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

#### **TELEPHONE (754) 321-4200**

FACSIMILE: (754) 321-4285

January 24, 2	017 Signature on File	For Custodial Supervisor Use Only
TO:	Robert Schneider, Principal <b>Davie Elementary</b>	Custodial Issues Addressed Custodial Issues Not Addressed
FROM:	Alison Witoshynsky, Project Manager Environmental Health & Safety Department	
SUBJECT:	Indoor Air Quality (IAQ) Assessment	

On January 20, 2017, I conducted an assessment at **Davie 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.

RK:smn Enc.

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

	IAQ Assess	ment		
	Davie Elem. Evaluation Dat	te January 20, 2017	Time of Day 10	:10
Outdoor Conditions Tempera	ature 78.5 Relative	e Humidity 58	Ambient CO2 45	3
		Range       CO <sup>2</sup> % - 60%       1019		<b>upants</b> ~20
Noticeable Odor Yes	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling   2' X 4' Lay in     Walls   Drywall/Tackboard	No No	No		
Floor Carpet	Yes	No	2,457 SF	
Ceiling Clean Yes	HVAC Supply Grills Clean	Νο	HVAC Return Grills Clean	Yes
Flooring Clean No	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Room Surfaces No Clean	Ceiling at Supply Grills Clean	No		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of PestsNoRoom ClutteredNo	Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location	FISH 149		Mechanical Room Clean	Yes
Filters Installed Properly	s Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes	S Cooling Coil Clean	Yes		
Fresh Air Intake Location	Roof top	V	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None	▼		
Observations				

Clean ceilings around HVAC supply grills	▼
Clean Supply Grills with Wexcide	▼
Thoroughly clean horizontal surfaces	▼
	▼
	▼
	▼
	▼
	▼

Remove and replace carpet	▼
	•
	•
	•
	•
	•
	•
	▼

	IAQ Asses	sment		
	Davie Elem. Evaluation I	Date January 20, 2017	Time of Day 10	):10
Outdoor Conditions Tempera	ature 78.5 Relati	ive Humidity 58	Ambient CO2 45	3
	IngeRelative Humidity- 7852.9	Range       CO         30% - 60%       138		cupants ~20
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	3 Ceiling Panels	
Ceiling Clean Yes	HVAC Supply Grills Clean	Yes	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	Yes		
Trash Removed Yes	Exhaust Fans Working		Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No Room Cluttered No	Drain Traps We Food if Stored in Room i in Sealed Containers		Air Fresheners in Room	No
Mechanical Equipment Location	FISH 149		Mechanical Room Clean	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 Pollutant Sources Near Air Intake	Roof top None	<ul><li>▼</li></ul>	Fresh Air Intake Free of Obstruction	Yes
Observations				

Remove and replace stained ceiling tile	▼
If stains return, contact COMPASS for work order	▼
	▼
	▼
	▼
	▼
	▼
	▼

· · · · · · · · · · · · · · · · · · ·	
Repair HVAC to reduce CO2	▼
	▼
	▼
	▼
	▼
	▼
	▼
	▼

	IAQ Assessi	ment		
	Davie Elem. Evaluation Dat	e January 20, 2017	Time of Day 10:10	)
Outdoor Conditions Tempera	ature 78.5 Relative	e Humidity 58	Ambient CO2 453	
		Range       CO <sup>2</sup> % - 60%       1389	Range # Occup MAX 700 > ~1 Ambient	
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	No	No		
Walls Drywall/Tackboard	No	No		
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	/es
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	/es
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals /	No
Signs of Pests No	Drain Traps Wet	N/A	_	No
Room Cluttered No	Food if Stored in Room is in Sealed Containers	N/A	in Room	
Mechanical Equipment Location	FISH 149		Mechanical Room Clean	/es
Filters Installed Properly Yes	Filters Clean	Yes	nside of HVAC Unit Clean	/es
Condensate Pan Clean Yes	Cooling Coil Clean	Yes		
Fresh Air Intake Location	Roof top	▼	Fresh Air Intake Free	/es
Pollutant Sources Near Air Intake	None	▼	of Obstruction	
Observations				

▼
▼
▼
▼
▼
▼
▼
▼

I Z	
Repair HVAC to reduce CO2	▼
	▼
	▼
	•
	•
	▼
	•
	•

	IAQ Assess	ment	
	Davie Elem. Evaluation Da	te January 20, 2017	Time of Day 10:10
Outdoor Conditions Temper	ature 78.5 Relative	e Humidity 58	Ambient CO2 453
		Range       CO <sup>2</sup> % - 60%       1355	
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	3 Ceiling Panels
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	Yes	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	Yes	
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / No
Signs of Pests No Room Cluttered No	Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A No	Air Fresheners No in Room
Mechanical Equipment Location	FISH 149		Mechanical Room Clean Yes
Filters Installed Properly	s Filters Clean	Yes	Inside of HVAC Unit Clean Yes
Condensate Pan Clean Yes	S Cooling Coil Clean	Yes	
Fresh Air Intake Location Pollutant Sources Near Air Intake	Roof top None	▼	Fresh Air Intake Free Yes Yes
Observations			

Remove and replace stained ceiling tile	▼
If stains return, contact COMPASS for work order	▼
Store items in plastic containers with lids	▼
	▼
	▼
	▼
	▼
	▼

Repair HVAC to reduce CO2	▼
	▼
	▼
	▼
	▼
	▼
	▼
	▼

	IAQ Assess	ment		
Davie	Elem. Evaluation Dat	te January 20, 2017	Time of Day 10	0:10
Outdoor Conditions Temperature	78.5 Relative	e Humidity 58	Ambient CO2 45	53
Fish       Temperature       Range         136       74.8       72 - 78		Range       CO <sup>2</sup> % - 60%       1385	Range # Oc MAX 700 > Ambient	cupants ~20
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	Yes	No	2 Ceiling Panels	
Walls Drywall/Tackboard	No	No		
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean Yes 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	No
Signs of Pests No   Room Cluttered Yes	Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location FIS	H 149		Mechanical Room Clean	Yes
Filters Installed Properly Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes	Cooling Coil Clean	Yes		
	of top	▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	ne	▼		
Observations				
2 additional ceiling panels broken				

Remove and replace stained ceiling tile	▼
If stains return, contact COMPASS for work order	▼
Clean Supply Grills with Wexcide	▼
Encourage occupant to reduce clutter	▼
	▼
	▼
	▼
	▼

I V	
Repair HVAC to reduce CO2	▼
	•
	•
	▼
	•
	•
	•
	•

	IAQ Assess	ment	
	Davie Elem. Evaluation Da	te January 20, 2017	<b>Time of Day</b> 10:10
Outdoor Conditions Tempera	ature 78.5 Relative	e Humidity 58	Ambient CO2 453
		Range       CO <sup>2</sup> % - 60%       844	Range# OccupantsMAX 700 >0Ambient
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling2' X 4' Lay inWallsDrywall/TackboardFloorCarpet / VCT	Yes         No         No	No No	6 Ceiling Panels
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean Inside of Supply	No	HVAC Return Grills Clean Yes
Flooring Clean Yes Room Surfaces No Clean	Duct Clean Ceiling at Supply Grills Clean	Yes	Duct Clean Yes
Trash RemovedYesSigns of PestsNoRoom ClutteredNo	Exhaust Fans Working Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A N/A	Unapproved Chemicals / Cleaners in Room Air Fresheners in Room
Mechanical Equipment Location Filters Installed Properly Yes Condensate Pan Clean Yes		Yes Yes	Mechanical Room Clean Yes Inside of HVAC Unit Clean Yes
Fresh Air Intake Location Pollutant Sources Near Air Intake	Roof top None	<ul><li>▼</li></ul>	Fresh Air Intake Free Yes
Observations			

Remove and replace stained ceiling tile	▼
If stains return, contact COMPASS for work order	▼
Thoroughly clean horizontal surfaces	▼
Clean Supply Grills with Wexcide	▼
	▼
	▼
	▼
	▼

