

RISK MANAGEMENT...

managing risk with responsibility

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Risk Management Department

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September 22, 2008

Signature on File

TO: Mrs. Roberta Ray, Principal
Norcrest Elementary School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 716, 717, 718, 721, 723 and 905

<u>For Custodial Supervisor Use Only</u>	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed

On September 9, 2008 I conducted an assessment of FISH 716, 717, 718, 721, 723 and 905 at **Norcrest 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.

Please ensure that your Head Facilities Serviceperson receives a copy of this correspondence so that the recommendations requiring their attention can be addressed. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all issues have been appropriately addressed.

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: Sharon Airaghi, Area Superintendent
David Hall, Area Director
Jeffrey S. Moquin, Director, Risk Management
Robert Bellot, Project Manager, Facilities and Construction Management
Lynn Cavall, Broward Teachers Union
Roy Jarrett, Federation of Public Employees
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

ES/tc
Enc.

IAQ Assessment

Location Number 0561
 Evaluation Requested September 8, 2008
 Evaluation Date September 9, 2008

Norcrest Elementary School

Time of Day 2:30 pm

Outdoor Conditions Temperature 88.7 Relative Humidity 75.6 Ambient CO2 364

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
716	77	72 - 78	67	30% - 60%	441	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		Yes		1 ceiling tile	
Ceiling Type	2 x 4 Lay In		Yes	Yes	@ 1 square foot		
Wall Type	Drywall/Plaster		Yes	Yes	None		
Flooring	12 x 12 Vinyl		No	No			

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

Observations

Findings:

- 1 stained ceiling tile
- Bubbling paint on Northeast corner wall
- Dust and debris on HVAC return grill
- Humidity level was elevated
- Teachers are opening windows and doors due to A/C temperature.

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tile
- Wipe down wall with Wexcide disinfectant solution
- Ensure that doors and windows remain closed. Open doors and windows allow humid untreated air into occupied spaces.
- Clean HVAC return grill 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:

- Evaluate cause of stained ceiling tile and bubbling paint on Northeast corner wall and repair as appropriate. Repair/replace wall material as necessary. Possible leak from second floor.
- Evaluate HVAC for proper operation and repair as appropriate to lower humidity level

IAQ Assessment

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Norcrest Elementary School

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Time of Day 2:30 pm

Evaluation Date September 9, 2008

Outdoor Conditions Temperature 88.7 Relative Humidity 75.6 Ambient CO2 364

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
717	74.5	72 - 78	66.3	30% - 60%	435	Max 700 > Ambient	1
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	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
Walls	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
Flooring	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
HVAC Supply Grills	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
HVAC Return Grills	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
Surfaces in Room	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	

Observations

Findings:

- Potted plant in room
- 12 stuffed animals in room
- Dust and debris on HVAC return grill
- Humidity level was elevated

Recommendations:

Site Based Maintenance:

- Remove potted plant from room. Soil is a source of microbial growth
- Advise occupant to thoroughly clean stuffed animals on a regular basis or remove. Stuffed animals are a source of allergens if not cleaned frequently.
- Clean HVAC return grill 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:

- Evaluate HVAC for proper operation and repair as appropriate to lower humidity level

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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
718	75.1	72 - 78	55.5	30% - 60%	408	Max 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		1 ceiling tile	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tile
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:
- 1 stained ceiling tile

Recommendations:

Site Based Maintenance:
- Remove and replace stained ceiling tile
- 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 cause of stained ceiling tile and repair as appropriate

IAQ Assessment

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Norcrest Elementary School

Time of Day 2:30 pm

Outdoor Conditions Temperature 88.7 Relative Humidity 75.6 Ambient CO2 364

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
721	76.6	72 - 78	61	30% - 60%	471	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		1 ceiling tile	
Ceiling Type	2 x 4 Lay In		Yes	No	1 ceiling tile		
Wall Type	Drywall/Plaster		No	No	None		
Flooring	12 x 12 Vinyl		No	No	None		

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

Observations

Findings:
 - No signs of water intrusion or microbial growth

Recommendations:

Site Based Maintenance:
 - Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

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Norcrest Elementary School

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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
723	76.9	72 - 78	65.8	30% - 60%	473	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		5 ceiling tiles	
Wall Type		No		No		None	
Flooring		No		No		None	

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

Observations

Findings:

- 5 stained ceiling tiles
- Dust and debris on HVAC return grill
- Humidity level was elevated

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tiles
- Clean HVAC return grill 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:

- Evaluate cause of stained ceiling tiles and repair as appropriate
- Evaluate HVAC for proper operation and repair as appropriate to lower humidity level

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Norcrest Elementary School

Time of Day 2:30 pm

Outdoor Conditions Temperature 88.7 Relative Humidity 75.6 Ambient CO2 364

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
905	75.7	72 - 78	51.4	30% - 60%	1344	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		Yes		2 ceiling tiles and light grid	
Wall Type		No		No		None	
Flooring		Yes		No		@ 2 square feet	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
Flooring	No	Yes	Yes	Clean and sanitize
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings: Music room

- Musty odor in room. Room is being used to store PE equipment (balls, etc.).
- 2 stained ceiling tiles and light grid in FISH 905 and 1 stained ceiling tile in FISH 905A
- Carpet is stained and soiled
- CO2 level was slightly elevated
- Teachers are opening windows and doors due to A/C temperature.

Recommendations:

Site Based Maintenance:

- Ensure that items being stored in room are cleaned prior to storing to eliminate allergen source
- Remove and replace stained ceiling tiles and wipe light grids
- Thoroughly clean carpet with extraction machine
- 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 cause of stained ceiling tiles and light grid in FISH 905 and stained ceiling tile in FISH 905A and repair as appropriate.
- Evaluate HVAC for proper operation and repair as appropriate to lower CO2 level