

**FOCUSED INDOOR AIR QUALITY ASSESSMENT REPORT**

MOUNT PROSPECT SCHOOL DISTRICT 57  
LINCOLN MIDDLE SCHOOL  
700 WEST LINCOLN STREET  
MOUNT PROSPECT, ILLINOIS  
IES NO. 985-01



**INTEGRITY**  
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September 6, 2018

C-12556

Mr. Adam Parisi  
Assistant Superintendent for Finance and Operations/CSBO  
School Treasurer  
Mount Prospect School District 57  
701 West Gregory Street  
Mount Prospect, Illinois 60056

Dear Mr. Parisi:

Focused Indoor Air Quality Assessment  
Mount Prospect School District 57  
Lincoln Middle School  
700 West Lincoln Street  
Mount Prospect, Illinois  
IES No. 985-01

Integrity Environmental Services, Inc. has completed this Focused Indoor Air Quality Assessment Report for the above referenced District facility. One (1) original and one (1) copy of the Report have been provided.

This Report has been prepared based on observations made and sample data collected during our August 23, 2018 investigation.

Opinions made or formed, other than those expressed herein are those of the reader and in no way shall obligate Integrity Environmental Services, Inc. The findings presented in this Report are representative of the date and times that the samples were collected. The findings presented herein should not be used or relied upon to evaluate the air quality measurements obtained at significantly later dates.

If you have any questions, please feel free to contact our office at (630) 718-9133.

INTEGRITY ENVIRONMENTAL SERVICES, INC.

Guy S. Tawzer  
Vice President, Air Quality Division

GST/ks

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**SECTION 1**

## EXECUTIVE SUMMARY

FOCUSED INDOOR AIR QUALITY ASSESSMENT REPORT  
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LINCOLN MIDDLE SCHOOL  
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### **A. INTRODUCTION:**

The following paragraphs provide a narrative description of an air quality investigation conducted for Mount Prospect School District 57 at the above referenced facility.

At the request of the School District, Integrity Environmental Services, Inc. (IES) was present at Lincoln Middle School on Thursday, August 23, 2018 to conduct an indoor air quality assessment of various representative areas throughout the school building. The inspection was conducted due to concerns raised by parents and school faculty members.

As part of our investigation, air samples were collected within representative areas including classrooms, the main office, the cafeteria, the faculty lounge, and the LRC. A visual inspection of each subject room was also conducted. During this inspection, the IES representative noted the condition within each space. IES conducted the site inspection and air sampling procedures under normal building conditions. Sample collection of bioaerosols was conducted during the afternoon, immediately following student dismissal. While most students had already left the building, many members of the faculty and staff were still present. The weather at the time of the sampling event was sunny, breezy and warm. While most doors and windows were closed, the HVAC system was operating at the time of this investigation.

### **B. INSPECTION SUMMARY:**

Prior to the sample collection process, a discussion with Mount Prospect School District 57 Assistant Superintendent, Mr. Adam Parisi, revealed that while no visual evidence of mold growth or significant water intrusion has been observed, air quality concerns have been raised by staff members both recently and in the past.

During this investigation, the IES representative noted that throughout the building, finish materials include floor tile, concrete block walls, some drywall, and lay-in ceiling tiles. Carpeting covers the floors in the Main Office area and in the LRC. The maintenance area located in the basement of the building (adjacent to the cafeteria) exhibits a concrete floor. In all of the classrooms, faculty lounge and in the cafeteria, air is conditioned by unit ventilators located in each room, along the perimeter wall. The Gymnasium, Main Office area and the LRC condition the air by means of roof top mounted forced air systems. The forced air systems and most unit ventilators were in operation at the time of this investigation.

With one (1) exception, the visual survey within each area did not uncover any current water intrusion activity. However, dried water stains were present on ceiling tiles within Room 307. Floor tiles that appear to have been impacted by water were also present within the room.

