

RISK MANAGEMENT...

managing risk with responsibility

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September 1, 2005

Signature on File

TO: Mr. John Hodge, Principal
Deerfield Beach Elementary School

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

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 107/109 and 114

On August 31, 2005 the IAQ Assessment Team conducted an assessment of FISH 107/109 and 114 at **Deerfield Beach Elementary 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 754-321-3200.

cc: Dr. Joanne Harrison, Area Superintendent
Craig Anderson, Area Director
Jeffrey S. Moquin, Director, Risk Management
Rigo Zubizarreta, Project Manager II, Facilities and Construction Management
LaFrances Trotter, 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

Deerfield Beach Elementary School

Evaluation Requested August 30, 2005

Time of Day 10:00 am

Evaluation Date August 31, 2005

Outdoor Conditions Temperature 90 Relative Humidity 66.9 Ambient CO2 356

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
107/109	80.5	72 - 78	51.1	30% - 60%	1425	Max 700 > Ambient	9
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		Yes	Yes	Several ceiling tiles		
Wall Type	Drywall		No	No	None		
Flooring	Wood		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Replace stained ceiling tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills				N/A
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Visible microbial growth on several ceiling tiles
- Condensation building up on insulated copper pipes in false ceiling plenum and water dripping onto ceiling tiles
- Noticeable odor emanating from the HVAC unit
- Dust and debris on exterior of HVAC unit
- Condensation dripping from HVAC unit
- CO2 level and temperature elevated
- Dust and debris on HVAC supply grills

Recommendations:

Site Based Maintenance:

- Remove damaged ceiling tiles and install new ceiling tiles
- Clean HVAC supply grills with Wexcide disinfectant solution
- 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 insulated pipes in the false ceiling plenum and repair as appropriate in order to prevent leaks and condensation build up
- Evaluate HVAC coils and drain pan and clean as appropriate
- Evaluate and clean exterior of HVAC unit
- Evaluate and repair fresh air damper in order to lower the CO2 level
- Evaluate and repair HVAC unit to lower classroom temperature

IAQ Assessment

Deerfield Beach Elementary School

Evaluation Requested

Time of Day

Evaluation Date

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="114"/>	<input type="text" value="77.4"/>	<input type="text" value="72 - 78"/>	<input type="text" value="56.2"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="2100"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="19"/>
Noticeable Odor		<input type="text" value="Yes"/>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
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="Drywall"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="Wood"/>		<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="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="Repair damaged wood floor"/>
HVAC Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
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="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

Observations

Findings:	<ul style="list-style-type: none"> - Stained ceiling tiles have been replaced with new ceiling tiles - Water leaking from the insulated HVAC pipes onto the cabinet and down to the floor - Visible microbial growth on the cabinet - Wood floor is damaged and rotted on portions of the East wall and next to entrance door - Paint is bubbling on the East wall under the windows - Noticeable odor emanating from the HVAC unit - Dust and debris on exterior of HVAC unit - CO2 level and temperature elevated - Dust and debris on HVAC supply and return grills
Recommendations:	
Site Based Maintenance:	<ul style="list-style-type: none"> - Clean cabinet with Wexcide disinfectant solution - Clean HVAC supply and return grills with Wexcide disinfectant solution - 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:	<ul style="list-style-type: none"> - Evaluate leaking insulated HVAC pipes and repair as appropriate - Evaluate and repair damaged East wall under windows as appropriate - Evaluate and repair damaged wood floors as appropriate - Evaluate and repair exterior wall and reseal windows in order to prevent water intrusion - Evaluate HVAC coils and drain pan and clean as appropriate - Evaluate and clean exterior of HVAC unit - Evaluate and repair fresh air damper in order to lower the CO2 level - Evaluate and repair HVAC unit to lower classroom temperature