

Wellesley College
Mold Management Program
March 2009

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I. Policy

It is the policy of Wellesley College to maintain a safe and healthy work environment for students, staff, contractors and visitors. In recognition of the potential health problems associated with mold, and in order to protect property from costly damage created by water/moisture damage and unconstrained mold growth, the College is committed to the management procedures set forth in this Plan.

The primary objective of this Plan is to prevent, identify and remediate potential exposure to employees, students, and visitors to mold, mold spores and mycotoxins. This program establishes procedures to prevent conditions that encourage mold growth and to take actions when mold conditions or situations (ie. burst water pipes) occur that can contribute to mold growth. This program will be reviewed on a periodic basis to ensure proper, effective and current procedures are being employed.

II. Objectives

In meeting the policy discussed in this Plan, the College maintains programs to:

- Identify, assess, and periodically monitor for the presence of mold and or water damaged areas
 - Minimize mold/mold spores exposure to students, staff and visitors
 - Manage mold/water damaged and moist conditions in accordance with standard industry practices and professional good judgment
 - Ensure remediation projects are designed & conducted properly
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III. Roles & Responsibilities

The responsibilities defined below are required in order to implement an effective campus asbestos management program.

Environmental Health & Safety Office/Mold Program Coordinator

Implement this program and provide tools for faculty, staff and students to take an active role in their part of the program. EHS will also 1) audit the program on a periodic basis, 2) maintain all related recordkeeping, 3) provide training and documentation, and 4) coordinate indoor air quality complaints related to this program.

Facilities Services

Facilities Services consists of Maintenance, Custodial, and Grounds. Each area has oversight responsibilities to maintain the campus to meet the objectives outlined in this Plan. Additionally, vacant properties are checked regularly during the winter and local low temp alarms are installed in these spaces. Custodial checks all on-campus buildings throughout the year at least once a week. When a power outage occurs, maintenance reviews a list of all sites that may require electrical resets (ie. for sump pumps); custodial

also checks areas after major rain falls. Grounds will check drains and catch basins after significant storms.

Residential Life

Check the building when students leave for summer and winter breaks. Resident Hall Directors will report any unusual conditions, such as water damage or mold growth, to Facilities.

Housing

Will review vacant properties on a periodic basis and will alert the appropriate department if mold/water damage is observed.

Department Managers/Supervisors

Ensure that all applicable personnel under their supervision are appropriately trained and aware of programs associated with this Plan. EHS will be notified when significant water/moisture and or mold contamination exists.

Construction Project Manager’s & Contractors

Communicate with EHS as outlined in this Plan. Project Managers will review the “New Construction Protocols” with contactors and subcontractors.

Campus Police

Check for “red light” alarms on College vacant properties that contain Low Temp Alarms. The Police will alert Facilities if a red light is observed. Maintains a list of temporary vacant facilities and will conduct external visual checks of these spaces.

Faculty & Staff

Report conditions of water/moisture and or mold conditions to their supervisor and or the EHS Office. Follow procedures outlined in this Plan.

Students

Report conditions of water/moisture and or mold conditions to their RH Director and or the EHS Office. Follow procedures outlined in this Plan.

IV. Operational Controls – Standard Operating Procedures (SOPs)

The SOPs outlined will enable the College to meeting the objectives and policy outlined in this Plan.

A. Addressing Issues Found – Who to Contact

Call Maintenance Services Dispatch at x2767 for issues that require immediate attention (ie. active water leak). If after hours, contact Campus Police at x 2121. Otherwise place a service request online at <http://www.wellesley.edu/Facilities/>.

For issues that involve health concerns, call the EHS office at x 3882.

B. Air Monitoring

In some instances, bulk or air sampling may be needed to identify a specific mold for medical evaluation where an individual(s) may exhibit symptoms related to specific mold/fungi exposure. Air sampling may also be needed if mold/fungi contamination is observed in the HVAC system and the extent of possible contamination needs to be determined or if musty odors are reported but no visual evidence can be found. All such instances will be coordinated at the direction of the EHS Office.

