THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA ENVIRONMENTAL HEALTH & SAFETY DEPARTMENT

TELEPHONE (754) 321-4200

FACSIMILE: (754) 321-4285

November 20	, 2017 Signature	e on File	For Custodial Supervisor Use Only
TO:	JoAnne Seltzer, Principal Riverglades Elementary		Custodial Issues Addressed Custodial Issues Not Addressed
FROM:	Daniel Meyer, Project Manger Environmental Health & Safety D	epartment	
SUBJECT:	Indoor Air Quality (IAQ) Assessm	lent	

On November 13, 2017, I conducted an assessment at **Riverglades 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 754-321-4200.

DM:smn Enc.

cc: Sam Bays, Director, Maintenance Operations Shelley Meloni, Director, Pre-Construction Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division Greg Neiman, Area Supervisor, Zone 1 Kurt Wirz, Area Manager Trades Gerald Devio, Supervisor II Custodial Benjamin Osborne, Supervisor II Custodial Mark Murray, Supervisor II Custodial Broward Teachers Union Federation of Public Employees

IAQ Assessment					
Riverglades	Elementary Evaluation Dat	November 13, 2017	Time of Day 11:	00 AM	
Outdoor Conditions Tempera	ture 85.4 Relative	Humidity 70.5	Ambient CO2 3	87	
		Range CO ² % - 60% 659	Range # Oo MAX 700 > Ambient	ccupants 2	
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling2' X 4' Lay inWallsDrywallFloorCarpet	No No	No No			
Ceiling Clean Yes Walls Clean Yes Flooring Clean Yes	HVAC Supply Grills Clean Inside of Supply Duct Clean	No Yes	HVAC Return Grills Clean Inside of Return Duct Clean	No Yes	
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	Yes			
Trash RemovedYesSigns of PestsNo	Exhaust Fans Working Drain Traps Wet	N/A N/A	Unapproved Chemicals / Cleaners in Room Air Fresheners	No	
Room Cluttered No	Food if Stored in Room is in Sealed Containers	N/A	in Room	No	
Mechanical Equipment Location Filters Installed Properly Yes Condensate Pan Clean Yes	7	Yes Yes	Mechanical Room Clean Inside of HVAC Unit Clean	Yes Yes	
Fresh Air Intake Location Pollutant Sources Near Air Intake	Thru exterior wall No	▼	Fresh Air Intake Free of Obstruction	Yes	
Observations Previous reported water intrusio	n - walls checked out good. Bo	oth supply and return a	ir grills need to be cleane	əd	

Clean Supply Grills with Wexcide	▼
Vacuum/wipe return grill	▼
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	IAQ Assessi	ment		
Riverglades El	ementary Evaluation Dat	te November 13, 201	7 Time of Day 11:	00 AM
Outdoor Conditions Temperatu	re 85.4 Relative	e Humidity 70.5	Ambient CO2 3	87
Fish Temperature Range 101X 72.8 72 - 100000000000000000000000000000000000		Range CO % - 60% 659		ccupants 2
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling2' X 4' Lay inWallsDrywallFloorCarpet	No No	No No		
Ceiling Clean Yes Walls Clean Yes Flooring Clean Yes Room Surfaces Yes	HVAC Supply Grills Clean Inside of Supply Duct Clean Ceiling at Supply	No Yes Yes	HVAC Return Grills Clean Inside of Return Duct Clean	No Yes
Clean Trash Removed Yes	Grills Clean Exhaust Fans Working	N/A	Unapproved Chemicals /	
Signs of Pests No Room Cluttered No	Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A	Cleaners in Room Air Fresheners in Room	No No
Mechanical Equipment Location F	FISH #103 Filters Clean	Yes	Mechanical Room Clean Inside of HVAC Unit Clean	Yes Yes
Condensate Pan Clean Yes	Cooling Coil Clean	Yes		
Bollutant Sources Near Air	hru exterior wall	▼	Fresh Air Intake Free of Obstruction	Yes
Observations Previous reported water intrusion	- walls checked out good. Bo	oth supply and return	air grills need to be clean	ed

Clean Supply Grills with Wexcide	▼
Vacuum/wipe return grill	▼
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Corrective Actions to be Completed by PPO

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	IAQ Assessr	nent		
Riverglades	Elementary Evaluation Dat	e November 13, 2017	Time of Day 11:	00 AM
Outdoor Conditions Tempera	ature 85.4 Relative	Humidity 70.5	Ambient CO2 3	87
		Range CO ² % - 60% 1289		20
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in Walls Tack Board	Yes	No	2 tiles North wall	
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean Yes	HVAC Supply Grills Clean	Νο	HVAC Return Grills Clean	No
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No Room Cluttered No	Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A N/A	Air Fresheners in Room	No
Mechanical Equipment Location	FISH #331		Mechanical Room Clean	Yes
Filters Installed Properly		Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes	Cooling Coil Clean	Yes		
Fresh Air Intake Location	Ducted to roof-top	▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	Νο	▼		
Observations				
Previous reported water intrusion Tiles need to be replaced. Ceilin be wiped. Return air grill needs	g tiles around the Supply grills			