▼
▼
▼
▼
▼
▼
▼
▼

	IAQ /	Assessment			
	Davie Elem. Evalu	uation Date Januar	y 20, 2017	Time of Day	10:55
Outdoor Conditions Tempe	rature 83.2	Relative Humidity	46.1	Ambient CO2	483
	RangeRelative Hum2 - 7856.8	idity Range 30% - 60%	<b>CO</b> <sup>2</sup> 749	Range # ( MAX 700 > Ambient	Occupants
Noticeable Odor No	Visible water dan staining?	mage / Visible m grow		Amount of material affected	
Ceiling2' X 4' Lay inWallsDrywall/TackboardFloor12" x 12" Vinyl	Yes No			1 Ceiling Panel	
Ceiling Clean Yes Walls Clean Yes	HVAC Su Grills Cle			HVAC Return Grills Clean	Yes
Flooring Clean Yes	Inside of Duct Clea			Inside of Return Duct Clean	Yes
Room Surfaces No Clean	Ceiling at Grills Cle				
Trash Removed Yes	Exhaust Fans V			napproved Chemicals leaners in Room	/ <u>No</u>
Signs of Pests No Room Cluttered No	Drain Tr Food if Stored in in Sealed Contair			Air Fresheners in Room	No
Mechanical Equipment Location	FISH 210		М	echanical Room Clean	No
Filters Installed Properly	o Filter	s Clean Yes	Insi	de of HVAC Unit Clean	No
Condensate Pan Clean N/	A Cooling Co	il Clean No			
Fresh Air Intake Location	Roof top		▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		▼		
Observations					

Thoroughly clean elevated surfaces	▼
Remove and replace stained ceiling tile	▼
If stains return, contact COMPASS for work order	▼
Clean Supply Grills with Wexcide	▼
Install A/C filters properly	▼
	▼
	▼
	▼

Clean HVAC coil and pan	▼
Ensure appropriate HVAC filters are supplied	▼
	▼
	▼
	▼
	▼
	▼
	▼

	IAQ Assess	nent		
	Davie Elem. Evaluation Dat	e January 20, 2017	Time of Day 11:	15
Outdoor Conditions Temper	ature 77.6 Relative	Humidity 60.5	Ambient CO2 462	2
		Range       CO <sup>2</sup> % - 60%       454	Range # Occ MAX 700 > Ambient	oupants
Noticeable Odor Yes	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling2' X 4' Lay inWallsDrywall/TackboardFloor12" x 12" Vinyl	No     Yes     No	No No	under windows	
Ceiling Clean Yes Walls Clean Yes Flooring Clean No	HVAC Supply Grills Clean Inside of Supply Duct Clean	No	HVAC Return Grills Clean Inside of Return Duct Clean	Yes
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	No		
Trash RemovedYesSigns of PestsNo	Exhaust Fans Working Drain Traps Wet	Yes	Unapproved Chemicals / Cleaners in Room	No
Room Cluttered No	Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location	BARD Q-Tec in room		Mechanical Room Clean	N/A
Filters Installed Properly N/A Condensate Pan Clean N/A		N/A N/A	Inside of HVAC Unit Clean	N/A
Fresh Air Intake Location Pollutant Sources Near Air Intake	Outside of Room None	<ul><li>▼</li></ul>	Fresh Air Intake Free of Obstruction	Yes
Observations Floor in server closet is dirty. I	North and east wall under windo	ows is wet. Tackboard	on west wall (share with 85	52)

Thoroughly clean and sanitize flooring	▼
Clean Supply Grills with Wexcide	▼
Clean ceilings around HVAC supply grills	▼
	▼
	▼
	▼
	▼
	▼

· · · · · · · · · · · · · · · · · · ·	
Remove and replace wall material as needed	▼
Evaluate and repair cause of water damaged	▼
wall material	▼
Clean HVAC Return	▼
Repair HVAC to Reduce Humidity Levels	▼
	▼
	▼
	▼

	IAQ Assessn	nent		
	Davie Elem. Evaluation Date	e January 20, 2017	Time of Day	1:15
Outdoor Conditions Temp	erature 77.6 Relative	Humidity 60.5	Ambient CO2 46	62
		Range       CO <sup>2</sup> % - 60%       1866	Range # Oc MAX 700 > Ambient	cupants 0
Noticeable Odor Yes	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	No	No		
Walls Drywall/Tackboard	Yes	No	under windows	
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Flooring Clean No	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	No
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working	Yes	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No	Drain Traps Wet	Νο	Air Freekenere	
Room Cluttered Yes	Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location	on BARD Q-Tec in room		Mechanical Room Clean	N/A
Filters Installed Properly	N/A Filters Clean	N/A Ir	nside of HVAC Unit Clean	N/A
Condensate Pan Clean	I/A Cooling Coil Clean	N/A		
Fresh Air Intake Location	Outside of Room	▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None	▼	of obstruction	
Observations				
East wall under windows is w	et.			

