

managing risk with responsibility

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September 10, 2007 Signature on File

TO: Ms. Betty Colver,, Principal

Ramblewood Elementary School

FROM: Robert Krickovich, Coordinator, LEA

Facilities and Construction Management

SUBJECT: Indoor Air Quality (IAQ) Assessment

FISH 123, 127, 134, 137, 140, 213 and 215

Custodial Issues Addressed
Custodial Issues Not Addressed
Custodial Issues Not Addressed

On August 8, 2007 I conducted an assessment of FISH 123, 127, 134, 137, 140, 213 and 215 at **Ramblewood 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 754-321-1638.

cc: Dr. Joanne Harrison, Area Superintendent
Jackie Haywood, Area Director
Jeffrey S. Moquin, Director, Risk Management
Philip Kaufold, Project Manager, Facilities and Construction Management
Gary Itzkowitz, Broward Teachers Union
Roy Jarrett, National Federation of Public and Private Employees
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

RK/tc Enc.

Ramblewood Elementary School						ion Requested		
Time of Day	10:00 am				ı	Evaluation Date	August	8, 2007
Outdoor Condit	tions Tem	perature 8	35.7	Relative Humidi	ty 69.3	Ambie	ent CO2	484
Fish T	Temperature	Range Rela	tive Humidity	Range	CO2	Ran	ige #	Occupants
123	72.2 7	2 - 78	55.5	30% - 60%	572	Max 700	> Ambient	1
Noticeable Od	or No		/isible water nage / staining	Visible mid growtl		Amount of ma	terial	
Ceiling Type	2 x 4 Lay	In	No	No]		None	
Wall Type	Tackboar	rd .	No	No]		None	
Flooring	12 x 12 Vir	nyl	No	No			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corre	ctive Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply	Grills Yes	No	No					
HVAC Return (Grills				N/A th	rough light fix	tures	
Ceiling at Supp Grills	oly No	Yes	Yes		Cle	an as appropri	ate	
Surfaces in Ro	oom Yes	No	No					
bservations								
 Environmental Dust build up o Recommendat Site Based Main Clean ceiling a 	<u>ntenance:</u> t HVAC supply g	e acceptable C supply grills grills	of microbial g	rowth as well as d	ust and de	ebris accumulatio	on and clea	n as

2721

	Ramblewood Elementary School	Evaluation Requested
Time of Day 10:00) am	Evaluation Date August 8, 2007
Outdoor Conditions	Temperature 85.7	Relative Humidity 69.3 Ambient CO2 484
Wall Type Flooring 12 Cl Ceiling	90	30% - 60% 620 Max 700 > Ambient 1 Visible microbial affected No None No None No None No None
_	Yes No No	
_	Yes No No	
HVAC Return Grills		N/A through light fixtures
Ceiling at Supply Grills	Yes No No	
Surfaces in Room	Yes No No	
Pindings: - Wall material was dry (- Environmental parame - Recommendations: Site Based Maintenand - Continue to monitor this appropriate	eters were acceptable	growth as well as dust and debris accumulation and clean as

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	Rambl	lewood Elem	entary School			Evaluati	ion Requested		
Time of Day	10:00 am	$\overline{1}$				E	Evaluation Date	August	8, 2007
Outdoor Condit	tions Te	— emperature	85.7	Relative Hu	ımidity	69.3	Ambie	ent CO2	484
	Temperature	Range	Relative Humidity	Range		CO2	Ran	nge #	Occupants
134	71.4	72 - 78	63.1	30% - 60%		534	Max 700	> Ambient	1
Noticeable Odd	or No		Visible water damage / staining		ole micro growth?		Amount of ma affected		
Ceiling Type	2 x 2 La	ay In	Yes		No	ļ	2 c	eiling tiles	
Wall Type	Drywa	all	No		No			None	
Flooring	12 x 12 \	Vinyl	No		No	!		None	
	Clean	Minor Du / Debri	is Cleaning	ı			ctive Action Re	•	
Ceiling	No	Yes	Yes			Remo	ve and replace	tiles	
Walls	Yes	No	No						
Flooring	Yes	No	No						
HVAC Supply (Grills Yes	No	No						
HVAC Return G	3rills					N/A th	rough light fix	tures	
Ceiling at Supp Grills	ply Yes	No	No			Clea	an as appropri	ate	
Surfaces in Ro	oom Yes	No	No						
) Dbservations									
Findings: - Wall material w - Temperature w - Visible staining -Recommendati	as low and hug on ceiling tiles	umidity level w	was slightly elevate	ed					

- Adjust the thermostat to increase the temperature. Continue to monitor condition and initiate a work order for Physical Plant

· Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as

- Remove and replace stained ceiling tiles. If stains return, contact Physical Plant Operations to initiate a work order to evaluate

Operations to evaluate the HVAC system if temperature and humidity does not improve.

for cause of staining.

