

# managing risk with responsibility

Aston A. Henry, Supervisor	Telephone:	754 321-1900
Risk Management Department	Fax:	754 321-1917

Setpember 21, 2012 Signature on File

TO: Dorothy Cain, Principal

**Palm Cove Elementary School** 

FROM: Richard Rosa, Project Manager

Facilities Design and Construction

SUBJECT: Indoor Air Quality (IAQ) Assessment

<u>Fo</u>	r Custodial Supervisor Use Only
	Custodial Issues Addressed
	Custodial Issues Not Addressed
-	

On September 19, 2012, I conducted an assessment at **Palm Cove 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/tc Enc.

Palm Cove Elementary

Evaluation Date September 19, 2012

Time of Day

Outdoor Conditions Temperature 89.9	Relative Humidity 69.1 Ambient CO2 441
Fish         Temperature         Range         Relative F           105         72.8         72 - 78         56	
Noticeable Odor No Visible water staining	
Ceiling 2' x 2' No	No
Walls Drywall/Tackboard No	No
Floor 12" x 12" Vinyl No	No
	C Supply S Clean  HVAC Return Yes
Walls Clean Yes	
	le of Supply Yes Inside of Return Duct Clean Yes
	ng at Supply s Clean
Trash Removed Yes Exhaust Fa	ans Working Yes Unapproved Chemicals / Cleaners in Room No
Signs of Pests No Drain	in Traps Wet N/A
Room Cluttered Yes Food if Stored in Sealed Cor	
Mechanical Equipment Location FISH 610	Mechanical Room Clean No
Filters Installed Properly Yes Fi	Filters Clean Yes Inside of HVAC Unit Clean Yes
Condensate Pan Clean Yes Cooling	g Coil Clean Yes
Fresh Air Intake Location Exterior corridor	
Pollutant Sources Near Air Intake	of Obstruction ▼
Observations	
Corrective Actions to be Completed by Site Based	d Staff Corrective Actions to be Completed by PPO
Clean ceilings around HVAC supply grills	▼
Thoroughly clean elevated surfaces	
Clean HVAC supply grills with Wexcide	
	▼
	▼
	<u> </u>

Palm Cove Elementary Eva	luation Da	September 19	9, 2012	Time of Day	12:30
Outdoor Conditions Temperature 89.9	Relativ	re Humidity 69	9.1	Ambient CO2	441
Fish         Temperature         Range         Relative Hur           106         72.3         72 - 78         68.3	<del></del> i	Range 0% - 60%	<b>CO</b> <sup>2</sup> 836	Range # C MAX 700 > Ambient	Occupants
Noticeable Odor No Visible water da staining?	_	Visible microb	oial	Amount of material affected	
Ceiling drywall Yes		Yes		4 sq ft	
Walls Concrete block No		No			
Floor concrete No		No			
Ceiling Clean  No  HVAC So Grills Cle  Walls Clean  Inside of Flooring Clean  Yes  Duct Cle	ean f Supply	N/a Yes		HVAC Return Grills Clean Inside of Return Duct Clean	N/a
	at Supply ean	N/a	_		
Trash Removed N/A Exhaust Fans Signs of Pests No Drain T	Working	N/A		Jnapproved Chemicals / Cleaners in Room	N/A
Room Cluttered N/A Food if Stored in Sealed Contain	n Room is			Air Fresheners in Room	N/A
Mechanical Equipment Location FISH 106			N	Mechanical Room Clean	No
Filters Installed Properly Yes Filte	ers Clean	Yes	Ins	side of HVAC Unit Clean	Yes
Condensate Pan Clean Yes Cooling Co	oil Clean	Yes			
Fresh Air Intake Location Exterior corridor  Pollutant Sources Near Air Intake			▼	Fresh Air Intake Free of Obstruction	Yes
Observations 106 is a mechanical room					
Evaluate and repair/replace ceiling and evaluate caus	e of stair	n			
Corrective Actions to be Completed by Site Based St	<del></del> taff	Corrective	Actions	to be Completed by P	PO
Clean dust from wall surfaces	▼			educe humidity level	▼
	<b>▼</b>			use of stained ceiling	
	▼	Repair/repla	ce ceiling	g material as necessa	ry ▼
	+				

Palm Cove E	lementary Evalua	tion Date Septen	nber 19, 2012	Time of Day	12:45
Outdoor Conditions Temperat	ure 89.9 F	Relative Humidity	69.1	Ambient CO2	141
Fish         Temperature         Ran           107         72.6         72 -		ity Range 30% - 60%	<b>CO</b> <sup>2</sup> 913	Range # O MAX 700 >  Ambient	ccupants
Noticeable Odor No	Visible water dama staining?	age /	microbial owth?	Amount of material affected	
Ceiling drywall	Yes		Yes	2 sq ft	
Walls Concrete block	No		No		
Floor concrete	No		No [		
Ceiling Clean No Walls Clean No	HVAC Supp Grills Clean	, I NI/a I		HVAC Return Grills Clean	N/a
Flooring Clean Yes	Inside of Su Duct Clean	ipply Yes		Inside of Return Duct Clean	N/A
Room Surfaces No Clean	Ceiling at S Grills Clean				
Trash Removed N/A	Exhaust Fans Wo			Unapproved Chemicals / Cleaners in Room	N/A
Signs of Pests No  Room Cluttered N/A	Drain Trap Food if Stored in Re in Sealed Containe	oom is		Air Fresheners in Room	N/A
Mechanical Equipment Location	FISH 106			Mechanical Room Clean	No
Filters Installed Properly Yes	Filters (	Clean Yes	Ir	nside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes	Cooling Coil	Clean Yes			
Fresh Air Intake Location	Exterior corridor		▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	No		▼	or obstruction	
Observations					
107 is a mechanical room Evaluate and repair/replace ceilin	g and evaluate cause o	of stain			
Corrective Actions to be Comple	ted by Site Based Staff	Corı	rective Actions	s to be Completed by P	 PO
Clean dust from wall	surfaces <b>V</b>			reduce humidity level	▼
	▼	Evaluate	e and repair ca	ause of stained ceiling t	iles ▼
	▼	' Repai	r/replace ceilir	ng material as necessar	.y <b>▼</b>

Palm Cove Elementary

Evaluation Date September 19, 2012

Time of Day

Outdoor Conditions Temperature	89.9 Relative h	lumidity 69.1	Ambient CO2 441
Fish         Temperature         Range           108         72.8         72 - 78		enge CO <sup>2</sup> 913	Range # Occupant MAX 700 > Ambient
Noticeasic Sec. The	Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling 2' x 2'	No	No No	
Walls Drywall/Tackboard	No _	No	
Floor 12" x 12" Vinyl	No	No	
Ceiling Clean No Walls Clean Yes	HVAC Supply Grills Clean	No	HVAC Return Grills Clean Yes
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean Yes
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	No	
Trash Removed Yes	Exhaust Fans Working	Yes	Unapproved Chemicals / Cleaners in Room
Signs of Pests No	Drain Traps Wet	N/A	Air Fresheners No
1100 0	ood if Stored in Room is n Sealed Containers	N/A	in Room
Mechanical Equipment Location FISH 1	07		Mechanical Room Clean No
Filters Installed Properly Yes	Filters Clean	Yes	Inside of HVAC Unit Clean Yes
Condensate Pan Clean Yes	Cooling Coil Clean	Yes	
Fresh Air Intake Location Exterio	or corridor	▼	Fresh Air Intake Free of Obstruction
Pollutant Sources Near Air Intake		▼	of Obstruction
Observations			
Corrective Actions to be Completed by	Site Based Staff	Corrective Action	ns to be Completed by PPO
Clean ceilings around HVAC supp	oly grills ▼		reduce humidity level
Thoroughly clean elevated surf			1
Cicali HVAC Supply grills with W	excide ▼		•
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Palm (	Cove Elementa	<u>ry</u> Evaluati	on Date Septen	nber 19, 2012	Time of Day	1:30
Outdoor Conditions Tem	nperature	89.9 R	elative Humidity	69.1	Ambient CO2	441
Fish Temperature 115 72.6	Range 72 - 78	Relative Humidit	y Range ] 30% - 60%	<b>CO</b> <sup>2</sup> 913	Range # ( MAX 700 > Ambient	Occupants
Noticeable Odor No	Vi	sible water damaç staining?	<i>je i</i>	microbial owth?	Amount of material affected	
Ceiling drywall		Yes		⁄es_	2 sq ft	
Walls Concrete block	(	No		No		
Floor concrete		No		No		
Ceiling Clean No Walls Clean No Flooring Clean Yes Room Surfaces No		HVAC Supply Grills Clean Inside of Sup Duct Clean Ceiling at Su	N/a Poply Yes		HVAC Return Grills Clean Inside of Return Duct Clean	N/a N/A
Clean		Grills Clean				
Trash Removed N/A	E	Exhaust Fans Wor			Unapproved Chemicals Cleaners in Room	/ N/A
Signs of Pests No  Room Cluttered N/A		Drain Traps od if Stored in Ro Sealed Containers	om is		Air Fresheners in Room	N/A
Mechanical Equipment Loca	tion FISH 11	5			Mechanical Room Clean	No
Filters Installed Properly	Yes	Filters C	lean Yes	I	nside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil C	lean Yes			
Fresh Air Intake Location Pollutant Sources Near Air Intake	Exterior No	corridor		▼	Fresh Air Intake Free of Obstruction	Yes
Observations						
115 is a mechanical room Evaluate and repair/replace	ceiling and ev	valuate cause of	stain			
Corrective Actions to be Co			1		s to be Completed by F	
Clean dust from	wall surfaces		i	-	reduce humidity level	▼
		<u>▼</u>	· -		ause of stained ceiling	-
		▼	кераі	r/repiace ceili	ng material as necessa	ry ▼

