

managing risk with responsibility

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Jeffrey S. Moquin, Director Risk Management Department

March 23, 2005

TO: Ms. Gladys F. Donovan, Principal

Driftwood Elementary School

FROM: Robert J. Krickovich, Coordinator, LEA

Facilities and Construction Management, Environmental Division

SUBJECT: Indoor Air Quality (IAQ) Assessment

FISH 201, 206, 804, 808, 809 and 912

On March 16, 2005 the IAQ Assessment Team conducted an assessment of FISH 201, 206, 804, 808 and 912 at **Driftwood Elementary School.** The evaluation consisted of a walkthrough of the identified areas to assess the current condition of the location with regard to indoor air quality. This assessment included observations of the carpet, floor tile, ceiling tile, interior walls, false ceiling plenum, and accessible ventilation equipment.

Attached are the findings of this assessment along with recommendations for further assessment, remediation, or corrective actions, if needed.

Generally, the IAQ Assessment did not identify any existing conditions significantly impacting IAQ and thereby presenting immediate health and safety concerns 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.

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact me at 754-321-1638.

cc: Sam Gregg, Area Superintendent
Margaret Underhill, Area Director
Jeffrey S. Moquin, Director, Risk Management
Bertram Lewars, Project Manager II, Facilities and Construction Management
Diane Watts, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

RK/tc

Driftwood Elementary School					Evaluat	ion Requested	Marc	h 15, 2005
Time of Day	1:15 pm				ı	Evaluation Date	Marc	h 16, 2005
Outdoor Condi	tions Te	mperature	83.8	Relative Humidity	66	Ambier	t CO2 [428
Fish 1	Temperature	Range	Relative Humidity	'	CO2	Done		# Occupants
201	71.6	72 - 78	53	/ Range 30% - 60%	1004	Ranç < 1,000	•	# Occupants
Noticeable Od]	Visible water damage / staining	Visible micro		Amount of mate		
Ceiling Type	2 x 4 La	y In	No	No			None	
Wall Type	Plaste	er .	Yes	No		Wall at seco	ndary ex	kit door
Flooring	Vinyl		No	No			None	
	Clean	Minor Debri		3	Corre	ctive Action Rec	quired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply	Grills Yes	No	No					
HVAC Return (Grills No	Yes	Yes	С	lean wit	h Wexcide disir	nfectant	
Ceiling at Supp Grills	oly Yes	No	No					
Surfaces in Ro	om No	Yes	Yes		Clean er	nvironmental su	ırfaces	

Observations

Findings:

- Visible signs of water damage under windows at secondary exit door wall
- Chemicals found in room at time of assessment (raid, cleanser, spray cleaner, lysol and spray paint)
- Heavy dust and debris on HVAC return grills
- Dust and debris on environmental surfaces and clutter throughout the room

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with wexcide disinfectant solution
- Remove non approved chemicals from room
- Remove clutter and clean/dust environmental surfaces
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

- Evaluate and repair cause of water damage under windows at secondary exit door wall
- Assist site based staff in clean HVAC return grills heavy dust in grills is not accessible to school staff

	Driftwood I	Elementary So	chool		Evaluati	ion Requested Mar	ch 15, 2005
Time of Day	1:15 pm				E	Evaluation Date Mar	rch 16, 2005
Outdoor Condition	is Temp	erature 8:	3.8	Relative Humidity	66	Ambient CO2	428
Fish Tem	perature Ra	ange Relat	tive Humidity	Range	CO2	Range	# Occupants
206	71.6 72	- 78	48.8	30% - 60%	1083	< 1,000 PPM	19
Noticeable Odor	No		'isible water age / staining	Visible micro g? growth?	bial	Amount of material affected	
Ceiling Type	2 x 4 Lay In	i	No	No	ļ	None	
Wall Type	Plaster		Yes	No		5 Sq. Ft. at secondary	y exit door
Flooring	Vinyl		No	No		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Required	
Ceiling	Yes	No	No				
Walls	Yes	No	No				
Flooring	Yes	No	No				
HVAC Supply Gril	Is Yes	No	No				
HVAC Return Gril	Is No	Yes	Yes	CI	lean wit	h Wexcide disinfectan	nt
Ceiling at Supply Grills	Yes	No	No				
Surfaces in Room	No	Yes	Yes		Clean er	nvironmental surfaces	

