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August 22, 2006

**Signature on File**

TO: Ms. Fran Renguso, Principal  
**Park Trails Elementary School**

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

SUBJECT: Indoor Air Quality (IAQ) Assessment  
**FISH 109 and 113**

On August 11, 2006 I conducted an assessment of FISH 109 and 113 at **Park Trails Elementary 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. Additionally, environmental parameter measurements were taken to include temperature, relative humidity, and carbon dioxide. 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 754-321-1638.

cc: Dr. Joanne Harrison, Area Superintendent  
Craig Anderson, Area Director  
Jeffrey S. Moquin, Director, Risk Management  
Sam Bays, Project Manager, 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 3781  
 Evaluation Requested August 11, 2006  
 Evaluation Date August 11, 2006

Park Trails Elementary School

Time of Day 1:15 pm

Outdoor Conditions      Temperature 90.4      Relative Humidity 58.5      Ambient CO2 462

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
109	70.5	72 - 78	59	30% - 60%	555	Max 700 > Ambient	4
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Wall Type		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Flooring		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	No	Yes	Yes	Clean as appropriate

**Observations**

**Findings:**

- Minor microbial growth (spotting) on cardboard items on shelving
- Two dehumidifiers in the room. Water on carpet near the dehumidifier by the storage room.
- Dust and debris on HVAC supply grills - storage room and FISH 109
- Temperature was low and humidity level was elevated
- Dust build up on shelving
- Dust build up on inside of HVAC return duct and return grill

**Recommendations:**

**Site Based Maintenance:**

- Remove cardboard items on shelving
- Clean up water on carpet near storage room (by dehumidifier)
- Clean HVAC supply grills (storage room and FISH 109) with Wexcide disinfectant solution
- Thoroughly clean shelving 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:**

- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature and lower humidity level
- Clean inside of HVAC return duct and return grill

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Outdoor Conditions      Temperature 90.4      Relative Humidity 58.5      Ambient CO2 462

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">113</span>	<span style="border: 1px solid black; padding: 2px;">69.3</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">65.5</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">620</span>	<span style="border: 1px solid black; padding: 2px;">Max 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">5</span>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		No		None	
Flooring		No		No		None	

	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;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</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;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Clean with Wexcide disinfectant
HVAC Return 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>	
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>	Clean as appropriate

## Observations

**Findings:**

- Visible microbial growth on wood under sink
- Dust and debris on HVAC supply grills
- Temperature was low and humidity level was elevated
- Dust build up on shelving
- Exhaust fan not functioning properly

**Recommendations:**

**Site Based Maintenance:**

- Clean HVAC supply grills with Wexcide disinfectant solution
- Thoroughly clean shelving 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:**

- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature and lower humidity level
- Check exhaust fan for proper operation and repair as appropriate
- Clean microbial growth from bare wood under sink with HEPA vacuum and Wexcide disinfectant solution. Paint bare wood with anti-microbial coating.