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Repair HVAC to reduce CO2 level in classroom	▼
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	IAQ Assessi	ment		
Riverglade	es Elementary Evaluation Dat	November 13, 2017	Time of Day 11:0	00 AM
Outdoor Conditions Tempe	erature 85.4 Relative	Humidity 70.5	Ambient CO2	37
		Range CO ² % - 60% 1143		cupants 2
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling2' X 4' Lay inWallsDrywall/TackboardFloor12" x 12" Vinyl	Yes No No	No No	5 tiles	
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	Νο	HVAC Return Grills Clean	No
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No Room Cluttered No	Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location	FISH #331		Mechanical Room Clean	Yes
Filters Installed Properly	es Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Ye	Cooling Coil Clean	Yes		
Fresh Air Intake Location Pollutant Sources Near Air Intake	Ducted to roof-top No	▼	Fresh Air Intake Free of Obstruction	Yes
Observations				
	ion from AHU above - walls chec ing tiles around the Supply grills			

Replace stained ceiling tile	▼
Clean ceilings around HVAC supply grills	▼
Clean Supply Grills with Wexcide	▼
Vacuum/wipe return grill	▼
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Repair HVAC to reduce CO2 level in classroom	▼
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Outdoor Conditions Temperature 85.4 Relative Humidity 70.5 Ambient CO2 38	0 AM
Fish Temperature Range Relative Humidity Range CO ² Range # Occ 313A 71.1 72 - 78 57.8 30% - 60% 1471 MAX 700 > Ambient Noticeable Odor No Visible water damage / staining? Visible microbial growth? Amount of material affected Ceiling 2' X 4' Lay in Yes No 5 tiles Walls Drywall No No S tiles Floor 12" x 12" Vinyl No No HVAC Supply Grills Clean Yes HVAC Supply No HVAC Return Grills Clean Walls Clean Yes Inside of Supply Yes Inside of Return Duct Clean Flooring Clean Yes Ceiling at Supply Yes Inside of Return Duct Clean Room Surfaces Yes Ceiling at Supply Yes Cleaners in Room Signs of Pests No Drain Traps Wet N/A Air Fresheners in Room Room Cluttered No Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room	
313A 71.1 72 - 78 57.8 30% - 60% 1471 MAX 700 > Ambient Noticeable Odor No Visible water damage / staining? Visible microbial growth? Amount of material affected Ceiling 2' X 4' Lay in Yes No 5 tiles Walls Drywall No No S tiles Floor 12" x 12" Vinyl No No HVAC Supply Ceiling Clean Yes HVAC Supply No HVAC Return Grills Clean Walls Clean Yes Inside of Supply Yes Inside of Return Duct Clean Flooring Clean Yes Ceiling at Supply Yes Inside of Return Duct Clean Room Surfaces Yes Ceiling at Supply Yes Cleaners in Room Trash Removed Yes Exhaust Fans Working N/A Air Fresheners in Room Signs of Pests No Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room	7
Noticeable Odor No Visible water damage/ staining? Inside of staining material affected Ceiling 2' X 4' Lay in Yes No 5 tiles Walls Drywall No No 5 tiles Floor 12" x 12" Vinyl No No Mo Ceiling Clean Yes HVAC Supply Grills Clean No HVAC Return Grills Clean Walls Clean Yes Inside of Supply Duct Clean Yes Inside of Return Duct Clean Flooring Clean Yes Ceiling at Supply Grills Clean Yes Inside of Return Duct Clean Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room Signs of Pests No Drain Traps Wet N/A Air Fresheners in Room Room Cluttered No Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room	2 2
Ceiling 2' X 4' Lay in Yes No 5 tiles Walls Drywali No No No Floor 12" x 12" Vinyl No No Mo Ceiling Clean Yes HVAC Supply Grills Clean No HVAC Return Grills Clean Walls Inside of Supply Grills Clean No HVAC Return Grills Clean HVAC Return Grills Clean Room Surfaces Yes Inside of Supply Grills Clean Yes Inside of Return Duct Clean Trash Removed Yes Exhaust Fans Working In Sealed Containers N/A Unapproved Chemicals / Cleaners in Room Signs of Pests No Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room	
Walls CleanYesGrills CleanNoGrills CleanWalls CleanYesInside of Supply Duct CleanYesInside of Return Duct CleanRoom Surfaces CleanYesCeiling at Supply Grills CleanYesYesTrash RemovedYesExhaust Fans Working Drain Traps WetN/AUnapproved Chemicals / Cleaners in RoomSigns of PestsNoDrain Traps WetN/AAir Fresheners in RoomRoom ClutteredNoFood if Stored in Room is in Sealed ContainersN/AAir Fresheners in Room	
Flooring Clean Yes Duct Clean Yes Duct Clean Room Surfaces Yes Ceiling at Supply Grills Clean Yes Duct Clean Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room Signs of Pests No Drain Traps Wet N/A Air Fresheners in Sealed Containers	No
Clean Grills Clean Yes Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room Signs of Pests No Drain Traps Wet N/A Air Fresheners in Sealed Containers Room Cluttered No Food if Stored in Room is in Sealed Containers N/A	Yes
Signs of Pests No Drain Traps Wet N/A Cleaners in Room Room Cluttered No Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room	
Room Cluttered No Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room	No
Mechanical Equipment Location FISH #331 Mechanical Room Clean	No
	Yes
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 ■ ■ Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	
Observations Previous reported water intrusion - walls checked out good. Stained ceiling tiles are currently dry. Tiles need to replaced.	be

