

**REVIEW OF MONTGOMERY COUNTY PUBLIC
SCHOOLS FACILITIES' COMPLIANCE WITH
ENVIRONMENTAL LAWS AND REGULATIONS**



OFFICE OF LEGISLATIVE OVERSIGHT
REPORT NUMBER 2008-3

November 13, 2007

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EXECUTIVE SUMMARY

Montgomery County Public Schools (MCPS) manages an inventory of more than 200 facilities – including schools, maintenance and transportation depots, and various administrative buildings. MCPS must construct and maintain these facilities in compliance with a variety of federal, state, and local environmental laws and regulations. This report reviews the processes and procedures MCPS has in place to assure compliance of facilities with environmental laws and regulations for:

- Forest conservation
- Stormwater management
- Sediment control
- Asbestos
- Hazardous materials
- Integrated pest management
- Underground storage tanks
- Noise control
- Green buildings

This report also reviews MCPS' programs and procedures for indoor air quality and lead in drinking water, two non-regulated environmental programs that follow federal and other guidelines.

OLO found that many of the environmental laws and regulations discussed in implementation of procedures. OLO found that MCPS has implemented and/or required by law for forest conservation, stormwater management, sediment control materials, integrated pest management, and underground storage tanks.

OLO was able to obtain quantifiable data on stormwater management, sediment quality, and lead in drinking water to assess how well MCPS complies with mandates found that:

- Since 2004, MCPS has passed 89% of stormwater management and 78% of sediment control inspections conducted by DPS on 51 construction projects. Summary data on violations and complaints for MCPS sediment control permits are not readily available. Several MCPS sediment control permits remain “open” despite the completion of construction activity, primarily due to a lack of completion of final “as-built” documents.
- Temperature and ventilation samples in MCPS schools with indoor air quality (IAQ) preventive maintenance programs generally meet or exceed MCPS' IAQ standards. However, time spent on preventive maintenance by MCPS IAQ staff does not meet MCPS' performance goals.
- 86% of MCPS facilities either did not require lead remediation for drinking water, have completed lead remediation efforts, or have completed repairs and are conducting post-remediation testing.

As part of implementing environmental requirements, MCPS has initiated formal coordination efforts with other governmental agencies. In addition, MCPS reports that conflicts or inconsistencies between different environmental regulatory requirements and/or regulatory requirements and policy goals can delay construction projects.

OLO recommends that the County Council discuss five issues identified during the review of MCPS facility compliance with environmental laws and regulations that involve potential funding and/or the Council's general oversight regarding implementation of County laws and regulations. Specifically:

- 1) MCPS' efforts to finalize “open” sediment control permits;
- 2) MCPS' efforts to improve coordination with permit review agencies, especially with regard to forest conservation laws and regulations;
- 3) Resolving conflicts or inconsistencies between different regulatory requirements and/or regulatory requirements and policy goals;
- 4) Staffing for MCPS' Indoor Air Quality program; and
- 5) DPS data management related to sediment control permits.

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**REVIEW OF MONTGOMERY COUNTY PUBLIC SCHOOLS FACILITIES’
COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS**

TABLE OF CONTENTS

EXECUTIVE SUMMARY

I.	Authority, Scope, and Organization of Report	1
II.	Introduction to Environmental Compliance in MCPS Facilities	4
III.	Forest Conservation	9
IV.	Stormwater Management and Sediment Control	18
V.	Asbestos	32
VI.	Hazardous Materials	42
VII.	Integrated Pest Management.....	52
VIII.	Underground Storage Tanks	58
IX.	Indoor Air Quality.....	62
X.	Lead in Drinking Water	73
XI.	Other MCPS Facility Environmental Compliance Issues.....	80
XII.	Compliance of MCPS Facilities with Environmental Requirements	84
XIII.	Findings.....	90
XIV.	Recommended Discussion Issues	104
XV.	Agency Comments on Final Draft	107

APPENDIX

**REVIEW OF MONTGOMERY COUNTY PUBLIC SCHOOLS FACILITIES'
COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS**

LIST OF TABLES AND EXHIBITS

Number	Tables	Page
2-1	Sources of Environmental Laws or Regulations Affecting MCPS	5
2-2	FY07-FY08 MCPS Approved Operating Budget Funds Dedicated to Environmental Compliance	7
2-3	MCPS Capital Budget Projects Dedicated to Environmental Compliance	8
4-1	Total Stormwater Management and Sediment Control Inspections with Pass Rates on MCPS Projects by Year of Permit Issuance, 2004-2007	30
5-1	MCPS In-House Asbestos Abatement Projects, FY06 and FY07	40
8-1	Underground Storage Tanks in MCPS Schools or Centers	61
9-1	Annual Number of BMP Visits, FY01-FY07	69
10-1	EPA Recommended Routine, Short-Term, and Permanent Solutions to Lead Contamination	77
11-1	Montgomery County Noise Control Ordinance Maximum Allowable Decibel Levels (dBA)	84

Number	Exhibits	Page
2-1	Department of Facilities Management Organization Chart	6
9-1	MCPS Indoor Air Quality Complaints and Project Requests, FY01-FY07	69
9-2	Percent of Time Spent by IAQ Staff on Preventive Maintenance, FY01-FY07	70
9-3	MCPS Temperature and Ventilation Sampling Compliance for Facilities in the Building Maintenance Plan Program, FY01-FY07	71

CHAPTER I. Authority, Scope, and Organization of Report

A. Authority

Council Resolution 16-260, *FY 2008 Work Program of the Office of Legislative Oversight*, adopted July 31, 2007.

B. Purpose and Scope of Report

Montgomery County Public Schools (MCPS) manages an inventory of more than 200 facilities – including schools, maintenance and transportation depots, and various administrative buildings. MCPS must construct and maintain these facilities in compliance with a variety of federal, state, and local environmental laws and regulations.

This report reviews the processes and procedures MCPS has in place to assure compliance of facilities with environmental laws and regulations. Specifically, the report:

- Summarizes applicable federal, state, county, and municipal environmental laws and regulations MCPS must comply with for both facilities under construction and existing facilities;
- Reviews the procedures MCPS uses to comply with the environmental laws and regulations; and
- Summarizes data currently used to assess MCPS' level of compliance with environmental laws and regulations.

This report also reviews MCPS' programs and procedures for two environmental facility issues (indoor air quality and lead in drinking water) that do not have legal mandates but do have recommended guidelines from the Federal Government and/or other sources. Despite the lack of legal requirements, MCPS dedicates substantial effort to these issues.

The scope of this project did not include a review of MCPS' recycling practices. A separate study to conduct a comprehensive review of MCPS' recycling practices was approved by the County Council as part of OLO's FY08 Work Program.

C. Organization of Report

Chapter II, Introduction to Environmental Compliance in MCPS Facilities, provides an overview of environmental requirements MCPS must follow and the resources dedicated by MCPS for compliance.

Chapter III, Forest Conservation, provides an overview of state and local forest conservation laws and regulations, and reviews the management practices MCPS uses to comply with these requirements.

Chapter IV, Stormwater Management and Sediment Control, provides an overview of the regulatory framework for stormwater management and sediment control, and reviews the management practices MCPS uses to comply with these requirements.

Chapter V, Asbestos, provides an overview of the federal and state laws and regulations for asbestos in schools and discusses the management practices MCPS uses to comply with these requirements.

Chapter VI, Hazardous Materials, describes the regulatory framework for hazardous materials that applies to MCPS facilities, and discusses the management practices MCPS uses to comply with these requirements.

Chapter VII, Integrated Pest Management, presents state law and regulation on Integrated Pest Management (IPM) program implementation by school systems and describes the management practices used by MCPS to implement an IPM program in MCPS schools and facilities.

Chapter VIII, Underground Storage Tanks, provides an overview of the regulatory framework for underground storage tanks and reports the management practices used by MCPS to comply with these requirements.

Chapter IX, Indoor Air Quality, describes MCPS' indoor air quality program and procedures, workload and performance data, and budget and staffing.

Chapter X, Lead in Drinking Water, summarizes federal guidelines for schools to reduce the lead in their drinking water, and reports MCPS' management practices for lead in drinking water monitoring and remediation.

Chapter XI, Other MCPS Facility Environmental Compliance Issues, provides an overview of other environmental issues that MCPS must comply with when constructing new and/or maintaining existing facilities.

Chapter XII, Compliance of MCPS Facilities with Environmental Requirements, summarizes MCPS compliance with legally mandated procedures and standards for eight of the environmental issues discussed in this report.

Chapter XIII presents a summary of the Office of Legislative Oversight's **Findings**.

Chapter XIV presents the Office of Legislative Oversight's **Recommended Discussion issues**.

Chapter XV presents **Agency Comments** received on a final draft of this report.

D. Methodology

Office of Legislative Oversight (OLO) staff members Craig Howard, Richard Romer, and Sarah Downie conducted this study. OLO gathered information through document reviews, data analysis, and interviews with staff from Montgomery County Public Schools, the Montgomery County Department of Permitting Services, the Montgomery County Planning Department of the Maryland-National Capital Park and Planning Commission, the Montgomery County Department of Environmental Protection, the City of Gaithersburg, and the City of Rockville.

E. Acknowledgements

OLO received a high level of cooperation from everyone involved in this study. OLO appreciates the significant time commitment, the information shared, and the insights provided by all staff who participated. In particular, from Montgomery County Public Schools, OLO thanks: Chief Operating Officer Larry Bowers, Joseph Lavorgna, Marshall Spatz, Sean Gallagher, James Song, Roy Higgins, Michael Allnut, Lynne Zarate, Sean Yarup, Pam Montgomery, Richard Cox, and Craig Shuman.

In addition, OLO would like to thank Assistant Chief Administrative Officer Tom Street; Carla Joyner, Stan Wong, Michael Reahl, and Tom Laycock from the Montgomery County Department of Permitting Services; Jorge Valladares, Mark Pfefferle, and Steve Federline from the Montgomery County Planning Department of the Maryland-National Capital Park and Planning Commission; Stan Edwards and Amy Stevens from the Montgomery County Department of Environmental Protection; Don Boswell, Frederick Felton, Cliff Lee, Greg Ryberg, and Erica Shingara from the City of Gaithersburg; and Susan Straus, Elise Cary, and Michael Wilhelm from the City of Rockville.

CHAPTER II. Introduction to Environmental Compliance in MCPS Facilities

Montgomery County Public Schools (MCPS) manages an inventory of more than 200 facilities – including schools, maintenance and/or transportation depots, and administrative buildings. MCPS must construct and maintain these facilities in compliance with a variety of federal, state, and local environmental laws and regulations.

This chapter provides an overview of these legal requirements and the resources dedicated by MCPS for compliance. The chapter is organized as follows:

- **Part A** provides an overview of the environmental laws and regulations that apply to MCPS;
- **Part B** describes the MCPS organizational structure applicable to environmental compliance; and
- **Part C** presents MCPS budget data for environmental compliance.

A. Environmental Laws and Regulations that Affect MCPS Facility Maintenance and Construction

The following eight environmental areas have federal, state, and/or local laws and regulations that apply to MCPS. Each of these areas is described in detail in Chapters III to XI.

- **Forest conservation** – Forest conservation laws seek to retain and/or replace forest cover on a site undergoing development.
- **Stormwater management and sediment control** – Stormwater management and sediment control laws and practices mitigate construction's impact on streams and waterways by reducing erosion, flooding, and water pollution.
- **Asbestos** – Asbestos laws aim to protect building users from the potentially harmful effects of air-borne asbestos fibers.
- **Hazardous materials** – Hazardous materials regulations govern the use and disposal of hazardous substances, and mandate standards to prevent and respond to accidental releases.
- **Integrated pest management** – Integrated Pest Management controls pests in facilities through procedures intended to protect both the environment and human health.
- **Underground storage tanks** – Underground storage tanks laws aim to prevent the release of hazardous substances into the environment.
- **Noise control** – Noise control laws regulate sounds that create a public nuisance.
- **Green buildings** – Green buildings laws require the inclusion of environmental, health, and waste prevention criteria in building design and construction.

MCPS' efforts in two environmental areas are not directly mandated but follow guidelines established by the U.S. Environmental Protection Agency and other organizations.

- **Indoor air quality** – Indoor air quality (IAQ) guidelines provide recommended air temperature, relative humidity, and airborne pollutant concentration standards for occupied buildings.
- **Lead in drinking water** – Lead in drinking water guideline for schools that are not regulated as public water systems provide recommended standards for allowable lead levels.

The table below indicates the regulatory sources for each of the identified environmental areas.

Table 2-1: Sources of Environmental Laws or Regulations Affecting MCPS

Environmental Issue	Source of Law or Regulation			
	Federal	State of Maryland	Montgomery County	Municipal
Forest conservation		✓	✓	✓
Stormwater management	✓	✓	✓	✓
Sediment control		✓	✓	✓
Asbestos	✓	✓		
Hazardous materials	✓	✓	✓	
Integrated pest management		✓		
Underground storage tanks	✓	✓		
Noise control		✓	✓	
Green buildings			✓	
Indoor air quality	Non-regulated programs based on federal and other guidelines			
Lead in drinking water				

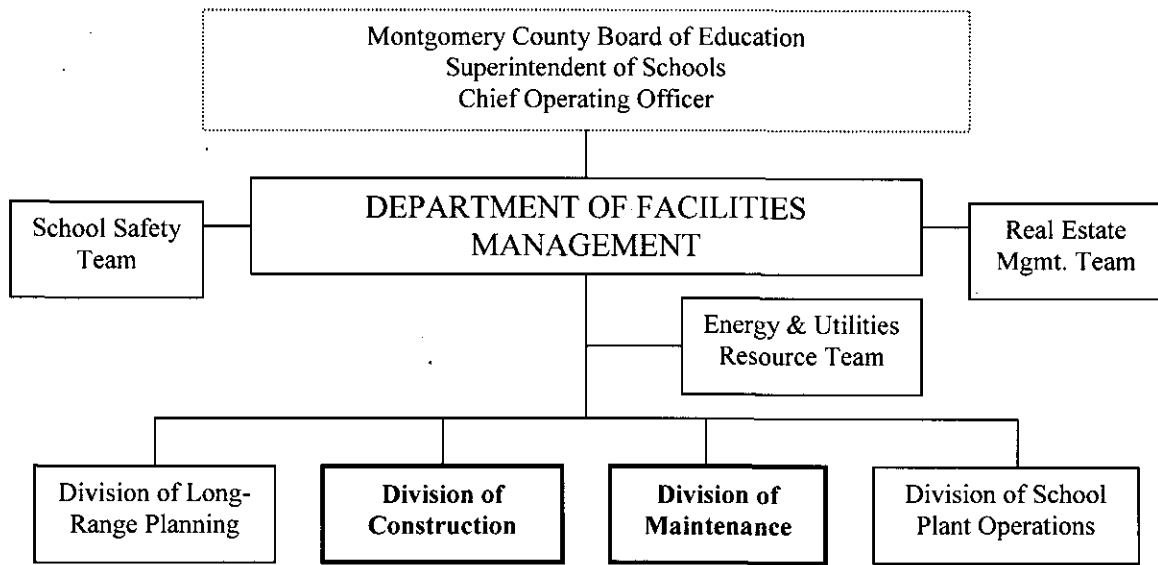
B. MCPS Organizational Structure for Environmental Compliance

MCPS' Department of Facilities Management is responsible for creating and maintaining MCPS public facilities, and also has primary management responsibility for environmental compliance. The Department of Facilities Management is one of eight departments that report directly to MCPS' Chief Operating Officer, who oversees the business functions and support services for the school system.

There are several offices in MCPS' Department of Facilities Management that are responsible for environmental compliance along with other duties.

The following exhibit shows the Department of Facilities Management and its three teams and four divisions. The Division of Maintenance carries the primary responsibility for environmental compliance in existing buildings, while the Division of Construction carries the primary responsibility for compliance during building construction.

**Exhibit 2-1:
Department of Facilities Management Organization Chart**



- **Division of Construction** – During the construction process, the Division of Construction is responsible for complying with forest conservation, stormwater management, sediment control, green buildings, and noise control laws.
- **Division of Maintenance** – The Division of Maintenance coordinates environmental compliance in existing facilities, and includes two units that specialize in environmental areas. The Environmental Services/IAQ Unit focuses on indoor air quality issues. The Asbestos Abatement/Pest Control Unit monitors asbestos, performs asbestos abatement activities, and coordinates integrated pest management activities.
- **Division of School Plant Operations** – The Division of School Plant Operations plays a role in environmental compliance through maintaining a sanitary building and reporting environmental issues in schools to the Division of Maintenance.
- **School Safety Team** – The School Safety Team maintains information and records on chemicals and hazardous substances used in MCPS facilities.

C. Funding for MCPS Environmental Compliance

MCPS environmental compliance initiatives are funded through both the operating and capital budget. OLO identified MCPS costs specifically dedicated to compliance with environmental laws and regulations. The full cost for MCPS environmental compliance is not easily obtained or estimated, as many environmental compliance activities are embedded in other activities or programs.

1. Operating Budget

MCPS FY08 operating budget funds dedicated specifically to environmental compliance activities total \$2.05 million, as shown in Table 2-2 below. This funding level represents a slight increase over FY07 funding of \$2.02 million.

The MCPS operating budget funds 20 positions within the Division of Maintenance dedicated to environmental compliance areas: four positions within the Asbestos Abatement/Pest Control Unit and 16 positions within the Environmental Services/IAQ Unit. The cost for these positions is approximately \$1.8 million in FY08, including estimated benefits. The Division of Maintenance operating budget also includes over \$200K in non-personnel funding.

Table 2-2: FY07-FY08 MCPS Division of Maintenance Approved Operating Budget Funds Dedicated to Environmental Compliance

Office/Cost Type		FY07	FY08
Asbestos Abatement/Pest Control Unit			
Personnel (4 positions)	Salaries	\$161,364	\$171,332
	Estimated Benefits*	\$61,318	\$65,106
Unit Subtotal		\$222,682	\$236,438
Environmental Services/IAQ Unit			
Personnel (16 positions)	Salaries	\$1,140,521	\$1,153,265
	Estimated Benefits*	\$393,007	\$395,587
	<i>Personnel Subtotal</i>	<i>\$1,533,528</i>	<i>\$1,548,852</i>
Non-Personnel	Contractual Services	\$21,755	\$21,755
	Supplies and Materials	\$152,958	\$152,958
	Other	\$4,231	\$4,231
	Equipment	\$59,568	\$59,568
<i>Non-Personnel Subtotal</i>		<i>\$238,512</i>	<i>\$238,512</i>
Unit Subtotal		\$1,772,040	\$1,787,364
Other Division of Maintenance			
Non-Personnel	Contractual (Haz. Waste)	\$29,201	\$29,201
Total Dedicated Operating Budget Funds		\$2,023,893	\$2,053,003

*OLO used MCPS' standard benefit percents of 25% for professional positions and 38% for supporting services positions to estimate benefit costs.

Source: MCPS Department of Management, Budget, and Planning

2. Capital Budget

MCPS' approved FY07-FY12 Capital Improvements Program (CIP) includes three capital projects dedicated to environmental compliance: Asbestos Abatement, Water and Indoor Air Quality Improvements, and Stormwater Discharge Management. As shown in Table 2-3, the FY08 appropriation for these three projects is \$2.3 million, a 56% decrease from the FY07 appropriation of \$5.2 million.¹

Two of the capital projects fund personnel as well as activity costs. The Asbestos Abatement project funds ten positions in the Asbestos Abatement/Pest Control Unit. The Water and Indoor Air Quality Improvements project funds three positions in the Environmental Services/IAQ Unit.

Table 2-3: MCPS Capital Budget Projects Dedicated to Environmental Compliance (\$'s in thousands)

Capital Project and Cost Type	FY07	FY08	FY09-FY12 (per year)
Asbestos Abatement Project			
Personnel (16 positions)	\$885	\$885	\$885
Non-Personnel	\$96	\$96	\$96
Subtotal	\$981	\$981	\$981
Water and Indoor Air Quality Improvements Project			
Personnel (3 positions)	\$277	\$276	\$276
Non-Personnel	\$2,723	\$1,024	\$1,024
Subtotal	\$3,000	\$1,300	\$1,300
Stormwater Discharge Management Project			
Non-Personnel	\$1,200	--	--
Subtotal	\$1,200	--	--
Total Dedicated Capital Budget Funds	\$5,181	\$2,281	\$2,281

Source: Montgomery County Approved FY08 Operating and Capital Budgets

While school construction projects funded through the capital budget include costs associated with environmental compliance, MCPS does not track or break out the amount of funds dedicated to environmental compliance within a project.

¹ The Stormwater Discharge Management project was approved by the County Council in FY07 as a one-time special appropriation of \$1.2 million.

CHAPTER III. Forest Conservation

Forest conservation is the act of minimizing the impacts of construction on trees and other forms of vegetation. Forest conservation measures include minimizing tree clearing, retaining specimen and champion trees,¹ and requiring reforestation and tree replacement for areas that are cleared.

This chapter provides an overview of state and local forest conservation laws and regulations and reviews the management practices MCPS uses to comply with these requirements. Specifically:

- **Part A** summarizes the State of Maryland forest conservation law and regulation;
- **Part B** summarizes the County and municipal forest conservation laws and regulations; and
- **Part C** outlines MCPS forest conservation practices.

A. State of Maryland Forest Conservation Law

The Maryland Forest Conservation Act of 1991 – codified in Title 5, Subtitle 16 of the Natural Resources Article of the Maryland Code – sets forest conservation standards for certain development projects. This law applies to any public or private subdivision plan or application for a grading or sediment control permit by any person, including a unit of state or local government, on areas 40,000 square feet or greater (§ 5-1602a).

While establishing minimum forest conservation standards, the state law also delegates implementation and enforcement responsibilities to the local governments. The law requires that each unit of local government in Maryland with planning and zoning authority adopt a forest conservation program that is consistent with (but can be more stringent than) the intent and requirements of the state law (§ 5-1603).

Four key components established in state law for inclusion in a local forest conservation program are:

- **Natural Resources Inventory/Forest Stand Delineation (NRI/FSD)** – An NRI/FSD is an inventory of forest cover used to determine the most suitable and practical areas for forest conservation (§ 5-1604).
- **Forest Conservation Plan** – A forest conservation plan is the actual plan for retaining and protecting existing forest area and/or creating new forested area. Proposed forest conservation plans must be reviewed concurrently with the state or local review for the subdivision plan, or the grading or sediment control permit (§ 5-1608).

¹ Montgomery County Regulations define a “champion tree” as the largest tree of its species within the United States, the State, county or municipality; and a “specimen tree” as a tree that is an impressive or unusual example of a species (22A.00.01.03B).

- **Conservation Thresholds and Afforestation Requirements** – Based on different land use types, the state law establishes the minimum percent of forest cover that must be preserved or replanted on the site, provides minimum standards for off-site reforestation, and allows for potential contribution to a forest conservation fund if on-site or off-site measures are not possible (§ 5-1606).
- **Enforcement** – Local jurisdictions with forest conservation programs are provided enforcement authority for projects found out of compliance with requirements (§ 5-1612).

B. County and Municipal Forest Conservation Laws and Regulations

Under the authority granted by state law, Montgomery County and the cities of Rockville and Gaithersburg have adopted forest conservation laws. Any other incorporated areas in Montgomery County without its own forest conservation ordinance fall under the County law.

1. Montgomery County Code, Chapter 22A (Forest Conservation – Trees) and County Regulations (COMCOR 22A.00.01)

Chapter 22A of the County Code, and the associated regulations adopted by the Montgomery County Planning Board, establish the County's forest conservation requirements. Chapter 22A provides the Montgomery County Planning Board with regulatory approval authority for forest conservation. Three important definitions established in the forest conservation law are:

- **Retention** – the deliberate holding and protecting of existing trees and other plants on the site.
- **Reforestation** – the creation of a biological community dominated by trees and other woody plants (including plant communities, the understory, and forest floor) which is at least 10,000 square feet in area and 50 feet wide, and containing at least 100 live trees per acre, with at least 50 percent of those trees having the potential to attain a 2 inch or greater diameter measured at 4.5 feet above the ground within 7 years.
- **Afforestation** – the establishment of forest or tree cover on an area from which it has always or very long been absent, or the planting of open areas which are not in forest cover.

Applicability/exemptions. Development and/or construction projects that fall under the requirements of Chapter 22A include:

- All development projects that must receive regulatory approvals from the Montgomery County Planning Board (e.g., project plan or site plan approval);
- All projects that must obtain a sediment control permit on a tract of land 40,000 square feet or larger; and
- Government projects subject to mandatory referral² on a tract of land 40,000 square feet or larger. (§ 22A-4)

The forest conservation law allows for several exemptions. Of particular applicability to school construction projects, a modification to existing developed property may be exempt if:

- No more than 5,000 square feet of forest will be cleared; and
- The modification does not affect any forest in a stream buffer or is not located on property in a special protection area which must submit a water quality plan. (§ 22A-5)

Any project requesting an exemption must notify the Planning Director prior to performing any cutting, clearing, or grading and receive confirmation from the Director that the project is indeed exempt (§ 22A-4). However, any exempt project that involves the clearing of a specimen or champion tree must have a tree save plan. A tree save plan may require tree preservation or mitigation for loss of individual trees, based on the size and character of the trees to be cleared (§ 22A-6).

Forest Stand Delineation. Chapter 22A requires that an applicant submit a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) for regulatory approval. The law states that the NRI/FSD must be used during the preliminary review process to find the most suitable and practical areas for tree and forest conservation.

The NRI/FSD must include topographic, hydrographic, soils, and geologic information on the project site; qualitative and quantitative information on trees and forest cover; and other information or requirements specified in the regulations or technical manual. An approved FSD must be recertified every two years unless a subsequent forest conservation plan has been accepted as complete (§ 22A-10).

A NRI/FSD must be submitted to the Planning Director for review in conjunction with the appropriate development plan, sediment control, or mandatory referral application/submission. The NRI/FSD must also be prepared by a licensed forester, licensed landscape architect or other qualified professional and comply with the latest version of the Maryland-National Capital Park and Planning Commission (M-NCPPC) *Environmental Management of Development in Montgomery County and Trees Technical Manual* (COMCOR 22A.00.01.05). Within 30 days of receipt, the Planning Director must notify the applicant whether the forest stand delineation is complete and correct (§ 22A-11).

² Mandatory referral means the required review by the Planning Board of projects or activities to be undertaken by governmental agencies and private and public utilities under Section 7-112 of Article 28 of the Maryland Code.

Forest Conservation Plan. The approved NRI/FSD becomes the basis for the Forest Conservation Plan (FCP). Chapter 22A states that a forest conservation plan is intended to govern conservation, maintenance, and any afforestation or reforestation requirements which apply to the site. The FCP must contain information on the extent and characteristics of the trees and forested area to be retained or planted, proposed locations for on-site and off-site reforestation, scheduling, and protective measures. The FCP also includes binding agreements for maintenance (effective for at least 2 years) and protection of forest conservation areas (§ 22A-10).

Upon M-NCPPC approval of the NRI/FSD, the applicant must submit a FCP to the Planning Director. Within 45 days from receipt of a final FCP, the Planning Director must notify the applicant whether the forest conservation plan is complete and approved for submission to the Planning Board as part of the development application (§ 22A-11).

The FCP is reviewed by the Planning Board concurrently with the appropriate development plan or mandatory referral application. For a project that only requires a sediment control permit, the law states that the permit must not be issued until a final FCP, if required, is approved (§22A-11).

Retention, reforestation, and afforestation requirements. Chapter 22A states that the primary objective of a forest conservation plan should be retention of existing forest on the site. The law establishes forest conservation thresholds (i.e., what percent of the existing forest must be retained) for different land-use categories. Public schools and related facilities are classified as institutional development areas, with a forest conservation threshold of 20% of the net tract area (§22A-12).

County law bases the amount of reforestation required under an FCP on how a project meets the applicable forest conservation threshold. Using the 20% threshold applicable to school sites as an example, the law requires:

- A developer to reforest at a ratio of two acres planted for every one acre cleared below the 20% conservation threshold;
- A developer to reforest at a ratio of ¼ acre planted for every one acre cleared above the 20% conservation threshold; and
- M-NCPPC to credit each acre of forest retained above the 20% conservation threshold against the total number of acres required to be reforested (§ 22A-12).

Chapter 22A also requires that any project with a forest conservation plan that starts with less than 20% forest cover of the net tract area must be afforested to a specific percent based on land-use category. For institutional development areas, the required afforestation is 15%. The law authorizes the Planning Board or Planning Director to allow the use of tree cover to satisfy afforestation requirements if the applicant demonstrates that afforestation is inappropriate for the particular site (§ 22A-12).

The law specifies the following preferred sequence for any required reforestation or afforestation: 1) on-site afforestation or reforestation, including techniques that encourage natural regeneration where feasible; 2) landscaping with an approved plan; and 3) off-site afforestation or reforestation, including techniques that encourage natural regeneration where feasible (§ 22A-12).

Forest Conservation Fund. If reforestation or afforestation on-site or off-site cannot be reasonably accomplished, the law allows for a “fee in-lieu” payment into the forest conservation fund at a rate specified by the County Council by law or resolution to satisfy the forest conservation requirements (§ 22A-12). The current rate, set by the County Council in 2005, is \$0.90 per square foot.³

Maintenance. Final forest conservation plans must include both short- and long-term protection. The law requires a two-year binding maintenance agreement for the conservation areas, including the watering, feeding, and replanting of areas to be afforested or reforested (§ 22A-12).

As a part of the long-term protective measures of the project site, the FCP must include appropriate measures for the protection of conservation areas, and limitations on the use of these areas (§ 22A-12). Long-term protective measures include land covenants, deed restrictions, and conservation easements (22A.00.01.15). M-NCPPC Environmental Planning staff can recommend to the Planning Board that some or all of the retained forest on a site be placed in a conservation easement. If approved by the Planning Board, the conservation easement becomes a legally binding element of the FCP.

Inspections/enforcement. Chapter 22A requires the Planning Department to conduct field inspections of a tract subject to an approved forest conservation plan. The regulation specifies six inspections at the following project milestones, each of which must be requested by the applicant:

- After the limits of disturbance have been staked and flagged;
- After protection measures have been installed and before any clearing or grading;
- After construction activities are finished;
- Before the start of any required reforestation and afforestation planting;
- After reforestation and afforestation planting has been completed; and
- At the end of the 2-year maintenance agreement. (22A.00.01.10)

Chapter 22A authorizes the issue of civil or criminal violations and civil penalties for violation of the forest conservation law or its regulations (§ 22A-16).

³ Montgomery County Council Resolution 15-1271.

2. Municipal Forest Conservation Laws and Regulations

The cities of Gaithersburg and Rockville have adopted forest conservation laws under the authority granted by state law. The forest conservation requirements of both municipalities are similar in most respects to the County requirements.

City of Gaithersburg. Gaithersburg's forest conservation requirements are established in a Forest Conservation Ordinance (Chapter 22 of the City Code). Under the framework established by state law, Gaithersburg's law includes requirements for:

- NRI/FSD and FCP submittal, approval, and criteria;
- Forest retention, reforestation, and afforestation;
- Payment in lieu of reforestation and afforestation; and
- Forest conservation maintenance, inspection, and enforcement.

The components of Gaithersburg's forest conservation law do not differ substantially from those established in the County's law.

City of Rockville. Rockville's forest conservation requirements are established in a Forest and Tree Preservation Ordinance (Chapter 10.5 of the City Code). Under the framework established by state law, Rockville's law includes requirements for:

- NRI/FSD and FCP submittal, approval, and criteria;
- Forest retention, reforestation, and afforestation;
- Payment in lieu of reforestation and afforestation; and
- Forest conservation maintenance, inspection, and enforcement.

While many components of Rockville's forest conservation law are similar to the County's law, it is not identical. Notable differences in Rockville's law include:

- The forest conservation threshold applicable to school sites is 15% of the tract area;
- The reforestation ratio is three acres planted for every one acre cleared below the 15% conservation threshold; and
- Individual significant trees removed (defined as trees at least 12 inches in diameter) anywhere on the project site must be replaced with between one and three new trees depending on the diameter of the original tree removed.
(§ 10.5-22)

City of Rockville staff report that Rockville's current practice is to no longer approve forest conservation plans that meet reforestation requirements through off-site planting. Instead, staff require a fee in lieu when on-site afforestation/reforestation is not feasible. Rockville reports a current fee in lieu rate of \$2 per square foot and \$300 per tree for individual significant trees not replaced.

C. MCPS Management Practices

MCPS' Division of Construction within the Department of Facilities Management is responsible for compliance with forest conservation requirements in construction projects. MCPS reports that the first step in the process, during the conceptual phase of design, is to determine whether the project will trigger forest conservation requirements. This occurs after a project has been funded and approved in the Capital Improvements Plan (CIP).

Natural Resources Inventory/Forest Stand Delineation (NRI/FSD). After determining that a project will require a forest conservation plan, MCPS' architect and engineer for the feasibility study prepare an NRI/FSD. The NRI/FSD contains the various geotechnical, forest and tree coverage, and other natural resource information about the site. MCPS submits the NRI/FSD to the Environmental Planning section of the Department of Planning at the M-NCPPC. MCPS reports that this step is the same for construction projects in Gaithersburg or Rockville, except that the documents are submitted to the applicable regulatory departments for each municipality.

Forest Conservation Plan (FCP) approval process. Upon notification that the NRI/FSD is complete and correct, MCPS staff report that they meet with Environmental Planning staff to re-confirm any finding related to any champion or specimen trees, review the amount and/or type of forest conservation that may be required, and discuss different options for meeting the forest conservation requirements of the site.

MCPS then submits a preliminary Forest Conservation Plan (FCP) to the Department of Planning as part of their required mandatory referral submission. The preliminary FCP is reviewed by Environmental Planning staff, and MCPS staff report that the review generally includes one or two sets of suggested changes from the plan reviewers. After any agreed-upon changes to the preliminary FCP, Environmental Planning staff recommend that the Planning Board approve the preliminary FCP with the condition that MCPS must then submit a final FCP.

Upon Planning Board approval of the preliminary FCP, MCPS prepares and submits a final FCP. The approval of the sediment and erosion control permit, the first permit needed to start the construction, is contingent upon the approval of the FCP. MCPS reports that the approval process is similar for forest conservation plans approved by Gaithersburg or Rockville.

Forest Conservation Plan components. In developing forest conservation plans, MCPS reports that its practice is to prioritize techniques that retain existing forest on site. Specifically, MCPS attempts to maintain enough existing forest on forested sites to reach the break-even point where no replanting is required. MCPS also reports efforts to preserve specimen or champion trees, and stands of trees which are valuable for compatibility reasons as part of the forest conservation process.

MCPS reports that it follows the forest conservation law's priority sequence for any required reforestation – first on-site, then off-site within the same watershed, then off-site within the county, and then, as a last resort, a contribution to the forest conservation fund (§ 22A-12).

Conservation easements. Another potential component of an MCPS forest conservation plan is a conservation easement. As part of the Environmental Planning staff's recommendation for approval of a preliminary FCP, staff can also recommend to the Planning Board that some or all of the retained forest on a site be placed in a conservation easement. If approved by the Planning Board, the conservation easement becomes a binding element of the FCP.

A conservation easement is a restriction on the land and its natural features, with its terms and conditions recorded in the County's land records (22A.00.01.03). There are two categories of conservation easements. The more restrictive Category 1 easement is a dedicated easement that must be fenced off and does not allow for any maintenance activities (e.g., removing fallen trees, mowing, etc.). The Category 2 easement is less restrictive; it does not require fencing and allows for maintenance activities. In both instances, the easements prevent any future development within the specified area.⁴

MCPS staff report that the inclusion of conservation easements in forest conservation plans has been a more recent occurrence, and has been recommended for five school projects to date.⁵ While acknowledging the environmental goals of a conservation easement, MCPS staff expressed some concerns with the use of conservation easements, particularly the more restrictive Category 1 easements. Specifically, MCPS staff concerns include:

- Permanent easements may prevent MCPS' ability to expand, renovate, or modernize a school in the future.
- Areas with undisturbed grass and forest area could pose a potential hazard or security risk.

Agency coordination. MCPS and Planning Department staff have recently begun a series of meetings to develop a memorandum of understanding (MOU) or other form of agreement between the agencies with regard to forest conservation implementation for MCPS projects. MCPS staff report that their goals in suggesting a written agreement are to look at other opportunities for complying with the forest conservation law without negatively impacting school operations or needs, and to examine opportunities for improving the efficiency for the FCP development and approval process. MCPS staff note that the Environmental Planning Section has assigned a staff reviewer to be the primary point of contact for the review of all MCPS projects. Environmental Planning staff report that this could improve the consistency of FCP submissions by MCPS and FCP review by Planning Department staff.

⁴ Maryland-National Capital Park and Planning Commission. "Trees: Approved Technical Manual." September 1992. p.50-51.

⁵ Francis Scott Key MS, Galway ES, Paint Branch HS, Bells Mill ES, and Washington Grove ES.

MCPS also reports that delays in plan approval and permit issuance often occur when MCPS has to negotiate conflicting requirements between stormwater management/sediment control and forest conservation. For example, DPS' review of a stormwater plan may require management activities in the same location where the Planning Department is requiring forest conservation measures. MCPS Division of Construction staff estimate that these types of conflicts occur in more than 50% of construction projects, are difficult to resolve expeditiously, and significantly impact project schedules. MCPS reports that due to late approvals of forest conservation, sediment and erosion control, and stormwater management plans this year, many capital projects had late starts. MCPS anticipates that some projects may not open on time for the next school year.

Forest conservation inspections and amendments. MCPS staff report that they schedule forest conservation inspections with Environmental Planning staff at the various project milestones as required. MCPS also reports that it conducts "internal" inspections through MCPS' project managers, project general contractors, and project sub-contractors who are all responsible for ensuring that construction activities are continually complying with approved plans.

Any field changes in the forest conservation plan that occur during the construction phase must be approved by Planning Department staff. MCPS reports that any approved changes to the FCP are documented in an "as-built" plan that includes the original plan plus any approved changes.

Data on MCPS forest conservation projects. M-NCPPC summarizes forest conservation plan data (i.e., total number of forest acres retained, reforested, or afforested) on development projects for submittal to the State. However, Planning department staff report that they do not track data for certain institutional projects, including MCPS facility or DPWT transportation projects. As a result, any summary data on MCPS forest conservation projects is not readily available. Planning Department staff estimate that approximately 30 percent of school projects require a forest conservation plan. Planning Department staff also report that they recently began tracking summary data for school and transportation projects during FY08, and also plan to enter data on past projects.

CHAPTER IV. Stormwater Management and Sediment Control

Stormwater is the precipitation (e.g., rain, melting snow, etc.) that travels over natural, altered, or impervious surfaces to the nearest body of water. Stormwater management practices mitigate stormwater's impact on streams and waterways by reducing erosion, flood potential, and water pollution.

Sediment is the soil or other material transported or deposited by the action of wind, water, or gravity as a product of erosion. Sediment control is the act of reducing the impact of eroding forces upon the construction site by exposing the smallest amount of land for the shortest amount of time to the eroding forces of wind and precipitation.¹

This chapter provides an overview of the regulatory framework for stormwater management and sediment control in Montgomery County, and the management practices that Montgomery County Public Schools (MCPS) uses to comply with these laws and regulations. Specifically:

- **Part A** summarizes the federal laws and regulations;
- **Part B** summarizes the State of Maryland laws and regulations;
- **Part C** summarizes Montgomery County and municipal laws and regulations;
- **Part D** outlines MCPS stormwater and sediment control management practices; and
- **Part E** provides summary data on MCPS stormwater and sediment control projects.

A. Federal Laws and Regulations

The Clean Water Act is the legal basis for federal stormwater management and sediment control. Under federal law, the Environmental Protection Agency (EPA) has the legal power to address water pollution control, while allowing for state and local implementation. Among other things, the Clean Water Act and its subsequent amendments establish the National Pollutant Discharge Elimination System (NPDES) and the Municipal Separate Storm Sewer System (MS4) permit program for stormwater control.² The NPDES and MS4 permit programs require the control of non-point sources of stormwater discharges which affect water quality, such as construction sites and urban areas.

The federal NPDES regulations establish the regulatory framework for management of non-point source pollution through stormwater management permitting; however, the regulation delegates administration and implementation to state and local governments.

¹ Maryland Department of the Environment. *1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control*. 1994.

² United States Code, Title 33, Chapter 26, Water Pollution Prevention and Control, Section 1342.

B. State Laws and Regulations

The Clean Water Act authorizes EPA to allow states to issue and enforce NPDES permits for discharges into the “navigable waters” of the states. The Maryland Department of the Environment (MDE) administers the NPDES and MS4 permit programs in Maryland for EPA.

1. Maryland Code, Environment Article, § 4-101 to § 4-215

The Maryland Code includes requirements for both sediment control and stormwater management.

State law requires that development projects with a grading or building permit must have an erosion and sediment control plan approved by the permitting authority. The law mandates that a local soil conservation district (e.g., Montgomery County or delegated municipality) must review and approve sediment control plans before any form of construction or land disruption.

State law also requires each county to develop a stormwater management program, and requires the approval of a stormwater management plan prior to issuance of a grading or building permit.

2. Code of Maryland Regulations (COMAR) 26.17.01-.02

COMAR requires that each county or municipality adopt a sediment control ordinance in compliance with the intent and requirements of the State Code. COMAR also establishes standards for submission of an erosion and sediment control plan. All clearing and grading activities that disturb 5,000 square feet of land area and/or 100 cubic yards of earth require the submission of a sediment control plan (26.17.01.05).

COMAR incorporates the *1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control* handbook as the official guide for erosion and sediment control principles, methods, and practices (26.17.01.11). Reviewing authorities must review submitted plans against the erosion and sediment control criteria established in the handbook (26.17.01.08).

State regulations require that all projects disturbing 5,000 square feet or more of land area must have approved stormwater management plans (26.17.02.05). COMAR establishes the *2000 Maryland Stormwater Design Manual* as the official guide for stormwater management principles, methods, and practices (26.17.02.01).

COMAR also requires that owners of completed stormwater management facilities must perform preventive maintenance of all completed stormwater management systems to ensure proper functioning. Each stormwater facility must be inspected at least once every three years (26.17.02.11).

C. County Laws and Regulations

Chapter 19 of the County Code, and its associated regulations, establish the County's stormwater management and sediment control requirements. In addition, Chapter 59 of the County Code includes impervious surface requirements in selected special protection areas. Key components of these laws and regulations pertinent to MCPS facilities are summarized below.

1. Montgomery County Code (Chapter 19 – Erosion, Sediment Control, and Stormwater Management) and County Regulations (COMCOR 19.00-19.67)

Chapter 19 requires sediment control permits for any construction, demolition, or grading project that disturbs 5,000 square feet or more of land, or results in 100 cubic yards or more of earth movement (§ 19-2). The law establishes sediment control and stormwater management requirements during the permit review process and after permit issuance. Chapter 19 also establishes requirements for maintaining permanent stormwater management facilities after completion of construction activities.

Erosion and sediment control plans. Chapter 19 requires the submission of an erosion and sediment control plan as part of an application for a sediment control permit. The plan must be prepared and certified by a professional engineer, land surveyor, landscape architect, or architect (§ 19-4). The Department of Permitting Services (DPS) is responsible for reviewing and approving the sediment control plan.