C. Identification & Assessment

To maintain a mold free environment, campus buildings and grounds will be inspected on a regular basis. Visual inspection of College properties will be conducted for signs of mold growth or indicators such as wet areas or staining. Building surfaces such as walls, floors and ceilings, will be inspected. Areas prone to mold growth include bathrooms, gymnasiums, laboratories, and dormitories. In addition, the accessible interiors of HVAC systems will also be scheduled for inspections.

Mold inspections will occur:

1. In occupied spaces,
2. In vacant or seasonally occupied buildings,
3. After a confirmed leak/moisture problem is reported,
4. In HVAC systems,
5. During a power outage or immediately after a severe storm that could increase the likelihood of water/moisture infiltration or mold growth,
6. If a complaint is received (either directly to EHS or to the work order center and then to EHS) regarding indoor air quality, musty odors, dampness or other moisture indicating concerns, the area will be inspected to determine if moisture/mold/fungi is an issue. If so, documentation will be completed by the EHS Office, or designee using the EHS Incident Report Form.

For areas with suspect mold/moisture contamination, the use of specialized tools, such as a boroscope, can be useful to check in spaces such as between walls or inside duct work. Especially in those cases where occupants complain of symptoms or moldy/musty odors but no visual signs exist or where water leaks had occurred in areas in the past. For areas with suspected moisture concerns a moisture meter can be used. Guidance on the selection of specialized survey techniques or equipment should be directed to the EHS Office.

D. Mold Prevention

Mold uses various organic substrates as a food source. Much of this organic material is present in common building materials and includes wood, ceiling tile, drywall, and fabrics. These materials provide an abundant nutrient source to support growth. Most

mold/fungi will grow in temperatures that are maintained inside buildings, so the most viable method to limit and prevent growth is to remove the excess moisture.

1. Mold Prevention in New Construction & Renovation

New construction and renovation activities create significant mold/fungi exposure by incorporating contaminated materials into building projects as well as by creating moist feeding grounds for mold through improper construction practices. As such, the College has adopted the following practices to be utilized in campus new construction and renovation projects.

1. Pre-construction site assessment – should be conducted prior to the beginning of any project activity to identify possible sources of water and moisture and during the course of the specific project.
2. Any employee/contractor who observes water infiltration, mold or other fungal growth, must immediately report the situation to the College's Project Manager.
3. The Project Manager shall take immediate steps to investigate the source of the water infiltration and look to eliminate the wet/moist conditions.
4. If the wet/moist conditions cannot be corrected within 12 hours, or if visible mold is present, the Project Manager should contact EHS.
5. The Project Manager must also determine if the material should be removed and replaced, or if it can be dried (leaving no mold/spore residue behind).
6. Care should be taken to the scheduling of deliveries and storage of susceptible materials to ensure contamination potential is minimized.
7. Closely inspect all building materials delivered to the site for pre-existing water damage as well as existing mold growth.
8. New or additional construction should never be placed over, or enclose, wet or mold contaminated building materials.

Contractors and subcontractors performing work will be contractually obligated to adopt these or equally stringent practices to ensure consistent and quality construction and maintenance practices.

2. Prevention in Existing Facilities

Proper maintenance is one of the keys to keeping a mold free environment. Roofs, windows, doorways, ventilation systems, and roof/wall penetrations can often be the culprits. The College must be aware of practices to minimize the potential for mold growth in these areas to include:

- Identify & repair plumbing leaks and leaks into the building structure as soon as possible.
- Look for condensation and wet spots or staining. Repair and or replace items.
- Stop moisture incursion problems by conducting repairs as soon as possible. Mold growth can become substantial in 48 hours.
- Prevent moisture condensation in interior spaces by increasing air circulation or insulation.

