

managing risk with responsibility

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August 2, 2012 Signature on File

TO: Theresa Bucolo, Principal

Harbordale Elementary School

FROM: Richard Rosa, Project Manager

Facilities Design and Construction

SUBJECT: Indoor Air Quality (IAQ) Assessment

Fo	For Custodial Supervisor Use Only						
	Custodial Issues Addressed						
	Custodial Issues Not Addressed						

On October 12, 2011, I conducted an assessment at **Harbordale Elementary School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

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. In an attempt to separate IAQ issues from general maintenance items, the attached assessment may contain direction for site based staff to generate a work order through COMPASS. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all site based custodial 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 us at 754-321-1907.

cc: Directors, School Performance & Accountability
Shelley Meloni, Executive Director, Facilities Design and Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Supervisor, Risk Management
Sonja Coley, Senior Project Manager, Facilities Design and Construction
Broward Teachers Union
Federation of Public Employees

RR/jg Enc.

	Harb	ordale Elemen	tary School		Evaluati	ion Requested	October 12, 2011
Time of Day	1130				E	Evaluation Date	October 12, 2011
Outdoor Condi	tions Te	emperature [85.5	Relative Humidi	ty 62.4	Ambier	nt CO2 432
Fish 509 Noticeable Od Ceiling Type Wall Type	75.9 or No 2 x 4 La Tackbo	72 - 78 day in	52.7 Visible water lamage / staining Yes No	Range 30% - 60% Visible mid growth No		Amount of material affect	> Ambient
Flooring	12 x 12 \	/inyl	No	No]		
Coiling	Clean	Minor Dus / Debris	st Needs Cleaning Yes		Correc	ctive Action Re	quired
Ceiling			res			See below	
Walls	х						
Flooring	х						
HVAC Supply	Grills	х			Cle	an Appropriate	ly
HVAC Return (Grills	х			Cle	an Appropriate	ly
Ceiling at Supp Grills	ply	х			Cle	an Appropriate	ly
Surfaces in Ro	oom	х			Cle	an Appropriate	ly
bservations							

Location Number

0

Findings

- FISH 509- Chiller HVAC system currently under repair, HFP states one chiller is continually running while the other chiller is being repaired
- FISH 509-Signs of water intrusion and stained ceiling tiles, possible HVAC roof penetration,

Site Based Maintenance

- FISH 509- One stained ceiling tile. Remove and replace ceiling tile
- FISH 509- Dust build up on HVAC supply and return grills and on ceiling at supply grills. Clean as appropriate.
- FISH 509- Dust build up on surfaces Clean as appropriate.
- FISH 509- Ensure HVAC filter doors on AHU's are closed properly.
- FISH 509- Ensure HVAC filters are installed properly and taped together to prevent bypass of debris

Physical Plant Operation

Note Work orders EQ02208 - EQ02210 issued 11/7/11

	Harbord	dale Elementary	School		Evaluation I	Requested	October	12, 2011
Time of Day [1200				Evalu	uation Date	October	12, 2011
Outdoor Condi	itions Tem	perature 8	5.5 R	Relative Humidity	62.4	Ambier	nt CO2	432
			ive Humidity	Range	CO2	Rang	_	Occupants
Noticeable Oc		2 - 78 Vi	56.2 3	30% - 60% Visible micro	660 obial	Max 700 : Amount of	> Ambient	
Ceiling Type	2 x 4 Lay i		age / staining?	growth?	_ m	naterial affect	ted	
Wall Type	Tackboar		No	No				
Flooring	12 x 12 Vin	yl	Yes	No		Food and	d Water sta	ins
	Clean	Minor Dust / Debris	Needs Cleaning		Corrective	e Action Rec	quired	
Ceiling	x							
Walls	x							
Flooring			Yes		Se	e below		
HVAC Supply	Grills		Yes		Clean A	Appropriate	ly	
HVAC Return	Grills x							
Ceiling at Sup Grills	pply		Yes		Clean A	Appropriate	ly	
Surfaces in Ro	oom	х			Clean A	Appropriate	ly	
bservations								
Findings - FISH 811- I	Heavy stainin	g on carpet						
Site Based Maintenance - FISH 811- Dust build up on HVAC supply and return grills and on ceiling at supply grills. Clean as appropriate FISH 811- Dust build up on surfaces Clean as appropriate FISH 811- Ensure HVAC filter doors on AHU's are closed properly FISH 811- Ensure HVAC filters are installed properly and taped together to prevent bypass of debris								
	ant Operation Evaluate carp	et for replac	ement.					

