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October 24, 2006

**Signature on File**

TO: Ms. Ellen Etling, Principal  
**Bair Middle School**

FROM: Aston A. Henry, Jr., Supervisor  
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment  
**FISH 193, 193A, 206 and 207**

On October 4, 2006 Kenneth Partee conducted an assessment FISH 193, 193A, 206 and 207 at **Bair Middle School**. This evaluation included observations of the flooring system, ceiling tiles, false ceiling plenum, environmental surfaces, interior and exterior walls, and the accessible ventilation equipment. The detailed findings, along with the recommended corrective action can be found on the attached IAQ Assessment Worksheets.

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. At the time of the assessment, these concerns were not an immediate health or safety concern 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 754-321-3200.

cc: Dr. Harry LaCava, Area Superintendent  
Fran Bolden, Area Director  
Jeffrey S. Moquin, Director, Risk Management  
Charles Ricks, Project Manager, Facilities and Construction Management  
Gary Itzkowitz, Broward Teachers Union  
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1  
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division  
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

AAH/tc  
Enc.

# IAQ Assessment

Location Number 2611  
 Evaluation Requested October 3, 2006  
 Evaluation Date October 4, 2006

Bair Middle School

Time of Day 7:48 a.m.

Outdoor Conditions      Temperature 83.8      Relative Humidity 50.5      Ambient CO2 515

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">193 &amp; 193A</span>	<span style="border: 1px solid black; padding: 2px;">72.5</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">55.3</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">565</span>	<span style="border: 1px solid black; padding: 2px;">Max 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">2</span>
<b>Noticeable Odor</b>	<span style="border: 1px solid black; padding: 2px;">No</span>		<b>Visible water damage / staining?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<b>Visible microbial growth?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<b>Amount of material affected</b>
<b>Ceiling Type</b>	<span style="border: 1px solid black; padding: 2px;">2 x 4 Lay In</span>		<b>Visible water damage / staining?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<b>Visible microbial growth?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">None</span>
<b>Wall Type</b>	<span style="border: 1px solid black; padding: 2px;">Plaster</span>		<b>Visible water damage / staining?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<b>Visible microbial growth?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">None</span>
<b>Flooring</b>	<span style="border: 1px solid black; padding: 2px;">Tile</span>		<b>Visible water damage / staining?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<b>Visible microbial growth?</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">None</span>

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
<b>Ceiling</b>	<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>
<b>Walls</b>	<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>
<b>Flooring</b>	<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>
<b>HVAC Supply Grills</b>	<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>
<b>HVAC Return Grills</b>	<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>
<b>Ceiling at Supply Grills</b>	<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>
<b>Surfaces in Room</b>	<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:**

- Dust build up on ceiling tiles
- Dust and debris on HVAC supply and return grills and on ceiling at supply grills
- Dust build up on environmental surfaces.
- Damaged ceiling tile around vent hood
- Dust inside of cabinets
- Old food items in sink
- Damaged ceiling tile around HVAC supply grill in FISH 193A

**Recommendations:**

**Site Based Maintenance:**

- Dust ceiling tiles
- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean environmental surfaces throughout the room.
- Clean inside of cabinets
- Thoroughly clean sink
- Ensure that all food items are stored in airtight containers
- 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:**

- Remove and replace damaged ceiling tiles around vent hood
- Remove and replace damaged ceiling tiles around HVAC supply grill in FISH 193A

# IAQ Assessment

Bair Middle School

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Time of Day 7:48 a.m.

Outdoor Conditions      Temperature 83.8      Relative Humidity 50.5      Ambient CO2 515

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
206	70.6	72 - 78	64	30% - 60%	534	Max 700 > Ambient	1
Noticeable Odor	<span style="border: 1px solid black; padding: 2px;">Yes</span>		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	<span style="border: 1px solid black; padding: 2px;">2 x 4 Lay In</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;">None</span>		
Wall Type	<span style="border: 1px solid black; padding: 2px;">Carpet/Concrete</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;">None</span>		
Flooring	<span style="border: 1px solid black; padding: 2px;">Tile</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;">None</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>	
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;">Remove carpet from walls</span>
Flooring	<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>	
HVAC 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>	
HVAC Return 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>
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>	
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:**

- Dust and debris on HVAC return grills
- Dust build up on environmental surfaces
- Teacher is using Damp Rid to control humidity
- Temperature was low and humidity level was slightly elevated.
- Room was previously used for music and walls are carpeted for soundproofing

**Recommendations:**

**Site Based Maintenance:**

- Clean HVAC return grills with Wexcide disinfectant solution
- Clean environmental surfaces throughout the room.
- Remove Damp Rid
- Adjust thermostat to increase temperature and lower humidity level. Continue to monitor condition and initiate a work order to Physical Plant Operations to evaluate the HVAC system if temperature does not improve.
- 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:**

- Evaluate and remove carpet from all walls if soundproofing is no longer necessary

# IAQ Assessment

Bair Middle School

Location Number   
 Evaluation Requested   
 Evaluation Date

Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="207"/>	<input type="text" value="71.2"/>	<input type="text" value="72 - 78"/>	<input type="text" value="64.9"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="528"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="1"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Wall Type	<input type="text" value="Carpet/Concrete"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="Tile"/>		<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="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Remove carpet from walls"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
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" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
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="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>

**Observations**

**Findings:**

- Dust build up on walls around wood trim
- Dust and debris on HVAC return grills
- Dust build up on environmental surfaces
- Temperature was low and humidity level was slightly elevated.
- Room was previously used for music and walls are carpeted for soundproofing

**Recommendations:**

**Site Based Maintenance:**

- Clean walls around wood trim
- Clean HVAC return grills with Wexcide disinfectant solution
- Clean environmental surfaces throughout the room.
- Adjust thermostat to increase temperature and lower humidity level. Continue to monitor condition and initiate a work order to Physical Plant Operations to evaluate the HVAC system if temperature does not improve.
- 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:**

- Evaluate and remove carpet from all walls if soundproofing is no longer necessary