- To reduce the relative humidity level, repair leaks, increase the ventilation and intake of fresh air if it is cool and dry outside. In the summer months when it is hot and humid use dehumidification to reduce the relative humidity below 60% to retard mold growth. For occupant comfort a relative humidity between 30% and 60% should be maintained.
- Maintain drip pans in the Heating Ventilation Air Conditioning (HVAC) so water flows properly and unobstructed.
- Perform scheduled inspections and maintenance of HVAC systems including filter changes and keep fresh air intakes clear of organic debris.
- Ensure spaces such as attics, basements and crawl spaces are properly ventilated and no water is entering from the outdoors.
- Address any roof leaks; chronic leaking of flat roofs allows water to reach insulation and mold/fungi growth can occur between the roof membranes and decking unobserved.
- Vent moisture generating appliances and equipment, such as clothes dryers or autoclaves to the outdoors.
- Proper ventilation of kitchens (cooking areas) and bathrooms especially those with showers to the outdoors. All should follow applicable building codes.
- Clean and dry wet or damp spots as soon as possible, but no more than 24 hours.
- Provide adequate drainage around buildings and direct run off away from the structure.
- Maintain proper ventilation in buildings during periods of close downs such as summer and winter breaks when the facility may not be used or occupied.

E. Personal Protective Equipment

Prior to the initiation of a mold remediation conducted by Wellesley College personnel, the following PPE should be available and used as appropriate to protect the health of the employee.

- N95 respirator
- Shoe covers
- Tyvek Suits
- Gloves
- Safety Glasses

Other equipment may be needed. Check 'Resources' section.

Employees must be enlisted in the Wellesley College Respiratory Protection Program to wear a respirator. Contact EHS for further information.

F. Remediation

The goal of remediation is to remove or clean contaminated materials using methods that prevent further contamination and/or exposure to people.

Simply killing mold is not always sufficient since the proteins and chemicals that may affect individuals can remain.

The use of chemicals or biocides in the abatement procedure must be done with extreme caution. Some biocides are not applicable to indoor use and the mixing of chemicals can cause the production of toxic gasses. The College has adopted the *Guidelines for Remediating Building Materials with Mold Growth*. See Appendix III for remedial procedures.

G. Response to Water Damage

Since water damage is the leading cause of mold contamination on campus properties, the College has implemented water damage response guidelines to protect health, buildings and property.

All significant water damage will be reported to the EHS Office and responsible supervisor(s)/manager(s) for response coordination.

These guidelines are for intrusion of “clean” water only. If the source of water contains chemical or biological contaminants, such as sewage, an outside contractor specializing in handling these materials will be retained to remediate the conditions.

Books and Papers

- For non-valuable items, discard books and papers.
- Photocopy valuable/important items, discard originals.
- Freeze (in frost-free freezer or meat locker) or freeze-dry.

Carpet and Backing – dry within 24-48 hours

- Remove water with water extraction vacuum.
- Reduce ambient humidity levels with dehumidifier.
- Accelerate drying process with fans.

Ceiling Tiles, Cellulose & Fiberglass Insulation

- Discard and replace.

Concrete or Cinder Block Surfaces

- Remove water with water extraction vacuum.
- Accelerate drying process with dehumidifiers, fans, and/or heaters.

Hard surface, porous flooring (Linoleum, ceramic tile, vinyl)

- Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if needed.
- Check to make sure underflooring is dry; dry the flooring if necessary.

Non-porous, hard surfaces (Plastics, metals)

- Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if needed.

Upholstered furniture

- Remove water with water extraction vacuum.
- Accelerate drying process with dehumidifiers, fans, and/or heaters.
- May be difficult to completely dry within 48 hours. If the piece is valuable, you may wish to consult a restoration/water damage professional who specializes in furniture.

Wallboard (Drywall and gypsum board)

- May be dried in place if there is no obvious swelling and the seams are intact. If not, remove, discard, and replace.
- Ventilate the wall cavity, if possible.

Window drapes

- Follow laundering or cleaning instructions recommended by the manufacturer.

