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September 28, 2005

**Signature on File**

TO: Ms. Bettye Brown, Principal  
**Margate Middle School**

FROM: Robert J. Krickovich, Coordinator, LEA  
Facilities and Construction Management, Environmental Division

SUBJECT: Indoor Air Quality (IAQ) Assessment  
FISH 202 and 202A

On September 2, 2005 the IAQ Assessment Team conducted an assessment of FISH 202 and 202A at **Margate Middle School**. The evaluation consisted of a walkthrough of the identified areas to assess the current condition of the location with regard to indoor air quality. This assessment included observations of the carpet, floor tile, ceiling tile, interior walls, false ceiling plenum, and accessible ventilation equipment.

Attached are the findings of this assessment along with recommendations for further assessment, remediation, or corrective actions, if needed.

Generally, the IAQ Assessment did not identify any existing conditions significantly impacting IAQ and thereby presenting immediate health and safety concerns to building occupants. However, due to individual sensitivities and predisposing health factors, it is possible that some building occupants may elicit a health response to agents and / or conditions identified during the evaluation. Therefore, to further improve IAQ, prevent development of future IAQ-related problems, and to reduce the potential for IAQ-related complaints by building occupants, the IAQ Assessment Team recommends appropriate follow up of each item identified and listed in the attached evaluation.

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact me at 754-321-1638.

cc: Dr. Joanne Harrison, Area Superintendent  
Sharon Airaghi, Area Director  
Jeffrey S. Moquin, Director, Risk Management  
Philip Kaufold, Project Manager II, Facilities and Construction Management  
Ruby Fitzgerald, Broward Teachers Union  
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1  
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

RK/tc  
Enc.

# IAQ Assessment

Location Number 0581  
 Evaluation Requested September 2, 2005  
 Evaluation Date September 2, 2005

Margate Middle School

Time of Day 1:00 pm

Outdoor Conditions      Temperature 85.6      Relative Humidity 68.2      Ambient CO2 496

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">202</span>	<span style="border: 1px solid black; padding: 2px;">78.3</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">87.2</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">447</span>	<span style="border: 1px solid black; padding: 2px;">Max 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">4</span>
Noticeable Odor	<span style="border: 1px solid black; padding: 2px;">No</span>		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	<span style="border: 1px solid black; padding: 2px;">Drywall</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">On HVAC duct soffit</span>		
Wall Type	<span style="border: 1px solid black; padding: 2px;">Plaster</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Various</span>		
Flooring	<span style="border: 1px solid black; padding: 2px;">Terrazzo</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Various</span>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
Walls	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Clean as appropriate</span>
Flooring	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Clean and sanitize</span>
HVAC Supply Grills	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Clean with Wexcide disinfectant</span>
HVAC Return Grills	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;">Through door to 202F</span>
Ceiling at Supply Grills	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
Surfaces in Room	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Clean as appropriate</span>

**Observations**

**Findings:**

- HVAC soffit is water damaged
- Exterior wall of 202F is severely water damaged (20-50% moisture content)
- Temperature and humidity level elevated and building is in negative pressure
- Exterior door weather seals are bad/missing
- Visible microbial growth on soffit near clock
- Dust and debris on walls
- Dust and debris on floor
- Dust and debris on HVAC supply grills
- Dust and debris on environmental surfaces throughout the room

**Recommendations:**

**Site Based Maintenance:**

- Clean soffit with Wexcide disinfectant to remove microbial growth
- Clean entire room from floor to ceiling - stains on floor, base and walls
- Clean HVAC supply grills with Wexcide disinfectant solution
- Clean environmental surfaces throughout the room
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

**Physical Plant Operations Division:**

- Evaluate and repair or reinsulate HVAC ductwork in soffit to stop condensation
- Evaluate and repair HVAC system to lower temperature and humidity level (building in negative pressure)
- Replace weather strip on exterior doors
- Repaint room as necessary
- Evaluate and repair cause of water damage to exterior wall of FISH 202F and replace wallboard

# IAQ Assessment

Location Number   
 Evaluation Requested   
 Evaluation Date

Margate Middle School

Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="202A"/>	<input type="text" value="80.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="79.8"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="483"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="2"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="No"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text" value="2 ceiling tiles"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text" value="2 ceiling tiles"/>	
Wall Type	<input type="text" value="Plaster"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text" value="Various"/>	
Flooring	<input type="text" value="Terrazzo"/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text" value="None"/>	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean and sanitize"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="Through door to 202"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

**Observations**

**Findings:**

- 2 stained ceiling tiles
- Temperature and humidity level elevated and building is in negative pressure
- Dust and debris on walls and stains and streaks on wall base (appears to be dirty mop marks) FISH 202A and 202B
- Dust and debris on floor

**Recommendations:**

**Site Based Maintenance:**

- Replace stained ceiling tiles
- Thoroughly clean floor and walls (stains and streaks on wall base) FISH 202A and 202B
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

**Physical Plant Operations Division:**

- Evaluate and repair HVAC system to lower temperature and humidity level (building in negative pressure)
- Replace weather strip on exterior doors