### C. SAMPLING STRATEGY:

The sampling protocols for this project were developed in conjunction with existing guidelines and recommendations presented by the American Conference of Governmental Industrial Hygienists (ACGIH), the American Industrial Hygiene Association (AIHA), and Environmental Microbiology Laboratories, Inc., a nationally recognized, AIHA proficiency-tested laboratory specializing in microbial testing. In conjunction with our Air Quality Division, guidelines suggested by the Indoor Air Quality Association (IAQA) and Mycotech Biological, Inc. (MBI) were utilized in helping determine and interpret sample data.

It should be noted that there are no current regulatory requirements governing the testing strategies and interpretation of sample data at this time. Our sampling strategy has included the incorporation of current guidelines and recommendations, as well as state-of-the-art methodologies to help define the levels of mold and related airborne bioaerosols within the subject areas of Lincoln Middle School. IES collected representative samples within each sample location.

At each area air sample location, the IES representative collected a sample for mold spores using a particulate sampling cassette known as an "Air-O-Cell" Bioaerosol cassette. The duration of each of the mold spore air samples was five (5) minutes at each sample location. A separate area sample was collected for mold spores outside the school building as a baseline or background sample.

Microvac carpet dust samples were collected from the carpeting in the Main Office area and in the LRC. Each sample was collected using a high-volume vacuum pump attached to a 0.8 $\mu$ m MCE dust cassette by means of flexible vinyl tubing. Each dust cassette was labeled with its own unique, corresponding sample number.

Prior to sampling, a 100 square centimeter (cm<sup>2</sup>) template was placed on the carpet. The high-volume air sample pump was calibrated to at least 20 liters per minute (LPM) and the area of carpet within the template was vacuumed to collect carpet dust in an attempt to collect any mold spores that have possibly collected within the carpet.

Following collection, each air sample cassette, and each carpet dust microvac sample cassette was properly sealed, contained, and issued a separate and unique sample number. Each sample number and corresponding sample location was recorded on the laboratory's chain of custody form, prior to submittal to the laboratory for analysis. Each of the air samples and each of the microvac carpet dust samples collected were analyzed for the presence, type, and quantity of fungal spores.

Following collection, all samples were sent to STAT Analysis Corporation, located in Chicago, Illinois for analysis. The IES representative collected a total of thirteen (13) area air samples and five (5) microvac carpet dust samples for mold spores (including the required QA/QC blanks). All sample locations are illustrated in Section 2, Exhibit A of this report.

**D. LABORATORY ANALYSIS SUMMARY:****AIRBORNE MOLD SPORES –**

Mold spores were detected on every area air sample collected during this assessment. Results of the sample analysis for mold spore concentrations show that a total of six (6) types of mold spores were detected on the air samples collected inside of the school building. All six (6) types of mold spores found inside of the building were also found on the air sample collected outside of the school building. Eight (8) additional types of mold spores were also found exclusively on the air sample collected on the outside of the school building.

Area air sample laboratory results for mold spores show that Ascospores, Aspergillus/Penicillium-type spores, Basidiospores, spores from the genera *Cercospora*, *sp.*, and *Cladosporium* *sp.*, and spores from a group including Smuts and spores from the genus *Myxomycetes* *sp.*, were found both inside and outside of the building. Rusts and spores from the genera *Alternaria* *sp.*, *Chaetomium* *sp.*, *Curvularia* *sp.*, *Epicoccum* *sp.*, *Nigrospora* *sp.*, *Periconia* *sp.*, and *Pithomyces* *sp.* were found

All of the interior airborne concentrations of fungal spores found both inside and outside of the school building were reported to be less than their corresponding exterior concentrations. All total interior air concentrations were well below the MBI total spore concentration guideline of 2,000 spores per cubic meter of air (spores/m<sup>3</sup>), and all individual interior airborne spore concentrations were below the MBI individual spore guideline of 650 spores/m<sup>3</sup>.