-Note Work orders EQ02208 - EQ02210 issued 11/7/11

IAQ Assessment

	Harbor	dale Elementar	y School		Evaluation Requested October 12, 2011	
Time of Day	1230				Evaluation Date October 12, 2011	
Outdoor Condi	tions Ten	nperature 8	5.5 R	elative Humidity	62.4 Ambient CO2 432	
Fish 1	Temperature	Range Relat	tive Humidity	Range	CO2 Range # Occupants	
840	74 7	72 - 78	52.5 3	0% - 60%	775 Max 700 > Ambient	
Noticeable Od	or No		isible water age / staining?	Visible micro growth?		
Ceiling Type	2 x 4 Lay		No No	No		
Wall Type	Tackboa	rd	No	No		
Flooring	12 x 12 Vir	nyl	Yes	No	50 sq ft Condensate water stains	
	Clean	Minor Dust / Debris	Needs Cleaning		Corrective Action Required	
Ceiling	х					
Walls	X					
Flooring			Yes		See below	
HVAC Supply	Grills x					
HVAC Return (Grills x					
Ceiling at Supp Grills	oly	х			Clean Appropriately	
Surfaces in Ro	om	х			Clean Appropriately	
bservations						
Findings - FISH 840- H	leavy stainin	ng on carpet				
Site Based N	<u>laintenance</u>					
- FISH 811- [Oust build up	on low and	elevated co	rners. Clean	as appropriate.	
Physical Plant Operation - FISH 840- Evaluate carpet for replacement.						
-Note Work orders EQ02208 - EQ02210 issued 11/7/11						

	Harbordale Elen	nentary School		Evaluation Request	ed October 12, 2011
Time of Day	1300			Evaluation D	ate October 12, 2011
Outdoor Conditions	s Temperature	85.5	Relative Humidity	62.4 Am	bient CO2 432
	Poerature Range 72.6 72 - 78 No 2 x 4 Lay in Tackboard 12 x 12 Vinyl	Relative Humidity 51 Visible water damage / staining No No No	30% - 60% Visible micro	859 Max 7	
Ceiling Walls Flooring HVAC Supply Grills HVAC Return Grills Ceiling at Supply Grills Surfaces in Room		ris Cleaning		Clean Appropri	
Site Based Main - FISH 2101- Dus Physical Plant C	st build up on H	VAC supply ar	nd return grills .	Clean as appro	priate.

Harbordale Elementary School Evaluation Requested October 12	2, 2011					
Time of Day 1330 Evaluation Date October 12	2, 2011					
Outdoor Conditions Temperature 85.5 Relative Humidity 62.4 Ambient CO2 4	32					
Fish Temperature Range Relative Humidity Range CO2 Range # Or 2121 72.6 72 - 78 51.9 30% - 60% 1040 Max 700 > Ambient Visible water damage / staining? Visible microbial growth? Material affected Relative Humidity Range CO2 Range # Or 2121 72.6 72 - 78 51.9 30% - 60% 1040 Max 700 > Ambient Visible microbial growth? Mamount of material affected Relative Humidity Range CO2 Range # Or 2121 Fig. 1040 Max 700 > Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 1040 Max 700 > Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 1040 Max 700 > Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range CO2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range Co2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range Co2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range Co2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range Co2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range Relative Humidity Range Co2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range Co2 Range # Or 2121 Fig. 20% Ambient Relative Humidity Range Relative Humidity	ccupants					
Surfaces in Room x						
Findings - FISH 2121- No issues identified Site Based Maintenance						
Physical Plant Operation						
-Note Work orders EQ02208 - EQ02210 issued 11/7/11						

	Harbordale Ele	mentary School		Evaluation Request	ed October 12, 2011	
Time of Day	1400			Evaluation D	ate October 12, 2011	
Outdoor Conditio	ns Temperatur	e 85.5	Relative Humidity	62.4 Am	nbient CO2 432	
Fish Ten 2123 Noticeable Odor Ceiling Type Wall Type Flooring Ceiling Walls Flooring HVAC Supply Gri HVAC Return Gri Ceiling at Supply Grills	ills x		30% - 60% Visible micro g? No No No	871 Max	affected	
Surfaces in Room	n x					
 Observations						
Findings - FISH 2123- No	o issues identifie intenance	d				
Physical Plant Operation						
-Note Work ord	ders EQ02208 - E0	Q02210 issued	<u>11/7/11</u>			