Wood surfaces

- Remove moisture immediately and use dehumidifiers, gentle heat, and fans for drying. (Use caution when applying heat to hardwood floors.)
- Treated or finished wood surfaces may be cleaned with mild detergent and clean water and allowed to dry.
- Wet paneling should be pried away from wall for drying.

*Even if materials are dried within 48 hours, mold growth may have occurred. Items may be tested by professionals if there is doubt. Note that mold growth will not always occur after 48 hours; this is only a guideline.

† If a particular item(s) has high monetary or sentimental value, you may wish to consult a restoration/water damage specialist.

§ The subfloor under the carpet or other flooring material must also be cleaned and dried. See the appropriate section of this table for recommended actions depending on the composition of the subfloor.

V. Communication

Policies and Procedures	EHS will inform managers of policies, procedures and guidelines via email and/or information will be posted on the EHS website. Managers are then responsible to inform employees.
Campus Community	Report significant mold growth conditions to the EHS Office
Air Monitoring	EHS will coordinate and provide results to involved individuals as requested
Remedial Specialists	EHS and or Facilities will coordinate
Insurance Agents	Risk Management will coordinate contact with insurance companies as needed
Water/Moisture Issues	Conditions should be reported by Facilities at x 2767
Contractor/Subs	Project Managers in Facilities & Planning will inform contractors and their subs of this Plan and the procedures they must follow

Contacts:

EHS Office: x3882

Physical Plant Work Order: x2767

VI. Training

Mold Awareness

Who Should Be Trained:

All applicable employees should receive annual training. This includes maintenance services and custodial services employees.

How Often:

Training will be provided on a periodic basis.

Who Will Provide the Training:

The EHS Office will coordinate trainings with Facility Managers.

New Employees

Employees who are hired and have “missed” the training should inform their supervisor who can provide an initial training. All materials for training are available in the EHS Office.

Topics to be Covered Include:

- Elements of this Plan
 - What is and how to recognize mold
 - Issues associated with mold
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VII. Recordkeeping:

Mold Mgmt Plan	Distributed by EHS Office who will maintain Plan
Training Records	Maintained by EHS
Medical	Abbreviated documents may be kept by EHS and or HR. Confidential records will be kept by the occupational medicine group currently used by the College.
Bulk, Air, Wipe Samples	Maintained by EHS
IAQ Complaints	Maintained by EHS

VIII. Response & Preparedness

Notify Physical Plant Work Order Center of any of the following:

- Any leaks
- Wet/Moist situations
- Ceiling tiles that need to be replaced due to water stains

Notify EHS immediately of any of the following:

- Indoor air quality issues related to wet/moist/mold issues
 - Instance of significant water/moisture infiltration, visible mold or suspect mold
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IX. Audits

On-site reviews of new building constructions projects will be conducted by the project managers to ensure compliance with this Plan. EHS will also conduct on-site spot reviews to ensure compliance.

Visual inspections of College properties will also be conducted as outlined in Section IV.B. – Identification and Assessment.

X. Administrative Review

This plan will be reviewed on an annual basis to ensure it is kept up to date and in accordance with College policy, industry practices, and applicable standards.

XI. Resources

Presently, in 2007, there are no federal or state regulations regarding the management or exposure to mold/fungi. The following guidelines and recommendations can be used to address mold and moist/water damaged areas to buildings on campus.

- IICRS s520, Standard for Professional Mold Remediation (Institute of Inspection, Cleaning and Restoration)
- EPA guidance document, Mold Remediation in Schools and Buildings
- N.Y.C. Dept. of Health and Mental Hygiene Bureau of Environmental & Occupational Disease Epidemiology, Guidelines on Assessment and Remediation of Mold in Indoor Environments
- American Conference of Governmental Industrial Hygienists, Bioaerosols: Assessment and Control
- OSHA Safety and Health Topics Web Page
<http://www.osha.gov/SLTC/molds/index.html>
- CDC Mold Website <http://www.cdc.gov/mold/faqs.htm>