Observations

Findings:

- Visible signs of water damage under windows at secondary exit door wall
- Heavy dust and debris on HVAC return grills
- Dust and debris on environmental surfaces and clutter throughout the room

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with wexcide disinfectant solution
- Remove clutter and clean/dust environmental surfaces
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

- Evaluate and repair cause of water damage under windows at secondary exit door wall
- Assist site based staff in clean HVAC return grills heavy dust in grills is not accessible to school staff

	Driftwoo	d Elementary So	chool		Evaluation	Requested	Marcl	h 15, 2005
Time of Day	1:15 pm				Eva	aluation Date	Marcl	h 16, 2005
Outdoor Condi	tions Ten	perature 8	3.8	Relative Humidity	66	Ambient	t CO2	428
Fish	Temperature	Range Relat	ive Humidity	Range	CO2	Range	е	# Occupants
804	73.7 7	72 - 78	49	30% - 60%	1056	< 1,000 F	PPM	6
Noticeable Od	lor No		isible water age / staining	Visible micro? growth?	obial A	affected	rial	
Ceiling Type	2 x 4 Lay	In	Yes	No		2 Ceil	ing Tiles	S
Wall Type	Tackable/Pl	aster	Yes	No		Wall at secor	ndary ex	cit door
Flooring	Vinyl		No	No		N	lone	
	Clean	Minor Dust / Debris	Needs Cleaning		Correctiv	ve Action Req	uired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply	Grills No	Yes	No	С	lean with \	Wexcide disin	fectant	
HVAC Return	Grills No	Yes	Yes	С	lean with \	Wexcide disin	fectant	
Ceiling at Sup Grills	ply No	Yes	Yes		Clean	as necessary	/	
Surfaces in Ro	oom No	Yes	Yes		Clean envi	ronmental sur	rfaces	

Observations

Findings:

- Visible signs of water damage under windows at secondary exit door wall
- Dust and debris on HVAC supply and return grills
- Dust and debris on ceiling at HVAC supply grills
- Dust and debris on environmental surfaces and clutter throughout the room

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with wexcide disinfectant solution
- Clean/dust ceiling at HVAC supply grills
- Remove clutter and clean/dust environmental surfaces
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

- Evaluate and repair cause of water damage under windows at secondary exit door wall
- Assist site based staff in clean HVAC return grills heavy dust in grills is not accessible to school staff
- See assessment for HVAC unit in FISH 809 improper spacers are allowing air to bypass the filters causing excessive dust accumulation on supply grills and ceiling tiles

	nentary School		Evaluati	ion Requested M	1arch 15, 2005	
Time of Day 1:	15 pm			E	Evaluation Date N	1arch 16, 2005
Outdoor Conditions	Temperat	ure 83.8	Relative Humidity	66	Ambient CO	02 428
Fish Tempe	erature Range	Relative Humi	dity Range	CO2	Range	# Occupants
808 7-	4.6 72 - 78	57.2	30% - 60%	619	< 1,000 PPN	J 3
Noticeable Odor	No	Visible wa damage / stai			Amount of material affected	
Ceiling Type	2 x 4 Lay In	No	No		None	
Wall Type	Plaster	Yes	No		Wall at secondar	ry exit door
Flooring	Vinyl	No	No		None	Э
		or Dust Nee Debris Clear		Correc	ctive Action Require	ed
Ceiling	Yes	No No				
Walls	Yes	No No				
Flooring	Yes	No No				
HVAC Supply Grills	Yes	No				
HVAC Return Grills	No	Yes	s C	lean witl	h Wexcide disinfect	tant
Ceiling at Supply Grills	Yes	No No	<u> </u>			
Surfaces in Room	No	Yes Ye	s	Clean en	vironmental surfac	es