appropriate

IAQ Assessment

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Ramblewood Elementary School	Evaluation Requested
Time of Day 10:00 am	Evaluation Date August 8, 2007
Outdoor Conditions Temperature 85.7 Relative Humidity	69.3 Ambient CO2 484
Fish Temperature Range Relative Humidity Range 137 72 72 - 78 59 30% - 60% Noticeable Odor No Visible water damage / staining? Growth?	affected
Ceiling Type 2 x 4 Lay In No No	None None
Wall Type Tackboard No No No No	
Clean Minor Dust Needs / Debris 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	N/A through light fixtures
Ceiling at Supply Yes No No Grills	
Surfaces in Room Yes No No	
bservations Findings:	
- Wall material was dry (8-10% WME) - Environmental parameters were acceptable	
-Recommendations: Site Based Maintenance:	
- Continue to monitor this location for any signs of microbial growth as well as dus appropriate	st and debris accumulation and clean as

2721

	Ramblewood Elem	entary School		Evaluation Requested	
Time of Day 10	0:00 am			Evaluation Date	August 8, 2007
Outdoor Conditions	Temperature	85.7	Relative Humidity	69.3 Ambie	ent CO2 484
I		is Cleaning No No No No No	30% - 60% Visible micro growth? No No No		> Ambient 6 Interial None None None equired
Dbservations Findings: - Wall material was dr - Temperature was lo -Recommendations: Site Based Maintena - Adjust the thermosta Operations to evaluat	ry (8-10% WME) w and humidity level we are the HVAC system in the humidity level we are the humidity level we are the humidity level we have a humidity level	was slightly elevate perature. Continue	e to monitor condition humidity does not im	n and initiate a work ord prove. t and debris accumulati	·

2721

	Rambiew	ood Elementary	/ School		Evaluati	ion Requested		
Time of Day	10:00 am				E	Evaluation Date	August	8, 2007
Outdoor Condit	ions Tem	perature 8	5.7	Relative Humi	dity 69.3	Ambier	nt CO2	484
Fish T	emperature F	Range Relat	ive Humidity	Range	CO2	Rang	ge #	Occupants
213	68 7	2 - 78	62.6	30% - 60%	500	Max 700 :	> Ambient	1
Noticeable Odd	or No	-	isible water age / staining?		nicrobial wth?	Amount of mate affected	erial	
Ceiling Type	2 x 2 Lay	In	No	No	0		None	
Wall Type	Drywall		Yes	No	0	2 sq	uare feet	
Flooring	12 x 12 Vir	ıyl	No	No	0		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	quired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply 6	Grills Yes	No	No					
HVAC Return G	Grills Yes	No	No					
Ceiling at Supp Grills	oly Yes	No	No					
Surfaces in Roo	om Yes	No	No					

2721

Location Number

Observations

Findings:

- Wall material was dry (12-14% WME)
- Temperature was low and humidity level was slightly elevated
- Drwyall is water damaged at emergency exit door

-Recommendations:

Site Based Maintenance:

- Adjust the thermostat to increase the temperature. Continue to monitor condition and initiate a work order for Physical Plant Operations to evaluate the HVAC system if temperature and humidity does not improve.
- Initiate a work order through Physical Plant Operations to repair building as necessary
- 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:

- Repair water damaged drywall at emergency exit door. May need to install a door sweep to keep water out of the room. Dirt and grass on floor appears to have been blown in under the door.

	Ramblev	vood Element	ary School		Evaluati	ion Requested		
Time of Day	10:00 am				E	Evaluation Date	Augus	t 8, 2007
Outdoor Conditio	ns Ten	nperature	85.7	Relative Hun	nidity 69.3	Ambie	nt CO2	484
		Range Re	lative Humidity	Range	CO2	Ran	ge #	Occupants
215	68.9	72 - 78	67.6	30% - 60%	484	Max 700	> Ambien	t 1
Noticeable Odor	No	da	Visible water mage / staining		microbial owth?	Amount of mat affected		
Ceiling Type	2 x 2 Lay	In	No		No		None	
Wall Type	Drywall		No		No		None	
Flooring	12 x 12 Vi	nyl	No		No		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	quired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply Gr	ills No	Yes	Yes		Clean wit	h Wexcide dis	infecant	
HVAC Return Gri	IIs Yes	No	No					
Ceiling at Supply Grills	No	Yes	Yes		Clea	an as appropria	ate	
Surfaces in Room	n Yes	No	No					
bservations								

2721

Location Number

0

Findings:

- Wall material was dry (12-14% WME)
- Temperature was low and humidity level was slightly elevated
- Visible stain on tackkable surface over bookcase. Appears to be and old stain from a spill on top of the bookcase.
- Dust and debris on HVAC supply grills and on ceiling at supply grills

Recommendations:

Site Based Maintenance:

- Adjust the thermostat to increase the temperature. Continue to monitor condition and initiate a work order for Physical Plant Operations to evaluate the HVAC system if temperature and humidity does not improve.
- Clean HVAC supply grills with Wexcide disinfectant solution and clean ceiling at supply grills
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate