harford High	2021/2022	653	463	71%	12	62%	86%
North Harford Middle	2021/2022	389	298	77%	13	62%	81%
Patterson Mill Middle/High School	2021/2022	500	389	78%	30	45%	88%
Prospect Mill Elementary	2021/2022	243	184	76%	13	70%	76%
Red Pump Elementary	2021/2022	234	171	73%	13	53%	85%
Ring Factory Elementary	2021/2022	193	145	75%	12	60%	80%
Riverside Elementary	2021/2022	191	132	69%	16	38%	94%
Roye Williams Elementary	2021/2022	241	151	63%	20	45%	86%
Southampton Middle	2021/2022	321	251	78%	12	54%	79%
Transportation Department.	2021/2022	6	3	50%	2	100%	-
William S James Elementary	2021/2022	214	152	71%	12	57%	82%
Wm Paca Elementary - OPR	2021/2022	259	200	77%	16	49%	79%
Wm Paca Elementary PACA	2021/2022	128	101	79%	17	49%	68%
Youth's Benefit Elementary	2021/2022	216	156	72%	18	53%	63%

## **WORK ORDER BY CRAFT FISCAL YEAR**

Craft	Fiscal Year	# Created	# Completed	% Complete	Avg Work Days to Comp	% Routine (No PM) Comp <= 7 Work Days	% PM Comp <= 22 Work Days
Alarm	2021/2022	34	3	9%	3	100%	-
Appliance Repair	2021/2022	35	22	63%	13	45%	-
Asbestos	2021/2022	5	5	100%	19	20%	-
Band Instrument Repair	2021/2022	2	0	0%	-	-	-
Bleachers	2021/2022	25	23	92%	5	82%	100%
Boiler	2021/2022	163	120	74%	27	42%	0%
Building Automation	2021/2022	479	412	86%	9	65%	100%
Carpentry	2021/2022	864	573	66%	10	66%	78%
Ceiling Tile	2021/2022	61	54	89%	15	56%	-
Communications	2021/2022	12	3	25%	2	100%	-
Concrete	2021/2022	49	28	57%	21	43%	-
Custodial	2021/2022	1029	854	83%	30	31%	100%
Custodial Equipment Repair	2021/2022	346	273	79%	12	58%	-
Doors and Hardware	2021/2022	783	581	74%	16	59%	20%
Electrical	2021/2022	895	775	87%	6	82%	100%
Elevators	2021/2022	62	57	92%	4	88%	-
Energy Management System	2021/2022	95	78	82%	8	68%	-
Environmental Services	2021/2022	42	33	79%	30	21%	-
Equipment	2021/2022	11	3	27%	17	33%	-
Exhaust Fans	2021/2022	35	32	91%	10	44%	-
Fence Repair	2021/2022	17	10	59%	37	50%	-
Fire Alarm System	2021/2022	194	165	85%	9	68%	-
Fire Extinguishers	2021/2022	34	13	38%	26	15%	-
Flooring	2021/2022	61	48	79%	9	65%	-
Food Services	2021/2022	416	231	56%	17	40%	-
Fuel Delivery	2021/2022	85	76	89%	4	97%	-
Furniture Repair	2021/2022	124	102	82%	12	63%	-
Glass/Window Repairs	2021/2022	135	107	79%	13	36%	-
Graffiti	2021/2022	12	11	92%	1	100%	-
Grass Cutting	2021/2022	1384	1111	80%	9	83%	96%
Grounds	2021/2022	760	482	63%	30	56%	69%

## **WORK ODER BY CRAFT FISCAL YEAR CONTINUED**

<b>Craft</b>	<b>Fiscal Year</b>	<b># Created</b>	<b># Completed</b>	<b>% Complete</b>	<b>Avg Work Days to Comp</b>	<b>% Routine (No PM) Comp &lt;= 7 Work Days</b>	<b>% PM Comp &lt;= 22 Work Days</b>
Grounds Equipment Repair	2021/2022	411	297	72%	10	91%	90%
Heating/Ventilation /Air Cond.	2021/2022	2304	1790	78%	21	33%	70%
Indoor Air Quality	2021/2022	9	9	100%	11	33%	-
Key and Lock	2021/2022	572	447	78%	11	61%	-
Lighting (Indoor)	2021/2022	320	268	84%	6	84%	-
Lighting (Outdoor)	2021/2022	99	78	79%	7	72%	-
Locker Repair	2021/2022	157	145	92%	10	50%	-
Miscellaneous	2021/2022	64	30	47%	32	33%	-
Missing Craft	2021/2022	84	67	80%	23	88%	57%
Moving	2021/2022	202	148	73%	9	59%	-
Operational Services	2021/2022	37	36	97%	2	97%	-
Painting	2021/2022	297	208	70%	14	56%	100%
Parking Lot Striping	2021/2022	8	2	25%	1	100%	-
Paving	2021/2022	23	12	52%	54	50%	-
Pest Control	2021/2022	422	362	86%	7	84%	100%
Playground	2021/2022	206	91	44%	16	70%	92%
Plumbing	2021/2022	1929	1436	74%	13	63%	95%
Pool	2021/2022	20	1	5%	2	100%	-
Refrigeration	2021/2022	15	11	73%	10	55%	-
Remodeling	2021/2022	3	1	33%	5	100%	-
Roof	2021/2022	418	253	61%	37	18%	11%
Scissor Lifts	2021/2022	40	2	5%	39	0%	-
Sewage/Water Treatment Plant	2021/2022	39	4	10%	82	-	0%
Shades/Blinds	2021/2022	34	23	68%	9	39%	-
Snow Removal	2021/2022	12	11	92%	0	100%	-
Sprinkler System	2021/2022	28	16	57%	25	25%	-
Structure	2021/2022	82	1	1%	5	100%	-
Vehicle Maintenance	2021/2022	2	1	50%	0	100%	-
Waste Management	2021/2022	2	0	0%	-	-	-
Water Quality	2021/2022	237	171	72%	46	0%	0%
Weed Control	2021/2022	32	31	97%	4	74%	-