Montgomery County Regulations detail the requirements for erosion and sediment control plans, including the information and certifications that must be included on the plan (19.10.02). The regulations also authorize DPS to waive the erosion and sediment control plan requirement if the project meets the limitations of a "Small Land Disturbing Activities" permit. Those limitations include:

- The property must not be disturbed more than 20,000 square feet for commercial, or 30,000 square feet for residential development at any one time;
- Proposed impervious surfaces on the property must not total greater than 15,000 square feet; and
- Volume of earth movement on the property must be less than 1,000 cubic yards.

Stormwater management plans. Chapter 19 requires submittal and approval of a stormwater management concept plan and a stormwater management design plan before the issuance of a sediment control or building permit (§ 19-23). The concept plan must be submitted to DPS for review and approval before submitting a sediment control permit application. The concept plan must show how the development will minimize any diversion of, or addition to, the current flow of water onto adjacent properties (§ 19-23).

After approval of the concept plan, Chapter 19 requires the developer to submit a stormwater management design plan as part of the sediment control permit application. The stormwater management design plan must conform to the requirements of the approved concept plan and serve as the basis for construction. Both the concept and the design plans must be prepared in accordance with the *2000 Maryland Stormwater Design Manual* (§ 19-23). County regulations further describe the specific information that must be included as part of the stormwater management plans (19.00.01).

Implementation of stormwater management and sediment control plans. County law requires that a permit holder must notify DPS at least 48 hours before beginning any construction activity in conjunction with a sediment control plan or a stormwater management plan. Chapter 19 also requires a pre-construction conference with a designated DPS representative (§ 19.12).

DPS must inspect sediment control measures at a minimum of five points during the construction process, including a final inspection to ensure compliance with the approved sediment control plan. The law also authorizes DPS to require corrective action if sediment control violations are found during an inspection. DPS may also issue a stop work order and revoke or suspend a sediment control permit if violations are not corrected (§ 19-9). County regulations also state that a permit holder must periodically inspect and maintain all erosion and sediment control measures until removal (19.10.02).

Chapter 19 requires that DPS inspect each stormwater management facility under construction as needed to certify the facility's compliance with approved plans. DPS must notify the applicant in writing of any violations found during the inspection and prescribe any corrective action needed (§ 19-28). Once a project has begun, DPS must also approve any major modifications to approved sediment control or stormwater management plans (§ 19-5).

Stormwater management for existing facilities. After construction, owners of new stormwater management facilities may choose to maintain the facility themselves, or grant the County a stormwater management easement. In order for the County to take over the maintenance of a stormwater management facility, the owner must make any necessary structural repairs to ensure that the facility is in proper working condition (§ 19-28). The Department of Environmental Protection (DEP) inspects and approves each stormwater management facility for acceptance into the County stormwater maintenance program.

Once the agreement and the easement are completed, DEP becomes responsible for performing any structural maintenance. The owner is still responsible for non-structural maintenance, which includes landscaping, grass cutting, or trash removal. After the County accepts responsibility for maintaining a facility, DEP inspects each underground facility annually and each above-ground facility at least once every three years (§ 19-28).

For on-site stormwater management facilities not turned over to the County, the owner of the facility must perform all structural maintenance needed to keep the facility in proper working condition (§ 19-28).

Special Protection Areas. In addition to stormwater and sediment plans, land disturbing activities in Special Protection Areas (SPA) are subject to additional requirements. Chapter 19 requires that any public agency engaging in any land disturbing activity on publicly owned property in an SPA must prepare a water quality inventory and/or a water quality plan (§ 19-62). A project in an SPA is exempt from submitting the water quality plan if the project has:

- A proposed impervious area of less than eight percent of the total land area; or
- A cumulative land area of 10 acres or less, and a proposed impervious area of less than 15 percent of the total land area. (§ 19-63)

A water quality inventory must include a stormwater management plan; an erosion and sediment control plan; documentation showing avoidance or minimization of impacts on environmentally sensitive areas and priority forest conservation areas; and a preliminary plan that minimizes impervious area and, if applicable, meets imperviousness limits for the project (§ 19-64).

The water quality plan required under Chapter 19 must include information on proposed techniques to mitigate the impact of the project on water quality; and the anticipated performance on water quality of each proposed measure; and a proposed best management practices monitoring plan (§ 19-64).

County regulations require that water quality inventories and/or plans must be submitted jointly to DPS and the Maryland-National Capital Park and Planning Commission for review. The Planning Board provides the final approval for a water quality plan after DPS has provided its approval (19.67.01.10).

2. Montgomery County Code (Chapter 59 – Zoning Ordinance)

Two environmental overlay zones in the Zoning Ordinance include impervious surface limits on construction or development projects within specific special protection areas.

Upper Paint Branch SPA. Chapter 59 requires that, in addition to development standards applicable in a given zone, any development within the Upper Paint Branch SPA must not result in more than eight percent impervious surface of the total area under application for development. Additionally, the law prohibits any expansion of an existing impervious surface above the eight percent restriction. Waivers from the eight percent limit are allowed if the applicant can demonstrate that enforcement would result in undue hardship (§ 59-C-18.15).

Upper Rock Creek SPA. Chapter 59 requires that, in addition to development standards applicable in a given zone, any development within the Upper Rock Creek SPA must not result in more than eight percent impervious surface of the total area under application for development. Additionally, the law prohibits any expansion of an existing impervious surface above the eight percent restriction. Waivers from the eight percent limit are allowed if the applicant can demonstrate that enforcement would result in undue hardship (§ 59-C-18.24)

3. Municipal Stormwater Management and Sediment Control Laws and Regulations

The Cities of Gaithersburg and Rockville require stormwater management and sediment control permits for clearing, excavation, grading, or building. The stormwater management and sediment control laws of both municipalities are similar in most respects to the county requirements.

City of Gaithersburg. Gaithersburg's Erosion and Sediment Control and Stormwater Management ordinance is established under Chapter 8 of the City Code. Under the framework established by state law, Gaithersburg requires:

- Stormwater management concept plan submittal, approval, and criteria;
- Stormwater management and sediment control design plan submittal, approval, and criteria;
- Sediment control permit inspections and enforcement; and
- Stormwater management inspections, maintenance, and enforcement.

Stormwater management is required for 20 percent of the site's impervious area if a redevelopment involves one-third of the site; required for the entire site if a redevelopment involves more than two-thirds of the site; and required for up to the entire site if the project redevelops between one-third and two-thirds of the site (§ 8-22).

City of Rockville. Rockville's Sediment Control and Stormwater Management ordinance is established under Chapter 19 of the City Code. Under the framework established by state law, Rockville requires:

- Stormwater management concept plan submittal, approval, and criteria;
- Stormwater management and sediment control design plan submittal, approval, and criteria;
- Sediment control permit inspections and enforcement; and
- Stormwater management inspections, maintenance, and enforcement.

In accordance with Rockville Sediment Control and Stormwater Management Regulations, Article II, Division 1B, stormwater management is required for water quantity and quality management for only the disturbance area if the project disturbs less than 50 percent of the project's total area. If the project disturbs more than 50 percent of the project's total area, water quality and quantity management must be provided for the entire site.

D. MCPS Stormwater Management and Sediment Control Management Practices

This section summarizes MCPS' standardized practices for complying with county and municipal stormwater management and sediment control requirements, as well as requirements of special protection areas. The discussion in this section focuses primarily upon standardized practices for complying with Montgomery County stormwater management and sediment control requirements.

1. Stormwater Management and Sediment Control for MCPS Construction Projects

In order to meet stormwater and sediment control permitting requirements for construction projects, MCPS first arranges and attends a stormwater management pre-concept review meeting with the appropriate county or municipal reviewing agency. Based upon understandings developed and direction received during that meeting, MCPS must complete a stormwater management concept plan, a final stormwater management design plan, and an erosion and sediment control plan. MCPS staff report that the entire stormwater management and sediment control plan approval process for construction projects takes about 11 months.

Stormwater management concept plan. Prior to applying for a sediment control permit, MCPS develops a stormwater management concept plan during the Schematic Design Phase of the project. The stormwater management concept plan stage requires MCPS to concurrently assess the appropriate engineering needs of the site and building using field and laboratory test results. The stormwater concept plan is a collection of initial descriptions and drawings of the project, which determines the scope, feasibility, and challenges of the site's stormwater management. The concept plan covers both stormwater quantity and quality issues. Specifically, it includes:

- A description of how stormwater runoff from the development will be controlled to preserve or improve water quality, prevent on-site and off-site stream channel erosion, maintain groundwater levels, and limit stormwater discharge from the site to predevelopment levels;
- An overview of potential soil erosion and sediment control facilities specific to the project and site;
- An analysis of existing water quality conditions; and
- The results of geotechnical investigations.

MCPS submits the stormwater concept plan to DPS for approval. MCPS staff report that the DPS review process often involves multiple revisions prior to approval. The stormwater management concept plan development stage is also where MCPS proposes, in conjunction with DPS, to what extent stormwater management will be required, and whether the stormwater management plan needs to cover the entire property or just the new construction areas.

After receiving approval from DPS, MCPS submits the stormwater concept plan and a Forest Conservation Plan (FCP) to the Planning Board as part of the legally required background information for the mandatory referral process. As stated in Chapter III, final FCP approval is required before MCPS can develop and submit a final erosion and sediment control/stormwater management plan. The Planning Board can also approve additional stormwater management conditions not included as part of DPS' approval; however, these conditions are non-binding. MCPS reports that its policy is to implement the non-binding Planning Board conditions whenever feasible.

Final stormwater management and sediment control plans. In order to obtain a sediment control permit, MCPS must submit a final stormwater management plan and an erosion and sediment control plan. These plans must be prepared in conformance with the approved stormwater management concept plan, and include a copy of the stormwater concept approval letter issued by DPS. Deviation from the approved concept may require a formal revision to the original concept plan and can delay the approval process by several months. MCPS prepares one set of combined stormwater management and sediment control plans for submission as part of the permit application.

The final stormwater management/sediment control plan must be prepared and certified by a licensed Maryland engineer. Any formal landscaping plan required as part of the water quality for a project must also be prepared and certified by a licensed Maryland landscape architect.

MCPS reports that the final stormwater management plans undergo, on average, two or three sets of reviews by DPS staff. After each review, MCPS takes DPS' comments, makes any needed changes, and resubmits the plan. Stormwater management plans contain computations, drawings, and information describing the manner, location, and type of stormwater runoff measures for the entire project. Specific information in a final stormwater management plan includes:

- Soil analysis;
- Drainage and watershed data;
- Detailed landscape plan of the stormwater management parcel;
- Grading, storm drain, and stormwater management plans;
- Storm drain profiles; and
- Stormwater management details.

MCPS staff report that they design and construct the structural best management practices in accordance with the *2000 Maryland Stormwater Design Manual*, and/or local standards instituted by DPS to meet or exceed the applicable minimum control requirements established under county law. Also, MCPS uses manufacturers approved by the Department of Environmental Protection and DPS for all stormwater management control devices used on a project.

Typically, MCPS projects require a fully-engineered erosion and sediment control plan. A sediment control plan details the controls for stormwater runoff and sediment movement on the construction site. MCPS submits a sediment control plan with supporting documents to DPS, including:

- Topographic site plans;
- Erosion and sediment control plans, details, notes; and
- Construction plans.

MCPS reports that the sediment control plans also undergo, on average, two or three sets of reviews by DPS staff. After each review, MCPS takes DPS' comments, makes any needed changes, and resubmits the plan. MCPS staff report that they design and construct sediment control measures in accordance with the most current applicable *Maryland Standards and Specifications for Soil Erosion and Sediment Control*, as well as local standards instituted by DPS.

According to MCPS, plan review and approval for projects located in Gaithersburg and Rockville differ only slightly from the process as described above. Gaithersburg and Rockville issue separate stormwater management permits and sediment control permits, while the County issues one sediment control permit that also covers stormwater management. Additionally, projects located in these municipalities are not subject to the M-NCPPC/County mandatory referral process.

Stormwater management and sediment control implementation. After permit approval, the approved limits of disturbance are physically marked in the field and MCPS, DPS (or the relevant municipal permitting authority), and the project contractor participate in a mandatory pre-construction meeting. MCPS reports that at this meeting, the parties review the approved plans and the sequential order in which the sediment and stormwater control measures must occur.

MCPS reports that DPS and/or municipalities inspect stormwater and sediment control measures every two weeks and after major rain events during the construction process. MCPS also performs internal oversight through its contracting and project management practices to assure that sediment and stormwater plans are being implemented according to the approved plans.

All MCPS construction contracts include standard language rendering the contractor responsible for: all applicable environmental laws and regulations; all approved plans that are incorporated into the contract (which includes approved stormwater and sediment control plans), and work specifications that reference the approved plans.

An example of work specifications contract language from the "Site Clearing" section of a contract for a classroom addition at Washington Grove Elementary School is shown below:

Soil Erosion and Sediment Control: Soil erosion and sediment control measures are required for this site in accordance with the approved plans. Soil erosion and sediment control measures disturbed or damaged by clearing operations shall be restored to operating condition in accordance with the requirements of the approved plan before the end of the work day.

MCPS' Division of Construction staff also report that, as part of a construction contract, they withhold a percentage of the payment until specific milestones are completed for both stormwater management and erosion/sediment control activities. MCPS' policy is to withhold at least 10 percent of the total payment until the project is at least 50 percent complete, and then withhold at least five percent of the total payment until the job is finished.

MCPS assigns one inspector from the Division of Construction's Construction/Inspection Team to oversee all aspects of each project. Each inspector holds bi-weekly progress meetings on-site with the project's general contractor and applicable sub-contractors, depending on the phase of the project. At these meetings, MCPS staff review the construction schedule, visually inspect the project site, and discuss any other issues that have come up (e.g., any failed inspections, potential changes to approved plans, etc.). The Division of Construction's progress meeting schedule for October 2007 is included in the appendix (©1).

MCPS staff report that project inspectors receive copies of any written stormwater or sediment control violations and follow-up with the contractor to ensure the corrective measures are taken within the timeframe provided by the permitting authority.

Once construction is complete, and within 65 days of the accepted date of "substantial completion" of the project, the contractor is responsible for preparing and submitting "as-built" drawings and certification by the design-engineer-of-record that stormwater management facilities are constructed in accordance with the approved permit drawings. MCPS then submits the "as-built" stormwater and sediment control documents and certifications to the permitting authority and requests a final inspection. Prior to final inspection, the contractor is required to flush and clean the entire storm drain and stormwater management system. "As-built" documents consist of the original approved stormwater or sediment control plan with any changes that were approved during the construction process. After final inspection approval from DPS or a municipality, MCPS removes any temporary stormwater or sediment control measures from the site that were required during the construction process.

Projects in Special Protection Areas. For projects located in Special Protection Areas, MCPS submits the additional “water quality inventory” documentation required during the permit review process. The additional documentation includes plans showing avoidance or minimization of impacts on environmentally sensitive areas and priority forest conservation areas; an analysis of available alternatives; and proposed best management practices.

If the project is located in the Upper Paint Branch or Upper Rock Creek Special Protection Areas, MCPS also must comply with environmental overlay zones. Both overlay zones have impervious surface limits. MCPS staff report that it is becoming increasingly difficult to do expansion or addition projects in these SPAs because of the impervious surface limits. If the on-site impervious requirements cannot be met, MCPS staff report that they work with Planning Department staff to determine the amount and location of allowable off-site impervious surface mitigation. MCPS reports that even off-site mitigation is difficult, however, because mitigation must be done within the same SPA and locations are extremely difficult to find.

MCPS staff report that the planned gymnasium addition for Cloverly Elementary School, located in the Paint Branch SPA, is a case study in the difficulty of adding onto schools in an SPA. Since the gymnasium addition is almost all impervious surface, MCPS must offset 2,600 square feet of impervious surface. MCPS reports that it cannot satisfy this on-site at the project site, nor did it budget for off-site mitigation. MCPS has proposed conducting offsite mitigation through improvements to parkland that M-NCPPC is in the process of purchasing. However, a recent letter to MCPS from M-NCPPC staff (attached at ©2) indicates that M-NCPPC does not generally support the use of parkland for mitigation purposes. The letter indicates that the Planning Board will consider MCPS' proposal during the mandatory referral process.

2. Stormwater Management for Existing MCPS Facilities

As noted in section A, MCPS is responsible for inspection and structural maintenance of stormwater management facilities at existing MCPS schools or buildings. To most effectively meet this requirement, in May 2007 the Board of Education entered into a Memorandum of Understanding (MOU) with County Government for the Department of Environmental Protection (DEP) to take over inspection and structural maintenance responsibilities.

Background of MOU development. At the County Council's request, in January 2006 MCPS submitted a list of one-time infrastructure maintenance and information technology funding requests to the Council. Included in MCPS' request was \$1.8 million for stormwater facilities maintenance, which the request stated had “not been performed for several years due to budget constraints.”³ The Council did not approve the request, but agreed that the Education Committee and Transportation & Environment Committee should hold a joint meeting to review the ongoing maintenance issues and whether the Water Quality Protection Fund within DEP may be an appropriate funding source.

³ January 11, 2006 letter from the Superintendent of Schools to the Montgomery County Council.

In October 2006, the joint committees met to discuss the issue and expressed support for MCPS to take care of its maintenance backlog and also to explore with DEP the possibility of transferring stormwater maintenance responsibilities to DEP.

Subsequently, MCPS and the Chief Administrative Officer finalized an MOU in May 2007 that sets forth the stormwater facility maintenance responsibilities of both MCPS and the County.

The County Council approved a \$1.2 million special appropriation in May 2007 to the FY07 Capital Budget and Amendment to the FY07-12 CIP to bring all stormwater management facilities on school sites up to current maintenance standards. MCPS also identified \$164,000 in FY07 operating funds to use for urgent stormwater maintenance work separate from the special appropriation.

Summary of MOU. The finalized “Memorandum of Understanding and Right of Entry Agreement” between the Board of Education and Montgomery County delineates the stormwater maintenance responsibilities between MCPS and DEP. In sum, as of July 1, 2007:

- DEP will perform inspections and structural maintenance work on all stormwater management facilities on MCPS property that are in proper working condition;
- DEP will not accept structural maintenance responsibilities for facilities not in proper working order until MCPS completes all outstanding repairs;
- DEP will assume inspection and maintenance responsibilities for new stormwater facilities completed on MCPS property upon release of the sediment control permit by the County; and
- MCPS will remain responsible for non-structural maintenance activities (i.e., landscaping, grass cutting, removal of trash, and removal of trees and brush on the embankment of a facility).

The MOU also identifies the Water Quality Protection Fund as the funding source for reconstructing, operating, inspecting, and maintaining stormwater management facilities by the County Government.

Status of MOU implementation. At the time of the special appropriation in May 2007, DEP and MCPS had identified 287 stormwater management facilities that would eventually be transferred over to DEP for structural maintenance. Since that time, MCPS and DEP have identified an additional 33 stormwater facilities; bringing the total to 320 facilities for eventual transfer to DEP. DEP staff report that the discovery of additional facilities was primarily due to DEP records not being up to date.

As of September 2007, DEP and MCPS staff report that 194 (61%) of the stormwater facilities are in proper working order and have been accepted into DEP's maintenance program. The 194 accepted includes seven of the ten facilities identified as needing urgent repairs funded through FY07 operating budget dollars. MCPS reports that repair and/or maintenance work has either begun or has been scheduled for the remaining 126 stormwater facilities, and those facilities will be transferred to DEP on an ongoing basis as the work is finished.

DEP staff report that around 150 additional facilities will likely enter the program over the next few years from sites that are currently under construction.

E. Stormwater and Sediment Control Project Data

Upon OLO's request, DPS provided data on county sediment control permits on MCPS projects for calendar years 2004-2007. OLO supplemented this data with information available through DPS' online permit database and MCPS' monthly capital project progress reports.

Table 4-1 displays the number of MCPS sediment control permits issued by DPS each year since 2004, the total number of stormwater and sediment inspections associated with those permits, and the passing rate of the inspections. The data show, for the 51 MCPS sediment control permits:

- DPS has conducted 954 sediment control and 148 stormwater management inspections, an average of about 19 sediment control and 3 stormwater management inspections per permit;
- MCPS projects passed 78 percent of sediment control inspections; and
- MCPS projects passed 89 percent of stormwater management inspections.

Table 4-1: Total Stormwater Management and Sediment Control Inspections with Pass Rates on MCPS Projects by Year of Permit Issuance, 2004-2007

Year Permit Issued	Number of Permits	Stormwater Management		Sediment Control	
		Inspections*	Pass Rate	Inspections*	Pass Rate
2004	12	72	90.3%	385	75.8%
2005	17	45	93.3%	407	76.7%
2006	10	27	77.8%	110	88.2%
2007**	12	4	75.0%	52	84.6%
Total	51	148	88.5%	954	78.1%

* Inspections are the total number of inspections conducted for those permits, which often occur over multiple years. It is not the number of inspections conducted during a calendar year.

**As of October 15, 2007

Source: Department of Permitting Services, OLO

For sediment control or stormwater management inspections that do not pass, DPS requires the MCPS contractor to correct the problems within a set time period. Depending on the nature of the corrective action required, DPS will either conduct a re-inspection or review compliance at the next regularly scheduled inspection.

Summary data on violations and complaints for MCPS sediment control permits are not readily available from DPS' Hansen data management system.⁴ DPS staff report that the Hansen system can currently link violation or complaint data to specific sediment control permits, however it will require changes to some of the existing data entry processes. DPS has begun addressing this issue, specifically reporting that:

“DPS has identified that inspection data results are entered in several different ways into the Hansen data base system. Over the last few months, DPS has brought these issues to light and has begun to examine the methods used by each of the inspection units for capturing data for inspection, notices of violation, and complaints. DPS is developing processes that are intended to enter data into Hansen in a consistent manner.”

“Finaling” Sediment Control Permits. To close-out or “final” a sediment control permit, MCPS must pass a final site inspection, flush out permanent stormwater management facilities (as needed), and submit final “as-built” stormwater and sediment plan documents to DPS. While reviewing DPS data on the 51 MCPS sediment control permits, OLO found that, as of October 15, 2007, 16 (31%) are listed as “finalized” and 35 (69%) are listed as active permits. Many of the permits remain open due to ongoing construction or site work, particularly those permits issued in 2006 and 2007.

However, OLO found that at least 14 of the MCPS sediment control permits issued in 2004 or 2005 remain open, despite the completion of construction activity, because DPS is awaiting final as-built paperwork or stormwater flushing from MCPS. Many of these permits have remained open for well over a year since completion of construction activity.

According to MCPS, this has occurred due to contractors not completing post-construction work as required. MCPS reports that the Division of Construction has implemented the following steps to address the open permits and to prevent future reoccurrence:

- A staff member has been assigned to work with the contractors and complete outstanding items;
- MCPS has hired a separate contractor to prepare the outstanding items for sites where the original contractor is no longer available; and
- MCPS has revised its contract language to require that contractors submit as-built documents within 65 days of completion of work.

⁴ DPS reports that violation and complaint data is kept and can be retrieved from the inspector's permit files.

CHAPTER V. Asbestos

Asbestos is a natural material made up of small fibers that in the past was commonly used in building materials such as ceiling or floor tiles. When asbestos in building materials is solid and undisturbed it is considered safe. If the materials become damaged, the asbestos fibers can become airborne, posing a health risk to people who inhale them. Asbestos-containing material that is friable – meaning that when dry it can be crumbled, pulverized, or reduced to powder using hand pressure – is more vulnerable to the potential release of asbestos fibers. Non-friable material may become friable if damaged.

MCPS' Asbestos Abatement Unit, located within the Division of Maintenance, manages MCPS' compliance with federal and state laws and regulations by monitoring the asbestos in schools and removing it when necessary. This chapter is organized as follows:

- **Part A** summarizes federal laws and regulations for schools containing asbestos;
- **Part B** summarizes State of Maryland laws and regulations involving the licensing and training of employees coming into contact with asbestos;
- **Part C** discusses MCPS' management practices to comply with state and federal asbestos requirements; and
- **Part D** describes MCPS' budget and staffing related to asbestos management.

A. Federal Laws and Regulations

The federal regulatory framework includes authorizing legislation and detailed implementing regulations.

1. Asbestos Hazard Emergency Response Act (15 USC §§ 2641-2656)

The Asbestos Hazard Emergency Response Act (AHERA) of 1986 requires that local education agencies (LEAs) inspect schools for asbestos-containing material, plan response actions when asbestos-containing materials are found, and conduct periodic re-inspections and surveillance. Specifically, AHERA tasked the federal Environmental Protection Agency (EPA) with creating regulations to:

- Determine whether asbestos-containing material is present in a school building, and identify whether the asbestos is friable or non-friable;
- Identify appropriate response actions and the circumstances that would require a response action;
- Require a periodic asbestos inspection, surveillance, and maintenance program;
- Establish provisions for the education of school employees about asbestos;
- Provide standards for the safe transportation and disposal of asbestos materials; and
- Require asbestos management plans for each school building with asbestos.

2. Asbestos-Containing Materials in Schools Rule (40 CFR § 763 Subpart E)

EPA issued regulations implementing AHERA in 1987. The regulation defines asbestos-containing material in school buildings as “any material or product which contains more than 1 percent asbestos” (§ 762.83). There are three types of building materials that may contain asbestos:

- **Surfacing material** – material that is sprayed-on or somehow applied to surfaces for acoustical, fireproofing, or other purposes.
- **Thermal system insulation** – material in a school building applied to pipes, boilers, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.
- **Miscellaneous material** – interior building material such as floor and ceiling tiles.

Inspections. Existing buildings at the time the regulation was implemented, and any building that is newly leased or acquired for use as a school building, must undergo an asbestos inspection performed by an accredited inspector. This initial asbestos inspection must include a visual inspection to identify the location of suspected asbestos-containing materials, and touching each suspected area to determine whether the materials are friable. The regulation states that all materials suspected to contain asbestos based on this inspection must be assumed to be asbestos-containing materials unless sampling proves otherwise (§ 763.85).

For areas that are not assumed to have asbestos, inspectors must randomly collect bulk samples for laboratory testing. If even one sample within a homogeneous area (i.e., an area with material that is uniform in color and texture) is found to have more than one percent asbestos, the homogeneous area is classified as asbestos-containing material (§§ 763.86 – 763.87).

Within 30 days of the inspection, the inspector must submit to the LEA an inspection report and an inventory of the locations and types of asbestos materials. LEAs must conduct a re-inspection of the entire school or facility at least once every three years. During re-inspection, the inspector must visually inspect and assess the condition of all known or assumed friable asbestos-containing material, and also touch non-friable asbestos-containing material to determine whether it has become friable (§ 763.85).

Asbestos Management Plans. Based on the results of the initial asbestos inspection, LEAs must prepare and implement an asbestos management plan for each school or facility with asbestos-containing materials. The asbestos management plan must include:

- The amount, locations, and types of asbestos-containing material in the building that is updated after any response actions;
- Information on inspections performed, including sample results and recommended response actions;

- Preventive measures and response actions that will be taken for any friable asbestos-containing material;
- A plan for re-inspection, operations and maintenance activities, and periodic surveillance;
- Procedures for informing school staff and parents/guardians on planned or in-progress asbestos activities; and
- An evaluation of the resources needed to carry out any planned asbestos management activities. (§ 763.93)

The regulation also specifies that schools must provide written notification to parents/guardians and school staff of the availability of the school's asbestos management plan (§ 763.93).

Response actions. The regulation allows five possible response actions for asbestos-containing materials, depending on the type of material and its condition: encapsulation, enclosure, removal, repair, or operations and maintenance.

While removal is only one of the response actions an LEA may take, the regulation allows schools to remove asbestos materials at any time. During and following removal, encapsulation, or enclosure projects, the regulations require air sampling. The air samples must be analyzed by an accredited laboratory and found to meet certain requirements before the project can be considered complete (§ 763.90).

An operations and maintenance or repair response action is required whenever there is any friable asbestos-containing material in a school building. Requirements of these response actions include:

- Cleaning all carpets and floors in certain areas following an inspection and before a response action;
- Following certain steps, such as restricting entry, whenever someone is performing any operations and maintenance activity that will disturb friable asbestos-containing material; and
- Performing certain procedures after any falling or dislodging of friable asbestos-containing material.

Training. An LEA must ensure that each member of the maintenance and custodial (i.e., building services) staff who works in a building with asbestos receives at least two hours of asbestos awareness training. New employees should be trained within the first 60 days of employment. Training must include information on how to recognize damage or deterioration of asbestos materials; the location of asbestos in a school; and the location of a school's Asbestos Management Plan (§ 763.92).

Staff that will be carrying out activities that will disturb asbestos-containing materials must also receive fourteen hours of additional training that must include information on the proper handling of asbestos-containing materials and the use of respiratory protection and other personal protection measures (§ 763.92).

Periodic surveillance. LEAs must conduct periodic surveillance in each building with asbestos at least once every six months, consisting of visual inspection of all areas that are identified as having actual or assumed asbestos-containing materials. A record of periodic surveillance activity and any change in the condition of asbestos-containing materials must be submitted to the LEA's asbestos contact and included in the Asbestos Management Plan (§ 763.92).

3. National Emission Standards for Hazardous Air Pollutants (40 CFR § 61 Subpart M)

Asbestos waste disposal. EPA's regulation for emission standards includes asbestos waste disposal requirements, which are incorporated by reference into EPA's asbestos in schools regulation. Specific requirements include provisions regarding containerization, transport, and records management. Of specific note, detailed waste shipment records must be signed by the waste generator, waste transporter, and the waste disposal site operator and retained for at least two years.

B. Maryland Laws and Regulations

State of Maryland law and regulation provide licensing and safety standards for businesses or public entities removing or encapsulating asbestos-containing materials.

1. Maryland Code, Environment Article, § 6-401 to § 6-422

The Maryland Code establishes requirements and safety standards for asbestos removal projects in the State of Maryland. State law requires that any business entity or public unit be licensed by the Maryland Department of the Environment (MDE) before removing or encapsulating any asbestos in Maryland (§ 6-409), except in unexpected emergency situations (§ 6-405).

The law tasks MDE with inspecting the procedures of each licensee at least once per year during a removal or encapsulation project (§ 6-406). It also authorizes MDE to adopt any rules or regulations necessary to implement the law on asbestos removal.

2. Code of Maryland Regulations (COMAR) 26.11.21

Regulations established by MDE include the licensing and other requirements stipulated in the Maryland Code, but also provide several worker protection requirements that business or public entities must follow during an asbestos project (26.11.21.05):

- **Respiratory Protection Program** – Before any asbestos project, any business or public unit must prepare a written respiratory protection program and make it available to workers and MDE.
- **Physical Examination** – Any worker who will be involved in an asbestos project must be examined to ensure that they are able to work while wearing a respirator.

- **Training** – Any worker who will come in contact with friable asbestos must have 24 hours of MDE-approved training and any supervisor must have 32 hours of training before participating in any asbestos project. They must also take an annual review course.
- **Protective Clothing and Equipment** – Workers and supervisors exposed to an asbestos environment must wear disposable clothing and respirators.

COMAR also requires disposal of asbestos waste using sealed plastic bags, clearly labeled as asbestos waste. Within 10 days after disposal of asbestos waste, a copy of the disposal record showing the disposal facility and date must be submitted to MDE (26.11.21.08).

C. MCPS Management Practices

This section summarizes MCPS management practices related to asbestos abatement and management in school facilities. As of September 2007, MCPS staff report that approximately half of MCPS schools have asbestos-containing materials. Staff report that most of the remaining asbestos is contained in floor tiles, and that over 90 percent of asbestos abatement activities in recent years have involved floor tile.

The MCPS Division of Maintenance, Asbestos Abatement Unit – consisting of 10 full-time employees – coordinates the monitoring and response to asbestos in schools.

Asbestos Management Plans. MCPS staff report that all MCPS facilities have undergone the required asbestos inspections, and any facility with asbestos has an active Asbestos Management Plan. Prior to 1990, MCPS contracted with an accredited and licensed asbestos management firm to conduct the inspections. Today, if any building were to be acquired that contains asbestos, MCPS in-house staff would conduct the inspections and prepare the management plan.

A school's Asbestos Management Plan includes both the administrative components of federal requirements (e.g., the name of the MCPS asbestos contact, a list of inspectors who contributed to the plan and a description of their accreditation, etc.) and the technical components (e.g., asbestos data and remediation plans). Specific technical components in each MCPS Asbestos Management Plan include:

- A summary of the approximate amount of asbestos-containing material found by type (e.g., floor tiles, ceiling tiles, and pipe fittings), and whether asbestos found was friable or non-friable.
- A table detailing the location and amount of asbestos-containing materials in the building, whether the asbestos is friable, the recommended response action, and estimated response and removal costs.

Examples of this technical information from the Flower Valley Elementary School Asbestos Management Plan, originally completed in May 1989, are included in the appendix (©5).

MCPS also maintains detailed documentation for each asbestos remediation project completed in a school along with the school's management plan documents.

Periodic surveillance and re-inspections. MCPS Asbestos Abatement Unit staff conduct the periodic surveillance and re-inspections required by federal law. Twice a year in each facility with asbestos, MCPS reports that Asbestos Unit staff conduct a visual inspection (i.e., periodic surveillance) to evaluate the condition of any asbestos-containing material and determine the need for any remedial work. MCPS provides the results of these inspections to the schools, which are to be kept on file with each school's Asbestos Management Plan. MCPS reports that staff have a standing schedule for these visual inspections to occur every six months.

Every three years, Asbestos Unit staff perform the required re-inspection involving a re-assessment of the entire building and physically touching all asbestos-containing material to determine if any asbestos has become friable since the last inspection. A written summary of the re-inspection results are added to the school's Asbestos Management Plan, including any changes in recommended response actions.

In addition to these scheduled inspections required by law, MCPS reports that Asbestos Unit staff will also conduct visual inspections or collect samples as needed based on complaints or work orders from school-based staff. MCPS reports that they conduct most asbestos inspections (including all inspections that involve touching asbestos-containing material) after school hours when students are not present. A sample page from an "MCPS AHERA Inspection" report is included in the appendix (©12).

Notification for parents/guardians and staff. Each year, the director of the Division of Maintenance sends a memorandum (attached at ©13) to principals and administrators of asbestos-containing facilities that includes:

- Instructions that schools must distribute an "Annual Notification of Asbestos Management Plan Availability" form to parents/guardians of all students and staff of the school or administrative center.
- A reminder that the MCPS Asbestos Abatement Unit conducts semi-annual inspections of each facility and that results of these inspections must be kept on file with each facility's Asbestos Management Plan.
- Instructions that principals/administrators must fill out a "Verification of Notification Action" form that verifies that the annual notification form was distributed to all parents/guardians, the president of the school's PTA, and all staff members of the school or office. The signed original of the verification form must be kept with the Asbestos Management Plan, and a copy must be sent to the Asbestos Abatement Unit.

According to MCPS, most schools distribute the annual notification form as part of the back-to-school packet sent to the parent/guardian of every enrolled MCPS student. Division of Maintenance staff are not aware of any instance where the asbestos notification form was not distributed as required. Division of Maintenance staff also report that EPA and the Maryland Department of the Environment will conduct periodic asbestos compliance inspections, and will ask to see the Verification of Notification Action forms.

Training. To comply with federal regulations, MCPS provides asbestos training to building service workers within School Plant Operations and employees within the Division of Maintenance.

All new Division of Maintenance and School Plant Operations employees must attend a two-hour training session conducted by Asbestos Abatement Unit staff. Existing maintenance and building service staff may also attend these sessions if they would like to refresh their knowledge. The sessions are offered in English, but MCPS has translated the training handouts and materials into Korean, Chinese, French, and Spanish. As part of the training, building service workers learn to be aware of the possibility of asbestos in areas that they will clean or maintain, particularly floor and ceiling tiles. The training also includes procedures to follow if an employee suspects that asbestos-containing materials have been disturbed.

As required by federal and state law, MCPS' Asbestos Abatement Unit staff receive separate training from state-approved contractors, which results in their certification as asbestos abatement workers, supervisors, and inspectors in the State of Maryland. Copies of each employee's certification are kept on file by the Division of Maintenance. In addition to the original certification, each employee takes the required annual review course. Some Asbestos Unit staff are also trained as asbestos project designers and management planners.

Maintenance procedures for building service staff. The Asbestos Abatement Unit developed guidelines for building service personnel to minimize the risk of damage leading to the release of asbestos fibers during regular cleaning of asbestos floor tile. These guidelines (attached at ©16) provide instructions not to sand, drill, or cut vinyl asbestos tile, and explain how to properly buff and strip floors to prevent the disturbance of asbestos-containing floor covering.

Response to suspected asbestos problems. MCPS has developed a written response procedure for addressing asbestos problems recognized by building service staff (i.e., unplanned abatement activity that becomes necessary). The asbestos response procedure consists of six steps, summarized below:

- 1) Building service staff submit a work order to the Asbestos Abatement Unit describing the problem. The Unit reports prioritizing work based on the level of hazard posed.
- 2) The Asbestos Abatement Unit notifies the school when they have scheduled the abatement activity and what area of the school will be affected.
- 3) As required by Maryland law, the Unit sends an Asbestos Project Notification form to the Maryland Department of the Environment. This form includes information on how much asbestos will be removed, who will transport the asbestos-containing materials, and where materials will be taken for disposal.
- 4) Unit staff review the work to be done to determine what materials will be required. If the project covers an area greater than 160 square feet, a notification sign is posted outside the school at least three days before the project begins.
- 5) Unit staff or licensed contractors complete the remediation project.
- 6) A Formal Response Action document is completed and delivered to the school.

Asbestos abatement activities/workload. MCPS' primary response action for asbestos problems is removal and replacement of asbestos-containing materials. Most of the abatement projects are for floor tile, but there are also some that involve pipe insulation and/or ceiling tiles.

Asbestos work is divided into two categories: small jobs (abatement area less than 160 square feet) and large jobs (abatement area greater than 160 square feet). MCPS reports that Asbestos Abatement Unit staff perform the small abatement jobs in-house. During the school year, work on small jobs occurs in the evenings (Monday through Thursday) when students are not in the school building. MCPS works on large abatement jobs on Friday evenings and during the summer, unless the specific hazard posed requires immediate action during the school year. Abatement work on large jobs are performed both in-house with unit staff and with outside contractors, depending on the workload of projects that need to be completed.

At OLO's request, MCPS compiled data on the number, type, and scale of abatement projects completed by the Asbestos Abatement Unit over the last two fiscal years, as shown in Table 5-1 below.¹ The data indicate that the Unit performed 265 abatement projects in FY06 and FY07 and removed over 76,000 square feet of asbestos floor tile from schools.

¹ Data for projects performed by outside contractors was not readily available.

Table 5-1: MCPS In-House Asbestos Abatement Projects, FY06 and FY07

Type of Project	FY06 Projects		FY07 Projects	
	Number	Asbestos Abated	Number	Asbestos Abated
Floor Tile, <160 sq. ft.	93	10,861 ft ²	68	7,630 ft ²
Floor Tile, >160 sq. ft.	29	32,933 ft ²	21	24,785 ft ²
Ceiling Tile	13	N/A	14	N/A
Pipe Insulation	2	~20 Fittings	12	>235 Fittings
Other*	8	N/A	5	N/A
Total	145	43,794 ft²	120	32,415 ft²

*The Unit occasionally performs other related environmental tasks, particularly ones that need environmental containment similar to asbestos-hazard conditions. These include cleaning areas with extensive pest contamination (bird, mouse, bat, etc.), some mold remediation, and other potentially hazardous conditions. Source: MCPS Division of Maintenance

Asbestos air monitoring. All MCPS asbestos removal projects, whether done in-house or by outside contractors, must comply with air testing protocols before, during, and after the completion of the project. MCPS contracts out air monitoring responsibilities to an industrial hygiene contractor for all of its asbestos removal projects, even those performed by MCPS staff. MCPS reports adopting this practice as a means of ensuring the independence of air sampling.

The air sampling contractors are present throughout an asbestos removal job. Air sampling is conducted before a project starts to obtain baseline readings, and at several points during the project both inside and outside of the containment system that is set up. After a project is complete, a minimum of five clearance air samples must be within acceptable levels (a fiber concentration <0.01 fibers per cubic centimeter of air) before the area or room can be re-occupied.

An air monitoring summary page for an asbestos abatement project completed at Carderock Springs Elementary School is attached at ©17. This project involved removing 120 square feet of asbestos containing floor tile. The summary indicates that the contractor took 21 air samples during the project: 5 background samples, 11 during the project (including personal samples of the breathing zone of the workers), and 5 clearance samples at the end of the project.

Asbestos disposal. MCPS follows a two-step process for asbestos waste disposal. First, asbestos waste from a project is taken for temporary storage to a permanent trailer maintained by the Division of Maintenance at the Shady Grove depot. MCPS' trailer is licensed by the State of Maryland as a temporary asbestos waste storage facility. All asbestos waste going to the Shady Grove depot is transported wet and in a sealed plastic bag, in accordance with federal and state regulations.

In addition to air sampling, MCPS' industrial hygienist contractor verifies the adequacy of MCPS' asbestos waste disposal methods. When the asbestos waste storage trailer becomes full, MCPS utilizes a licensed hazardous waste contractor to transport the waste and dispose of it in a licensed hazardous waste disposal facility. After disposal, the contractor provides MCPS with a signed waste shipment record and manifest that proves final disposal. An example of a shipment record and manifest are included in the appendix at ©18. MCPS' asbestos disposal contracts state that MCPS will not pay the contractor until the receipt of the signed waste shipment record and manifest.

D. Budget and Staffing

MCPS' Asbestos Abatement Unit consists of 10 full-time positions: one environmental health specialist, one environmental design assistant, one environmental abatement supervisor, one data systems operator, and six environmental abatement technicians.

MCPS funds the cost of the Asbestos Abatement Unit personnel and the abatement project costs through its Asbestos Abatement capital project. This is an ongoing capital project that was initially funded by the Council in FY81.

The current Asbestos Abatement project funding level in the approved FY07-FY12 CIP is \$981,000 each fiscal year. Of the \$981K, salaries and wages for the 10 positions account for \$662K (67%), benefits account for \$223K (23%), and other project-based costs account for the remaining \$96K (10%).

Through partial closeout in FY06, approximately \$25 million has been spent through MCPS' Asbestos Abatement capital project since its initial appropriation in FY81.

CHAPTER VI. Hazardous Materials

Hazardous materials are materials that are ignitable, corrosive, reactive, or toxic. If not maintained, used, and disposed of properly, hazardous materials can have negative health and environmental impacts. This chapter describes three regulatory areas related to hazardous materials that apply to MCPS: employee access to information about hazardous and toxic substances, community right-to-know reporting, and hazardous waste disposal. This chapter is organized as follows:

- **Part A** summarizes federal hazardous material laws and regulations;
- **Part B** describes State of Maryland hazardous material laws and regulations;
- **Part C** describes Montgomery County hazardous material regulations;
- **Part D** reviews MCPS' management practices related to hazardous materials; and
- **Part E** describes MCPS' FY08 budget and staffing related to hazardous materials.

A. Federal Laws and Regulations

The Federal Government has enacted laws and corresponding regulations for three regulatory areas related to hazardous materials: employee access to information about hazardous and toxic substances, community right-to-know reporting, and hazardous waste disposal. This section summarizes key components of the laws and regulations that can impact school facilities.

1. Employee Access to Information about Hazardous and Toxic Substances

The federal Occupational Safety and Health Act of 1970 (OSHA) requires the Secretary of Labor to establish occupational safety and health standards to protect workers.

