

# managing risk with responsibility

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August 2, 2012 Signature on File

TO: Matthew Whaley, Principal

Meadowbrook Elementary School

FROM: Richard Rosa, Project Manager

Facilities Design and Construction

SUBJECT: Indoor Air Quality (IAQ) Assessment

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

On November 4, 2011, I conducted an assessment at **Meadowbrook 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.

	Meadowbr	ook Elementary	/ School		Evaluation	on Requested [	November 4, 2011
Time of Day	1145				E	valuation Date	November 4, 2011
Outdoor Condit	tions Tem	perature 7	9.6 R	elative Humidity	57.3	Ambier	nt CO2
		ange Relat	ive Humidity	Range	CO2	Ran	ge # Occupants
105	68 72	2 - 78	57.7	30% <b>-</b> 60%	770	Max 700 :	> Ambient
Noticeable Ode	or No	=	isible water age / staining?	Visible microl growth?	bial	Amount of material affect	
Ceiling Type	2 x 4 Lay i	n	Yes	No		2 ce	iling tiles
Wall Type	Concrete block/	Drywall	Yes	No		10	00 sq ft
Flooring	Carpet		No	No			
	Clean	Minor Dust / Debris	Needs Cleaning		Correct	tive Action Re	quired
Ceiling			Yes		Rep	lace ceiling tile	es
Walls			Yes		Clea	n as appropria	ate
Flooring	X						
HVAC Supply 0	Grills	х			Clea	n as appropria	ate
HVAC Return C	Grills	х			Clea	n as appropria	ate
Ceiling at Supp Grills	oly x						
Surfaces in Ro	om		Yes		Clea	n as appropria	ate

**Location Number** 

### Observations

### **Findings**

- FISH 105 Elevated humidity level and low temperature
- FISH 105 Stained ceiling tiles

### Site Based Maintenance

- FISH 105 Wipe down areas (walls, surfaces, etc.) with visible microbial growth with Wexcide and continue to monitor until HVAC is repaired.
- FISH 105 Wipe down light fixtures to remove staining
- FISH 105 Change stained ceiling tiles and continue to monitor until repairs are completed.
- FISH 105 Clean HVAC supply and return grills
- FISH 105 Clean surfaces throughout the room to remove dust
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

## **Physical Plant Operation**

- FISH 105 - Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Evaluate for cause of stained ceiling tiles and repair as appropriate.

	Meadov	vbrook Element	ary School		Evaluat	ion Requested	Novembe	er 4, 2011
Time of Day	1145				E	Evaluation Date	Novembe	er 4, 2011
Outdoor Condi	itions Te	emperature [	79.6	Relative Humidity	57.3	Ambier	nt CO2	
	Temperature		lative Humidity	Range	CO2	Ran	•	Occupants
105A	67.1	72 - 78	59	30% - 60%	763	Max 700 :	> Ambient	
Noticeable Oc	lor No	da	Visible water mage / staining	Visible micro? growth?		Amount of material affect		
Ceiling Type	2 x 4 La	ay in	Yes	No				
Wall Type	Concrete bloc	ck/Drywall	Yes	No		6	0 sq ft	
Flooring	12 x 12 \	/inyl	No	No				
	Clean	Minor Dus	Needs Cleaning		Correc	ctive Action Re	quired	
Ceiling	х							
Walls			Yes		Clea	an as appropria	nte	
Flooring	х							
HVAC Supply	Grills		Yes		Clea	an as appropria	nte	
HVAC Return	Grills	х			Clea	an as appropria	nte	
Ceiling at Sup Grills	ply x							
Surfaces in Ro	oom		Yes		Clea	an as appropria	ate	
bservations								
Findings								

**Location Number** 

- FISH 105A - Elevated humidity level and low temperature

# Site Based Maintenance

- FISH 105A Wipe down areas (walls, surfaces, etc.) with visible microbial growth with Wexcide and continue to monitor until HVAC is repaired.
- FISH 105A Clean HVAC supply and return grills
- FISH 105A Clean surfaces throughout the room to remove dust
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

# Physical Plant Operation

- FISH 105A -Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature.

			IAQ Ass	essment	<b>Location Number</b>	
	Meadowbro	ook Elementar	y School		Evaluation Reques	November 4, 2011
Time of Day	1145				Evaluation	Date November 4, 2011
Outdoor Condition	s Temp	perature 7	79.6 F	Relative Humidity	57.3 A	mbient CO2
Noticeable Odor Ceiling Type		dam	tive Humidity 59.3  /isible water nage / staining?  Yes  Yes  No	Range 30% - 60%  Visible micro growth?  No  Yes  No	bial Amo	Range # Occupants  700 > Ambient  unt of affected 1 ceiling tile  64 sq ft
	Clean	Minor Dust / Debris	Needs Cleaning		Corrective Action	on Required
Ceiling			Yes		Replace ceil	ing tile
Walls			Yes		See belo	ow
Flooring	х					
HVAC Supply Grill	ls		Yes		Clean as app	ropriate
HVAC Return Grill	s	х			Clean as app	ropriate
Ceiling at Supply Grills			Yes		Clean as app	ropriate
Surfaces in Room			Yes		Clean as app	ropriate
haamiatiana						

### **Observations**

### **Findings**

- FISH 105B Elevated humidity level and low temperature
- FISH 105B Stained ceiling tiles
- FISH 105B- Wall is water damaged and paint is peeling