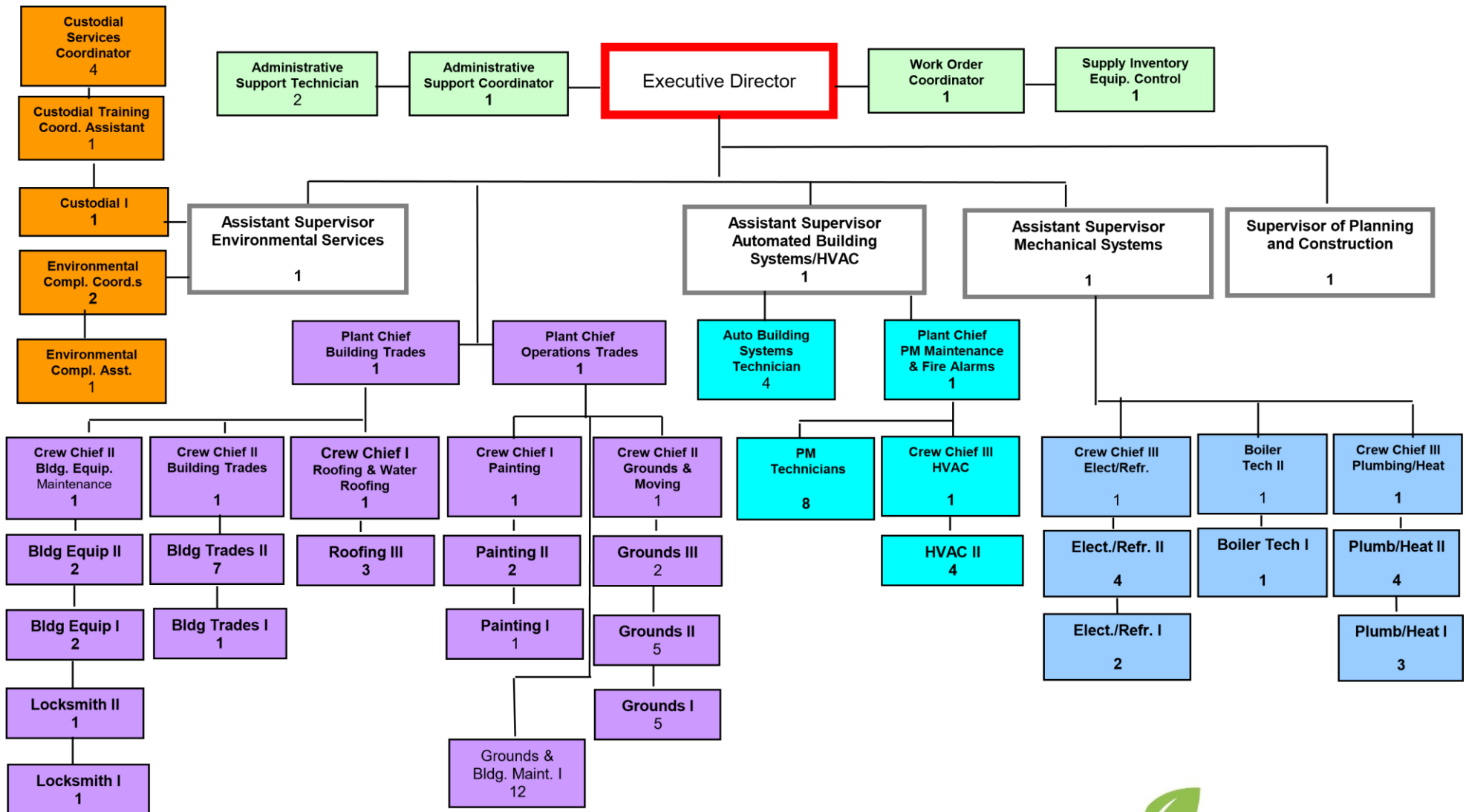
## **CRAFT WORK ORDER SUMMARY BY CRAFT**