- **Federal Hazard Communication Standard (29 CFR § 1910.1200)**

The Hazard Communication Standard, authorized by OSHA, requires "all employers to provide information to their employees about hazardous chemicals to which they are exposed, by means of a hazard communication program, labels and other forms of warning, material safety data sheets, and information and training" (§ 1910.1200(b)(1)). This regulation defines a hazardous chemical as "any chemical which is a physical hazard or a health hazard" (§ 1910.1200(c)) and it applies to "any chemical which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency" (§ 1910.1200(b)(2)).

Written hazard communication program. Employers must have a written hazard communication program, which is a document that describes how they will meet the regulatory requirements related to warning labels, material safety data sheets, and employee information and training. It should also include a list of hazardous chemicals present in the workplace (§ 1910.1200).

Warning labels. The Standard requires that all containers of hazardous chemicals in the workplace must be labeled, tagged, or marked with the identity of the hazardous chemical and a warning about the hazards of the chemical. The label or other form of warning must be in English. An employer may, but is not required to, add information in other languages as well (§ 1910.1200(f)).

Material safety data sheets. Employers must have a material safety data sheet for each hazardous chemical used in the workplace and must make the data sheets accessible to employees. Each data sheet must be in English (it may also be in additional languages) and must include detailed information about the chemical or mix of chemicals, such as:

- The chemical and common name;
- The physical and health hazards of the chemical;
- The recommended exposure limit and precautions for safe handling;
- Emergency and first aid procedures; and
- Contact information for further details. (§ 1910.1200(g))

Employee information and training. The standard requires that employers provide training on hazardous chemicals at the time of an employee's initial assignment and whenever a new physical or chemical health hazard is introduced to an employee's work area. The employee training must include information on the employer's written hazard communication program, including the labeling system used and the location and availability of the material safety data sheets. The training should also include how employees can protect themselves from exposure to hazardous chemicals, the risks that hazardous chemicals pose, and how to recognize the presence or release of hazardous chemicals in the work area (§ 1910.1200(h)).

2. Community Right-to-Know Reporting

- **Emergency Planning and Community Right-to-Know Act (42 USC §§ 1101-1105 and §§ 11021-11023)**

The Emergency Planning and Community Right-to-Know Act (EPCRA) is Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986. The law was enacted for emergency response planning to protect communities from hazardous chemicals.

Emergency planning and notification. EPCRA requires the establishment of state and local emergency planning committees (§ 11001). EPCRA requires each local emergency planning committee to create an emergency plan for their district that includes, among other things, procedures that facility owners and operators must follow in the case of an accidental release of a hazardous substance (§ 11003).

EPCRA tasks EPA with publishing a list of extremely hazardous substances and establishing threshold levels for each substance. EPA's list is published in the Code of Federal Regulations (40 CFR § 355, Appendix A and B).

Reporting requirements. To fulfill reporting requirements, the owner or operator of a facility containing hazardous substances must submit certain information to local agencies, which are also available to the public upon request.

Specifically, the owner or operator of the facility must (at minimum) submit the following to the appropriate local emergency planning committee, the state emergency response commission, and the fire department with jurisdiction over the facility:

- A material safety data sheet for each hazardous chemical in the facility; or
- A list of the hazardous chemicals in the facility. (§ 11021(a))

3. Hazardous Waste Disposal

- **Resource Conservation and Recovery Act (42 USC §§ 6903-6939)**

The 1976 Resource Conservation and Recovery Act (RCRA) authorizes EPA to control hazardous waste from “cradle-to-grave,” meaning from generation to ultimate disposal. RCRA establishes the following definition of hazardous waste:

A solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

RCRA tasks EPA with regulating generators of hazardous waste by specifying requirements for recordkeeping, storage, transportation, disposal, and reporting (§ 6922).

- **Hazardous Waste Management (40 CFR §§ 260-279)**

EPA regulations establish lists of hazardous wastes based on four characteristics of hazardous waste: ignitability, corrosivity, reactivity, and toxicity. Even if a waste is not on one of the four lists, it may be considered hazardous if it exhibits one of those four characteristics (§ 261). All solid waste generators must determine if their waste is a hazardous waste. They can do this by first determining if the waste is excluded from regulation, and then checking the list of hazardous wastes (§ 261). If the waste is not listed, the generator must still test the waste using methods described in the regulations (§ 262).

Waste manifest. A generator who transports, or offers for transport, a hazardous waste for offsite treatment, storage, or disposal must prepare a waste manifest using standardized forms created by EPA. On the manifest, the generator must designate a facility that is permitted to handle the waste. The manifest must be signed by the generator and the initial transporter on the date of acceptance of the shipment, and by the operator of the designated disposal facility confirming receipt of the waste shipment. The generator must keep a copy of each manifest for three years (§ 262).

- **The Comprehensive Environmental Response, Compensation, and Liability Act (42 USC § 9601-9675)**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, was enacted in 1980. Among other things, this act established liability for a release of a hazardous substance among a number of possible parties (including the initial generator of the waste) regardless of which point along the disposal chain a release occurred.

More specifically, CERCLA states that the owner or operator of a hazardous waste disposal facility, the transporter of the hazardous waste to the facility, and the initial generator of the hazardous waste that arranged for the transport and disposal, are all subject to liability for the cost associated with a release or spill of that hazardous substance (§ 9607).

B. Maryland Laws and Regulations

This section summarizes key components of laws and regulations enacted by the State of Maryland related to access to information about hazardous and toxic substances and hazardous waste disposal.

1. Access to Information about Hazardous and Toxic Substances

The State of Maryland Code and associated regulations re-affirms the federal standards and creates some additional requirements.

- **Maryland Code, Labor and Employment Article, § 5-401 to 5-410**

The Maryland Code states that employers must comply with the Federal Hazard Communication Standard. The Code also provides requirements for how an employer should maintain the list of hazardous chemicals in the workplace, referred to as the chemical information list (CIL):

- When a hazardous chemical is used for the first time in the workplace, the employer must add it to the CIL within 30 days; and
- The list must contain the chemical and common name of each hazardous chemical and identify the work area(s) where the chemical is found. (§ 5-405, 5-406)

An employee or a designated representative has the right to ask an employer for access to a chemical information list, which the employer must provide within one working day. An employee may also ask for a copy of the CIL or any material safety data sheet in the employee's workplace, which the employer must provide within five days (§ 5-407).

The Maryland Department of Labor, Licensing, and Regulation subsequently issued a regulation providing more detail on how to maintain the CIL (COMAR 09.12.33).

2. Hazardous Waste Disposal

- **Code of Maryland Regulations (COMAR) 26.13**

Maryland regulations regarding hazardous waste disposal mirror federal regulations, but also include some additional requirements.

Generators of hazardous waste. The State of Maryland defines two types of hazardous waste generators, subject to different regulations. "Small quantity generators," those who produce less than 100 kg of hazardous waste per month, have to identify the quantity of hazardous waste that they produce and dispose of it in a qualified facility (26.13.02.05).

"Large quantity generators," those who produce 100 kg or more of hazardous waste, have to follow more extensive regulations such as obtaining an EPA identification number from the Maryland Secretary of the Environment; completing waste manifests; and contracting with certified transporters to move the hazardous waste (26.13.03).

Waste manifest. After receiving copies of the waste manifest as required by the federal regulations, large quantity generators must forward a signed copy to the Maryland Department of the Environment and to the state in which the disposal facility is located if required by that state (26.13.03).

Biennial report. Large quantity hazardous waste generators must submit a biennial report to the Maryland Secretary of the Environment with information on the hazardous waste generated in the previous calendar year (26.13.03).

C. Montgomery County Laws and Regulations

Montgomery County regulation (COMCOR 22.00.01) creates local requirements for community right-to-know reporting for hazardous materials.

The county regulation requires "all facilities using, processing, transferring, storing, or manufacturing hazardous substances, that exceed a minimum threshold level, to report these substances and their locations, develop contingency plans in the event of accidental release, and provide these plans to the Division of Fire and Rescue Services on behalf of the Local Emergency Planning Council." The regulation defines categories of facilities (22.00.01.02), including:

- **SARA Facility** – any facility subject to the emergency planning and reporting requirements of the Emergency Planning and Community Right-to-Know Act.
- **High Use Facility** – any facility that uses, processes, stores, transfers, or manufactures one or more hazardous substances **as to pose significant risk of injury to emergency responders or the surrounding community.**

- **General Use Facility** – any facility that uses, processes, stores, transfers or manufactures one or more hazardous substances **as to generally pose a risk of injury** to emergency responders or the surrounding community.
- **Light Use Facility** – any facility that uses, processes, stores, transfers, or manufactures one or more hazardous substances **as to pose a recognized limited risk** of injury to emergency responders or the surrounding community.

All facilities that fall under one of the four categories listed above must register annually with the Office of Emergency Management in the Division of Fire and Rescue Services (22.00.01.03). The regulation also authorizes personnel from the Montgomery County Fire and Rescue Services and the Department of Environmental Protection to inspect the facility for familiarization, pre-emergency planning, and compliance (22.00.01.05).

D. MCPS Management Practices

This section describes MCPS management practices and procedures for access to information on hazardous and toxic substances in the workplace, community right-to-know reporting, and hazardous waste disposal.

1. Access to Information about Hazardous and Toxic Substances

The MCPS Department of Facilities Management has developed and implemented a written hazard communication program to comply with federal and state laws and regulations (attached at ©20). The program document is available for review by any employee in several MCPS offices, including the *Division of Maintenance* and the *Division of School Plant Operations*. The program document describes the steps taken to compile a chemical information list, implement a labeling system, maintain material safety data sheets, and provide information and training to employees as described below.

Chemical information list (CIL). In accordance with the federal and state requirements, MCPS compiles a chemical information list with all of the hazardous chemicals used and/or stored at schools or other MCPS facilities. The CIL is maintained by the School Safety Team within the Department of Facilities Management. Last updated on January 30, 2007, MCPS' CIL lists the chemicals used in MCPS facilities broken down into the following categories:

- Schools (separate categories for Elementary, Middle, and High Schools, and the Edison High School of Technology);
- Maintenance Depots;
- Offices;
- Print Shop;
- Transportation Depots; and
- Warehouse.

For each chemical, the CIL includes the common or trade name of the product, the chemical name, and where the product is stored or used. Chemicals that are used in more than one of MCPS' categories (e.g., Elementary Schools and High Schools) are listed in each applicable category.

MCPS' Chief Operating Officer (COO) distributes the CIL to the principal of each school and director of each facility and requires that the CIL is kept in the main office files and is made accessible to employees. In a letter attached to the CIL, the COO also requires the appropriate staff from each school or facility to review the list and determine if any chemicals are used or stored at a facility but are not on the list. For any chemical that needs to be on the CIL, the letter instructs staff to fill out an "Additions to Chemical Information List" form that is attached to the CIL and send the form to the School Safety Team.

MCPS staff report that they continually update the list. They also revise and resubmit the CIL to the Maryland Department of the Environment every two years.

Approved products database. In addition to the mandated CIL, MCPS compiles and publishes an approved products database. The database lists all products that have been reviewed for use in MCPS facilities, regardless of whether the product meets the criteria for inclusion on the CIL. MCPS publishes the approved products database online.¹

For each product, the database includes the product name, type, manufacturer, primary ingredients, associated health hazards, material safety data sheet number, and primary MCPS user. The database lists both approved products and those that MCPS' has reviewed and not approved for use in MCPS facilities.

As of September 2007, the Approved Products Database includes 1,792 products – 1,710 approved for use and 82 not approved for use. According to MCPS staff, employees are only allowed to use approved products within MCPS facilities.

Labels. The Department of Materials Management is responsible for ensuring that all incoming containers with hazardous chemicals have the required labels. Staff check to ensure that the labels on each container include:

- The identity of the container's contents;
- The manufacturer's name and address; and
- Specific warnings regarding impacts to the human body.

MCPS staff report that chemicals usually come with all the correct labeling on the containers. When a portable container is going to be used, MCPS' standard procedure is to put a temporary label on the container identifying the date when it is being used and the hazard type (e.g., flammable, corrosive, or irritant).

¹ <http://montgomeryschoolsmd.org/departments/iaq/products.shtm>

MCPS does not translate container labels into other languages. However, if requested by an employee or a building supervisor, MCPS will contact the manufacturer to see if the label is available in other languages.

Material safety data sheets. MCPS' School Safety Team maintains a central record of material safety data sheets, as do the immediate supervisors of personnel who will be exposed to those chemicals. MCPS reports that employees may request a copy of a data sheet from either the safety supervisor or their immediate supervisor. Material safety data sheets for several products used by the Environmental Services/IAQ Unit are available online.²

As with container labels, MCPS does not translate material safety data sheets into other languages. However, if requested by an employee or a building supervisor, MCPS will contact the manufacturer to see if the data sheet is available in other languages.

Employee information and training. MCPS' required training for building services staff and other staff that work with hazardous materials includes a course titled "Hazard Communication/Employee Right-to-Know Training." Employees have to take this training when they are first hired, but also are allowed to retake the training course at their request. The Hazard Communication training is generally conducted as part of a schools in-service training day. The topics covered in the mandatory training include:

- An overview of federal, state, and MCPS requirements (including the chemical information list, material safety data sheets, and product labeling);
- Employee responsibilities and risk reduction;
- Common chemical products used; and
- Discontinued products.

Additionally, in compliance with federal regulation, MCPS requires immediate supervisors to train new employees on the use of hazardous chemicals prior to their initial assignment. The supervisor must review the CIL and applicable material safety data sheets with a new employee. When new chemicals are added to the CIL, supervisors must meet with all the potentially affected employees to review the material safety data sheet, discuss the proper use of the product, and go over any necessary protective measures. MCPS reports that they will provide interpreters for these meetings if requested.

2. Community Right-to-Know Reporting

As required by county regulation, MCPS registers each school and any other facility that contains hazardous substances with the Montgomery County Fire and Rescue Service (MCFRS) as a Hazardous Materials Use Site. Each facility receives a Hazardous Materials Use Certificate, a second copy of which is maintained by the Department of Facilities Maintenance. The certificate includes the category of the facility (i.e., SARA, high, general, or light use facility) and the date of certificate expiration.

² <http://montgomeryschoolsmd.org/departments/iaq/MSDS.shtm>

MCPS reports that all schools qualify as Light Use or General Use facilities, and maintenance depots are classified as General Use or High Use facilities depending on the amount of gasoline stored at the site. Examples of the Hazardous Materials Use Certificate are included in the appendix (©29). MCPS reports that the annual Hazardous Material Use Certificate application requires MCPS to list the types and amounts of hazardous materials on the property, and verify maintenance of a manifest of hazardous waste at each school.

Emergency response. MCPS staff report that hazardous material spills rarely occur at school locations. If there is an emergency incident with hazardous materials at a school, MCPS' policy is to call MCFRS as the first responders, regardless of the type or amount of material spilled. In addition, the Safety Supervisor of the Department of Facilities Management is notified of all hazardous material spills. Any students or staff that were exposed to the material are examined by school health staff. MCPS also provides written notification to students, parents/guardians, and staff of a hazardous materials incident, usually the same day it occurs. An example of a notification letter describing an incident where a student brought mercury to Rockville High School and the response that occurred is included in the appendix (©31).

“Green” cleaning. In addition to following the mandated hazardous material storage, use, reporting, and response procedures, MCPS reports working to minimize use of hazardous chemicals through an emphasis on “green cleaning products” intended to reduce the amount of waste, chemicals used, and environmental contaminants. The Division of School Plant Operations Healthy, High Performance Cleaning Initiative aims to use environmentally-friendly “green” cleaning techniques to improve indoor air quality and protect workers and other building occupants from the effects of non-green chemicals. SPO developed the program to meet housekeeping requirements for the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification, first achieved for Great Seneca Creek Elementary School. SPO is now extending the program to all schools to meet LEED standards for existing buildings.³

3. Hazardous Waste Disposal

MCPS' four maintenance depots are its largest generators of hazardous waste, such as unwanted paint or pesticides. Schools can also generate hazardous waste from the use of chemicals in school science labs, paints in art class, and chemicals used to clean the building if the materials are not used up and require disposal. MCPS reports that all of its facilities, other than the Shady Grove Depot, are small quantity generators under Maryland regulations.

Disposal from the Division of Maintenance. MCPS hazardous waste disposal is primarily managed by the Division of Maintenance.⁴ MCPS reports that unwanted chemicals from maintenance operations are taken to the Shady Grove depot where the waste is put into 55-gallon drums according to chemical class by a qualified contractor.

³ www.mcps.k12.md.us/departments/facilities/greenschoolsfocus/gb.shtml#LEED

⁴ Excluding waste oil, which is handled by MCPS' Department of Transportation.

When a school-based building service worker has to dispose of a hazardous chemical used for cleaning or maintenance, the building service manager contacts the Division of Maintenance. MCPS staff report that if the quantity of waste material is under exempted limits for that facility (i.e., less than 100 kg per month), they will transport the material to the Shady Grove depot. If the quantity of the hazardous waste exceeds exempted limits, staff will contract out the disposal to a certified transporter directly from the facility.

Once MCPS has accumulated a sufficient quantity of hazardous waste at the Shady Grove depot, Division of Maintenance staff arrange for hazardous waste transportation and disposal with licensed vendors. As required by law, MCPS fills-out and maintains a hazardous waste manifest form for each shipment. A copy of a completed hazardous waste manifest and associated documentation for the disposal of 12 drums of hazardous waste is included in the appendix at ©32. Division of Maintenance staff report that they have not had any instances in recent years where a disposal facility did not properly return a completed waste manifest.

Disposal from a school. The Department of Curriculum and Instruction (DCI) holds a contract with a vendor for the packaging, documentation, transportation, and disposal of hazardous chemicals from MCPS' middle and high schools. For disposal of hazardous chemicals (primarily from science labs), school staff notify the Department of Curriculum and Instruction that they need a hazardous waste pickup. DCI contacts the vendor, and the vendor arranges with the school directly for pickup. Each MCPS middle and high school receives an EPA ID number, as coordinated by the Department of Facilities Management's Safety Supervisor position. As with shipments from the Division of Maintenance, MCPS fills-out and maintains a hazardous waste manifest form for each shipment.

Hazardous waste report. MCPS submits a biennial waste generation and management report to the Maryland Secretary of the Environment. MCPS' most recent report, for calendar year 2005, indicates that they shipped 2,640 pounds (or approximately 1,200 kg) of hazardous waste for disposal.

E. Budget and Staffing

MCPS does not dedicate any staff solely to hazardous materials management. The safety supervisor in the Department of Facilities Management and certain Division of Maintenance staff provide MCPS' hazardous materials management as part of their duties.

The Division of Maintenance's FY08 operating budget includes a \$29,201 line-item for the disposal of hazardous wastes managed by the Division of Maintenance. The FY08 amount is unchanged from the FY07 funding level. This amount does not include the cost of disposal for hazardous waste from individual school science labs, which is coordinated by the Department of Curriculum and Instruction.

CHAPTER VII. Integrated Pest Management

Integrated Pest Management (IPM) is a pest reduction strategy that attempts to use environmentally safe procedures, such as structural repairs, maintaining proper sanitation, and regularly monitoring the presence of pests. Because pesticides are potentially harmful to human health and the environment, IPM strives to use pesticides only when needed depending on the specific circumstances.

This chapter is organized as follows:

- **Part A** presents Maryland law and regulation on IPM implementation by school systems;
- **Part B** describes the MCPS management practices used to implement an IPM program in MCPS schools and facilities according to state requirements; and
- **Part C** describes MCPS' budget and staffing dedicated to IPM.

A. Maryland Laws and Regulations

Maryland has a specific law and regulation associated with IPM in school facilities.

1. Maryland Code, Agriculture Article, § 5-208.1

Maryland law includes specific requirements for schools on IPM implementation, notification of IPM programs, and notification of pesticide applications.

Implementation of IPM. Maryland law tasks the Maryland Department of Agriculture (MDA) with developing “uniform standards and criteria for implementing integrated pest management systems in schools” and on school grounds (§ 5-208.1(c)). The law also requires each county board of education to develop and implement an integrated pest management program for use in school buildings and on school grounds that is approved by the Secretary of MDA (§ 5-208.1(d)). Integrated pest management is defined as:

A managed pest control program in which methods are integrated . . . through the utilization of site or pest inspections, pest population monitoring, evaluating the need for control, and the use of one or more pest control methods including sanitation, structural repair, nonchemical methods, and, when nontoxic options are unreasonable or have been exhausted, pesticides (§ 5-208.1(a)(6)).

School notice requirement. At the beginning of each school year, schools must provide notice of their IPM system to parents/guardians and school staff in the school calendar or “other universal notification.” The notice must include:

- A description of the school’s integrated pest management system, including a list of pesticides or bait stations that may be used;
- A phone number to call for additional information; and
- Instructions on how a parent/guardian or staff member may be included on a notification list for pesticide applications. (§ 5-208.1(f))

Notification of a pesticide application. Each school must develop a notification list for parents/guardians or staff who request in writing that they want to be notified prior to the application of a pesticide in the school building or on school grounds during the school year (§ 5-208.1(g)).

The law includes different notification distribution requirements for elementary schools than for middle and high schools. For elementary schools, a school must provide notification to all parents/guardians and staff at least 24 hours before a pesticide application. For middle and high school, a school only must provide notification to the individuals on the notification list. The notification must include:

- The common name of the pesticide applied;
- The location of the application;
- Planned date and time of application; and
- US EPA warning on sensitivities to pesticide exposure.

The notice can be in the form of a written notice sent home with students and provided to staff, a telephone call, direct contact, or written notice mailed at least three days before the pesticide application. (§ 5-208.1(i))

Emergency pest control. The law allows emergency pesticide application without prior notice, but requires post-application notification within 24 hours or on the next school day. The post-application notification should include all the information provided for a planned application, as well as the reason for the emergency application. (5-208.1(k))

Bait station use. Each school system must develop some means of in-school notification before placing a bait station in the school building (e.g., posting a sign on the door of the room in which it is placed). (§ 5-208.1(l))

2. Code of Maryland Regulations (COMAR) 15.05.02

State regulations establish IPM implementation and pesticide applicator requirements.

Implementation of IPM. COMAR specifies several mandatory components for the IPM program that each county board of education must develop and implement, including:

- 1) Procedures for conducting the pest control program, including pest management objectives;
- 2) Procedures for regular inspection and monitoring activities to determine the presence and distribution of pests;
- 3) Standards to determine the severity of pest infestation and need for corrective action;
- 4) Record keeping to document pest sightings, pest control procedures, and any communications to students and staff members regarding integrated pest management or pesticide use;

- 5) Pest management strategies, including sanitation, structural repair, physical, cultural, and biological control, non-chemical methods and pesticide application when nontoxic methods options are unreasonable or have been exhausted;
- 6) Education and training of staff members, students, and parents or guardians in integrated pest management procedures;
- 7) An annual evaluation of integrated pest management strategies, and program quality assurance; and
- 8) Procedures for notification of a parent or guardian of a student attending the school and of a staff member at the school before a pesticide is applied in a school building or on school grounds. (15.05.02.03)

Pesticide applicator. The regulation requires that any person who applies a pesticide in a school building or on school grounds must be a certified applicator or a registered employee working under the supervision of a certified applicator. The pesticide-applicator must provide the school with a record of each pesticide application at the time of the pesticide application. (§ 15.05.02.10)

B. MCPS Management Practices

MCPS adopted Regulation ECF-RB, *Pesticides Use in Schools* (©35 in the appendix) in July 2000. This regulation established procedures for implementing an IPM program in accordance with the state requirements. The MCPS regulation includes procedures for:

- Annual IPM notification to parents/guardians and school staff;
- Developing notification lists for middle and high schools;
- Notification of planned pesticide applications, differentiated by elementary schools and middle/high schools;
- Emergency pesticide applications;
- Use of bait stations; and
- Addressing public comments on MCPS' IPM program and practices.

MCPS received approval from the State of Maryland for the IPM program and reports that the Maryland Department of Agriculture conducts annual inspections to ensure the program satisfies state requirements.

The MCPS Division of Maintenance Asbestos Abatement/Pest Control Unit includes four pest control worker positions, each one assigned to cover the schools and facilities in a geographic area. The IPM staff conduct both routine inspections/maintenance and respond to work order requests submitted by individual schools.

Pest inspections/maintenance. According to Division of Maintenance staff, the IPM staff visits each school approximately once per month for a routine inspection and as needed for emergency pest situations. Pest problems discovered during a routine visit are, depending on the nature of the problem, either addressed at the time of the inspection or submitted as a work order that requires a follow-up visit.

MCPS reports that school-based staff contact the Unit with pest problems either by phone, for situations that need immediate attention, or via submission of a work order. When responding to emergency pest control situations, IPM staff report that they often conduct a routine inspection at the same time in an effort to most efficiently use their time.

Following any routine or emergency visit to a school, IPM staff record what he or she found and any actions taken in an "Integrated Pest Management Daily Worksheet" (sample attached at ©41). A copy of each completed worksheet is kept at the school notebook and at the Division of Maintenance. Each school maintains an IPM logbook, which contains:

- Copies of IPM worksheets that detail activities of the IPM staff;
- General information about pest management;
- Material Safety Data Sheets for various pesticides; and
- A log for the school staff to note the location and time of any pest-related observations.

IPM responses. MCPS reports that, in accordance with general IPM guidelines, the staff try to minimize the use of pesticides taking into account each situation. For example, MCPS staff report they would act more aggressively to control a bee problem than an ant problem since some students are allergic to bee stings. MCPS emphasizes IPM practices that focus on pest prevention, such as caulking windows to block entry for pests and emphasizing the day-to-day cleaning done by building services staff.

In accordance with state regulation, IPM staff are the only MCPS staff allowed to apply any pesticide. Each of MCPS' pest control workers are certified pesticide applicators.

IPM must also be used outside the school building to treat any insects, weeds, etc. If a school hires a contractor to perform any landscaping task, MCPS has the following policy:

"Herbicide and/or pesticide application can only be made when methods such as cultural practices, mechanical control, biological and other non-chemical methods have been completed....The least hazardous pesticide shall be selected."¹

At least one week before a contractor plans to apply any pesticide or herbicide, the school must obtain written approval from the IPM Unit.

¹ "Landscape Management at MCPS." Division of Maintenance.

Annual school IPM notice. The director of the Division of Maintenance sends a letter to school principals before the start of the school year stating that an IPM notice must be sent to parents/guardians of all enrolled students and distributed to all school-based staff at the beginning of the school year. The letter includes an *Integrated Pest Management Notice* that explains to parents/guardians and staff the notification requirements related to pesticide application in school facilities.

The annual notice sent by elementary schools (attached at ©42) differs from the notice sent by secondary schools and administrative offices (attached at ©45) due to requirements in the state law, but both notices include:

- A description of the IPM program's intent, including a focus on prevention and use of pesticides "only as a last resort or in an emergency situation";
- A list of the product name and common name of pesticides and bait stations that may be used in buildings or on grounds during the school year; and
- The contact person in the Division of Maintenance who keeps copies of material safety data sheets and product labels for all of the listed pesticides and bait stations, which are available for review.

MCPS staff report that most schools distribute the annual IPM notice in the back-to-school packets sent to the parents/guardians of every enrolled student.

Notification of a planned pesticide application. When a pesticide application is planned, MCPS school or facility administrators sign a verification form acknowledging the distribution of a notification to staff and students as required by law. Elementary schools distribute the form to all staff and send it home with all students. Secondary schools distribute the form to everyone on the notification list. Information on the form includes:

- The common name of the pesticide applied;
- The location, date, and time of the application;
- The reason for the pesticide application;
- The required EPA warning of sensitivities to pesticide exposure;
- Information on the potential adverse effects taken from the material safety data sheet of the pesticide applied; and
- The phone number of the IPM contact to obtain more information.

Copies of a notification form and a signed verification form for a planned pesticide application to address a roach problem in Neelsville Middle School are included in the appendix (©49).

Notification of an emergency pesticide application. When a pest problem occurs requiring unplanned or emergency pesticide application, the school distributes an *Emergency Notification to Parents, Guardians, and Staff of a Pesticide Application to School Grounds* form within 24 hours of application. Elementary schools distribute the form to all staff and send it home with all students. Secondary schools distribute the form to everyone on the notification list. The information on the form is the same as that for a planned pesticide application described above.

School administrators must also fill out and sign a verification form stating that they understand that the notification must be distributed to students and staff within 24 hours. Copies of a work order, IPM worksheet, and emergency notification form stemming from a pesticide application to control yellow jackets at Beverly Farms Elementary School are included in the appendix (©52).

C. Budget and Staffing

MCPS funds the four IPM positions through the Division of Maintenance operating budget. In FY08, the cost of these four positions totals about \$236K, including estimated benefit costs.² The FY08 appropriation is an increase of \$13K (or 6%) over the FY07 funding of \$223K.

Other MCPS staff that spend some portion of time on IPM issues, but are not included in the operating costs listed above, include Division of Maintenance administrative staff and school-based staff.

² OLO used MCPS' standard benefit percents of 25% for professional positions and 38% for supporting services positions to estimate benefit costs.

CHAPTER VIII. Underground Storage Tanks

An underground storage tank (UST) system is a tank, or several tanks, used to store a regulated substance and that has more than 10 percent of its combined volume underground. Federal laws and regulations provide a legal framework for managing underground storage tanks; however, implementation occurs primarily at the state level. This chapter is organized as follows:

- **Part A** reviews federal laws and regulations regarding underground storage tanks;
- **Part B** describes Maryland regulations for underground storage tanks; and
- **Part C** reports MCPS management practices for the underground storage tanks in MCPS schools and facilities.

A. Federal Laws and Regulations

The federal regulatory framework for underground storage tanks is established through one law and one regulation.

1. Resource Conservation and Recovery Act (42 USC § 6991)

The Resource Conservation and Recovery Act (RCRA) authorized the Environmental protection Agency (EPA) to regulate underground storage tanks containing petroleum and other hazardous substances (not including hazardous waste). RCRA's definition of an underground storage tank excludes a "tank used for storing heating oil for consumptive use on the premises where stored" (§ 6991).

RCRA requires all owners of an underground storage tank to notify the appropriate state or local agency of the existence of the UST system and its age, size, type, location, and uses. The law also tasks the EPA with creating "release detection, prevention, and correction regulations applicable to all owners and operators of underground storage tanks, as may be necessary to protect human health and the environment" (§ 6991(b)).

2. Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (40 CFR § 280)

To prevent releases of hazardous substances, federal regulations provide performance standards for new USTs, including requirements for the tank, piping, installation and spill and overfill prevention equipment (§ 280.20). Existing USTs must be upgraded, either to comply with the performance standards for new USTs or by following other upgrading requirements (§ 280.21).

Release detection, reporting, and response. All new and existing USTs must have release detection that can detect a release from any portion of the tank and the connected underground piping (§ 280.40). If an underground storage tank is found to be leaking a regulated substance, the release must be reported to the implementing agency and the owner or operator must begin mitigation and initial abatement measures (§§ 280.50 – 280.62).

Within 20 days after a release, owners and operators must submit a report to the implementing agency that summarizes the initial abatement measures taken (§ 280.62). Within 45 days after release confirmation, owners and operators must submit an initial site characterization with information on the nature and estimated quantity of the release, and data on the surrounding populations and natural resource conditions (§ 280.63).

Following the review of submitted documents, the implementing agency may require that owners and operators submit a corrective action plan describing how they will respond to soil and ground water contamination (§ 280.66).

Public notification. If a release is confirmed and requires a corrective action plan, the implementing agency must provide notice to the public, focusing on reaching those directly affected by the release. Possible methods of notification are in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contact by field staff. (§ 280.67)

B. Maryland Laws and Regulations

The State of Maryland's regulatory structure for UST systems is established in the Code of Maryland Regulations (COMAR) 26.10, Oil Pollution and Tank Management.

In order to have an underground storage system, the owner, operator, and other responsible parties must allow the Maryland Department of the Environment to inspect the facility where the UST system is located and review any required records (26.10.02.05). The owner or operator of a UST system must also register with the Maryland Department of the Environment (MDE).

Tanks storing heating oil only for consumptive use are exempt from upgrading and release detection requirements, but must follow Maryland release reporting and response regulations (26.10.02.02).

Release detection, reporting, and response. All existing hazardous substance UST systems must meet the release detection requirements for new systems, including secondary containment systems, double-walled tanks, and automatic line leak detectors for underground piping (26.10.05.03).

If a release is suspected, the owner and operator must immediately discontinue the use of the system, notify MDE, and attempt to determine where the leak is coming from. If a release is confirmed, owners and operators must perform the initial response actions and abatement measures described in the federal regulation and begin corrective action.

C. MCPS Management Practices

MCPS currently maintains 29 underground storage tanks at 24 different locations. These range from large fuel tanks at transportation depots to heating oil tanks used to operate boilers at elementary schools. MCPS currently has one active remediation program from an underground storage tank leak at Fields Road ES, and also completed a remediation program at Sherwood HS in 2005.

Transportation and Maintenance Depots. MCPS' five transportation and maintenance depots – Bethesda, Clarksburg, Randolph, Shady Grove, and Westfarm – each have two underground storage tanks; one containing unleaded gasoline and one containing diesel fuel. These fuel tanks all contain computerized auto-testing systems that regularly test for leaks and print the test results for review by depot staff.

Schools and MCPS Centers. MCPS staff report most schools used to be heated with heating oil. Staff estimate that approximately 80% of schools were heated using heating oil in the 1980's, and now about 98% of schools are heated with natural gas or electricity.

As shown in Table 8-1, five schools and two centers are still heated solely with heating oil and have underground storage tanks. MCPS reports that these schools will remain on heating oil until the boiler needs replacement or the school undergoes a modernization. There may be some locations where natural gas is not available so a boiler replacement will not be able to eliminate the need for heating oil. When natural gas is available at the time of a boiler replacement, MCPS' practice is to remove the underground storage tank(s) and convert the school to natural gas. During a facility modernization, either a natural gas fired boiler or a hydronic heat pump system is installed, eliminating the need for heating oil.

Eleven schools currently have dual fuel system, where they are primarily heated with natural gas but also have a heating oil backup. For these schools, the heating oil is stored in an underground tank. Additionally, one school has a tank containing diesel fuel. All of the heating oil tanks located at schools or centers are manually tested for leaks by the plant equipment operator.

Table 8-1: Underground Storage Tanks in MCPS Schools or Centers

Fuel Type	Location
Heating Oil	<ul style="list-style-type: none"> • Cannon Road ES • Goshen ES • McAuliffe ES • Monocacy ES • Seven Locks ES • Old Fairland Center • Taylor Learning Center
Natural Gas with Heating Oil Backup	<ul style="list-style-type: none"> • Briggs Chaney MS • Damascus HS • Magruder HS • Poolesville HS • Quince Orchard HS • Richard Montgomery HS • Springbrook HS • Sherwood HS • Tilden at Woodward MS • Wheaton HS • Wootton HS
Diesel Fuel	<ul style="list-style-type: none"> • Silver Spring International MS

Source: MCPS

Remediation plans. MCPS has one active remediation plan, dating from a 2001 underground storage tank leak at Fields Road Elementary School. When the leak occurred, MCPS notified the MDE as required by federal and state law and removed the tank. In addition, the school's former principal reports that a letter was sent home to parents, updates were provided in school newsletters, and it was discussed during a PTA meeting. It is standard MCPS procedure to send home letters in the event of any emergency situation.

Based on the contamination found, the MDE required MCPS to develop a remediation plan consisting of a groundwater treatment system and a groundwater monitoring system. MCPS must submit a corrective action monitoring report each quarter to MDE that includes data and information on:

- System operation and maintenance;
- Removal of free phase fuel oil;
- Removal of dissolved phase contaminants;
- System water discharge quality; and
- Groundwater quality.

MDE requires MCPS to continue its corrective action activities and reporting until the data indicate the remediation is complete.

CHAPTER IX. Indoor Air Quality

Indoor air quality (IAQ) is a term used to characterize health and comfort-related conditions inside an occupied building. Factors affecting IAQ include air temperature, relative humidity, and airborne pollutant concentrations. According to the Environmental Protection Agency (EPA), poor IAQ can impact the comfort and health of students and staff, which, in turn, can affect concentration, attendance, and student performance. In addition, if schools fail to respond promptly to poor IAQ, students and staff are at an increased risk of short-term health problems, such as fatigue and nausea, as well as long-term problems like asthma.¹

As noted in Chapter II, MCPS' indoor air quality program is a voluntary, non-regulatory program based on recommended guidelines from the EPA, the Centers for Disease Control and Prevention (CDC), the U.S. Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and other industry organizations.

This chapter is organized as follows:

- **Part A** describes MCPS' IAQ program and procedures;
- **Part B** reviews MCPS IAQ workload and performance data; and
- **Part C** summarizes MCPS' IAQ program budget and staffing.

A. MCPS Indoor Air Quality Management Practices

Despite the lack of legal requirements, MCPS staff report a long-standing commitment to providing safe and healthy indoor air quality. In 2001, EPA recognized MCPS' indoor air quality program with an *Indoor Air Quality Tools for Schools Excellence Award*.

MCPS' IAQ program includes both preventive maintenance and reactive, complaint-based response procedures. In addition, MCPS' IAQ program has implemented specific procedures for mold prevention and remediation and for maintaining positive indoor air quality in portable classrooms.

1. Preventive Maintenance Procedures

In 1997, MCPS convened an Indoor Air Quality Process Action Team tasked with "looking at broader issues as it relates to indoor air quality and to develop a consistent, proactive, countywide strategy in the school system."² The Action Team found that MCPS' indoor air quality program was generally a reactive, complaint based system. The Action Team recommended that MCPS adopt a proactive indoor air quality maintenance program for its facilities.

¹ <http://www.epa.gov/iaq/schools/index.html>

² *Final Report of the Montgomery County Public Schools Indoor Air Quality Process Action Team*, March 4, 1998, page IV.

As a result of the Action Team's recommendation, MCPS initiated a Building Maintenance Plan (BMP) Program. The BMP Program is a preventive maintenance approach designed for each MCPS school. MCPS describes the BMP program as follows:

BMPs are designed to assist building service managers and plant equipment operators in maintaining the ventilation equipment for their facilities. Each BMP provides detailed information and recommended preventive maintenance routines for supply ventilation units, exhaust ventilation units, air stations, chillers, and boilers. Service record forms (for recording maintenance and repair activities), recommended building cleaning procedures, and relevant information related to IEQ and occupational safety are also provided. School staff are expected to use the BMP to properly maintain their facility's ventilation equipment.³

The BMP program consists of an initial team visit and a follow-up team visit. The initial team visit is a lengthy process (2-3 months for an elementary school, 6-12 months for a middle/high school) that results in the creation of an individualized BMP document for a school. The follow-up team visit is a review assessment designed to occur every 1-2 years after completion of the initial BMP which reviews a school's compliance with the BMP and makes any needed modifications.

Since the BMP process is time intensive, MCPS prioritizes its schools for participation. According to staff, MCPS uses the following criteria for BMP prioritization:

- Age of school/facility;
- Number of indoor air quality complaints at a school;
- Number of HVAC-related work orders at a school; and
- Interest in the program from the school's principal and staff.

MCPS reports that schools scheduled for renovations within the next couple of years are not selected since the upcoming renovation process would make the BMP obsolete.

IAQ staffing. To implement the preventive maintenance approach, MCPS has established two IAQ teams. Each IAQ team consists of six staff: one IAQ team leader, two IAQ HVAC mechanics, and three IAQ technicians. Additionally, the Environmental Services/IAQ Unit includes one IAQ electrician position that is shared by the teams.

MCPS staff report that the program was set up to have one IAQ team dedicated to creating BMPs through initial team visits and the other IAQ team dedicated to reviewing BMPs through follow-up team visits. In practice, however, MCPS staff report that this staff design has not been followed due to increasing numbers of reactive maintenance requests and difficulties filling HVAC mechanic positions for the 2nd shift (2:30-10:30 pm). These issues are discussed in greater detail on page 69.

³ <http://www.mcps.k12.md.us/departments/iaq/bmp.shtml>

Initial team visits. Once a school is selected to receive a BMP, the IAQ team follows written Standard Operating Procedures – included in the appendix at ©56 – for the initial team visit. The Procedures identify three categories of activities for the initial visit, summarized below:

- **Set-up activities** – These activities include holding a kick-off meeting with school staff and a PTA representative to go over the BMP program, timeframe, and procedures; conducting an IAQ Awareness Training for teachers and support staff; conducting an initial building walk-through; and creating a Work Plan that lists repairs and other tasks that need to be completed before ongoing preventive maintenance can begin. A copy of a Work Plan developed for Beall Elementary School is included in the appendix at ©60.
- **On-site team activities** – These activities include the IAQ team (and building services staff, depending on the task) completing the repairs and other tasks identified in the Work Plan; and conducting training for the building service staff on preventive maintenance activities.
- **Follow-up activities** – These activities include a follow-up walkthrough after Work Plan repairs are completed; presentation of the BMP to school staff; and a follow-up visit two months after presentation of the BMP to assess initial implementation of the program.

After the BMP is finished, the school is responsible for following the routine maintenance schedule described in the BMP. However, the IAQ team is available as a resource to the school for any further assistance, supplemental training, or other supports needed.

Follow-up team visits. MCPS' program is designed for the IAQ team to return to each school with a BMP every 1-2 years. The follow-up team visit is intended to review compliance with the BMP and make any needed modifications or corrections. During follow-up visits, IAQ staff perform a walkthrough and assess the building conditions, evaluate the ventilation equipment, and measure several air quality parameters (e.g., temperature and carbon dioxide level). Based on these assessments, the IAQ team makes any needed repairs, and also modifies the BMP as necessary.

2. Complaint Response Procedures

MCPS has implemented a standardized format for reporting IAQ problems and has developed standardized procedures for responding to IAQ complaints.

Reporting IAQ problems. For staff or parents that would like to record an indoor air quality complaint, MCPS has developed an *Indoor Air Quality Complaint* form (©62) that is available on MCPS' website.⁴ Information requested on the form includes the specific problem experienced, whether any health conditions may have resulted from the problem, and the room and/or location where the problem occurred. The form also explains the general process that will be used by MCPS staff to follow-up on the complaint.

IAQ complaint response protocol. MCPS first reviews IAQ complaints at the building level. A copy of the IAQ complaint form is provided to the school's building service manager. The building service manager conducts an initial investigation and completes a *Building Services Indoor Air Quality Checklist* (©63). The checklist requires an assessment of the general condition of the room (e.g., any evidence of mold, dust/dirt, water stains, etc.), as well as the condition of the room's HVAC equipment.

The building services manager then provides a copy of the completed checklist and any actions taken (e.g., repairs completed or follow-up needed from IAQ staff) to the principal and the complainant. The complainant then fills out and signs a follow-up section on the checklist stating whether they believe the problem has been resolved. All complaints requiring further action or where the complainant feels the problem has not been resolved are forwarded to the Environmental Services/IAQ Unit.

When the Environmental Services/IAQ Unit receives a complaint, it is given to an Environmental Safety Coordinator who assigns the complaint either an emergency or non-emergency status (they respond to an emergency immediately and a non-emergency within 5 business days). The Environmental Safety Coordinator then follows the response protocol summarized below to evaluate the complaint and determine any needed corrective action.⁵

⁴ <http://www.montgomeryschoolsmd.org/departments/iaq/complaints.shtm>

⁵ MCPS reports that the same protocol is followed for any potential IAQ problems identified by MCPS staff outside of the complaint process.

