

RISK MANAGEMENT...

managing risk with responsibility

Aston A. Henry, Supervisor
Risk Management Department

Telephone: 754 321-1900
Fax: 754 321-1917

December 13, 2010

Signature on File

TO: Mr. Carlton Campbell, Principal
Pines Middle School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
**FISH 1138A, 1140B, 1141, 1145, 1152, 1156
and 1185**

For Custodial Supervisor Use Only	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed

On December 9, 2010 I conducted an assessment of FISH 1138A, 1140B, 1141, 1145, 1152, 1156 and 1185 at **Pines Middle School**. This evaluation included observations of the flooring system, ceiling tiles, false ceiling plenum, environmental surfaces, interior and exterior walls, and the accessible ventilation equipment. Additionally, environmental parameter measurements were taken to include temperature, relative humidity, and carbon dioxide. The detailed findings, along with the recommended corrective action can be found on the attached IAQ Assessment Worksheets.

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 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 me at 754-321-1900.

cc: Dr. Joel Herbst, Area Superintendent
Valerie Wanza, Area Director
Jeffrey S. Moquin, Executive Director, Support Operations
Frank Girardi, Project Manager, Facilities and Construction Management
Iris Froelich, Broward Teachers Union
Roy Jarrett, Federation of Public Employees
Mark Dorsett, Manager I, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

ES/tc
Enc.

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Pines Middle School

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="1138A"/>	<input type="text"/>	<input type="text" value="72 - 78"/>	<input type="text"/>	<input type="text" value="30% - 60%"/>	<input type="text"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
Noticeable Odor	<input type="text" value="No"/>		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Wall Type	<input type="text" value="Drywall"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="repair/replace ceiling material"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

Observations

Findings

- Visible microbial growth on ceiling at exhaust vents in FISH 1138A and 1140A

Site Based Maintenance:

- Ensure that all exhaust fans are turned off at the end of the day
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Note - Work order J471217 was generated by site based staff. Physical Plant Operations to repair/replace ceiling material as necessary in FISH 1138A and 1140A

IAQ Assessment

Location Number 1881
 Evaluation Requested December 1, 2010
 Evaluation Date December 9, 2010

Pines Middle School

Time of Day

Outdoor Conditions Temperature 57.7 Relative Humidity 65.1 Ambient CO2 395

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
1140B	71.7	72 - 78	50	30% - 60%	907	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		No		None	
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Drywall		No	No	None		
Flooring	12 x 12 Vinyl		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings
 - Potted plant in room

Site Based Maintenance:
 - Remove potted plant from room. Soil is a source of microbial growth
 - Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

IAQ Assessment

Location Number 1881
 Evaluation Requested December 1, 2010
 Evaluation Date December 9, 2010

Pines Middle School

Time of Day

Outdoor Conditions Temperature 57.7 Relative Humidity 65.1 Ambient CO2 395

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
1141	71.2	72 - 78	54.2	30% - 60%	1246	Max 700 > Ambient	19
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
Walls	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
Flooring	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
HVAC Supply Grills	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
HVAC Return Grills	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
Ceiling at Supply Grills	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	
Surfaces in Room	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	Clean as appropriate

Observations

Findings

- Occupant complaint of allergies
- Non-approved chemical in room (plug-in air freshener)
- Dust build up on environmental surfaces
- CO2 level was slightly elevated

Site Based Maintenance:

- Remove non-approved chemical (plug-in air freshener)
- Thoroughly clean environment surfaces
- 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:

- Evaluate HVAC system for proper operation and repair as appropriate to lower CO2 level

Note - Work order EQ01574 was generated to address CO2 level

IAQ Assessment

Location Number 1881
 Evaluation Requested December 1, 2010
 Evaluation Date December 9, 2010

Pines Middle School

Time of Day

Outdoor Conditions Temperature 57.7 Relative Humidity 65.1 Ambient CO2 395

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
1145	73.1	72 - 78	48.4	30% - 60%	1026	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Wall Type		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Flooring		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings

- Occupant complaint of illness
- Non-approved chemical in room (windex)
- Minor spill under teacher desk - appears to be grease
- One pillow in room

Site Based Maintenance:

- Remove non-approved chemical (windex)
- Thoroughly clean flooring under desk
- Remove pillow from room - possible allergen source
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

IAQ Assessment

Location Number 1881
 Evaluation Requested December 1, 2010
 Evaluation Date December 9, 2010

Pines Middle School

Time of Day

Outdoor Conditions Temperature 57.7 Relative Humidity 65.1 Ambient CO2 395

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
1152	75.4	72 - 78	45.3	30% - 60%	840	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings
 - No issues identified at the time of the assessment
 - 1 A/C return and 4 supply grills

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

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Pines Middle School

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="1156"/>	<input type="text" value="77.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="41.5"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1187"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="21"/>
Noticeable Odor	<input type="text" value="No"/>		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Wall Type	<input type="text" value="Drywall"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings

- Occupant complaint of odor (grass) - room is near outside air intake
- CO2 level was slightly elevated
- Minor dust build up on environmental surfaces

Site Based Maintenance:

- Thoroughly clean environmental surfaces
- 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:

- Evaluate HVAC system for proper operation and repair as appropriate to lower CO2 level

Note - Work order EQ01574 was generated to address CO2 level

IAQ Assessment

Location Number 1881
 Evaluation Requested December 1, 2010
 Evaluation Date December 9, 2010

Pines Middle School

Time of Day

Outdoor Conditions Temperature 57.7 Relative Humidity 65.1 Ambient CO2 395

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
1185	77.2	72 - 78	39.5	30% - 60%	873	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Wall Type		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Flooring		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings

- Occupant complaint of allergies and bronchitis
- Non-approved chemical in room (plug-in air freshener)

Site Based Maintenance:

- Remove non-approved chemical (plug-in air freshener)
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate