

**THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA**

**ENVIRONMENTAL HEALTH & SAFETY DEPARTMENT**

**TELEPHONE (754) 321-4200**

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August 13, 2015 **Signature on File**

TO: Deborah Owens, Principal  
**Stranahan High**

FROM: Robert Krickovich, Coordinator, LEA  
Environmental Health & Safety Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

<u>For Custodial Supervisor Use Only</u>	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed
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On August 4, 2015, I conducted an assessment at Stranahan High School with Air Quest Environmental. The IAQ assessment did identify one or more existing conditions impacting IAQ and has generated appropriate work orders to correct deficiencies in systems and maintenance that could contribute to decreased indoor air quality. Below are the finding and recommendation for remediation, or corrective actions needed in each of the rooms assessed. Also attached is the letter from Air Quest Environmental summarizing their observations.

*Please ensure that your Head Facilities Serviceperson receives a copy of this correspondence so that the recommendations requiring their attention can be addressed. In an attempt to separate IAQ issues from general maintenance items, the attached assessment may contain direction for site based staff to generate a work order through COMPASS. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all site based custodial issues have been appropriately addressed.*

**Humidity in buildings still elevated**

- Building One** - FISH 003 - 71.7%, FISH 101 - 62%, FISH 152A - 63.8%, FISH C004A - 64.1%
- Building Six** - FISH C010 - 59.5%
- Building Twenty One** - FISH 531 - 73.5%.

**Building One**

- Carpet rippled / stained/ damp in rooms 101, 101F, 101G, 104, 104A, & 108.
- FISH 152** - Blistered peeling paint under windows, carpet rippled, stained. Temperature 72.6 - Relative Humidity 57.2%.
- FISH 152A** - Blistered peeling paint under windows, very warm in room, little to no air flow. Temperature 73.8 - Relative Humidity 63.8%.
- FISH 152B** - Blistered peeling paint most of room, very warm in room, little to no air flow. Temperature 75.4 - Relative Humidity 61.8%.
- FISH C001B** - Blistered peeling paint bottom of ramp (backs up to Vault 111A)
- FISH 111A** - Walls dirty / needs paint, dehumidifier removed and never replaced.
- FISH 166** - Blistered, peeling paint on walls (room in C003)
- FISH 167** - Blistered, peeling paint on walls (room in C003)
- FISH C002** - Minor microbial growth on walls
- FISH C003** - Microbial growth on trophies in trophy case

**Building Six**

- FISH 234** - Microbial growth on walls and pipe insulation in Mechanical room.
- FISH C010** - Water stained ceiling tiles in corridor, wood doors in corridor have microbial growth.

## **Building Twenty One**

**FISH 531** - 3 Stained ceiling tiles - one with microbial growth - Temperature 70.8 - Relative Humidity 73.5%.

**PPO To** - Replace carpet in rooms 101, 101F, 101G, 104, 104A, 108 & 152. Repair / clean and paint walls in rooms 152, 152A, 152B, C001B, C002, 111A, 166, & 167. Repair cause of stained ceiling tiles in room 531, and corridor 010. Install dehumidifier in 111A. Repair HVAC to reduce Humidity in all buildings. Correct air flow problem in 152A & 152B. Replace pipe insulation in mechanical room 234. Sand and paint classroom doors in corridor 010.

**School based Staff To** - Clean trophies, remove from trophy case and store out of the lobby area until HVAC is repaired. Clean photo and wall around photo in C001, and remove plastic covering from display board.

See attached letter from Air Quest Environmental.

cc: Shelley Meloni, Director, Pre-Construction  
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division  
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division  
Aston Henry, Director, Risk Management  
Broward Teachers Union  
Federation of Public Employees

RK/jj

August 6, 2015

Mr. Robert Krickovich, CIEC  
Coordinator, LEA  
Environmental Health & Safety Department  
Broward County Public Schools  
4200 Northwest 10<sup>th</sup> Avenue  
Oakland Park, FL 33309

Re: Indoor Air Quality Consulting  
Stranahan High School  
1800 Southwest 5<sup>th</sup> Place  
Fort Lauderdale, Florida 33312  
AirQuest Project Number: 9787

Dear Mr. Krickovich:

AirQuest Environmental, Inc. (“AirQuest”) is pleased to provide you with this letter summarizing the results of the limited site inspection addressing indoor air quality concerns at Stranahan High School located at 1800 Southwest 5<sup>th</sup> Place, Fort Lauderdale, Florida 33312 (“the site”).

#### Site Inspection

On August 4, 2015, AirQuest Senior Project Manager, Traci-Anne Boyle a Certified Industrial Hygienist and Florida Licensed Mold Assessor, performed a walk through of select areas of the site to evaluate current conditions and proposed remedial actions. Access to the site was provided by School Board of Broward County (SBBC) representatives Mr. Krickovich, Mr. McClure of maintenance, and administrative staff at the site.