MCPS Indoor Environmental Quality Complaint Evaluation Process

1. The Environmental Safety Coordinator visits the facility associated with the complaint.
2. The Environmental Safety Coordinator interviews the complainant and other personnel with relevant information (e.g., Building Service Manager, Plant Equipment Operator, etc.)
3. The Environmental Safety Coordinator evaluates indoor environmental conditions for affected locations. This can involve:
 - Visual inspection for indoor environmental problems.
 - Inspection of ventilation equipment for proper operation and cleanliness.
 - Quantitative measurement of indoor environmental conditions (air temperature, carbon dioxide concentrations, carbon monoxide concentrations, relative humidity levels).
 - Quantitative measurement of potential air contaminants.
 - Qualitative evaluation of moisture content of building materials and room surfaces.
 - Review of relevant Division of Maintenance work order records for the facility.
4. The Environmental Safety Coordinator identifies potential causes for the complaint.
5. The Environmental Safety Coordinator determines corrective action, if needed.
6. The Environmental Safety Coordinator notifies the complainant, the complainant's supervisor, the Principal (or facility administrator), the Building Service Manager, and other interested individuals of identified problems and planned corrective action.

Source: MCPS

Corrective action procedures and special projects. If corrective action is needed, the Environmental Safety Specialist assigns the task to the appropriate MCPS personnel (i.e. building services staff, Division of Maintenance depot staff, or Division of Construction staff). If the work requires the expertise of an IAQ team, it is assigned to the IAQ team as a special project. Examples of tasks that MCPS would assign as special projects include mold remediation and ventilation equipment cleaning.

For a special project, the Environmental Safety Specialist creates a written work plan with a description of the problem and the required corrective action, along with any necessary hazard control methods (e.g., work location enclosure, local exhaust ventilation, and personal protective equipment). After all corrective actions are complete, the Environmental Safety Coordinator notifies the complainant, the complainant's supervisor, the Principal (or facility administrator), and the Building Service Manager.

3. Mold Prevention and Remediation Procedures

Mold is naturally occurring and can grow almost anywhere indoors and outdoors where sufficient moisture and nutrients are present.⁶ The quantity of mold can vary significantly within the natural environment, depending on the time of year, the region, and the type of weather. While it is impossible to eliminate all mold or mold spores in the indoor environment, mold can be controlled by limiting indoor moisture. To that end, MCPS has implemented a set of mold prevention and remediation practices for all MCPS schools and facilities.

⁶ *Mold Remediation in Schools and Commercial Buildings*, US EPA, June 25, 2001, pg. 2.

Mold prevention. MCPS follows guidelines from various government and industry organizations, including the U.S. Environmental Protection Agency and the Centers for Disease Control and Prevention. According to MCPS, these organizations do not recommend routine sampling of molds because there is no consensus on quantitative limits for indoor mold exposure; and all molds have the potential to cause health effects, although it is not clear to what extent.

MCPS focuses on preventing indoor moisture by maintaining appropriate temperature and relative humidity levels. One moisture control policy implemented by MCPS is to standardize thermostat usage in school buildings.⁷ If thermostats are set too low in the cooling season, it can lead to condensation in the building which promotes growth of mold or mildew. The Division of Maintenance sends schools a flyer every year on allowable thermostat usage and how the indoor temperature can contribute to the level of moisture inside classrooms.

Other mold prevention strategies utilized by MCPS include performing regular maintenance on HVAC equipment, and promptly repairing any window or roof leaks. Additionally, building service staff must follow certain procedures when cleaning carpets to ensure that they dry quickly. Generally, MCPS staff clean carpets during the winter or spring break, but if it must be done during the summer staff use floor fans and dehumidifiers to dry the area.

Mold removal/remediation. When mold is found, MCPS building service staff conduct mold removal on small areas and IAQ staff conduct mold removal whenever greater than 30 square feet are affected. To remediate mold problems, IAQ technicians and mechanics first identify the source of the moisture for repair to prevent recurrence.

The clean-up process depends on the type of material the mold is growing on, but incorporates elements of mold remediation protocols developed by various organizations, including EPA. The remediation projects generally involve throwing away all porous moldy materials (e.g., books, drywall, and carpet) and cleaning and drying all non-porous materials (e.g., metal file cabinets and floor tile) with a solution of water and detergent. For certain projects, MCPS staff will also use high efficiency particulate air vacuums for final cleanup, use portable dehumidifiers to dry the affected area, and construct containment enclosures around the affected area.

4. Indoor Air Quality in Portable Classrooms

According to EPA, poor indoor air quality in portable classrooms is no different than poor indoor air quality in permanent classrooms. However, portables have some features that may increase the likelihood of poor indoor air quality. EPA reports that the most common IAQ-related problems with portable classrooms include:⁸

⁷ MCPS' allowable temperature ranges are 74-79°F in the cooling season and 67-73°F in the heating season.

⁸ US EPA website, <http://www.epa.gov/iaq/schooldesign/portables.html>

- Poorly functioning HVAC systems providing minimal ventilation with outside air;
- Chemical off-gassing from pressed wood and other high-emission materials;
- Water entry and mold growth; and
- Site pollution from nearby parking lots or loading areas.

In an effort to review air quality in portable classrooms, over the past two years MCPS has conducted IAQ assessments in over 500 of the nearly 600 portables used by MCPS. An MCPS environmental safety coordinator and/or environmental safety specialist use the MCPS Portable Assessment Checklist (attached at ©65) to do these IAQ assessments. Based on these assessments, MCPS found several major causes of IAQ problems in its portable classrooms:⁹

- The HVAC system design, along with poor operation and maintenance, can lead to inadequate ventilation (i.e. fresh outdoor air supply) and poor humidity control;
- Building envelope deficiencies (leaking roofs, poor drainage, canopy runoff) can lead to moisture entry and condensation that can promote mold growth; and
- The relocation process (disassembling, moving, and reassembling portables) creates greater opportunities for moisture entry that can promote mold growth.

As a result of these assessments, MCPS has emphasized several IAQ prevention and corrective measures for portables: fixing HVAC and/or building envelope deficiencies identified during portable classroom assessments; including a school's portables in the BMP process to promote preventive maintenance; and increasing staff training on relocation and maintenance issues specific to portables.

B. IAQ Data and Performance Measurement

MCPS collects output and workload data for the IAQ program, as well as performance data for schools in the BMP program.

1. IAQ Output and Workload Data

As of September 2007, MCPS has completed Building Maintenance Plans (BMPs) for 61 (31%) of MCPS' 199 total schools.¹⁰ The 61 schools with BMPs include:

- 46 elementary schools;
- 8 middle schools;
- 4 high schools; and
- 3 special schools/centers.

Since FY01, MCPS has completed a total of 81 BMP visits – 47 initial and 34 follow-up. Table 9-1 shows the number of initial and follow-up BMP visits each year between FY01 and FY07. The data show a steady decline in the annual number of schools receiving BMPs and follow-up BMP visits.

⁹ <http://www.mcps.k12.md.us/departments/iaq/IAQ%20in%20Portables%20X.ppt>

¹⁰ A list of the schools with BMPs is included in the appendix at ©66.

Table 9-1: Annual Number of BMP Visits, FY01-FY07

BMP Visits	FY01	FY02	FY03	FY04	FY05	FY06	FY07	Total
Initial	19	8	6	6	4	2	2	47
Follow-Up	0	9	9	7	4	4	1	34
Total	19	17	15	13	8	6	3	81

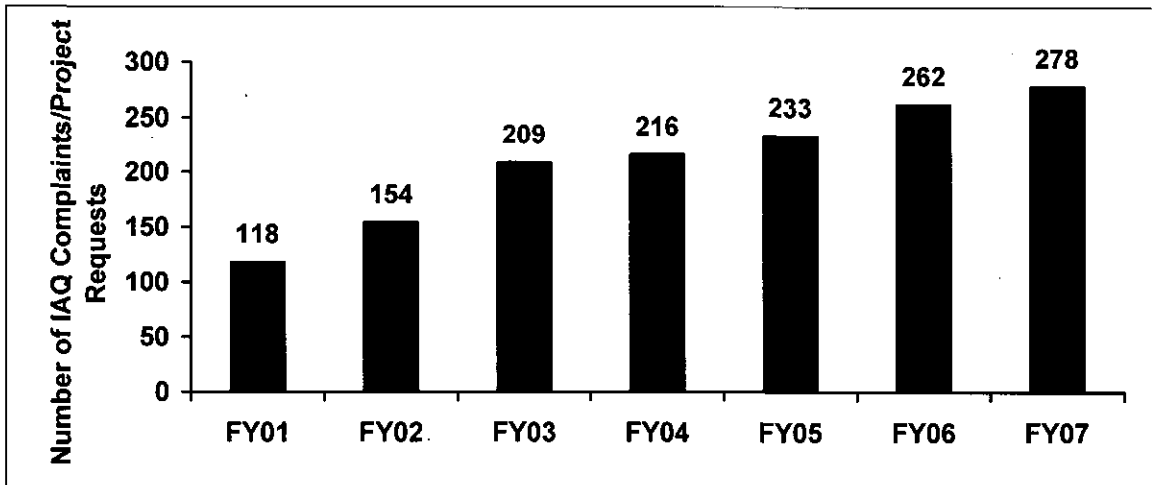
Source: MCPS Division of Maintenance, August 2007

According to MCPS, two factors leading to the reduction in BMP visits by the IAQ teams are increased demand for special projects (i.e., reactive or complaint-based work) and difficulty maintaining a full staffing complement for 2nd shift (2:30-10:30 pm) HVAC Mechanic positions.

MCPS reports that having IAQ HVAC staff work the 2nd shift is necessary because many IAQ repairs need to occur when students are not present. MCPS reports that they recently reclassified the IAQ HVAC positions to a higher grade in an attempt to improve employee retention. The Department of Facilities management also started a Maintenance Apprenticeship Program in FY08, which has four HVAC Apprenticeship positions.

Exhibit 9-1 shows the annual number of indoor air quality complaints and special project requests received by the IAQ Unit between FY01 and FY07. The number of complaints and project requests has, on average, increased 16% annually. In total, the 278 requests in FY07 represent a 136% increase over the 118 requests in FY01.

Exhibit 9-1: MCPS Indoor Air Quality Complaints and Special Project Requests, FY01-FY07

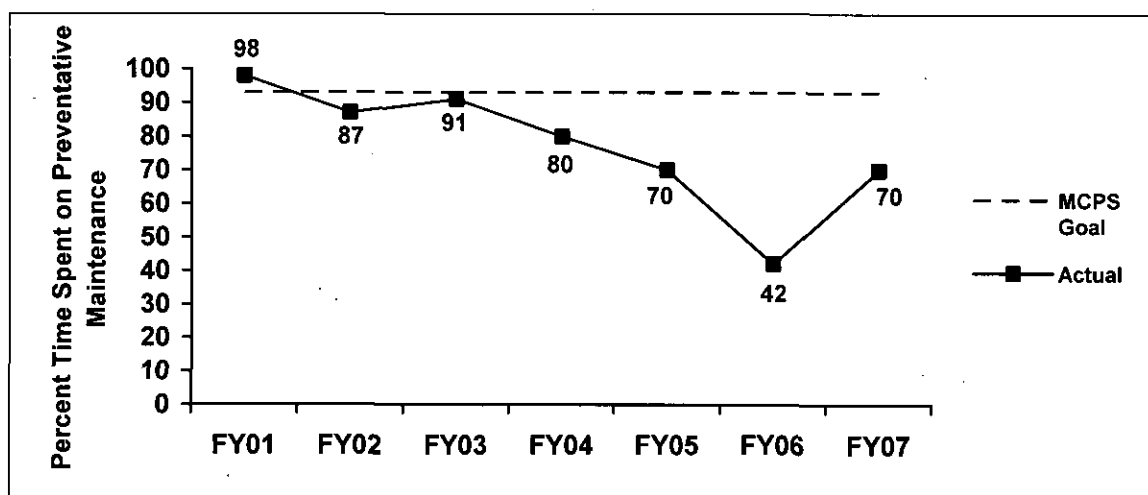


Source: MCPS Division of Maintenance, August 2007

In addition to tracking workload by project types, the Division of Maintenance also tracks the percent of time IAQ staff spends on preventive maintenance activities (i.e., BMPs) versus reactive maintenance activities (i.e. IAQ complaints and special projects). The Division of Maintenance's performance goal for IAQ staff is 93% of time spent on preventive maintenance.

Exhibit 9-2 shows the actual percent of time IAQ staff spent each year on preventive maintenance between FY01 and FY07, compared to MCPS' performance goal. The data indicate that MCPS has not met its preventive maintenance performance goal since FY01. In fact, the data show that the percent of time spent on IAQ preventive maintenance steadily decreased since FY01 until an increase in FY07.

Exhibit 9-2: Percent of Time Spent by IAQ Staff on Preventive Maintenance, FY01-FY07



Source: MCPS Division of Maintenance, August 2007

2. IAQ Preventive Maintenance Outcome Data

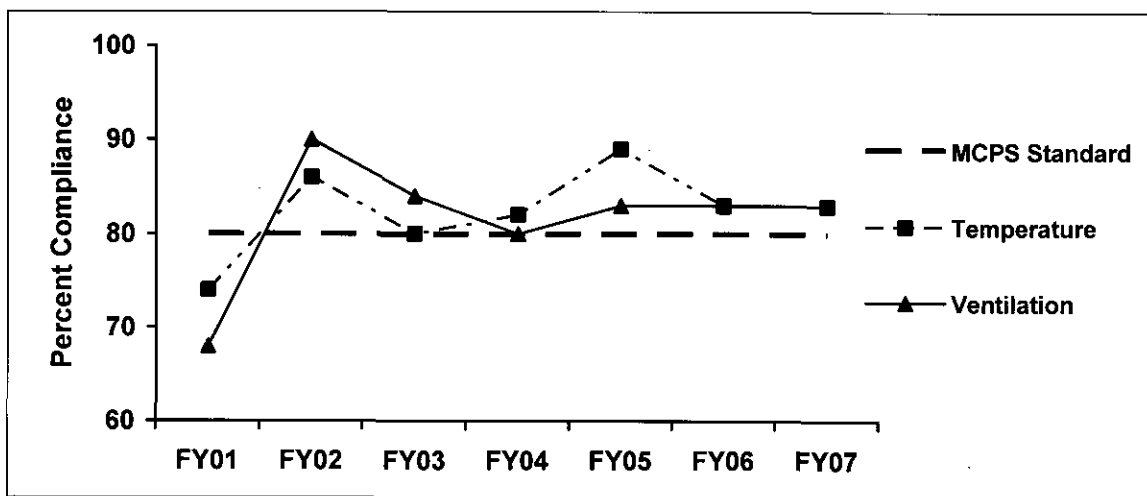
In order to assess whether preventive maintenance procedures are positively impacting IAQ, MCPS records data on temperature and ventilation sampling outcomes for schools that have Building Maintenance Plans. MCPS compares the temperature and ventilation data for the BMP schools to historical averages for each measure.

MCPS records whether each temperature and ventilation samples taken is in compliance with MCPS guidelines. MCPS' temperature guidelines are between 67-73°F during the heating season and between 73-79°F during the cooling season. MCPS' ventilation guidelines are consistent with EPA's guidelines of indoor carbon dioxide levels no more than 700 ppm above outdoor levels.

The Division of Maintenance's performance standard is for both temperature and ventilation samples to be in compliance with MCPS guidelines at least 80% of the time. According to MCPS, the 80% standard is based on historical average compliance data for MCPS facilities.

Exhibit 9-3 shows the annual percent compliance for both temperature and ventilation in BMP schools from FY01 to FY07, compared to MCPS' performance standard. The data indicate that, for each year since FY02, MCPS schools with BMPs have met or exceeded IAQ performance standards for temperature and ventilation. MCPS does not collect similar data for schools that have not been through the BMP process.

Exhibit 9-3: MCPS Temperature and Ventilation Sampling Compliance for Facilities in the Building Maintenance Plan Program, FY01-FY07



Source: MCPS Division of Maintenance, August 2007

While the data indicate that BMP schools meet certain IAQ performance targets, Division of Maintenance staff report that a recent, informal survey of BMP schools found that less than 50 percent of schools were implementing the BMP according to the Division's standards. As a result, IAQ staff have begun meeting with BMP school principals in an attempt improve implementation.

IAQ staff also report that a more long-range plan to improve implementation is to incorporate BMPs into the work order system run by the Division of Maintenance. Building services staff would then receive automated reminders to perform tasks instead of relying on staff to continually check the actual BMP. This automated process would also require staff to "close-out" the work order once it was completed, allowing Division of Maintenance staff to confirm that the tasks were actually carried out without having to review the individual BMP logs.

C. IAQ Budget and Staffing

The Environmental Services/IAQ Unit within the Division of Maintenance consists of 19 positions in FY08. Fifteen of the positions are dedicated to IAQ activities: two environmental safety specialists, two IAQ/PM team leaders, four IAQ HVAC mechanics, one IAQ electrician, and six IAQ Technicians. MCPS funds the costs of 16 of the 19 IAQ positions through the Division of Maintenance Operating Budget. The FY08 personnel cost for these 16 positions totals about \$1.5 million, including estimated benefits.¹¹

MCPS funds the costs of IAQ repair projects through both the Environmental Services/IAQ Unit's operating funds and through the Water and Indoor Air Quality Improvements capital project. The Environmental Services/IAQ Unit's FY08 operating dollars – used to purchase materials and supplies for cleaning, maintenance, and replacement of minor components – is \$238K, unchanged from FY07.

MCPS uses the Water and Indoor Air Quality Improvements capital project to fund all carpet replacement work (where carpet is replaced with floor tile to reduce the potential for mold and mildew) and also the replacement of major capital equipment (e.g., HVAC components). The capital project also funds the remaining three Environmental Services/IAQ Unit positions at an annual cost of \$276K.

The FY08 appropriation for this project is \$1.3 million. The project funding levels in the approved FY07-FY12 included \$3 million for FY07 and \$1.3 million each year for FY08-FY12. The current approved funding levels are intended to maintain the level of effort on air quality projects and to address water quality improvements system-wide.

¹¹ OLO used MCPS' standard benefit percents of 25% for professional positions and 38% for supporting services positions to estimate benefit costs.

CHAPTER X. Lead in Drinking Water

Lead in drinking water is a source of lead exposure that can be harmful to human health. Lead can pollute drinking water through leaching from lead-containing plumbing material and pipes after the water leaves a treatment facility. The extent of potential lead leaching depends on multiple factors such as the age and condition of the plumbing and the amount of time water is in contact with plumbing. The lead contamination may occur as the water passes through the distribution system that carries water from the public water supply to individual facilities or it may occur within a facility's interior plumbing.

This chapter is organized as follows:

- **Part A** summarizes federal laws and regulations regarding lead in drinking water;
- **Part B** describes federal guidelines for schools to reduce lead in drinking water; and
- **Part C** reports MCPS' management practices for monitoring and remediating lead in drinking water.

A. Federal Laws and Regulations

The Safe Drinking Water Act (SDWA), passed in 1974 and amended in 1986 and 1996, regulates every public water system in the United States. SDWA authorizes the United States Environmental Protection Agency (EPA) to enact regulations to improve drinking water quality, such as setting standards for contaminants. Several regulations adopted under SDWA regulate lead in drinking water, including the following:

- **1986 Lead Ban** – Regulations enacted by EPA require that all plumbing installed or repaired after 1986 be lead free. This rule applies to the installation or repair of any public water system, or any plumbing in a facility providing water for human consumption which is connected to a public water system. The lead ban regulation does not require the replacement of existing plumbing that contains lead. Pipes can contain up to 8% lead and still be classified as “lead free.” (40 CFR § 141.43).
- **1991 Lead and Copper Rule** – This EPA regulation requires public water systems to monitor lead levels and provide treatment if necessary. A facility is considered a public water system if it serves at least 25 people and: (a) it has its own water source, or (b) water is treated at the facility, or (c) the facility's water is sold. (40 CFR § 141.80)

SDWA does not require that schools test lead levels in the water, unless they are considered a public water system. Montgomery County schools are therefore *not* subject to lead testing requirements. However, EPA provides guidance for non-SDWA regulated schools on how to reduce lead in drinking water in a document called *3Ts for Reducing Lead in Drinking Water in Schools: Revised technical guidance*, last revised in October 2006.

B. Federal Guidelines

EPA guidelines recommend that school officials have an implementation plan related to lead in drinking water that includes three primary components: testing, remediation, and communication with the school community.

1. Testing

Although not required under SDWA, EPA recommends that schools implement a program to test the water from drinking water outlets in each facility to determine lead levels and any potential sources of contamination. EPA's guidelines describe the steps school officials should take prior to testing the water in their facilities for lead:

- Develop a plumbing profile of each facility;
- Determine sample location, ideally every outlet used for drinking or cooking; and
- Decide who should collect the samples and where they will go for analysis, preferably to a certified laboratory.

The guidelines offer recommended procedures for collecting drinking water samples for lead testing (shown below) and **“EPA strongly recommends that all water outlets in all schools that provide water for drinking or cooking meet a standard of 20 parts per billion (ppb) lead or less.”**¹

EPA Recommended School Sampling Protocols for Lead in Drinking Water

- **Step 1: Initial Sampling** – Take an initial first-draw sample of 250 milliliters from each prioritized outlet. “First-draw” samples should be collected first thing in the morning, before the outlet has been used (i.e., the water has been stagnant in the outlet) for at least 8 hours.
- **Step 2: Follow-Up Flush Sampling** – If initial samples from a given outlet prove to have lead concentrations greater than 20 ppb, collect “follow-up flush” samples from those outlets. The follow-up flush sample should be taken first thing in the morning, but unlike the initial samples, it should be collected after the water has run for 30 seconds.

Following the second round of sampling, the initial sample should be compared to the follow-up sample to determine if the source of contamination is in the outlet plumbing or the interior plumbing.

- **Alternative Step 2: Clean Outlet Components** – An alternative step to take if the initial sample reveals levels of lead greater than 20 ppb to determine if the outlet components could be the source of the lead. First, clean the aerator or screen in the outlet (if it has one). Second, take another first-draw sample (after the water has been stagnant for several hours).

¹ *3Ts for Reducing Lead in Drinking Water in Schools: Revised technical guidance*, pg. 28.

2. Remediation

The EPA guidelines present three types of strategies to reduce the level of lead in school drinking water: routine control measures that can be used on an ongoing basis, short-term measures that can be used while pursuing more permanent solutions, and permanent remedies to prevent or remove lead from drinking water.

Table 10-1: EPA Recommended Routine, Short-Term, and Permanent Solutions to Lead Contamination

Routine Control Measures
<ul style="list-style-type: none">• Regularly maintain and clean accessible aerators.• When consuming water from an outlet, use cold water, as hot water absorbs more lead.• Because the outlet itself is often the source of lead contamination, students and staff should run the faucet before drinking or a staff member could run it before students arrive in the morning.• Place signs in the bathroom telling users not to consume the water; use pictures if the students are very young.
Short-Term Measures
<ul style="list-style-type: none">• Flush pipes regularly by opening the tap every morning before students arrive.• Provide bottled water.• Shut off or disconnect problem outlets until they can be fixed.
Permanent Remedies
<ul style="list-style-type: none">• Replacement of the outlet fixtures or plumbing components leaching lead into the water.• Reverse osmosis devices that remove lead from water as it leaves the faucet or tap (they cannot be used on drinking fountains).

Source: *3Ts for Reducing Lead in Drinking Water in Schools: Revised technical guidance*, pg. 55-59

3. Communication with the School Community

EPA guidelines recommend that school officials “notify relevant parent, teacher, student, and employee organizations of the availability of [their] sampling program results.”² The guidelines suggest that information be provided to the community:

- Before the sampling process begins;
- Throughout the process according to the level of interest; and
- After obtaining sample results, to explain what corrective measures will be taken or that none are necessary.

The guidelines stress the importance of providing clear, reliable information so the public understands the health risks and efforts that schools have made to address any problems identified.³

² *3Ts for Reducing Lead in Drinking Water in Schools: Revised technical guidance*, pg. 65.

³ *Ibid*, pg. 67.

C. MCPS Management Practices

MCPS has adopted practices and protocols for testing lead levels in drinking water, remedying any problems found, and communicating results to the school community. This section describes these management practices and also provides an update on the status of MCPS' current lead testing and remediation efforts.

1. Testing Protocols

MCPS has adopted a written protocol, summarized below, for testing drinking water lead levels in each school or facility that follows EPA's guidelines. The appendix also includes a flow chart illustrating MCPS' water testing process (©67)

MCPS Sampling Protocol for Lead in Drinking Water

- 1) Determine which water outlets to sample, including all outlets that provide drinking water.
- 2) Take an initial "first draw" sample of 250 milliliters at each selected outlet. A first draw sample should be taken after the water has been stagnant for 8 to 18 hours at that fixture, generally first thing in the morning.
- 3) Send the initial sample to WSSC's laboratory (WSSC is certified to test lead in drinking water).
- 4) If lab results find lead levels that exceed 20 parts per billion (ppb), test the outlet again. This time take two samples: One "first draw" sample as in step two, and one after flushing the fixture for 30 seconds. The second sample checks to see whether the problem goes beyond the outlet to other parts of the plumbing system.
- 5) Send the follow-up samples to WSSC's laboratory.
- 6) At this point there are several possible scenarios to determine whether remediation is necessary and, if so, what type of remediation:
 - If the second "first draw" sample is below 20 ppb, another round of sampling is required to determine why the initial sample conflicts with this second sample.
 - If the second "first draw" sample is high but the sample after flushing is low, the outlet is likely the source of the lead.
 - If both the second "first draw" sample and the sample after flushing show high lead levels, this indicates that the problem may be with both the outlet and interior building plumbing and additional testing should be performed to confirm these results and then to find the source of contamination.

Source: MCPS *Technical Committee for Lead in Water, Protocol III*

MCPS staff report that bathroom fixtures are not considered drinking water sources for hygienic reasons and signs (written in both English and Spanish) have been placed in schools reminding students not to drink there. To date, signage has been posted in 140 of 200 schools.

Because the possibility exists that students will drink from bathroom fixtures, MCPS still tests lead levels but with a higher action standard (100 ppb instead of 20 ppb). Science laboratory fixtures are also not meant for drinking purposes, and signs have been placed next to each of these fixtures reminding students not to drink from them.

MCPS performed widespread testing in 2004, and the testing showed variation in lead levels throughout the school system. An October 2004 update from MCPS (in the appendix at ©68) lists testing results from over 10,000 samples taken at 107 schools. Test results for each school ranged from having no water sources with lead levels above 20 ppb to having 53% of tested water sources with high lead levels, although the testing was not limited to drinking water sources only (i.e., bathrooms sinks and other fixtures were included in the testing).

2. Remediation Plans

If testing reveals elevated lead levels in one or more outlets at a school, MCPS develops a remediation plan to replace any outlet fixtures determined to be causing the problem. MCPS' Division of Maintenance worked with the Montgomery County Department of Environmental Protection (DEP) and the Department of Health and Human Services (DHHS) to develop protocols to remediate drinking water issues following the initial sample results. While the protocols provide guidelines for remediation, MCPS reports that each school's remediation plan is different based on the needs and situation of that school. It is MCPS policy to replace all primary drinking water fixtures and plumbing that are determined to be causing lead levels in drinking water that exceed 20 ppb. DEP and DHHS must both approve final remediation plans.

Fixture replacement. When testing shows high levels of lead in the "first draw" samples but not in the samples taken after flushing, the fixture for that water outlet is determined to be the source of lead and MCPS' protocol requires replacement of the fixture. If the sample after flushing is minimally high, MCPS protocol is to replace the valve and easily accessible pipes along with the fixture.

Before a fixture can be replaced, MCPS requires temporary measures to ensure the safety of students and staff. For any school without an active remediation plan, building services staff must flush all water bubblers and sinks for 60 seconds every four hours, and flush all hallway water coolers for 15 minutes (water bubblers and water coolers are two different types of water fountains). The staff must maintain written records of each flushing. Once a remediation plan has been approved by DEP and DHHS, the school is usually permitted to return to once a day flushing, provided all of the fixtures to be replaced have been secured.

MCPS reports that fixture replacement projects require significant disruption of the occupancy of the school because it often requires that the water system be completely shut down. As a result, MCPS must schedule these activities during school breaks (e.g., winter or spring break) or the summer.

Internal plumbing replacement. If MCPS determines that the source of lead is the internal plumbing, the remediation protocol requires MCPS to replace that interior plumbing. MCPS staff report that the replacement of internal piping has only been undertaken during modernization projects where the entire facility is being renovated.

Since flushing the outlet will not serve as a temporary safety measure in these instances, outlets that require internal plumbing replacement are disconnected and taken out of service until the remediation occurs.

Post-remediation testing. Following fixture replacement, MCPS requires that building service staff continue to flush affected outlets once a day and not place them in service for drinking use until the outlet has been retested after 30 days. If retesting shows compliance with the 20 ppb standard, the outlet can then be placed in regular use.

In addition, all schools, regardless of remediation status, must flush drinking water fixtures daily every morning (prior to student arrival) for at least one minute (15 minutes for the refrigerated coolers). MCPS communicates this policy annually to principals in a Safety and Security Memo, which is also included in the Principal's Handbook.

Status of lead testing and remediation efforts in MCPS schools. MCPS publishes a document online (attached at ©73) that shows the lead testing and remediation status of MCPS school and facilities. MCPS lists each school/facility by remediation status.

As of the most recent update in April 2007, MCPS lists 204 schools or facilities that have been tested for lead in drinking water. In sum, MCPS' data show:

- 74 (36%) schools/facilities have completed lead remediation efforts. 17 did not require any remediation after initial testing; the remaining 57 have resolved any problems and have passed required post-remediation testing;
- 102 (50%) schools/facilities have completed repairs and are in the post-remediation testing phase; and
- 17 (8%) schools/facilities are finalizing a remediation plan or have repairs in progress.

The remaining schools/facilities fall into other categories such as newly-constructed with initial testing complete or having a remediation plan but scheduled for demolition. Two MCPS schools (Laytonsville and Monocacy elementary schools) are on well water system and only use bottled water for drinking.

3. Communication with the School Community

MCPS communicates with the school community regarding lead in drinking water both by making information available on its website and by sending information home to parents/guardians.

For schools with an active remediation plan, Division of Maintenance staff provide the principal with a written update at each key milestone. Maintenance staff also provide the principals a letter updating the school's remediation status for the principal to send to parents/guardians.

Information posted on MCPS' website⁴ includes:

- A letter describing MCPS' efforts to reduce lead levels in school drinking water;
- Information on the status of each school in the testing and remediation process;
- A document with responses to frequently-asked questions about lead in drinking water;
- Water testing results; and
- Links to other federal, state, and local resources on lead in drinking water and lead poisoning in general.

4. Budget and Staffing

MCPS funds the cost of lead remediation projects through its Water and Indoor Air Quality Improvements capital project. This is an ongoing capital project that was initially funded by the Council in FY99 for indoor air quality purposes. In FY05, the Council approved a \$1.6 million special appropriation to this project for lead abatement and remediation projects.

The FY08 appropriation for this project is \$1.3 million. The project funding levels in the approved FY07-FY12 included \$3 million for FY07 and \$1.3 million each year for FY08-FY12. The current approved funding levels are intended to maintain the level of effort on air quality projects and to address water quality improvements system-wide.

MCPS does not dedicate any staff solely to drinking water safety issues. Division of Maintenance staff manage the lead testing and remediation as part of their duties.

⁴ <http://www.montgomeryschoolsmd.org/departments/maintenance/leadinformation/index.shtml>

CHAPTER XI. Other MCPS Facility Environmental Compliance Issues

This chapter provides an overview of other environmental issues that Montgomery County Public Schools (MCPS) must comply with when constructing new and/or maintaining existing facilities.

- **Part A** summarizes the regulatory framework and MCPS management practices for noise control; and
- **Part B** summarizes the County's green building law and MCPS' green building practices.

A. Noise Control Laws, Regulations, and MCPS Management Practices

Sound can become a public nuisance when it exceeds certain defined levels of intensity, measured as decibels, or when the "sound" occurs at times or in places where it is unexpected and unwanted. Noise control is the policy of the abatement and limitation of sound through use of low-noise products, noise reduction techniques, or administrative noise control measures.

1. Maryland Noise Control Law and Regulations

Title 3 of the Maryland Code's Environment Article tasks the Maryland Department of the Environment (MDE) with adopting environmental noise standards, sound level limits, and noise control rules and regulations (§ 3-103 to § 3-105).

State regulations establish maximum noise levels for industrial, commercial, and residential land use categories that range from 65 to 75 decibels during the day and 55 to 75 decibels at night (COMAR 26.02.03).¹ COMAR also provides noise level exemptions to many activities applicable to public schools and facilities, including:

- Non-electronically amplified sound, between 7 a.m. and midnight, created by sporting events;
- Construction or repairs on public property; and
- Construction noise between 7 a.m. and 10 p.m. (26.02.03)

2. County Noise Control Law and Regulations

Chapter 31B of the County Code establishes the County's Noise Control Ordinance, and delegates administration of the law to the Department of Environmental Protection (DEP). The Noise Control Ordinance intends to control and/or limit sound that is:

- Unpleasant, loud, or offensive;
- Unusual for the time of day or location where it is produced;
- Detrimental to the health, comfort, or safety of individuals; or
- Detrimental to the reasonable enjoyment of property or the lawful conduct of business due to the character of the sound (§ 31B-2).

¹ COMAR defines "daytime hours" as 7 am to 10 pm, and "nighttime hours" as 10 pm to 7 am

Chapter 31B establishes maximum acceptable sound levels, as shown in the table below, according to the use of the property, the time of day, and whether construction activities are occurring. For non-construction activities, daytime is defined as 7 am to 9 pm on weekdays, and 9 am to 9 pm on weekends. For construction activities, daytime is 7 am to 5 pm weekdays only (§ 31B-5,6).

Table 11-1: Montgomery County Noise Control Ordinance Maximum Allowable Decibel Levels (dBA)

Time of Day	Non-Construction		Construction
	Residential	Non-Residential	
Daytime	65	67	75
Nighttime	55	62	55

County regulations require noise levels to be measured at the property line from at least two locations (COMCOR 31B.00.01). The law also requires that construction noise be measured at least 50 feet from the source (§ 31B-6). Chapter 31B also allows for construction noise up to 85 decibels if the project has an approved noise-suppression plan from DEP. A noise-suppression plan is a written plan to use the most effective noise-suppression equipment, materials, and methods appropriate and reasonably available for a particular type of construction (§ 31B-6).

The law also authorizes DEP to enforce the Noise Control Ordinance through issuing violations and corrective orders (§31B-12).

3. MCPS Noise Control Management Practices

MCPS staff report that they rarely have to address noise control issues. For construction projects, staff report that activities generally fall within the allowable ranges. If a project is expected to exceed the noise levels, MCPS will submit a Noise Suppression Plan for that project. If a plan is approved, it would then be implemented by the project contractor. MCPS staff reported that no projects in recent years required a Noise Suppression Plan. MCPS staff also report that they rarely receive any complaints about noise from school events (e.g. sporting events, etc.).

The public may also file noise complaints through DEP's online *Citizen's Two Party Noise Disturbance Complaint Form*.² DEP staff investigate any noise complaint received, but staff report that many times the activity that caused the complaint is no longer occurring when staff arrive.

DEP staff report that they receive very few noise complaints related to MCPS facilities. DEP reports that noise complaints it may have received in the past about MCPS have been "one-time" events, such as construction activity or noise from HVAC equipment, and have not been found to be Noise Ordinance violations.

² www2.montgomerycountymd.gov/DEPOnlineForms/NoiseComplaintForm.aspx#form

B. Green Buildings

The construction of “green buildings” requires the inclusion of environmental, health, and waste prevention criteria in building design, site planning, preparation, and construction. Green buildings standards include the involvement of environmentally sensitive site selection and planning, energy use, water use, materials/solid waste, and ventilation. As a result, green buildings use less energy, consume less water, generate fewer air pollutants, and provide a healthier indoor environment.³

1. County Green Buildings Law

The Montgomery County Green Buildings Law, codified in Chapter 8, Article VII of the County Code, addresses energy efficiency and environmental design standards in building construction, energy, and environmental design. The Green Buildings Law requires that newly constructed building meet certain Leadership in Energy and Environmental Design (LEED) building criteria as established by the Green Building Council.⁴

The law requires a LEED-silver rating⁵ for any county building⁶ for which design funding is first included in the appropriate capital budget for fiscal year 2008 or any later fiscal year, or, if design funding is not directly included in the capital budget, for which a building permit application is filed on or after September 1, 2008. However, the law allows a county building for which design funding is first approved in the appropriate capital budget for fiscal year 2008 to achieve any LEED certified rating, rather than a LEED-silver rating (§ 8-49).

The law also requires the Department of Permitting Services (DPS) to adopt regulations to implement the law;⁷ stipulates that DPS not issue final use-and-occupancy permits until verification that the building satisfies the “green building” standard; and allows DPS to issue a waiver for a building if the standards would prove “unduly burdensome” (§ 8-50,51).

³ Metropolitan Washington Council of Governments, *Greening the Washington Metropolitan Region's Built Environment*. July 10, 2007.

⁴ The U.S. Green Building Council (USGBC) is a building industry non-profit promoting “environmentally responsible, profitable and healthy buildings.”

⁵ A silver Leadership in Energy and Environmental Design (LEED) rating is 33-38 points on the LEED rating scale.

⁶ A County building is defined as any covered building that the County government finances at least 30% of the cost of construction or modification.

⁷ The County Council received the proposed Executive Regulation to implement the Green Buildings Law on July 24, 2007. The deadline for Council action on the proposed regulations is December 31, 2007, which can be extended.

2. MCPS Green Buildings Management Practices

MCPS reports that its current building construction policies and practices comply with the requirements established by the Green Building Law.⁸

In 2003, MCSP initiated a "High Performance Building Plan" that includes the incorporation of LEED standards and reviews into MCPS building design plans. As part of this plan, MCPS designed Great Seneca Creek Elementary School as a LEED pilot project. Great Seneca Creek Elementary School opened in 2007 as the first LEED-certified school in Maryland. A document in the appendix (at ©81) shows the LEED building requirements for Great Seneca Creek Elementary School. MCPS reports that the LEED pilot project resulted in increased costs for school design (~1% increase) and school construction (~5-10% increase). However, MCPS expects to see cost savings from utility costs and other efficiencies.

Beginning in 2006, MCPS expanded the High Performance Building Plan systemwide. As a result:

- All new schools and modernizations will be designed to LEED standards and become LEED certified; and
- All building additions will be designed to LEED specifications.

MCPS reports that it has also registered for LEED certification for six additional school modernization projects currently in the design stage:

- Cabin John Middle School;
- Carderock Springs Elementary School;
- Cashell Elementary School;
- Cresthaven Elementary School;
- Francis Scott Key Middle School; and
- Paint Branch High School.

⁸ Information on the entire range of MCPS' green building efforts is available on MCPS' website at: <http://www.mcps.k12.md.us/departments/facilities/greenschoolsfocus/gb.shtml>

CHAPTER XII. Compliance of MCPS Facilities with Environmental Requirements

This chapter summarizes MCPS' environmental compliance for eight of the environmental issues discussed in this report. In many cases, MCPS environmental efforts go beyond what is required by law. The chapter summarizes MCPS compliance with legally mandated procedures and standards. Specifically:

- **Part A** reviews MCPS' compliance with mandated procedures;
- **Part B** reviews MCPS' quantifiable compliance with environmental laws; and
- **Part C** presents qualitative feedback from county and municipal staff that review, approve, and monitor MCPS' compliance with environmental laws.

OLO found that many of the environmental laws and regulations discussed in this report do not allow for a quantifiable assessment of compliance. MCPS complies with many environmental laws and regulations by implementing required procedures.

A. MCPS Procedural Compliance

The regulatory framework for six of the environmental issues discussed in this report (forest conservation, stormwater management and sediment control, asbestos, hazardous substances, integrated pest management, and underground storage tanks) requires MCPS to implement specific procedures.

In most of these cases, verifying compliance involves maintaining documentation that shows implementation of procedures. Unless otherwise noted, OLO reviewed samples of MCPS compliance documentation for the different issues, and found no indication of non-compliance that warranted a more detailed records search.

1. Forest Conservation

The forest conservation laws and regulations for construction projects include the procedural requirements for the submission of plans and information to the County or appropriate municipality as part of the sediment control permit process. MCPS has standardized procedures in place to meet each of these requirements. MCPS complies with the law through the completion of:

- Natural Resource Inventory/Forest Stand Delineation plans; and
- Forest Conservation Plans.

Further details on this issue and MCPS' compliance are available in Chapter III.

2. Stormwater Management and Sediment Control

The stormwater management and sediment control laws and regulations for construction projects consist of the procedural requirements for the submission of plans and information to the County or appropriate municipality as part of the sediment control permit process. MCPS has standardized procedures in place to meet each of these requirements. MCPS complies with the law through the completion of:

- Stormwater management concept and design plans;
- Erosion and sediment control plan; and
- "Water quality inventory" documentation for Special Protection Areas.

Further details on this issue and MCPS' compliance are available in Chapter IV.

3. Asbestos

The laws and regulations for asbestos in schools are primarily procedural requirements for facility inspections, maintenance of asbestos information for each facility, notification to parents and staff, asbestos remediation/response actions, staff training, and asbestos waste disposal. MCPS has standardized procedures in place to meet each of these requirements. MCPS verifies compliance through maintaining documentation, including:

- Records of asbestos inspections conducted for each facility;
- Asbestos Management Plans for each facility updated after every inspection;
- Records for each asbestos abatement project with air sampling results;
- Signed forms from principals verifying that asbestos notification was sent to parents/staff; and
- Disposal records for all asbestos waste produced from MCPS facilities.

Further details on this issue and MCPS' compliance are available in Chapter V.

4. Hazardous Substances

The laws and regulations for hazardous materials consist of procedures for accessing information on hazardous and toxic substances in the workplace, community right-to-know reporting, and hazardous waste disposal. MCPS has standardized procedures in place to meet each of these requirements. MCPS verifies compliance through maintaining documentation, including:

- A written hazard communication program and a Chemical Information List;
- Hazardous Materials Use Site registration certificates for each facility with hazardous substances; and
- Waste manifest disposal records for all hazardous waste produced from MCPS facilities.

Further details on this issue and MCPS' compliance are available in Chapter VI.

5. Integrated Pest Management

State laws and regulations for integrated pest management (IPM) in schools include the adoption of an IPM program and notification requirements related to pesticide application. MCPS has standardized procedures in place to meet each of these requirements. MCPS verifies compliance through maintaining documentation, including:

- Records of IPM implementation, inspections, and maintenance for each school;
- Annual IPM notification letters sent to parents/guardians and school staff; and
- Signed forms verifying notification was sent to applicable parents/guardians and school staff for any planned or emergency pesticide applications.

Further details on this issue and MCPS' compliance are available in Chapter VII.

6. Underground Storage Tanks

Underground storage tank laws and regulations include procedures for preventing, reporting, and responding to leaks or regulated substances. MCPS has standardized procedures in place to meet each of these requirements. MCPS verifies compliance through maintaining documentation, including:

- Results of leak detection tests; and
- Remediation plans submitted to and approved by the Maryland Department of the Environment.

Further details on this issue and MCPS' compliance are available in Chapter VIII.