Palm Cove Elementary

Evaluation Date September 19, 2012

Time of Day

Palm Cove Elementary

Evaluation Date September 19, 2012

Time of Day

Outdoor Conditions Temperat	ure 89.9	Relative Humidit	ey 69.1	Ambient CO2 4	41
Fish         Temperature         Ran           607         72.3         72 -	·	ity Range 30% - 60%	<b>CO</b> <sup>2</sup> 484		ccupants
Noticeable Odor No	Visible water dama staining?	age /	e microbial rowth?	Amount of material affected	
Ceiling drywall	Yes		Yes	15 sq ft	
Walls Concrete block	No	Γ	No		
Floor concrete	No		No		
Ceiling Clean No	HVAC Supp Grills Clear	- I NI/O I		HVAC Return Grills Clean	N/a
Walls Clean No	Inside of S	apply		Inside of Return	
Flooring Clean Yes	Duct Clean			Duct Clean	N/A
Room Surfaces No Clean	Ceiling at S Grills Clear				
Trash Removed N/A	Exhaust Fans Wo			Unapproved Chemicals / Cleaners in Room	N/A
Signs of Pests No	Drain Trap	s Wet N/A		Air Fresheners	N/A
Room Cluttered N/A	Food if Stored in R in Sealed Containe	· · · ·   NI/A		in Room	IN/A
Mechanical Equipment Location	FISH 607			Mechanical Room Clean	No
Filters Installed Properly Yes	Filters	Clean Yes		Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes	Cooling Coil	Clean Yes			
Fresh Air Intake Location	Exterior corridor		▼	Fresh Air Intake Free	Yes
Pollutant Sources Near Air Intake	No		▼	of Obstruction	103
Observations					
607 is a mechanical room Evaluate and repair/replace ceiling	g and evaluate cause o	of stain			
Corrective Actions to be Complete Clean dust from walls		¬		ns to be Completed by PF	
Clean dust from Wall s	surfaces	7 —		o reduce humidity level cause of stained ceiling ti	les ▼
	•			ling material as necessary	
		<u>'</u>			<b>▼</b>
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Palm Cove Elementary

Evaluation Date September 19, 2012

Time of Day

Outdoor Conditions Temperature 89.9	Relative Humidity 69.1 Ambient CO2 441
Fish         Temperature         Range         Relative Hum           608         72.5         72 - 78         75	nidity Range CO <sup>2</sup> Range # Occupants 30% - 60% 512 MAX 700 > Ambient
Noticeable Odor No Visible water dar staining?	
Ceiling 2' x 2' No	No
Walls Drywall/Tackboard No	No
Floor 12" x 12" Vinyl No	No
Ceiling Clean No HVAC Sul Grills Clean Yes	
Walls Clean Yes Inside of S Flooring Clean Yes Duct Clean	
Room Surfaces No Ceiling at Clean Grills Clea	t Supply
- Cloud	
Trash Removed Yes Exhaust Fans V	Cleaners in Room No
	raps Wet N/A Air Fresheners No
Room Cluttered Yes Food if Stored in in Sealed Contain	
Mechanical Equipment Location FISH 607	Mechanical Room Clean No
Filters Installed Properly Yes Filters	rs Clean Yes Inside of HVAC Unit Clean Yes
Condensate Pan Clean Yes Cooling Co	pil Clean Yes
Fresh Air Intake Location Exterior corridor	Fresh Air Intake Free
Pollutant Sources Near Air Intake	of Obstruction
Observations	
Corrective Actions to be Completed by Site Based Sta	aff Corrective Actions to be Completed by PPO
Clean ceilings around HVAC supply grills	▼ Repair HVAC to reduce humidity level ▼
Thoroughly clean elevated surfaces Clean HVAC supply grills with Wexcide	▼
Vacuum HVAC return grills	<del> </del>
	▼ ▼
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	▼           ▼