Craft	Fiscal Year	# Created	In Progress	# Completed	On Hold	Pending	No Funding	Declined	Duplicate
Alarm	2021/2022	34	1	3	0	0	29	1	0
Appliance Repair	2021/2022	35	6	22	0	0	1	6	0
Asbestos	2021/2022	5	0	5	0	0	0	0	0
Bleachers	2021/2022	25	1	23	0	0	0	0	1
Boiler	2021/2022	163	42	120	0	0	0	0	1
Building Automation	2021/2022	479	66	412	0	0	0	1	0
Carpentry	2021/2022	864	262	573	0	0	0	18	10
Ceiling Tile	2021/2022	61	6	54	0	0	0	1	0
Communications	2021/2022	12	0	3	0	0	0	9	0
Concrete	2021/2022	49	20	28	0	0	0	1	0
Custodial	2021/2022	1029	164	854	0	0	0	10	1
Custodial Equipment Repair	2021/2022	346	62	273	0	0	0	4	7
Doors and Hardware	2021/2022	783	174	581	0	0	0	22	6
Electrical	2021/2022	895	109	775	0	0	0	9	2
Elevators	2021/2022	62	4	57	0	0	0	1	0
Energy Management System	2021/2022	95	17	78	0	0	0	0	0
Environmental Services	2021/2022	42	8	33	0	0	0	1	0
Equipment	2021/2022	11	4	3	0	0	1	2	1
Exhaust Fans	2021/2022	35	3	32	0	0	0	0	0
Fence Repair	2021/2022	17	4	10	0	0	0	3	0
Fire Alarm System	2021/2022	194	28	165	1	0	0	0	0
Fire Extinguishers	2021/2022	34	19	13	0	0	2	0	0
Flooring	2021/2022	61	11	48	1	0	0	1	0
Food Services	2021/2022	416	154	231	13	5	0	0	13
Fuel Delivery	2021/2022	85	7	76	0	0	0	1	1
Furniture Repair	2021/2022	124	19	102	0	0	0	2	1
Glass\Window Repairs	2021/2022	135	25	107	0	0	0	1	2
Graffiti	2021/2022	12	1	11	0	0	0	0	0
Grass Cutting	2021/2022	1384	101	1111	0	0	0	172	0
Grounds	2021/2022	760	206	482	5	7	0	57	3

## **CRAFT WORK ORDER SUMMARY BY CRAFT CONTINUED**

Craft	Fiscal Year	# Created	In Progress	# Completed	On Hold	Pending	No Funding	Declined	Duplicate
Heating/Ventilation /Air Cond.	2021/2022	2304	437	1790	15	0	0	26	36
Indoor Air Quality	2021/2022	9	0	9	0	0	0	0	0
Key and Lock	2021/2022	572	97	447	0	0	0	21	7
Lighting (Indoor)	2021/2022	320	49	268	0	0	0	2	1
Lighting (Outdoor)	2021/2022	99	19	78	0	0	0	1	1
Locker Repair	2021/2022	157	11	145	0	0	0	0	1
Miscellaneous	2021/2022	64	15	30	1	0	2	15	1
Moving	2021/2022	202	36	148	4	0	0	6	8
Operational Services	2021/2022	37	0	36	0	0	0	1	0
Painting	2021/2022	297	77	208	1	0	0	6	5
Parking Lot Striping	2021/2022	8	4	2	0	0	0	2	0
Paving	2021/2022	23	8	12	0	0	3	0	0
Pest Control	2021/2022	422	55	362	0	0	0	1	4
Playground	2021/2022	206	92	91	0	0	1	1	21
Plumbing	2021/2022	1929	458	1436	0	0	0	12	23
Pool	2021/2022	20	19	1	0	0	0	0	0
Refrigeration	2021/2022	15	2	11	0	0	0	0	2
Remodeling	2021/2022	3	2	1	0	0	0	0	0
Roof	2021/2022	418	160	253	0	0	0	1	4
Scissor Lifts	2021/2022	40	35	2	1	0	0	1	1
Sewage/Water Treatment Plant	2021/2022	39	35	4	0	0	0	0	0
Shades/Blinds	2021/2022	34	9	23	0	0	0	1	1
Snow Removal	2021/2022	12	0	11	0	0	0	1	0
Sprinkler System	2021/2022	28	12	16	0	0	0	0	0
Structure	2021/2022	82	81	1	0	0	0	0	0
Waste Management	2021/2022	2	0	0	0	0	0	2	0
Water Quality	2021/2022	237	65	171	0	0	0	1	0
Weed Control	2021/2022	32	0	31	0	0	0	1	0

# FACILITIES MANAGEMENT ORGANIZATIONAL CHART



3/23/2022