B. Quantifiable Indicators of MCPS Environmental Compliance

This section summarizes data available to review the level of MCPS environmental compliance. OLO was able to obtain quantifiable data on three of the issues reviewed.

1. Stormwater Management and Sediment Control

Data are available on the implementation of approved stormwater management and sediment control plans, and the transfer of MCPS' existing stormwater management facilities into the Department of Environmental Protection's inspection and maintenance program.

New Construction. Implementation of approved stormwater management and sediment control plans is monitored through required inspections by the permitting authority. The passing rate of inspections is an indication of how well MCPS projects implement the approved plans.

For 51 MCPS sediment control permits issued by the County Department of Permitting Services since 2004:

- DPS has conducted, on average, 19 sediment control and 3 stormwater management inspections per permit;
- MCPS projects “pass” 78 percent of sediment control inspections; and
- MCPS projects “pass” 89 percent of stormwater management inspections.

For sediment control or stormwater management inspections that do not pass, DPS requires the MCPS contractor to correct the problems within a set time period.

OLO also found that only 15 (29%) of 51 of MCPS sediment control permits are listed as “finalized” as of October 15, 2007. While many permits remain open due to active construction, several remain open because DPS is awaiting final “as-built” paperwork or stormwater flushing from MCPS. Many of these permits have remained open for well over a year since completion of construction activity.

Existing Facilities. State law requires existing stormwater management facilities to be inspected at least once every three years, and preventive maintenance performed as needed. MCPS has not regularly performed these inspection and maintenance requirements for several years.

As a result, MCPS entered into a Memorandum of Understanding for DEP to take over inspection and structural maintenance responsibilities. In addition, the County Council approved a \$1.2 million special appropriation for MCPS to perform needed maintenance before turning the facilities over to DEP.

As of September 2007, DEP and MCPS staff report that 194 (61%) of 320 MCPS stormwater facilities are in proper working order and have been accepted into DEP’s maintenance program. MCPS reports that repair and/or maintenance work has either begun or has been scheduled for the remaining 126 stormwater facilities.

Further details on this issue and MCPS’ compliance are available in Chapter IV.

2. Indoor Air Quality

Although MCPS’ indoor air quality program (IAQ) is a voluntary, non-regulatory program, MCPS tracks IAQ outcome measures for schools that have gone through the Building Maintenance Plan (BMP) program. As of September 2007, MCPS has completed BMPs for 61 (31%) of MCPS’ 200 total schools.

MCPS IAQ performance standards are for both temperature and ventilation samples to fall within acceptable ranges (as defined by MCPS, see page 70) at least 80% of the time. For each year since FY02, total temperature and ventilation samples in BMP schools have met or exceeded the 80% performance standard. Further details on this issue are available in Chapter IX.

3. Lead in Water

MCPS is not required to test the lead levels in its drinking water. However, EPA guidelines provide a quantifiable lead standard (no more than 20 parts per billion) that schools should meet if they do test their drinking water.

MCPS has instituted processes to provide safe drinking water in schools through lead level testing and remediation. As of April 2007, MCPS lists 204 schools or facilities that have been tested for lead in drinking water. In sum, MCPS' data show:

- 36% of schools/facilities did not require remediation or have completed lead remediation efforts;
- 50% of schools/facilities have completed repairs and are in the post-remediation testing phase;
- 8% of schools/facilities are finalizing a remediation plan or have repairs in progress; and
- 5% of schools/facilities fall into other categories (e.g., newly constructed, scheduled for demolition, etc.).

Further details on this issue are available in Chapter X.

C. Feedback

This section summarizes feedback that OLO received from Planning Department, Department of Permitting Services, Department of Environmental Protection, City of Rockville, and City of Gaithersburg staff on MCPS' general compliance with environmental laws in the construction process. In general, staff from all the agencies report having positive working relationships with MCPS staff on environmental issues.

Feedback on MCPS forest conservation implementation. Common themes on MCPS forest conservation practices among the staff interviewed by OLO include:

- MCPS usually completes forest conservation application materials in a timely manner, and it generally only takes a few exchanges for plan approval;
- Staff work with MCPS to balance the requirements of the forest conservation law with the individual needs of a school site (e.g., safety concerns, need for recreational space, etc.);
- Contractors that are local or familiar with county laws tend to perform better on forest conservation compliance; and
- Trees planted as part of a forest conservation plan are more susceptible to damage and decline after the construction of the school is complete, when tree maintenance responsibility transitions to the individual school.

Feedback on MCPS stormwater and sediment control implementation. Common themes on MCPS stormwater and sediment control practice among the staff interviewed by OLO include:

- The planning for stormwater and sediment compliance works well, but the implementation during construction can be uneven and contractor dependent. Contractors that are local or familiar with county laws tend to perform better on sediment control and stormwater management compliance;
- MCPS has lagged in closing out several projects due to delays in submitting complete as-built or other engineering documents; and
- MCPS could work to further improve coordination between the MCPS Division of Construction, the project contractors (engineers and architects), and the permitting authority.

CHAPTER XIII. Findings

This chapter summarizes the findings of the Office of Legislative Oversight's (OLO) review of Montgomery County Public Schools' (MCPS) compliance with environmental laws and regulations. The organization of OLO's findings parallels the structure of the report.

OVERVIEW OF MCPS ENVIRONMENTAL COMPLIANCE

Finding #1: MCPS constructs and maintains educational facilities in compliance with a variety of federal, state, and local environmental laws and regulations.

MCPS manages an inventory of more than 200 facilities – including schools, maintenance and/or transportation depots, and administrative buildings. MCPS must construct and maintain these facilities in compliance with a variety of federal, state, and local environmental laws and regulations. The table below lists the eleven environmental issues reviewed in this report and the source of regulation for each issue.

Environmental Issue	Source of Law or Regulation			
	Federal	State of Maryland	Montgomery County	Municipal
Forest conservation		✓	✓	✓
Stormwater management	✓	✓	✓	✓
Sediment control		✓	✓	✓
Asbestos	✓	✓		
Hazardous materials	✓	✓	✓	
Integrated pest management		✓		
Underground storage tanks	✓	✓		
Noise control		✓	✓	
Green buildings			✓	
Indoor air quality	Non-regulated programs based on federal and other guidelines			
Lead in drinking water				

Finding #2: MCPS' FY08 approved budget for complying with environmental laws, regulations, and guidelines includes at least \$2.1 million in operating funds and \$2.3 million in capital funds.

MCPS' Department of Facilities Management has the primary management responsibility for environmental compliance. The Department's Division of Maintenance manages environmental compliance in existing buildings, while the Division of Construction manages environmental compliance during building construction.

MCPS environmental compliance initiatives are funded through both the operating and capital budget. The full cost for MCPS environmental compliance is not easily obtained or estimated, as many environmental compliance activities are embedded in other activities or programs. In particular, MCPS does not track or break out the amount of operating or capital funds dedicated to environmental compliance as part of school construction projects.

MCPS FY08 operating budget funds dedicated specifically to environmental compliance activities total \$2.05 million, a slight increase over FY07 funding of \$2.02 million. This funding level includes 20 positions within the Division of Maintenance operating budget.

MCPS' approved FY07-FY12 Capital Improvements Program (CIP) includes three capital projects dedicated to environmental compliance: Asbestos Abatement, Water and Indoor Air Quality Improvements, and Stormwater Discharge Management. The FY08 appropriation for these three projects is \$2.3 million. The Asbestos Abatement and Water and Indoor Air Quality Improvements projects fund both personnel (13 positions combined) and non-personnel costs.

FOREST CONSERVATION

MCPS construction projects on a 40,000 square feet or larger tract of land that requires a sediment control permit or any construction project clearing 5,000 or more square feet of forest must follow forest conservation requirements. Forest conservation laws require MCPS to develop and submit to the appropriate county or municipal reviewing agency a Natural Resources Inventory/Forest Stand Delineation and a Forest Conservation Plan.

Finding #3: The MCPS Division of Construction prepares and submits forest conservation information as part of MCPS' building construction process, and is responsible for ensuring implementation of approved plans. Summary data are not readily available on MCPS forest conservation plan implementation.

Upon determining that a construction project approved in the MCPS Capital Improvement Program will trigger forest conservation requirements, MCPS staff prepare and submit to the appropriate county or municipal reviewing authority:

- A Natural Resources Inventory/Forest Stand Delineation;
- A preliminary Forest Conservation Plan; and
- A final Forest Conservation Plan.

MCPS staff report that the plan reviews generally include at least one or two sets of suggested changes from the plan reviewers. In developing forest conservation plans, MCPS reports that its practice is to prioritize techniques that retain existing forest on site.

MCPS staff report that they schedule forest conservation inspections with Montgomery County Planning Department staff as required by county regulations. MCPS also reports that it conducts "internal" inspections through MCPS' project managers, general contractors, and sub-contractors who are all responsible for ensuring that construction activities comply with approved plans.

M-NCPPC summarizes forest conservation plan data (i.e., total number of forest acres retained, reforested, or afforested) on development projects for submittal to the State. However, Planning department staff report that they do not track data for certain institutional projects, including MCPS facility or DPWT transportation projects. Planning Department staff also report that they recently began tracking summary data in the Hansen data system for school and transportation projects during FY08, and also plan to enter data on past projects.

Finding #4: MCPS has concerns over the use of conservation easements as part of forest conservation plans on school sites. As a result, MCPS and Planning Department staff have begun discussing a formal forest conservation implementation agreement.

As part of a forest conservation plan, the Planning Board can require MCPS to place areas of retained forest on a site in a permanent conservation easement. There are two categories of conservation easements. The more restrictive Category 1 easement is a dedicated easement that must be fenced off and does not allow for any maintenance activities (e.g., removing fallen trees, mowing, etc.). A Category 2 easement is less restrictive; it does not require fencing and allows for maintenance activities.

MCPS staff report that the inclusion of conservation easements into forest conservation plans has been a recent occurrence, and has been recommended for five school projects to date. While acknowledging the environmental goals of a conservation easement, MCPS staff expressed some concerns with the use of conservation easements, particularly the more restrictive Category 1 easements. Specifically, MCPS concerns include:

- Permanent easements may prevent MCPS' ability to expand, renovate, or modernize a school in the future.
- Areas with undisturbed grass and forest area could pose a potential safety or security risk.

MCPS and Planning Department staff have recently begun a series of meetings to discuss developing a memorandum of understanding (MOU) or other form of agreement between the agencies with regard to forest conservation implementation for MCPS projects.

Finding #5: MCPS reports that delays in plan approval and permit issuance occur when MCPS has to negotiate conflicting requirements between forest conservation and stormwater management/sediment control plans.

MCPS Division of Construction staff estimate that conflicts between forest conservation and stormwater management/sediment control plan requirements occur in more than 50% of construction projects. An example of typical conflict is where DPS' review of a stormwater plan requires management activities in the same location where the Planning Department requires forest conservation measures.

According to MCPS staff, these conflicts are difficult to resolve expeditiously and significantly impact project schedules. MCPS attributes delays in starting many capital projects this year to late approvals of forest conservation, sediment and erosion control, and stormwater management plans; and as a result anticipates that some projects may not open on-time for the next school year.

STORMWATER MANAGEMENT AND SEDIMENT CONTROL

Any MCPS construction, demolition, or grading project that disturbs 5,000 square feet or more of land, or results in 100 cubic yards or more of earth movement, requires a sediment control permit. The law establishes requirements during the permit review process, during construction, and for maintaining permanent stormwater facilities post-construction.

Finding #6: The MCPS Division of Construction prepares and submits stormwater management and sediment control information as part of MCPS' building construction process, and is responsible for ensuring implementation of approved plans.

In order to meet stormwater and sediment control permitting requirements for construction projects, MCPS Division of Construction staff:

- Arrange and attend a stormwater management pre-concept review meeting with the appropriate county or municipal reviewing agency;
- Prepare and submit a stormwater management concept plan;
- Prepare and submit a final stormwater management design plan; and
- Prepare and submit an erosion and sediment control plan.

MCPS reports that the final stormwater management and sediment control plans undergo, on average, two or three sets of reviews by DPS or municipal staff. MCPS staff report that the entire stormwater management and sediment control plan approval process for construction projects takes about 11 months.

After permit approval, but before any disturbance activity, MCPS and the project contractor participate in a mandatory pre-construction meeting with the relevant permitting authority. MCPS reports that DPS and/or municipalities inspect stormwater and sediment control measures every two weeks and after major rain events during the construction process. MCPS also performs internal oversight of sediment and stormwater plans implementation.

Finding #7: For 51 sediment control permits issued by DPS since 2004, MCPS projects have passed 78% sediment control inspections and 89% of stormwater management inspections conducted by DPS. Summary data on violations and complaints for MCPS sediment control permits are not readily available.

DPS provided data on county sediment control permits issued for MCPS projects since 2004. The data show, for 51 MCPS sediment control permits issued:

- DPS has conducted 954 sediment control and 131 stormwater management inspections, an average of about 19 sediment control and 3 stormwater management inspections per permit;
- MCPS projects passed 78 percent of sediment control inspections; and
- MCPS projects passed 89 percent of stormwater management inspections.

Summary data on violations and complaints for MCPS sediment control permits are not readily available from DPS' Hansen data management system. DPS staff report that the Hansen system has the capability to link violation or complaint data to specific sediment control permits, however it will require changes to some of the existing data entry processes. DPS has begun addressing this issue, specifically reporting that:

“DPS has identified that inspection data results are entered in several different ways into the Hansen data base system. Over the last few months, DPS has brought these issues to light and has begun to examine the methods used by each of the inspection units for capturing data for inspection, notices of violation, and complaints. DPS is developing processes that are intended to enter data into Hansen in a consistent manner.” (Source: DPS, October 2007)

Finding #8: Many MCPS sediment control permits remain “open” despite the completion of construction activity, primarily due to a lack of completion of final “as-built” documents.

OLO also found that only 15 (29%) of 51 of MCPS sediment control permits are listed as “finalized” as of October 15, 2007. While many permits remain open due to active construction, several remain open because DPS is awaiting final “as-built” paperwork or stormwater flushing from MCPS. Many of these permits have remained open for well over a year since completion of construction activity.

MCPS reports that this occurs because contractors do not submit the final required documents in a timely manner. MCPS reports that the Division of Construction has implemented the following steps to address the open permits and to prevent future reoccurrence:

- A staff member has been assigned to work with the contractors and obtain completion of outstanding items;
- MCPS has hired a separate contractor to prepare the outstanding items for sites where the original contractor is no longer available; and
- MCPS has revised its contract language to require submission of “as-built” documents within 65 days of completion of work.

Finding #9: MCPS reports that it is difficult to expand or add to schools located within Special Protection Areas because of impervious surface limits.

For projects located in Special Protection Areas (SPA), MCPS submits additional “water quality inventory” documentation during the permit review process as required by the County Code. If the project is located in the Upper Paint Branch or Upper Rock Creek SPA, MCPS also must comply with impervious surface limits in the Zoning Ordinance.

MCPS staff report that meeting the impervious surface limits is difficult for addition or expansion projects. If the on-site impervious requirements cannot be met, MCPS staff report that they work with Planning Department staff to determine the amount and location of allowable off-site impervious surface mitigation. MCPS reports that even off-site mitigation is difficult, however, because mitigation must be done within the same SPA and locations are extremely difficult to find.

MCPS is currently working with M-NCPPC to determine how it can meet offset requirements for a planned gymnasium addition at Cloverly Elementary School within the Paint Branch SPA. Since the addition is almost all impervious surface, MCPS must offset 2,600 square feet of impervious surface. MCPS reports that it cannot satisfy this on-site at the project site, nor did it budget for off-site mitigation.

Finding #10: In May 2007, the Board of Education entered into a Memorandum of Understanding (MOU) with County Government for DEP to take over inspection and structural maintenance responsibilities for MCPS stormwater facilities. Transfer of MCPS stormwater facilities to DEP is 61% complete.

The finalized MOU delineates stormwater maintenance responsibilities between MCPS and DEP. In sum:

- DEP will perform inspections and structural maintenance work on all stormwater management facilities on MCPS property that are in proper working condition;
- DEP will not accept structural maintenance responsibilities for facilities not in proper working order until MCPS completes all outstanding repairs;
- DEP will assume inspection and maintenance responsibility for new stormwater facilities completed on MCPS property upon release of the sediment control permit by the County; and
- MCPS will remain responsible for non-structural maintenance activities (e.g., landscaping, grass cutting, removal of trash, and removal of trees and brush).

The County Council approved a \$1.2 million special appropriation in May 2007 to the FY07 Capital Budget and Amendment to the FY07-12 CIP for MCPS to bring all stormwater management facilities on school sites up to current maintenance standards.

As of September 2007, DEP and MCPS staff report that 194 (61%) of 320 MCPS stormwater facilities are in proper working order and have been accepted into DEP's maintenance program. MCPS reports that repair and/or maintenance work has either begun or has been scheduled for the remaining 126 stormwater facilities, and those facilities will be transferred to DEP on an ongoing basis as the work is finished.

ASBESTOS

The legal framework for asbestos in schools establishes procedural requirements for: facility inspections and surveillance, creation of Asbestos Management Plans for each school with asbestos, notification to parents and staff, asbestos remediation/response actions, staff training, and asbestos waste disposal.

Finding #11: MCPS has standardized procedures in place to meet the asbestos requirements established in federal and state law.

MCPS' Asbestos Abatement Unit, located within the Division of Maintenance, manages MCPS' compliance with federal and state laws and regulations. As required by these mandates, MCPS has standardized procedures in place to:

- Create an Asbestos Management Plan for each facility with asbestos;
- Provide annual notification to parents and staff of a school's Asbestos Management Plan;
- Conduct periodic asbestos surveillance and inspections;
- Provide asbestos training to building service workers within the Division of School Plant Operations and all employees within the Division of Maintenance;
- Maintain records for each asbestos abatement project, including air sampling results; and
- Maintain disposal records for all asbestos waste produced from MCPS facilities.

Finding #12: MCPS staff report that approximately half of MCPS schools have asbestos-containing materials, and that MCPS staff performed 265 asbestos abatement projects in FY06 and FY07.

MCPS reports that its Asbestos Abatement Unit staff conduct visual inspections twice a year in each facility with asbestos to evaluate the condition of any asbestos-containing material and determine the need for any remedial work. Every three years, Asbestos Unit staff perform a more detailed inspection involving an assessment of the entire building.

For schools with asbestos-containing materials, MCPS staff report that most of the remaining asbestos is contained in floor tiles. The Asbestos Abatement Unit performed 265 abatement projects in FY06 and FY07, removing over 76,000 square feet of asbestos floor tile from schools. MCPS funds the cost of the Asbestos Abatement Unit personnel and the cost of abatement activities through its Asbestos Abatement capital project.

The Asbestos Abatement project funding level in the approved FY07-FY12 CIP is \$981,000 each fiscal year, primarily to cover the personnel costs of 10 positions. Through FY06, approximately \$25 million has been spent on MCPS' Asbestos Abatement capital project since its initial appropriation in FY81.

HAZARDOUS MATERIALS

The laws and regulations MCPS must follow for hazardous materials cover three regulatory areas: employee access to information about hazardous and toxic substances, community right-to-know reporting, and hazardous waste disposal.

Finding #13: MCPS has standardized procedures in place to meet the procedural requirements for hazardous materials established in federal, state and county law.

MCPS' Department of Facilities Management manages MCPS' compliance with hazardous materials laws and regulations. As required by these mandates, MCPS has standardized procedures in place to:

- Compile and regularly update a Chemical Information List with all of the hazardous chemicals used and/or stored at schools or other MCPS facilities;
- Ensure that all hazardous chemicals have proper labels;
- Maintain material safety data sheets for each hazardous product used;
- Provide a Hazard Communication/Employee Right-to-Know training course;
- Obtain a Hazardous Materials Use Site registration certificate for each facility with hazardous substances; and
- Maintain disposal records for all hazardous waste produced from MCPS facilities.

Finding #14: MCPS disposes of hazardous waste both through the Division of Maintenance and through individual schools.

MCPS hazardous waste disposal is primarily managed by the Division of Maintenance.¹ MCPS reports that unwanted chemicals from maintenance operations are taken to the Shady Grove depot where the waste is put into 55-gallon drums according to chemical class by a qualified contractor.

Once MCPS has accumulated a sufficient quantity of hazardous waste at the Shady Grove depot, Division of Maintenance staff arrange for hazardous waste transportation and disposal with licensed vendors. As required by law, MCPS fills-out and maintains a hazardous waste manifest form for each shipment.

The Department of Curriculum and Instruction holds a contract with a licensed vendor for the packaging, documentation, transportation, and disposal of hazardous chemicals from MCPS' middle and high schools. For disposal of these chemicals (primarily from science labs), school staff coordinate the pickup through the Department of Curriculum and Instruction.

INTEGRATED PEST MANAGEMENT (IPM)

IPM is a pest reduction strategy that attempts to use environmentally safe procedures as much as possible. The State of Maryland's integrated pest management law establishes specific requirements for schools on IPM implementation, notification of IPM programs, and notification of pesticide applications.

Finding #15: MCPS complies with the State of Maryland's requirements to have an IPM program and to provide IPM and pesticide notifications.

MCPS adopted Regulation ECF-RB, *Pesticides Use in Schools* in July 2000. This regulation established procedures for implementing an IPM program in accordance with the state requirements. MCPS has standardized procedures in place to:

¹ Excluding waste oil, which is handled by MCPS' Department of Transportation.

- Conduct and maintain records of IPM inspections and routine maintenance for each school;
- Distribute annual IPM notification letters to parents/guardians and school staff; and
- Notify parents/guardians and school staff of all planned pesticide applications and all emergency pesticide applications. MCPS requires that school administrators sign and maintain forms that verify the notification was distributed.

MCPS' Asbestos Abatement/Pest Control Unit, within the Division of Maintenance, includes four positions dedicated to IPM. IPM staff visit each school approximately once per month for a routine inspection, and as needed for emergency pest situations.

In accordance with state regulation, IPM staff are the only MCPS employees allowed to apply any pesticide. IPM staff try to minimize the use of pesticides, and emphasize IPM practices that focus on pest prevention.

UNDERGROUND STORAGE TANKS

Federal and state laws and regulations include procedures for reporting and responding to a leak from an underground storage tank.

Finding #16: MCPS maintains 29 underground storage tanks at 24 different locations. MCPS currently has one active remediation program from a 2001 leak at Fields Road Elementary School.

MCPS currently maintains underground storage tanks at five transportation and maintenance depots and 19 schools/centers. The depots each have one underground storage tank for unleaded gasoline and one for diesel fuel. These fuel tanks all contain computerized auto-testing systems that regularly test for leaks and print the test results for review by depot staff.

Eighteen MCPS schools or centers have underground storage tanks containing heating oil. Seven of these schools/centers are heated solely with heating oil, and will remain so until the boiler needs replacement or the school undergoes a modernization. When natural gas is available at the time of a boiler replacement, MCPS' practice is to remove the underground storage tanks and convert the school to natural gas. During a facility modernization, either a natural gas fired boiler or a hydronic heat pump system is installed, eliminating the need for heating oil.

Eleven schools currently have dual fuel system, where they are primarily heated with natural gas but also have a heating oil backup. Additionally, one school has a tank containing diesel fuel. All of the heating oil tanks located at schools or centers are manually tested for leaks by the plant equipment operator.

MCPS has one active remediation plan, dating from a 2001 underground storage tank leak at Fields Road Elementary School. When the leak occurred, MCPS reports that they removed the tank and notified the Maryland Department of Environment (MDE) as required by federal and state law. Under a remediation plan approved by MDE, MCPS continues to implement a corrective action plans with quarterly reporting to the State.

INDOOR AIR QUALITY (IAQ)

MCPS' indoor air quality program is a voluntary, non-regulatory program based on recommended guidelines from the U.S. Environmental Protection Agency (EPA) and several other organizations. Despite the lack of legal requirements, MCPS reports a long-standing commitment to maintaining safe and healthy indoor air quality.

Finding #17: MCPS' Indoor Air Quality (IAQ) program has both preventive and reactive maintenance components. As of September 2007, MCPS has completed IAQ preventive maintenance plans for 61 (31%) of MCPS' 200 total schools.

In 1997, MCPS convened an Indoor Air Quality Action Team to develop a consistent IAQ strategy for the school system. As a result, MCPS initiated the Building Maintenance Plan (BMP) Program to develop IAQ preventive maintenance plans for each school. The BMP program includes an "initial team visit" to create an individualized BMP document for a school and a "follow-up team visit" to every 1-2 years later to review a school's compliance with the BMP and makes any needed modifications.

To implement the preventive maintenance approach, MCPS has two IAQ teams consisting of six positions each. MCPS staff report that the program was set up to have one IAQ team dedicated to initial team visits and the other IAQ team dedicated to follow-up team visits. In practice, however, MCPS staff report that this staffing design has not been followed.

MCPS' reactive maintenance component includes a standardized format for reporting IAQ problems and standardized procedures for responding to IAQ complaints. IAQ complaints that require corrective action are either assigned to school-based staff or assigned to an IAQ team as a special project.

Finding #18: MCPS schools with BMPs have met or exceeded IAQ performance goals for both temperature and ventilation each year since FY02. However, MCPS data show a declining rate of BMP completion as the number of IAQ complaints and special project requests is increasing.

MCPS tracks IAQ outcome measures for schools that have gone through the BMP program. MCPS IAQ performance standards for these schools is for both temperature and ventilation samples to fall within acceptable ranges (as defined by MCPS) at least 80% of the time. For each year since FY02, total temperature and ventilation samples in BMP schools have met or exceeded the 80% performance standard.

At the same time, MCPS data show a steady decline in the annual number of BMP visits by IAQ staff. In FY01, IAQ staff completed a total of 19 BMP visits. In FY07, IAQ completed three BMP visits.

Further, the percent of time IAQ staff spent on preventive maintenance decreased from 98% in FY01 to 42% on FY06, before increasing to 70% in FY07. MCPS' performance goal for IAQ staff time spent of preventive maintenance is 93%.

According to MCPS, two primary factors have led to the reduction in BMP visits by the IAQ teams:

- An increase demand for special projects (i.e., reactive or complaint-based work). The annual number of IAQ complaints and special project requests received by IAQ staff has increased from 118 in FY01 to 278 in FY07; and
- Difficulty maintaining a full staffing complement for 2nd shift (2:30-10:30 pm) HVAC mechanic positions.

Finding #19: MCPS has implemented standard mold prevention and remediation procedures for all MCPS schools/facilities, and has conducted IAQ assessments in over 500 of the nearly 600 portables used by MCPS.

MCPS follows mold prevention guidelines developed by various government and industry organizations, including the U.S. Environmental Protection Agency and the Centers for Disease Control and Prevention. MCPS focuses on preventing indoor moisture by maintaining appropriate temperature and relative humidity levels.

If mold is found, MCPS building service staff conduct mold removal on small areas and IAQ staff conduct mold removal whenever greater than 30 square feet are affected. To remediate mold problems, IAQ technicians and mechanics first identify the source of the moisture for repair to prevent recurrence. Mold remediation projects generally involve throwing away all porous moldy materials (e.g., books, drywall, and carpet) and cleaning and drying all non-porous materials (e.g., metal file cabinets and floor tile) with a solution of water and detergent.

Over the past two years MCPS has conducted IAQ assessments in over 500 portable classrooms used by MCPS. As a result of these assessments, MCPS has emphasized IAQ prevention and corrective measures for portables that incorporate:

- Fixing HVAC and/or building envelope deficiencies identified during portable classroom assessments;
- Including a school's portables in the BMP process to promote preventive maintenance; and
- Increasing staff training on portable classroom relocation and maintenance issues.

LEAD IN DRINKING WATER

Under the federal Safe Drinking Water Act (SDWA), MCPS is not required to test lead levels in drinking water because MCPS is not a public water system. However, EPA provides guidelines for non-SDWA regulated schools on lead testing, remediation, and communication with the school community.

Finding #20: MCPS has adopted practices and protocols for testing lead levels in drinking water, remedying any problems found, and communicating results to the school community.

MCPS has adopted a written protocol that follows EPA's guidelines for testing the lead levels in drinking water at schools/facilities. Under these guidelines, any sample from a drinking water source in an MCPS facility with lead levels exceeding 20 parts per billion requires further testing and/or corrective action.

If testing reveals elevated lead levels in one or more outlets at a school, MCPS develops a remediation plan to replace any outlet fixtures determined to be causing the problem. MCPS remediation plans include both temporary measures, such as water flushing, and permanent measures, such as fixture or internal plumbing replacement.

MCPS communicates with the school community regarding lead in drinking water both by making information available on its website and by sending information home to parents/guardians. For schools with an active remediation plan, Division of Maintenance staff provide the principal with written updates as well as status letters for the principal to send to parents/guardians.

Finding #21: As of April 2007, 176 (86%) of MCPS schools/facilities either did not require lead remediation after testing, have completed lead remediation efforts, or have completed repairs and are conducting post-remediation testing.

MCPS reports that of the 204 schools or facilities that have been tested for lead in drinking water:

- 74 (36%) schools/facilities have completed lead remediation efforts. 17 did not require any remediation after initial testing; the remaining 57 have resolved any problems and have passed required post-remediation testing;
- 102 (50%) schools/facilities have completed repairs and are in the post-remediation testing phase; and
- 17 (8%) schools/facilities are finalizing remediation plans or repairs.

The remaining schools/facilities fall into other categories such as newly-constructed, scheduled for demolition, etc. Two MCPS schools (Laytonsville and Monocacy elementary schools) are on well water systems and only use bottled water for drinking.

FEEDBACK ON MCPS ENVIRONMENTAL COMPLIANCE

Finding #22: Feedback from county and municipal staff on MCPS environmental compliance indicates positive working relationships with MCPS staff, as well as some general themes on forest conservation and stormwater/sediment control implementation.

In general staff from M-NCPPC, Department of Permitting Services, Department of Environmental Protection, City of Rockville, and the City of Gaithersburg all report having positive working relationships with MCPS.

Common themes on MCPS forest conservation practices among the staff interviewed by OLO include:

- Staff work with MCPS to balance the requirements of the forest conservation law with the individual needs of a school site (e.g., safety concerns, need for recreational space, etc.);
- Contractors that are local or familiar with county laws tend perform better on forest conservation compliance; and
- Trees planted as part of a forest conservation plan are more susceptible to damage and decline after the construction of the school, when maintenance responsibility transitions to the individual school.

Common themes on MCPS stormwater and sediment control practice among the staff interviewed by OLO include:

- The planning for stormwater and sediment compliance works well, but the implementation during construction can be uneven and contractor dependent. Contractors that are local or familiar with county laws tend to perform better on sediment control and stormwater management compliance;
- MCPS has lagged in closing out several projects due to delays in submitting complete as-built or other engineering documents; and
- MCPS could work to further improve coordination between the MCPS Division of Construction, the project contractors, and the permitting authority.

CHAPTER XIV. Recommended Discussion Issues

The Office of Legislative Oversight recommends that the County Council discuss five issues identified during the review of Montgomery County Public School (MCPS) facility compliance with environmental laws and regulations. OLO recommends that these five issues (outlined below) deserve Council attention because they involve potential funding and/or the Council's general oversight regarding implementation of County laws and regulations.

Four of the recommended discussion issues concern how MCPS' manages its compliance with environmental laws and regulations. Specifically, MCPS efforts to:

- Finalize "open" sediment control permit requirements;
- Improve coordination with permit review agencies, especially with regard to forest conservation laws and regulations;
- Resolve conflicts or inconsistencies between different regulatory requirements and/or regulatory requirements and policy goals; and
- Adequately staff MCPS' Indoor Air Quality program.

The fifth recommended discussion issue is the Department of Permitting Services' (DPS) data management system related to sediment control permits.

Issue #1: MCPS' efforts to finalize "open" sediment control permits.

To close-out a sediment control permit, MCPS must pass a final site inspection, flush out permanent stormwater management facilities (as needed), and submit final "as-built" stormwater and sediment plan documents to DPS. OLO found that many MCPS sediment control permits remain "open" despite the completion of construction activity, primarily due to a lack of completion of final "as-built" documents. Many of these permits have remained open for well over a year since completion of MCPS' construction activity.

MCPS reports that the Division of Construction has implemented steps to finalize these open sediment control permits and to prevent these types of delays for current and future construction projects. OLO recommends that the Council discuss with MCPS the status of these efforts. In particular, the Council should ask MCPS to discuss:

- The projected timeframe and costs associated with finalizing open sediment control permits; and
- The contracting practices MCPS has implemented to ensure that all current and future sediment control permits are finalized in a timely manner.

Issue #2: MCPS' efforts to improve coordination with permit review agencies, especially with regard to forest conservation laws and regulations.

MCPS recently initiated several efforts to improve coordination among MCPS, the County Government, and M-NCPPC on specific environmental issues. In May 2007, MCPS and the County Government entered into a Memorandum of Understanding (MOU) on maintenance responsibilities for existing stormwater management facilities. In addition, MCPS and Planning Department staff recently met to develop a written agreement on the implementation of forest conservation laws and regulations.

OLO recommends that the Council ask MCPS for a status report on implementation of these recent inter-agency coordination efforts.

Issue #3: Resolving conflicts or inconsistencies between different regulatory requirements and/or regulatory requirements and policy goals.

MCPS reports that the school construction process evidences environmental requirements that can conflict with one another and/or other stated policy goals. For example, MCPS estimates that conflicts between stormwater management/sediment control and forest conservation requirements occur in more than 50% of construction projects. MCPS also reports that projects in Special Protection Areas can result in conflicts between environmental requirements (i.e. impervious surface limits) and school system goals (i.e. a gymnasium located at every MCPS school).

OLO recommends that the Council discuss with MCPS (and other agency staff as appropriate) the different types and examples of these conflicting and/or inconsistent legal and policy requirements. The Council should also discuss steps taken to identify and address potential conflicts at the beginning of a project, e.g. pre-application meetings with multiple agencies.

OLO recommends the Council also discuss whether any of the issues identified within the context of MCPS school construction also apply to other public or private agency construction projects.

Issue #4: Staffing for MCPS' Indoor Air Quality program.

MCPS' goal in establishing the Building Maintenance Plan (BMP) program was to reduce indoor air quality problems through establishing preventive maintenance programs in every school.

MCPS data on temperature and ventilation sampling outcomes for schools that have BMPs provide some evidence that preventive maintenance leads to desired IAQ outcomes. However, over the past few years, increasing demands for reactive maintenance (i.e. special projects) have reduced the capacity of IAQ staff to implement the BMP program, which itself is very time-consuming.

OLO recommends that the Council discuss with MCPS: the status of BMP program implementation; what MCPS has done to review the IAQ staff workload and the amount of time dedicated to preventive maintenance; and whether MCPS has considered funding an additional IAQ team dedicated solely to preventive maintenance.

Issue #5: Department of Permitting Services (DPS) data management related to sediment control permits.

DPS data on sediment control permit violations (i.e. number of Notices of Violation and Stop Work Orders issued) and complaints (i.e. number and outcomes of sediment control and stormwater management complaints received) is not readily available for use in reviewing how well MCPS complies with sediment control and stormwater management requirements during construction projects. This data is currently maintained in DPS inspectors permit files.

DPS' data management system has the capacity to make this information readily available in the future by linking violation and complaint data to specific sediment control permits; however it will require changes to some of the department's existing data entry processes. DPS has begun addressing this issue, specifically reporting that:

“DPS has identified that inspection data results are entered in several different ways into the Hansen data base system. Over the last few months, DPS has brought these issues to light and has begun to examine the methods used by each of the inspection units for capturing data for inspection, notices of violation, and complaints. DPS is developing processes that are intended to enter data into Hansen in a consistent manner.” (Source: DPS, October 2007)

OLO recommends that the Council discuss with DPS the status of these efforts and the anticipated timeframe for completion.

CHAPTER XV. Agency Comments on Final Draft

The Office of Legislative Oversight circulated a final draft of this report to Chief Operating Officer for Montgomery County Public Schools (MCPS) and the Chief Administrative Officer for Montgomery County Government. OLO appreciates the time taken by agency representatives to review the draft report and provide comments. OLO's final report incorporates technical corrections provided by agency staff.

The written comments received from the MCPS Chief Operating Officer are included in their entirety, beginning on the next page.



November 8, 2007

Mr. Craig Howard, Legislative Analyst
Office of Legislative Oversight
Stella B. Werner Council Office Building
100 Maryland Avenue
Rockville, Maryland 20850

Dear Mr. Howard:

Re: Office of Legislative Oversight Report 2008-3

The Montgomery County Public Schools (MCPS) comments on the Office of Legislative Oversight Report 2008-3, *Review of Montgomery County Public Schools Facilities' Compliance with Environmental Laws and Regulation*, are enclosed. These comments focus on the discussion issues identified in the report. The comments present the challenges and improvement strategies relating to each of the discussion issues.

We appreciate your professional and thorough evaluation of the environmental laws and regulations that are applicable to MCPS and our programs and processes that provide environmental compliance. Our staff reports that your office was very accommodating to our schedule and operational demands. We appreciate your flexibility, as it contributes to the quality of service that we provide to our community.

Thank you for the opportunity to review the report and provide comments.

Sincerely,

Larry A. Bowers
Chief Operating Officer

LAB:vnb

Enclosure

Copy to:

Dr. Weast Mr. Gallagher Ms. Montgomery
Mr. Lavoigna Mr. Higgins Mr. Song

Office of the Chief Operating Officer

850 Hungerford Drive, Room 149 ♦ Rockville, Maryland 20850 ♦ 301-279-3626

Montgomery County Public Schools Technical Comments on OLO Report 2008-3

Introductory Note

The Montgomery County Public Schools (MCPS) recognizes the importance of environmental stewardship. The continuing development of environmental regulation has enhanced the health and quality of the life of our community. As several of the technical areas of environmental regulation and management emerge and develop, MCPS is committed to its responsibility to build and manage infrastructure that model environmental best practices. In addition, MCPS is partnering with other state and local agencies to pilot innovative technologies and practices.

The following comments focus on the discussion issues identified in the report. These comments present the challenges and current improvement strategies relating to each of the discussion issues.

Page 108—Issue #1: MCPS efforts in finalizing unresolved sediment control permit requirements.

There are two components to sediment control permits—sediment/erosion control and storm water management. The process by which sediment control permits are “closed out” is generally described as follows:

- The county sediment control inspector determines that the site has been appropriately stabilized and allows the sediment control measures to be removed.
- The general contractor or construction manager provides as-built information to the engineer-of-record for the sediment control/storm water management designs. The engineer of record then prepares and provides the required as-built plans and engineering certifications to the Montgomery County Department of Permitting Services (MCDPS).
- After MCDPS reviews and approves the plans, the contractor is required to flush the storm drains and storm water management facilities for final inspection by the MCDPS inspector.
- Upon passing the final inspection, the permit is closed out.

The closing out of permits can be delayed when inspections require additional repairs that were not anticipated. This process typically has been taking a year or more to complete. MCPS and MCDPS currently are collaborating to expedite outstanding permits and develop strategies to reduce the time required for this process.

Regarding the close-out of outstanding sediment control permits, MCPS has obtained the services of a civil engineering consultant to prepare as-built plans and certifications for these facilities. As process improvement for current and future projects, MCPS has added a clause to the contractor’s contract that limits the time for completion of close-out to 60 days. This clause is intended to place the onus on the contractor to expedite the permit close-out process.

Page 109—Issue #2: MCPS efforts to improve coordination with permit review agencies, specifically with regard to forest conservation implementation.

MCPS has taken the initiative to establish a formal process to improve coordination with permit review agencies, including the Maryland-National Capital Park and Planning Commission (M-NCPPC) and MCDPS. The goal in this effort is to cooperatively define and implement a more standard approach to the submittal and review process that improves submittals, ensures timely reviews and responses, and expedites required approvals to enable school projects to stay on schedule.

MCPS also has been working with M-NCPPC environmental staff to develop a Memorandum of Understanding (MOU) to streamline the Forest Conservation Planning (FCP) and approval process to comply with the Forest Conservation Law in a timely fashion. At the request of M-NCPPC, MCPS has developed a draft MOU and submitted it to M-NCPPC staff for review and comment. In essence, the MOU is a cooperative work currently in progress. The intent of the MOU is to define MCPS obligations under the Forest Conservation Law and define easements via the Forest Conservation Plan rather than as separate documents in the land records. At the same time, the specific requirements of those easements also will be presented on the approved FCP. The MOU also will enable MCPS to better ensure site safety and security.

In addition to the MOU, MCPS is currently launching the following interagency initiatives:

- M-NCPPC environmental staff has agreed to present a mini-charette to the Division of Construction (DOC) project managers to provide a better understanding of the Forest Conservation Law and the constraints under which M-NCPPC and MCPS must operate cooperatively.
- MCPS will be inviting plan reviewers from the MCDPS Water Resources Branch to present a similar charette to provide insight into how MCPS can help streamline and improve the review and permitting process.

Page 109—Issue #3: How MCPS construction projects manage conflicts or inconsistencies between different policy goals or requirements.

Every project has its own set of unique challenges in coordinating and satisfying the permitting requirements of both storm water management/sediment control codes and Forest Conservation Law. Having identified this, MCPS took the initiative to meet with M-NCPC staff to chart a course to minimize these challenges and develop strategies to resolve any challenges that arise. MCPS has agreed to develop and provide more comprehensive existing site information to M-NCPPC staff prior to the facility planning phase—during the feasibility study stage of the project. This information includes the following:

- A current boundary and topographic survey of the project site
- A Natural Resource Inventory/Forest Stand Delineation
- Phase I—Environmental Studies
- Subsurface utility investigations
- Preliminary geotechnical information

Based upon the cooperative evaluation of these documents by MCPS and M-NCPPC staff, design challenges will be identified and potential solutions will be developed during the feasibility study stage. MCPS continually updates its Facility Design Guidelines to provide the requirements to our design consultants that are necessary to implement these solutions.

Page 110—Issue #4: Staffing levels in MCPS' Indoor Air Quality program

The original missions of the Indoor Air Quality (IAQ) "Initial" and "Annual" teams were to prepare building maintenance plans (BMPs) for schools and make annual visits thereafter to perform follow-up assessments to ensure that BMPs were being implemented successfully and that good IAQ was being maintained. Performance measures reflect the success of this approach. As schools have learned the value of the IAQ teams' involvement and work, requests for their services have steadily increased—from 118 requests in FY 2001 to 278 requests in FY 2007. Many of the more recent requests and demands for special assistance have involved relocatable classrooms, which are not intended for permanent use, and which exhibit less than ideal construction and function relative to desirable IAQ qualities and characteristics. Also, since the IAQ teams are assigned to second shift (2:00 p.m.–10:30 p.m.), recruiting to fill vacant heating, ventilation, and air conditioning (HVAC) mechanic positions is more difficult, even with a 5 percent shift differential in pay. Performance measures for the IAQ program indicate a decline in BMPs and follow-up visits, as requests and demands for special projects have increased. These are the challenges identified that are impacting the IAQ program and its ability to maintain the BMP production goals.