### Site Based Maintenance

- FISH 105B Wipe down areas (walls, surfaces, etc.) with visible microbial growth with Wexcide and continue to monitor until HVAC is repaired.
- FISH 105B Change stained ceiling tiles and continue to monitor until repairs are completed.
- FISH 105B Clean HVAC supply and return grills
- FISH 105B Clean surfaces throughout the room to remove dust
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

## Physical Plant Operation

- FISH 105B Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Evaluate for cause of stained ceiling tiles and repair as appropriate. Repair, prep and paint concrete block wall once HVAC is repaired

	Meadowl	orook Elementar	y School		Evaluati	ion Requested	Novem	ber 4, 2011
Time of Day	1145	]			E	Evaluation Date	Novem	ber 4, 2011
Outdoor Condi	tions Ter	mperature 7	79.6	Relative Humidity	57.3	Ambie	nt CO2	
Fish 105C	Temperature 66.8	Range Rela 72 - 78	60.8	Range 30% - 60%	<b>CO2</b> 760	Ran Max 700	•	# Occupants
Noticeable Od	lor No		/isible water nage / staining	Visible micro growth?	bial	Amount of material affect		
Ceiling Type	2 x 4 Lay		No	No	[			
Wall Type	Concrete block	k/Drywall	No	No	[			
Flooring	12 x 12 Vi	nyl	No	No				
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	quired	
Ceiling	x							
Walls	x							
Flooring	x							
HVAC Supply	Grills	х			Clea	an as appropri	ate	
HVAC Return	Grills	x			Clea	an as appropri	ate	
Ceiling at Sup Grills	ply		Yes		Clea	an as appropri	ate	
Surfaces in Ro	oom	х			Clea	an as appropri	ate	
bservations								
Findings								

**Location Number** 

- FISH 105C - Elevated humidity level and low temperature

# Site Based Maintenance

- FISH 105C Wipe down areas (walls, surfaces, etc.) with visible microbial growth with Wexcide and continue to monitor until HVAC is repaired.
- FISH 105C Clean HVAC supply and return grills
- FISH 105C Clean surfaces throughout the room to remove dust
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

# Physical Plant Operation

- FISH 105C Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature

	Meadowb	rook Elementa	ry School		Evaluation	Requested [	Novem	nber 4, 2011
Time of Day	1145				Eval	luation Date	Novem	nber 4, 2011
Outdoor Conditi	ions Ten	nperature	79.6	Relative Humidity	57.3	Ambier	nt CO2	
Fish To		Range Rel	60.9	Range 30% - 60%	<b>CO2</b> 758	Rang Max 700	J	# Occupants
Noticeable Odd	or No		Visible water nage / staining	Visible micro growth?		Amount of naterial affect		
Ceiling Type	2 x 4 Lay	in	No	No				
Wall Type	Concrete block	/Drywall	Yes	No		180 sq ft	peeling <sub>l</sub>	paint
Flooring	12 x 12 Vir	nyl	No	No				
	Clean	Minor Dust / Debris	Needs Cleaning		Correctiv	e Action Re	quired	
Ceiling	х							
Walls			Yes		S	ee below		
Flooring	x							
HVAC Supply G	Grills		Yes		Clean	as appropria	ate	
HVAC Return G	Grills	х			Clean	as appropria	ate	
Ceiling at Supp Grills	oly x							
Surfaces in Roo	om		Yes		Clean	as appropria	ate	
bservations								

**Location Number** 

### **Findings**

- FISH 105D Elevated humidity level and low temperature
- FISH 105D Wall is water damaged and paint is peeling

# Site Based Maintenance

- FISH 105D - Wipe down areas (walls, surfaces, etc.) with visible microbial growth with Wexcide and continue to monitor until HVAC is repaired.

# Physical Plant Operation

- FISH 105D Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Repair, prep and paint concrete block wall once HVAC is repaired.
- -Note Work orders EQ02228 through EQ02231 issued 11/14/11

	Meadowb	rook Elementa	ary School		Evaluati	ion Requested	Novemb	er 4, 2011
Time of Day	1145				E	Evaluation Date	Novemb	er 4, 2011
Outdoor Condi	tions Ten	nperature	79.6	Relative Humidity	57.3	Ambien	it CO2	
Fish	Temperature	Range Rel	ative Humidity	Range	CO2	Ranç	ne #	Occupants
302		<b>'2 - 78</b>	62.3	30% - 60%	505	Max 700 >		
Noticeable Od	or No	da	Visible water mage / staining	Visible micro growth?		Amount of material affect	ed	
Ceiling Type	2 x 4 Lay	in	No	No				
Wall Type	Tack Board/D	rywall	No	No				
Flooring	12 x 12 Vir	ıyl	No	No				
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Rec	quired	
Ceiling	x							
Walls	х							
Flooring	x							
HVAC Supply	Grills	x			Clea	an as appropria	te	
HVAC Return (	Grills x							
Ceiling at Support Grills	ply							
Surfaces in Ro	oom	х			Clea	an as appropria	te	
bservations								

**Location Number** 

### <u>Findings</u>

- FISH 302 Elevated humidity level and low temperature
- FISH 302 Cabinet doors are water damaged

### Site Based Maintenance

- FISH 302 Clean minor dust and cobwebs on elevated surfaces and low corners
- FISH 302 Clean HVAC supply grills
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

# Physical Plant Operation

- FISH 302 Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Evaluate cause of water damaged cabinet doors and repair as appropriate. Repair/replace doors.