General building observations were recorded during the site walkthrough. Observations of the conditions of building materials were recorded as well as possible moisture sources. The scope of the inspection was limited to a visual evaluation in areas identified by SBBC representatives. Additionally, the results of an inspection conducted by Mr. Krickovich on July 20, 2015 were provided to Ms. Boyle for review.

#### Results

The site was largely un-occupied at the time of the site inspection since school was not in session. Furnishings prevented observation of walls and floors in some areas. Areas of visible mold, water damage were observed. Relative humidity readings were obtained from Mr. Krickovich throughout the walk through. The results are summarized below.

#### Building 1:

- Mold was observed on the trophies within the trophy case in Corridor 003.
- Mold and peeling paint were observed on the walls in FISH 166.
- Mold was observed on the concrete wall in Corridor 001B.

- Rust and water damage were observed at the base of the vault door in FISH 111A. There is no air conditioning in this room and the door is kept closed. Reportedly a dehumidification unit was formerly located in the room, but it was not present at the time of the site inspection.
- Visible mold was observed around a photo in Corridor 001. Additionally a display backed with plastic was present in the corridor.
- A rusted refrigerator with mold on the exterior was present in FISH 141. The carpeting was stained and in poor condition.
- Mold was observed on the wall below the soffit in the stairwell in Corridor 001A.
- Stained carpeting in poor condition was observed in FISH 152. Water damage and peeling paint were observed around the windows and a stained ceiling tile was observed.
- Water damage and peeling paint were observed in FISH 152A and 152B. The air was not conditioned in these rooms although supply vents were present.
- Relative humidity readings were recorded between 55-63%.

#### Building 2:

- Cloth chairs in FISH 531 had mold growth. Two (2) ceiling tile had water damage.
- Relative humidity readings were recorded between 68-72.5%.

#### Building 6:

- Visible mold was observed on the walls in FISH 234.
- Water damaged acoustical ceiling tile were observed in Corridor 010. Wood doors in the corridor had visible mold growth.

### Conclusions and Recommendations

The results of the site inspection indicated numerous locations of visible mold growth consistent with elevated relative humidity as the cause. Elevated relative humidity was confirmed throughout the areas inspected. Until the relative humidity is maintained below 60% (preferably below 50%), mold growth will continue to occur. The air conditioning system should be repaired or replaced as soon as possible. In the interim, mitigation efforts may be aided by running the air conditioner continuously (throughout the evenings and weekends).

The air conditioning system was not supplying air to FISH 152A and 152B. The supply lines should be inspected to determine if the vents are closed or blocked and fixed to allow conditioned air into the rooms. There was no conditioned air supply for FISH 111A. At a minimum, dehumidification in this room is recommended until supplied air can be provided.

Localized areas of water damaged ceiling tiles were observed that are consistent with roof leaks. The roof should be repaired by a licensed roofing contractor. The ceiling tiles should be replaced.

Until the repairs are completed to the air conditioning and roofing systems, continual remediation of impacted items and building materials will be required in accordance with the remediation guidelines below. Additionally, the school should be thoroughly cleaned with careful attention to dust accumulation on walls and furnishings as well as dirt and grime on floors and base boards in an effort to reduce suitable food sources for microbial growth.

## Remediation Guidelines

There are several guidance documents published by respected organizations to address the proper assessment and remediation of mold impacted materials, including:

- American Conference of Governmental Industrial Hygienists, *Bioaerosols Assessment and Control*, 1999.
- American Industrial Hygiene Association, *Assessment, Remediation, and Post-Remediation Verification of Mold in Buildings*, AIHA Guideline 3-2004.
- Institute of Inspection Cleaning and Restoration Certification, *IICRC S520 Standard and Reference Guide for Mold Remediation, Second Edition* 2008.
- New York City, Department of Health, Bureau of Environmental & Occupational Disease Epidemiology, *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*, 2008.
- United States Environmental Protection Agency, *Mold Remediation in Commercial Buildings and Schools*, 2001.

In accordance with the above referenced documents, AirQuest recommends:

- Remove plastic backing to the display in Corridor 001. The plastic will trap the moisture and result in mold growth.
- Porous materials (e.g. chairs in FISH 531 and carpeting in FISH 141 and 152) should be discarded. The carpeting should be replaced with vinyl floor tile or other suitable non-porous flooring.
- Mold growth on non-porous materials (e.g. concrete walls) should be cleaned, repaired and monitored for recurring growth.
- Mold growth on wooden doors should be sanded to clean wood and repainted.

## Limitations

The information presented in this report represents conditions observed at the time of the inspection. Microbial growth can appear within 24-48 hours of a water intrusion event (including high humidity).

If you have any questions or comments concerning the above, please don't hesitate to contact us at (954) 792-4549.

Sincerely,  
AirQuest Environmental, Inc.



Traci-Anne Boyle, CIH, CSP  
Senior Project Manager