

Jeffrey S. Moquin, Director Risk Management Department managing risk with responsibility

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September 21, 2005

**Signature on File** 

- TO: Ms. Marie Goodrum, Principal Pinewood Elementary School
- FROM: Kenneth I. Partee, Project Manager, Occupational Health and Environmental Control Risk Management Department
- SUBJECT: Indoor Air Quality (IAQ) Assessment FISH 101, 137, 138, 139, 140 and 150

On August 16, 2005 the IAQ Assessment Team conducted an assessment of FISH 101, 137, 138, 139, 140 and 150 at **Pinewood 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 754-321-3200.

cc: Dr. Harry LaCava, Area Superintendent Willie Dudley, Area Director Jeffrey S. Moquin, Director, Risk Management Philip Kaufold, Project Manager II, Facilities and Construction Management LaFrances Trotter, Broward Teachers Union Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1 Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division Robert Krickovich, Coordinator, LEA, Facilities and Construction Management KP/tc Enc.

		IAQ As	sessment	Location Number	2811
	Pinewood Ele	ementary School		Evaluation Requested	August 15, 2005
Time of Day	11:00 am			Evaluation Date	August 16, 2005
Outdoor Condition	ns Temperatu	re 96.1	Relative Humidity	51.5 Ambie	ent CO2 536
Fish Tem	perature Range	Relative Humidity	/ Range	CO2 Rar	nge # Occupants
101	77.6 <b>72 - 78</b>	61.6	30% - 60%	1445 <b>Max 700</b>	> Ambient
Noticeable Odor	No	Visible water damage / staining	Visible micro g? growth?	obial Amount of ma affected	
Ceiling Type	2 x 4 Lay In	No	No		None
Wall Type	Tackable	No	No		None
Flooring	Tile	No	No		None
Ceiling	/ De	Dust Needs bris Cleaning	]	Corrective Action R	equired
Walls	Yes	lo No			
Flooring	Yes	No			
HVAC Supply Gril	lls Yes N	lo No			
HVAC Return Gril	Is Yes	No			
Ceiling at Supply Grills	Yes	lo No			
Surfaces in Room	Yes	o No			

Findings:

- Temperature was slightly elevated

- Humidity level was slightly elevated

### Recommendations:

#### Site Based Maintenance:

- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

## Physical Plant Operations Division:

- Evaluate and repair HVAC system to lower temperature and humidity level

			IAQ Ass	sessment	Location N	umber	2811	
	Pinew	ood Element	tary School		Evaluation F	Requested	August	15, 2005
Time of Day	11:00 am				Evalu	uation Date	August	16, 2005
Outdoor Conditio	ns Tem	perature	96.1	Relative Humidity	51.5	Ambie	nt CO2	536
Fish Ter	nperature F	Range Re	elative Humidity	Range	CO2	Ran	ge #	Occupants
137	74.9 <b>7</b> 2	2 - 78	65.8	30% - 60%	1229	Max 700	> Ambient	t
Noticeable Odor	No	da	Visible water amage / staining	Visible micro ? growth?	obial Am	nount of mat affected	terial	
Ceiling Type	2 x 4 Lay	in	No	No			None	
Wall Type	Tackable	;	No	No			None	
Flooring	Tile		No	No			None	
	Clean	Minor Dus / Debris	t Needs Cleaning		Corrective	Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply Gr	ills No	Yes	Yes	C	lean with W	excide disi	infectant	
HVAC Return Gri	ills Yes	No	No					
Ceiling at Supply Grills	Yes	No	No					
Surfaces in Roor	n No	Yes	Yes		Clean a	s appropria	ate	

## Findings:

- Head Facilities Serviceperson indicated has cleaned rooms twice but microbial growth keeps returning on books, desks and surfaces

- Dust observed on environmental surfaces

- Dust and debris on HVAC supply grills

- Humidity level was slightly elevated

### Recommendations:

#### Site Based Maintenance:

- Clean environmental surfaces as appropriate

- Clean HVAC supply grills with Wexcide disinfectant solution

- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

## Physical Plant Operations Division:

- Evaluate and repair HVAC system to lower humidity level

			IAQ Ass	sessment	Location N	umber	2811	
	Pinew	ood Elemen	tary School		Evaluation F	Requested	August	15, 2005
Time of Day	11:00 am				Evalu	ation Date	August	16, 2005
Outdoor Condition	ns Tem	perature	96.1	Relative Humidity	51.5	Ambie	nt CO2	536
Fish Ten	nperature F	Range Re	elative Humidity	Range	CO2	Ran	ge #	Occupants
138	75.5 <b>7</b>	2 - 78	64.4	30% - 60%	1105	Max 700	> Ambient	t
Noticeable Odor	No	d	Visible water amage / staining	Visible micro ? growth?	bial Am	ount of mai affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No			None	
Wall Type	Tackable	;	No	No			None	
Flooring	Tile		No	No			None	
	Clean	Minor Dus / Debris	t Needs Cleaning		Corrective	Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply Gri	ills No	Yes	Yes	C	lean with Wo	excide disi	infectant	
HVAC Return Gri	lls Yes	No	No					
Ceiling at Supply Grills	Yes	No	No					
Surfaces in Roon	n No	Yes	Yes		Clean as	s appropri	ate	