Observations

Findings:

- Visible signs of water damage under windows at secondary exit door wall
- Dust and debris on HVAC return grills
- Dust and debris on environmental surfaces and clutter throughout the room

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with wexcide disinfectant solution
- Remove clutter and clean/dust environmental surfaces
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

- Evaluate and repair cause of water damage under windows at secondary exit door wall
- Assist site based staff in clean HVAC return grills heavy dust in grills is not accessible to school staff

IAQ AHU Assessment

		Driftwo	od Elementa	ary School		I	Evalua	tion Requested	March '	15, 2005	
Time of Day	y 1:1	5 pm						Evaluation Date	March '	16, 2005	
Outdoor Co	nditions	Te	emperature	83.8	R	elative Humidity	66	Ambien	it CO2	428	
AHU Roor	n #	Temp	erature R	ange	Relative	Humidity Rang	ıe.	CO2	Rai	nge	
809				2 - 78		30% - 6				0 PPM	
Noticeable	Odor [No		Visible damage / s		Visible microbial growth?		Amount of mate affected	erial		
Ceiling Typ	е	Metal D	eck eck	No		No		None			
Wall Type	e Foil	Back In	sulation	No		No	No None		ne		
Flooring	9	Concr	ete	No		No		None			
	Clean	N	linor Dust / Debris	_	eds ining			Corrective Act Required	ion		
Room	No		Yes Yes Clean Room				Clean Room				
Filters	Yes		No		lo						
Coil	No		Yes	! 	es	Clean Coils					
Pan	No	_	Yes	-	es		Clea	n Pan and Repai	ir ———		
Duct	Yes		No		lo						
Motorized [Damper lı	nstalled	Ye:	S							
Damper (Open / O _l	perating	y Ye	s							
resh Air Inta	ke Un-ob	structe	d Ye	s I							
Pollutant Sou				No I							
AHU Su	pply Wat	er Tem _l	4 5		AH	IU Return Water 1	emp	48			
Observations	s										
Findings: - Dust and de			le.								

- Slime build up in HVAC pan holding water
 Filter spacers do not fit properly

Recommendations:

- Clean HVAC coils
- Clean pan and repair to drain properly
 Install new filter spacers to prevent air bypass of filter media

Driftwood Elementary School				_		Evalua	ition Requested	Marc	ch 15, 200)5	
Time of Day	1:15	5 pm]					Evaluation Date	Marc	ch 16, 200)5
Outdoor Condi	itions	Ter	mperature	83.8	R	elative Humid	lity 66	Ambie	ent CO2	428	
	Tempera		Range	Relative Hum	idity	Range	CO2	Rar	ige	# Occup	ants
912	75.6	6	72 - 78	48	3	0% - 60%	714	< 1,000	D PPM		4
Noticeable Od	lor _	No]	Visible wa damage / sta		Visible mi growt		Amount of ma affected	terial		
Ceiling Type	2	2 x 4 Lay	/ In	No		No			None		
Wall Type		Plaste	r	No		No			None		
Flooring		Vinyl		No		No			None		
	C	lean	Minor D / Debr				Corre	ective Action Re	quired		
Ceiling		Yes	No	No	0						
Walls		Yes	No	No	0						
Flooring		No	Yes	Ye	s		Flor	or will not hold	wax		
HVAC Supply	Grills [Yes	No	No	0						
HVAC Return	Grills [No	Yes	Ye	s		Clean w	ith Wexcide dis	infectan	t	
Ceiling at Sup Grills	ply	Yes	No	No	0						
Surfaces in Ro	oom [Yes	No	No	0						

Observations

Findings:

- Flooring will not hold wax
- Dust and debris on HVAC return grills
- Dust and debris on environmental surfaces and clutter throughout the room

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with wexcide disinfectant solution
- Remove clutter and clean/dust environmental surfaces
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

- Assist site based staff with flooring wax another product or procedure they can use to correct the problem
- Assist site based staff in clean HVAC return grills heavy dust in grills is not accessible to school staff