In order to address these challenges, MCPS has taken several actions. First, the Office of Human Resources conducted a pay and compensation study of the mechanical trades in the Division of Maintenance in FY 2007. Recommendations for reclassification actions have either been implemented or are being incorporated into a position banding initiative for the Division of Maintenance. This initiative is being finalized in FY 2008 for implementation in FY 2009. These changes will make MCPS HVAC mechanic positions more competitive in the Washington Metropolitan Area marketplace. Second, the Division of Maintenance has just initiated an apprenticeship program for HVAC mechanics, with four employees enrolled in a four-year program sanctioned by state labor officials. The "grow your own" program will produce more HVAC mechanics and reduce some of the problems of recruiting these "hard skill" workers. Third, the Division of Maintenance is conducting a comprehensive review of the major IAQ processes (proactive and reactive) during FY 2008 in an effort to identify opportunities for improving efficiencies in the conduct of IAQ operations. Fourth, the Division of Maintenance is in a multi-year process of upgrading its computerized maintenance management system (CMMS) called "Maximo." Part of the system enhancements include asset management capabilities and preventive maintenance work order processing for the mechanical systems included in BMPs.

Office of Legislative Oversight Report 2008-3

REVIEW OF MONTGOMERY COUNTY PUBLIC SCHOOLS FACILITIES' COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

APPENDIX

Description	Circle Number
Montgomery County Public Schools, Division of Construction Progress Meeting Schedule, October 2007	©1
Letter to MCPS from M-NCPPC Staff, October 2, 2007	©2
Technical information from the Flower Valley Elementary School Asbestos Management Plan	©5
MCPS AHERA Inspection Report, September 2005	©12
Memo from the Division of Maintenance to Schools regarding Annual Asbestos Management Plan Notification	©13
MCPS Guidelines for building service personnel during regular cleaning of asbestos floor tile	©16
Air monitoring summary page for an asbestos abatement project completed at Carderock Springs Elementary School	©17
Asbestos Waste Shipment Record and Manifest, July 2006	©18
MCPS Written Hazard Communication Program	©20
Montgomery County Fire and Rescue Service Hazardous Materials Use Certificates (Ashburton Elementary and Walter Johnson High Schools)	©29
Letter from Rockville High School notifying students, parents, and staff of a hazardous material incident, May 4, 2007	©31
MCPS Hazardous Waste Disposal Manifests, May 2007	©32
MCPS Regulation ECF-RB, <i>Pesticides Use in Schools</i>	©35
MCPS Division of Maintenance Integrated Pest Management Daily Worksheet	©41
Memo from the Division of Maintenance to Elementary Schools regarding Annual Integrated Pest Management Notices	©42

APPENDIX, CONTINUED

Description	Circle Number
Memo from the Division of Maintenance to Secondary Schools regarding Annual Integrated Pest Management Notices	©45
MCPS Notification Form to Parents, Guardians, and Staff of a Pesticide Application to address a roach problem in Neelsville Middle School	©49
A work order, Integrated Pest Management worksheet, and emergency notification form for a pesticide application to control yellow jackets at Beverly Farms Elementary School	©52
MCPS Indoor Air Quality Team Standard Operating Procedures, April 2003	©56
Indoor Air Quality Preliminary Work Plan for Beall Elementary School	©60
MCPS Indoor Air Quality Complaint Form	©62
Building Services Indoor Air Quality Checklist	©63
MCPS Portable Assessment Checklist	©65
MCPS Schools with Completed Building Maintenance Plans as of September 2007	©66
MCPS Water Testing Flow Chart	©67
MCPS Updated Analysis of Drinking Water Samples, October 22, 2004	©68
Lead testing and remediation status of MCPS school and facilities	©73
LEED Credit Scorecard for Great Seneca Creek Elementary School	©81

MONTGOMERY COUNTY PUBLIC SCHOOLS
 DIVISION OF CONSTRUCTION PROGRESS MEETING SCHEDULE
 OCTOBER 2007

(revised 9/26/07)

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	October 1	October 2	October 3	October 4	October 5
9:00 A.M.		GALWAY ES			
10:30 A.M.	NORTHWOOD HS			ASHBURTON	
1:00 P.M.	R. MONTGOMERY HS	ARCOLA ES	WAYSIDE		
	October 8	October 9	October 10	October 11	October 12
9:00 A.M.		STEDWICK ES	FIELDS ROAD ES	WALTER JOHNSON HS	
10:30 A.M.		COLLEGE GARDENS ES	SHERWOOD HS		
1:00 P.M.			THOMAS PYLE	SUMMIT HALL	
	October 15	October 16	October 17	October 18	October 19
9:00 A.M.		GALWAY ES			(No school students/teachers)
10:30 A.M.	NORTHWOOD HS			ASHBURTON	
1:00 P.M.	R. MONTGOMERY HS	ARCOLA ES	WAYSIDE		
	October 22	October 23	October 24	October 25	October 26
9:00 A.M.		STEDWICK ES	FIELDS ROAD ES	WALTER JOHNSON HS	
10:30 A.M.		COLLEGE GARDENS ES	SHERWOOD HS		
1:00 P.M.			THOMAS PYLE	SUMMIT HALL	
	October 29 (No school students)	October 30	October 31	November 1	November 2
9:00 A.M.		GALWAY ES			
10:30 A.M.	NORTHWOOD HS			ASHBURTON	
1:00 P.M.	R. MONTGOMERY HS	ARCOLA ES	WAYSIDE		
Inspector:	HUFFER	RIVERA	STALEY	COULTER	BADSTIBNER
Projects:	College Gardens ES Fields Road ES Stedwick ES Travilah ES	Arcola ES Asburton ES Burning Tree ES W. Johnson HS Luxmanor ES Weller Road ES/Westland MS	Bel Pre ES Cloverly ES Einstein HS Galway ES Key MS Shenwood HS/Stonegate ES	Brookhaven ES Meadow Hall ES R. Montgomery HS Wayside ES Strathmore	Fallsmead ES Pyle MS Northwood HS Washington Grove ES

Schools + ED



MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

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V4
O10
MM
KL

030921



October 2, 2007

Joseph J. Lavorgna
Acting Director
Department of Facilities Management
Montgomery County Public Schools
2096 Gaither Road, Suite 200
Rockville, MD 20850

Dear Mr. Lavorgna:

We are writing in response to your letter of September 21st regarding the Cloverly Elementary School Gymnasium Addition. We appreciate your desire to adhere to the Special Protection Area (SPA) regulations, including the Environmental Overlay Zone requirements, for the Upper Paint Branch SPA and understand your need to offset impervious surface that will be created by the construction of the new gymnasium and associated sidewalk. Environmental Planning Staff has informed us that, through on-site revisions to your construction plans, the current offset requirement for this specific project is approximately 2,600 square feet.

2007 OCT 18 AM 9:03
RECEIVED
MONTGOMERY COUNTY
COUNCIL

We know that there have been discussions about the possibility of mitigating your project through improvements to parkland...specifically the Grauel Farm. Unfortunately, there are stumbling blocks to this solution, including the fact that M-NCPPC does not yet own the Grauel Farm and will not own it until November. Additionally, we understand from your letter that MCPS has no money budgeted for this mitigation work.

A further complicating factor is the longstanding M-NCPPC policy of not allowing mitigation for private or public projects on parkland. The relevant language is contained in the *Policy for Parks* included approximately 20 years ago in The Park and Recreation Open Space Master Plan (M-NCPPC, 1988), which includes specific goals and objectives to guide the planning, acquisition, development and management of the Montgomery County Park System and also addresses the relationship of the Department of Parks to other public agencies, education, and the private sector. This language has been included in all recent updates to the Plan. The Commission has shown steadfast support for the *Policy* over the years and has generally not supported proposals from other agencies, developers, or private individuals to use parkland for mitigation or other non-park purposes.

We assure you, our two Departments are not in disagreement on this point. However, both the Planning Department and the Department of Parks would like very much to help MCPS figure

out a way to meet its regulatory requirements in the SPA. The SPA is an important part of county law, which is separate and distinct from the mandatory referral process. We want to verify all options have been considered before proceeding.

Given that MCPS was aware of the existence of the SPA regulations while planning for the Cloverly Elementary School Gymnasium Addition, we would appreciate information as to whether your staff had previously identified alternative recommendations to achieve the required offsets for new impervious surfaces. For example, one suggestion to solve your immediate need for 2,600 square feet of offset, which our staff has thought of, might be a MCPS commitment to remove that amount of impervious surface from one of the other existing schools in the SPA.

In addition, and as noted in your letter, MCPS has other facilities located in the SPA and you are planning a modernization of Paint Branch High School that could result in the need for additional offsets. Because of existing development and recent public efforts to acquire parkland in the Upper Paint Branch SPA, there are fewer opportunities for MCPS to find and purchase sites for use as pervious reserves. The area is becoming "built-out" in a sense and it will become increasingly difficult to find ways to accomplish off-site offsets of impervious surface without affecting parkland.

Given all of the constraints in the Upper Paint Branch SPA and given the schedule and the relatively small scope for the current gymnasium project, we recognize the difficulties you face. One section of the *Policy for Parks* previously cited is relevant to the MCPS proposal to use county parkland to meet its mitigation requirements in the Upper Paint Branch SPA:

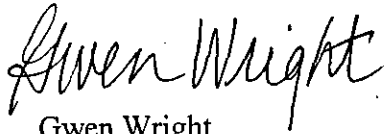
"Lands and facilities under the control of the Maryland-National Capital Park and Planning Commission are held as public trust for the enjoyment and education of present and future generations. The Commission is pledged to protect these holdings from encroachment that would threaten their use as parkland. The Commission recognizes that under rare circumstances non-park uses may be required on park property in order to serve the greater public interest."

We are willing to consider MCPS's current proposal to remove impervious surface from the Grauel property as an option only because this land is not an existing park yet. Moreover, the parcel in question was not identified as future parkland in any previous area master plan; the Commission does not yet own the land; and we recognize that balancing competing interests in the Upper Paint Branch SPA is inherently difficult. Ultimately, it will be the Park Commission, through its role as the Montgomery County Planning Board, that will decide as part of the mandatory referral process whether or not support this MCPS proposed solution.

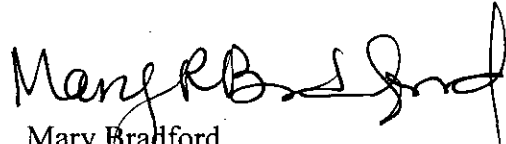
It is extremely important that SPA regulations, including the Environmental Overlay Zone requirements, are considered in the earliest stages of planning for all MCPS facilities. M-NCPPC cannot be counted on to provide any additional opportunities for impervious surface offsets. It is unlikely a similar set of circumstances could arise in the future, and certainly not within existing parkland. However, we would be glad to meet with you and your staff to brainstorm other ideas for future solutions for projects that will add impervious surfaces in this SPA that do not involve existing parkland.

If you have questions on this matter or would like to discuss it further, please feel free to contact either of us.

Sincerely,



Gwen Wright
Acting Director
Planning Department



Mary Bradford
Director
Department of Parks

Copy to:

Jerry D. Weast, MCPS Superintendent
Larry Bowers, MCPS
James C. Song, MCPS
Marilyn Praisner, President, Montgomery County Council

Apexenvironmental, inc.

Figure I-1 BUILDING SUMMARY

Inspector: Joe Kelly
Assistant: Jeff Carpenter
Inspection(s): 5/17/88

SCHOOL: Flower Valley Elem. Friable ACM YES NO ASSUMED SAMPLED
[X] [] [] [X]
ADDRESS: 4615 Sunflower Dr. Non-Fri.ACM [X] [] [X] []
Rockville, MD 20853 Number of Samples: 29

Inaccessible Areas:

1. Within walls/enclosed chases.
2. Above plaster ceilings.
3. Inside boiler.

Areas with Limited Access:

1. Under carpet
2. Inside fan coil units

3

Types of ACM(s) Encountered:

			Approximate Amount
Pipe Lagging	- Straights	[]	<u> </u>
	- Fittings	[X]	<u>104 ea</u>
Floor tiles		[X]	<u>31,160 sf</u>
Ceiling Tiles		[]	<u> </u>
Wallboard		[]	<u> </u>
Surfacing Material		[]	<u> </u>
Mech. Equipment		[X]	<u>425 sf</u>
Boiler Door Gasket		[X]	<u>36 lf</u>
Fire Brick		[X]	<u>400 sf</u>
Pipe Gasket		[X]	<u>Not determined</u>

Functional Areas with High Exposure Potential

1.

3.

DATE: 04/20/89
 TIME: 01:57:10

CLIENT: MONTGOMERY COUNTY PUBLIC SCHLS
 BUILDING NO: 506 /BUILDING NAME: FLOWER VALLEY ELEMENTARY

FIGURE I-2
 ASBESTOS SURVEY/MANAGEMENT DATA TABLE

FUNC#	LOCATION	MATL CLASS	MATL TYPE**	QUANTITY	FRIAB	COND	ACBM	DAM	EPA	PRI	RANK	POT	DCC	HOURS	RECOM RESPONSE	RESPONSE COST	REMOVAL COST	START DATE	END DATE	QUANTITY REMAINING
4	CORRIDOR(s), THROUGHOUT	TSI	MJ*	1	Y	D	D	D	1	3	3	35000	O & M Repair	35000	-----	\$60	07/09/89	09/01/19	1	
4	STAFF, THROUGHOUT	TSI	MJ*	3	Y	D	D	D	1	3	3	1380	O & M Repair	1380	-----	\$180	07/09/89	09/01/19	3	
1	MECHANICAL, BOILER ROOM	TSI	BI	150	Y	D	D	D	1	3	3	500	O & M Repair	500	-----	\$3,750	07/09/89	09/01/19	150	
1	MECHANICAL, BOILER ROOM	MISC	MG	36	Y	D	D	D	1	3	3	500	O & M Repair	500	-----	\$5,400	07/09/89	09/01/19	36	
1	MECHANICAL, BOILER ROOM	TSI	MJ	100	Y	D	D	D	1	3	3	500	O & M Repair	500	-----	\$6,000	07/09/89	09/01/19	100	
1	MECHANICAL, BOILER ROOM	TSI	BT	275	Y	D	D	D	1	3	3	500	O & M Repair	500	-----	\$6,875	07/09/89	09/01/19	275	
4	CLASS ROOM(s), 3-17, 19, 20	MISC	FT	13560	N	L	D	D	8	8	8	477360	O & M	477360	-----	\$162,720	07/09/89	09/01/19	13560	
5	CLASS ROOM(s), 21-26	MISC	FT	5400	N	L	D	D	8	8	8	168480	O & M	168480	-----	\$64,800	07/09/89	09/01/19	5400	
4	CLASS ROOM(s), 1 AND 2, 18	MISC	FT	1200	N	L	L	L	8	8	8	84240	O & M	84240	-----	\$14,400	07/09/89	09/01/19	1200	
2	CAFETERIA, ALL-PURPOSE ROOM	MISC	FT	2500	N	L	D	D	8	8	8	36000	O & M	36000	-----	\$30,000	07/09/89	09/01/19	2500	
3	CORRIDOR(s), THROUGHOUT	MISC	FT	1050	N	L	D	D	8	8	8	35000	O & M	35000	-----	\$12,600	07/09/89	09/01/19	1050	
4	CORRIDOR(s), THROUGHOUT	MISC	FT	3360	N	L	D	D	8	8	8	35000	O & M	35000	-----	\$40,320	07/09/89	09/01/19	3360	
4	CORRIDOR(s), THROUGHOUT	MISC	FD	2	N	L	L	L	8	8	8	35000	O & M	35000	-----	\$200	07/09/89	09/01/19	2	
5	CORRIDOR(s), THROUGHOUT	MISC	FD	2	N	L	L	L	8	8	8	35000	O & M	35000	-----	\$200	07/09/89	09/01/19	2	

** AD - Adhesive; BG - Boiler/Furnace Gasket; BI - Breaching Insulation; BR - Fire Brick; BT - Boiler or Tank Insulation; CT - Ceiling Tile; DJ - Duct Insulation; DM - Debris(Misc); DS - Debris(Surf);
 DT - Debris(TSI); EW - Electric Wiring/Lights & Gym; FB - Fire Blankets; FC - Fire Curtains; FD - Fire Doors; FE - Fireproofing; FT - Floor Tile; HL - Hood Liners; KN - Kiln; LE - Lab Equipment;
 MG - Mechanical Equipment Gasket; MJ - Mudded Joints; OV - Oven/Autoclave Liners; PI - Pipe Insulation; PM - Plaster Material; RP - Roofing Felt; RP - Repairs of Patches; SK - Sink;
 SM - Sprayed on Matl. Clings/Walls; SP - Spackling; SR - Stage Ropes; TR - Transite; VJ - Vibration Joints; WT - Wall Tile; SC - Stage Curtains

FIGURE 1-2
ASBESTOS SURVEY/MANAGEMENT DATA TABLE
(continued)

DATE: 04/20/89
TIME: 01:57:10

CLIENT: MONTGOMERY COUNTY PUBLIC SCHLS
BUILDING NO: 506 /BUILDING NAME: FLOWER VALLEY ELEMENTARY

FUNC#	AREA#	LOCATION	MATL CLASS	MATL TYPE**	QUANTITY	FRIAB	COND	ACBM	DAM	EPA	PRI	POT	OCC HOURS	RECOM RESPONSE	RESPONSE COST	REMOVAL COST	START DATE	END DATE	QUANTITY REMAINING
5		CORRIDOR(s), THROUGHOUT	MISC	FT	900	N	L	L	L	B	B	B	35000	O & M	-----	\$10,800	07/09/89	09/01/19	900
3		OFFICE(s), GENERAL, PRINCIPAL, WORK ROOM	MISC	FT	920	N	L	L	D	B	B	B	14940	O & M	-----	\$11,040	07/09/89	09/01/19	920
4		LIBRARY, THROUGHOUT	MISC	FT	900	N	L	L	D	B	B	B	12000	O & M	-----	\$10,800	07/09/89	09/01/19	900
2		KITCHEN, THROUGHOUT	MISC	FT	860	N	L	L	D	B	B	B	1800	O & M	-----	\$10,320	07/09/89	09/01/19	860
5		STAFF, THROUGHOUT	MISC	FT	450	N	L	L	D	B	B	B	1380	O & M	-----	\$5,400	07/09/89	09/01/19	450
4		STAFF, THROUGHOUT	MISC	FT	50	N	L	L	L	B	B	B	1380	O & M	-----	\$600	07/09/89	09/01/19	50
1		MECHANICAL, BOILER ROOM	MISC	FD	1	N	L	L	L	B	B	B	500	O & M	-----	\$100	07/09/89	09/01/19	1
1		MECHANICAL, BOILER ROOM	MISC	BR	400	N	L	L	D	B	B	B	500	O & M	-----	\$8,000	07/09/89	09/01/19	400
4		STORAGE, THROUGHOUT	MISC	FT	660	N	L	L	D	B	B	B	400	O & M	-----	\$7,920	07/09/89	09/01/19	660
5		STORAGE, THROUGHOUT	MISC	FT	300	N	L	L	D	B	B	B	200	O & M	-----	\$3,600	07/09/89	09/01/19	300
3		STORAGE, CHAIR	MISC	FT	300	N	L	L	D	B	B	B	100	O & M	-----	\$3,600	07/09/89	09/01/19	300

SUBTOTAL OF RESPONSE COST O & M COST \$1,040
 TOTAL RESPONSE COST \$15,000
 \$16,040

33380

** AD - Adhesive; BG - Boiler/Furnace Gasket; BI - Breaching Insulation; BR - Fire Brick; BT - Boiler or Tank Insulation; CT - Ceiling Tile; DJ - Duct Insulation; DM - Debris(Misc); DS - Debris(Surf); DT - Debris(TSI); EW - Electric Wiring/Lights & Gym; FB - Fire Blankets; FC - Fire Curtains; FD - Fire Doors; FP - Fireproofing; FT - Floor Tile; HL - Hood Liners; KN - Kiln; LE - Lab Equipment; MG - Mechanical Equipment Gasket; MJ - Mudded Joints; OV - Oven/Autoclave Liners; PJ - Pipe Insulation; PM - Plaster Material; RF - Roofing Felt; RP - Repairs of Patches; SK - Sink; SM - Sprayed on Matl. Clings/Walls; SP - Spackling; SR - Stage Ropes; TR - Transit; VJ - Vibration Joints; WT - Wall Tile; SC - Stage Curtains

Figure 1-3

Abbreviation Key

Asbestos Survey/Management Data Table

<u>Header Abbreviation</u>	<u>Description</u>	<u>Comments</u>
FUNCT AREA #	Functional Area #	Subgrouping of facility as shown on drawings.
Location	Location	Specific location of ACM within a particular functional area.
MATL CLASS SURF TSI MISC OTHER	Material Class Surfacing ACM Thermal System Insulation Miscellaneous Other	AHERA-defined class of ACM e.g., ceiling plaster. e.g., pipe, boiler, duct insulation. e.g., ceiling tile, floor tile, fire doors. Indicates that type is not an ACM material falling under AHERA provisions (e.g., asbestos fire blankets).
MATL TYPE	Material Type	Type of asbestos-containing material reported. "***" above material, abbreviation on database table indicates that ACM is present above suspended ceiling. "?" indicates ACM may or may not be above suspended ceiling. See Figure 1-2 "AHERA Materials Codes" for abbreviations.
QUANTITY	Quantity	Approximate quantity of accessible ACM encountered. See Figure 1-2 "AHERA Materials Codes" for units of measurement.
FRIAB Y N	Friable Yes No	The material type can generally be crushed by hand pressure, releasing fibers.

Figure I-3

Abbreviation Key (cont).

Asbestos Survey/Management Data Table
(cont).

<u>Header Abbreviation</u>	<u>Description</u>	<u>Comments</u>
ACBM COND	Asbestos Containing Building Material - Condition	Observed state of repair of the ACM.
SD	Significantly Damaged	
D	Damaged	
L	Little or no damage	
DAM POT	Damage Potential	Potential for the observed ACM to become damaged
SD	Significant Damage	
D	Damage Potential Exists	
L	Low Potential Exists	
EPA CAT	EPA Category	EPA-defined ACM category based on AHERA decision trees.
PRI RANK	Priority Rank	EPA-defined potential hazard rank for ACM based on AHERA decision trees. Used for prioritized ranking of response actions.
OCC EXP HOURS	Potential Occupant exposure	Based on the number of units (e.g., classrooms) multiplied by the assigned occupancy for the space.
RECOM_RESPONSE	Recommended Response	Based on the EPA-required response for ACM with particular potential hazard rank.
RESPONSE_COST	Response Cost	Budgetary estimates for recommended response based on unit costs found in Figure I-2, "AHERA Materials Codes" or general operations and maintenance costs assigned.
REMOVAL_COST	Removal Cost	Budgetary estimates for complete removal of ACM.

Figure I-3 (cont.)

Abbreviation Key

Asbestos Survey/Management Data Table

<u>Header Abbreviation</u>	<u>Description</u>	<u>Comments</u>
START DATE	Start Date	Anticipated start date for initiation of response action.
END DATE	End Date	Anticipated completion date for response action.
QUANTITY REMAINING	Quantity Remaining	Amount of ACM to remain after response action is completed. (See Figure I-2, "ASHERA Materials Codes," for units of measurement.)

Montgomery County Public Schools AHERA Inspectio

School Name Carderock Springs ES School Number 604 Date Re-inspected 9/1/2005

Accreditation number 078277

Inspector name Jose A. Brizuela

Expiration date of Accreditation 5/10/2006

Inspector signature

Homogenous Area

HA-2 Hallway spaces including their inherent closets and storage areas.

Ceiling Tile

cSignificantly damage cDamage cLittle to no damage cAmonut of Ceiling tile damage

Ceiling Tile Comments Ceiling tiles are not ACM according to our records.

Floor tile

fSignificantly damage fDamage fLittle to no damage Amonut of Floor tile damage

Floor Tile Comments Stairwell landing by room 24: 40 SF loose floor tile.

Thermal System Insulation

tSignificantly damage tDamage tLittle to no damage Amonut of TSI damage

TSI Comments Good condition at this time.

Surfacing material

sSignificantly damage sDamage sLittle to no damage Amount of damage Surface material

Surfacing Comments Good condition at this time.

General Comments

Management Planner Name #Name?

Planner Signature

Accreditation Number 0


Accreditation Expiration 0

Department of Facilities Management
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

July 31, 2007

MEMORANDUM

To: Selected Principals and Administrators

From: Roy L. Higgins, Director
Division of Maintenance 

Subject: Annual Asbestos Management Plan Notification

The federal Asbestos Hazards Emergency Response Act (AHERA) of 1987 prohibits asbestos in building products and requires school districts to develop comprehensive plans to manage asbestos containing materials (ACM) that were used prior to enactment of the law. AHERA also requires parents, school staff, and other interested parties to be notified of the condition of ACM in their facilities and of any asbestos management activities.

Asbestos Management Plans have been prepared for all Montgomery County Public Schools (MCPS) facilities that contain ACM. These plans have been provided to the affected facilities and outline the location and condition of ACM. The MCPS Asbestos Abatement Unit conducts semiannual inspections of each facility with ACM to assess the condition of the material and identify necessary remedial work. Results of inspections are published in an annual report in October for facilities that contain ACM. The inspection report must be kept on file with the Asbestos Management Plan and be available for review upon request by staff members and parents/guardians of students.

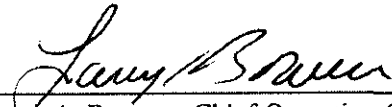
The attached notification must be provided to parents/guardians of all students and circulated among staff members. A record must be kept on file with the Asbestos Management Plan that verifies that the annual notification was distributed as required. Additionally, a signed copy of the notification document must be returned to the Asbestos Abatement Unit, Shady Grove Maintenance Depot.

If you have questions or require additional information, please contact Mr. Nathaniel Brown or Ms. Terry Baumanis, Shady Grove Maintenance Depot, 301-670-8238.

RLH:dml

Attachments

Copy to:
Mr. Lavorgna
Ms. Zarate

Approved: 
Larry A. Bowers, Chief Operating Officer

**MONTGOMERY COUNTY PUBLIC SCHOOLS
ANNUAL NOTIFICATION OF ASBESTOS MANAGEMENT PLAN AVAILABILITY**

In 1987, the Environmental Protection Agency (EPA) issued the final regulations for the Asbestos Hazards Emergency Response Act (AHERA), 40 CFR Part 763. These regulations require Local Education Agencies (LEAs) to prepare Asbestos Management Plans for facilities that have asbestos containing materials (ACM). An Asbestos Management Plan must contain the following elements:

- Results of surveys and assessments of ACM in the facility, performed by certified inspection personnel.
- A detailed plan for managing ACM in the facility and timeframes for removal if applicable.
- A program for operations and maintenance activities to avoid accidental disturbance of ACM during routine maintenance and for abatement services as required.
- A program for periodic surveillance of ACM and an emergency response action plan to address unanticipated problems.
- Provisions for centralized coordination of all aspects of the asbestos program.

This notification is being provided to comply with the public notification requirements of AHERA. The asbestos management plan and the most recent inspection report for your school are available at the main office for review.

It is important to note that both the EPA and the Maryland State Department of the Environment have indicated that the presence of asbestos-containing materials in buildings does not in itself constitute a health hazard. If the material is not damaged or disturbed, it is not a danger to workers or other occupants. The MCPS Asbestos Management Program is designed to ensure that any asbestos-containing materials remain in good condition until removed during a major renovation or modernization project.

MONTGOMERY COUNTY PUBLIC SCHOOLS
VERIFICATION OF NOTIFICATION ACTION
by
SCHOOL PRINCIPALS OR FACILITY ADMINISTRATORS

In compliance with the Asbestos Hazards Emergency Response Act (AHERA), I hereby verify that copies of the Annual Notification of Asbestos Management Plan Availability have been distributed to the following parties as indicated:

- Provided to parents/guardians of all students.
- Provided to the president of the local parent teacher association.
- Circulated among all staff members of the school or administrative office.

The Annual Notification was distributed on or about : _____ (DATE) _____

The signed original of this verification has been filed in the Asbestos Management Plan for this school or facility.

Signature

Facility Name

Facility Number

Date Signed

Please send a copy of this completed verification document to the Asbestos Abatement Unit, Shady Grove Maintenance Depot.

If you have questions or require additional information, please contact Mr. Nathaniel Brown or Ms. Terry Baumanis, Shady Grove Maintenance Depot, 301-670-8238.

to Dianne

240 84 108

MCPS GUIDELINES FOR ASBESTOS-CONTAINING FLOORS

GENERAL: Do not sand, drill, or cut vinyl asbestos tile (VAT).

BUFFING:

- Use a soft pad
- Use low power or low-speed on the buffing machine.
- Do not "dry buff": use liquid spray wax for "touch up" buffing

STRIPPING

The Environmental Protection Agency (EPA) recommends the following practices when stripping wax or finish coat from asbestos-containing floor covering.

1. **Avoid stripping floors.** Stripping of floors should be done as infrequently as possible – perhaps once or twice a year, or less, depending on circumstances.
2. **Strip floors while wet.** The floor should be kept adequately wet during the stripping operation. **DO NOT PERFORM DRY STRIPPING.** Prior to machine operation, an emulsion of chemical stripper in water is commonly applied to the floor with a mop to soften the wax or finish coat. After stripping and before application of the new wax, the floor should be thoroughly cleaned while wet.
3. **Run machine at slow speed.** If the machine used to remove the wax or finish coat has variable speeds, it should be run at slow speed (175-190 rpm) during the stripping operation.
4. **Select the least abrasive pad possible.**
5. **Do not overstrip floors.** Stop stripping when the old surface coat is removed. Overstripping can damage the floor and cause the release of asbestos fibers. Do NOT operate a floor machine with an abrasive pad on unwaxed or unfinished floors.

REMEMBER: Improperly removing asbestos-containing floor covering could result in the release of high levels of asbestos. EPA recommends that you leave asbestos-containing floor covering in place, provided the material is in good condition. Proper maintenance procedures, such as those outlined above, should always be followed.

INDUSTRIAL HYGIENE MONITORING REPORT

The abatement activity at the above named School consisted of the removal of asbestos-containing materials. This was accomplished under containment enclosures with three-stage decontamination chambers.

All workers wore suits of disposable, full-body, protective garments and HEPA-cartridged respirators at all times during this project, and showered before exiting the containment. All equipment and bags of asbestos-containing waste were HEPA-vacuumed and wet-wiped prior to their load-out from the enclosures.

A total number of twenty one (21) air samples were collected for Phase Contrast Microscopy (PCM) during this project. A summary of these samples is presented below:

<u>Work Activity</u>	<u>Number of Samples</u>
Background	5
Inside Work Area	2
Outside Work Area	5
Personals and Excursions	2
Field Blanks	2
Final Clearance (PCM)	5
TOTAL AIR SAMPLING:	21

All abatement activities were closely monitoring by on-site industrial hygienist. The work areas were inspected prior to and during all actions, and were cleared for re-occupancy only after passing two clearance criteria as recommended by the Environmental Protection Agency (EPA) and the State of Maryland. The first criterion is a visual inspection. This is done to ensure no residual dust particles remain on any surfaces.

The second clearance criterion is acceptable airborne asbestos levels. Final clearance air monitoring was accomplished via Phase Contrast Microscopy (PCM). The PCM samples each had to reveal a fiber concentration of less than zero point zero one fiber per cubic centimeter of air (<0.01 f/cc). This is the re-occupancy level required under AHERA regulation: 40 CFR Part 763.

Based upon the visual inspections and subsequent PCM air sample results, the affected areas of this school building are clear for re-occupancy.



Northeast Environmental Transportation Services, Inc.
 2 East Broad Street • Suite 203 • Hazleton, PA 18201
 Phone: (570) 459-2301

OFFICE USE ONLY
 TRAILER#: _____
 PROCESS#: _____

WASTE SHIPMENT RECORD

JOB# _____

Generator

1. Work site name and mailing address: Montgomery County Public Schools
1641 Graham Branch Way
Acworth, MD 20751

Owner: Name / Address: _____ Phone No.: 301-971-2135

2. Operator's Name / Address: Montgomery County Public Schools
1641 Graham Branch Way
Acworth, MD 20751

Phone No.: 301-971-2135

3. Waste Disposal Site (WDS) name, mailing address, and physical site location:

Southern Alleghenies Disposal
 843 Miller Picking Road
 Davidsville, PA 15928
 814-479-2483

BFI Imperial Landfill
 11 Boggs Road
 Imperial, PA 15126
 724-695-0900

Other

4. Name and address of responsible agency:
Montgomery County Public Schools 1641 Graham Branch Way Acworth, MD 20751

Type of Materials: (Circle One) ASBESTOS - DEMO - SOIL - OTHER

5. Description of materials: FRIABLE ASBESTOS ONLY
RQ ASBESTOS, 9, NA 2212, PG III.

IF Friable (enter required information in blocks 6 & 7) →	No.	6. Containers		7. Total Quantity (yrd3)
		Type		
IF Non-Friable (check one): <input type="checkbox"/> Category I <input checked="" type="checkbox"/> Category II →	<u>1,000 bags</u>			

NOTE: Category I includes asphalt roofing products, resilient floor covering, packing, gaskets, BUT NOT TRANSITE.

Special Handling Instructions and additional information: _____

9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/typed name & title: Richard Brown, Jr., Environmental Health Specialist
Project Supervisor

Signature: _____ Month: 7 Day: 12 Year: 06

10. Transportation 1 (Acknowledgment of receipt of materials)

Printed/typed name & title: N.E.T.S.

Address: 2 East Broad Street • Suite 203 • Hazleton, PA 18201
 Phone: 570-459-2301

Signature: _____ Month: 7 Day: 11 Year: 06

11. Transporter 2 (Acknowledgment of receipt of materials)

Printed/typed name & title: _____

Address and Telephone No.: _____

Signature: _____ Month: _____

12. Discrepancy indication space: _____

13. Waste disposal site

Owner or Operator. Certification of receipt of asbestos materials covered by this manifest except as noted in item #12.

Printed/typed name & title: _____

Signature: _____ Month: _____ Day: _____ Year: _____

WHITE - Transporter GREEN - Disposal Site YELLOW - Contractor
 PINK - Generator GOLDENROD - Pick Up Receipt

ASBESTOS CONTAINING WASTE MANIFEST

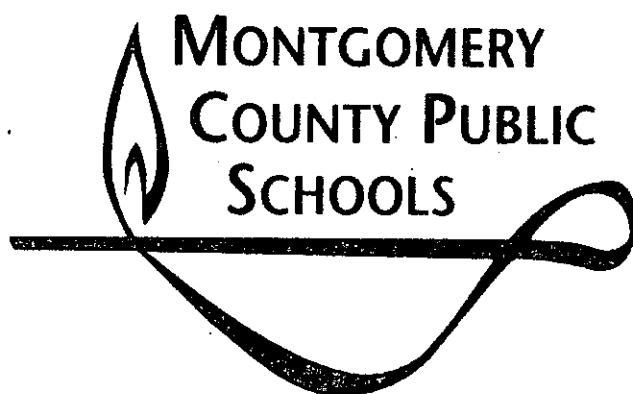
FROM: April 21, 2006 to July 10, 2006

School Name	Location	Number of Bags
1. Glenallan E.S. 04/21/06	Bldg. Svc. Ofc. 06-0039774	021
2. Farquhar M.S. 04/24/06	Room 18 06-0033457	015
3. Tilden M.S. 04/25/06	Rm. C-102 closet 06-0039170	018
4. Poolsville H.S. 04/27/06	Hall @ Rm. 12 06-0040945	018
5. Farquhar M.S. 05/01/06	Rm. 19 and adjacent Hall 06-0048075	001
6. F.S. Key M.S. 05/02/06	Boy's Locker Rm. 06-0051265	012
7. H. Hoover M.S. 05/02/06	Room 110 06-0041486	006
8. Fairland Ctr. 05/03/06	Room 9 06-0047962	017
9. F.S. Key M.S. 05/04/06	G.L.R. Storage 06-0051267	009
10. Northwood H.S. 05/05/06	Room A-105 06-0035428	024
11. R. Montgomery 05/08/06	Cafeteria 06-0046756	010
12. Germantown E.S. 05/03/06	Hallway Areas 06-0043154/ 06-0043153	014
13. Gaith. H.S. 05/08/06	Gym Hallway 06-0047114	025
14. Fox Chapel E.S. 05/09/06	B.S. Closets 06-0036644	006
15. Summit Hall 05/11/06	Room 9 06-0051005	016
16. Gaith. H.S. 05/11/06	Cafeteria Hall @ B.S. 06-0052600	014
17. F.S. Key 05/12/06	Gym Storage @ Wgt. Rm. 06-0051269	023
18. Watkins Mill E.S. 05/15/06	Hall By Computer Rm. 06-0042517	012
19. Tilden M.S. 05/15/06	Media Ctr. 06-0059147	007
20. Brown Station E.S. 05/16/06	Kitchen 06-0048255	005
21. Woodlin E.S. 05/17/06	Bldg. Svc. Ofc. 06-0049623	004
22. Whetstone E.S. 05/17/06	Hall @ B' Rm. 12 06-0048624	010
23. Fields Rd. E.S. 05/18/06	Hall @ Gym 06-0052544	012
24. Carderock Springs 05/19/06	Room 4 06-0055927	010
25. Lake Seneca E.S. 05/19/06	Hall @ Art Room 06-0054818	015
26. Tilden M.S. 05/22/06	Room 166 06-0055874	011
27. Gaith. H.S. 05/23/06	Hall @ A-D Office 06-0047185	020
28. Fox Chapel E.S. 05/23/06	Room 20 06-0057861	010
29. Whetstone E.S. 05/25/06	2 nd Fl. Hall @ D-6 06-0059670	014
30. Stonegate E.S. 06/01/06	Main Office, Rm. 17 06-0065317	001
31. Weller Rd. E.S. 06/02/06	Hall by APR 06-0064567	015
32. Weller Rd. E.S. 06/07/06	Exit by Kindergarten 06-0064571	008
33. Weller Rd. E.S. 06/08/06	Exit by Room 19 06-0064573	006
34. Argyle M.S. 06/08/06	Mechanical Rm. 2 06-0067587	006
35. Bel Pre E.S. 06/09/06	Front Foyer 06-0064578	030
36. Fox Chapel E.S. 06/19/06	Media Cntr. Hall	105
37. Fox Chapel E.S. 06/20/06	Media Cntr. Hall	034
38. Paint Branch H.S. 06/21/06	Main Level "E" Hall	063
39. Paint Branch H.S. 06/22/06	"D" Hall	074
40. Paint Branch H.S. 06/26/06	Lower "E" Hall	100
41. Robert Frost M.S. 06/28/06	Lower Hall @ 113	139
42. Gaith. H.S. 06/29/06	Cafeteria	003
43. Cold Spring E.S. 06/30/06	Exit 3	006
44. Gaithersburg H.S. 06/30/06	Cafeteria	014
45. Gaithersburg H.S. 07/05/06	Cafeteria	193
46. Gaithersburg H.S. 07/06/06	Cafeteria	030
47. Gaithersburg H.S. 07/07/06	Cafeteria	010
48. Gaithersburg H.S. 07/10/06	Cafeteria	384
49.		

Total

1600

Department of Facilities Management
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland



Written Hazard Communication (Right-To-Know) Program

Prepared By: Ms. Pam Montgomery, Safety Supervisor
Department of Facilities Management
2096 Gaither Road, Suite 200
Rockville, MD 20850

INTRODUCTION

This written hazard communication program has been developed and implemented by:

Name of Company: **Montgomery County Public Schools (MCPS)**

Address: **850 Hungerford Drive, Rockville, MD 20850**

to comply with the provisions of 29 CFR 1910.1200, as required by the Maryland Access to Information about Hazardous and Toxic Substances Law and COMAR 09.12.33.

This program is available in the following locations for review by any interested employee:

1. Department of Facilities Management, 2096 Gaither Road, Suite 200, Rockville, MD 20850 (Safety Supervisor)
2. Division of Maintenance,, Shady Grove Depot, 16651 Crabbs Branch Way, Rockville, MD 20855
3. Division of School Plant Operations, 2096 Gaither Road, Suite 202, Rockville, MD 20850
4. Division of Construction, 2096 Gaither Road, Suite 203, Rockville, MD 20850
5. Department of Transportation, Shady Grove Depot, 16651 Crabbs Branch Way, Rockville, MD 20855
6. Office of School Performance, 850 Hungerford Drive, Room 100, Rockville, MD 20850
7. Department of Materials Management (Supply and Property Management Warehouse), 550 North Stonestreet Ave., Rockville, MD 20850

The following pages document the action we have taken regarding our chemical information list, material safety data sheets, labels, and employee information and training.

CHEMICAL INFORMATION LIST

Reference: Labor & Employment Article, Section 5-405, COMAR 09.12.33, and 29 CFR 1920.1200(e)(1)(i)

- ◆ Our chemical information list was compiled by: MCPS Schools and Ms. Pam Montgomery, Safety Supervisor, Department of Facilities Management 240-314-1070
(Title or name and telephone number of responsible person)

- ◆ Our chemical information list is maintained by: Ms. Pam Montgomery, Safety Supervisor, Department of Facilities Management 240-314-1070
(Title or name and telephone number of responsible person)

- ◆ Employees may request access to or a copy of the list from:

Pam Montgomery (Name)	Safety Supervisor (Title)	240-314-1070 (Telephone number)
--------------------------	------------------------------	------------------------------------

- ◆ Describe how chemicals not already on the list are added to the list within 30 days of being introduced into the workplace:

A CIL "additions list" is sent to each school for schools to add new chemicals to the CIL; then the list is forwarded to the Safety Supervisor where it is added to the CIL database

- ◆ Describe the procedures used to notify employees affected by the introduction of the new substance. Note or attach any instructions given to the purchasing department to allow control.

Prior to the new chemical being added to the CIL additions list, the Division of Procurement sends the MSDS for review to the safety supervisor who reviews it

Then, once approved, the chemical is added to the CIL additions list and the employee is made aware of the new chemical by their immediate supervisor who explain use and protective measures and reviews the MSDS

Employee are instructed to follow the manufactures instructions on use and storage and to review the MSDS.

- ◆ The list is scheduled to be revised, realphabetized, and resubmitted to the Maryland Department of the Environment every two years. Our list will be resubmitted on July 15, 2007 by Ms. Pam Montgomery, Safety Supervisor, Department of Facilities Management.

(Name and title of responsible person)

- ◆ Describe how independent contractors are provided access to the chemical information list before they begin work.

They are instructed to access to the Chemical Information List (CIL) at each school that is filed in the main office at each school.

MATERIAL SAFETY DATA SHEETS (MSDS)

Reference: 29 CFR 1910.1200(g)

Maintaining and Updating MSDS

- The responsibility for obtaining and maintaining the file of MSDS has been assigned to:

Immediate Supervisor or Safety Supervisor	240-314-1070
(Title or name)	(Telephone number)

- Describe how MSDS are maintained (for example, in notebooks in the work area, in a computer file, on a display board) and how employees can access them.

In notebooks by the safety supervisor, and in notebooks by the immediate supervisor

Also some are on the appropriate department/division website. Employees can access via computer or calling supervisor to access

- Describe the procedure that is followed when an MSDS is not received at the same time you receive an initial shipment of a material.

The Division of Procurement is notified and a call is made to the company to obtain the MSDS and fax it to their office. Then the MSDS is faxed/sent to the safety supervisor.

- Describe the procedure for replacing an MSDS when you receive a new one from your manufacturer or distributor.

The new MSDS is placed in front of the old MSDS in the appropriate notebooks and is sent to the immediate supervisor to place in their notebook.

- If you are using any alternative to actual data sheets in the workplace (for example, a computerized database), describe the alternative method of providing the required information.

N/A at this time

- Manufacturers, distributors, or employers who prepare material safety data sheets must describe the procedure for updating the MSDS when new and significant health information is obtained.