**MICROVAC CARPET DUST MOLD SPORES –**

Types of mold spores found on the microvac carpet dust sample collected in the Main Office include Ascospores, Aspergillus/Penicillium-type spores, and spores from a group including Smuts and spores from the genus *Myxomycetes* *sp.* Types of mold spores found on the microvac carpet dust sample collected in the hallway of the Main Office include spores from the genera *Cladosporium* *sp.* and *Pithomyces* *sp.* Types of mold spores found on the microvac carpet dust sample collected on the west side of the LRC, near the check-out desk include Ascospores and spores from the genus *Epicoccum* *sp.* Types of mold spores found on the microvac carpet dust sample collected in the LRC pit area include Ascospores. Concentrations of spores identified on the microvac carpet dust samples were all reported as being "low". All types of mold spores found on the microvac carpet dust samples were also identified on the airborne mold spore sample collected outside of the school building.

Refer to Section 2, Exhibit A for a drawing of all sample locations. Refer to Section 2, Exhibit B for Laboratory Analytical Results. Refer to Section 3, Definitions, for additional information regarding the types of mold fungi and spores mentioned above.

**E. CONCLUSIONS:**

Based on our inspection, sample collection work, and laboratory analysis, Integrity Environmental Services, Inc. has made the following conclusion:

- Visible mold was not identified during this investigation. Evidence of a past water intrusion event was however observed on both ceiling tiles and floor tiles within Room 307.

- All interior concentrations of collected airborne mold spores were reported to be less than their corresponding exterior concentrations. The interior presence of these mold spores is likely due to open doors and/or windows, or being brought in on clothing or items carried into the building from the exterior. Depending upon its condition, a unit ventilator and/or a forced air HVAC system can also sometimes provide an avenue for mold spores and other particulates to enter into a building.
- All interior area airborne mold spore sample concentrations were below both the MBI total spore concentration guideline of 2,000 spores/m<sup>3</sup> and the MBI individual spore concentration guideline of 650 spores/m<sup>3</sup>.
- Exterior concentrations of these mold spores are considered to be at moderate levels for the general population, which is not uncommon in the late summer and early fall as moisture levels begin to elevate. Persons who are sensitive and/or allergic to molds may experience some discomfort when exterior mold spore concentrations rise.
- Results of the microvac carpet dust samples shows only low concentrations of mold spores to be present on the samples collected within the subject sample areas. As the types of mold spores found on the carpet dust samples were also identified on the exterior airborne mold sample, it is very likely that the mold spores found on the carpet dust samples entered the building through open doors or windows, or was brought in on shoes, clothing or items carried into the building from the exterior.
- Visual observations along with air sampling and carpet dust sampling results do not currently support the presence of an internal source of mold within the school building.

#### **F. RECOMMENDATIONS:**

While laboratory results do not indicate any immediate airborne microbial air quality concern, IES recommends that the following actions be taken in an effort to minimize or eliminate any microbial presence within the Lincoln Middle School Building:

1. Continue to be pro-active with the investigation and elimination (if necessary) of any air quality concerns or reported suspect mold-like material.
2. While visible mold growth was not observed in areas investigated and sampled during this investigation, any surfaces found to be water damaged or showing visible mold growth should be addressed by cleaning and disinfecting as soon as possible. Materials such as gypsum (i.e. drywall) and ceiling tiles should be removed and replaced immediately. Minimal disturbance of the contaminated surface during any cleaning or disinfecting and/or removal work is necessary to prevent introduction of additional microorganisms into the air.
3. All carpeting within the school building should continue to be routinely vacuumed and cleaned. The use of HEPA vacuums and the periodic use of anti-microbial shampoo is recommended.



**SECTION 2**

4. Continue to routinely clean and/or replace all HVAC filters as necessary to help maintain the levels of potential microbial and other airborne contaminants entering the building at a minimum. Make sure that the installed filters are intact and that they fit properly within the intended HVAC unit. Continued upkeep and routine maintenance of all HVAC systems is essential in maintaining a minimal microbial presence