▼
▼
▼
▼
▼
▼
▼
▼

Remove and replace wall mate	erial as needed
Evaluate and repair cause of v	water damaged 🛛 🔻
wall material	▼
Clean HVAC Retu	rn 🔻
Repair HVAC to reduc	ce CO2 🛛 🔻
•	▼
	▼
	▼
	▼ ▼

	IAQ Assess	nent		
	Davie Elem. Evaluation Dat	e January 20, 2017	Time of Day	1:15
Outdoor Conditions Tempera	ature 77.6 Relative	Humidity 60.5	Ambient CO2 4	62
		Range CO <sup>2</sup> % - 60% 454		cupants
Noticeable Odor Yes	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	No	No	2 CT at seam (center of	room)
Walls Drywall/Tackboard	Yes	No	under windows	
Floor 12" x 12" Vinyl		No		
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	No	HVAC Return Grills Clean	Yes
Flooring Clean No	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	No
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	No		
Trash Removed Yes	Exhaust Fans Working	Yes	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No	Drain Traps Wet	Νο		
Room Cluttered Yes	Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location	BARD Q-Tec in room		Mechanical Room Clean	N/A
Filters Installed Properly	Filters Clean	N/A	Inside of HVAC Unit Clean	N/A
Condensate Pan Clean N/A	Cooling Coil Clean	N/A		
Fresh Air Intake Location	Outside of Room	▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None	▼	or obstruction	
Observations				
West wall under windows is we	t			

,,,,,,, _	
Thoroughly clean and sanitize flooring	▼
Clean Supply Grills with Wexcide	▼
Clean ceilings around HVAC supply grills	▼
Encourage occupant to reduce clutter	▼
	▼
	▼
	▼
	▼

# Corrective Actions to be Completed by PPO

Remove and replace wall material as needed	▼
Evaluate and repair cause of water damaged	▼
wall material	▼
Clean HVAC Return	▼
Remove and replace stained ceiling tiles	▼
Evaluate and repair cause of stained ceiling tile	▼
Repair HVAC to Reduce Humidity Levels	▼
	▼

Ś

	IAQ Assess	ment		
	Davie Elem. Evaluation Da	te January 20, 2017	Time of Day 11	:15
Outdoor Conditions Temp	erature 77.6 Relative	e Humidity 60.5	Ambient CO2 46	2
		Range       CO <sup>2</sup> % - 60%       996	Range # Oc MAX 700 > Ambient	<b>cupants</b> 0
Noticeable Odor Yes	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	No	No		
Walls Drywall/Tackboard	Yes	No	under windows	
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	No	HVAC Return Grills Clean	Yes
Flooring Clean No	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	No
Room Surfaces No Clean	Ceiling at Supply Grills Clean	No		
Trash Removed Yes	Exhaust Fans Working	Yes	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No	Drain Traps Wet	Νο		
Room Cluttered No	Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	Yes
Mechanical Equipment Locatio	n BARD Q-Tec in room		Mechanical Room Clean	N/A
Filters Installed Properly	I/A Filters Clean	N/A I	nside of HVAC Unit Clean	N/A
Condensate Pan Clean	I/A Cooling Coil Clean	N/A		
Fresh Air Intake Location	Outside of Room	▼	Fresh Air Intake Free	Yes
Pollutant Sources Near Air Intake	None	▼	of Obstruction	
Observations				
West wall under windows is w	/et.			
Outlet "Ionizer" present				

▼
▼
▼
▼
▼
▼
▼
▼

# Corrective Actions to be Completed by PPO

\$

Remove and replace wall material as needed	▼
Evaluate and repair cause of water damaged	▼
wall material	▼
Clean HVAC Return	▼
Repair HVAC to Reduce Humidity Levels	▼
	▼
	▼
	▼