# Findings:

- Head Facilities Serviceperson indicated has cleaned rooms twice but microbial growth keeps returning on books, desks and surfaces

- Dust observed on environmental surfaces

- Dust and debris on HVAC supply grills

- Humidity level was slightly elevated

- Gap at emergency door allowing outside air into room

#### Recommendations:

#### Site Based Maintenance:

- Clean environmental surfaces as appropriate

- Clean HVAC supply grills with Wexcide disinfectant solution

- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

#### Physical Plant Operations Division:

- Evaluate and repair HVAC system to lower humidity level

- Evaluate and repair gap at emergency door that is allowing outside air into the room

			IAQ As	sessment	Location Nu	mber	2811	
	Pinew	ood Elementa	ary School		Evaluation R	equested	August	15, 2005
Time of Day	11:00 am				Evalua	ation Date	August	16, 2005
Outdoor Conditio	ons Tem	perature	96.1	Relative Humidity	51.5	Ambie	nt CO2	536
Fish Ter	mperature F	Range Rela	ative Humidity	Range	CO2	Ran	ge #	Occupants
139	76.3 <b>7</b> 2	2 - 78	63.7	30% - 60%	1190	Max 700	> Ambient	20
Noticeable Odor	No		Visible water mage / staining	Visible micro ? growth?	obial Amo	ount of mat affected	terial	
Ceiling Type	2 x 4 Lay	n	No	No			None	
Wall Type	Tackable	;	Νο	No			None	
Flooring	Tile		No	No			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corrective	Action Re	quired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply Gr	ills No	Yes	Yes	C	lean with We	xcide disi	nfectant	
HVAC Return Gr	ills Yes	No	No					
Ceiling at Supply Grills	Yes	No	No					
Surfaces in Roor	m No	Yes	Yes		Clean as	appropria	ate	

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- Evaluate and repair HVAC system to lower humidity level

			IAQ As:	sessment	Location N	lumber	2811	
	Pinev	vood Elemen	tary School		Evaluation	Requested	August	15, 2005
Time of Day	11:00 am				Eval	uation Date	August	16, 2005
Outdoor Condit	ions Terr	nperature	96.1	Relative Humidity	51.5	Ambie	ent CO2	536
Fish T	emperature	Range Re	elative Humidity	Range	CO2	Ran	ige #	Occupants
140	75.8 <b>7</b>	/2 - 78	63.4	30% - 60%	1089	Max 700	> Ambien	t
Noticeable Odd	or No	d	Visible water lamage / staining	Visible micro growth?		nount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No			None	
Wall Type	Tackable	е	No	No			None	
Flooring	Tile		No	No			None	
	Clean	Minor Dus / Debris	st Needs Cleaning		Corrective	e Action Re	quired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply G	Brills No	Yes	Yes	C	lean with W	excide dis	infectant	
HVAC Return G	Frills Yes	No	No					
Ceiling at Supp Grills	ly Yes	No	No					
Surfaces in Roo	om No	Yes	Yes		Clean a	is appropri	ate	

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- Evaluate and repair HVAC system to lower humidity level

			IAQ As	sessment	Location	Number	2811	
	Pir	newood Eleme	entary School		Evaluation	Requested	August	15, 2005
Time of Day	11:00 am				Eva	luation Date	August	16, 2005
Outdoor Conc	litions T	emperature	96.1	Relative Humidi	ty 51.5	Ambie	ent CO2	536
Fish	Temperature	Range	Relative Humidity	Range	CO2	Rar	nge #	Occupants
150		72 - 78		30% - 60%		Max 700	> Ambien	t
Noticeable O	dor No		Visible water damage / staining	Visible mic growtł		mount of ma affected	terial	
Ceiling Type			No	No	] [		None	
Wall Type			Νο	No			None	
Flooring			No	No	] [		None	
	Clean	Minor Du / Debri			Correctiv	ve Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply	Grills No	Yes	Yes		Clean with \	Vexcide dis	infectant	
HVAC Return	Grills Yes	No	No					
Ceiling at Su Grills	oply Yes	No	No					
Surfaces in R	oom No	Yes	Yes		Clean	as appropri	ate	

### Findings:

- Air Handler Room

- Pipe insulation for AHU #2 is damaged (asbestos)

- Flowrite valve for AHU #4 is wet/leaking

### Recommendations:

### Site Based Maintenance:

- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

## Physical Plant Operations Division:

- Evaluate and repair/replace damaged insulation for AHU #2
- Evaluate and repair/replace flowrite valve for AHU #4