N/A

Employee Access to MSDS

- Describe how access to MSDS is provided to each employee upon request.

The employee requests a copy of the MSDS from their immediate supervisor who obtains the copy and gives it to the employee for review.

The safety supervisor may be notified to provide an employee an MSDS also, and the immediate supervisor is also notified of this request..

- Discuss how one free copy of the requested MSDS will be provided to each employee within five working days of a request.

The immediate supervisor or safety supervisor is notified of the request. A copy of the MSDS is made and is sent or faxed to the employee within 5 working days of the request.

- Employees may request a copy or access to MSDS from:

Pam Montgomery, Safety Supervisor
(Name)

Dept. of Facilities Mangement
(Location)

Immediate Supervisor at the School/Office
(Name)

School Name/Address
(Location)

LABELS

Reference: 29 CFR 1910.1200(f)

Incoming Containers.

- The responsibility for ensuring that all incoming containers are properly labeled has been assigned to:

The Department of Materials Mangement –Supply and Property Management

- All labels on incoming containers must contain:
 - The identity of the container contents,
 - The manufacturer's name and address; and
 - A specific target organ hazard warning.
- The label must be legible, in English, and prominently displayed on each container.

In-Plant Containers.

- The responsibility for ensuring that all in-plant containers are properly labeled has been assigned to:

Divisions of School Plant Operations; Maintenance; Materials Mangement

- If an in-house system employing numbers or graphics is used, describe the system and explain how it works.

Barcode system

- If a method other than labeling (signs, placards, process sheets, etc.) is used to identify the contents of a fixed process vessel, describe the alternative method.

N/A

- The person responsible for labeling in-house portable containers is:

Division of School Plant Operations; Division of Maintenance

- Describe your method for labeling in-house portable containers.

Same day use sticky labels with marker identifying the same day use of the chemical being used and the hazard type (flammable, corrosive, irritant, etc.)

Manufacturers

- Manufacturers of hazardous substances should identify the person responsible for ensuring that labels contain the information required by law.

N/A

- Manufacturers, distributors and importers should identify the person responsible for ensuring that all shipped containers are labeled.

N/A

- Manufacturers should describe procedures to review and update label information when necessary.

N/A

EMPLOYEE INFORMATION AND TRAINING

Reference: 29 CFR 1910.1200(h)

- The responsibility for coordinating our Right-to-Know training has been assigned to:

Ms. Pam Montgomery, Safety Supervisor, Department of Facilities Management
(Name)

- Describe the format to be used. For example, classroom instruction, self-paced, program learning, etc. (You may want to attach a copy of your training outline to this program).

In-Service classroom instruction and videos (Moving towards on-line professional development sequence)

- List any training materials used, such as audiovisual materials or handouts.

Power Point presentations, videos

- Describe the elements of the training program. Compare them to the elements required by the standard.

Use Employee Right-To-Know training checklist and Power Point presentation to cover all aspects of training

- Describe the procedure used to train new employees on hazardous chemicals prior to their initial assignment.

Immediate supervisor reviews the CIL and MSDS with new employee prior to initial assignment of employee.

- Describe the procedure used to train employees when a new hazard is introduced into the workplace

Immediate supervisor reviews new chemical added to the CIL and also reviews MSDS with employees affected by the new chemical.

ADDITIONAL PROVISIONS

Hazardous Non-Routine Tasks.

- Describe how employees who perform hazardous, non-routine tasks will be given information about hazardous chemicals to which they may be exposed during non-routine activity. This information will include:
 - Protective/safety measures the employee can take,
 - Measures the company has taken to lessen the hazards, including ventilation, respirators, presence of another employee, and
 - Emergency procedures.
- Non-routine tasks performed by employees of this company are:

Task

Hazardous Chemical

N/A

Chemicals in Unlabeled Pipes

- If employees perform work activities in areas where chemicals are transferred through unlabeled pipes, describe how and where the employees can get information prior to starting work, regarding:
 - The chemical in the pipes,
 - Potential hazards, and
 - Safety precautions which should be taken.
- List any work areas with unlabeled pipes:

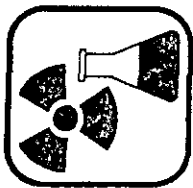
N/A (not aware of any unlabeled pipes)

- In these work areas with unlabeled pipes, the employee shall contact for further information:

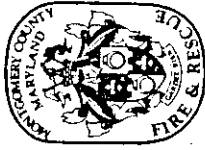
Immediate Supervisor prior to the start of work to be performed (if applicable)
(Name/position)

Written Hazard Determination Program

Manufacturers, distributors, importers, and employers evaluating chemicals also shall describe in writing the procedures used to determine the hazards of chemicals they evaluate in accordance with the law and regulations.



**MONTGOMERY COUNTY FIRE AND RESCUE SERVICE
HAZARDOUS MATERIALS USE CERTIFICATE**



ASHBURTON ELEMENTARY SCHOOL #425

6315 LONE OAK DRIVE
BETHESDA, MD 20817

has been registered under Executive Regulation 17-03 as a Hazardous Materials Use site.

LIGHT (FEE EXEMPT) USE

Michael T. Love

Deputy Chief Michael T. Love
Special Operations, Montgomery
County Fire and Rescue Service

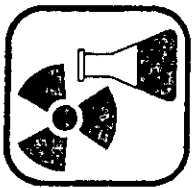
Gordon A. Aoyagi

Gordon A. Aoyagi
Director, Montgomery County
Homeland Security Department

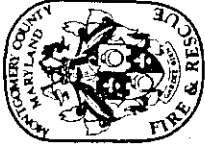
This Certificate Expires on 2/1/2008.
Certificate No. 2007-0100

THIS CERTIFICATE TO BE PROMINENTLY DISPLAYED

For further information, contact Hazardous Materials Permits
255 Rockville Pike, 2nd Floor, Rockville, Maryland 20850 or call 240-777-2400.



**MONTGOMERY COUNTY FIRE AND RESCUE SERVICE
HAZARDOUS MATERIALS USE CERTIFICATE**



WALTER JOHNSON HIGH SCHOOL #424

6400 ROCK SPRING DRIVE
BETHESDA, MD 20814

has been registered under Executive Regulation 17-03 as a Hazardous Materials Use site.

GENERAL (FEE EXEMPT) USE

Michael T. Love

Deputy Chief Michael T. Love
Special Operations, Montgomery
County Fire and Rescue Service

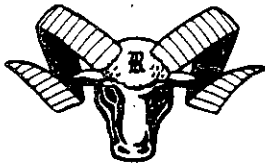
Gordon A. Aoyagi

Gordon A. Aoyagi
Director, Montgomery County
Homeland Security Department

This Certificate Expires on 2/1/2008.
Certificate No. 2007-0274

THIS CERTIFICATE TO BE PROMINENTLY DISPLAYED

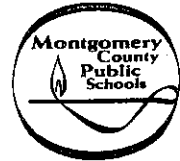
For further information, contact Hazardous Materials Permits
255 Rockville Pike, 2nd Floor, Rockville, Maryland 20850 or call 240-777-2400.



2100 Baltimore Road

Phone: 301-517-8105

Rockville High School



Rockville, MD 20851

Fax: 301-517-8288

May 4, 2007

Dear Students, Parents, and Staff:

I am writing to inform you of a situation that occurred this morning and report the swift, appropriate action of our Rockville High School staff and school system authorities. At approximately 8:30 a.m., a female student opened on her desk a small package containing mercury that she had obtained from a broken thermometer at her home. As soon as her teacher saw the substance, she notified the administration and security. The room was evacuated, and Officer Chris Winkler, Rockville Cluster EFO, called the Montgomery County Fire Department. Its HAZ-MAT unit was quickly dispatched to the school. The entire school was placed on a Code Blue status until the classroom was cleared. All students in the affected classroom were sent to the health room for examination; students in direct contact with the substance were retained in the health room, examined and cleared. The HAZ-MAT unit neutralized the classroom and declared it safe for use. However, as a precaution, the Office of Environmental Services, Montgomery County Public Schools, is retaining an independent, hazardous materials contractor to perform precautionary decontamination of the room and air monitoring. We anticipate that students and staff will be permitted to return to the classroom on Monday.

I am glad to report that this incident was dealt with professionally, ensured the safety of all students and staff, and had a minimal impact on our instructional program.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Debra S. Munk, Ph.D.

Principal

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number MD0985385053	2. Page 1 of 3	3. Emergency Response Phone 410-368-9170	4. Manifest Tracking Number 000252669 FLE				
5. Generator's Name and Mailing Address MONTGOMERY COUNTY PUBLIC SCHOOLS 16651 CRABBS GRANCH WAY ROCKVILLE, MD 20855				Generator's Site Address (if different than mailing address)					
Generator's Phone: (301) 670-8238				6. Transporter 1 Company Name CLEAN VENTURE, INC		U.S. EPA ID Number NJ0000037193			
7. Transporter 2 Company Name				U.S. EPA ID Number					
8. Designated Facility Name and Site Address CYCLE CHEM, INC 550 INDUSTRIAL DRIVE LEWISBERY, PA 17339				Facility's Phone: 717-938-4700		U.S. EPA ID Number PAD067098822			
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes			
		No.	Type						
X	1. WASTE, FLAMMABLE LIQUID, NOS (ACETONE, ISOPROPANOL) 3, UN1993, PGII	XX1	DM	200	P	0001	U002		
X	2. WASTE, CORROSIVE LIQUID, ACIDIC, INORGANIC, NOS (PHOSPHORIC ACID, HYDROCHLORIC ACID) 8, UN3264, PGTI	XX1	DM	200	P	0002			
X	3. WASTE, CORROSIVE LIQUID, BASIC, INORGANIC, NOS (SODIUM HYDROXIDE, POTASSIUM HYDROXIDE) 8, UN3266, PGTI	XX1	DF	200	P	0002			
X	4. WASTE, OXIDIZING LIQUID, NOS (POTASSIUM PERMANGANATE, SILVER NITRATE) 5.1, UN3139, PGTI	XX1	DF	10	P	0001	0011	0007	
14. Special Handling Instructions and Additional Information CVB190 WIK LAB PACK #1 ER6# 138 CVB190 WVI LAB PACK #2 ER6# 154 CVB190 WAM LAB PACK #3 ER6# 154 CVB190 WDX LAB PACK #4 ER6# 140								MO JOB # 88351-04-10 MD Reg 016079	
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offeror's Printed/Typed Name NATHANIEL BROWN JA				Signature <i>Nathaniel Brown</i>		Month Day Year 05/21/07			
16. International Shipments		<input type="checkbox"/> Import to U.S.		<input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.:			
17. Transporter Acknowledgment of Receipt of Materials		Transporter 1 Printed/Typed Name KENNETH FEESER		Signature <i>Kenneth Feeser</i>		Month Day Year 05/21/07			
		Transporter 2 Printed/Typed Name		Signature		Month Day Year			
18. Discrepancy									
18a. Discrepancy Indication Space Box 15.1. Add "D035, F003"		<input type="checkbox"/> Quantity		<input type="checkbox"/> Type		<input type="checkbox"/> Residue			
		<input type="checkbox"/> Partial Rejection		<input type="checkbox"/> Full Rejection		Manifest Reference Number:			
18b. Alternate Facility (or Generator)				U.S. EPA ID Number					
Facility's Phone:				18c. Signature of Alternate Facility (or Generator)		Month Day Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. H141		2. H141		3. H141		4. H141			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/Typed Name Shawn Mirach				Signature <i>Shawn Mirach</i>		Month Day Year 05/22/07			

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator ID Number M00985385053	22. Page 2 / 3	23. Manifest Tracking Number 000252669 FLE			
24. Generator's Name MONTGOMERY COUNTY PUBLIC SCHOOLS							
25. Transporter _____ Company Name			U.S. EPA ID Number				
26. Transporter _____ Company Name			U.S. EPA ID Number				
27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers		29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes	
		No.	Type				
X	WASTE FLAMMABLE LIQUIDS, TOXIC, NOS (METHANOL, MERCURY THIOCYANATE) 3, (6.1), UN1992, PG II	XXI	DF	5	P	0001	0009
X	WASTE, SODIUM SULFIDE 4.2, UN1849, PG II	XXI	DF	5	P	0003	0001
X	WASTE, CHARCOAL 4.2, NA1361, PG III	XXI	DF	5	P	0001	
X	WASTE, NITRIL ACID 8, UN2031, PG II	XXI	DF	40	P	0001	0002
X	WASTE, TOXIC SOLIDS, ORGANIC, NOS PHENOL 6.1, UN2811, PG II	XXI	DF	10	P	U188	
X	WASTE, CORROSIVE SOLID, BASIC, INORGANIC, NOS (BARIUM HYDROXIDE, SODIUM HYDROXIDE) 8, UN3262, PG II	XXI	DF	40	P	0005	
X	WASTE, SODIUM HYDROSULFITE 4.2, UN1384, PG II	XXI	DF	40	P	0001	0003
	NON DOT / EPA REGULATED MATERIAL (SODIUM BISULFATE, SODIUM ACETATE)	XXI	DF	10	P	NONE	
X	WASTE, CAUSTIC ALKALI LIQUIDS NOS (SODIUM HYDROXIDE, SODIUM POLYACRYLATE) 8, UN1719, PG II	XXB	DF	40	G	0002	
	NON DOT / EPA REGULATED MATERIAL (EOTA)	XXI	DF	100	P	NONE	
32. Special Handling Instructions and Additional Information CVB190 LAB PACK #5 ERG# 131 CVB190 AB LAB PACK #9 ERG# 154 CVB190-AJ-10 CVB190 SPC LAB PACK #6 ERG# 153 CVB190 AB LAB PACK #10 ERG# 154 CVB190 SPC LAB PACK #7 ERG# 133 CVB190 SPC LAB PACK #11 ERG# 135 CVB190 40X LAB PACK #8 ERG# 157 CVB190 AG LAB PACK #12 ERG# CVB190-AK LAB PACK WDW - ERG#154							
33. Transporter _____ Acknowledgment of Receipt of Materials		Signature		Month	Day	Year	
34. Transporter _____ Acknowledgment of Receipt of Materials		Signature		Month	Day	Year	
35. Discrepancy							
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
H141		H141		H141		H141	
H141		H141		H141		H141 (S)	

REGULATION MONTGOMERY COUNTY PUBLIC SCHOOLS

Related Entries:

Responsible Office: Chief Operating Officer
Facilities Management

Pesticides Use in Schools

I. PURPOSE

To establish procedures to implement an integrated pest management program in accordance with the *Annotated Code of Maryland, Article - Agriculture*

II. DEFINITIONS

A. *Integrated Pest Management* is the use of combined pest control alternatives, most effective to prevent or reduce to acceptable levels pests and damage caused by pests.

B. *Pesticide* as defined in the law, means any substance or mixture of substances intended for:

1. Preventing, destroying, repelling or mitigating a pest
2. Use as plant regulator, defoliant, or dessicant
3. Use as a spray such as a wetting agent or adhesive

Pesticide does not include:

1. An antimicrobial agent, such as a disinfectant, sanitizer or deodorizer, used for cleaning purposes
 2. A bait station
- C. *Space spraying* means application of a pesticide by discharge into the air throughout an area. It does not include crack and crevice treatment.

III. PROCEDURES

A. Contact Person

The Integrated Pest Management Supervisor in the Division of Maintenance will be the contact person and will manage all information on pest control efforts in the school system, including material safety data sheets and product label of each pesticide or bait station that may be used in schools, or on school grounds and site-specific information on pest control activities at each school.

B. Notification by Schools

1. At the beginning of each school year, schools will include notice of the school's integrated pest management system in information to parents. The notice will include the following information:
 - a) A statement that explains the school's integrated pest management system and a list of any pesticides or bait station that may be used in the school building or on school grounds as part of the integrated pest management system
 - b) A statement that:
 - (1) The contact person maintains the product label and material safety data sheet of each pesticide or bait station that may be used by the certified applicator in buildings and on school grounds
 - (2) The label and material safety data sheet is available for review by a parent, guardian, staff member, or student attending the school
 - (3) The contact person is available to parents, guardians, and staff members for information and comment
 - c) The name, address, and telephone number of the contact person
 - d) Instructions for including a parent/guardian or staff member on a pesticide notification list (see Section C)
 - e) Information about the opportunity to provide public comments on the Integrated Pest Management practices of the school system during the a public comments segment of each regularly scheduled Board meeting
2. After the start of each school year, written notification will be provided to each newly employed staff member in the orientation packets or to the

parent/guardian of a student newly enrolled in the new student information packet.

3. Notification Lists

- a. At the start of each school year, each middle and high school will develop a pesticide notification list containing each staff member and parent/guardian of a student attending the school who requests in writing prior notification of a pesticide application made in the school or on school grounds during the school year. Elementary schools are required to notify each parent or guardian of a student attending the school and each staff member regardless of whether they have requested prior notification.
- b. The school will keep the pesticide notification list current and add names upon written request by a parent or guardian of a student attending the school or a staff member.
- c. The school will make the pesticide notification list available upon request to representatives of the Department of Agriculture of the State of Maryland.

C. Pesticide Applications

1. Elementary Schools

At least 24 hours before the pesticide is applied in a school building, or on school grounds, the Integrated Pest Management Supervisor will provide the following information to the school principal who in turn will provide written notification to each parent/guardian and staff member:

- a) Common name of the pesticide
- b) Location of the application
- c) Planned date and time of the application
- d) The following language:

"The Office of Pesticide Programs of the United States Environmental Protection Agency has stated: *Where possible, persons who potentially are more sensitive, such as pregnant*

women and infants (less than two years old), should avoid any unnecessary pesticide exposure."

2. Middle or High Schools

The Integrated Pest Management Supervisor will provide information to the school's principal, allowing sufficient time for the principal to notify students and staff. Principals will provide written notification to each parent, guardian, or staff member on the pesticide notification list, post notices at the site of the application and in conspicuous locations such as bulletin boards commonly seen by students and staff, and make an announcement on the school's public announcement system at least 24 hours before the application of a pesticide.

3. Space Spraying of Pesticides

- a) Although space spraying of pesticides is not practiced in Montgomery County Public Schools, in the unlikely event that space spraying becomes necessary, the written notification to parents/guardians, staff, and students will be made at least one week before the space spraying.
- b) The notice will be on a separate sheet of paper at least 8 1/2 inches by 11 inches in size and shall contain the following information:
 - (1) Common name of the pesticide
 - (2) Location of the space spraying
 - (3) Planned date and time of space spraying
 - (4) The following language:

"The Office of Pesticide Programs of the United States Environmental Protection Agency has stated: Where possible, persons who potentially are more sensitive such as pregnant women and infants (less than two years old) should avoid any unnecessary pesticide exposure."
 - (5) If the pesticide is not addressed in the notice sent at the beginning of the school year, a brief description of the pesticide to be applied

- (6) A brief description of potential adverse effects based upon the material safety data sheet of the pesticides to be applied
 - (7) The name and telephone number of the Integrated Pest Management Supervisor who is the designated contact person
4. For application on school grounds, the notice of planned date and time of application may specify that weather conditions or other extenuating circumstances may cause the actual date of application to be postponed to a later date or dates.
 5. If the actual date of application is more than 14 days later than the planned date provided in the notice, notice of the application required under this regulation shall be reissued.

D. Emergency Pesticide Applications

A pesticide may be applied in a school building or on school grounds without prior notification only if an emergency pest situation exists.

In the case of an emergency pesticide application in an elementary school building or school grounds, within 24 hours after pesticide application or on the next school day, the school will provide to each parent, guardian, or staff member:

1. Common name of the pesticide
2. Location of the application
3. Date and time of the application
4. The following language:

"The Office of Pesticide Programs of the United States Environmental Protection Agency has stated: *Where possible, persons who potentially are more sensitive, such as pregnant women and infants (less than two years old) should avoid any unnecessary pesticide exposure.*"

5. A brief description of potential adverse effects based upon the material safety data sheet of the pesticide applied

E. Use of Bait Stations

Before a bait station is used in a school, the Integrated Pest Management Supervisor and/or his staff will place a notice or sign on the door of the room in which the bait station is placed indicating the date of placement, the name of the contact person for additional information including information on potential adverse effects. The notice or sign will remain posted until the bait station is removed.

F. Public Comments

The Integrated Pest Management Supervisor or his designee will monitor and address public comments regarding the Integrated Pest Management program practices of MCPS.

Regulation History: New Regulation July 17, 2000.

Montgomery County Public Schools

Division of Maintenance

Date: 9/28/06

Page 1 of 1

Integrated Pest Management Daily Worksheet

City Name: Argyle MS 823 Location: See below

Inspector Name: GREGORY RICKETTS RICKETT W Inspector Signature: Greg Ricketts

Work Order #: 07-IPM04 W.O. on Hold: Yes No Reg Hours: .5 Overtime Hrs:
ROUTINE INSPECTION

Material Description:	Quantity Used	Unit Price	Mix %
<u>Catchmaster Insect Monitors</u>	<u>3</u>	<u>.21</u>	<u> </u>
<u>EPA Reg. #: Catchmaster 72 Glue boards</u>	<u>2</u>	<u>.18</u>	<u> </u>
<u>Material Description: Max Force Roach Gel Bait</u>	<u>15gr</u>	<u>12gr</u>	<u>215%</u>
<u>EPA Reg. #: 432-1254</u>	<u> </u>	<u> </u>	<u> </u>
<u>Material Description: </u>	<u> </u>	<u> </u>	<u> </u>
<u>EPA Reg. #: </u>	<u> </u>	<u> </u>	<u> </u>

Time in: 11:55 Time out: 12:25 Apparatus Used: Bait Station Wind Speed: MPH Direction:

INSIDE BUILDING	YES	NO	Types Of Pest	Grounds	YES	NO
Environment Clean	<input type="checkbox"/>	<input type="checkbox"/>	Roaches <input checked="" type="checkbox"/>	Standing water	<input type="checkbox"/>	<input type="checkbox"/>
Floor Swept, Mopped, Vacuumed	<input type="checkbox"/>	<input type="checkbox"/>	Ants <input type="checkbox"/>	Grass Cut	<input type="checkbox"/>	<input type="checkbox"/>
Food Spillage	<input type="checkbox"/>	<input type="checkbox"/>	Mice <input type="checkbox"/>	Cans emptied	<input type="checkbox"/>	<input type="checkbox"/>
Trash Cans Clean	<input type="checkbox"/>	<input type="checkbox"/>	Rats <input type="checkbox"/>	Storm drains clear	<input type="checkbox"/>	<input type="checkbox"/>
Proper Storage Practices	<input type="checkbox"/>	<input type="checkbox"/>	Bees <input type="checkbox"/>	Site cleaned	<input type="checkbox"/>	<input type="checkbox"/>
Box Management	<input type="checkbox"/>	<input type="checkbox"/>	Flies <input type="checkbox"/>	Shrubs trimmed	<input type="checkbox"/>	<input type="checkbox"/>
Food properly sealed	<input type="checkbox"/>	<input type="checkbox"/>	Other pest <input type="checkbox"/>			
Pest Activity or Evidence	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Comments: Inspected Kitchen, Staff Lounge & Trashroom
Light Roach activity in kitchen storage room. Refilled
Roach bait station, checked and changed monitors
where needed


Staff Signature: James E. B... Staff Title:

Department of Facilities Management
Montgomery County Public Schools
Rockville, Maryland

July 31, 2007

MEMORANDUM

To: Principals of Elementary Schools

From: Roy L. Higgins, Director
Division of Maintenance 

Subject: Annual Integrated Pest Management (IPM) Notices for all Parents, Guardians,
and Staff Members

In compliance with Maryland laws and regulations pertaining to Integrated Pest Management (IPM) and notification requirements for Maryland public schools, the following attachment must be sent home at the beginning of the school year to parents and guardians of each child attending your school and distributed to all staff members. The notice can be carried home in the child's book bag and circulated to all staff in an appropriate manner.

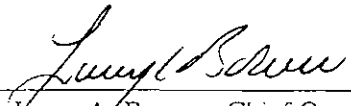
Pesticide applications within the Montgomery County Public Schools are rare and only made as a last resort or in an emergency situation. If at any time a pesticide application becomes necessary, IPM staff will inform you of the situation and provide the necessary written notification documents.

Thank you for your attention to this matter. If you have questions or concerns, please contact Ms. Terry Baumanis, Shady Grove Maintenance Depot, 301-670-8238.

RLH:dml

Attachment

Copy to:
Mr. Lavorgna
Ms. Zárate

Approved: 
Larry A. Bowers, Chief Operating Officer

INTEGRATED PEST MANAGEMENT NOTICE

Maryland Law requires that staff and parents/guardians of all elementary school children be notified prior to any pesticide application in the school or on school grounds. Staff and parents/guardians of middle or high school students and staff at administrative centers who wish to be notified prior to pesticide applications in the building or on the grounds must request that they be placed on the school's pesticide notification list. To be included on the pesticide notification list, please fill out the enrollment form attached to this notice and return it to your school or administrative center.

The Integrated Pest Management (IPM) program employed by the Montgomery County Public Schools is a proactive rather than a reactive approach to insect and rodent control in school facilities and on school grounds. The IPM program includes routine inspections or surveys of all school facilities to identify conditions conducive to pest invasion and ensure early detection of pest presence. As a first step in pest control, the IPM approach employs a number of preventive strategies and alternatives to pesticide application, such as employee education, source reduction inspection and identification of potential problem areas, and improved sanitation. Each approach is monitored and evaluated, and modifications are made if necessary. Pesticides will be used only as a last resort.

The following list includes, but is not limited to, pesticides and bait stations by product name and common name which may be used in school buildings or on school grounds during the school year:

<u>Product Name</u>	<u>Common Name</u>
4-the-birds II	Polybutene
Avert cockroach crack and crevice bait 310	Abamectin
Avert dry flowable roach bait	Abamectin
Avitrol	Aminopyridine
Baygon bait	Phenol methylcarbamate
Catalyst emulsified	Propetamphos
Cynoff insecticide	Cypermethrin
Deltadust	Deltamethrin
Demon WP	Cypermethrin
Drax P.F. ant bait-all sizes	Orthoboric acid
Drione insecticide	Pyrethrins
Dylox 6.2 grams	Trichlorfon
Firstline termite bait stations	Sulfuramid
Fluorguard ant bait station	Sulfuramid
Gentrol IGR concentrate	Hydroprene
Gentrol point source roach control	Hydropene
Golden malrin fly bait	Methomyl thioacetimidate
Liqua-tox II	Sodium diphacinone
Maxforce ant bait stations	Hydramethylnon
Maxforce ant killer bait gel	Fipronil
Maxforce FC ant bait stations	Fipronil
Maxforce FC roach bait stations	Fipronil
Maxforce granular ant bait	Hydramethylnon
Maxforce roach bait stations	Hydramethylnon
Maxforce roach killer bait gel	Hydramethylnon
Niban granular bait	Orthoboric acid
Premise 75	Imidacloprid
Premise foam insecticide	Imidacloprid

PT 515 wasp freeze	D-trans allethrin
PT565 plus XLO	Pyrethrins
Quintox mouse seed	Cholecalciferol
Ratsorb	Camphoraceous
Round up Pro	Glyphosate
Rozol tracking powder	Chlorophacinone
Suspend SC	Deltamethrin
Talon G	Brodifacoum
Talstarone multi-insecticide	Bifenthrin
Termidor SC termiticide	Fipronil
Terro PCO ant bait	Sodium borate
Timbor	Disodium octaborate tetrahydrate
ULD BP-100	Pyrethrins
Uncle Albert's ant bait	Disodium octaborate tetrahydrate
Wasp freeze	Phenothrin
Weatherblok bait	Brodifacoum
ZP tracking powder	Zinc phosphide

Copies of the Material Safety Data Sheets (MSDS) and product labels for each pesticide and bait station used in school buildings or on school grounds are maintained by Mrs. Terry Baumanis, IPM environmental design assistant. If you want to review this information, Mrs. Baumanis can be reached at 301-670-8238 to arrange an appointment.


Public comments regarding the Integrated Pest Management and notification programs may be addressed at each Board of Education meeting as indicated in the school newsletters throughout the school year.

Department of Facilities Management
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

July 31, 2007

MEMORANDUM

To: Principals of Secondary Schools and Administrative Offices

From: Roy L. Higgins, Director 
Division of Maintenance

Subject: Annual Integrated Pest Management Notices for all Parents,
Guardians, and Staff Members

In compliance with Maryland laws and regulations pertaining to Integrated Pest Management (IPM) and notification requirements for public schools, the attached notice must be sent home at the beginning of the school year to parents/guardians of all enrolled students and circulated among all school-based staff members.

Parents/guardians of middle and high school students and any staff members who wish to be notified prior to pesticide applications must fill out the pesticide notification enrollment form and return it to the school or office. Each school or office shall establish a registry of all parents, guardians, and staff members who have requested to be notified prior to a pesticide application. The list must be kept current and made available to representatives of the Maryland Department of Agriculture upon request.

Pesticide applications within the Montgomery County Public Schools are rare and are made only as a last resort or in an emergency situation. If a pesticide application becomes necessary, IPM staff will inform you of the situation and provide the required advance notification.

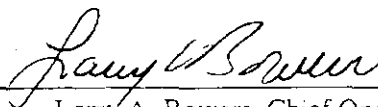
Thank you for your attention to this matter. If you have questions or concerns, please contact Ms. Terry Baumanis, Shady Grove Maintenance Depot, 301-670-8238.

RLH:dml

Attachments

Copy to:
Mr. Lavorgna
Ms. Zárate

Approved: _____


Larry A. Bowers, Chief Operating Officer

MONTGOMERY COUNTY PUBLIC SCHOOLS INTEGRATED PEST MANAGEMENT NOTICE

FOR ELEMENTARY SCHOOLS: Maryland Law requires that school staff and parents/guardians of all students be notified prior to planned pesticide applications in the school or on school grounds, or within 24 hours of an emergency application. Without exception, notices will be sent to all parents/guardians and circulated among school staff members.

FOR MIDDLE SCHOOLS, HIGH SCHOOLS, AND ADMINISTRATIVE OFFICES: Maryland Law requires that school-based staff and parents/guardians of middle or high school students and staff at administrative offices who wish to be notified prior to pesticide applications in the building or on the grounds must request that they be placed on the school's pesticide notification list. To do so, please fill out the enrollment form attached to this notice and return it to your school or administrative center.

FOR ALL: The Integrated Pest Management (IPM) program employed by the Montgomery County Public Schools is a proactive approach to insect and rodent control in school facilities and on school grounds. The IPM program includes frequent inspections of all school facilities to look for pests and conditions that favor pest invasions. As a first step in pest control, the IPM approach employs a number of preventive strategies and alternatives to pesticide application, such as employee education, source reduction, identification of potential problem areas, and improved sanitation. Each approach is monitored and evaluated, and modifications are made if necessary. Pesticides will be used only as a last resort or in an emergency situation.

The following is a list of pesticides and bait stations, by product name and common name, which may be used in buildings or on grounds during the school year:

<u>Product Name</u>	<u>Common Name</u>
4-the-birds II	Polybutene
Avert cockroach crack and crevice bait 310	Abamectin
Avert dry flowable roach bait	Abamectin
Avitrol	Aminopyridine
Baygon bait	Phenol methylcarbamate
Catalyst emulsified	Propetamphos
Cynoff insecticide	Cypermethrin
Deltadust	Deltamethrin
Demon WP	Cypermethrin
Drax P.F. ant bait-all sizes	Orthoboric acid
Drione insecticide	Pyrethrins
Dylox 6.2 grams	Trichlorfon
Firstline termite bait stations	Sulfluramid
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Gentrol IGR concentrate	Hydroprene
Gentrol point source roach control	Hydroprene
Golden malrin fly bait	Methomyl thioacetimidate
Liqua-tox II	Sodium diphacinone
Maxforce ant bait stations	Hydramethylon

Maxforce ant killer bait gel	Fipronil
Maxforce FC ant bait stations	Fipronil
Maxforce FC roach bait stations	Fipronil
Maxforce granular ant bait	Hydramethylnon
Maxforce roach bait stations	Hydramethylnon
Maxforce roach killer bait gel	Hydramethylnon
Niban granular bait	Orthoboric acid
Premise 75	Imidacloprid
Premise foam insecticide	Imidacloprid
PT 515 wasp freeze	D-trans allethrin
PT565 plus XLO	Pyrethrins
Quintox mouse seed	Cholecalciferol
Ratsorb	Camphoraceous
Round up Pro	Glyphosate
Rozol tracking powder	Chlorophacinone
Suspend SC	Deltamethrin
Talon G	Brodifacoum
Talstarone multi-insecticide	Bifenthrin
Termidor SC termiticide	Fipronil
Terro PCO ant bait	Sodium borate
Timbor	Disodium octaborate tetrahydrate
LLD BP-100	Pyrethrins
Uncle Albert's ant bait	Disodium octaborate tetrahydrate
Wasp freeze	Phenothrin
Weatherblok bait	Brodifacoum
ZP tracking powder	Zinc phosphide

Ms. Terry Baumanis, Shady Grove Maintenance Depot, maintains copies of Material Safety Data Sheets (MSDS) and product labels for all pesticides and bait stations used in buildings or on grounds. If you wish to review this information, contact her at 301-670-8238.

Public comments regarding Integrated Pest Management may be addressed at scheduled Board of Education meetings.

**MONTGOMERY COUNTY PUBLIC SCHOOLS
PESTICIDE NOTIFICATION LIST
ENROLLMENT FORM
SECONDARY SCHOOLS AND ADMINISTRATIVE OFFICES**

SCHOOL OR OFFICE: _____

PARENT / GUARDIAN / STAFF MEMBER INFORMATION

(Circle one of the above)

Name: _____

Address: _____

Telephone: Day _____ Evening _____

STUDENT INFORMATION (IF APPLICABLE):

Name: _____

Address: _____

ADDITIONAL INFORMATION:

Does the student or staff member have any known medical conditions that may be aggravated by the use of a pesticide?

YES _____ NO _____

Is this information listed on your student's health card?

YES _____ NO _____

If you require further information regarding the Integrated Pest Management program and/or notification procedures for Montgomery County Public Schools, please contact Ms. Terry Baumanis, Shady Grove Maintenance Depot, 301-670-8238.

NOTIFICATION TO PARENTS, GUARDIANS, AND STAFF OF A PESTICIDE APPLICATION

Montgomery County Public Schools Integrated Pest Management procedures, such as inspections and monitoring, are used to determine when to control pests and to identify conditions contributing to pest problems. The necessity for pest control, if warranted, is evaluated and one or more pest control methods including sanitation, structural repair, non-chemical methods and pesticides is utilized as a last resort, when all other means have been exhausted. Problem areas are identified where alternative pest control technologies can be incorporated in order to eliminate routine pesticide applications. It has been determined that a current pest problem warrants the use of a pesticide to effectively control the pest problem.

School: Neelsville Middle School

Location(s) of the Pesticide Application: Kitchen

Planned Date and Time of Application: Friday, May 11, 2007, 2:00 p.m.

Reason for Pesticide Application: Roaches

If extenuating circumstances arise, the intended pesticide application may have to be delayed or postponed to a later date(s).

Note: The Maryland Department of Agriculture's Regulations pertaining to Integrated Pest Management and Notification of Pesticide Use in Public Schools require that the following information be provided as part of this notice:

"The Office of Pesticide Programs of the United States Environmental Protection Agency has stated: 'Where possible, persons who potentially are more sensitive, such as pregnant women and infants (less than two years old), should avoid any unnecessary pesticide exposure'."

The following information regarding potential adverse effects was taken from the material safety data sheet (MSDS) of the pesticide to be applied:

Product Name: ULD BP-100

Common Name: Pyrethins, Piperonyl bunoxide, N-octyl bicycloheptene dicarboximide.

EPA Registration Number: 499-452

Health Hazard Data: Eyes: Flush with large amounts of water for 15 minutes. Skin: Wash skin with soap and water for 15-20 minutes. Ingestion: Immediately call poison control 800-222-1222. Do not give ANY liquid.

If you require further information regarding this notice, you can contact Mrs. Terry Baumanis, at (301)670-8238.

NOTIFICATION TO PARENTS, GUARDIANS, AND STAFF OF A PESTICIDE APPLICATION

Montgomery County Public Schools Integrated Pest Management procedures, such as inspections and monitoring, are used to determine when to control pests and to identify conditions contributing to pest problems. The necessity for pest control, if warranted, is evaluated and one or more pest control methods including sanitation, structural repair, non-chemical methods and pesticides is utilized as a last resort, when all other means have been exhausted. *Problem areas are identified* where alternative pest control technologies can be incorporated in order to eliminate routine pesticide applications. It has been determined that a current pest problem warrants the use of a pesticide to effectively control the pest problem.

School: Neelsville Middle School

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"The Office of Pesticide Programs of the United States Environmental Protection Agency has stated: 'Where possible, persons who potentially are more sensitive, such as pregnant women and infants (less than two years old), should avoid any unnecessary pesticide exposure'."

The following information regarding potential adverse effects was taken from the material safety data sheet (MSDS) of the pesticide to be applied:

Product Name: Zoecon Catalyst

Common Name: Propetamphos

EPA Registration Number: 2724-450

Health Hazard Data: Eyes: Hold eye open and flush slowly and gently with water for 15-20 minutes. Skin: Remove contaminated clothing and rinse skin immediately with water for 15-20 minutes. Ingestion: Call a physician for advice. Sip a glass of water if able to swallow. Inhalation: Remove to fresh air. If not breathing, call 911.

If you require further information regarding this notice, you can contact Mrs. Terry Baumanis, at (301)670-8238.

MONTGOMERY COUNTY PUBLIC SCHOOLS
Division of Maintenance
Integrated Pest Management Unit

I, Judy Streepax of Ablesville Middle School
(name of facility personnel)

hereby acknowledge receipt of a notification for pesticide application information. The

pesticide application is scheduled for 5/11/07 2:00 pm, in
(date/time)

Kitchen I understand notification to staff and students must be
(area to be treated)

provided within 24 hours under regulation 15.05.02 governed by the Maryland
Department of Agriculture and MCPS regulation ECF-RB, Part III, Section C.

See attached sheet for notification to be distributed.

Received by: Judy Streepax
(signature)

Title: Admin. Sec.

Telephone Number: 301-353-8064

Date: 5/2/07

Time: 10:25

Thank you for your assistance with this matter.

If you have any questions regarding this notification procedure, please call Mrs. Terry
Baumanis at 301-670-8238.

Two Notices: Catalyst + BP100

Work Order	07-0012043	Facility #	226	Beverly Farms ES	School #	226	Work Status	COMP
Room/Area	UNDER RED SHED BEHIND SCHOOL	Requested By	HENDERSC	Form Request #				
Work Requested								
BEE NEST								
<i>150 characters max</i>								
Component <input type="text"/> Date Reported 2006-08-29 12:19: <input type="text"/> * Depot BMD Date Assigned 2006-08-29 15:16: <input type="text"/> * Department M Status Date 2006-09-05 9:27:0 <input type="text"/> Shop Location SG Status Remarks <input type="text"/> <i>100 characters max</i>					Responsibility Job Plan S_PEST * Shop SENV * Supervisor BAUMANIT * Problem Code PEST * WO Priority <input type="text"/> 1 * Funding OB * Work Code RM			
Work Order Hierarchy and Follow Up								
Has Children? <input type="text"/> N Belongs To <input type="text"/> <input type="text"/>					Has Follow-up Work? <input type="text"/> N Originating WO <input type="text"/> Requestor Phone 301-469-1050			
Labor, Materials, Costs					Modified			
Labor Hours	<input type="text"/> 0:30	Material Cost	<input type="text"/> \$3.48	Date	<input type="text"/> 2006-09-05 9:27:0			
Labor Cost	<input type="text"/> \$9.51	Total Cost	<input type="text"/> \$12.99	By	<input type="text"/> AMOSELLE			

Montgomery County Public Schools

Division of Maintenance

Date: 8/30/2016

Page 1 of _____

Integrated Pest Management Daily Worksheet

Facility Name: Beverly Farms ES Location: EXTERIOR

Inspector Name: JAMES JONES JONESJ-14 Inspector Signature: [Signature]

Work Order #: 07-0012043 #0226 W.O. on Hold: Yes No Reg Hours: .5 Overtime Hrs: _____

Material Description:	Quantity Used	Unit Price	Mix %
<u>DRIONE DUST</u>	<u>4oz</u>	<u>.81oz</u>	<u>51%</u>
EPA Reg. #: <u>432-992</u>	_____	_____	_____
Material Description: _____	_____	_____	_____
EPA Reg. #: _____	_____	_____	_____
Material Description: _____	_____	_____	_____
EPA Reg. #: _____	_____	_____	_____

Time in: 7:10 AM Time out: 7:40 AM Apparatus Used: BULB DUSTER Wind Speed: Calm MPH Direction: calm

INSIDE BUILDING	YES	NO	Types Of Pest	Grounds	YES	NO
Interior Clean	<input type="checkbox"/>	<input type="checkbox"/>	Roaches _____	Standing water	<input type="checkbox"/>	<input type="checkbox"/>
Floor Swept, Mopped, Vacuumed	<input type="checkbox"/>	<input type="checkbox"/>	Ants _____	Grass Cut	<input type="checkbox"/>	<input type="checkbox"/>
Food Spillage	<input type="checkbox"/>	<input type="checkbox"/>	Mice _____	Cans emptied	<input type="checkbox"/>	<input type="checkbox"/>
Trash Cans Clean	<input type="checkbox"/>	<input type="checkbox"/>	Rats _____	Storm drains clear	<input type="checkbox"/>	<input type="checkbox"/>
Proper Storage Practices	<input type="checkbox"/>	<input type="checkbox"/>	Bees _____	Site cleaned	<input type="checkbox"/>	<input type="checkbox"/>
Box Management	<input type="checkbox"/>	<input type="checkbox"/>	Flies _____	Shrubs trimmed	<input type="checkbox"/>	<input type="checkbox"/>
Food properly sealed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Other pest <u>yellow jackets</u>			
Pest Activity or Evidence	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Comments: ① Treated a yellow jackets nest under shed

Staff Signature: [Signature] Staff Title: _____

EMERGENCY NOTIFICATION TO PARENTS, GUARDIANS, AND STAFF OF A PESTICIDE APPLICATION TO SCHOOL GROUNDS

Montgomery County Public Schools Integrated Pest Management procedures, such as inspections and monitoring, are used to determine when to control pests and to identify conditions contributing to pest problems. The necessity for pest control, if warranted, is evaluated and one or more pest control methods including sanitation, structural repair, non-chemical methods and pesticides is utilized. Problem areas are identified where alternative pest control technologies can be incorporated in order to eliminate routine pesticide applications. It has been determined that a current pest problem warrants the use of a pesticide to effectively control the pest problem.

School: Beverly Farms ES

Common Name of Pesticide to be Applied: Drione insecticide

Location(s) of the Pesticide Application: EXTERIOR UNDER RED STORAGE SHED

Planned Date and Time of Application: 7:00 AM 8/30/2006

Reason for Pesticide Application: Yellow Jackets

If unfavorable weather conditions or other extenuating circumstances arise, the intended pesticide application may have to be delayed or postponed to a later date(s).

Note: The Maryland Department of Agriculture's Regulations pertaining to Integrated Pest Management and Notification of Pesticide Use in Public Schools require that the following information be provided as part of this notice:

"The Office of Pesticide Programs of the United States Environmental Protection Agency has stated: 'Where possible, persons who potentially are more sensitive, such as pregnant women and infants (less than two years old), should avoid any unnecessary pesticide exposure.'"