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Install new ceiling tiles, cuts needed	▼
Repair HVAC to reduce CO2 level in classroom	▼
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	IAQ A	ssessment			
Riverglad	es Elementary Evalu	ation Date Novemb	per 13, 2017	Time of Day 11	:00 AM
Outdoor Conditions Temp	erature 85.4	Relative Humidity	70.5	Ambient CO2	387
FishTemperature33271.8	RangeRelative Humi72 - 7864.8	dity Range 30% - 60%	CO ² 1187	Range # O MAX 700 > [Ambient	ccupants 26
Noticeable Odor No	Visible water dan staining?	nage / Visible n grow		Amount of material affected	
Ceiling2' X 4' Lay inWallsDrywall/TackboardFloor12" x 12" Vinyl	Yes No No			1 tile	
Ceiling Clean Yes Walls Clean Yes	HVAC Sup Grills Clea	n <u>No</u>		HVAC Return Grills Clean	No
Flooring Clean Yes	Inside of S Duct Clear			Inside of Return Duct Clean	Yes
Room Surfaces Yes Clean	Ceiling at Grills Clea				
Trash Removed Yes	Exhaust Fans W			napproved Chemicals / leaners in Room	No
Signs of Pests No Room Cluttered No	Drain Tra Food if Stored in I in Sealed Contain	Room is		Air Fresheners in Room	No
Mechanical Equipment Location	on FISH #331		M	echanical Room Clean	Yes
Filters Installed Properly	fes Filters	Clean Yes	Ins	ide of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes Cooling Coi	l Clean Yes			
Fresh Air Intake Location Pollutant Sources Near Air Intake	Ducted to roof-top No		▼▼	Fresh Air Intake Free of Obstruction	Yes
Observations					
Water stained ceiling tile. App grills need to be cleaned			level in Classi	oom. Both supply an	d return
LIGHTS IN THE MECHANICAL	ROOM NEED TO BE REP	PLACED			

Replace stained ceiling tile	▼
Vacuum/wipe return grill	▼
Clean Supply Grills with Wexcide	▼
Replace fluorescent bulbs in Mech Room	▼
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Corrective Actions to be Completed by PPO

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▼	Repair HVAC to reduce CO2 level in classroom
▼	Repair Cause of Stained Ceiling Tiles- ROOF
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	IAQ Assessr	nent		
Riverglade	s Elementary Evaluation Dat	e November 13, 2017	Time of Day 11:0	00 AM
Outdoor Conditions Tempe	rature 85.4 Relative	Humidity 70.5	Ambient CO2	37
		Range CO ² % - 60% 1350	Range # Oc MAX 700 > Ambient	2
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	Yes	No	3 tiles	
Walls Drywall	No	No		
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean Yes	HVAC Supply Grills Clean	Νο	HVAC Return Grills Clean	No
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No Room Cluttered No	Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location	FISH #331		Mechanical Room Clean	Yes
Filters Installed Properly	Filters Clean	Yes	nside of HVAC Unit Clean	Yes
Condensate Pan Clean Ye	Cooling Coil Clean	Yes		
Fresh Air Intake Location Pollutant Sources Near Air	Ducted to roof-top	▼	Fresh Air Intake Free of Obstruction	Yes
Intake	Νο	▼		
Observations				
Book Storage Room - Roof lea	k. 2 ceiling tiles water damaged			

Replace stained ceiling tile	▼
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Corrective Actions to be Completed by PPO

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Repair HVAC to reduce CO2 level in classroom	▼
Repair Cause of Stained Ceiling Tiles- ROOF	▼
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