Palm Cove Elementary

Evaluation Date September 19, 2012

Time of Day

Outdoor Conditions Temperature 89.9	Relative	Humidity 69.1	Ambient CO2 441	
Fish         Temperature         Range         Relative           609         72.6         72 - 78         67	<del></del>	ange Co		pants
Noticeable Odor No Visible water stain		Visible microbial growth?	Amount of material affected	
Ceiling 2' x 2'		No		
Walls Drywall/Tackboard No	<u>.                                    </u>	No		
Floor 12" x 12" Vinyl No		No		
	C Supply s Clean	No	HVAC Return Grills Clean	No
Insid	le of Supply : Clean	Yes	Inside of Return Duct Clean	Yes
	ng at Supply s Clean	No		
	ans Working	Yes	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No Dra	in Traps Wet	N/A	Air Fresheners	No
Room Cluttered Yes Food if Store in Sealed Co	ed in Room is ontainers	N/A	in Room	140
Mechanical Equipment Location FISH 610			Mechanical Room Clean	No
Filters Installed Properly Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes Coolin	g Coil Clean	Yes		
Fresh Air Intake Location Exterior corridor	•	▼	Fresh Air Intake Free	Yes
Pollutant Sources Near Air Intake		▼	of Obstruction	
Observations				
Corrective Actions to be Completed by Site Base	d Staff		ons to be Completed by PPO	
Clean ceilings around HVAC supply grills Thoroughly clean elevated surfaces	▼   -	Repair HVAC	to reduce humidity level	▼
Clean HVAC supply grills with Wexcide	<u> </u>			▼
Vacuum return grill	▼			▼
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	▼			▼
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Palm	Cove Eleme	entary <b>Eval</b> ı	uatio	n Date September	er 19, 2012	Time of Day	12:00
Outdoor Conditions Te	mperature	89.9	Rel	ative Humidity [	69.1	Ambient CO2	141
Fish Temperature 610 72.3	Range 72 - 78	Relative Hum 68.3	idity	Range 30% - 60%	836	Range # O MAX 700 > Ambient	ccupants
Noticeable Odor No		Visible water dan staining?	_	y/ Visible mi grow		Amount of material affected	
Ceiling drywall		Yes		Yes	s	15 sq ft	
Walls Concrete bloc	k	No		No			
Floor concrete		No		No			
Ceiling Clean No Walls Clean No Flooring Clean Yes Room Surfaces Clean		HVAC Su Grills Cle Inside of Duct Clea Ceiling at Grills Cle	an Supp an	res		HVAC Return Grills Clean Inside of Return Duct Clean	N/a
Trash Removed N/A Signs of Pests No Room Cluttered N/A		Exhaust Fans \ Drain Tr  Food if Stored in in Sealed Contair	aps \	Wet N/A		Unapproved Chemicals / Cleaners in Room Air Fresheners in Room	N/A
Mechanical Equipment Loc	ation FISH	1 607				Mechanical Room Clean	No
Filters Installed Properly	Yes	Filters	s Cle	an Yes	lı	nside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Co	il Cle	ean Yes			
Fresh Air Intake Location Pollutant Sources Near Air Intake	Exte No	rior corridor			<b>▼</b>	Fresh Air Intake Free of Obstruction	Yes
Observations							
610 is a mechanical room Evaluate and repair/replace	e ceiling an	d evaluate cause	e of s	stain			
Corrective Actions to be C	completed b	y Site Based Sta	aff	Correc	ctive Action	s to be Completed by P	PO
Clean dust from			<b>V</b>			reduce humidity level	. Ŭ   ▼
			▼			ause of stained ceiling t	
			▼	Repair/r	eplace ceili	ng material as necessa	
			▼				▼