Montgomery County Public Schools has adopted a policy for the application of drione insecticide. After the application of drione insecticide has been made on or surrounding playground equipment the area must be inaccessible for no less than twenty-four hours.

The following information regarding potential adverse effects was taken from the material safety data sheet (MSDS) of the pesticide to be applied:

Product Name: Drione insecticide

Common Name: Pyrethrins, Piperonyl butoxide, Amorphous silica gel

EPA Registration Number: 432-992

Health Hazard Data: Potential health effects: Eyes: May cause mild irritation.

If you require further information regarding this notice, you can contact Mrs. Terry Baumanis, at (301)670-8238.

File Pesticide Notifications: J. Jones PCO

MONTGOMERY COUNTY PUBLIC SCHOOLS
Division of Maintenance
Integrated Pest Management Unit

I, Janet Boyd of Beverly Farms ES School
(name of facility personnel)

hereby acknowledge receipt of a notification for pesticide application information. The

pesticide application is scheduled for 8/30/2006 7:30 AM, in
(date/time)

EXTERIOR UNDER SHED I understand notification to staff and students must be
(area to be treated)

provided within 24 hours under regulation 15.05.02 governed by the Maryland Department of Agriculture and MCPS regulation ECF-RB, Part III, Section C.

See attached sheet for notification to be distributed.

Received by: Janet Boyd
(signature)

Title: Secretary

Telephone Number: 301-769-1050

Date: 8/30/06

Time: 7:50

Thank you for your assistance with this matter.

If you have any questions regarding this notification procedure, please call Mrs. Terry Baumanis at 301-670-8238.

Department of Facilities Management
Standard Operating Procedures
Initial Team Visit
IAQ Team Activities
April 2003

SET-UP ACTIVITIES (Building selection pre-determined)

In the two weeks prior to on-site team activities:

- 1) Kick-off meeting by the Environmental Safety Specialist and Environmental Safety Coordinator with the following attendees:
 - a) Principal
 - b) Building Service Manager and Plant Operator, if applicable
 - c) Business Manager or Financial Secretary, if applicable
 - d) PTA RepresentativeThe following issues are to be discussed at kick-off meeting
 1. Overview of program/mission statement
 2. Timeframe of activities by IAQ Team
 3. Role of building service staff during project
 4. Communication of program to community
 5. Depending on complexity and severity of IAQ issues the Institution of a facility specific IAQ Steering Committee is discussed.
 6. Introduction to Tools for Schools program; encourage the school to implement that program
 7. Request that principal make an announcement to staff requesting interviews.
- 2) Schedule teaching and support staff IAQ Awareness Training. Questionnaires are completed by staff attending this training session.
- 3) Questionnaires collected. Data reviewed.
- 4) The following items are to be requested for inclusion in the BMP:
 - a) Current and projected enrollment, plus enrollment for last two years
 - b) Current "program/room use/capacity" information
 - c) Past IAQ incident reports
 - d) Major renovations
 - e) Chemical Information List as updated by the Building Service Manager
 - f) Record of past radon testing results
- 5) Schedule building assessment. Interviews of staff members also scheduled for same day(s).

Prior to team activities:

- 5) Pre-assessment review:
 - a) Review prints and details; note potential IAQ problems

- b) Interview, and questionnaire data is categorized into complaint/non-complaint areas; then types of complaints are categorized (ventilation, upper respiratory, asthma, and allergies); spatial and temporal patterns of problems are determined
 - c) Review renovation history and planned renovations; note potential problems based on interview/questionnaire responses
 - d) Select occupied rooms with potential comfort control problems for T/Rh monitoring (using HOBOS)
 - e) Select other T/Rh sampling rooms by:
 - i) Identifying number of rooms in a Ventilation Zone. A ventilation zone is controlled by one thermostat with the exception of occupied rooms using unit ventilators. Rooms with like unit ventilators will be grouped together and considered to be a zone
 - ii) Randomly choosing additional rooms so that the total of sampled "representative rooms" is at least \sqrt{N} where N is number of rooms in the zone
- 6) Schedule one day for pre-assessment walkthrough: this is for HOBOS hanging and the initial assessment to establish baseline air quality measurements. Larger buildings will take more time. Verify that the building service manager will be available for exit briefing and all areas will be accessible. During the walk-through assessment, the following items are monitored:
- a) Visual assessment of the occupied space for potential IAQ problems
 - b) Temperature
 - c) Relative Humidity
 - d) Carbon Monoxide
 - e) Carbon Dioxide
 - f) Pressure relations within the building
 - g) Ventilation equipment cleanliness
 - h) Housekeeping
- Total number of occupied rooms visited on walkthrough is at least $X\sqrt{N}$ where X is the number of zones.
- 7) In addition to occupied areas, the following locations are included on the walkthrough: janitor closets, mechanical rooms, stock rooms, musical storerooms, industrial arts rooms, dock, restrooms, locker rooms, kitchen, pool room, chlorination room, roof, lot. Label items for Lock Out/Tag Out (proper procedures for de-energizing systems for safe maintenance and repair) and Confined Space access (areas in building inherently unsafe for occupancy) as needed and note for OSHA training of building service staff.
 - 8) Place Hobos in selected rooms for approximately 10-15 occupied school days of monitoring; begin walkthrough assessment.
 - 9) Create Work Plan based on findings of initial assessment. At this time, the scope and abilities of the IAQ Team and Division of Maintenance are measured against the noted conditions to determine appropriateness and scale of the work plan as it relates to life cycle planning of the facility. Issues identified that are beyond the scope and abilities of the IAQ Team and the Division of Maintenance will be addressed through more appropriate channels (e.g. possible capital project). This Work Plan will include the following:
 - a) Direct IAQ Technicians to non-routine cleaning and minor repair

- b) Direct HVAC Technicians to non-routine repairs
 - c) Prioritize and initiate work requests for larger repair/cleaning/remediation projects which can be addressed through the Division of Maintenance
- 10) Work plan may be modified during on-site activities by additional findings of the IAQ Team.

ON-SITE TEAM ACTIVITIES

- 11) On first day of on-site team activities, the work plan is to be reviewed with building service manager, principal, business manager (if appropriate), and IAQ/PM Supervisor.
- 12) IAQ Team to coordinate with the building service manager for routine and non-routine cleaning and repairs. This activity will take 10-30+ days per building. General activities are to include, but not be limited to:
- Inspection of heating and cooling equipment
 - Cleaning and sanitization as needed
 - Gather data for electrical lock-out/tag-out for ventilation equipment
 - Repair/adjust operation of equipment as needed
 - Air flow volume is measured as needed when evaluating complex ventilation and air balance problems
 - List items requiring response beyond scope of IAQ team
 - Address any housekeeping issues
 - Repair water intrusion areas
 - Preliminary evaluation of site drainage
 - Clean/replace mold damaged building materials
 - Procedures for routine cleaning and/or repair of building systems are recorded.
 - Non-routine activities are recorded
 - Training of building service staff on preventive maintenance procedures
- 13) Communication with the maintenance depot supervisor and building service supervisor to develop timeline for all follow up activities.

FOLLOW-UP ACTIVITIES

- 14) A follow-up assessment walkthrough by the environmental safety specialist is scheduled after the Team is finished; low priority items may not have been completed by this time. Building services and maintenance must be substantially done with items on their work plans.
- 15) The follow-up assessment relies on visual assessment of the same areas visited during the initial walkthrough. Sampling is repeated.
- 16) Final assessment results are documented and placed in the BMP. Any deficiencies will be noted and more intensive remediation and/or investigation beyond the scope of the IAQ team will be recommended and timelines established for their completion according to above.
- 17) All staff interviewed or who responded to questionnaire are given a follow-up interview/questionnaire to be summarized and included in the BMP.

18) Communication of project to staff:

- a) Review efforts and findings of IAQ Team
- b) Review of assessment report
- c) Present BMP as a living document (Discuss its purpose and role in providing continued good IAQ)

19) Training building service staff on Hazard Communication (employee information on the potential hazards of products and procedures used in their job scope), Lock-out/Tag-out, and Confined Space awareness specific to building and processes.

20) Approximately 2 months after presentation of the BMP:

- a) Visit facility for evaluation of implementation of program
- b) Provide supplemental training as needed to building service staff to address noted deficiencies and provide support for successes.

Indoor Environmental Quality (IEQ) Team Building Maintenance Plan Visit - Preliminary Work Plan**Notes:**

1. This school is classified as asbestos-free.
2. Roof work is to be completed during daylight hours – roof skylights appear to lack required fall protection devices.

Items to be completed by IEQ Team

- ~~Assign Unit ID numbers to all supply ventilation units.~~ **Completed**
- Collect circuit breaker information for all ventilation equipment.
- Measure and record volumetric supply airflow for:
 - Four rooms in 200 wing (univents),
 - Four rooms in 100 wing (univents),
 - Room 2, room 6, three rooms in the 10-18 pod (univents),
 - Four fan coil units in the main office suite.

Take measurements before, then after IEQ Team activities have been completed in each room.
- Clean, adjust, and replace defective components on all supply ventilation units. Verify correct room temperature control and fix if needed. Cleaning should be thorough in each unit up to the inside of the intake grill. Cleaning should include both sides of coils. Blow out condensate drain lines. Replace air filters as needed. Interior insulation should be replaced with Rubatex as needed. Secure loose thermostat covers.
- Measure and record volumetric airflow for all restroom exhaust grilles.
- Evaluate all exhaust fans. Clean, adjust, and replace defective components. Create fan map.
- ~~Measure exhaust air flow of kiln slot hood exhaust ventilation unit in the art room.~~ **Completed – modification by IEQ Team required to improve draw**
- Verify that all exhaust fans and supply ventilation units are labeled; label if needed.
- Clean all diffusers and grilles. HEPA vacuum the ceiling adjacent to those devices if visibly dirty.
- Post “No Idling” signs at the loading dock.
- Complete an initial PM routine on the air station. Collect data from the air station for the Building Maintenance Plan.
- Use a lift to clean joists, ducts, diffusers, grilles, and other high surfaces in the gym.
- Provide building-specific ventilation equipment maintenance training for the building service manager.

Items to be completed by Building Services

- Submit a work order to Bethesda Maintenance Depot for insulation of two gate valves, which have dripped condensate, in the ceiling of the northwest corner of the main office data entry room. Replace the stained ceiling tiles under the valves after they are insulated.
- Some roof drains were obstructed; check and clear all drains.
- Submit a work order for repair of rotted and fungi-contaminated sections of the portable canopy. Affected sections include above the sidewalk by MO-043 (112) and by the main door of ML-478 (114).
- Submit a work order for trimming of branches overhanging the roof (to reduce debris and water accumulation on the roof).
- Submit a work order for repair of the wooden sink cabinet in room 111 (a hole appears to have been cut under the sink to access a pipe).
- Replace a ceiling tile with *fungus growth* in the closet of room 6. Systematically inspect the entire building for stained or damaged ceiling tiles in need of replacement. Report leaks or damage requiring repairs to Division of Maintenance and replace ceiling tiles as needed.
- Remove moss from the roof (largest accumulations were above the 200 wing) to reduce water accumulation.
- Maintain at least three feet of clearance in front of all electrical panels, unless impossible as a result of building construction. Keep combustible materials (papers, cardboard) and chemical products clear of electrical panels and transformers.
- Verify that all building service chemical products are approved for use in MCPS facilities. Remove non-approved products from school grounds. The MCPS Approved Products List is available at: <http://www.montgomeryschoolsmd.org/departments/iaq/products.htm>.
- Periodically verify that all thermostat covers are secured.

Items to be completed by All Building Staff

- Verify that all chemical products (cleaning products, art products, science products, air fresheners) are approved for use in MCPS facilities. Remove non-approved products. The MCPS Approved Products List is available at: <http://www.montgomeryschoolsmd.org/departments/iaq/products.htm>.
- Keep ceiling and wall-mounted exhaust grilles in coat closets unobstructed. Keep obstructions and heat sources away from thermostats.
- Promptly reporting problems with ventilation units (poor temperature control, leaks, excessive or unusual noises, poor fan operation) to the building service manager. Ventilation units are designed to operate when rooms are occupied to ensure adequate ventilation (outdoor fresh air supply).
- Promptly report water leaks, water damage, and possible fungi (mold) to the building service manager.

BACKGROUND INFORMATION

The indoor air quality complaint is the first step in a potential three-phase process. Step one involves reporting a concern. Step two requires Building Services staff to complete the building services indoor air quality checklist in the area of concern. Step three involves an investigation by Environmental Safety/IAQ and support personnel when appropriate.

INSTRUCTIONS: Complete this form if you believe you have been affected by an indoor air quality problem in your classroom or work place and submit it to your principal/supervisor. The principal/supervisor will return the completed form to you within three (3) working days regarding the area of concern.

Name of person reporting problem _____ Job title _____

Work/School/Facility _____ Location (specify room) _____

Name of principal or supervisor _____ Date of this request ____/____/____

Briefly describe the problem(s) you are experiencing: _____

When did your symptoms start? _____

Where? _____

When are they generally worse? _____

Where? _____

Do they go away? Yes No If so, when? _____

Where? _____

Do you have any health conditions that make you particularly susceptible to environmental problems (e.g., contact lenses, allergies, asthma)?

If yes, have you sought medical attention and/or taken medications (daily, weekly, monthly) for this/these conditions?

Have you observed building conditions that might need attention or might help explain your symptoms?

Do you have any other comments? _____

ACTION TAKEN

Signature, Principal/Supervisor

Date Returned

INSTRUCTIONS: To be completed by building services manager upon receipt of MCPS Form 230-23: *Indoor Air Quality Complaint*. This form is to be completed and returned within five (5) working days.

School/Facility _____ Room or Area Affected _____

Nature of concern _____

Name of requestor _____ Date and title of investigator _____

GENERAL CONDITIONS

Describe Housekeeping: Good Fair Poor

Describe Material Storage: Organized Excessive Cluttered

Is there any evidence of: Water damage or stains Dust/dirt Mold Odors Other _____

Within the last three months has there been any Construction/Renovation Carpet installation Pesticides used

Painting Use of special cleaners or solvents

Other _____

AIR FILTERS

Yes No — Are filters clean? Date of last filter change ____/____/____

Yes No — Do filters fit properly?

VENTILATION AIR

Yes No — Does the area have windows that open?

Yes No — Does affected work area have a connection for outside air?

Yes No — Does the system use dampers?

Yes No — Are dampers for outside air mechanically controlled?

Yes No — Have actuators been disconnected or set in a fixed position?

Yes No — Are outside air, supply air, and return air openings clear of debris and/or stored objects?

Yes No — Are outside air openings close to chimney, rest room/locker room, kitchen, boiler room, or automotive shop exhausts?

Yes No — Are interior surfaces of equipment and vents clean and moderately dust/debris free?

What was the thermostat set at at the time of the investigation? ____° Time taken ____:____ a.m./p.m.

What was the actual room temperature? ____°

Yes No — Is the automatic temperature control system working properly?

Yes No — Are pumps operating normally and delivering the proper temperature of water to the terminal units for heating/cooling?

FANS

Yes No — Are all fans in the HVAC system working?

Yes No — Are the fan blades clean?

Yes No — Does affected area have exhaust fans?

Yes No — Are all the exhaust fans operating including rest room, locker room, kitchen, and shops?

BELTS

Yes No — Are any fan belts broken, cracked, or frayed?

Yes No — Are any belts slipping/squealing?

LEAKS

Yes No — Are there any steam, water, gas, oil, or refrigerant leaks around or in the heating/cooling unit supplying air to the conditioned space?

Yes No — Are condensate or drip pans draining properly?

Are there any odors coming from, around, or near Gas lines/meters Sewer lines Floor drains Grease traps
 Other _____

Yes No — Visible mold? Where? _____ Yes No — Musty/moldy odor?

Yes No — If any of the above are check are they near a fresh air intake?

ELECTRICAL

Yes No — Is any motor, heating element, switch, or control overheating?

Yes No — Are fluorescent light tubes flickering or ballasts humming?

RECENT WORK

Yes No — Have there been any operating or maintenance problems with any plant equipment within the last three months? (Check operating logs and records.)

Yes No — If yes, were repairs made?

If No, give your reasons(s) _____

Yes No — If no, were work orders forwarded to the Division of Maintenance regarding the problem?

If Yes, has work been started? Yes No Completed? Yes No

FOLLOWUP

Yes No — Have potential sources or causes of the problem been found?

If yes, what steps were taken?

Yes No — Does requestor believe initial complaint has been addressed?

If yes, why?

Signature, Complainant

Signature, Building Services Manager

Date

Signature, Principal/Supervisor

Date

MCPS Portable Assessment Checklist

School: _____

Date: _____

Portable #: _____

Inspector: _____

Summary Decision on Unit: _____
(Rating scale: Good, fair, or poor).

Unit Age: _____

Exterior siding : _____
(Brick, T-111 plywood, or metal)

Unit Mfr: _____

Type of floor covering: _____
(Carpet or vinyl tile)

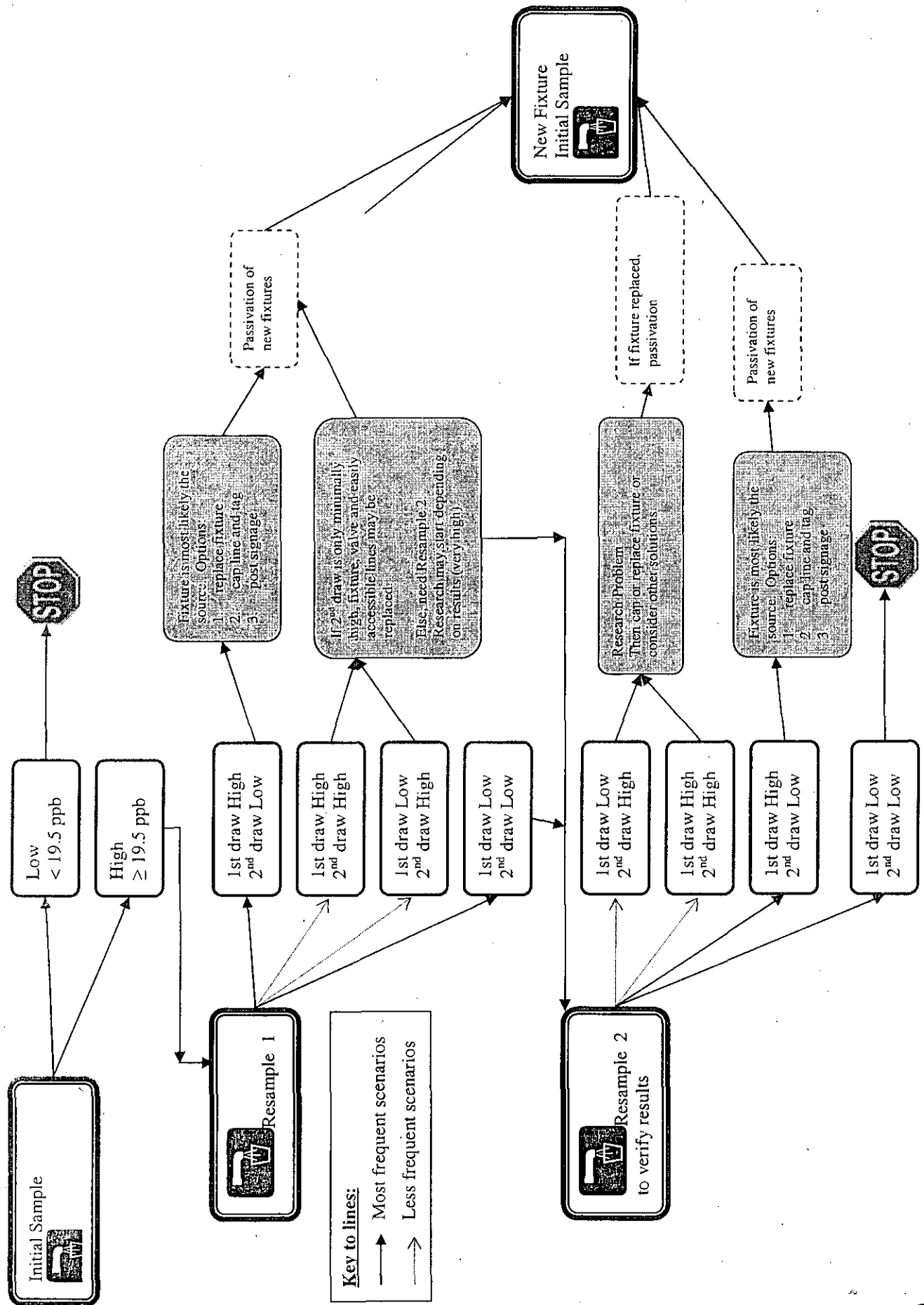
Renovations: _____
(e.g., new roof, siding...)

Criteria	Weighting factor	Yes	No	N/A	Comments
Air Quality					
• Musty odors	2				
• Visible mold	3				
• Other environmental triggers	1				
• History of IAQ complaints / moisture intrusion	1				
• Issues with:					
o HVAC unit(s) operation / upkeep	1				
o Temperature & humidity	1				
o Airflow and ventilation (CO ₂)	1				
o Vehicle exhaust (CO)	1				
o VOCs (volatile organic compounds)	1				
Moisture conditions					
• Ceiling stains	2				
• Floor soft or spongy	2				
• Window condensation	1				
• Interior wall seepage / discoloration					
▪ < 10 ft ² elevated moisture	1				
▪ > 10 ft ² elevated moisture	2				
Building Envelope Assessment					
Roof					
• Membrane and seams in poor condition	2				
• Evidence of ponding	1				
• Roof drains / gutters obstructed	1				
• Relief vent / fan housing damaged	1				
Exterior siding					
• Siding damaged / unsealed vertical seams	2				
• Skirting damaged or discolored	1				
• Exposed to canopy runoff	1				
Flashing absent / inadequate					
• Windows	1				
• Doors	1				
• Skirting	1				
• HVAC unit(s)	1				
• Roof	1				
Vapor barrier absent / torn					
• Underside of unit	1				
• Between walls	1				
Site drainage					
• Inadequate downspout extensions	1				
• Inadequate condensate drain clearance	1				
• Exterior ground dampness	1				
• Negative slope	1				
Unit previously relocated	2				
Bird, rodent or pest infestation	1				
Construction / Maintenance Issues	1				
Total					

MCPS Schools with Completed Building Maintenance Plans (as of September 2007)

Elementary Schools	
Ashburton ES	Lois Rockwell ES
Beall ES	Luxmanor ES
Belmont ES	Matsunaga/Longview School
Beverly Farms ES	Meadow Hall ES
Brooke Grove ES	Montgomery Knolls ES
Candlewood ES	New Hampshire Estates ES
Cedar Grove ES	Olney ES
Clarksburg ES	Potomac ES
Clearspring ES	Rosemary Hills ES
Cold Spring ES	Rosemont ES
Damascus ES	Sherwood ES
Dufief ES	South Lake ES
East Silver Spring ES	Stedwick ES
Fallsmead ES	Stone Mill ES
Fields Road ES	Summit Hall ES
Fox Chapel ES	Travilah ES
Gaithersburg ES	Twinbrook ES
Garrett Park ES	Washington Grove ES
Goshen ES	Waters Landing ES
Greenwood ES	Weller Road ES
Highland ES	Wheaton Woods ES
Kensington Parkwood ES	Woodfield ES
Laytonsville ES	Woodlin ES
Middle Schools	
Banneker MS	Robert Frost MS
Cabin John MS	Rocky Hill MS
Gaithersburg MS	Rosa Parks MS
John T Baker MS	Sligo MS
High Schools	
Damascus HS	Poolesville HS
Gaithersburg HS	Quince Orchard HS
Special Schools/Other	
North Lake Center	Spring Mill Center
Rolling Terrace	

MCPS Water Testing Flow Chart



Key to lines:
 ↑ Most frequent scenarios
 ↗ Less frequent scenarios

Updated Analysis of Drinking Water Samples Montgomery County Public Schools

The following are the current results of the continuing analysis of water taken from all sources within a sample of public schools in Montgomery County. The high samples include remote sites (such as sink faucets) and not designated drinking water sources. The results for hallway water coolers are included as a separate data list of water sources most readily used by students.

All results are for water samples taken straight from water sources without implementing the mandatory water flushing of 15 minutes every four hours for water coolers and 60 seconds every four hours for other water sources. Water flushing is required in all schools, unless otherwise authorized by the health department, as indicated on the list below.

The testing results for the schools identified here and the remaining schools have been delayed significantly by backlogs that occurred in the laboratory facilities of the Washington Suburban Sanitary Commission (WSSC). This backlog was resolved only recently, but it caused a serious delay in the detailed scientific review and analysis by the Montgomery County Health Department and school system. The entire process is following protocols recommended by the U.S. Environmental Protection Agency. The action level standard is a water sample in which the level of lead content is greater than 20 parts per billion (ppb). This list will be updated as new testing results are released.

Available Results for Schools Tested¹

School	Total# ²	#High PPB ³	%High PPB ⁴	Highest PPB ⁵	Lowest PPB ⁶	Median PPB ⁷	Highest for Water Coolers Only ⁸
1. Ashburton Elementary	102	6	6%	494	0.2	1.5	0.9
2. Bannockburn Elementary	77	26	34%	3396	0.5	13.5	2.2
3. Beall Elementary	92	3	3%	86.6	0	1.0	0.8
4. Bel Pre Elementary	88	23	26%	8014.0	0.2	7.2	1.8
5. Bells Mill Elementary	87	8	9%	255.4	0.2	5.0	1.6
6. Belmont Elementary	82	9	11%	95.2	0.2	5.6	2.3
7. Bethesda Elementary**	106	3	3%	469.3	0.4	1.4	1.7
8. Beverly Farms Elementary	95	13	14%	1718	0	5.9	1.6
9. Bradley Hills Elementary**	74	36	49%	1041.6	0.2	15	0.4
10. Broad Acres Elementary	126	19	15%	1126	0	4.9	n/a
11. Brooke Grove Elementary**	108	0	0%	16.6	0.2	1.2	0.5
12. Brookhaven Elementary	118	13	13%	833.6	0	3.4	1.1

School	Total# ²	#High PPB ³	%High PPB ⁴	Highest PPB ⁵	Lowest PPB ⁶	Median PPB ⁷	Highest for Water Coolers Only ⁸
13. Burnt Mills Elementary	98	6	7%	143.8	0.1	3.4	3.4
14. Burtonsville Elementary**	121	10	8%	1309.4	0.2	2.5	0.8
15. Cabin John Middle	71	7	10%	237.9	0.3	2.6	n/a
16. Candlewood Elementary	85	18	21%	452.8	0.2	6.5	3.3
17. Cannon Road Elementary	67	23	34%	838.2	0.2	12	3.1
18. Capt. James E. Daly Elementary**	138	13	9%	449.3	0.1	0.8	0.1
19. Carderock Springs Elementary	55	7	13%	186.5	0	5.5	1.1
20. Carl Sandburg Learning Center	46	6	13%	804.3	0.3	4.1	1.2
21. Cashell Elementary	61	10	16%	151.8	0.1	4.35	0.5
22. Clarksburg Elementary**	78	12	15%	120.2	0.7	8.9	1.1
23. Clopper Mill Elementary	97	35	36%	1037.4	0.2	11.6	4.6
24. Cloverly Elementary	103	19	13%	691.2	0.2	5.6	0.5
25. Col. E. Brooke Lee Middle	139	57	47%	1502.0	0.3	11.6	10.6
26. Cold Spring Elementary	81	27	29%	1016	0.5	11	0.9
27. College Gardens Elementary	72	9	13%	70.2	0.1	3.7	1.8
28. Crethaven Elementary	75	10	13%	155.1	0	4.5	12.6
29. Damascus Elementary	89	24	25%	452.4	0.3	9.0	4.9
30. Darnestown Elementary	70	23	30%	1584.5	0	11	3.2
31. Dr. Charles R. Drew Elementary	133	7	5%	312.0	0.5	2.2	1.6
32. DuFief Elementary**	97	32	33%	2175.3	0.1	10.8	1.8
33. East Silver Spring Elementary	86	24	28%	1085	0.3	9.1	8.6
34. Fallsmead Elementary**	93	31	33%	9085.7	0	5.7	0.6
35. Farmland Elementary**	78	24	31%	12578.4	0.3	11.3	1.5
36. Farquhar Middle	181	43	24%	874.7	0.5	5.7	5.1
37. Fields Road Elementary	73	12	16%	1390	0.1	5.8	3.9
38. Flower Hill Elementary	95	14	15%	145.5	0	4.6	n/a
39. Fox Chapel Elementary	93	2	2%	194.2	0.3	4.0	n/a
40. Gaithersburg Elementary	93	21	23%	109.3	0.2	10.0	n/a

School	Total# ²	#High PPB ³	%High PPB ⁴	Highest PPB ⁵	Lowest PPB ⁶	Median PPB ⁷	Highest for Water Coolers Only ⁸
41. Gaithersburg High	143	29	20%	7584	0.1	5.3	n/a
42. Galway Elementary**	122	21	19%	335.2	0.1	6.2	2.1
43. Garrett Park Elementary	63	13	21%	173.2	0.2	5.6	0
44. Georgian Forest Elementary *	79	1	1%	40.3	0	0.2	0.1
45. Germantown Elementary**	87	22	25%	668.6	0.3	6.9	6
46. Glen Haven Elementary (Grosvenor)	67	17	25%	320.6	0.2	10.4	0.9
47. Glenallan Elementary	78	15	19%	2390.0	0.2	6.8	7.9
48. Goshen Elementary**	128	10	8%	93.1	0.2	4.9	0.5
49. Greencastle Elementary	118	9	8%	894.5	0.1	2.7	0.3
50. Greenwood Elementary	89	6	7%	135	0	3.5	1.4
51. Harmony Hills Elementary *	83	1	1%	34	0	0.3	n/a
52. Highland Elementary	161	17	11%	2171	0.1	2.2	3.5
53. Highland View Elementary	102	12	12%	2633.7	0.2	1.1	0.8
54. Jackson Road Elementary**	120	10	9%	45.7	0	8.1	0.3
55. Jones Lane Elementary**	118	30	26%	637.6	0.3	5.6	0.6
56. Judith A. Resnik Elementary	147	14	10%	3559.6	0.2	3.4	0.9
57. Kemp Mill Elementary *	125	1	1%	46.0	0	0.6	0.2
58. Lake Seneca Elementary	99	31	31%	500.4	0.1	11.9	0.6
59. Luxmanor Elementary	62	13	21%	1632	0.1	4.1	1.1
60. Mark Twain School**	74	10	14%	459.1	0.8	7.1	8.1
61. Maryvale Elementary	76	9	12%	207.3	0.3	4.6	n/a
62. Meadow Hall Elementary**	105	5	5%	742.9	0.1	1.2	0.7
63. Montgomery Knolls Elementary	74	6	8%	218.5	0	3.2	0.2
64. New Hampshire Estates Elementary	103	8	8%	1205	0.2	1.7	0.6
65. North Chevy Chase Elementary**	74	16	22%	244.9	0.5	7.6	0.9
66. Oak View Elementary	68	19	28%	496.6	0.1	16.9	n/a
67. Olney Elementary	104	36	35%	82.9	0.4	11.4	1.5
68. Pine Crest Elementary	87	10	11%	495.8	0	3.6	1.5

School	Total# ²	#High PPB ³	%High PPB ⁴	Highest PPB ⁵	Lowest PPB ⁶	Median PPB ⁷	Highest for Water Coolers Only ⁸
69. Poolesville Elementary	105	16	15%	205.3	0.5	9.5	4.6
70. Poolesville High**	173	92	53%	6426.0	0.3	22.0	10.7
71. Potomac Elementary	80	12	15%	575.7	0.6	6.8	1.8
72. Rachel Carson Elementary**	147	34	23%	36371.5	0	9.2	0.2
73. Roberto W. Clemente Middle	182	72	40%	583.1	0	8.7	1.0
74. Rock Creek Forest Elementary	90	14	16%	980.2	0	5.1	1.3
75. Rock View Elementary *	112	1	1%	34.2	0	0.5	1.3
76. Rockwell Elementary	131	16	12%	307.7	0	3.5	0.3
77. Rolling Terrace Elementary	149	10	7%	33.1	0	2.5	0.6
78. Ronald McNair Elementary**	131	12	9%	8073.3	0.2	2.9	2.2
79. Rosemary Hills Elementary	118	8	7%	665.3	0	1.9	n/a
80. Rosemont Elementary *	89	1	1%	28.4	0.1	1.2	0.5
81. S. Christa McAuliffe Elementary	121	33	27%	1939	0	3.2	0.7
82. Seven Locks Elementary	55	18	33%	138.7	0.1	9.9	4.9
83. Somerset Elementary (at Radnor)	64	27	42%	843.3	0.1	11.1	3.4
84. Southlake Elementary	75	13	17%	2423	1	7.6	n/a
85. Spark Matsunaga Elementary	144	15	10%	10069.3	0	0.9	0.4
86. Stedwick Elementary	103	10	10%	118.2	0.2	4.6	2.8
87. Stephen Knolls School	82	22	27%	1004.8	0.2	8.9	n/a
88. Stone Mill Elementary	133	33	25%	536.8	0.1	2.9	1.3
89. Stonegate Elementary	96	35	36%	17171.8	0.7	13.9	4.0
90. Strathmore Elementary	96	33	34%	4134.0	0.1	8.1	0.6
91. Summit Hall Elementary	86	10	12%	633.7	0.1	6.3	3.3
92. Takoma Park Elementary	84	9	11%	165.8	0.2	4.0	n/a
93. Thomas Edison HS of Technology	85	24	28%	659.4	0.4	9.8	2.5
94. Thurgood Marshall Elementary	130	17	13%	1152.0	0	2.1	0.8
95. Travilah Elementary	75	6	4%	2694.2	0.3	3.3	1.1
96. Twinbrook Elementary	119	15	13%	1866	0.1	5.0	0.3

School	Total# ²	#High PPB ³	%High PPB ⁴	Highest PPB ⁵	Lowest PPB ⁶	Median PPB ⁷	Highest for Water Coolers Only ⁸
97. Viers Mill Elementary	129	21	16%	589.6	0.1	3.1	0.7
98. Washington Grove Elementary	76	34	45%	1835	0.1	13.3	n/a
99. Waters Landing Elementary	131	29	22%	2069.8	0.4	8.2	1.0
100. Watkins Mill Elementary	87	11	14%	1256.0	0.4	6.9	3.9
101. Wayside Elementary	93	17	18%	2129	0	4	30.1
102. Weller Road Elementary	97	16	16%	1653.0	0.1	7.05	1.3
103. Westland Middle	162	40	25%	1597.8	0.2	3.0	0.5
104. Wheaton High	152	22	14%	4134	0	3.6	n/a
105. Wheaton Woods Elementary	114	26	25%	2263	0.2	9.5	2.5
106. Whetstone Elementary	116	13	11%	240.6	0.2	4.1	1.8
107. Woodlin Elementary	94	9	10%	778.6	0	2.7	1.4

* Schools tested and removed from water flushing requirements by Montgomery County Health Department. (Other schools also removed from flushing protocols include Monocacy and Laytonsville elementaries, which use well and bottled water, and Seneca Valley High School, which has a separate filtering system.)

** Schools added new to this list, as of October 22, 2004.

¹ Test analysis data as of October 22, 2004 and listed alphabetically by school

² Total#: Number of all water samples in the school.

³ #High PPB: Number of water sources with levels of lead above 20 parts per billion (ppb).

⁴ %High PPB: Percentage of water sources with levels of lead above 20 ppb.

⁵ Highest PPB: Single water source with highest level of lead, measured as ppb.

⁶ Lowest PPB: Single water source with lowest level of lead, measured as ppb.

⁷ Median PPB: The point below which 50% of the water sources fell in terms of measured ppb.

⁸ Highest PPB for Water Coolers Only: Percentage of hallway water coolers with lead levels above 20 ppb.

DESCRIPTION OF COLUMNS IN TABLE BELOW:

Initial Testing Complete
Fixtures needing Remediation
Remediation Plan
Repairs in Progress
Post-Remediation Passivation and Testing
Done!*
sampling of all school drinking water sources
some water fixtures will be replaced (yes or no)
plan approved by MCHHS and MCDEP
(self explanatory)
special flushing procedures for replaced fixtures to facilitate development of protective film
All schools should continue once a day flushing (15 minutes for refrigerated water coolers, 1
minute for other drinking sources)

School	Initial Testing Complete	Fixtures needing remediation	Remediation Plan	Repairs in Progress	Post-Remediation Passivation and Testing	Done!
A Mario Loiderman MS	yes					
Albert Einstein HS	yes					
Argyle MS	no					
Ashburton ES	yes					
Bannockburn ES						
Beall ES						
Bel Pre ES						
Bells Mill ES						
Belmont ES						
Benjamin Banneker MS	yes					
Bethesda Chevy Chase HS	no					
Bethesda ES						
Beverly Farms ES						
Bradley Hill ES						
Briggs Chaney MS						
Broad Acres ES						
Brooke Grove ES	no					
Brookhaven ES						
Brown Station ES						
Burning Tree ES	yes					
Burnt Mills Road ES	yes					
Burtonsville ES						
Cabin John MS						
Candlewood ES						
Cannon Road ES	yes					
Capt James Daly ES	yes					
Carderock Springs ES						
Carl Sandburg Learning Center						
Carver Educational Service Center						
Cashell ES	yes					
Cedar Grove ES	yes					
Chevy Chase ES	yes					

sewer school

School	Initial Testing Complete	Fixtures needing remediation	Remediation Plan	Repairs in Progress	Post-Remediation Passivation and Testing Done!*
Clarksburg ES		yes			
Clarksburg HS					
Clearspring ES					
Clopper Mill ES					
Cloverly ES					
Col. E. Brook Lee MS					
Col. Zadok Magruder HS					
Cold Spring ES					
College Gardens ES					
Concord					
Cresthaven ES		yes			
Damascus ES					
Damascus HS		yes			
Darnestown ES		yes			
Diamond ES		yes			
Dr. Charles Drew ES		yes			
Dr. Sally K. Ride ES		yes			
DuFief ES		yes			
Earle B. Wood MS		no		summer 07	
East Silver Spring ES					
Eastern MS					
Emory Grove Center					
Fairland ES					
Fallsmead ES					
Farmland ES					
Fields Road ES					
Flower Hill ES					
Flower Valley ES		yes			
Forest Knolls ES					
Food Service Warehouse		no			
Forest Oak MS		no			
Fox Chapel ES					

School	Initial Testing Complete	Fixtures needing remediation	Remediation Plan	Repairs in Progress to be demolished	Post-Remediation Passivation and Testing	Done!*
Francis Scott Key MS						
Gaithersburg ES						
Gaithersburg HS						
Gaithersburg MS						
Galway ES						
Garrett Park ES						
Georgian Forest ES		no				
Germentown ES		yes				
Glen Haven ES						
Glenallan ES						
Goshen ES						
Great Seneca Creek ES						
Greencastle ES						
Greenwood ES						
Grosvenor Center						
Hadley Farms Alternative MS						
Harmony Hills ES		no				
Herbert Hoover MS		no				
Highland ES		yes				
Highland View ES		yes				
Jackson Road ES		yes				
James Hubert Blake HS						
John F. Kennedy HS						
John Poole MS		yes				
John T. Baker MS						
Jones Lane ES						
Judith A. Resnik ES		yes				
Julius West MS		yes				
Kemp Mill ES		no				
Kensington Parkwood ES						
Kingsview MS						
Lake Seneca ES		yes				

School	Initial Testing Complete	Fixtures needing remediation	Remediation Plan	Repairs in Progress	Post-Remediation Passivation and Testing Done!*
Lakelands Park MS		no			
Lakewood ES		yes			
Lathrop E. Smith Environmental Educational Center					
Laytonville ES			n/a - Well Water System - bottled drinking water		
Little Bennett ES					
Lois P. Rockwell ES		no			
Lucy Barnesley ES					
Luxmanor ES					
Lynnbrook Center					
Mark Twain					
Martin Luther King MS					
Maryvale ES				summer 07	
McKenney Hills Learning Center		yes			
Meadow Hall ES		yes			
Mill Creek Towne ES					
Monocacy ES			n/a - Well Water System - bottled drinking water		
Montgomery Blair HS		yes			
Montgomery Knolls ES					
Montgomery Village MS					
Neelsville MS					
New Hampshire Estates ES					
Newport Mill MS		yes			
North Bethesda MS		yes			
North Chevy Chase ES		yes			
Northwest HS					
Northwood HS				summer 07	
Oak View ES					
Oakland Terrace ES		yes			
Oliney ES		yes			
Paint Branch HS					
Pine Crest ES					
Piney Branch ES		yes			

School	Initial Testing Complete	Fixtures needing remediation	Remediation Plan	Repairs in Progress	Post-Remediation Passivation and Testing	Done!*
Poolesville ES		yes				
Poolesville HS						
Potomac ES						
Quince Orchard HS						
Rachel Carson ES						
Radnor Center (Avalon School)						
Redland MS				to be demolished		
Richard Montgomery HS						
Ridgeview MS						
Ritchie Park ES						
Robert Frost MS						
Roberto Clemente MS						
Rockwell		yes				
Rock Creek Forest ES		no				
Rock Creek Valley ES						
Rock Terrace		yes				
Rock View ES						
Rockinghorse Road Center						
Rockville HS	newer school					
Rocky Hill MS	newer school					
Rolling Terrace ES		yes				
Ronald McNair ES		yes				
Rosa M. Parks MS		no				
Roscoe Nix ES		yes				
Rosemary Hills ES		yes				
Rosemont ES		yes				
S. Christie McAuliffe ES		yes				
Sargent Shriver ES	newer school					
Seneca Valley HS	Filters tested and changed every 6 months					
Sequoyah ES		yes				
Seven Locks ES				summer 07		
Shady Grove MS						

School	Initial Testing Complete	Fixtures needing remediation	Remediation Plan	Repairs in Progress	Post-Remediation Passivation and Testing Done!*
Sherwood ES					
Sherwood HS					
Silver Spring International MS					
Sligo Creek ES					
Sligo MS		no			
Somerset ES		yes			
South Lake ES					
Spark M. Matsunaga ES					
Spring Mill Center					
Springbrook HS					
Stedwick ES					
Stephen Knolls School					
Stone Mill ES				summer 07	
Stonegate ES		yes			
Strathmore ES		yes			
Strawberry Knoll ES					
Summitt Hall ES					
Takoma Park ES					
Takoma Park MS					
Thomas Edison HS		yes			
Thomas Pyle MS					
Thomas S. Wootton HS		yes			
Thurgood Marshall ES					
Tilden Center/Parkland MS					
Tilden MS		no			
Travilah ES					
Twinbrook ES		yes			
Viers Mill ES					
Walt Whitman HS					
Walter Johnson HS					
Washington Grove ES					
Waters Landing ES		yes			

School	Initial Testing Complete	Fixtures needing remediation	Remediation Plan	Repairs in Progress	Post-Remediation Passivation and Testing	Done!*
Watkins Mill ES						
Watkins Mill HS						
Wayside ES						
Weller Road ES						
Westbrook ES		yes				
Westland MS		no				
Westover ES		yes				
Wheaton HS						
Wheaton Woods ES						
Whetstone ES		yes				
White Oak MS		yes				
William M. Farquhar MS						
William Tyler Page ES						
Winston Churchill HS						
Wood Acres ES						
Woodfield ES						
Woodlin ES						
Wyngate ES		yes				

